LAND AND CHEMICALS DIVISION

Type of Document: RCRA Notice of Violation

Name of Document: U.S. DOE Portsmouth Gaseous Diffusion Plant, Piketon, Ohio

	NAMES	DATE
AUTHOR:	W. Francis	6/16/2015 revised 6/22/15
APA:	G. Cuerington	6/16/2015
SECTION CHIEF:	J. Morris	6/19/15
BRANCH CHIEF:	G. Victorine	6/24/15
DIVISION APA:		
DIVISION DIRECTOR:		
ORC:		
DRA:		
RA:		

US EPA RECORDS CENTER REGION 5
1006601

RETURN TO: Walt Francis

PHONE: 3-4921

COMMENTS: State notified 6/19

nice job!

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

JUN 2 6 2015

CERTIFIED MAIL 7009 1680 0000 7648 7207
RETURN RECEIPT REQUESTED

Mr. William E. Murphie
Manager
Portsmouth/Paducah Project Office
U.S. Department of Energy
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513

Mr. Dennis Carr
Fluor-B&W Portsmouth, LLC
Post Office Box 548
Piketon, Ohio 45661

Re: Notice of Violation
RCRA Compliance Inspection
U.S. DOE Portsmouth Gaseous Diffusion Plant, Piketon, Ohio
OH7 890 008 983

Dear Messrs. Murphie and Carr:

On April 13 and 14, 2015 representatives of the U.S. Environmental Protection Agency and Ohio Environmental Protection Agency (Ohio EPA) inspected the U.S. Department of Energy Portsmouth Gaseous Diffusion Plant facility located near Piketon, Ohio (U.S. DOE Portsmouth). The purpose of the inspection was to evaluate U.S. DOE's and Fluor-B&W Portsmouth, LLC (FBP) compliance with certain provisions of the Resource Conservation and Recovery Act (RCRA); specifically, those regulations related to the generation, storage of hazardous waste and the RCRA Hazardous Waste Installation and Operation Permit issued by Ohio EPA to the U.S. DOE and FBP for the Portsmouth facility. We have enclosed a copy of the RCRA inspection report for your reference.

Based on information provided by U.S. DOE and FBP personnel, review of records and physical observations by the inspectors, EPA finds that the U.S. DOE Portsmouth facility was not in compliance with a certain requirement of the Ohio Administrative Code (OAC), the United States Code of Federal Regulations (C.F.R.).

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EPA has determined that U.S. DOE Portsmouth violated a RCRA requirement related to used oil, as described in paragraph 1, below.

1. Used Oil Requirement

Under Ohio Admin. Code § 3745-279-22(C)(1) [40 C.F.R. § 279.22(c)(1)], containers and aboveground tanks used to store used oil at generator facilities must be labeled or marked clearly with the words "Used Oil."

At the time of the inspection of Building X-326 at column C-48, the inspectors observed a 250-gallon tote labeled "Waste Oil from Motor Test Stand X-326" and several 250-gallon totes at column H-55 which were labeled "Waste Oil".

On April 22, 2015, FBP sent photographs to EPA of the properly labeled containers. Based on the information received from FBP on April 22, 2015, EPA is not planning additional enforcement actions based on this inspection at this time. This letter does not limit the applicability of the requirements evaluated, or of other federal or state statutes or regulations. EPA appreciates U.S. DOE Portsmouth's cooperation.

If you have any questions regarding this letter, please contact Mr. Walt Francis, of my staff, at 312-353-4921 or at francis.walt@epa.gov.

Sincerely,

Gary J. Victorine, Chief
RCRA Branch

Enclosure

cc: Dr. Vincent Adams, Portsmouth Site Director (vince.adams@lex.doe.gov)
Melody Stewart, Ohio EPA (melody.stewart@epa.ohio.gov)
Teri Finfrock, Ohio EPA (terri.finfrock@epa.ohio.gov)

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 W. JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

RCRA COMPLIANCE EVALUATION INSPECTION REPORT

FACILITY NAME:	**U.S. DOE PORTSMOUTH GASEOUS DIFFUSION PLANT**
FACILITY U.S. EPA ID NO.:	**OH7 890 008 983**
FACILITY TYPE:	**Large Quantity Generator and Container Storage Facility**
FACILITY ADDRESS:	3930 US Route 23 South Piketon, Ohio 45661
U.S. EPA REPRESENTATIVE:	Walt Francis
DATE(S) OF INSPECTION:	April 13th and April 14th, 2015
SIC CODE:	**2819** - Industrial Inorganic Chemicals, Not Elsewhere Classified
NAICS CODE:	**325188** - All Other Basic Inorganic Chemical Manufacturing

PREPARED BY: _____ 5/4/2015
Walt Francis **Date**
Environmental Scientist

APPROVED BY: _____ 5/8/15
Julie Morris, Chief **Date**
Compliance Section 2
RCRA Branch

Purpose of Inspection

The purpose of this inspection was to conduct a Compliance Evaluation Inspection (CEI) at the U.S. Department of Energy Portsmouth Gaseous Diffusion Plant (Portsmouth), Piketon, Ohio to determine its compliance with the Resource Conservation and Recovery Act (RCRA), the Ohio Administrative Code (OAC), and the RCRA Permit requirements with respect to U.S. DOE's and Fluor-B&W Portsmouth, LLC's management of hazardous waste, universal waste and used oil.

Participants

U.S. Environmental Protection Agency (U.S. EPA) Inspector -
Walt Francis, Environmental Scientist

Ohio Environmental Protection Agency (Ohio EPA) Inspector -
Melody Stewart, Hazardous Waste Inspector

Representatives of U.S. DOE, Fluor-B&W Portsmouth, LLC (FBP), Wastren-EnergX Mission Support, LLC (WEMS), Restoration Services (RSI) -
Kristi Wiehle, U.S. DOE
Amy Lawson, U.S. DOE
Rosemary Richmond, RSI
Bob Anderson, WEMS
Barbara Halcomb, FBP
Chris Guilliams, FBP
Jeremy Davis, RSI
Mitch Newman, FBP
Ryan Callihan, FBP
Frank Johnston, FBP

Site Description/Background Information

Historically, the main function of the Portsmouth facility was to enrich uranium for military use (nuclear submarines and nuclear weapons) and commercial reactors through a gaseous diffusion process. This involved the separation of U235 from the U238 isotope in uranium hexafluoride (UF6) feedstock which contains 0.711% U235. The Portsmouth facility was constructed from 1952 to 1956 and had produced enriched uranium continuously since September 1954. In 1993, the uranium enrichment facilities at the plant were leased to the United States Enrichment Corporation (USEC). U.S. DOE retained ownership of the ongoing site environmental restoration program as well as the permitted hazardous waste storage facilities.

Numerous other activities associated with the plant's main function also occur on-site and were

leased by USEC. As of March 2012, U.S. DOE and FBP activities included decontamination of equipment and uranium recovery (X-705 Building); chemical cleaning of equipment (X-700); maintenance crafts, including paint, sheet metal, machining, valve, compressor, welding, electrical, motor rewind, metallurgy, instruments and carpentry (X-720); laboratory services (X-710); wastewater treatment (X-6619); water treatment (X-611); chromium removal (X-616); uranium operations, fluorine generation and cylinder handling (X-344); vehicle repair (X-750); coal pile runoff treatment (X-621); and electrical and utilities system.

Hazardous waste and mixed waste which was generated from the gaseous diffusion and associated processes leased by USEC is stored in U.S. DOE owned and permitted storage facilities. Waste generated by U.S. DOE and FBP from the environmental restoration is also stored in these facilities. U.S. DOE also generates non mixed radioactive hazardous waste, universal waste and used oil which is shipped out of Building XT-847. USEC ceased the enrichment process in May 2001, and discontinued on-site operations on October 10, 2011. U.S. DOE and FBP manage hazardous waste, universal waste and used oil generated from on-site maintenance, on-site storage activities, remediation, and demolition activities.

Uranium contaminated hazardous wastes (mixed waste) which were generated by USEC and are generated by U.S. DOE and FBP are stored on-site in U.S. DOE-owned and operated hazardous waste container storage facilities for longer than one year. Historically, this was due to the limited number of treatment, storage and disposal (TSD) facilities in the United States which could accept mixed waste, and a May 1991 U.S. DOE moratorium on off-site waste shipment. A large percentage of the waste generated at Portsmouth is U.S. DOE-generated mixed waste from the site-wide cleanup activities. This is also stored in U.S. DOE-owned storage areas.

U.S. DOE/FBP generated hazardous wastes are primarily shipped to: Permafix Environmental/M&EC, Oak Ridge, Tennessee (TNR000005397); EQ Detroit, Detroit, Michigan (MID980991566), DSSI/Permafix, Kingston, Tennessee (TND982109142), Chemical Waste Management, Emelle, Alabama (ALD000622464); and Energy Solutions-Bear Creek Treatment Facility, Oak Ridge, Tennessee (TND982157570). In addition, a wide variety of radioactive and other nonhazardous wastes are generated as a result of the above processes.

On March 25, 2011 Ohio EPA renewed the RCRA Permit for the Portsmouth facility. The renewed RCRA Permit includes six container storage areas in Building X-326. The renewed RCRA Permit states in Section B.36(m) that U.S. DOE/FBP may store restricted waste beyond one year; however, the Permittee bears the burden of proving that such storage was solely for the purpose of accumulating such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment or disposal [OAC Rule 3745-270-50].

Opening Conference

On April 13, 2015 Walt Francis and Melody Stewart arrived at Building X-1000 at approximately 7:30 a.m. and informed the U.S. DOE, RSI, and FBP representatives of the nature, scope, and procedures for the inspection. The inspection was conducted by U.S. EPA and Ohio EPA personnel as a Federal lead inspection. The facility representatives provided the team with a brief update of the facility, and a list of current hazardous waste satellite accumulation area (SAA) containers, hazardous waste less than 90 day accumulation areas, and universal waste accumulation areas. The current site activities include: Decontamination and Decommissioning (D&D); the DUF6 Conversion Plant; and the Centrus facility research and demonstration project. The Portsmouth site currently has approximately 2,126 employees (FBP-1880, WEMS–177, RSI-51, and U.S. DOE-18). Ms. Lawson did not make a confidential business information claim on the information gathered during the inspection. Ms. Lawson allowed the inspectors access to the facility to conduct the inspection.

Site Tour

The RCRA inspection team included Mr. Chris Guilliams, Mr. Ryan Callihan, Mr. Jeremy Davis, Ms. Melody Stewart and Mr. Walt Francis. The inspection began at Building X-622. Mr. Greg Thompson, Ground Water Treatment Facility Operations Supervisor, showed the inspectors a 55-gallon SAA container labeled "F001, Bag Filters, PPE, and Plastic". The walk-through continued to Building X-624. Mr. Thompson showed the inspectors a 55-gallon SAA container labeled "F001, Bag Filters, and Plastic". The walk-through continued to Building X-752. Mr. Guilliams introduced Mr. Kevin Cawley, Facility Manger. Mr. Cawley took the inspectors to Building X-752. The inspectors observed five 55-gallon containers labeled "Lead for Recycling". Mr. Guilliams told the inspectors that the lead material was lead bricks used for shielding. Inspector Francis noted the containers were labeled "12-01121, 12-000998, 12-001000, and 12-000999". Mr. Cawley showed the inspectors a hazardous waste less than 90 day accumulation area ("Bay R"). Inspector Francis did not observe any containers in Bay R. Mr. Mitch Newman showed Inspector Francis another hazardous waste less than 90 day accumulation area ("Bay Q"). Inspector Francis observed one 30-gallon container of used aerosols. Also, in Building X-752, Inspector Francis observed a container of batteries dated "3/24/2015" and two containers labeled "Used Oil". The walk-through continued to the warehouse. Mr. Cawley showed the inspectors new empty 55-gallon containers in storage, old electronic components, and a container labeled "Used Oil". The walk-through continued outside where Inspector Stewart asked Mr. Cauley about a gray 55-gallon container near the railroad tracks. Mr. Cauley told the inspectors it was sand for the locomotives. The walk-through continued to Building XT-847. Mr. Rob Howard showed the inspectors Area N-2 a hazardous waste less than 90 day accumulation area. Inspector Francis observed a 55-gallon container labeled "Broken Bulbs, D008/D005, 3/30/2015", a container labeled "HEPA Filters Pending Analysis", and several containers of universal waste lamps dated "11/11/14, 8/8/14, 6/10/14, and 5/19/14". Mr. Howard showed the inspectors a SAA container labeled "Broken Bulbs", an SAA container labeled "Battery Fluid, D002", and a container labeled "Ni-Cd Batteries". Mr. Howard showed the

inspectors several pallets of used lead acid batteries, and several pallets containing 55-gallon containers of used oil. The walk-through continued in Building XT-847 to Area C-2 which was empty. The inspection group then returned to a conference room in Building XT-847 to review records. The walk-through continued to the Fire Station, Building X-1007. Mr. Ryan Callahan showed the inspectors a container of universal waste in a mechanical room in the fire station.

The walk-through continued to the Garage, Building X-750. Mr. Callihan showed the inspectors a hazardous waste less than 90-day accumulation area which included a 5-gallon container of used aerosol cans dated "3/17/15". Mr. Callihan showed the inspectors a 5-gallon SAA container labeled "solvent rags", a 5-gallon container of used oil, and a 5-gallon container of universal waste bulbs. Mr. Callihan showed the inspectors another SAA 55-gallon container labeled "Unused Fuel Gas/Diesel". Mr. Callihan told the inspectors that any used oil is taken to Building X-747H prior to off-site shipment. The walk-through continued to Building X-300. The inspectors observed a small container of universal waste bulbs, dated "1/21/2015".

The inspection continued to Building X-720. Mr. Guilliams introduced Ms. Beverly Kelley. Ms. Kelley showed the inspectors an area with universal waste and hazardous waste containers. Inspector Francis observed several boxes of universal waste lamps, a container of lithium batteries, and three 30-gallon containers labeled hazardous waste aerosol cans. The walk-through continued in Building X-720 to Column J11. Ms. Kelley showed the inspectors a 55-gallon SAA container labeled "Lab Pack Waste". The walk-through continued to the "Cleaning Room". Ms. Kelley showed the inspectors several SAA polybottles. The walk-through continued to the Radio Shop, Room 280. Ms. Kelley showed the inspectors a 5-gallon SAA container utilized for "ITM Sensors" and a 5-gallon universal waste container of nickel cadmium batteries. The walk-through continued to the Air Pal Shop. Ms. Kelley showed the inspectors a 5-gallon SAA container and a universal waste accumulation area. The walk-through continued to the Respirator Shop. Ms. Kelley showed the inspectors a 55-gallon universal waste container labeled "Nickel Metal Hydride Batteries, 1/20/2015". The walk-through continued to Building X-720C. Ms. Kelley showed the inspectors a hazardous waste less than 90 day accumulation area. Inspector Francis observed two thirty-gallon containers labeled "Pending Analysis", a 55-gallon container labeled "Pending Analysis", a container labeled "Sand Blast Media", and a 10-gallon container labeled "Rags and Oil". The walk-through continued to another area of Building X-720C where Inspector Francis observed five 55-gallon containers labeled "Used Oil". The walk-through continued to a parking lot outside of Building X-720. The inspectors observed a number of 5-gallon containers labeled "Asphalt Release" and two 55-gallon containers labeled "Solidified ACM Sealant". Mr. Mitch Mathews told the inspectors that he was working on cleaning up this area. The inspection continued to Building X-700. Mr. Bob Anderson showed the inspectors a hazardous waste SAA 5-gallon container labeled "Paint Thinner", a 55-gallon container labeled "Used Antifreeze", and a container labeled "Used Oil". Mr. Anderson showed the inspectors a universal waste accumulation area. Inspector Francis observed several containers of four foot used fluorescent lamps dated "3/28/15", and a container of small lead acid batteries. The walk-through continued to a hazardous waste less than 90-day accumulation area in Building X-700. Inspector Francis observed a 10-gallon hazardous waste container labeled

"Waste Aerosol Cans, D001, 2/25/15". The walk-through continued through Building X-700. The inspection continued to Building X-344. Mr. Callihan showed the inspectors a universal waste accumulation area. Inspector Francis observed a 55-gallon container labeled "Incandescent Bulbs", a 55-gallon container labeled "Mercury Vapor Bulbs", and four pallets of four foot universal waste bulbs dated "3/11/15" and "4/9/15", and two 55-gallon containers labeled "Used Oil".

The inspection continued to Building X-326. Mr. Chris Ashley met the inspectors. The walk-through continued to RCRA Storage Area #6. The inspectors toured Area J and Area P. Mr. Ashley told the inspectors that these containers were going over to Building X-705 to be shipped out to Energy Solutions, Clive Utah. Inspector Francis wrote down an RFD number 15-002295. Inspector Francis also noted a container labeled "Ash Solution, D002/D006/D007, D008, D009, D011, 1982". D010, MC1814 Gunk, RFD 65311, 10/23/13". The walk-through continued to Area #5. Inspector Francis observed a container labeled "HEPA Filters, D008, 11/3/14", and a container labeled "Floor Sweepings, D008/D004/D006/D007/D010, 7/25/07, #13-003256. The walk-through continued to the "East L-Cage". Inspector Francis noted a 10-gallon container labeled "D008, 2/17/07" in the RCRA Area #1. The walk-through continued to a hazardous waste less than 90-day accumulation area at Column C-49 which contained a container of hazardous waste, a container of universal waste, a container of used oil and a container of biohazard waste. The walk-through continued to Column C-48. The inspectors observed a 250-gallon tote labeled "Waste Oil from Motor Test Stand X-326, Sampled 3/19/15, #14-005763". FBP labeled the tote "Used Oil and Hazardous Waste Pending Analysis" on April 22, 2015, see photograph number 2. The walk-through continued to Column H55. The inspectors observed three 250-gallon totes labeled "Used Oil/Waste Oil", "Waste Oil", and "Waste Oil". FBP labeled the totes "Used Oil" on April 22, 2015, see photograph number 1. The walk-through continued to a one gallon universal waste container in the control room. The inspection continued to Building X-330. Ms. Vickie Glenn showed the inspectors a hazardous waste less than 90 day accumulation area at Column L-49 which was empty. The walk-through continue to Column G-43. Ms. Glenn showed the inspectors a 55-gallon container labeled "Broken Bulbs, D008/D009". The walk-through continued to Column W-35. Ms. Glenn showed the inspectors several containers of universal west lamps dated "3/16/15", and a container labeled "Mercury HID Bulbs". The walk-through continued to Column EE-35. Ms. Glenn showed the inspectors a 5-gallon container of solvent rags. The walk-through continued to the control room. Ms. Glenn showed the inspectors an empty one gallon universal waste container. The inspection continued to Building X-333. Ms. Glenn showed the inspectors a universal waste accumulation area at Column C-10. The walk-through continued to the ACR1 where Ms. Glenn showed the inspectors a one gallon universal waste container which was dated "12/1/14". The inspection continued to Building X-530. Mr. Callihan showed the inspectors a universal waste container dated "12/2/14". The walk-through continued to the "Battery Room". Mr. Callihan showed the inspectors a 5-gallon SAA container labeled "Battery Acid". The walk-through continued to a universal waste accumulation area. Inspector Francis observed several fiber drums containing universal waste. Outside of Building X-530, the inspectors observed an electrical transformer dripping oil on the gravel base. The inspectors observed the oil was leaking from a vent on

Westinghouse transformer #202. The inspection continued to Building X-627. Mr. Callihan showed the inspectors a 55-gallon SAA container labeled "F001, Carbon Residue, PPE, and Plastic". The inspection continued to Building X-623. The inspectors observed a 55-gallon SAA container labeled "F001, PPE, Plastic, Bag Filters, and Carbon". Inspector Francis noted that the less than 90 day accumulation area was empty. The inspection continued to Building X-741. The inspectors observed three 250-gallon totes of used oil. Inspector Francis noted that they were all labeled "Used Oil".

On April 14, 2015, Mr. Guilliams and Mr. Callihan took the inspectors to Building X-705. The inspectors met Mr. Marvin Ross. Mr. Ross directed the inspectors to don coveralls and the inspectors received a safety-orientation briefing prior to entering the radiation zone in Building X-705. The inspectors donned another pair of coveralls, shoe covers, a pair of booties and three pairs of gloves. Mr. Ross took the inspectors into the radiation zone in Building X-705. Mr. Ross showed the inspectors a universal waste accumulation area and a hazardous waste less than 90-day accumulation area which was empty. The walk-through continued to a 55-gallon SAA container at the microfiltration device. Mr. Ross showed the inspectors that the container was empty. The walk-through continued to a less than 90-day accumulation container utilized for heavy metal sludge. The walk-through continued to an area where polybottles of hazardous waste were accumulated. The walk-through continued to the northeast corner of the building where Mr. Ross showed the inspectors a less than 90-day hazardous waste accumulation area and four "Pup" containers of hazardous waste. Inspector Francis noted they were labeled "Ash Solution" with accumulation dates of "3/2/15 and 3/9/15". The inspection continued to Building X-344. Mr. Callihan showed the inspectors a 10-gallon SAA container at Column G6. The inspection continued to Building X-710. The inspectors met Mr. Brandon Fosson. Mr. Fosson showed the inspectors a universal waste accumulation area on the loading dock. Inspector Francis observed three 4 foot used lamp containers dated "9/29/14, 10/16/14, and 8/24/14". Mr. Fosson showed the inspectors a hazardous waste less than 90 day accumulation area in Room 103. Inspector Francis observed a 5-gallon container labeled "F001, 3/9/15", three 5-gallon containers of D002 waste, a container of D001 waste, and six 5-gallon containers of D002 waste. The walk-through continued to Room 111. Mr. Fosson showed the inspectors a hazardous waste SAA container containing aerosols. The walk-through continued to a less than 90 day accumulation area in Room 142. The walk-through continued to a SAA container for corrosive waste in Room 139. Inspector Francis noted that the container was labeled hazardous waste. The walk-through continued to a 5-gallon SAA containers in Room 124 and Room 142. The walk-through continued to Room 157. Inspector Francis observed two 5-gallon SAA containers and a polybottle. The walk-through continued to the Water Testing Laboratory, Room 154. Mr. Fosson showed the inspectors a 5-gallon SAA container labeled Chromic Acid/Mercury Sulfate. The walk-through continued to Rooms 120 and 135 which Mr. Fosson explained was a radioactive controlled area. The walk-through continued to Room 111. Mr. Fosson showed the inspectors a SAA polybottle. The walk-through continued to an SAA container in Room 128. The walk-through continued to Organic Analysis, Room 224. Mr. Fosson showed the inspectors a 5-gallon SAA container. The walk-through continued to Room 214. Mr. Fosson showed the inspectors a 5-galllon SAA container labeled "Nitric Acid Solution with Trace Metals". The

walk-through continued to Room 212. Mr. Fosson showed the inspectors two 5-gallon SAA containers labeled "Cyanide", and five 5-gallon containers labeled "Phenol, Sodium Hydroxide, Hexane Hydrochloric Acid and Potassium Hydroxide". The walk-through continued to Room 221. Mr. Fosson showed the inspectors several 5-gallon SAA containers labeled "D002", a 30-gallon SAA container labeled "HNO3/HCL", several polybottles, and a 5-gallon container labeled "Used Oil". The walk-through continued to Room 203. Mr. Fosson showed the inspectors a 5-gallon SAA container and a 5-gallon container of used oil. The walk-through continued to the Standards Lab, Room 331. Mr. Fosson showed the inspectors sveral polybottles. The walk-through continued to the Research and Development Lab, Room 240. Mr. Fosson showed the inspectors two hazardous waste SAA containers and a container labeled "Use Oil". The walk-through continued to Room 260. Mr. Fosson showed the inspectors four 5-gallon SAA containers. The walk-through continued to the Organic TCLP Laboratory, Room 254. Mr. Fosson showed the inspectors two 5-gallon SAA containers. The walk-through continued to Room 238. Mr. Fosson showed the inspectors three 10-gallon SAA containers and two 5-gallon SA containers. The walk-through continued to Room 262. Mr. Fosson showed the inspectors a 30-gallon SAA container and four 5-gallon SAA containers. Inspector Francis noted the 30-gallon container was labeled "Liquid Waste/HNO3), and the 5-gallon containers were labeled "Leachate From X-326, D002", "Nitric Acid", "HCL", and "Solid Waste F001". The walk-through continued to Room 245. Mr. Fosson showed the inspectors two 5-gallon SAA containers. The walk-through continued to the Organic Extraction Laboratory, Room 263. Mr. Fosson showed the inspectors five 5-gallon SAA containers, and a 30-gallon container labeled "Unused Samples". The walk-through continued to Radiochemistry, Rooms 266 and 285. Mr. Fosson showed the inspectors three 5-gallon SAA containers, a 10-gallon SAA container, and a container of acidic waste. Mr. Fosson showed the inspectors an acid neutralization log book. The walk-through continued to Room 281. Mr. Fosson showed the inspectors five 5-gallon SAA containers. The walk-through continued to Room 101. Mr. Fosson showed the inspectors a polybottle which contained used oil. The inspection continued to Building X-343. Mr. Callihan showed the inspectors two containers of universal waste. Inspector Francis observed a 5-gallon container labeled "Lithium Batteries, 3/29/15", and a 5-gallon container labeled "Nickel Metal Hydride, 3/29/15".

The inspection group went to Building X-157A to review records.

Records Review

A records review was conducted. The inspectors reviewed weekly inspection records at Building XT-847 with Mr. Rob Howard. At Building X-157A, the inspection team requested to review hazardous waste manifests, universal waste and used oil shipping records, personnel training information, weekly inspection logs, waste profiles for hazardous waste in storage, and the latest version of the contingency plan. The inspectors reviewed hazardous waste manifests since the date of the last inspection, two years of personnel training records, waste profiles, and weekly inspection logs. The inspectors reviewed off-site hazardous waste manifests. Hazardous wastes were being shipped to: Permafix Environmental/M&EC, Oak Ridge, Tennessee

(TNR000005397); EQ Detroit, Detroit, Michigan (MID980991566), DSSI/Permafix, Kingston, Tennessee (TND982109142), Chemical Waste Management, Emelle, Alabama (ALD000622464); and Energy Solutions-Bear Creek Treatment Facility, Oak Ridge, Tennessee (TND982157570). The last off-site shipment was dated April 9, 2015. Universal Waste was being shipped to USA Lamp and Ballast Recycling, Cincinnati, Ohio, and the date of the last off-site shipment was March 25, 2015. Used oil was being shipped to Clean Harbors Deer Park, LLC, Laporte, Texas (TXD055141378). The inspectors reviewed personnel training records for FBP and WEMS employees. The inspectors reviewed a Contingency Plan that was last updated May 2014.

Closing Conference

The inspectors conducted a closing conference. Inspector Francis explained that he would review his notes from the inspection, and generate an inspection report. U.S. DOE and FBP would then receive a letter from U.S. EPA regarding the inspection including a copy of the inspection report, and completed inspection checklists. Inspector Francis provided a U.S. EPA Small Business Resources information sheet, a U.S. EPA Region 5 Pollution Prevention contact sheet, a U.S. EPA Managing Used Oil Advice for Small Businesses fact sheet, and an Ohio EPA Pollution Prevention Assistance brochure to Mr. Guilliams.

Attachments

Inspection Checklists.

RCRA HAZARDOUS WASTE GENERATOR
INSPECTION CHECKLIST

Company: U.S. DOE Portsmouth Gaseous Diffusion Plt EPA ID#: OH7 890 008 983

Street: 3930 US Route 23 South City: Piketon

County: Pike State: Ohio Zip: 45661

Mailing Address: Same
(If different from above)

Telephone: 740-897-2112 Fax #: _____

Owner/ Operator: Fluor-B&W
(If different from above)

Street: Same

City: _____ State: Ohio Zip: _____

Inspection Date(s): 4/13/2015 and 4/14/2015 Time(s): 7:30 am - 5:00 pm

Inspection Announced? _____ Yes X NO If so, how much advance notice given? _____

	Name	Affiliation	Telephone
Inspectors:	Walt Francis	U.S. EPA	312-353-4921
	Melody Stewart	Ohio EPA	740-380-5256
Facility Representative:	Amy Lawson	U.S. DOE	740-897-2112
	Chris Guilliams	FBP	740-897-3863

Complete All Other Applicable Checklists

Generator Classification	Waste Management Activity
____ Conditionally Exempt SQG (CESQG)	X Containers
____ Small Quantity Generator (SQG)	____ Tank(s)
X Large Quantity Generator (LQG)	X Land Disposal Requirements (LDR)
____ No Generation	X Used Oil
	X Universal Waste
	____ Other

CESQG: < 100 Kg. (approximately 25-30 gallons) of waste in a calendar month
SQG: Between 100 and 1,000 Kg. (about 25 to under 300 gallons) of waste in a calendar month
LQG: >1,000 Kg. (~300 gallons) of waste in a calendar month or > 1 Kg. of acutely hazardous waste in a calendar month
NOTE: *To convert from gallons to pounds: Amount in gallons x Specific Gravity x 8.345 = Amounts in pounds*

COMPLETE AND ATTACH A PROCESS DESCRIPTION SUMMARY

NOTE TO THE INSPECTOR

STATE PART B HAZARDOUS WASTE PERMIT INSPECTION CHECKLIST

DIVISION OF HAZARDOUS WASTE MANAGEMENT
OHIO EPA
April 2012

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04-66-0680

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OHIO PART B PERMITTED FACILITY
RCRA INSPECTION CHECKLIST

Facility: Portsmouth Gaseous Diffusion Plant Ohio Permit #: 04-66-0680

Co-operator: Fluor–B&W Portsmouth, LLC

Address: 3930 U.S. Route 23 South
Piketon, OH 45661

USEPA ID#: OH7890008983
Facility Phone: 740-897-5010

County: Pike

Time: 7:45 am

Inspection Date: 4/13/2015 to 4/14/2015

Advance notice of inspection given?__(Yes) _X_(No)
If so, how far in advance? _____

	Name	***Agency/Title***	***Phone***
Inspector(s):	Walt Francis	U.S. EPA	312-353-4921
	Melody Stewart	Ohio EPA	740-380-5256
Facility Representative(s):	Amy Lawson	U.S. DOE	740-897-2112
	Chris Guilliams	Fluor-B&W Portsmouth, LLC	740-897-3863

Is facility operating as a generator? Yes _X_ No _____

If so, complete the applicable sections of the Generator Requirements checklist for wastes being managed under generator status.

PERMIT STATUS

Permit Issued: March 25, 2011
Permit Effective Date: March 25, 2011
Permit Expiration Date: March 25, 2021

STORAGE		**TREATMENT**		**DISPOSAL**	
X	Container		Tank		Injection Well
	Tank		Surface Impoundment		Landfill
	Waste Pile		Incinerator		Land Application
	Surface Impoundment		Thermal Treatment		Surface Impoundment

PROCESS DESCRIPTION

Historically, the main function of the DOE-PORTS facility was to enrich uranium for military use (nuclear submarines) and commercial reactors through a gaseous diffusion process. This involved the separation of U235 from the U238 isotope in UF6 feedstock which contains 0.711% U235. In 1993, DOE began leasing the uranium enrichment production and operations facilities at PORTS to the United States Enrichment Corporation (USEC). Uranium was enriched at the site by USEC until May 2001, at which time the production facilities were placed into a cold standby mode. During cold standby, the process buildings were maintained with a restart capability. DOE terminated the cold standby program in September 2005 and replaced it with a cold shutdown program, which no longer maintains the gaseous diffusion restart capability. The PORTS site is owned by DOE and the uranium enrichment facilities are in the process of being transitioned back to DOE from USEC. Ongoing activities at the facility include decontamination and decommissioning of facility buildings, ongoing site environmental restoration, and maintenance of the permitted hazardous waste storage area.

WASTE MANAGEMENT, GENERATION AND AMOUNT

Uranium contaminated hazardous wastes (mixed waste) which were generated by USEC and DOE are stored on-site in DOE-owned and operated hazardous waste container storage facilities for longer than one year. Historically, this was due to the limited number of TSDs in the U.S. which could accept mixed waste, and a May 1991 DOE moratorium on off-site waste shipment. A large percentage of the waste generated at PORTS is DOE-generated mixed waste from the site-wide cleanup activities. This is also stored in DOE-owned storage areas. During the past year, numerous shipments of hazardous waste were manifested off-site by both DOE and USEC. This is due to an increase in treatment capacity at off-site commercial treatment facilities and DOE treatment facilities, the lifting of the moratorium, and the execution of the site treatment plans for DOE and USEC. DOE has in the past sent some waste off-site (to USDOE Oakridge) for treatment (incineration) prior to final disposal. Treatment residuals had been returned to DOE for storage in the interim prior to their final disposal.

Hazardous

The DOE Part B permit lists numerous hazardous waste codes for wastes that are generated by the above processes and the environmental restoration. These are stored in drums ranging in size from 30 to 110 gallon capacity, 5 gallon containers, 20 gallon lab packs, 5' cans, 4'x4'x6' boxes, 4'x4'x8' boxes, polybottles and laboratory bottles.

Nonhazardous

A wide variety of radioactive and other nonhazardous wastes are generated as a result of the above processes.

HAZARDOUS WASTE MANAGEMENT UNITS

The following DOE-owned permitted storage facilities were inspected during the CEI:

In addition, DOE-owned and operated HWMUs and SAAs were inspected in the following buildings:

REGULATORY/ENFORCEMENT HISTORY

As a result of violations of state and federal hazardous waste regulations found during the 1987, 1988, and 1989 OEPA RCRA inspections, USDOE and OEPA entered into a Consent Decree governing restoration of the environment at DOE-PORTS.

On October 4, 1995, DFFOs were signed which allowed DOE to store LDR wastes in excess of one year, so long as waste is being stored in compliance with the orders and an approved site treatment plan. These orders supercede the May 18, 1993, DFFOs.

On February 24, 1998, DOE, LMES and Ohio signed DFFOs and a Consent Order regarding past violations and the management of DUF6 and LiOH. This order was amended on March 12, 2004, June 23, 2005, February 22, 2008 and March 28, 2011. The latest amendment added Fluor-B&W Portsmouth, LLC and Babcock & Wilcox Conversion Services, LLC to the order.

On March 18, 1999, DOE and Ohio EPA signed DFFOs. These DFFOs provide exemptions to DOE and integrate the following unclosed units into the CMS/CMI process: X-749, X-231B, X-701C, X701B, X-230J7, and X-744Y.

A Part B permit was issued to DOE and its current co-operator, Bechtel Jacobs, for the X-7725 and X-326 storage facilities on March 25, 2011.

On April 13, 2010, DOE signed the Director's Final Findings and Orders for Removal Action and Remedial Investigation and Feasibility Study and Remedial Design and Remedial Action (DFF&O). The DFF&O outline the process for decontamination and decommissioning of the facility buildings.

GENERAL CONDITIONS OF PERMIT

GENERAL PERMIT COMPLIANCE AND ACTIVITIES

1. Has the expiration date of the permit passed? If so: Yes__No_X_N/A ___RMK#__

   a. Is the permittee continuing any activity regulated by the permit after the expiration date of the permit? Yes__No__ N/A _X_RMK#__

   b. Has the facility submitted an application for a permit renewal to the director no later than 180 days prior to the expiration date of the permit? (Or upon a later date if the permittee can demonstrate good cause for late submittal.) [Condition A.6.(a)] Yes__No__ N/A _X_RMK#__

NOTE: *The permittee may continue to operate in accordance with the terms and conditions of the expired permit until a renewal permit is issued or denied if:*

A. The permittee has submitted a timely and complete application for a renewal permit under OAC rule 3745-50-40; and

B. Through no fault of the permittee, a new permit has not been issued pursuant to OAC rule 3745-50-40 on or before the expiration date of the permit. [Condition A.6.(b)]

2. Has the permittee submitted the annual permit fee, payable to Treasurer, State of Ohio, to Ohio EPA on or before the anniversary of the date of issuance during the term of the permit? [Condition A.26] Yes_X_No__ N/A ___RMK#__

3. Is the permittee conducting any hazardous waste management activities (not otherwise exempt by law) which are not authorized by the permit? [Condition A.1.(b) and A.5] Yes__No_X_N/A ___RMK#__

4. Have any provisions of the permit been identified as invalid? [Condition A.4.] Yes__No_X_N/A ___RMK#__

5. Has the facility identified any instances of noncompliance with the permit, RC Chapter 3734. or the rules adopted thereunder, which may endanger human health or the environment? If so: Yes_X_No_X_N/A ___RMK#__

a. Did the facility immediately report orally the following to Ohio EPA's Emergency Response Section within 24 hours of becoming aware of the circumstance(s): [Condition A.20.(a)]

i. Information concerning a release of any hazardous waste that may cause an endangerment to public drinking water supplies; and — Yes_✓_No__ N/A __RMK#__

ii. Information concerning a release of hazardous waste, fire or explosion at the facility which could threaten human health or the environment outside the facility, including a description of:

A. Name, address and telephone number of the owner or operator? — Yes_✓_No__ N/A __RMK#__

B. Name, address and telephone number of the facility? — Yes_✓_No__ N/A __RMK#__

C. Name and quantity of material(s) involved? — Yes_✓_No__ N/A __RMK#__

D. The extent of injuries, if any? — Yes_✓_No__ N/A __RMK#__

E. An assessment of the actual or potential hazard to the environment and human health outside the facility where this is applicable? — Yes_✓_No__ N/A __RMK#__

F. Estimated quantity and disposition of recovered material that resulted from the incident? — Yes_✓_No__ N/A __RMK#__

6. Did the permittee provide a written report to Ohio EPA's Emergency Response Section and DHWM, SEDO within five days of the time the permittee became aware of the circumstances reported in Question 5? [Condition A.21.] If so did the report contain: — Yes_✓_No__ N/A __RMK#__

a. A description of the noncompliance and its cause (including exact dates and times)? — Yes_✓_No__ N/A __RMK#__

b. Whether the noncompliance has been corrected and if not, the anticipated time noncompliance is expected to continue? — Yes_✓_No__ N/A __RMK#__

c. Steps taken or planned to minimize the impact on human health and the environment and to reduce and prevent recurrence of the noncompliance?

Yes X No__ N/A __RMK#__

Note: *The permittee need not comply with the five day written report requirement if the director, upon good cause shown by the permittee, waives that requirement and the permittee submits a written report within 15 days of the time the permittee becomes aware of the circumstances. [Condition A.21.(c)]*

7. Has the permittee expeditiously taken all steps necessary to minimize or correct any adverse impact on the environment or public health resulting from noncompliance with the permit? [Condition A.8] — Yes__No__ N/A X RMK#__

8. Has the permittee identified any other instances of noncompliance not provided for in Question 5? — Yes__No X N/A __RMK#__

   a. If so, did the permittee report to the director within a month of the time at which the permittee is aware of such noncompliance? [Condition A.22.] — Yes__No__ N/A X RMK#__

   b. Do the reports provided contain the information set forth in Condition A.20? — Yes__No__ N/A X RMK#__

9. Has the permittee planned any physical alterations or additions to the permitted facility? — Yes__No X N/A __RMK#__

   a. If so, has the facility provided Ohio EPA with notice of such changes? [Condition A.15] — Yes__No__ N/A X RMK#__

Note: *Such notification does not waive the permittee's duty to comply with the permit pursuant to Condition A.5.*

REMARKS

PERMIT MODIFICATION, REVISION, REVOCATION

1. Has the permittee filed a request for a permit modification, revision or revocation since issuance of the permit? [Condition A.2.] MAY 2014 Contingency plan — Yes X No ___ N/A ___ RMK#___

2. Has the permit been transferred to a new owner or operator? [Condition A.18.] If so, — Yes___ No X N/A ___ RMK#___

   a. Has the transfer been conducted in accordance with R.C. Chapter 3734. and the rules adopted thereunder? [Condition A.18.]; and — Yes___ No___ N/A X RMK#___

   b. Before transferring ownership did the permittee notify the new owner in writing of the requirements of R.C. Chapter 3734. and the rules adopted thereunder and the applicable Ohio hazardous waste rules? [Condition A.18.] — Yes___ No___ N/A X RMK#___

3. Has the permittee submitted reports of compliance or noncompliance with, or any progress reports on the requirements contained in any compliance schedule of the permit to Ohio EPA no later than 14 days following each scheduled date, unless otherwise specified? [Condition A.19.] — Yes___ No___ N/A X RMK#___

4. Has the permittee furnished relevant information which Ohio EPA has requested to determine whether cause exists for modifying, revising, revoking or suspending the permit, or to determine compliance with the permit? [Condition A.10] — Yes___ No___ N/A X RMK#___

5. Has the facility furnished Ohio EPA, upon request, with copies of records required to be kept by the permit? [Condition A.10] — Yes X No___ N/A ___ RMK#___

6. Has the permittee become aware that it failed to submit any relevant facts in the permit or issuance proceedings or that it submitted incorrect or incomplete information in permit issuance proceedings or other submissions to Ohio EPA or the HWFB? If so, — Yes___ No X N/A ___ RMK#___

a. Has the permittee promptly submitted such facts or corrected information to the appropriate entity? [Condition A.24.] — Yes__No__ N/A X RMK#__

7. Is the permittee maintaining records of all data used to complete the approved application and any amendments, supplements, revisions or modifications to the application? [Condition A.14.(c)] — Yes X No__ N/A ___RMK#__

8. Is the permittee retaining a complete copy of the approved application on-site? [Condition A.14.(c)] — Yes X No__ N/A ___RMK#__

REMARKS

SITE ENTRY - AVAILABILITY OF RECORDS

1. As specified in Condition A.11., has the permittee allowed the director or an authorized representative, upon proper identification and upon stating the purpose and necessity of an inspection, to:

   a. Enter at reasonable times upon the premises where a regulated activity is located or where records are kept under the conditions of the permit? Yes_X_No___ N/A ___RMK#___

   b. Have access to and copy any records required to be kept under the conditions of the permit? Yes_X_No___ N/A ___RMK#___

   c. Inspect at reasonable times facilities, equipment (including control and monitoring equipment), practices or other operations regulated under the conditions of the permit? Yes_X_No___ N/A ___RMK#___

   d. Sample, document, or monitor any substance or parameter at any location of the facility to assure compliance with the permit or as otherwise authorized by R.C. Chapter 3734. and the rules adopted thereunder? Yes_X_No___ N/A ___RMK#___

RECORDKEEPING REQUIREMENTS

CONFIDENTIALITY

1. Has the permittee requested confidentiality of any information of the permit in accordance with R.C. Chapter 3734 and the rules adopted thereunder? [Condition A.25.] Yes___No_X_N/A ___RMK#___

OPERATING RECORD

2. Is the permittee maintaining a written operating record at the facility as set forth in OAC rule 3745-54-73 and Condition B.22. of the permit which contains the following elements:

WCT SYSTEM - CONTAIN ID
EM WASTE

a. A description and the quantity of each hazardous waste received? Yes X No__ N/A ___RMK#__

b. Method(s) and date(s) of treatment, storage or disposal at the facility? Yes X No__ N/A ___RMK#__

c. The location of each hazardous waste within the facility and the quantity at each location? Yes X No__ N/A ___RMK#__

3. Is the permittee maintaining, until closure is complete and certified, the following documents and amendments, revisions and modifications to these documents as part of its operating record: [Condition A.28.]

a. Waste analysis plan in accordance with OAC rule 3745-54-13 and the conditions of the permit? Yes X No__ N/A ___RMK#__

b. Contingency plan in accordance with OAC rule 3745-54-53 and the conditions of the permit? Yes X No__ N/A ___RMK#__

c. Closure plan in accordance with OAC rule 3745-55-12 and the conditions of the permit? Yes X No__ N/A ___RMK#__

d. Personnel training plan and records required by OAC rule 3745-54-16 and the conditions of the permit? Yes X No__ N/A ___RMK#__

e. Inspection schedules developed in accordance with OAC rules 3745-54-15 and 3745-55-74 and the conditions of the permit? Yes X No__ N/A ___RMK#__

4. Have any of the documents identified in Question #3 been revised as required by the permit? If so, Yes__No X N/A ___RMK#__

a. Has the permittee submitted the revisions to Ohio EPA? [Condition A.28.(b)] Yes__No__ N/A X RMK#__

b. Has the permittee received approval in accordance with Ohio hazardous waste rules to make such changes? [Condition A.28.(b)] Yes__No__ N/A X RMK#__

5. Is the permittee maintaining copies of all inspection logs at the facility for a period of at least three years from the date of inspection? [Condition A.28.(c)] Yes X No__ N/A ___RMK#__

ANNUAL REPORT REQUIREMENT

6. Is the permittee complying with ~~annual~~ biennial report requirements set forth in OAC rule 3745-54-75 and the additional report requirements set forth in OAC rule 3745-54-77 and the conditions of the permit? [Condition B.25.] — Yes X No___ N/A ___RMK#___

SAMPLING/MONITORING RECORDKEEPING REQUIREMENTS

7. In compliance with Condition A.12.(b) of the permit, do the permittee's records of monitoring information specify the:

   a. Date(s), exact place(s), time(s) and method(s) of sampling or measurement? — Yes X No___ N/A ___RMK#___

   b. Individual(s) who performed the sampling or measurement? — Yes X No___ N/A ___RMK#___

   c. Date(s) analyses were performed? — Yes X No___ N/A ___RMK#___

   d. Individual(s) who performed the analyses? — Yes X No___ N/A ___RMK#___

   e. Analytical technique(s) or method(s) used? — Yes X No___ N/A ___RMK#___

   f. Results of such analyses? — Yes X No___ N/A ___RMK#___

8. Have the methods used to obtain a representative sample of the waste to be analyzed included the appropriate SW-846 Method or an equivalent method specified in the approved waste analysis plan? [Condition A.12.(a)] — Yes X No___ N/A ___RMK#___

9. Has Ohio EPA requested submittal of any reports or other information required by the conditions of the permit from the permittee? If so, — Yes___ No X N/A ___RMK#___

   a. Have the submittals been signed and certified according to OAC rules 3745-50-58(K) and 3745-50-42? [Condition A.13.] — Yes___ No___ N/A X RMK#___

WASTE MINIMIZATION REQUIREMENTS

10. Has the permittee submitted a Waste Minimization Report to Ohio EPA meeting the requirements of Condition A.29. of the permit within 180 days of permit journalization? Yes_Y_No___ N/A ___RMK#___

    a. Following the first submittal as identified above in Question #10, has the permittee submitted biennial updates to this report as required by Condition A.29.(c)? Yes_Y_No___ N/A ___RMK#___

REMARKS

OFF-SITE SHIPMENTS/MANIFEST REQUIREMENTS

1. Is all hazardous and mixed waste transported from the facility by a properly registered transporter of hazardous and mixed waste in accordance with all applicable laws, rules and standards? [Condition A.16.] — Yes X No___ N/A ___RMK#___

MANIFEST REQUIREMENTS/WASTES RECEIVED ON-SITE

2. Upon receipt of the manifests, has the permittee signed and dated each copy of the manifest? [OAC 3745-54-71(A)(1); Condition B.24.] — Yes X No___ N/A X RMK#___
   No Incoming Manifest.

3. For any significant discrepancies identified upon receipt of the manifest(s): did the permittee note such discrepancies on the manifest(s) in accordance with OAC rule 3745-54-71(A)(2) and Condition B.24? — Yes X No___ N/A X RMK#___

   a. Did the permittee attempt to reconcile the discrepancy? [Condition B.24.] — Yes___No___ N/A X RMK#___

   b. If the discrepancy was not resolved within 15 days: did the permittee submit a report, including a copy of the manifest, to the director in accordance with OAC rule 3745-54-72(B)? [Condition B.24.] — Yes___No___ N/A X RMK#___

4. Does the permittee immediately give the transporter at least one copy of the signed manifest? [OAC 3745-54-71(A)(3); Condition B.24.] — Yes X No___ N/A ___RMK#___

5. Does the permittee provide the generator with a copy of the manifest within 30 days of receipt of waste on-site? [OAC 3745-54-71(A)(4); Condition B.24.] — Yes X No___ N/A ___RMK#___

6. Does the permittee retain a copy of each manifest on-site for at least three years from the date of delivery? [OAC 3745-54-71(A)(5); Condition B.24.] — Yes X No___ N/A ___RMK#___

7. Has the permittee received any hazardous waste or mixed waste from off-site, other than as described in Condition B.2(b)? — Yes___No___ N/A X RMK#___

WASTE ANALYSIS/WASTE ANALYSIS PLAN

GENERAL REQUIREMENTS

1. Does the permittee have a detailed chemical and physical analysis of waste streams which contains all information which is necessary to properly treat, store or dispose of the waste in accordance with OAC Chapters 3745-54 to 3745-57 and Condition B.3 of the permit (Section C of the approved permit application)? [OAC 3745-54-13(A)(1)] — Yes X No__ N/A __RMK#__

2. Since the last inspection, were any wastes generated by the facility which were unable to be characterized through process knowledge? If so, — Yes__No X N/A __RMK#__

   a. Were the waste analysis procedures described in Section C of the approved permit application followed? — Yes__No__ N/A X RMK#__

3. Is the permittee following the procedures described in the approved waste analysis plan (Section C of approved permit application) and the requirements of OAC rule 3745-54-13? [Condition B.3.] — Yes X No__ N/A __RMK#__

4. Is the permittee maintaining waste analysis data in the facility's operating record as required by OAC rule 3745-54-73 and Condition B.22. of the permit? — Yes X No__ N/A __RMK#__

WASTE ANALYSIS QUALITY ASSURANCE REQUIREMENTS

5. Is the permittee verifying the analysis of each waste stream annually as part of its quality assurance program in accordance with SW-846? [Condition B.3.] — Yes X No__ N/A __RMK#__

6. In accordance with Condition B.3. of the permit, does the permittee's quality assurance plan ensure that the permittee is, at a minimum:

   a. Maintaining property functional instruments? — Yes X No__ N/A __RMK#__

   b. Using approved sampling/analytical methods? — Yes X No__ N/A __RMK#__

c. Verifying the validity of sampling and analytical procedures and performance of correct calculations? Yes X No___ N/A ___RMK#___

7. If the permittee uses a contract laboratory to perform analyses, did the permittee inform the laboratory in writing that it must operate under the waste analysis conditions set forth in this permit? Yes X No___ N/A ___RMK#___

Bldg X-710

REMARKS

GENERAL INSPECTION REQUIREMENTS

1. Is the permittee following the inspection procedures and schedules described in Section F of the approved permit application and the requirements of OAC rule 3745-54-15? [Condition B.5.] — Yes_X_No__ N/A ___RMK#__

2. Does the permittee inspect the facility with such regularity as to identify problems resulting from deterioration, malfunctions, operator errors or discharges which may lead to a release of hazardous waste to the environment or a threat to human health? [OAC 3745-54-15(A)(1)(2)] — Yes_X_No__ N/A ___RMK#__

3. Is the permittee following the approved inspection schedule for inspecting: monitoring equipment, safety equipment, emergency equipment, security devices and operating and structural equipment as specified in OAC rule 3745-54-15? — Yes_X_No__ N/A ___RMK#__

   a. Is the schedule kept at the facility? [OAC 3745-54-15(B)(2)] — Yes_X_No__ N/A ___RMK#__

   b. Does the schedule identify the types of problems which are to be looked for during the inspection? [OAC 3745-54-15(B)(3)] — Yes_X_No__ N/A ___RMK#__

   c. Does the schedule include inspection of areas subject to spills daily when in use and according to other applicable regulations when not in use? [OAC 3745-54-15(B)(4)] — Yes_X_No__ N/A ___RMK#__

4. Does the permittee remedy deterioration or any malfunctions discovered by an inspection as required by OAC rule 3745-54-15(C)? [Condition B.5.] — Yes_X_No__ N/A ___RMK#__

5. Is the permittee maintaining records of inspections for a minimum of three years? [Condition B.5.] — Yes_X_No__ N/A ___RMK#__

6. In accordance with OAC rule 3745-54-15(D) and Condition B.5. of the permit, do inspection records contain the following information:

   a. Date and time of inspection? — Yes_X_No__ N/A ___RMK#__

b. Signature of inspector? Yes X No___ N/A ___RMK#___

c. Notation of observations made? Yes X No___ N/A ___RMK#___

d. Date/nature of any repairs or other remedial actions? Yes X No___ N/A ___RMK#___

SECURITY PROVISIONS/FACILITY OPERATION

1. Is the permittee complying with the security provisions of OAC rule 3745-54-14(B)(1) and B(2) and (C) and Section F of the approved permit application, including the following: [Condition B.4.]

   a. Does the permittee have a 24-hour surveillance system which continuously monitors and controls entry onto the active portion of the facility; Yes X No___ N/A ___RMK#___

   b. An artificial or natural barrier (in good repair) which completely surrounds the active portion of the facility; or Yes X No___ N/A ___RMK#___

   c. A means to control entry, at all times, through gates or other entrances, to the active portion of the facility? Yes X No___ N/A ___RMK#___

2. In accordance with OAC rule 3445-54-14(C), does the permittee have signs reading "Danger-Unauthorized Personnel Keep Out" posted at each entrance and at other locations and in sufficient numbers to be seen when approaching the active portion of the facility? [Condition B.4.] Yes X No___ N/A ___RMK#___

3. Is construction, maintenance and operation of the facility being conducted to minimize the possibility of a fire, explosion, or unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, ground or surface waters? [Condition B.1.] Yes X No___ N/A ___RMK#___

PERSONNEL TRAINING

1. Is the facility conducting personnel training in accordance with Section H of the approved permit application and the following requirements of OAC rule 3745-54-16: [Condition B.6.]

   a. The facility provides personnel training which includes instruction in safe equipment operation and emergency procedures and implementation of the contingency plan? [OAC 3745-54-16(A)(B)(C)] — Yes X No__ N/A ___RMK#__

   b. The facility provides personnel training to new employees within six months after their date of employment as required by OAC 3745-54-16(B)? — Yes X No__ N/A ___RMK#__

   c. The facility provides an annual refresher training course as required by OAC rule 3745-54-16(B)? — Yes X No__ N/A ___RMK#__

2. Is the permittee maintaining personnel training records as required by OAC rule 3745-54-16(D) and of the approved application, including: written job titles, job descriptions and documented employee training records? [Condition B.6.] — Yes X No__ N/A ___RMK#__

REQUIRED EQUIPMENT

1. Is the permittee, at a minimum, maintaining the equipment set forth in the approved permit application (Section G) at the facility? [Condition B.9.] — Yes X No__ N/A ___RMK#__

2. Is the permittee inspecting, testing, and maintaining the equipment specified in Question #1 to assure its proper operation as specified in OAC rule 3745-54-33, the inspection plans and Section G of the approved permit application? [Condition B.10.] — Yes X No__ N/A ___RMK#__

3. Whenever hazardous waste is being managed at the facility, has the permittee provided all personnel involved in the operation with immediate access to an internal alarm or emergency communication device as required by OAC rule 3745-54-34 and Section G of the approved permit application? [Condition B.11.] — Yes X No__ N/A ___RMK#__

CONTINGENCY PLAN REQUIREMENTS

EMERGENCY PROCEDURES

1. In compliance with Condition B.13.(a) of the permit, does the permittee:

   a. Familiarize the emergency response agencies likely to respond to an emergency at the facility with:

      i. The location and layout of the facility? Yes X No__ N/A __RMK#__

      ii. Properties of hazardous waste and mixed waste managed at the facility and associated hazards? Yes X No__ N/A __RMK#__

      iii. Places where facility personnel will normally be working? Yes X No__ N/A __RMK#__

      iv. Entrances to and roads inside the facility? Yes X No__ N/A __RMK#__

      v. Evacuation routes as depicted in Section G of the permit application? Yes X No__ N/A __RMK#__

   b. Inform emergency response agencies of safety equipment, supplies, proper emergency procedures that are applicable to the facility, and any further requirements imposed by the permit?; and Yes X No__ N/A __RMK#__

   c. Familiarize local police and fire departments, local hospitals and other local emergency services with the properties of hazardous waste and mixed waste managed at the facility and the types of injuries which could result from fires, explosions or a release of hazardous wastes at the facility? Yes X No__ N/A __RMK#__

2. Is the permittee in compliance with the requirements of OAC rule 3745-54-56 and Section G of the approved permit application regarding emergency procedures? [Condition B.20.] Yes X No__ N/A __RMK#__

EMERGENCY AUTHORITIES

3. Has a state or local agency declined to enter into the arrangements set forth in OAC rule 3745-54-37(A)? If so, — Yes__No_X_N/A ___RMK#__

   a. Has the permittee documented the refusal in the operating record as required by OAC rule 3745-54-37(B)? [Condition B.13.(b)] — Yes__No__ N/A _X_RMK#__

4. Has the permittee, in accordance with OAC rule 3745-54-53 submitted a copy of the approved contingency plan (including amendments, revisions or changes) to all local authorities, agencies and response contractors designated in the approved contingency plan? [Condition B.18.] — YesY_No__ N/A ___RMK#__

5. Has the permittee notified the agencies in Question #4, in writing, within ten days of the effective date of any amendments or revisions to the Plan? [Condition B.18.(b)] — Yes_X_No__ N/A ___RMK#__

6. Has the permittee submitted a copy of the approved contingency plan and all revisions, amendments and modifications to the Ohio EPA, Division of Emergency and Remedial Response in accordance with OAC rule 3745-54-53? [Condition B.18.(c)] — Yes_X_No__ N/A ___RMK#__

EMERGENCY COORDINATOR

Steve May

7. Is the permittee in compliance with the requirements of OAC rule 3745-54-55 with regard to the emergency coordinator? [Condition B.19.] — Yes_X_No__ N/A ___RMK#__

AMENDMENT OF PLAN

May 2014

8. Is the permittee reviewing the approved contingency plan regularly and amending the plan immediately if needed in compliance with OAC rule 3745-54-54? [Condition B.17.] — Yes_X_No__ N/A ___RMK#__

Note: *Also see Question #4 of RECORDKEEPING REQUIREMENTS to verify that any changes to the contingency plan were submitted in accordance with OAC rule 3745-50-51.*

IMPLEMENTATION OF PLAN

9. Has there been a fire, explosion or release of hazardous waste or mixed waste or constituents at the facility since the last date of inspection as described by Condition B.14. of the permit? If so, Nov. 2014 X-1003 TCE SP17 — Yes X No__ N/A ___RMK#__

   a. Did the permittee immediately implement the approved contingency plan and follow the emergency procedures described in OAC rule 3745-54-56? [Condition B.14.] — Yes X No__ N/A ___RMK#__

   b. Did the permittee collect and manage released material, emergency response material and by-products as hazardous waste or mixed waste until making a demonstration to Ohio EPA that such materials are not subject to Ohio hazardous waste rules? [Condition B.16.] — Yes X No__ N/A ___RMK#__

   c. Within 15 days of the incident did the permittee submit, to the director, a written report of the incident? If so, — Yes X No__ N/A ___RMK#__

      i. Did the report contain the elements set forth in OAC rule 3745-54-56(J)? [Condition B.23.] ***Note:*** *See also Conditions A.21. and A.22. of the permit for additional reporting/recordkeeping requirements.* — Yes X No__ N/A ___RMK#__

   d. Did the permittee note in the operating record the time, date and details of any incident that required the implementation of the approved contingency plan? [Condition B.23.] — Yes X No__ N/A ___RMK#__

REMARKS

CLOSURE PLAN/AMENDMENT

1. Is the permittee maintaining at the facility, the approved closure plan which contains the elements set forth in OAC rule 3745-55-12? [Condition B.29.] — Yes X No__ N/A __RMK#__

2. Has the permittee amended the closure plan? If so, — Yes__No X N/A __RMK#__

   a. Has the plan been amended in accordance with OAC rule 3745-55-12(C)? [Condition B.28.] — Yes__No__ N/A X RMK#__

NOTE: *Also see RECORDKEEPING REQUIREMENTS (Question #4) in order to verify that any changes to the closure plan were submitted in accordance with OAC rule 3745-50-51.*

CLOSURE ACTIVITIES

3. Has the permittee closed the facility? If so, — Yes__No X N/A __RMK#__

   a. Was closure conducted in accordance with the closure performance standard of OAC rule 3745-55-11? [Condition B.26.] — Yes__No__ N/A X RMK#__

   b. Did the permittee carry-out the approved closure plan as set forth in the permit application and terms and conditions of the permit? [Condition B.26.] — Yes__No__ N/A X RMK#__

   c. After receiving the final volume of hazardous waste, did the permittee remove from the facility all hazardous waste and mixed waste and complete closure activities in accordance with the schedule specified in the approved closure plan and as required by OAC rule 3745-55-13? [Condition B.31.] — Yes__No__ N/A X RMK#__

   d. Has the permittee decontaminated and/or disposed of all facility equipment, structures and soils as required by OAC rule 3745-55-14 and the approved closure plan? [Condition B.32.] — Yes__No__ N/A X RMK#__

   e. Did the permittee notify Ohio EPA's Southeast District Office within five working days prior to all rinseate and soil sampling? [Condition B.32.(b)] — Yes__No__ N/A X RMK#__

   f. Has the permittee certified that the facility has been closed in accordance with the specifications in the approved closure plan as required by OAC rule 3745-55-15? [Condition B.33.] — Yes__No__ N/A X RMK#__

REMARKS

REQUIREMENTS FOR IGNITABLE, REACTIVE OR INCOMPATIBLE WASTES

1. Is the permittee following the procedures as specified in OAC rules 3745-54-17, 3745-55-77 and Section F of the approved application when managing ignitable, reactive and/or incompatible wastes? [Conditions B.7.(a) and C.10. and C.11.] — Yes X No__ N/A __RMK#__

2. Does the permittee ***not*** store incompatible waste ***except*** in accordance with OAC rules 3745-54-17(B) and 3745-55-77, and the terms and conditions of this permit? [Condition C.11.(a)] — Yes X No__ N/A __RMK#__

3. Does the permittee take precautions to prevent placing hazardous waste or mixed waste in an unwashed container that previously held an incompatible waste or material? [Condition C.11.(b)] — Yes X No__ N/A __RMK#__

4. Does the permittee ensure that all containers of incompatible wastes are physically separated from other incompatible wastes or materials by a wall, berm, dike, or other device in accordance with OAC rule 3745-55-77 and the Appendix to OAC rule 3745-55-99? [Condition C.11.(c)] — Yes X No__ N/A __RMK#__

   a. Are all containers of aqueous hazardous acids (ph $\leq$ 2) and caustics ph $\geq$ 12.5) sorted on different pallets and physically separated in different rooms? [Condition C.11.(c)] — Yes X No__ N/A __RMK#__

   b. Are aqueous acids and caustics in poly bottles, and other containers requiring nuclear criticality safety spacing physically separated in the same room by a dike? [Condition C.11.(c)] — Yes X No__ N/A __RMK#__

   c. Are containers of cyanides and sodium metals being stored in rooms physically separate from other incompatible wastes or other incompatible materials? [Condition C.11.(c)] — Yes X No__ N/A __RMK#__

5. Does the permittee provide electrical grounding for all containers, tanks and transport vehicles during all operations involving the handling of flammable and/or combustible wastes? [Condition B.7.(b)] Yes X No___ N/A ___RMK#___

6. Does the permittee provide and require the use of spark proof tools during all operations involving the handling of flammable and/or combustible wastes? [Condition B.7.(c)] Yes X No___ N/A ___RMK#___

7. Does the permittee prohibit smoking and open flames in areas where hazardous wastes are managed and post appropriate signs? [Condition B.7.(d)] Yes X No___ N/A ___RMK#___

8. As required by OAC rule 3745-55-76, does the permittee store containers of ignitable or reactive wastes greater than 15 meters (50 feet) away from the Portsmouth Gaseous Diffusion Plant reservation boundary? [Condition C.10.(a)] Yes X No___ N/A ___RMK#___

REMARKS

STORAGE OF HAZARDOUS WASTES IN CONTAINERS

NOTE: *The requirements of permit Condition C do not apply to the permittee's activities as a generator accumulating hazardous waste for < 90 days per OAC rule 3745-52-34(A). Please complete the applicable sections of the Generator Requirements checklist to document compliance with activities associated with < 90-day accumulation of wastes.*

1.	Is the permittee storing in containers, only those wastes as specified in Section A of the Part B permit application? [Condition C.1.(a), C.2.]	Yes X No___ N/A ___RMK#___
2.	Does the permittee limit the total quantity of containerized waste in the container storage area to 133,000 gallons at any given time in the permitted container areas, located in building X-326? [Condition C.1.(a)]	Yes X No___ N/A ___RMK#___

NOTE: *For the purposes of compliance with the capacity limitation of the permit, each container will be considered to be storing an amount of hazardous waste equal to its capacity. For example, a 55-gallon drum will be considered to be holding 55 gallons of waste, regardless of the actual quantity stored in the drum. [Condition C.1.(b)]*

3.	When accumulating waste within the permitted X-326 container storage area, does the permittee ensure that the total amount of waste (both > 90 days and < 90 days) does not exceed the maximum container storage inventory established under Condition C.1.? [Condition C.1.(c)]	Yes X No___ N/A ___RMK#___
4.	Are hazardous wastes subject to regulation by the permit stored only at the designated container storage area described in the approved permit application? (See Section D of the permit application) [Condition C.1.(a)]	Yes X No___ N/A ___RMK#___
5.	Is each container stored clearly marked to identify its contents and the date each period of accumulation/storage begins? (See Section D of the permit application) [Condition C.3.]	Yes X No___ N/A ___RMK#___
6.	Does the permittee store hazardous waste in the types of containers described in Section D of the approved permit application? [Condition C.1.(a)]	Yes X No___ N/A ___RMK#___

CONDITION OF CONTAINERS

8. Are containers holding hazardous wastes in good condition? [Condition C.3.] — Yes X No__ N/A __RMK#__

   a. If not, (e.g., severe rusting, structural defects) did the permittee transfer the hazardous waste from such a container to a container that is in good condition or otherwise manage the waste in a manner that complies with the conditions of the permit and OAC rule 3745-55-71? [Condition C.3.] — Yes__ No__ N/A X RMK#__

9. Does the permittee ensure that all containers used at the facility are compatible with the hazardous waste to be stored in them as required by OAC rule 3745-55-72? [Condition C.4.] — Yes X No__ N/A __RMK#__

10. Is storage conducted in the container storage containment system as described in Condition C.1. of the permit and Section D of the approved permit application? [Condition C.5.(a)] — Yes X No__ N/A __RMK#__

11. Does the permittee keep all containers closed during storage except when it is necessary to add or remove waste as required by OAC rule 3745-55-73? [Condition C.5.(b)] — Yes X No__ N/A __RMK#__

12. Are lab-pack wastes handled in compliance with applicable storage requirements? [Condition C.5.(c)] — Yes X No__ N/A __RMK#__

13. Are lab-pack wastes packaged in drums containing absorbent material that is compatible with the wastes? [Condition C.5.(d)] — Yes X No__ N/A __RMK#__

INSPECTIONS

14. Is the permittee inspecting the container area weekly in accordance with OAC rules 3745-54-15, and 3745-54-73 and the approved inspection schedule (Section F) to detect leaking containers and deterioration of containers and the containment system? [Condition C.8.] — Yes X No__ N/A __RMK#__

a. Does the permittee note the results of these inspections in the inspection log along with any remedial action taken? [Condition C.8.] — Yes X No__ N/A __ RMK#__

b. On days when containerized waste are added or removed to and/or from any of the permitted areas for storage, does the permittee conduct inspections as described in Section F of the approved Part B permit application and maintain the inspection results in the facility operating record? [Condition C.8.] — Yes X No__ N/A __ RMK#__

CONTAINMENT SYSTEM

15. Does the permittee maintain the containment system as described in Section D of the approved Part B permit application, including: [Condition C.6.] — Yes X No__ N/A __ RMK#__

a. Sufficient design to contain 10% of the total volume of the containers or the volume of the largest container, whichever is greater? [Condition C.6.(b)] — Yes X No__ N/A __ RMK#__

b. A system which is free of gaps and sufficiently impervious to contain leaks and spills? — Yes X No__ N/A __ RMK#__

c. Equipped with a coating which is compatible with each waste stored in the area? — Yes X No__ N/A __ RMK#__

d. *For those wastes which are deemed incompatible with liner material:* Has the permittee installed a separate secondary containment structure within the existing structure which is equipped with a compatible liner? — Yes X No__ N/A __ RMK#__

16. Has the permittee had a spill or leak of wastes or an accumulation of precipitation in the containment system? If so, — Yes__ No X N/A __ RMK#__

a. Are spilled or leaked wastes and accumulated precipitation removed from the sump or collection area in a timely manner? [Condition C.6.(c)] — Yes__ No__ N/A X RMK#__

b. Does removal of spilled/leaked wastes and accumulated precipitation occur within 24 hours from the time the spill or leak waste is discovered? [Condition C.6.(c)] — Yes__ No__ N/A X RMK#__

REQUIRED AISLE SPACE

17. Is the permittee maintaining aisle space to allow unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment in the event of an emergency to any area of the facility as required by OAC rule 3745-54-35? [Condition B.12.] — Yes X No___ N/A ___RMK#___

CLOSURE AND POST-CLOSURE

18. At closure of the container storage area, did the permittee remove all hazardous waste, hazardous waste residues, mixed waste and mixed waste residues from the containment system, in accordance with the procedures set forth in the approved closure plan (Section I of the permit application)? [Condition C.13.(a)] — Yes___No___ N/A X RMK#___

19. During closure, if the permittee could not demonstrate that all contaminated soils could be removed, did the permittee close the unit and perform post-closure care following a plan approved by Ohio EPA? [Condition C.13.(b)] — Yes___No___ N/A X RMK#___

CONTAINER STORAGE OF RESIDUAL WASTE

20. Is the permittee complying with the provisions of Section C-2E of the application as amended pursuant to Condition B.2.(b) of this permit? — Yes X No___ N/A ___RMK#___

LAND DISPOSAL RESTRICTION REQUIREMENTS
PROHIBITION AGAINST DILUTION

1. Has the permittee updated the annual Federal Facility Compliance Act Schedule? [OAC rule 3745-270-50; Condition B.36.] — Yes X No__ N/A __RMK#__

2. Does the entity dilute a restricted waste or a treatment residue from a restricted waste: [OAC rule 3745-270-40 through 49; Condition B.36.(c)] — Yes__ No X N/A __RMK#__

   a. As a substitute for adequate treatment to achieve compliance with LDR treatment standards? — Yes__ No__ N/A X RMK#__

   b. To circumvent the effective date of a prohibition (e.g., to dilute a non-wastewater waste to a wastewater to avoid complying with the non-wastewater treatment standard)? — Yes__ No__ N/A X RMK#__

   c. To otherwise avoid a prohibition in OAC rule 3745-270-30 through -39? — Yes__ No__ N/A X RMK#__

   d. To otherwise avoid a prohibition imposed by Section 3004(d) of RCRA? — Yes__ No__ N/A X RMK#__

NOTE: *If the answer to any of Questions 2(a) through 2(d) above is yes, the entity is impermissibly diluting a restricted waste and is in violation of OAC rule 3745-270-03 [Condition B.36.]. Dilution of wastes is permissible under some conditions. See OAC rule 3745-270-03(B).*

GENERATOR REQUIREMENTS

3. Has the generator adequately evaluated all wastes to determine if they are restricted from land disposal? [OAC rule 3745-270-07; Condition B.36.(e)] — Yes X No__ N/A __RMK#_

   a. ***For determinations based solely on knowledge of the waste:*** Is supporting data used to make this determination being retained on-site? [OAC rule 3745-270-07; Condition B.36.(e)] — Yes X No__ N/A __RMK#__

b. ***For determinations based upon analytical testing***: Is a copy of waste analysis data being retained on-site? [OAC rule 3745-270-07; Condition B.36.(e)] — Yes X No___ N/A ___RMK#___

4. Has the generator determined the correct treatability group for each waste restricted from land disposal (e.g., wastewater, non-wastewater, high arsenic, low arsenic, high zinc, low zinc, etc.)? [OAC rule 3745-270-07; Condition B.36.(e)] — Yes X No___ N/A ___RMK#___

5. Has the generator correctly determined if restricted wastes meet or exceed treatment standards? [OAC rule 3745-270-07(A); Condition B.36.(e)] — Yes X No___ N/A ___RMK#___

6. Does the entity generate any listed waste(s) which are restricted from land disposal? If so, — Yes___No X N/A ___RMK#___

   a. Do such wastes also exhibit hazardous waste characteristics as identified in OAC rules 3745-51-20 to 3745-51-24? — Yes___No___ N/A X RMK#___

   b. ***For listed wastes which also exhibit a characteristic***: Does the generator also identify the appropriate treatment standard for the constituent(s) which cause the waste to exhibit the characteristic(s)? [OAC rule 3745-270-09(A)] — Yes___No___ N/A X RMK#___

NOTE: *The generator is not required to identify the treatment standard for the characteristic if the listing covers the associated characteristic (e.g., a F019/D007 hazardous waste - F019 being listed due to chromium content and D007 being the characteristic waste code for chromium). [See OAC rule 3745-270-09(B)].*

NOTIFICATION/CERTIFICATION

7. ***For wastes that do not meet treatment standards:*** Has the generator submitted a one-time written notice to the treatment/storage facility receiving the wastes, that wastes being received do not meet treatment standards? [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] — Yes X No___ N/A ___RMK#___

   If so, does the notice including the following:

   a. EPA hazardous waste number? [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] — Yes X No___ N/A ___RMK#___

b. Appropriate treatment standard for the waste? [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] Yes_X_No__ N/A ___RMK#__

c. The manifest number associated with the first shipment of waste? [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] Yes_X_No__ N/A ___RMK#__

d. Waste analysis data, where available? [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] Yes_X_No__ N/A ___RMK#__

e. Applicable wastewater/non-wastewater category [OAC rule 3745-270-07(A)(2); Condition B.36.(j)] Yes_X_No__ N/A ___RMK#__

f. For hazardous debris, list the contaminants subject to treatment, as described in paragraph (B) of OAC rule 3745-270-45; and an indication that these contaminants are being treated to comply with OAC rule 3745-270-45. Yes_X_No__ N/A ___RMK#__

g. For contaminated soil list the constituents subject to treatment as described in paragraph (D) of OAC rule 3745-270-49, and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided in paragraph (C) of OAC rule 3745-270-49 or the universal treatment standards. Yes_X_No__ N/A ___RMK#__

8. ***For wastes that meet treatment standards:*** Does the generator submit a one-time written notice and certification to the treatment, storage or disposal facility receiving the wastes stating wastes being received meet applicable treatment standards? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] Yes_X_No__ N/A __RMK#__

If so, does the notice/certification including the following:

a. EPA hazardous waste identification number? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] Yes_X_No__ N/A __RMK#__

b. The corresponding treatment standards and applicable prohibitions for the waste? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] Yes_X_No__ N/A __RMK#__

c. The manifest number associated with the shipment of waste? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] — Yes X No___ N/A __RMK#__

d. Waste analysis data, where available? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] — Yes X No___ N/A __RMK#__

e. Is the certification signed by the generator or an authorized representative? [OAC rule 3745-270-07(A)(3); Condition B.36.(j)] — Yes X No___ N/A __RMK#__

f. For contaminated soil list the constituents subject to treatment as described as described in paragraph (D) of OAC rule 3745-270-49, and the following statement: This contaminated soil [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided in paragraph (C) of OAC rule 3745-270-49 or the universal treatment standards. — Yes X No___ N/A __RMK#__

9. Does the generator retain on-site a copy of all notices, certifications, demonstrations and waste analysis data for at least three years? [OAC rule 3745-270-07(A)(8); Condition B.36.(j)] — Yes X No___ N/A ___RMK#__

STORAGE OF LAND DISPOSAL RESTRICTED WASTES

NOTE: *The following questions apply to operators of treatment, storage or disposal (TSD) facilities that accumulate LDR wastes that do not meet treatment standards in tanks or containers. A LQG who stores LDR wastes on-site for greater than 90 days becomes a operator of a storage facility and must comply with all applicable TSD requirements. SQGs become owners/operators of storage facilities if storage of LDR wastes exceeds 6,000 kg. or 180/270 days.*

NOTE: *The LDR storage prohibition does not apply to wastes which are subject to a national capacity variance, variance from the treatment standard or case-by-case extension during the period of extension/variance. The LDR storage prohibition also does not apply to wastes subject to a no-migration petition or to wastes which meet treatment standards. [OAC rule 3745-270-50(E); 40 CFR 268.50(e)]*

10. Is the owner/operator storing LDR restricted wastes in containers? If so, is each container marked with the following information in accordance with OAC rule 3745-270-50(A)(2)(a) [Condition B.36(l)] — Yes X No___ N/A ___RMK#__

a. The identification of the contents? — Yes X No___ N/A ___RMK#__

b. The date which accumulation began? YES

NOTE: *A TSD facility may store LDR wastes on-site for the purpose of accumulating a sufficient amount of waste for proper recovery, treatment or disposal. [OAC rule 3745-270-50(B)]. During the first of storage, the burden of proof is on Ohio EPA to demonstrate that such storage is not necessary by the facility. Following one year, the burden of proof shifts to the storage facility to demonstrate that such storage of LDR wastes is necessary to facilitate proper recovery, treatment or disposal.*

11. Are LDR wastes being stored at the facility for greater than one year? If so,

    a. Has the owner/operator demonstrated that such storage is being conducted solely for the purpose of accumulating sufficient quantities of wastes necessary to facilitate proper recovery, treatment or disposal? [OAC rule 3745-270-50(B); Condition B.36(m)] — Yes X No___ N/A ___RMK#___

LARGE QUANTITY GENERATOR REQUIREMENTS
COMPLETE AND ATTACH A PROCESS DESCRIPTION SUMMARY

CESQG: ≤100 Kg. (Approximately 25-30 gallons) of waste in a calendar month or < 1 Kg. of acutely hazardous waste.
SQG: Between 100 and 1,000 Kg. (About 25 to under 300 gallons) of waste in a calendar month.
LQG: ≥ 1,000 Kg. (~300 gallons) of waste in a calendar month or ≥1 Kg. of acutely hazardous waste in a calendar month.
NOTE: To convert from gallons to pounds: Amount in gallons x Specific Gravity x 8.345 = Amounts in pounds.

Safety Equipment Used:

GENERAL REQUIREMENTS

1.	Have all wastes generated at the facility been adequately evaluated? [3745-52-11]		Yes ☒ No ☐ N/A ☐
2.	Are records of waste determination being kept for at least 3 years? [3745-52-40(C)]		Yes ☒ No ☐ N/A ☐
3.	Has the generator obtained a U.S. EPA identification number? [3745-52-12]		Yes ☒ No ☐ N/A ☐
4.	Were annual reports filed with Ohio EPA on or before March 1st? [3745-52-41(A)]		Yes ☒ No ☐ N/A ☐
5.	Are annual reports kept on file for at least 3 years? [3745-52-40(B)]		Yes ☒ No ☐ N/A ☐
6.	Has the generator transported or caused to be transported hazardous waste to **other** than a facility authorized to manage the hazardous waste? [ORC 3734.02(F)]		Yes ☒ No ☐ N/A ☐
7.	Has the generator disposed of hazardous waste **on-site without a permit** or at another facility **other** than a facility authorized to dispose of the hazardous waste? [ORC 3734.02(E)&(F)]		Yes ☒ No ☐ N/A ☐
8.	Does the generator accumulate hazardous waste?		Yes ☒ No ☐ N/A ☐
NOTE: If the LQG does not accumulate or treat hazardous waste, it is not subject to 52-34 standards. All other requirements still apply, e.g., annual reports, manifest, marking, record keeping, LDR, etc.			
9.	Has the generator accumulated hazardous waste on-site in excess of 90 days without a permit or an extension from the director ORC §3734.02(E)&(F)?		Yes ☐ No ☒ N/A ☐
NOTE: If F006 waste is generated and accumulated for > 90 days and is recycled see 3745-52-34(G)&(H).			
10.	Does the generator treat hazardous waste in a: [ORC 3734.02(E)&(F)]		
	a.	Container that meets 3745-66-70 to 3745-66-77?	Yes ☐ No ☒ N/A ☐
	b.	Tank that meets 3745-66-90 to 3745-66-100 except 3745-66-97(C)?	Yes ☐ No ☒ N/A ☐
	c.	Drip pads that meet 3745-69-40 to 3745-69-45?	Yes ☐ No ☒ N/A ☐
	d.	Containment building that meets 3745-256-100 to 3745-256-102?	Yes ☐ No ☒ N/A ☐
NOTE: Complete appropriate checklist for each unit.			
NOTE: If waste is treated to meet LDRs, use LDR checklist.			
11.	Does the generator export hazardous waste? If so:		Yes ☐ No ☒ N/A ☐
	a.	Has the generator notified U.S. EPA of export activity? [3745-52-53(A)]	Yes ☐ No ☐ N/A ☐
	b.	Has the generator complied with special manifest requirements? [3745-52-54]	Yes ☐ No ☐ N/A ☐
	c.	For manifests that have not been returned to the generator: has an exception report been filed? [3745-52-55]	Yes ☐ No ☐ N/A ☐
	d.	Has an annual report been submitted to U.S. EPA? [3745-52-56]	Yes ☐ No ☐ N/A ☐

	e.	Are export related documents being maintained on-site? [3745-52-57(A)]	Yes ☐ No ☐ N/A ☒
MANIFEST REQUIREMENTS			
12.		Have all hazardous wastes shipped off-site been accompanied by a manifest? (U.S. EPA Form 8700-22) [3745-52-20(A)(1)]	Yes ☒ No ☐ N/A ☐
13.		Have items (1) through (20) of each manifest been completed? [3745-52-20(A)(1)]&[3745-52-27(A)]	Yes ☒ No ☐ N/A ☐
NOTE: U.S. EPA Form 8700-22(A) (the continuation form) may be needed in addition to Form 8700-22. In these situations items (21) through (35) must also be completed. [3745-52-20(A)(1)]			
14.		Does each manifest designate at least one facility which is permitted to handle the waste? [3745-52-20(B)]	Yes ☒ No ☐ N/A ☐
NOTE: The generator may designate on the manifest one alternate facility to handle the waste in the event of an emergency which prevents the delivery of waste to the primary designated facility. [3745-52-20(C)]			
15.		If the transporter was unable to deliver a shipment of hazardous waste to the designated facility, did the generator designate an alternate TSD facility or give the transporter instructions to return the waste? [3745-52-20(D)]	Yes ☐ No ☐ N/A ☒
16.		Have the manifests been signed by the generator and initial transporter? [3745-52-23(A)(1)&(2)]	Yes ☒ No ☐ N/A ☐
NOTE: Remind the generator that the certification statement they signed indicates: 1) they have properly prepared the shipment for transportation and 2) they have a program in place to reduce the volume and toxicity waste they generate.			
17.		If the generator received a rejected load or residue and accumulated the waste on-site, did the generator sign item 18c or 20 of the manifest? [3745-52-34(M)]	Yes ☐ No ☐ N/A ☒
18.		If the generator did not receive a return copy of each completed manifest within 35 days of the waste being accepted by the transporter, did the generator contact the transporter and/or TSD facility to check on the status of the waste? [3745-52-42(A)(1)]	Yes ☐ No ☐ N/A ☒
19.		If the generator has not received the manifest within 45 days, did the generator file an exception report with Ohio EPA? [3745-52-42(A)(2)]	Yes ☐ No ☐ N/A ☒
20.		Are signed copies of all manifests and any exception reports being retained for at least three years? [3745-52-40]	Yes ☒ No ☐ N/A ☐
NOTE: Waste generated at one location and transported along a publicly accessible road for temporary consolidated storage or treatment on a contiguous property also owned by the same person is not considered "on-site" and manifesting and transporter requirements must be met. To transport "along" a public right-of-way the destination facility has to act as a transfer facility or have a permit because this is considered to be "off-site." For additional information see the definition of "on-site" in OAC rule 3745-50-10.			
PERSONNEL TRAINING			
21.		Does the generator have a training program which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to their positions? [3745-65-16(A)(2)]	Yes ☒ No ☐ N/A ☐
22.		Does the personnel training program, at a minimum, include instructions to ensure that facility personnel are able to respond effectively to emergencies involving hazardous waste by familiarizing them with emergency procedures, emergency equipment and emergency systems (where applicable)? [3745-65-16(A)(3)]	Yes ☒ No ☐ N/A ☐
NOTE: For facility employees that receive emergency response training pursuant to OSHA regulations, the facility is not required to provide separate emergency response training, provided that the overall facility training meets all the requirements of OAC 3745-65-16(A). [3745-65-16(A)(4)]			
23.		Is the personnel training program directed by a person trained in hazardous waste management procedures? [3745-65-16(A)(2)]	Yes ☒ No ☐ N/A ☐
24.		Do new employees receive training within six months after the date of hire (or assignment to a new position)? [3745-65-16(B)]	Yes ☒ No ☐ N/A ☐
25.		Does the generator provide annual refresher training to employees? [3745-65-16(C)]	Yes ☒ No ☐ N/A ☐

26.	Does the generator keep records and documentation of:		
	a.	Job titles? [3745-65-16(D)(1)]	Yes ☒ No ☐ N/A ☐
	b.	Job descriptions? [3745-65-16(D)(2)]	Yes ☒ No ☐ N/A ☐
	c.	Type and amount of training given to each person? [3745-65-16(D)(3)]	Yes ☒ No ☐ N/A ☐
	d.	Completed training or job experience required? [3745-65-16(D)(4)]	Yes ☒ No ☐ N/A ☐
27.	Are training records for current personnel kept until closure of the facility and are training records for former employees kept for at least three years from the date the employee last worked at the facility? [3745-65-16(E)]		Yes ☒ No ☐ N/A ☐

NOTE: The following section can be used by the inspector to document that all personnel who are involved with hazardous waste management have been trained. The employees who need training (written and/or on-the -job) may include the following: environmental coordinators, drum handlers, emergency coordinators, personnel who conduct hazardous waste inspections, emergency response teams, personnel who prepare manifest, etc.

Job Performed	Name of Employee	Date Trained
FBP Employees		
Wtons Employees		

CONTINGENCY PLAN

28.	Does the owner/operator have a contingency plan to minimize hazards to human health or the environment from fires, explosions or any unplanned release of hazardous waste? [3745-65-51(A)]		Yes ☒ No ☐ N/A ☐
29.	Does the plan describe the following:		
	a.	Actions to be taken in response to fires, explosions or any unplanned release of hazardous waste? [3745-65-52(A)]	Yes ☒ No ☐ N/A ☐
	b.	Arrangements with emergency authorities? [3745-65-52(C)]	Yes ☒ No ☐ N/A ☐
	c.	A current list of names, addresses and telephone numbers (office and home) of all persons qualified to act as emergency coordinator? [3745-65-52(D)]	Yes ☒ No ☐ N/A ☐
	d.	A list of all emergency equipment, including: location, a physical description and brief outline of capabilities? [3745-65-52(E)]	Yes ☒ No ☐ N/A ☐
	e.	An evacuation plan for facility personnel where there is possibility that evacuation may be necessary? [3745-65-52(F)]	Yes ☒ No ☐ N/A ☐

NOTE: If the facility already has a "Spill Prevention, Control and Countermeasures Plan" under 40 CFR Part 112 or 40 CFR Part 1510, or some other emergency plan, the facility can amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with OAC requirements. The facility may develop one contingency plan which meets all regulatory requirements. Ohio EPA recommends that the plan be based on the "National Response Team's Integrated Contingency Plan Guidance (One Plan)." [3745-65-52(B)]

30.	Is a copy of the plan (plus revisions) kept on-site and been given to all emergency authorities that may be requested to provide emergency services? [3745-65-53(A)&(B)]	Yes ☒ No ☐ N/A ☐
31.	Has the generator revised the plan in response to rule changes, facility, equipment and personnel changes, or failure of the plan? [3745-65-54]	Yes ☒ No ☐ N/A ☐
32.	Is an emergency coordinator available at all times (on-site or on-call)? [3745-65-55]	Yes ☒ No ☐ N/A ☐

NOTE: The emergency coordinator shall be thoroughly familiar with: (a) all aspects of the facility's contingency plan; (b) all operations and activities at the facility; (c) the location and characteristics of waste handled; (d) the location of all records within the facility; (e) facility layout; and (f) shall have the authority to commit the resources needed to implement provisions of the contingency plan.

EMERGENCY PROCEDURES			
33.	Has there been a fire, explosion or release of hazardous waste or hazardous waste constituents since the last inspection? If so:		Yes ☒ No ☐ N/A ☐
	a.	Was the contingency plan implemented? [3745-65-51(B)]	Yes ☒ No ☐ N/A ☐
	b.	Did the facility follow the emergency procedures in 3745-65-56(A) through (H)?	Yes ☒ No ☐ N/A ☐
	c.	Did the facility submit a report to the Director within 15 days of the incident as required by 3745-65-56(I)?	Yes ☒ No ☐ N/A ☐
NOTE: OAC 3745-65-51(B) requires that the contingency plan be implemented immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents, which could threaten human health and the environment.			
PREPAREDNESS AND PREVENTION			
34.	Is the facility operated to minimize the possibility of fire, explosion, or any unplanned release of hazardous waste? [3745-65-31]		Yes ☒ No ☐ N/A ☐
35.	Does the generator have the following equipment at the facility, if it is required due to actual hazards associated with the waste:		
	a.	Internal communications or alarm system? [3745-65-32(A)]	Yes ☒ No ☐ N/A ☐
	b.	Emergency communication device? [3745-65-32(B)]	Yes ☒ No ☐ N/A ☐
	c.	Portable fire control, spill control and decon equipment? [3745-65-32(C)]	Yes ☒ No ☐ N/A ☐
	d.	Water of adequate volume/pressure per documentation or facility rep? [3745-65-32(D)]	Yes ☒ No ☐ N/A ☐
NOTE: Verify that the equipment is listed in the contingency plan.			
36.	Is emergency equipment tested (inspected) as necessary to ensure its proper operation in time of emergency? [3745-65-33]		Yes ☒ No ☐ N/A ☐
37.	Are emergency equipment tests (inspections) recorded in a log or summary? [3745-65-33]		Yes ☒ No ☐ N/A ☐
38.	Do personnel have immediate access to an internal alarm or emergency communication device when handling hazardous waste (unless the device is not required under 3745-65-32)? [3745-65-34(A)]		Yes ☒ No ☐ N/A ☐
39.	If there is only one employee on the premises, is there immediate access to a device (eg., phone, hand held two-way radio) capable of summoning external emergency assistance (unless not required under 3745-65-32)? [3745-65-34(B)]		Yes ☒ No ☐ N/A ☐
40.	Is adequate aisle space provided for unobstructed movement of emergency or spill control equipment? [3745-65-35]		Yes ☒ No ☐ N/A ☐
41.	Has the generator attempted to familiarize emergency authorities with possible hazards and facility layouts? [3745-65-37(A)]		Yes ☒ No ☐ N/A ☐
42.	Where authorities have declined to enter into arrangements or agreements, has the generator documented such a refusal? [3745-65-37(B)]		Yes ☒ No ☐ N/A ☒
SATELLITE ACCUMULATION AREA REQUIREMENTS			
43.	Does the generator ensure that satellite accumulation area(s):		
	a.	Are at or near a point of generation? [3745-52-34(C)(1)]	Yes ☒ No ☐ N/A ☐
	b.	Are under the control of the operator of the process generating the waste? [3745-52-34(C)(1)]	Yes ☒ No ☐ N/A ☐
	c.	Do not exceed a total of 55 gallons of hazardous waste per waste stream? [3745-52-34(C)(1)].	Yes ☒ No ☐ N/A ☐
	d.	Do not exceed one quart of acutely hazardous waste at any one time? [3745-52-34(C)(1)]	Yes ☒ No ☐ N/A ☐

	e.	Containers are closed, in good condition and compatible with wastes stored in them? [3745-52-34(C)(1)(a)]	Yes ☒ No ☐ N/A ☐
	f.	Containers are marked with words "Hazardous Waste" or other words identifying the contents? [3745-52-34(C)(1)(b)]	Yes ☒ No ☐ N/A ☐
44.	Is the generator accumulating hazardous waste(s) in excess of the amounts listed in the preceding question? If so:		Yes ☐ No ☒ N/A ☐
	a.	Did the generator comply with 3745-52-34(A)(1) through (4) or other applicable generator requirements within three days? [3745-52-34(C)(2)]	Yes ☐ No ☐ N/A ☒
	b.	Did the generator mark the container(s) holding excess with the accumulation date when the 55 gallon (one quart) limit was exceeded? [3745-52-34(C)(2)]	Yes ☐ No ☐ N/A ☒
NOTE: The satellite accumulation area is limited to 55 gallons of hazardous waste accumulated from a distinct point of generation in the process under the control of the operator of the process generating the waste (less then 1 quart for acute hazardous waste). There could be individual waste streams accumulated in an area from different points of generation.			
USE AND MANAGEMENT OF CONTAINERS IN <90 DAY ACCUMULATION AREAS			
45.	Has the generator marked containers with the words "Hazardous Waste?" [3745-52-34(A)(3)]		Yes ☒ No ☐ N/A ☐
46.	Is the accumulation date on each container? [3745-52-34(A)(2)]		Yes ☒ No ☐ N/A ☐
47.	Are hazardous wastes stored in containers which are:		
	a.	Closed (except when adding/removing wastes)? [3745-66-73(A)]	Yes ☒ No ☐ N/A ☐
	b.	In good condition? [3745-66-71]	Yes ☒ No ☐ N/A ☐
	c.	Compatible with wastes stored in them? [3745-66-72]	Yes ☒ No ☐ N/A ☐
	d.	Handled in a manner which prevents rupture/leakage? [3745-66-73(B)]	Yes ☒ No ☐ N/A ☐
NOTE: Record location on process summary sheets, photograph the area, and record on facility map.			
48.	Is the container accumulation areas(s) inspected weekly? [3745-66-74]		Yes ☒ No ☐ N/A ☐
	a.	Are inspections recorded in a log or summary? [3745-66-74]	Yes ☒ No ☐ N/A ☐
NOTE: "Week" means 7 consecutive days per ORC§1.44(A).			
49.	Are containers of ignitable or reactive wastes located at least 50 feet (15 meters) from the facility's property line? [3745-66-76]		Yes ☒ No ☐ N/A ☐
50.	Are containers of incompatible wastes stored separately from each other by means of a dike, berm, wall or other device? [3745-66-77(C)]		Yes ☒ No ☐ N/A ☐
51.	If the generator places incompatible wastes, or incompatible wastes and materials in the same container, is it done in accordance with 3745-65-17(B)? [3745-66-77(A)]		Yes ☒ No ☐ N/A ☐
52.	If the generator places hazardous waste in an unwashed container that previously held an incompatible waste, is it done in accordance with 3745-65-17(B)? [3745-66-77(B)]		Yes ☒ No ☐ N/A ☐
NOTE: OAC 3745-65-17(B) requires that the generator treat, store, or dispose of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials so that it does not create undesirable conditions or threaten human health or the environment.			
53.	If the generator has closed a <90 day accumulation area does the closure appear to have met the closure performance standard of 3745-66-11? [3745-52-34(A)(1)]		Yes ☐ No ☐ N/A ☒

NOTE: Please provide a description of the unit and documentation provided by the generator for the file to demonstrate that closure was completed in accordance with the closure performance standards. If the generator has closed a <90 day tank, closure must also be completed in accordance with OAC 3745-66-97 (except for paragraph C of this rule). [3745-52-34]		
PRE-TRANSPORT REQUIREMENTS		
54.	Does the generator package/label its hazardous waste in accordance with the applicable DOT regulations? [3745-52-30, 3745-52-31 and 3745-52-32(A)]	Yes ☒ No ☐ N/A ☐
55.	Does each container ≤119 gallons have a completed hazardous waste label? [3745-52-32(B)]	Yes ☒ No ☐ N/A ☐
56.	Before off-site transportation, does the generator placard or offer the appropriate DOT placards to the initial transporter? [3745-52-33]	Yes ☒ No ☐ N/A ☐

LARGE QUANTITY UNIVERSAL WASTE HANDLER REQUIREMENTS			
Large Quantity Universal Waste Handler (LQUWH) = 5,000 Kg or more			
Small Quantity Universal Waste Handler (SQUWH) = 5,000 Kg or less			
GENERAL REQUIREMENTS			
1.	Has the LQUWH obtained a U.S. EPA Identification number before exceeding 5,000 kg limit? [3745-273-32(A)(1)]		Yes ☒ No ☐ N/A ☐
PROHIBITIONS			
2.	Did the LQUWH dispose of universal waste? [3745-273-31(A)]		Yes ☒ No ☐ N/A ☐
3.	Did the LQUWH dilute or treat universal waste, except when responding to releases as provided in OAC rule 3745-273-37 or managing specific wastes as provided in OAC rule 3745-273-33? [3745-273-31(B)]		Yes ☐ No ☒ N/A ☐
WASTE MANAGEMENT AND LABELING/MARKING			
UNIVERSAL WASTE BATTERIES			
4.	Are batteries that show evidence of leakage, spillage or damage that could cause leaks contained? [3745-273-33(A)(1)]		Yes ☒ No ☐ N/A ☐
5.	If the batteries are contained, are the containers closed, structurally sound, compatible with the contents of the battery and lack evidence of leakage, spillage or damage that could cause leakage? [3745-273-33(A)(1)]		Yes ☒ No ☐ N/A ☐
6.	Are the casings of the batteries breached, not intact, or open (except to remove the electrolyte)? [3745-273-33(A)]		Yes ☐ No ☒ N/A ☐
7.	If the electrolyte is removed or other wastes generated, has it been determined whether the electrolyte or other wastes exhibit a characteristic of a hazardous waste? [3745-273-33(A)(3)]		Yes ☒ No ☐ N/A ☐
	a.	If the electrolyte or other waste is characteristic, is it managed in compliance with OAC Chapters 3745-50 through 3745-69? [3745-273-33(A)(3)(a)]	Yes ☒ No ☐ N/A ☐
	b.	If the electrolyte or other waste is not hazardous, is it managed in compliance with applicable law? [3745-273-33(A)(3)(b)]	Yes ☐ No ☐ N/A ☒
8.	Are the batteries or containers of batteries labeled with the words "Universal Waste-Batteries" or "Waste Battery(ies)" or "Used Battery(ies)?" [3745-273-34(A)]		Yes ☒ No ☐ N/A ☐
UNIVERSAL WASTE PESTICIDES			
9.	Does the LQUWH prevent releases to the environment by managing pesticides in containers that are closed, structurally sound, compatible with the pesticides, and lack evidence of leakage, spillage, or damage? [3745-273-33(B)(1)]		Yes ☐ No ☐ N/A ☒
10.	If the original pesticide container is in poor condition, was it over-packed into an acceptable container? [3745-273-33(B)(2)]		Yes ☐ No ☐ N/A ☐
11.	If the pesticide is stored in a tank, are the requirements of rules 3745-66-90 through 3745-66-101, except for paragraph (C) of 3745-66-97, of the OAC met? [3745-273-33(B)(3)]		Yes ☐ No ☐ N/A ☐
12.	If pesticides are stored in a transport vehicle, is it closed, structurally sound, compatible with the pesticide(s), and does it lack evidence of leakage, spillage, or damage that could cause leakage? [3745-273-33(B)(4)]		Yes ☐ No ☐ N/A ☐
13.	Are recalled universal waste pesticides that are in containers, tanks, or transport vehicles labeled with the label that was on or accompanied the product as sold or distributed and labeled with the words "Universal Waste-Pesticides" or "Waste Pesticides?" [3745-273-34(B)(1)&(2)]		Yes ☐ No ☐ N/A ☐
14.	Are unused pesticide products that are in containers, tanks, or transport vehicles labeled with either the label that was on the product when purchased (if still legible), the appropriate DOT label, or the designated label prescribed by the pesticide collection program and labeled with the words "Universal Waste-Pesticides" or "Waste Pesticides?" [3745-273-34(C)(1)&(2)]		Yes ☐ No ☐ N/A ☐

UNIVERSAL WASTE MERCURY-CONTAINING EQUIPMENT			
15.		Has mercury-containing equipment with non-contained elemental mercury or that shows evidence of leakage, spillage or damage that could cause leaks been placed in a container that is closed, structurally sound, compatible with contents of the device and lacks evidence of leakage, spillage or damage that could cause leakage and is designed to prevent escape of mercury into the environment by volatilization or any other means? [3745-273-33(C)(1)]	Yes ☒ No ☐ N/A ☐
16.		If the mercury-containing ampules are removed, does the LQUWH: [3745-273-33(C)(2)]	
	a.	Remove and manage the ampules in a manner to prevent breakage and is the removal done over or in a containment device? [3745-273-33(C)(2)(a)&(b)]	Yes ☒ No ☐ N/A ☐
	b.	Have a clean-up system readily available to transfer spilled mercury to another container that meets the requirements of OAC rule 3745-52-34 and is the spilled mercury transferred immediately? [3745-273-33(C)(2)(c)&(d)]	Yes ☒ No ☐ N/A ☐
	c.	Ensure that the area where ampules are removed is well ventilated and monitored in compliance with applicable OSHA exposure levels for mercury? [3745-273-33(C)(2)(e)]	Yes ☒ No ☐ N/A ☐
	d.	Ensure that employees are thoroughly familiar with proper waste handling and emergency procedures? [3745-273-33(C)(2)(f)]	Yes ☒ No ☐ N/A ☐
	e.	Ensure removed ampules are stored in closed, non-leaking containers that are in good condition? [3745-273-33(C)(2)(g)]	Yes ☒ No ☐ N/A ☐
	f.	Pack removed ampules in containers with packing material to prevent breakage during storage, handling and transportation? [3745-273-33(C)(2)(h)]	Yes ☒ No ☐ N/A ☐
17.		If the open original housing holding mercury is removed from a mercury-containing equipment that does not contain an ampule, does the LQUWH: [3745-273-33(C)(3)]	Yes ☒ No ☐ N/A ☐
	a.	Immediately seal the original housing holding the mercury with an air-tight seal to prevent the release of any mercury to the environment? [3745-273-33(C)(3)(a)]	Yes ☒ No ☐ N/A ☐
	b.	Follow all requirements for removing ampules and managing removed ampules in accordance with 3745-273-33(C)(2)? [3745-273-33(C)(3)(b)]	Yes ☒ No ☐ N/A ☐
18.		When removing mercury containing ampules from mercury-containing equipment or sealing mercury from its original housing if there are mercury or clean-up residues resulting from spills or leaks, and/or other waste generated (e.g., remaining mercury-containing device), has it been determined whether those exhibit a characteristic of hazardous waste identified in OAC rules 3745-51-20 to 3745-51-24? [3745-273-33(C)(4)(a)]	Yes ☒ No ☐ N/A ☐
	a.	If the residues, and/or wastes are characteristic, are they managed in compliance with Chapters 3745-50 through 3745-69, 3745-205, 3745-256, 3745-266, and 3745-270 of the Administrative Code? (The handler is considered the generator of the mercury, residues, and/or other waste and is subject to OAC Chapter 3745-52) [3745-273-33(C)(4)(b)]	Yes ☒ No ☐ N/A ☐
19.		Is mercury-containing equipment or containers of mercury-containing equipment labelled either "Universal Waste-Mercury-Containing Equipment" or "Waste Mercury-Containing Equipment" or "Used Mercury-Containing Equipment"? [3745-237-34(D)(1)]	Yes ☒ No ☐ N/A ☐
20.		Are mercury-containing thermostats or containers containing ONLY thermostats labeled either "Universal Waste-Mercury Thermostat(s)" or "Waste Mercury Thermostat(s)" or "Used Mercury Thermostat(s)?" [3745-273-34(D)(2)]	Yes ☒ No ☐ N/A ☐

UNIVERSAL WASTE LAMPS			
21.	Does the LQUHW contain lamps in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with contents of the lamps? Are containers or packages closed and do they lack evidence of leakage, spillage or damage that could cause leakage? [3745-273-33(D)(1)]		Yes ☒ No ☐ N/A ☐
22.	Are lamps that show evidence of breakage, leakage or damage that could cause a release of mercury or hazardous constituents into the environment immediately cleaned up? Are they placed into a container that is closed, structurally sound, compatible with the contents of the lamps, and lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or hazardous constituents to the environment? [3745-273-33(D)(2)]		Yes ☒ No ☐ N/A ☐
*NOTE: **Treatment (such as crushing) by a UWH is prohibited under this rule unless the facility is permitted for such activities [3745-273-31(B)].** A generator crushing lamps must manage lamps according to hazardous waste rules (OAC Chapter 3745-52). Lamp crushing is a form of generator treatment (OAC rule 3745-52-34). Crushed lamps must be transported by a registered hazardous waste transporter to a permitted hazardous waste facility using a hazardous waste manifest.*			
23.	Are the lamps or containers or packages of lamps labeled with the words "Universal Waste-Lamp(s)" or "Waste Lamp(s)" or "Used Lamps?" [3745-273-34(E)]		Yes ☒ No ☐ N/A ☐
ACCUMULATION TIME			
24.	Is the waste accumulated for less than one year? [3745-273-35(A)]		Yes ☒ No ☐ N/A ☐
	a.	If not, is the waste accumulated over one year in order to facilitate proper recovery, treatment or disposal? (Burden of proof is on the handler to demonstrate.) [3745-273-35(B)]	Yes ☐ No ☒ N/A ☒
NOTE: Accumulation is defined as date generated or date received from another handler.			
25.	Is the handler able to demonstrate the length of time the universal waste has been accumulated? [3745-273-35(C)] If yes, describe below: Last shipment 3/25/2015.		Yes ☒ No ☐ N/A ☐
EMPLOYEE TRAINING			
26.	Are employees thoroughly familiar with universal waste handling/emergency procedures, relative to their responsibilities? [3745-273-36]		Yes ☒ No ☐ N/A ☐
RESPONSE TO RELEASES			
27.	Are releases of universal waste and other residues immediately contained? [3745-273-37(A)]		Yes ☒ No ☐ N/A ☐
28.	Is the material released characterized? [3745-273-37(B)]		Yes ☒ No ☐ N/A ☐
29.	If the material released is a hazardous waste, was it managed as required in OAC Chapters 3745-50 through 3745-69? (If the waste is hazardous, the handler is considered the generator of the waste and is subject to OAC Chapter 3745-52) [3745-273-37(B)]		Yes ☒ No ☐ N/A ☐
OFF-SITE SHIPMENTS			
NOTE: If a LQUWH self-transports wastes, then the handler must comply with the Universal Waste transporter requirements.			
30.	Are universal wastes sent to either another handler, destination facility or foreign destination? [3745-273-38(A)]		Yes ☒ No ☐ N/A ☐
31.	Is the handler aware of DOT requirements for packaging and shipping?		Yes ☒ No ☐ N/A ☐

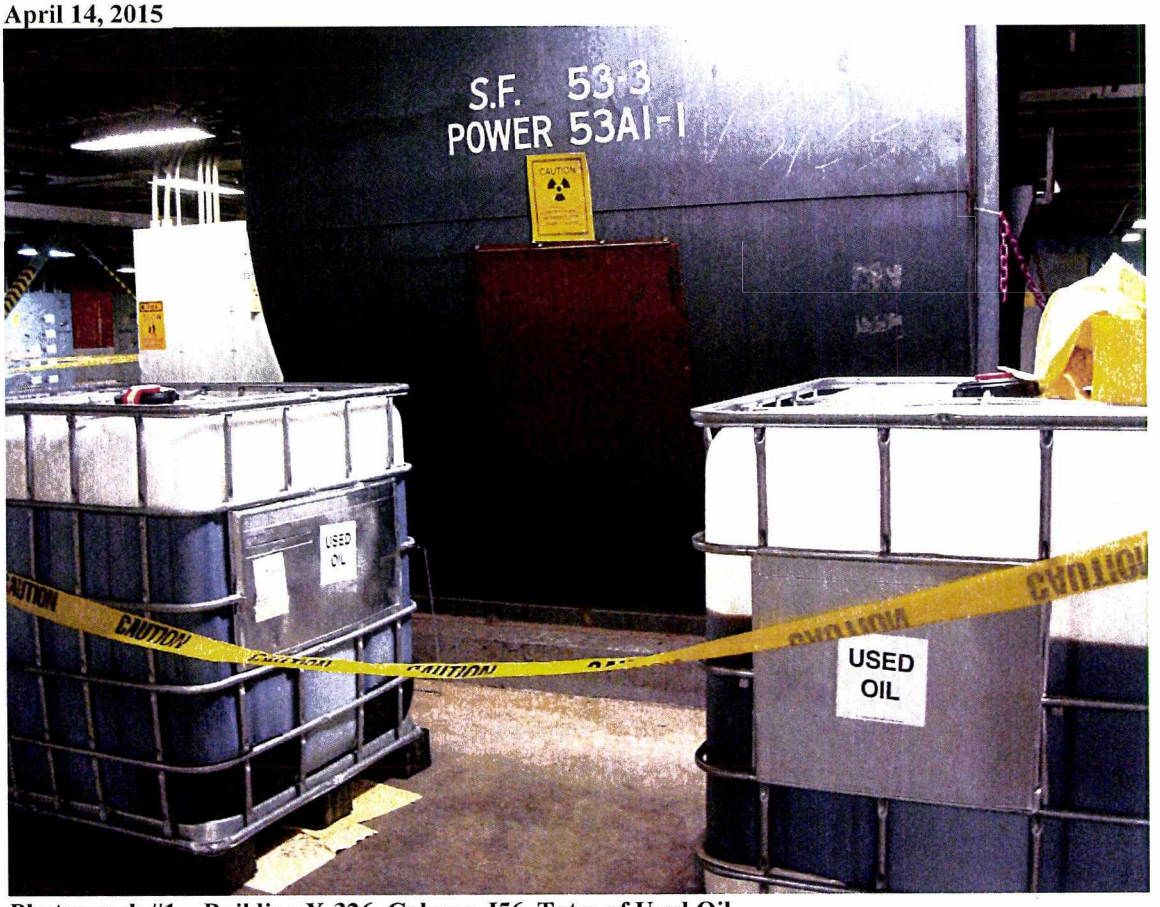
		If not, make aware of 40 CFR 171-180.	
32.		Prior to shipping universal waste off-site, does the originating handler ensure that the receiver agrees to receive the shipment? [3745-273-38(D)]	Yes ☒ No ☐ N/A ☐
33.		Has the originating handler ever had an off-site shipment rejected by another handler or destination facility?	Yes ☒ No ☐ N/A ☐
	a.	If yes, did the originating handler receive the waste back or agree to where shipment was sent? [3745-273-38(E)]	Yes ☒ No ☐ N/A ☐
34.		If a handler rejects a partial or full load from another handler, does the receiving handler contact the originating handler to discuss and do one of the following:	Yes ☐ No ☐ N/A ☒
	a.	Send the waste back to the originating handler or send the shipment to a destination facility (If both the originating and receiving handler agree)? [3745-273-38(F)]	Yes ☐ No ☐ N/A ☒
35.		If the handler received a shipment of hazardous waste that was not a universal waste, did the LQUWH immediately notify Ohio EPA? [3745-273-38(G)]	Yes ☐ No ☐ N/A ☒
TRACKING UNIVERSAL WASTE SHIPMENTS			
36.		Are universal wastes received from another handler? If so:	Yes ☐ No ☒ N/A ☐
	a.	Is a record (log, invoice, manifest, bill of lading, or other shipping document) of each shipment kept? [3745-273-39(A)]	Yes ☐ No ☐ N/A ☒
37.		Does the record include the following:	
	a.	Name and address of the originating handler or foreign shipper? [3745-273-39(A)(1)]	Yes ☐ No ☐ N/A ☒
	b.	Quantity of each type of universal waste? [3745-273-39(A)(2)]	Yes ☐ No ☐ N/A ☒
	c.	Date received? [3745-273-39(A)(3)]	Yes ☐ No ☐ N/A ☒
38.		Is universal waste shipped to another handler? If so:	Yes ☐ No ☐ N/A ☒
	a.	Is a record of each shipment kept? [3745-273-39(B)]	Yes ☐ No ☐ N/A ☒
39.		Does the record include the following?	
	a.	Name and address of universal waste handler, destination facility, or foreign destination? [3745-273-39(B)(1)]	Yes ☐ No ☐ N/A ☒
	b.	Quantity of each type of universal waste? [3745-273-39(B)(2)]	Yes ☐ No ☐ N/A ☒
	c.	Date shipped? [3745-273-39(B)(3)]	Yes ☐ No ☐ N/A ☒
40.		Are records kept for three years? [3745-273-39(C)(1)&(2)]	Yes ☐ No ☐ N/A ☒
EXPORTS			
41.		Is waste being sent to a foreign destination? If so:	Yes ☐ No ☒ N/A ☐
	a.	Does the large quantity handler comply with primary exporter requirements in OAC rules 3745-52-53, 3745-52-56 and 3745-52-57? [3745-273-40(A)]	Yes ☐ No ☐ N/A ☒
	b.	Is waste exported only upon consent of the receiving country and in conformance with the U.S. EPA "Acknowledgment of Consent" as defined in OAC rules 3745-52-50 to 3745-52-57? [3745-273-40(B)]	Yes ☐ No ☐ N/A ☒
	c.	Is a copy of the U.S. EPA "Acknowledgment of Consent" provided to the transporter? [3745-273-40(C)]	Yes ☐ No ☐ N/A ☒

USED OIL INSPECTION CHECKLIST
GENERATORS, COLLECTION CENTERS AND AGGREGATION POINTS

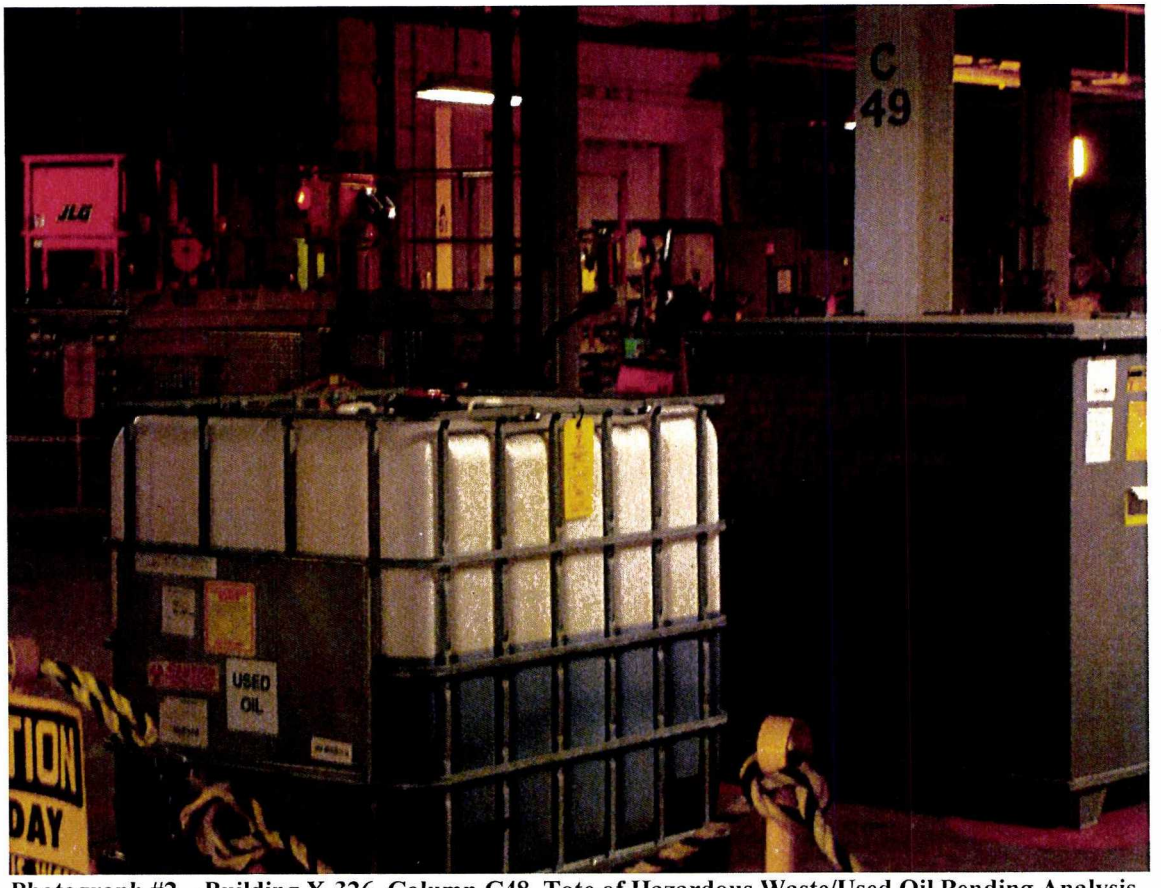
NOTE: A facility is subject to the federal SPCC regulations (40 CFR 112) if it is non-transportation related (e.g., fixed) and has an aggregate above ground storage capacity greater than 1,320 gallons or a total underground storage capacity greater than 42,000 gallons of oil (including used oil), and there is reasonable expectation of a discharge to navigable waters.

PROHIBITIONS			
1.	Does the generator manage used oil in a surface impoundment or waste pile? If yes:		Yes ☐ No ☒ N/A ☐
	a.	Is the surface impoundment or waste pile regulated as a hazardous waste management unit? [3745-279-12(A)]	Yes ☐ No ☐ N/A ☒
NOTE: For example, used oil contaminated scrap metal stored in a pile.			
2.	Is used oil used as a dust suppressant? [3745-279-12(B)]		Yes ☐ No ☒ N/A ☐
3.	Is off-specification used oil fuel burned for energy recovery in devices specified in 3745-279-12(C)?		Yes ☐ No ☒ N/A ☐
NOTE: Multiple used oil checklists may be applicable if used oil handler is performing multiple tasks (e.g., If generating used oil and shipping directly to a burner, complete generator and marketer checklists at a minimum).			
GENERATOR STANDARDS			
4.	Does the generator mix hazardous waste with used oil? If so,		Yes ☐ No ☒ N/A ☐
	a.	Is the mixture managed as specified in 3745-279-10(B)? [3745-279-21(A)]	Yes ☐ No ☐ N/A ☒
NOTE: Used Oil mixed with listed (3745-51-30 to 3745-51-35) or characteristic (3745-51-20 to 3745-51-24) hazardous waste are subject to regulation as a hazardous waste, unless the listed hazardous waste is listed solely because it exhibits a hazardous characteristic, and the resultant mixtures do not exhibit a characteristic. Mixtures of used oil and CESQG hazardous waste are subject to OAC Chapter 3745-279.			
5.	Does the generator of a used oil containing greater than 1,000 ppm total halogens manage the used oil as a hazardous waste unless the presumption is rebutted successfully? [3745-279-21(B)]		Yes ☐ No ☐ N/A ☒
NOTE: If used oil contains greater than 1000 ppm total halogens, it is presumed to be listed hazardous waste until the presumption is successfully rebutted.			
6.	Does the generator store used oil in tanks; or containers; or a unit(s) subject to regulation as a hazardous waste management unit? [3745-279-22(A)]		Yes ☐ No ☒ N/A ☐
7.	Are containers and aboveground tanks used to store used oil in good condition with no visible leaks? [3745-279-22(B)]		Yes ☒ No ☐ N/A ☐
8.	Are containers, above ground tanks, and fill pipes used for underground tanks clearly labeled or marked "Used Oil?" [3745-279-22(C)]		Yes ☐ No ☒ N/A ☐
9.	Has the generator, upon detection of a release of used oil, done the following: [3745-279-22(D)]		Yes ☒ No ☐ N/A ☐
	a.	Stopped the release?	Yes ☒ No ☐ N/A ☐
	b.	Contained the release?	Yes ☒ No ☐ N/A ☐
	c.	Cleaned up and properly managed the used oil and other materials?	Yes ☒ No ☐ N/A ☐
	d.	Repaired or replaced the containers or tanks prior to returning them to service, if necessary?	Yes ☒ No ☐ N/A ☐
ON-SITE BURNING IN SPACE HEATER			
10.	Does the generator burn used oil in used-oil fired space heaters? [3745-279-23] If so:		
	a.	Does the heater burn only used oil that owner/operator generates or used oil received from household do-it-yourself (DIY) used oil generators?	Yes ☐ No ☒ N/A ☐

	b.	Is the heater designed to have a maximum capacity of not more that 0.5 million BTU per hour?	Yes ☐ No ☐ N/A ☒
	c.	Are the combustion gases from heater vented to the ambient air?	Yes ☐ No ☐ N/A ☒
NOTE: Ash accumulated in a space heater must be managed in accordance with 3745-279-10(E).			
GENERATOR TRANSPORTATION DSSE on Trans			
11.	Does the generator have the used oil hauled only by transporters that have obtained a U.S. EPA ID#? [3745-279-24]		Yes ☒ No ☐ N/A ☐
12.	If the generator self-transports used oil to an approved collection site or to an aggregation point owned by the generator: [3745-279-24]		
	a.	Does the generator transport used oil in a vehicle owned by the generator or an employee of the generator? [3745-279-24]	Yes ☐ No ☐ N/A ☒
	b.	Does the generator transport more than 55 gallons of used oil at any time? [3745-279-24]	Yes ☐ No ☐ N/A ☒
NOTE: Used oil generators may arrange for used oil to be transported by a transporter without a U.S. EPA ID # if the used oil is reclaimed under a contractual agreement (i.e., tolling arrangement).			
COLLECTION CENTERS AND AGGREGATION POINTS			
13.	Is the DIY used oil collection center in compliance with the generator standards in 3745-279-20 to 3745-279-24? [3745-279-30]		Yes ☐ No ☐ N/A ☒
14.	Is the non-DIY used oil collection center registered with Ohio EPA? [3745-279-31]		Yes ☐ No ☐ N/A ☒
15.	Is the used oil aggregation point in compliance with the generator standards in 3745-279-20 to 3745-279-24? [3745-279-32]		Yes ☐ No ☐ N/A ☒
NOTE: Complete Used Oil Generator and any other applicable used oil handler checklist (e.g., marketer, burner, etc.) for used oil collection centers and aggregation points.			



Photograph #1 – Building X-326, Column J56, Totes of Used Oil



Photograph #2 – Building X-326, Column C48, Tote of Hazardous Waste/Used Oil Pending Analysis

Department of Energy

Portsmouth/Paducah Project Office
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513
(859) 219-4000

Mr. Walt Francis
Enforcement and Compliance Assurance Branch Waste
Pesticides and Toxics Division
United States Environmental Protection Agency Region V
77 West Jackson Boulevard, DE-9J
Chicago, Illinois 60604

PPPO-3-313-05

Dear Mr. Francis:

INFORMATION REGARDING URANIUM TRIOXIDE

The purpose of this letter is to respond to the United States Environmental Protection Agency's (USEPA) letter of November 15, 2004, requesting information regarding the uranium trioxide (T-Hoppers) in interim storage at the Portsmouth Gaseous Diffusion Plant (PORTS) X-744G Uranium Management Center.

By way of background, the Department of Energy (DOE) identified specific locations nationwide for consolidating certain reusable radiological materials, in order to facilitate and promote the sale of such materials on a national basis. The PORTS X-744G Facility was identified by DOE Headquarters to be the national Uranium Management Center, based on the specialized resources, experience and knowledge available at PORTS.

The following summarizes USEPA's information request regarding the uranium trioxide in interim storage at the Uranium Management Center and DOE's response to each request:

1. "...all documents confirming that this material is suitable for sale, or has been sold as blend stock grade uranium trioxide...."

Response: DOE is actively engaged in marketing the uranium trioxide in interim storage at PORTS. Commercial firms continue to express interest in acquiring materials in the Uranium Management Center, including the uranium trioxide. DOE is providing its Reusable Uranium Products & Services Catalog, dated October 2002. This catalog describes the DOE reusable uranium for sale in the commercial marketplace, and includes the uranium trioxide material. In addition, DOE is also providing the Environmental Assessment and the Finding of No Significant Impact (FONSI/EA) for "Disposition of Surplus Hanford Site Uranium, Hanford Site, Richland, Washington."

2. "...all documents and other information on how this material is handled or treated before being used...."

Response: The uranium trioxide is Special Nuclear Material within the meaning of the Atomic Energy Act and is managed under comprehensive controls established pursuant to that Act. As part of these requirements, the DOE Management and Integration (M&I) Contractor, Bechtel Jacobs Company LLC (BJC), implements an active surveillance and maintenance program for the material in the X-744G Uranium Management Center. A copy of a recent Nuclear Criticality Safety (NCS) Surveillance Report is enclosed for your information.

3. "...include any documentation that U. S. DOE has in its possession that demonstrates that the T-Hopper material would not be characteristically hazardous for chromium."

Response: The material in the X-744G Uranium Management Center is reusable product. Accordingly, DOE has not undertaken to demonstrate that the uranium trioxide would not be characteristically hazardous for chromium.

4. "...please confirm that this material is not being accumulated speculatively (see OAC 3745-51-02(C)(4) [40 CFR 261.1(c)(8])."

Response: DOE confirms that it is not speculatively accumulating the uranium trioxide material in interim storage at PORTS.

DOE apologizes for the delay in responding to your request. If you have any questions, please contact Melda Rafferty of my staff (740) 897-5521.

Sincerely,

Melda J. Rafferty
for
William E. Murphie
Manager
Portsmouth/Paducah Project Office

Enclosures

cc w/enclosures:
Melody Stewart, OEPA/LOGAN
Ray Miskelley, DOE/LEX
John Meersman, BJC/PORTS
Administrative Records

cc w/o enclosures:
Rachel Blumenfeld, PPPO/LEX

Department of Energy

Portsmouth/Paducah Project Office
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513
(859) 219-4000

Mr. Walt Francis
Enforcement Compliance Assurance Branch Waste
Pesticides and Toxics Division
United States Environmental Protection Agency Region V
77 West Jackson Boulevard, DE-9J
Chicago, Illinois 60604

PPPO-03-397-05

Dear Mr. Francis:

RESPONSE TO NOTICE OF VIOLATION

On July 12, 2005, the Department of Energy (DOE) received a Notice of Violation (NOV) based on the March 8 and 9, 2005 Resource Conservation and Recovery Act (RCRA) compliance inspection conducted at the DOE Portsmouth Gaseous Diffusion Plant. The NOV alleged a violation of applicable regulations and permit conditions because the Land Disposal Restriction (LDR) form utilized for shipments to Envirocare of Utah did not identify the applicable wastewater/non-wastewater category.

Prior to receiving the NOV, on April 11, 2005, DOE submitted a letter and documentation to the United States Environmental Protection Agency (USEPA) and the Ohio Environmental Protection Agency (OEPA) verifying that corrective actions had been taken to address the deficient LDR form being used for shipments to Envirocare of Utah. A copy of the April 11, 2005 letter and associated documentation is enclosed.

DOE requests a letter from USEPA acknowledging DOE's corrective actions and DOE's compliance with applicable regulations and permit conditions regarding LDR forms.

If you have any questions or comments, please contact Melda Rafferty of my staff at (740) 897-5521.

Sincerely,

for Melda J. Rafferty

William E. Murphie
Manager
Portsmouth/Paducah Project Office

Enclosure

cc w/enclosure:
M. Savage, OEPA/Columbus
M. Stewart, OEPA/Logan
L. Long, BJC,
G. Mattson, LPP/PORTS
Administrative Records

cc w/o enclosure:
R. Blumenfeld, PPPO/LEX

6490050158

Department of Energy

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APR 12 2005

APR 11 2005

Mr. Walt Francis
Enforcement and Compliance Assurance Branch Waste
Pesticides and Toxics Division
United States Environmental Protection Agency Region V
77 West Jackson Boulevard, DE-9J
Chicago, Illinois 60604

PPPO-3-324-05

Dear Mr. Francis:

PORTSMOUTH GASEOUS DIFFUSION PLANT (PORTS) RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) INSPECTION - LAND DISPOSAL RESTRICTION NOTIFICATION FORM

On March 8-9, 2005, the United States and Ohio Environmental Protection Agencies conducted a RCRA inspection of the Department of Energy (DOE) PORTS site. During this inspection, the agencies identified a deficient Land Disposal Restriction (LDR) notification form that was being used. This discovery indicated that LDR notification forms for waste shipments to Envirocare of Utah, Inc. did not identify waste meeting the definition of wastewater or non-wastewater as required by OAC 3745-270-07(A)(4).

The DOE Management & Integration Contractor, Bechtel Jacobs Company LLC (BJC), notified their subcontractor, Wastren, Inc. (WASTREN) who immediately acted to inform the Treatment Storage Disposal Facility (TSDF) that the LDR notification form in use was inadequate to meet generator paperwork requirements. An updated LDR form was provided by the TSDF to WASTREN on March 9, 2005.

WASTREN reviewed all forms identified by the agencies as deficient during the inspection. These forms were corrected, and hand-delivered by March 24, 2005, to an Envirocare of Utah, Inc. onsite representative, who provided them to the disposal facility on March 28, 2005. Enclosed are the updated LDR forms provided by the TSDF on March 9, 2005 (Attachment A) and the corrected forms hand-delivered to the Envirocare of Utah, Inc. representative (Attachment B).

The DOE will require BJC to review the new WASTREN forms as part of the shipping documentation review process. As an additional corrective action, WASTREN will now include LDR forms with transportation packages provided for BJC review. WASTREN will maintain the policy of providing LDR forms with each shipment.

If you have any questions, please contact Melda Rafferty of my staff (740) 897-5521.

Sincerely,

Melda J. Rafferty
for

William E. Murphie
Manager
Portsmouth/Paducah Project Office

Enclosures

cc w/enclosures:
M. Stewart, OEPA/LOGAN
M. Savage, OEPA/COLUMBUS
J. Meersman, BJC/PORTS
Administrative Records

cc w/o enclosures:
R. Blumenfeld, PPPO/LEX

Lew Goidell
Andy Childers
Rosemary Richmond
Patrick Willison

ATTACHMENT A

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name _____ Manifest Doc. No. _____

Profile No. _____ State Manifest No.: _____

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☐ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF.	1. USEPA HAZARDOUS WASTE CODE	2. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER FROM BELOW
		DESCRIPTION	NONE	
1			☐	
2			☐	
3			☐	
4			☐	

o identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
no UHCs are present in the waste upon its initial generation check here: ☐
o list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

OW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land isposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by PA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed refer to those state citations instead of the 40 CFR citations.

. Or ✗ **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

.1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

.3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

. **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

ereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

gnature_____ Title_____ Date_____

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

f the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes: F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form. If the waste code F039 describes this waste, then the corresponding list of constituents must be attached. If D001-D043 require treatment to 268.48 standards, then th underlying hazardous constituent(s) must also be attached.

SOLVENT WASTE TREATMENT STANDARDS					
[illegible] F001-F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
cetone (F003)	0.28	160	Methanol (F003)	5.6	0.75 (TCLP)
enzene (F005)	0.14	10	Methylene chloride (F001, F002)	0.089	30
-Butanol (n-butyl alcohol) (F003)	5.6	2.6	Methyl ethyl ketone (F005)	0.28	36
arbon disulfide (F005)	3.8	4.8 (TCLP)	Methyl isobutyl ketone (F003)	0.14	33
arbon tetrachloride (F001)	0.057	6.0	Nitrobenzene (F004)	0.068	14
hlorobenzene (F002)	0.057	6.0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
-Cresol (F004)	0.11	5.6	Pyridine (F005)	0.014	16
resol (m- and p- isomers) (F004)	0.77	5.6	Tetrachloroethylene (F001, F002)	0.056	6.0
yclohexanone (F003)	0.36	0.75 (TCLP)	Toluene (F005)	0.080	10
-Dichlorobenzene (F002)	0.088	6.0	1,1,1-Trichloroethane (F001, F002)	0.054	6.0
-Ethoxyethanol (F005) also called hylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0.054	6.0
thyl acetate (F003)	0.34	33	Trichloroethylene (F001, F002)	0.054	6.0
thyl benzene (F003)	0.057	10	Trichloromonofluoromethane (F002)	0.020	30
thyl [illegible]er (F003)	0.12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0.057	30
[illegible]l (Isobutyl Alcohol) (F005)	5.6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0.32	30

ll spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted. Wastewater units are mg/l, nonwastewater are mg/kg.

or contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x e standard listed.

SUBCATEGORY REFERENCE

001:

Ignitable characteristic wastes, except for the 40 CFR 261.21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems.

Ignitable characteristic wastes, except for the 40 CFR 261.21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems.

High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261.21(a) (1) – Greater than or equal to 10% total organic carbon.

D002:

Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.

Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems.

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

Generator Name _____ Manifest Doc. No. _____

Profile No. _____ State Manifest No.: _____

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups. This page by itself IS NOT an acceptabl[illegible]d Disposal Notification and Certification Form.

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261). For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268.40, or check NONE if the waste does not have a subcategory.). Also identify in column 5 how the waste must be managed. *Spent solvents are listed Form A1, Page 2. F039 constituent(s) and underlying hazardous constituent(s) if applicable, must be listed and attached.*

REF	3. USEPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE, SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER [illegible] FROM FORM A1, PAGE 1
		DESCRIPTION	NONE	
5			☐	
6			☐	
7			☐	
8			☐	
9			☐	
10			☐	
11			☐	
12			☐	
13			☐	
14			☐	
15			☐	
16			☐	
17			☐	
18			☐	
19			☐	
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24			☐	
25			☐	
26			☐	
27			☐	
28			☐	
29			☐	
30			☐	
31			☐	
32			☐	
33			☐	
34			☐	
35			☐	

o identify F039 or D001-D043 underlying hazardous constituent(s), use the "F039/Underlying Hazardous Constituent Form: ☐

f no UHCs are present in the waste upon its initial generation check here: ☐

hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

ignature_____

itle_____ Date_____

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

Generator Name _____ Manifest Doc. No. _____

Profile No. _____ State Manifest No.: _____

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups. This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form.

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261). For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268.40, or check NONE if the waste does not have a subcategory.). Also identify in column 5 how the waste must be managed. Spent solvents are listed Form A1, Page 2. F039 constituent(s) and underlying hazardous constituent(s) if applicable, must be listed and attached.

[illegible]	3. USEPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED. ENTER LETTER FROM FORM A1 PAGE
		DESCRIPTION	NONE	
36			☐	
37			☐	
38			☐	
39			☐	
40			☐	
41			☐	
42			☐	
43			☐	
44			☐	
45			☐	
46			☐	
47			☐	
48			☐	
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50			☐	
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52			☐	
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55			☐	
56			☐	
57			☐	
58			☐	
59			☐	
60			☐	
61			☐	
62			☐	
63			☐	
64			☐	
65			☐	
66			☐	

To identify F039 or D001-D043 underlying hazardous constituent(s), use the "F039/Underlying Hazardous Constituent Form: ☐

If no UHCs are present in the waste upon its initial generation check here: ☐

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature_____

Title _____ Date_____

F039/UNDERLYING HAZARDOUS CONSTITUENT FORM (UTS)
(Phase IV)

Generator Name:_____ **Manifest Doc. Number:** _____
Profile Number: _____ **State Manifest No.:** _____

If D001-D043 requires treatment to the 40 CRF 268.48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed. Write the letter (A, B1, B3, or C th corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed unde CFR 268.7. If contaminated soil requires treatment to 40 CFR 268.49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed. Write the appropriate letter which corresponds to the letter on the LDR form.

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WWT (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WWT (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0.059	3.4	2-Chloro-1,3-butadiene		0.057	0.28[1]
Acenapthene		0.059	3.4	Chlorodibromomethane		0.057	15
Acetone		0.28	160	Chloroethane		0.27	6.0
Acetonitrile		5.6	38[1]	bis(2-Chloroethoxy)methane		0.036	7.2
Acetophenone		0.010	9.7	bis(2-Chloroethyl)ether		0.033	6.0
2-Acetylaminofluorene		0.059	140	Chloroform		0.046	6.0
Acrolein		0.29	NA	bis(2-Chloroisopropyl)ether		0.055	7.2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0.018	14
Acrylonitrile		0.24	84	2-Chloroethyl vinyl ether		0.062[1]	NA[1]
Aldicarb sulfone		0.056[1]	0.28[1]	Chloromethane/Methyl chloride		0.19	30
Aldrin		0.021	0.066	2-Chloronaphthalene		0.055	5.6
4-Aminobiphenyl		0.13	NA	2-Chlorophenol		0.044	5.7
Aniline		0.81	14	3-Chloropropylene		0.036	30
Anthracene		0.059	3.4	Chrysene		0.059	3.4
Aramite		0.36	NA	o-Cresol		0.11	5.6
alpha-(BHC)		0.00014	0.066	m-Cresol		0.77	5.6
beta-(BHC)		0.00014	0.066	p-Cresol		0.77	5.6
delta-(BHC)		0.023	0.066	m-Cumenyl methylcarbamate		0.056[1]	1.4[1]
gamma-(BHC)		0.0017	0.066	Cyclohexanone		0.36	0.75 mg/l[1]
Barban		0.056[1]	1.4[1]	o,p'-DDD		0.023	0.087
Bendiocarb		0.056[1]	1.4[1]	p,p'-DDD		0.023	0.087
Benomyl		0.056[1]	1.4[1]	o,p'-DDE		0.031	0.087
Benzene		0.14	10	p,p'-DDE		0.031	0.087
Benz(a)anthracene		0.059	3.4	o,p'-DDT		0.0039	0.087
Benzal chloride		0.055[1]	6.0[1]	p,p'-DDT		0.0039	0.087
Benzo(b)fluoranthene[3]		0.11	6.8	Dibenz(a,h)anthracene		0.055	8.2
Benzo(k)fluoranthene[3]		0.11	6.8	Dibenz(a,e)pyrene		0.061	NA
Benzo (g,h,i)perylene		0.0055	1.8	1,2-Dibromo-3-chloropropane		0.11	15
Benzo(a)pyrene		0.061	3.4	1,2-Dibromomethane/ Ethylene dibromide		0.028	15
Bromodichloromethane		0.35	15	Dibromomethane		0.11	15
Bromomethane/Methyl Bromide		0.11	15	m-Dichlorobenzene		0.036	6.0
4-Bromophenyl phenyl ether		0.055	15	o-Dichlorobenzene		0.088	6.0
n-Butyl alcohol		5.6	2.6	p-Dichlorobenzene		0.090	6.0
Butylate		0.042[1]	1.4[1]	Dichlorodifluoromethane		0.23	7.2
Butyl benzyl phthalate		0.017	28	1,1-Dichloroethane		0.059	6.0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0.066	2.5	1,2-Dichloroethane		0.21	6.0
Carbaryl		0.006[1]	0.14[1]	1,1-Dichloroethylene		0.025	6.0
Carbenzadim		0.056[1]	1.4[1]	trans-1,2-Dichloroethylene		0.054	30
Carbofuran		0.006[1]	0.14[1]	2,4-Dichlorophenol		0.044	14
Carbofuran phenol		0.056[1]	1.4[1]	2.6-Dichlorophenol		0.044	14
Carbon disulfide		3.8	4.8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0.72	10
Carbon tetrachloride		0.057	6.0	1,2-Dichloropropane		0.85	18
Carbosulfan		0.028[1]	1.4[1]	cis-1,3-Dichloropropylene		0.036	18
Chlordane (alpha and gamma isomers)		0.0033	0.26	trans-1,3-Dichloropropylene		0.036	18
p-Chloroaniline		0.46	16	Dieldrin		0.017	0.13
Chlorobenzene		0.057	6.0	Diethyl phthalate		0.20	28
Chlorobenzilate		0.10	NA	p-Dimethylaminoazobenzene		0.13[1]	NA

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted[1]	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted[1]
Dimethyl phenol		0.036	14	Methylene chloride		0.089	30
ethyl phthalate		0.047	28	Methyl ethyl ketone		0.28	36
i-n-butyl phthalate		0.057	28	Methyl isobutyl ketone		0.14	33
1,4-Dinitrobenzene		0.32	2.3	Methyl methacrylate		0.14	160
4,6-Dinitro-o-cresol		0.28	160	Methyl methansulfonate		0.018	NA
2,4-Dinitrophenol		0.12	160	Methyl parathion		0.014	4.6
2,4-Dinitrotoluene		0.32	140	Metolcarb		0.056[1]	1.4[1]
2,6-Dinitrotoluene		0.55	28	Mexacarbate		0.056[1]	1.4[1]
Di-n-octyl phthalate		0.017	28	Molinate		0.042[1]	1.4[1]
Di-n-propylnitrosamine		0.40	14	Naphthalene		0.059	5.6
1,4-Dioxane		12.0	170	2-Naphthylamine		0.52	NA
Diphenylamine[3]		0.92	13[1]	o-Nitroaniline		0.27[1]	14[1]
Diphenylnitrosamine[3]		0.92	13[1]	p-Nitroaniline		0.028	28
1,2-Diphenylhydrazine		0.087	NA	Nitrobenzene		0.068	14
Disulfoton		0.017	6.2	5-Nitro-o-toluidine		0.32	28
Dithiocarbamates (total)		0.028	28[1]	o-Nitrophenol		0.028[1]	13[1]
Endosulfan I		0.023	0.066	p-Nitrophenol		0.12	29
Endosulfan II		0.029	0.13	N-Nitrosodiethylamine		0.40	28
Endosulfan sulfate		0.029	0.13	N-Nitrosodimethylamine		0.40	2.3[1]
Endrin		0.0028	0.13	N-Nitroso-di-n-butylamine		0.40	17
Endrin aldehyde		0.025	0.13	N-Nitrosomethylethylamine		0.40	2.3
EPTC		0.042[1]	1.4[1]	N-Nitrosomorpholine		0.40	2.3
Ethyl acetate		0.34	33	N-Nitrosopiperidine		0.013	35
Ethyl benzene		0.057	10	N-Nitrosopyrrolidine		0.013	35
Ethyl cyanide/Propanenitrile		0.24	360	Oxamyl		0.056[1]	0.28[1]
Ethyl ether		0.12	160	Parathion		0.014	4.6
Bis(2-Ethylhexyl)phthalate		0.28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0.10	10
Ethyl methacrylate		0.14	160	Pebulate		0.042[1]	1.4[1]
Ethylene oxide		0.12	NA	Pentachlorobenzene		0.055[1]	10[1]
Famphur		0.017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0.000035	0.001
anthene		0.068	3.4	PeCDFs(All Pentachlorodibenzofurans)		0.000035	0.001
Fluorene		0.059	3.4	Pentachloroethane		0.055	6.0
Formetanate hydrochloride		0.056[1]	1.4[1]	Pentachloronitrobenzene		0.055	4.8
Heptachlor		0.0012	0.066	Pentachlorophenol		0.089	7.4
Heptachlor epoxide		0.016	0.066	Phenacetin		0.081	16
Hexachlorobenzene		0.055	10	Phenanthrene		0.059	5.6
Hexachlorobutadiene		0.055	5.6	Phenol		0.039	6.2
Hexachlorocyclopentadiene		0.057	2.4	Phorate		0.021	4.6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0.000063	0.001	Phthalic acid		0.055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0.000063	0.001	Phthalic anhydride		0.055	28[1]
Hexachloroethane		0.055	30	Physostigmine		0.056[1]	1.4[1]
Hexachloropropylene		0.035	30	Physostigmine salicylate		0.056[1]	1.4[1]
Indeno(1,2,3-c,d)pyrene		0.0055	3.4	Promecarb		0.056[1]	1.4[1]
Iodomethane		0.19	65	Pronamide		0.093	1.5
Isobutyl alcohol		5.6	170	Propham		0.056[1]	1.4[1]
Isodrin		0.021	0.066	Propoxur		0.056[1]	1.4[1]
Isosafrole		0.081	2.6	Prosulfocarb		0.042[1]	1.4[1]
Kepone		0.0011	0.13	Pyrene		0.067	8.2
Methacrylonitrile		0.24	84	Pyridine		0.014	16
Methanol		5.6	0.75 mg/l[1]	Safrole		0.081	22
Methapyrilene		0.081	1.5	Silvex/2,4,5-TP		0.72	7.9
Methiocarb		0.056[1]	1.4[1]	1,2,4,5-Tetrachlorobenzene		0.055	14
Methomyl		0.028[1]	0.14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0.000063	0.001
Methoxychlor		0.25	0.18	TCDFs (All Tetrachlorodibenzo-furans)		0.000063	0.001
hylcholanthrene		0.0055	15	1,1,1,2-Tetrachloroethane		0.057	6.0
lethylene bis(2-oroaniline)		0.50	30	1,1,2,2-Tetrachloroethane		0.057	6.0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0.056	6.0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0.030	7.4	Antimony		1.9	2.1 mg/l TCLP
Thiodicarb		0.019[1]	1.4[1]	Antimony		1.9	1.15 mg/l TCLP[4]
Thiophanate-methyl		0.056[1]	1.4[1]	Arsenic		1.4	5.0 mg/l TCLP
Toluene		0.080	10	Barium		1.2	7.6 mg/l TCLP
Toxaphene		0.0095	2.6	Barium		1.2	21 mg/l TCLP[4]
Triallate		0.042[1]	1.4[1]	Beryllium		0.82	0.014 mg/l TCLP
Tribromomethane/Bromoform		0.63	15	Beryllium		0.82	1.22 mg/l TCLP[4]
2,4,6-Tribromophenol		0.035	7.4	Cadmium		0.69	0.19 mg/l TCLP
1,2,4-Trichlorobenzene		0.055	19	Cadmium		0.69	0.11 mg/l TCLP[4]
1,1,1-Trichloroethane		0.054	6.0	Chromium (Total)		2.77	0.86mg/l TCLP
1,1,2-Trichloroethane		0.054	6.0	Chromium (Total)		2.77	0.60 mg/l TCLP[4]
Trichloroethylene		0.054	6.0	Cyanides (Total)		1.2	590
Trichloromonofluoromethane		0.020	30	Cyanides (Amenable)		0.86	30[1]
2,4,5-Trichlorophenol		0.18	7.4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0.035	7.4	Lead	A	0.69	0.37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T		0.72	7.9	Lead	A	0.69	0.75 mg/l[4] TCLP
1,2,3-Trichloropropane		0.85	30	Mercury (Nonwastewater from Retort)		NA	0.20 r TCLP(
1,1,2-Trichloro-1,2,2-trifluoroethane		0.057	30	Mercury (All others)		0.15	0.025 mg/l TCLP
Triethylamine		0.081[1]	1.5[1]	Nickel		3.98	5.0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0.11	0.10[1]	Nickel		3.98	11 mg/l TCLP[4]
Vernolate		0.042[1]	6.0[1]	Selenium		0.82	0.16 mg/l TCLP
Vinyl chloride		0.27	6.0	Selenium		0.82	5.7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0.32	30	Silver		0.43	0.30 mg/l TCLP
				Silver		0.43	0.14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1.4	0.078 mg/l TCLP[1]
				Thallium		1.4	0.20 mg/l TCLP[4]
				Vanadium		4.3[2]	1.6 mg/l TCLP[2]
				Zinc		2.61	4.3 mg/l TCLP[2]

These constituents are only applicable as underlying hazardous constituents. These constituents are not constituents that require treatment in F039 wastes.

Not an underlying hazardous constituent requiring treatment in a D001-D043 waste.

These compounds are regulated by the sum of their concentration instead of as individual constituents.

These constituents are effective in authorized states or states with no LDR program on 8/24/99. These concentrations are effective in all other states upon adoption by the state.

Effective 8/24/98 in unauthorized states or states with no LDR program. Selenium at 5.7 mg/l is not an underlying hazardous constituent in D001-D043 waste. This becomes effective in authorized states upon adoption by the state.

ATTACHMENT B

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B03

Profile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	3. USEPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY: ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE, SIMPLY CHECK NONE. DESCRIPTION	NONE	5. HOW MUST THE WASTE BE MANAGED AND ENTER LETTER FROM BELOW
1	D008	Radioactive Lead Solids	☐	A
2	D006		☒	A
3	D011		☒	A
4			☐	

identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
o UHCs are present in the waste upon its initial generation check here: ☒
list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

W MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land posal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by A to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☒ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

reby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

nature Lee Dilatt Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 04110

file No. 9307-08-001 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF.	USEPA HAZARDOUS WASTE CODE(S)	ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE SUPPLY CHECK ONE		HOW MUST THE WASTE BE MANAGED? ENTER LETTER BELOW
		DESCRIPTION	NONE	
1	P015		☒	C. Correspondence
2			☐	CD046360
3			☐	
4			☐	

Identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
No UHCs are present in the waste upon its initial generation check here: ☒
list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

W MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land posal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by A to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed efer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

eby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

ature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B02

Profile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	1. USEPA HAZARDOUS WASTE CODE	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER A, B1, B3, B4, C, D, OR E BELOW
		DESCRIPTION	NONE	
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
no UHCs are present in the waste upon its initial generation check here: ☒
list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

OW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land sposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by A to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

ignature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE / BECHTEL JACOBS LLC, Manifest Doc. No. 04105

Profile No. 9307-05-005 State Manifest No.: N/A

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	USEPA WASTE CODE(S)	ENTER THE SUBCATEGORY DESCRIPTION, IF NOT APPLICABLE SIMPLY CHECK NONE	SUBCATEGORY DESCRIPTION	NONE	HOW MUST THE WASTE BE MANAGED? ENTER A, B1, B3, B4, C, D, OR E
1	D002			☒	A
2	D004			☒	A
3				☐	
4				☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☐
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed referring those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature W. Amy Bauer Title PROJECT ENGINEER Date 3-24-2005

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 04I04

Profile No. 9307-04-005 State Manifest No.: N/A

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☑ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF.	1. USEPA HAZARDOUS WASTE CODE(S)	2. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION, IF NOT APPLICABLE SIMPLY CHECK NONE		3. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D002		☒	A
2	D019		☒	A
3			☐	
4			☐	

o identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☑
no UHCs are present in the waste upon its initial generation check here: ☐
o list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

OW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land sposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by PA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be d[illegible]d refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

ereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

nature W. [illegible] Title PROJECT ENGINEER Date 8-24-2005

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B01

Profile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

[illegible]	[illegible]	[illegible]		[illegible]
		DESCRIPTION	NONE	
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

o identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
no UHCs are present in the waste upon its initial generation check here: ☒
o list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

OW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land sposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by PA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed re[illegible] those state citations instead of the 40 CFR citations.

. **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

.1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

ereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

jnature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05C07

Profile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	USEPA HAZARDOUS WASTE CODE	ENTER THE SUBCATEGORY DESCRIPTION FOR APPLICABLE WASTE CODE	NONE	HOW MUST THE WASTE BE MANAGED? ENTER LETTER (A, B1, B3, B4, C, D, E)
		DESCRIPTION		
1	D008	Radioactive Lead Solids	☐	A
2	D006		☒	A
3	D011		☒	A
4	D009	Low Mercury	☐	A

identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐

o UHCs are present in the waste upon its initial generation check here: ☒

list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

W MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land posal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by A to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed efer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT

This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.

☒ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE

This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.

☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT

"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS

This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

ereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

nature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B03

ofile No. 9307-07 State Manifest No.:

. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐

2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	USEPA HAZARDOUS WASTE CODE(S)	SUBCATEGORY (EXPLANATION/DESCRIPTION IF NOT APPLICABLE, SPECIFY NONE) DESCRIPTION	NONE	HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

o identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
no UHCs are present in the waste upon its initial generation check here: ☒
o list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

OW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land sposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by PA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

ereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

nature [signature] Title Proj Mgr. Date 3/24/05

Department of Energy

Portsmouth/Paducah Project Office
1017 Majestic Drive, Suite 200
Lexington, Kentucky 40513
(859) 219-4000

APR 1 1 2005

Mr. Walt Francis
Enforcement and Compliance Assurance Branch Waste
Pesticides and Toxics Division
United States Environmental Protection Agency Region V
77 West Jackson Boulevard, DE-9J
Chicago, Illinois 60604

PPPO-3-324-05

Dear Mr. Francis:

PORTSMOUTH GASEOUS DIFFUSION PLANT (PORTS) RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) INSPECTION - LAND DISPOSAL RESTRICTION NOTIFICATION FORM

On March 8-9, 2005, the United States and Ohio Environmental Protection Agencies conducted a RCRA inspection of the Department of Energy (DOE) PORTS site. During this inspection, the agencies identified a deficient Land Disposal Restriction (LDR) notification form that was being used. This discovery indicated that LDR notification forms for waste shipments to Envirocare of Utah, Inc. did not identify waste meeting the definition of wastewater or non-wastewater as required by OAC 3745-270-07(A)(4).

The DOE Management & Integration Contractor, Bechtel Jacobs Company LLC (BJC), notified their subcontractor, Wastren, Inc. (WASTREN) who immediately acted to inform the Treatment Storage Disposal Facility (TSDF) that the LDR notification form in use was inadequate to meet generator paperwork requirements. An updated LDR form was provided by the TSDF to WASTREN on March 9, 2005.

WASTREN reviewed all forms identified by the agencies as deficient during the inspection. These forms were corrected, and hand-delivered by March 24, 2005, to an Envirocare of Utah, Inc. onsite representative, who provided them to the disposal facility on March 28, 2005. Enclosed are the updated LDR forms provided by the TSDF on March 9, 2005 (Attachment A) and the corrected forms hand-delivered to the Envirocare of Utah, Inc. representative (Attachment B).

The DOE will require BJC to review the new WASTREN forms as part of the shipping documentation review process. As an additional corrective action, WASTREN will now include LDR forms with transportation packages provided for BJC review. WASTREN will maintain the policy of providing LDR forms with each shipment.

If you have any questions, please contact Melda Rafferty of my staff (740) 897-5521.

Sincerely,

Melda J. Rafferty
for

William E. Murphie
Manager
Portsmouth/Paducah Project Office

Enclosures

cc w/enclosures:
M. Stewart, OEPA/LOGAN
M. Savage, OEPA/COLUMBUS
J. Meersman, BJC/PORTS
Administrative Records

cc w/o enclosures:
R. Blumenfeld, PPPO/LEX

ATTACHMENT
A

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name _____ Manifest Doc. No. _____

ofile No. _____ State Manifest No.: _____

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☐ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF #1	3. US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY: ENTER THE SUBCATEGORY DESCRIPTION, IF NOT APPLICABLE, SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1			☐	
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☐
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

A. Or ✗ **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature_____ Title_____ Date_____

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV) – REVERSE SIDE

If the waste identified on the first page of this form is described by any of the following USEPA hazardous waste codes: F001, F002, F003, F004, F005, and all solvent constituents will not be monitored by the treater, then each constituent MUST be identified below by checking the appropriate box, and this page must accompany the shipment, along with the previous page of this form. If the waste code F039 describes this waste, then the corresponding list of constituents must be attached. If D001-D043 require treatment to 268.48 standards, then the underlying hazardous constituent(s) must also be attached.

SOLVENT WASTE TREATMENT STANDARDS					
F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]		F001 through F005 spent solvent constituents and their associated USEPA hazardous waste code(s)	Treatment Standard[1]	
	Wastewaters	Nonwastewaters		Wastewaters	Nonwastewaters
Acetone (F003)	0.28	160	Methanol (F003)	5.6	0.75 (TCLP)
Benzene (F005)	0.14	10	Methylene chloride (F001, F002)	0.089	30
n-Butanol (n-butyl alcohol) (F003)	5.6	2.6	Methyl ethyl ketone (F005)	0.28	36
Carbon disulfide (F005)	3.8	4.8 (TCLP)	Methyl isobutyl ketone (F003)	0.14	33
Carbon tetrachloride (F001)	0.057	6.0	Nitrobenzene (F004)	0.068	14
Chlorobenzene (F002)	0.057	6 0	2-Nitropropane (F005)	INCIN or {(WETOX or C HOXD) followed by CARBN}	INCIN
o-Cresol (F004)	0.11	5.6	Pyridine (F005)	0.014	16
Cresol (m- and p- isomers) (F004)	0.77	5.6	Tetrachloroethylene (F001, F002)	0.056	6.0
Cyclohexanone (F003)	0.36	0.75 (TCLP)	Toluene (F005)	0.080	10
o-Dichlorobenzene (F002)	0.088	6.0	1,1,1-Trichloroethane (F001, F002)	0.054	6.0
2-Ethoxyethanol (F005) also called ethylene glycol, monoethyl ether	INCIN or BIODG	INCIN	1,1,2-Trichloroethane (F002)	0.054	6.0
Ethyl acetate (F003)	0.34	33	Trichloroethylene (F001, F002)	0.054	6.0
Ethyl benzene (F003)	0.057	10	Trichloromonofluoromethane (F002)	0.020	30
Ethyl ether (F003)	0.12	160	1,1,2-Trichloro-1,2,2-trifluoroethane (F002)	0.057	30
anol (Isobutyl Alcohol) (F005)	5.6	170	Xylenes (sum of o-, m-, and p-isomers) (F003)	0.32	30

[1]All spent solvent treatment standards are measured through a total waste analysis (TCA), unless otherwise noted. Wastewater units are mg/l, nonwastewater are mg/kg.

[2]For contaminated soils using the alternative soil treatment standards, the treatment standards for F001-F005 spent solvents must be a 90% reduction of the constituents or less than 10x the standard listed.

SUBCATEGORY REFERENCE

D001:

A. Ignitable characteristic wastes, except for the 40 CFR 261.21(a) (1) High TOC subcategory, that are managed in non-CWA/non-CWA equivalent/non-Class I SDWA systems.

B. Ignitable characteristic wastes, except for the 40 CFR 261.21(a) (1) High TOC subcategory, that are managed in CWA/CWA-equivalent or Class I SDWA systems.

C. High TOC Ignitable characteristic liquids subcategory based on 40 CFR 261.21(a) (1) – Greater than or equal to 10% total organic carbon.

D002:

D. Corrosive characteristic wastes that are managed in non-CWA/non-CWA-equivalent/non-Class I SDWA systems.

E. Corrosive characteristic wastes that are managed in CWA, CWA-equivalent, or Class I SWDA systems.

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

Generator Name _____ Manifest Doc. No. _____

Profile No. _____ State Manifest No.: _____

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups. This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form.

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261). For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268.40, or check NONE if the waste does not have a subcategory.). Also identify in column 5 how the waste must be managed. Spent solvents are listed Form A1, Page 2. F039 constituent(s) and underlying hazardous constituent(s) if applicable, must be listed and attached.

REF#	3. US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE, SIMPLY CHECK NONE.		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1, PAGE 1
		DESCRIPTION	NONE	
5			☐	
6			☐	
7			☐	
8			☐	
9			☐	
10			☐	
11			☐	
12			☐	
13			☐	
14			☐	
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29			☐	
30			☐	
31			☐	
32			☐	
33			☐	
34			☐	
35			☐	

To identify F039 or D001-D043 underlying hazardous constituent(s), use the "F039/Underlying Hazardous Constituent Form: ☐

If no UHCs are present in the waste upon its initial generation check here: ☐

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature_____

_____ Date_____

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM (PHASE IV)

Generator Name _____ Manifest Doc. No. _____

Profile No. _____ State Manifest No.: _____

This form is a continuation from form A1 for a waste identified by more than five USEPA waste code/subcategory groups. This page by itself IS NOT an acceptable Land Disposal Notification and Certification Form.

Continue (from form A1, Page 1) to identify ALL USEPA hazardous wastes that apply to this waste shipment (as defined by 40 CFR 261). For each waste number, identify the corresponding subcategory (write in the description from 40 CFR 268.40, or check NONE if the waste does not have a subcategory.). Also identify in column 5 how the waste must be managed. Spent solvents are listed Form A1, Page 2. F039 constituent(s) and underlying hazardous constituent(s) if applicable, must be listed and attached.

REFERENCE	3. US EPA HAZARDOUS WASTE CODE (S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE, SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM FORM A1 PAGE 1
		DESCRIPTION	NONE	
36			☐	
37			☐	
38			☐	
39			☐	
40			☐	
41			☐	
42			☐	
43			☐	
44			☐	
45			☐	
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62			☐	
63			☐	
64			☐	
65			☐	
66			☐	

To identify F039 or D001-D043 underlying hazardous constituent(s), use the "F039/Underlying Hazardous Constituent Form: ☐

If no UHCs are present in the waste upon its initial generation check here: ☐

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature_____

_____ Date_____

F039/UNDERLYING HAZARDOUS CONSTITUENT FORM (UTS)
(Phase IV)

Generator Name:_____ **Manifest Doc. Number:** _____

Profile Number: _____ **State Manifest No.:** _____

If D001-D043 requires treatment to the 40 CRF 268.48 standards, then each underlying hazardous constituent (UHC) present in the waste at the point of generation and at a level above the Universal Treatment Standard (UTS) constituent specific standard must be listed. Write the letter (A, B1, B3, or C that corresponds to the letter on the land disposal form A1) beside each constituent present to properly describe how the constituent(s) must be managed under 40 CFR 268.7. If contaminated soil requires treatment to 40 CFR 268.49 standards, then each UHC in the waste at the point of generation and at a level above 10 times the UTS must be listed. Write the appropriate letter which corresponds to the letter on the LDR form.

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Acenaphthylene		0.059	3.4	2-Chloro-1,3-butadiene		0.057	0.28[1]
Acenapthene		0.059	3.4	Chlorodibromomethane		0.057	15
Acetone		0.28	160	Chloroethane		0.27	6.0
Acetonitrile		5.6	38[1]	bis(2-Chloroethoxy)methane		0.036	7.2
Acetophenone		0.010	9.7	bis(2-Chloroethyl)ether		0.033	6.0
2-Acetylaminofluorene		0.059	140	Chloroform		0.046	6.0
Acrolein		0.29	NA	bis(2-Chloroisopropyl)ether		0.055	7.2
Acylamide		19[1]	23[1]	p-Chloro-m-cresol		0.018	14
Acrylonitrile		0.24	84	2-Chloroethyl vinyl ether		0.062[1]	NA[1]
Aldicarb sulfone		0.056[1]	0.28[1]	Chloromethane/Methyl chloride		0.19	30
Aldrin		0.021	0.066	2-Chloronaphthalene		0.055	5.6
4-Aminobiphenyl		0.13	NA	2-Chlorophenol		0.044	5.7
Aniline		0.81	14	3-Chloropropylene		0.036	30
Anthracene		0.059	3.4	Chrysene		0.059	3.4
Aramite		0.36	NA	o-Cresol		0.11	5.6
alpha-(BHC)		0.00014	0.066	m-Cresol		0.77	5.6
beta-(BHC)		0.00014	0.066	p-Cresol		0.77	5.6
delta-(BHC)		0.023	0.066	m-Cumenyl methylcarbamate		0.056[1]	1.4[1]
gamma-(BHC)		0.0017	0.066	Cyclohexanone		0.36	0.75 mg/l[1]
Barban		0.056[1]	1.4[1]	o,p'-DDD		0.023	0.087
ndiocarb		0 056[1]	1.4[1]	p,p'-DDD		0.023	0.087
nomyl		0.056[1]	1.4[1]	o,p'-DDE		0.031	0.087
benzene		0.14	10	p,p'-DDE		0.031	0.087
Benz(a)anthracene		0.059	3.4	o,p'-DDT		0.0039	0.087
Benzal chloride		0.055[1]	6.0[1]	p,p'-DDT		0.0039	0.087
Benzo(b)fluoranthene[3]		0.11	6.8	Dibenz(a,h)anthracene		0.055	8.2
Benzo(k)fluoranthene[3]		0.11	6.8	Dibenz(a,e)pyrene		0.061	NA
Benzo (g,h,i)perylene		0.0055	1.8	1,2-Dibromo-3-chloropropane		0.11	15
Benzo(a)pyrene		0.061	3.4	1,2-Dibromomethane/ Ethylene dibromide		0.028	15
Bromodichloromethane		0.35	15	Dibromomethane		0.11	15
Bromomethane/Methyl Bromide		0.11	15	m-Dichlorobenzene		0.036	6.0
4-Bromophenyl phenyl ether		0.055	15	o-Dichlorobenzene		0.088	6.0
n-Butyl alcohol		5.6	2.6	p-Dichlorobenzene		0.090	6.0
Butylate		0.042[1]	1.4[1]	Dichlorodifluoromethane		0.23	7.2
Butyl benzyl phthalate		0.017	28	1,1-Dichloroethane		0.059	6.0
2-sec-Butyl-4,6-dinitrophenol/Dinoseb		0.066	2.5	1,2-Dichloroethane		0.21	6.0
Carbaryl		0.006[1]	0.14[1]	1,1-Dichloroethylene		0 025	6.0
Carbenzadim		0.056[1]	1.4[1]	trans-1,2-Dichloroethylene		0.054	30
Carbofuran		0.006[1]	0.14[1]	2,4-Dichlorophenol		0.044	14
Carbofuran phenol		0.056[1]	1.4[1]	2.6-Dichlorophenol		0.044	14
Carbon disulfide		3.8	4 8 mg/l TCLP[1]	2,4-Dichlorophenoxyacetic acid/2,4-D		0.72	10
Carbon tetrachloride		0.057	6.0	1,2-Dichloropropane		0.85	18
Carbosulfan		0.028[1]	1.4[1]	cis-1,3-Dichloropropylene		0.036	18
Chlordane (alpha and gamma isomers)		0 0033	0.26	trans-1,3-Dichloropropylene		0.036	18
p-Chloroaniline		0.46	16	Dieldrin		0.017	0.13
Chlorobenzene		0 057	6.0	Diethyl phthalate		0.20	28
ilorobenzilate		0.10	NA	p-Dimethylaminoazobenzene		0.13[1]	NA

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
2,4-Dimethyl phenol		0.036	14	Methylene chloride		0.089	30
methyl phthalate		0.047	28	Methyl ethyl ketone		0.28	36
Di-n-butyl phthalate		0.057	28	Methyl isobutyl ketone		0.14	33
1,4-Dinitrobenzene		0.32	2.3	Methyl methacrylate		0.14	160
4,6-Dinitro-o-cresol		0.28	160	Methyl methansulfonate		0.018	NA
2,4-Dinitrophenol		0.12	160	Methyl parathion		0.014	4.6
2,4-Dinitrotoluene		0.32	140	Metolcarb		0.056[1]	1.4[1]
2,6-Dinitrotoluene		0.55	28	Mexacarbate		0.056[1]	1.4[1]
Di-n-octyl phthalate		0.017	28	Molinate		0.042[1]	1.4[1]
Di-n-propylnitrosamine		0.40	14	Naphthalene		0.059	5.6
1,4-Dioxane		12.0	170	2-Naphthylamine		0.52	NA
Diphenylamine[3]		0.92	13[1]	o-Nitroaniline		0.27[1]	14[1]
Diphenylnitrosamine[3]		0.92	13[1]	p-Nitroaniline		0.028	28
1,2-Diphenylhydrazine		0.087	NA	Nitrobenzene		0.068	14
Disulfoton		0.017	6.2	5-Nitro-o-toluidine		0.32	28
Dithiocarbamates (total)		0.028	28[1]	o-Nitrophenol		0.028[1]	13[1]
Endosulfan I		0.023	0.066	p-Nitrophenol		0.12	29
Endosulfan II		0.029	0.13	N-Nitrosodiethylamine		0.40	28
Endosulfan sulfate		0.029	0.13	N-Nitrosodimethylamine		0.40	2.3[1]
Endrin		0.0028	0.13	N-Nitroso-di-n-butylamine		0.40	17
Endrin aldehyde		0.025	0.13	N-Nitrosomethylethylamine		0.40	2.3
EPTC		0.042[1]	1.4[1]	N-Nitrosomorpholine		0.40	2 3
Ethyl acetate		0.34	33	N-Nitrosopiperidine		0.013	35
Ethyl benzene		0 057	10	N-Nitrosopyrrolidine		0.013	35
Ethyl cyanide/Propanenitrile		0.24	360	Oxamyl		0.056[1]	0.28[1]
Ethyl ether		0.12	160	Parathion		0.014	4.6
Bis(2-Ethylhexyl)phthalate		0.28	28	Total PCBs (sum of all PCB isomers or all Aroclors)		0.10	10
Ethyl methacrylate		0.14	160	Pebulate		0.042[1]	1.4[1]
Ethylene oxide		0.12	NA	Pentachlorobenzene		0.055[1]	10[1]
Famphur		0.017	15	PeCDDs (All Pentachlorodibenzo-p-dioxins)		0.000035	0.001
uoranthene		0.068	3.4	PeCDFs(All Pentachlorodibenzofurans)		0.000035	0.001
Fluorene		0.059	3.4	Pentachloroethane		0.055	6.0
Formetanate hydrochloride		0.056[1]	1.4[1]	Pentachloronitrobenzene		0.055	4.8
Heptachlor		0.0012	0.066	Pentachlorophenol		0.089	7.4
Heptachlor epoxide		0 016	0.066	Phenacetin		0.081	16
Hexachlorobenzene		0.055	10	Phenanthrene		0.059	5.6
Hexachlorobutadiene		0.055	5 6	Phenol		0.039	6.2
Hexachlorocyclopentadiene		0.057	2.4	Phorate		0.021	4 6
HxCDDs (All Hexachrorodibenzo-p-dioxins)		0.000063	0.001	Phthalic acid		0.055[1]	28[1]
HxCDFs (All Hexachlorodibenzofurans)		0 000063	0 001	Phthalic anhydride		0.055	28[1]
Hexachloroethane		0 055	30	Physostigmine		0.056[1]	1.4[1]
Hexachloropropylene		0.035	30	Physostigmine salicylate		0.056[1]	1.4[1]
Indeno(1,2,3-c,d)pyrene		0 0055	3.4	Promecarb		0.056[1]	1.4[1]
Iodomethane		0.19	65	Pronamide		0.093	1.5
Isobutyl alcohol		5.6	170	Propham		0.056[1]	1.4[1]
Isodrin		0.021	0.066	Propoxur		0.056[1]	1.4[1]
Isosafrole		0.081	2.6	Prosulfocarb		0.042[1]	1.4[1]
Kepone		0.0011	0.13	Pyrene		0.067	8 2
Methacrylonitrile		0.24	84	Pyridine		0.014	16
Methanol		5.6	0.75 mg/l[1]	Safrole		0.081	22
Methapyrilene		0.081	1.5	Silvex/2,4,5-TP		0.72	7.9
Methiocarb		0.056[1]	1.4[1]	1,2,4,5-Tetrachlorobenzene		0.055	14
Methomyl		0.028[1]	0.14[1]	TCDDs (All Tetrachlorodibenzo-p-dioxins)		0.000063	0.001
Methoxychlor		0.25	0.18	TCDFs (All Tetrachlorodibenzo-furans)		0.000063	0.001
-Methylcholanthrene		0.0055	15	1,1,1,2-Tetrachloroethane		0.057	6.0
4'-Methylene bis(2-...loroaniline)		0.50	30	1,1,2,2-Tetrachloroethane		0.057	6.0

CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted	CONSTITUENT	HOW MUST THIS CONSTITUENT BE MANAGED?	WW (mg/l)	NWW (mg/kg) unless noted
Tetrachloroethylene		0.056	6.0	INORGANIC CONSTITUENTS			
2,3,4,6-Tetrachlorophenol		0.030	7.4	Antimony		1.9	2.1 mg/l TCLP
Thiodicarb		0.019[1]	1.4[1]	Antimony		1.9	1.15 mg/l TCLP[4]
Thiophanate-methyl		0.056[1]	1.4[1]	Arsenic		1.4	5.0 mg/l TCLP
Toluene		0.080	10	Barium		1.2	7.6 mg/l TCLP
Toxaphene		0.0095	2.6	Barium		1.2	21 mg/l TCLP[4]
Triallate		0 042[1]	1.4[1]	Beryllium		0.82	0.014 mg/l TCLP
Tribromomethane/Bromoform		0.63	15	Beryllium		0.82	1 22 mg/l TCLP[4]
2,4,6-Tribromophenol		0.035	7.4	Cadmium		0.69	0.19 mg/l TCLP
1,2,4-Trichlorobenzene		0.055	19	Cadmium		0.69	0.11 mg/l TCLP[4]
1,1,1-Trichloroethane		0.054	6.0	Chromium (Total)		2.77	0.86mg/l TCLP
1,1,2-Trichloroethane		0.054	6.0	Chromium (Total)		2.77	0.60 mg/l TCLP[4]
Trichloroethylene		0.054	6.0	Cyanides (Total)		1.2	590
Trichloromonofluoromethane		0.020	30	Cyanides (Amenable)		0.86	30[1]
2,4,5-Trichlorophenol		0 18	7.4	Fluoride		35	NA[4]
2,4,6-Trichlorophenol		0.035	7 4	Lead	A	0.69	0.37 mg/l
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T		0.72	7.9	Lead	A	0 69	0.75 mg/l[4] TCLP
1,2,3-Trichloropropane		0.85	30	Mercury (Nonwastewater from Retort)		NA	0.20 mg/l TCLP
,2-Trichloro-1,2,2-trifluoroethane		0.057	30	Mercury (All others)		0.15	0.025 mg/l TCLP
Triethylamine		0.081[1]	1.5[1]	Nickel		3.98	5.0 mg/l TCLP
Tris-(2,3-Dibromopropyl)phosphate		0.11	0.10[1]	Nickel		3.98	11 mg/l TCLP[4]
Vernolate		0.042[1]	6.0[1]	Selenium		0.82	0.16 mg/l TCLP
Vinyl chloride		0 27	6.0	Selenium		0.82	5.7 mg/l TCLP[5]
Xylenes – mixed isomers (sum of o-,m-, and p-xylene concentrations)		0.32	30	Silver		0.43	0.30 mg/l TCLP
				Silver		0.43	0.14 mg/l TCLP[4]
				Sulfide		14	NA[2]
				Thallium		1.4	0.078 mg/l TCLP[1]
				Thallium		1.4	0.20 mg/l TCLP[4]
				Vanadium		4.3[2]	1.6 mg/l TCLP[2]
				Zinc		2.61	4.3 mg/l TCLP[2]

[1] These constituents are only applicable as underlying hazardous constituents. These constituents are not constituents that require treatment in F039 wastes.

[2] Not an underlying hazardous constituent requiring treatment in a D001-D043 waste.

[3] These compounds are regulated by the sum of their concentration instead of as individual constituents.

[4] These constituents are effective in authorized states or states with no LDR program on 8/24/99. These concentrations are effective in all other states upon adoption by the state.

[5] ective 8/24/98 in unauthorized states or states with no LDR program. Selenium at 5.7 mg/l is not an underlying hazardous constituent in 01-D043 waste. This becomes effective in authorized states upon adoption by the state.

ATTACHMENT B

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B03

ofile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF #	3. USEPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION, IF NOT APPLICABLE SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D008	Radioactive Lead Solids	☐	A
2	D006		☒	A
3	D011		☒	A
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

A. RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☒ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 04110

Profile No. 9307-08-001 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

	USEPA HAZARDOUS WASTE CODE(S)	SUBCATEGORY: ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE SIMPLY CHECK NONE		HOW THIS THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	P015		☒	C. Correspondence CD046360
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

A. RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B02

rofile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF#	USEPA HAZARDOUS WASTE CODE (S)	SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION. IF NOT APPLICABLE SIMPLY CHECK NONE		HOW MUST THE WASTE BE MANAGED? ENTER LETTER FROM BELOW
		DESCRIPTION	NONE	
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/BECHTEL JACOBS LLC, Manifest Doc. No. 04I05

rofile No. 9307-05-005 State Manifest No.: N/A

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒—Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

REF.	3. USEPA HAZARDOUS WASTE CODE(S)	4. SUBCATEGORY ENTER THE SUBCATEGORY DESCRIPTION IF NOT APPLICABLE SIMPLY CHECK NONE		5. HOW MUST THE WASTE BE MANAGED? ENTER FROM BELOW
		DESCRIPTION	NONE	
1	D002		☒	A
2	D004		☒	A
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☒
If no UHCs are present in the waste upon its initial generation check here: ☐
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature W. Guy Hamm Title PROJECT ENGINEER Date 3-24-2005

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 04I04

rofile No. 9307-04-005 State Manifest No.: N/A

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☑ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
		DESCRIPTION	NONE	
1	D002		☒	A
2	D019		☒	A
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☑
If no UHCs are present in the waste upon its initial generation check here: ☐
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature W. [illegible] Title PROJECT ENGINEER Date 3-24-2005

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B01

rofile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05C07

ofile No. 9307-02 State Manifest No.:

1. Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐
2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

1	D008	Radioactive Lead Solids	☐	A
2	D006		☒	A
3	D011		☒	A
4	D009	Low Mercury	☐	A

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

A. **RESTRICTED WASTE REQUIRES TREATMENT**
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☒ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B.1 **RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 **GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS**
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 **DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS**
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. **RESTRICTED WASTE SUBJECT TO A VARIANCE**
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. **RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT**
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. **WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS**
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [signature] Title Proj Mgr Date 3/24/05

LAND DISPOSAL NOTIFICATION AND CERTIFICATION FORM

Generator Name DOE/ Bechtel Jacobs LLC Manifest Doc. No. 05B03

Profile No. 9307-07 State Manifest No.:

Is this waste a non-wastewater or wastewater? (See 40 CFR 268.2) Check ONE: Non-wastewater ☒ Wastewater ☐

2. Identify ALL USEPA hazardous waste codes that apply to this waste shipment, as defined by 40 CFR 261. For each waste code, identify the corresponding subcategory, or check NONE if the waste code has no subcategory. Spent solvent standards are listed on the following page. If F039, multi-source leachate applies those constituents must be listed and attached by the generator. If D001-D043 requires treatment of the characteristic and meet 268.48 standards, then the underlying hazardous constituent(s) present in the waste must be listed and attached.

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	D008	Radioactive Lead Solids	☐	A
2			☐	
3			☐	
4			☐	

To identify F039 or D001-D043 underlying hazardous constituent (s), use the "F039/Underlying Hazardous Constituent Form" provided (Form B1) and check here ☐
If no UHCs are present in the waste upon its initial generation check here: ☒
To list additional USEPA waste code(s) and subcategorie(s), use the supplemental sheet provided (Form A2) and check here: ☐

HOW MUST THE WASTE BE MANAGED? In column 5 above, enter the letter (A, B1, B3, B4, C, D, or E) below that describes how the waste must be managed to comply with the land disposal regulations (40 CFR 268.7). Please understand that if you enter the letter B1, B3, B4, or D, you are making the appropriate certification as provided below. (States authorized by EPA to manage the LDR program may have regulatory citations different from the 40 CFR citations listed below. Where these regulatory citations differ, your certification will be deemed to refer to those state citations instead of the 40 CFR citations.

A. RESTRICTED WASTE REQUIRES TREATMENT
This waste must be treated to the applicable treatment standards set forth in 40 CFR Part 268.40.
☐ For Hazardous Debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

B1 RESTRICTED WASTE TREATED TO PERFORMANCE STANDARDS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards in 40 CFR Part 268.40 without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.3 GOOD FAITH ANALYTICAL CERTIFICATION FOR INCINERATED ORGANICS
"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based upon my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion in units as specified in 268.42 Table 1. I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

B.4 DECHARACTERIZED WASTE REQUIRES TREATMENT FOR UNDERLYING HAZARDOUS CONSTITUENTS
"I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.40 or 268.49, to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

C. RESTRICTED WASTE SUBJECT TO A VARIANCE
This waste is subject to a national capacity variance, a treatability variance, or a case-by-case extension. Enter the effective date of prohibition in column 5 above.
☐ For hazardous debris: "This hazardous debris is subject to the alternative treatment standards of 40 CFR Part 268.45."

D. RESTRICTED WASTE CAN BE LAND DISPOSED WITHOUT FURTHER TREATMENT
"I certify under penalty of law I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR 268 Subpart D. I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment."

E. WASTE IS NOT CURRENTLY SUBJECT TO PART 268 RESTRICTIONS
This waste is a newly identified waste that is not currently subject to any 40 CFR Part 268 restrictions.

I hereby certify that all information submitted in this and all associated documents is complete and accurate, to the best of my knowledge and information.

Signature [illegible] Title Proj Mgr. Date 3/24/05

Department of Energy
Portsmouth Site Office
P.O. Box 700
Piketon, Ohio 45661-0700
Phone: 740-897-5010
Fax: 740-897-2982

August 8, 2002
EM-97-0457

Ms. Melody Stewart
Ohio Environmental Protection Agency
Southeast District Office
2195 Front Street
Logan, Ohio 43138

Mr. Walt Francis
U. S. Environmental Protection Agency
Waste, Pesticides and Toxics Division
Enforcement and Compliance Assurance Branch
77 West Jackson Blvd (DRE-9J)
Chicago, Illinois 60604-3590

Dear Madam and Sir:

RESPONSE TO OHIO ENVIRONMENTAL PROTECTION AGENCY (OHIO EPA) AND U. S. ENVIRONMENTAL PROTECTION AGENCY (U.S. EPA) REQUEST

During the July 9, 2002, closeout meeting for the Portsmouth Gaseous Diffusion Plant (PORTS) Resource Conservation and Recovery Act (RCRA) Annual Inspection, Ohio EPA and U.S. EPA requested additional information on several items. This information is enclosed for your review.

If you have any questions or comments, please contact Melda Rafferty at (740) 897-5521.

Sincerely,

Sharon J. Robinson
Site Manager
Portsmouth Site Office

Enclosures

cc w/o enclosures:
William Murphie, EM-1/Cloverleaf
Gil Drexel, BJC/PORTS
Rosemary Richmond, BJC/PORTS
Sandy Childers, BJC/PORTS

Enclosure A
RCRA Annual Inspection Requested Information Index

1. Fluorescent light bulbs
   - Project Manager Directive, Directive No. ES&H-02-008
   - Packing Slip and Receiving Manifest from Special Waste Systems, Inc.
   - Instructions regarding controls for Shipments Consigned as Exclusive Use
   - Shipping Order No. WI-02-028

2. Characterization Plan
   - Heavy Metal Sludge (705-2) Waste Characterization Plan, December 1994
   - Letter to Chris Warner from Tullus Crawford, letter no. LMES-1171-96-066 W/att letter to Tullus Crawford from M. K. King, Theta Engineering, Inc.
   - Letter to Dick Snyder from Chuck Scheibly, letter No. LMES-1171-96-082

3. RFD 2294
   - Photocopy of RFD 2294
   - Photocopy of completed Waste Verification Form for RFD 2294
   - Photocopy of RFD 28425
   - Photocopy of Packing Slip for RFD 28425-1
   - MSDS for Kodak Rapid Fixer
   - Four photographs of RFD 2294-1 and container contents

4. PORTS Part B Requirements for Laboratories
   - Photocopy of Statement of Work NXPT05192 A-D
   - Photocopy of Statement of Work NXPT05150 A-D

5. Hazardous Waste Storage Volumes
   - Listing of Storage Volumes by Storage Areas

6. Analytical Data for Fernald Depleted UF_4

WASTREN, Inc.
A Multi-Service Corporation

Directive No.: ES&H-02-008
Revision No: 0

Effective Date: July 15, 2002

To: All *WASTREN, Inc.* Portsmouth Waste Management Personnel

PROJECT MANAGER DIRECTIVE

MANAGING AND RECYCLING LAMPS

The Ohio Environmental Protection Agency permits the management and recycling of used lamps as non-hazardous recyclable materials providing a specific time frame for the actual recycling is met. If the time frame is not met, the recyclable lamps maybe become regulated as hazardous waste due to the speculative accumulation criteria as defined in OAC 3745-51-01(C)(8). The specific time frame requirement is one calendar year, commencing on January 1 of each year. A minimum of 75% of the lamps present at the beginning of a calendar year must be recycled by the end of that year to avoid speculative accumulation and a hazardous waste designation. Therefore, it is imperative that *WASTREN, Inc.* Waste Management meet this recycling criteria for the recyclable lamps on a yearly basis. The responsibility to meet these criteria shall reside with the *WASTREN, Inc.* Waste Management Manager or his designee.

Any questions concerning the applicability of this Project Manager Directive should be addressed to either John Purvis or Mitch Newman.

Approval: Phil Grant
Philip J. Grant

Date: July 15, 2002

SPECIAL WASTE SYSTEMS INC.

COMPLETE ENVIRONMENTAL SOLUTIONS

We Recycle

PACKING SLIP & RECEIVING MANIFEST

Date: 7-15-02

Recycling Center

Company: Dept of Energy
Address: 3930 RT 23
Piketon OH

SUPERIOR SPECIAL SERVICES, INC.
4220 PERIMETER DRIVE
COLUMBUS, OH 43228

Phone:
Contact: Mitch Newman
Reference #

Transporter: SPECIAL WASTE SYSTEMS, INC.
Trans/EPA ID# 11/12
Universal Waste Yes ✓ No

Quantity of Lamps		Description	Quantity of Lamps		Description
			X 50		
	Lbs.	PCB Ballast Recycling & Incineration	158BXS	Each	4 Ft. Straight Fluorescent Lamps
	Lbs.	Non PCB Ballast Recycling		Each	8 Ft. Straight Fluorescent Lamps
	Lbs.	Capacitors		Each	Compact Fluorescent w/o Ballests
Each	Lbs.	Monitors		Each	Circular Lamps
Each	Lbs.	CRT's		Each	HID High Intensity Discharge ✓
	Lbs.	Misc. Electronic Equipment		Each	Shatter Shield
	Each	Complete Systems		Each	U-Bent
	Each	T.V.'s		Each	Built In Ballast (Includes Compact)
	Lbs.	Nickel Cadmium Batteries (NiCad)		Each	Incandescent ✓
	Lbs.	Lithium Batteries		Each	Other
	Lbs.	Alkaline Batteries			
	Lbs.	Lead Acid Batteries		Each	Broken Fluorescent Lamps
	Lbs.	Liquid Mercury		Drums	Crushed Fluorescent Lamps
	Lbs.	Dental Amalgams			
	Lbs.	Mercury Containing Batteries			
	Lbs.	Neon			
Drums	Lbs.	Mercury Containing Debris			
Drums	Lbs.	Mercury Containing Devices			
Drums	Lbs.	Mercury Compounds/Solutions			
Drums	Lbs.	Soil			
	Drums	Mercury Laden Powder (55 Gal)			
Drums	Lbs.	Other			

Recycling Center Rep _____ Customer Signature [signature] John Newman Transp Sp

Date _____ Date 7-15-02

400 South Tecumseh Road • Springfield, OH 45506 • Phone: 937-882-9231 • Fax: 937-882-6816 • Mobile: 937-478-8161

USDOE in care of WASTREN Inc.
INSTRUCTIONS REGARDING CONTROLS FOR SHIPMENTS
CONSIGNED AS EXCLUSIVE USE (SOLE USE OR FULL LOAD)

Transporter SWS inc Truck/Trailer No. 102

Signature [illegible] Date 7-15-02

These written instructions are provided to the carrier named on the shipping papers for the above referenced shipment and are to be maintained with said shipping papers. It is the carrier's responsibility to ensure that these instructions are conveyed to its driver(s) and administrative personnel, as appropriate, for the duration of the movement to final destination.

1. Maintain exclusive use of this vehicle for the duration of the movement. No other freight is to be loaded with this shipment except as directed by the consignor.

2. All loading or unloading of freight in this shipment shall only be done, or as directed, by the consignor or consignee.

3. The carrier is to move this shipment without delay, but in accordance with the legal statutes of transit jurisdictions.

4. Stops enroute are to be minimized to the extent practical and limited to accepted safe haven areas. Shipper must approve stops in excess of ninety-six hours.

5. The carrier is to take positive steps enroute and during necessary stops to segregate this shipment from other freight, buildings, and personnel, so as to minimize potential exposures.

6. The carrier is to make periodic inspection of equipment, load, and placarding at appropriate intervals enroute to ensure maintenance of shipment safety controls.

7. To the maximum extent practical, the carrier, when movement is by highway, is to use interstate or limited access divided highways and avoid high density urban areas, especially where circumferential interstate highways are available to allow avoidance of travel through the highest populated portion of an urban area.

SPECIAL HANDLING INSTRUCTIONS

1. If provided, by highway, the carrier's driver(s) is to maintain visual contact with escort(s) and obey all traffic signs.

2. Any required radiation surveys enroute will be made only with acceptable monitoring devices and the consignor or consignee will be notified that such monitoring has been done and by whom. Any radiation surveys taken at destination by authorized personnel of the consignee will be provided to the carrier on request or the carrier will be notified if there are contamination levels that would warrant taking the conveyance out of service.

3. Each motor vehicle used for transporting Radioactive Materials under Exclusive Use conditions in accordance with 173.427 or 173.443(c) shall be surveyed with radiation detection instruments after each use. The carrier should ensure the vehicle has met the Department of Transportation (DOT) Return to Service Limits in 49 CFR 177.443(c).

4. The carrier is to take the appropriate emergency response actions should an accident or spillage occur enroute. The carrier will make notification as indicated on accompanying shipping papers in the event of a delay, accident, or other emergency enroute.

5. In the event that this is a Highway Route Controlled Shipment per the shipping paper, the carrier is to comply with the requirements of DOT 49 CFR 177.825.

Bechtel Jacobs Company LLC
PIKETON, OHIO 45661

Acting Under U.S. Government Contract DE-AC05-980R22700 With the U.S. D.O.E.

BECHTEL JACOBS COMPANY LLC
SHIPPING ORDER

Material to be Shipped-Location	Contact (Person) Name and Phone	Our Purchase Order No. Transfer Order	Release No.	R.R. No.	Date Issued	Shipping Order No.
X-7725	Mitch Newman 3827	73MGUC41			07/15/2002	WI-02-028

SHIPPED BY
USDOE in care of Wastren Inc.
P.O. Box 307, 3930 U.S. Route 23
Piketon, Ohio 45661

SHIP VIA (AS CODED)
A. MOTOR FREIGHT
B. RAIL FREIGHT
E. PREMIUM TRANSPORT (AS SHOWN)
F. NON-PREMIUM PARCEL (AS SHOWN)
H. CONSIGNEE'S TRUCK
J. CARTAGE CONTRACTOR
K. BUS
L. OTHER (AS SHOWN)
M. COMPANY TRUCK

L Vendor

Deliver By Date: 7/16/02

Date Shipped: 7/15/02

Shipping Order Originated By: John R. Venneman

SHIP TO:

Superior Special Services
100 W. Larsen Drive
Fond du Lac, WI 54937

Attn: Steve Beirman (262) 243-8915

PARCEL POST DATA
ZONE_____ POSTAGE_____
WEIGHT_____ INSURANCE FEE_____
TOTAL_____

CAR/PRO-NUMBER

TRANSPORTATION ACCOUNT CHARGE		TRANSPORTATION TERMS (AS CODED)		INSURANCE:	VALUATION (For shipping purposes only)
2810.640	2	1. Collect 2. Prepaid 3. Government B/L 4. Deadhead 5. Prepaid/Debit Seller's Account	1	1. Account of Gov't. Do not insure. 2. Account of Consignee. 3. Other (See Below)	

NUMBER AND TYPES OF CONTAINERS	GROSS WEIGHT	PURPOSE:
	6360#	Lightbulbs for recycling

AUTHORITY (PURCHASE ORDER, CONTRACT NUMBER, OR OTHER OFFICIAL DOCUMENT)
73MGUC41

HAZARDOUS MATERIAL
YES ☐ NO ■

INSTRUCTIONS

ESTIMATED DATE OF RETURN

NO.	STORES CATALOG NO. OR PROPERTY NO.	DESCRIPTION OF MATERIAL, SERIAL NO., MODEL NO., ETC.	QUANTITY	UNIT	UNIT VALUE	TOTAL VALUE
		Lightbulbs for recycling This material does not meet the definition of a Hazardous material per DOT. This material does not meet the definition of a RCRA Hazardous waste per EPA 40 CFR 261.4 (d).				

HAZARDOUS SHIPMENT CHECKLIST: SEE FEDERAL REGULATIONS CODES 40 AND 49

1. MATERIAL'S PROPER DESCRIPTION
2. FLASHPOINT, IF APPLICABLE
3. HAZARD CLASS
4. MANUFACTURER'S BRAND NAME
5. PHYSICAL AND CHEMICAL FORM
6. WEIGHT OF CONTENTS
7. CONTAINER TYPE
8. CONTAINER NUMBER
9. PACKAGING NOTATION
10. TYPE LABELS REQUIRED
11. TYPE PLACARD REQUIRED
12. SPECIAL NOTATION/ INSTRUCTIONS
13. GREEN TAG APPLIED YES NO

	ACCOUNT	AMOUNT		ACCOUNT	AMOUNT
DEBIT			CREDIT		
DEBIT			CREDIT		
			CREDIT		
			CREDIT		

NOTICE TO CONSIGNEE

PLEASE USE ABOVE SHIPPING ORDER NO. AND PURCHASE ORDER NO. IN CORRESPONDENCE OR QUESTIONS REGARDING THIS SHIPMENT. ALSO USE THEM TO IDENTIFY RETURN OF ABOVE MATERIAL TO LOCKHEED MARTIN ENERGY SYSTEMS, INC.

AUTHORIZED SIGNATURE AND DIVISION

SHIPPING DEPT. APPROVAL

PAGE

Heavy Metal Sludge

Characterization Plan

December 1994

1171960090
52-042

~~RECORD COPY~~ 7/12/02

HEAVY METAL SLUDGE (705-2) WASTE CHARACTERIZATION PROJECT PLAN

DECEMBER 1994

RECEIVED
AUG 16 1996

Prepared by
MARTIN MARIETTA ENERGY SYSTEMS, Inc.
Environmental Restoration and Waste Management
P.O. Box 628 Piketon, Ohio 45661
for the
U.S. DEPARTMENT OF ENERGY
Under Contract DE-ACO5-760R0001

INFORMATION ONLY

HEAVY METAL SLUDGE (705-2)
WASTE CHARACTERIZATION PROJECT PLAN APPROVALS

Prepared by:

Rick Baldwin, AWSAP Program Manager
Hobert Hill, Project Manager

12/5/94
Date

The preparer of this plan is authorized to make red-line changes to this document if the changes are deemed appropriate, necessary, safe, and in the best interest of all concerned and do not conflict with Martin Marietta Energy Systems procedures.

12/9/94

Approved by:

for Chuck Scheibly
Chuck Scheibly, Department Manager
Waste Certification Off-Site Disposal

12/9/94
Approval Date

Gary Comer, Division Manager
PORTS Waste Management

12/9/94
Approval Date

HEAVY METAL SLUDGE (705-2)
WASTE CHARACTERIZATION PROJECT PLAN REVIEW CYCLE

The following organizations have received a copy of this plan for review and comment:

Organization	Organization Representative
Waste Management/Waste Operations	Tom Cassidy
Sampling Coordinator	Bill Lawler
Ports ERWM Analytical Services Management Office	Jim Applegate
Health & Safety	Bill Youngblut
Quality Assurance Coordinator	Fred Pister
Quality Division (K-25)	Jack Zolyniak

HEAVY METAL SLUDGE WASTE CHARACTERIZATION PROJECT PLAN
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THE FOLLOWING CHAPTERS (6.0 Through 8.0) ARE LOCATED IN THE ACCUMULATED WASTE SAMPLING AND ANALYSIS MANAGEMENT PLAN (AWSAMP) FOR THE PORTSMOUTH GASEOUS DIFFUSION PLANT, PORTSMOUTH, OHIO, DOCUMENT CONTROL NO. 7906-001-WP-BBCQ, DATED OCTOBER 1992. THE FOLLOWING PAGE LISTINGS ARE THOSE IN THE AWSAMP DOCUMENT.

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1. PROJECT OVERVIEW

1.1 Project Description

This project is initiated as part of the Accumulated Waste Sampling and Analysis Program (AWSAP) directed by Environmental Restoration and Waste Management (ERWM) site organization. This waste characterization project plan defines the sampling and analytical processes required to complete the characterization of heavy metal sludge, waste stream 705-2, generated from the X-705 building during uranium recovery operations.

1.2 Background

The X-705 building is the only facility at the Portsmouth Gaseous Diffusion Plant (PORTS) site which contains a uranium recovery system. This recovery system reclaims valuable uranium from decontamination operations, laboratory wastes, alumina traps, and other process operations. Following the uranium recovery operation, heavy metal sludge is precipitated from the uranium solution recovery waste system prior to processing through the ion exchange system.

This sampling project includes 445 containers represented by 65 request for disposal (RFD) numbers (see Appendix A). This waste is currently stored in the X-7725 building at PORTS. The 445 containers of heavy metal sludge were generated from 1983 to 1993. During 1983 through 1986, the heavy metal sludge was placed into plastic tubs and stored awaiting the development of a stabilization process. This stabilization process did not reach maturity due to Resource Conservation and Recovery Act (RCRA) storage concerns and the unavailability of the completed stabilization process equipment. In 1986, the sludge was transferred from the stored plastic tubs into thirty-two (32) B-25 boxes and assigned RFD numbers. These B-25 boxes were placed in storage at the X-744G building. In 1992, these thirty-two (32) B-25 boxes were moved to the X-7725 RCRA storage facility. Prior to moving the B-25 boxes to the X-7725 building, fourteen (14) of the thirty-two (32) B-25 boxes were found to either have radioactive contamination located on the outside of the containers or were determined to be leakers. These fourteen (14) B-25 boxes were overpacked into big orange boxes (BOB) containers and transported to the X-7725 storage facility.

The heavy metal sludge generated during 1987 through 1993 was bulk packed in 110 gallon drums and placed in storage. Forty-six (46) of these containers were later determined to be leakers and were overpacked into twenty-three (23) B-25 boxes. There are two (2) 110 gallon drums in each B-25 overpack.

The inventory of heavy metal sludge consists of four (4) packaging situations:

- BOB overpacked with (1) B-25 box inside (14 BOBs total);
- B-25 box (18 total – not overpacked);
- B-25 box overpacked with two (2) 110 gallon drums inside each B-25 box (23 B-25 boxes; 46 110 gallon drums); and
- 110 gallon drums (367 total – not overpacked).

1.3 Operational Description

Liquid wastes from decontamination operations, laboratory operations, alumina traps, and other process operations are brought into the loop raffinate storage system from the "always safe" storage columns. While in the loop raffinate storage system, the solution undergoes two stages: 1) a pre-evaporator stage for partial volume reduction and 2) a "stripper" stage to remove the uranium from the solvent. Before proceeding to the next stage, the raffinate is recirculated and sampled for total uranium and percentage assay to determine if further processing is required.

Next, the solution is transferred to either "A" or "B" raffinate slab bank (redundant systems) and once again recirculated and sampled for total uranium and assay. These results are logged in the raffinate sample log book. Prior to being transferred to the mix tank, the solution is once again recirculated and sampled to resuspend solids to ensure a known uranium concentration at this stage. In the mix tank, the solution pH is adjusted with a caustic (sodium hydroxide) to a range from 8.0 to 9.0 in order to precipitate heavy metals in the hydroxide form. Once the pH adjustment is complete and the heavy metal precipitate is formed, the solution is transferred to the filter bed unit without additional sampling. The filter unit consists of a filter paper and a sludge press, which are used to remove and dewater the precipitate. While the solution is filtering, the filtrate is periodically checked for the presence of suspended solids (abnormal dark color). The presence of solids is usually an indication of a hole in the filter paper. If the filtrate contains suspended solids (or is very dark), the filter bed operation is stopped, and a new section of filter paper is inserted. When this occurs, the solution is transferred back to the mix tank and recycled back through the filtering bed system.

The sludge from the filtering process is conveyed to the hopper/sludge tub via the filter paper. This filtration cycle takes approximately 20 minutes. When the filtration process is complete, the filtrate in the tank is observed to ensure that it is clear of solids. If the filtrate is clear of solids, the filtrate is transferred to the ion exchange system. If the filtrate contains solids, the solution is transferred back to the mix tank and recycled through the filter bed system.

The sludge in the tubs is transferred to a storage container. A grab sample of the sludge is obtained and sent to the X-710 laboratory for analysis of total uranium and assay.

1.4 Known and Suspected Contaminants

Heavy metal sludge from the uranium recovery process is listed as RCRA hazardous waste as follows: D006 cadmium, D008 lead, and D009 mercury. Process knowledge indicates the presence of mercury in the sludge; However, analytical data available indicates the presence of lead and cadmium. The analytical data verifying the presence of metals is limited in quantity and is a focus of this sampling activity. The past analysis data available is limited in the number of samples and analytical parameters that were performed.

The other constituents of concern are radiological contaminants, primarily Technetium (Tc99) and uranium products. During the operation and at the final stage of the process, the solution is repeatedly sampled and analyzed for Total Uranium content (gram Uranium/gram sample) and percentage Assay (Weight percentage U-235). There is also data indicating the average moisture content (percent of H_2O) in the sludge to be 65 percent. Based on this moisture content data and process knowledge, the sludge will be primarily wet and will not present an airborne concern; However, airborne samples will be obtained during the sampling process to verify this concern.

Note: The heavy metals filter paper used in the operation of the heavy metal precipitators was classified as hazardous waste until 1992. At this time, the filter paper was sampled and analyzed; the results indicated that the filter paper was not a hazardous waste (reference POEF-554-92-156, *Toxicity Characteristic Leaching Procedure [TCLP] - X-705 Heavy Metals Removal System*, see Attachment). The attachment letter was written as notification that the heavy metals sludge filter paper would be handled as a nonhazardous waste.

2. ORGANIZATION AND RESPONSIBILITIES

This section describes each organization and their responsibilities related to the Heavy Metal Sludge Sampling Project. The responsibilities listed below are general but do reflect each organizational responsibility that is required for the successful completion of this project.

Roles and Responsibilities

Role	Person*	Responsibility
AWSAP Program Manager	Rick Baldwin ext. 4309 Pager (947-6648)	Manages AWSAP Program. Provides complete oversight of project and project oordinator's efforts.
Project Manager Project Coordinator	Hobert Hill ext. 2497 Jim Popp ext. 2510 or radio Pager (947-6683)	Provides coordination of the sampling and analysis project to ensure that all the required information will be obtained to meet requirements for treatment and/or disposal.
MMES Lab Service Manager	James Applegate ext. 4081	Issues statement of work based on the requirements specified in the sampling and analysis plan to qualified laboratories. Coordinates data needs and cost information with the project manager or AWSAP program manager.
Sampling Coordinator	Bill Lawler	Directs the technical implementation of the sampling plan at the sampling location. Directs the activities of the sampling team and ensures the requirements of the sampling plan are met by the field crews.
Statistician	Jack Zolyniak K-25	Provides statistical support for the sampling plan. Ensures that stated statistical objectives are valid for their intended purpose.
Quality Assurance and Compliance Division	Fred Pister	Provides quality assurance assistance for sampling activities and review of analysis data. Coordinates QA surveillance of sampling activities.
Health & Safety Rep	Don McDade	Coordinates health and safety coverage for sampling activities and resolves all health and safety related issues.
Waste Operations Department/Waste Management Division	Tom Cassidy	Manages Waste Operations. Provides coordination of all container handling operations.

* Reflects person responsible as of December 1994

3. DESIGN OF SAMPLING ACTIVITY

3.1 Background of Sampling Activities

This sampling activity includes 445 containers represented by 65 RFDs (see Appendix A). All containers are located in the X-7725 building at PORTS. Based on the consistent generation process of the heavy metal sludge and the contaminant equalization in the system due to storage capacity and recirculation, it has been determined that this waste will be sampled as one population. The statistician has identified a random selection of 29 containers for sampling to represent this waste stream (see Appendix C). The statistician has also identified 10 containers to be utilized as alternates (see Appendix C).

The inventory of heavy metal sludge includes the sampling of B-25 boxes and 110 gallon drums. In order to account for the difference in volume of the containers in relation to each other, each B-25 box was divided into five (5) core samples (see Appendix B). Each of these core samples represents a single sample and is weighted equally with a sample derived from a 110 gallon drum. The total "sampling locations" available are as follows: [413 drums + (32 B-25 boxes X 5) = 573]. These B-25 box core samples along with the 110 gallon drums, were entered in the random generation of the selected containers for sampling. If a B-25 box is selected in the random generation, the core sample number will be listed and sampled accordingly. The list of selected sampling locations generated for this sampling project includes nine (9) B-25 box core samples.

The population of containers for sampling is divided into three (3) groups:

1) Eight (8) randomly selected locations will be sampled and analyzed for the "Full Set" of constituents.

2) Twenty-one (21) randomly selected locations will be sampled and analyzed for a "Limited Set" of constituents.

3) Ten (10) randomly selected and randomly ordered sampling locations will serve as alternates for the population of the twenty-nine (29) sampling locations.

An alternate "sampling location" may be substituted for one of the primary selections if the primary cannot be found or is discovered not to belong in this population. The alternates must be substituted in the random order they are listed. The use of "too many" alternates can invalidate the randomness of the sample or indicate that the assumption of a single population is inappropriate. Deviation from the sampling list and/or the use of alternate containers must be approved by the project manager.

The statistical sample sizes listed above have the following properties:

- The largest of the eight (8) results is a 80% upper confidence on the 80th percentile of its population.

- The largest of the twenty-nine (29) results is a 95% upper confidence on the 90th percentile of its population. The identified containers for sampling are intended that the largest analytical result will be an upper 95% confidence bound on the 90th percentile of the represented population.

The identified twenty-nine (29) sampling locations upon analysis will properly characterize the total inventory of 445 containers (see Appendix A) of heavy metal sludge, 705-2 waste stream. The list of selected containers for sampling and their respected storage locations are included in this document (see Appendix C).

3.2 Summary of Sampling Operations

The sampling operation will adhere to the requirements listed in the AWSAMP and Waste Management Division procedures, WM-OP-08.01 Rev. 1, *Sampling Liquid Waste* and WM-OP-08.02 Rev. 1, *Sampling Solid Waste and the guidelines presented in the Heavy Metal Sludge Work Plan. The Heavy Metal Sludge Work Plan* will specifically present guidelines for the entire sampling event.

The most probable method of obtaining samples of heavy metal sludge will require the use of disposable coliwasa sampling tube; however, if this method is determined to be unsuccessful, the samplers may utilize a suitable sampling alternative such as an auger. If the use of non-disposable sampling equipment, then equipment blank samples will be required. During the sampling event, three (3) types of samples will be collected: 1) waste characterization (WC) samples, 2) quality control (QC) samples and, 3) treatability study (TS) samples. Waste characterization samples will be collected from each sampled container. Treatability study sample will be obtained from a composite formed from all sampled containers.

Waste Characterization Samples

These samples will receive the following analytical parameters testing:

- Eight (8) samples will be analyzed for a "Full" set of parameters (see Table 1).
- Twenty-one (21) samples will be analyzed for a "Limited" set of parameters (see Table 2).

Treatability study samples

TS samples will be obtained by the following method:

- A three (3) kg sample will be derived from each of the twenty-nine (29) sampling locations to form the treatability sample (total composite sample approximately 87 kg).
- This sample will be placed in a suitable container for mixing. After mixing, the treatability sample will be obtained and placed in proper sample containers and labeled.
- This sample will be analyzed for a "Full" set of parameters (see Table 1).

Quality Control Samples

QC samples will be obtained by the following method:

Duplicate Samples

- One (1) duplicate tested for a "Full" set of analytical parameters (see Table 1).

Trip Blanks

- The trip blank sample (s) will be placed in each shipping container which includes samples to be analyzed for VOC's.
- Trip blank samples analyzed for VOC analysis only.

Field Blanks

- The field blank sample (s) will be collected at the beginning of the sampling event and for each new sampling area.
- Field blank samples will be analyzed for the analytical parameters listed in Table 3.

Equipment Blanks

- Four (4) equipment blank samples will be obtained:

  a. One (1) equipment blank sample obtained prior to sampling;

  b. One (1) equipment blank sample obtained after every ten (10) waste characterization samples.

  c. One (1) equipment blank sample obtained following the completion of sampling activities.

The statement of work (SOW) from the Analytical laboratory will give specific guidelines concerning the sample quantities, method of analytical procedures, holding times and preservation requirements. The final SOW will later be attached to the *Heavy Metal Sludge Work Plan* .

3.3 Sample Identification, Numbering and Labeling

This section will adhere to the AWSAMP, document control number 7906-001-WP-BBCQ section 6.3.3, Sample Identification, Numbering, and Labeling. The following information will replace the portion of section 6.3.3 (pages 6-10 of the AWSAMP document) regarding the actual sample number format.

A unique sample identification number will be used to provide specific information relating to the sample. Samples will be identified and numbered using the following system:

```
RFDRFDCCCWSWSWX
[      ][  ][     ][ ]
```

- **Duplicate or Matrix Spike Sample (D or M)**
- **Waste Stream Designation**
- **Container Number**
- **RFD Number**

RFDRFD — A specific RFD number; 6 characters, preceded by a zero(s)
Example: RFD number 14721 = 014721; RFD number 3730 = 003730

CCC— Container number includes 3 characters, preceded by a zero(s)
Example: container number 1 = 001; container number 15 = 015

WSWSW— Waste stream designation; 5 characters, preceded by a zero(s) if needed.
Example: Waste stream 720-20 = 72020; Waste stream PUMP-2 = PUMP2

X— Designation for duplicate sample or matrix spike sample. Indicate by inserting a **D** (duplicate) or a **M** (matrix spike). If sample is not a duplicate or matrix spike, leave this field blank.

Based on the given sample number, 0211760020CAS2, the explanation of this number would be as follows:

RFD Number 21176
Container Number 2
Waste stream – Cascade-2
Not a duplicate or matrix spike sample

This sample number will be used for tracking the samples. The laboratory which receives the samples for analysis may assign its own internal tracking numbers which may be utilized in the AnaLis system.

TABLE 1

List of "Full" set of analytical parameters

Recommended analysis	Method	Notes
Anions (F^-, Cl^-, NO_3^-, PO_4^{-3}, SO_4^{-2})	EPA 300 Series	1
Arsenic	3050 Prep-EPA-7060/7061	
Carbon and Sulfur analysis	Carbon/Sulfur Analyzer Method	A
Major Elemental Constituents	X-ray Fluorescence	D
Major Crystalline Constituents	X-ray Diffraction	D
Mercury	EPA - 7470/7471	
Reactivity - Sulfide	SW - 846 9030 or 9031	
Reactivity - Cyanide	SW - 846 9010	
Selenium	3050 Prep - EPA -7740	
TCLP Metals	EPA - 1311/6010/7470	
Total Constituent Analysis by ICP (including Beryllium and Nickel)	Total Dissolution Prep - EPA - 3050/6010	
Oil and Grease	EPA - 9071/9071A	A
PCBs (Aroclors)	EPA - 8080	A
TCLP - 32 Organics	EPA - 1311/8240/8270/8080/8150	
Total Organic Carbon (TOC)	EPA - 9060	A
Total Organic Halides (TOX)	EPA - 9020	
Dissolved Solids	EPA - 160.1	2
Moisture	ASTM D - 2216	A
Paint Filter Test	EPA - 9095	A
pH	EPA - 9040/9045	2
Suspended Solids	EPA 160.2	2
Gamma Spectroscopy Scan	Gamma Spectrocopy	3,8
Gross Alpha/Beta	TSD - 553 - 230	3
Neptunium-237	Alpha Spectroscopy	3
Pa-234m	Gamma Spectroscopy or calculated from U-238	3
Plutonium-238/239	Alpha Spectroscopy	3
Technetium - 99	Liquid Scintillation Counting	3
Thorium-228, 230, 232	Alpha Spectroscopy	3
Total Uranium & Percent Uranium-235	Thermal Ionization Mass Spectrocopy (TIMS) or ICP/MS	3

Table 1 -cont-

Notes for Table 1

1. Analyze for both total and leachable anions, if possible.
2. Perform these analytes on liquid phase, if possible.
3. Calculate specific activity based on secular equilibrium and provide written comparison between analytical data and calculations.
4. Archive all samples 60 days.
5. Report all radionuclides in pCi/g.
6. Notify Jim Applegate of any QC failures.

A. Report data on as received basis.
B. If two phases present, analyze each phase. Report solid phase on dry weight basis and liquid phase on as received liquid basis.
C. N/A
D. Report data on a dry weight basis.
E. Report data on a liquid basis.

TABLE 2

List of "Limited" set of analytical parameters

Recommended analysis	Method	Notes
Anions (F^-, Cl^-, NO_3^-, PO_4^{-3}, SO_4^{-2})	EPA 300 Series	1
Arsenic	3050 Prep-EPA-7060/7061	
Major Elemental Constituents	X-ray Fluorescence	D
Mercury	EPA - 7470/7471	
Selenium	3050 Prep - EPA -7740	
TCLP Metals	EPA - 1311/6010/7470	
Total Constituent Analysis by ICP (including Beryllium and Nickel)	Total Dissolution Prep - EPA - 3050/6010	
Oil and Grease	EPA - 9071/9071A	A
TCLP - 32 Organics	EPA - 1311/8240/8270/8080/8150	
Total Organic Carbon (TOC)	EPA - 9060	A
Dissolved Solids	EPA - 160.1	2
Moisture	ASTM D - 2216	A
Paint Filter Test	EPA - 9095	A
pH	EPA - 9040/9045	2
Suspended Solids	EPA 160.2	2
Technetium - 99	Liquid Scintillation Counting	3
Total Uranium & Percent Uranium-235	Thermal Ionization Mass Spectrocopy (TIMS) or ICP/MS	3

Notes for Table 2

1. Analyze for both total and leachable anions, if possible.
2. Perform these analytes on liquid phase, if possible.
3. Calculate specific activity based on secular equilibrium and provide written comparison between analytical data and calculations.
4. Archive all samples 60 days.
5. Report all radionuclides in pCi/g.
6. Notify Jim Applegate of any QC failures.

A. Report data on as received basis.
B. If two phases present, analyze each phase. Report solid phase on dry weight basis and liquid phase on as received liquid basis.
C. N/A
D. Report data on a dry weight basis.
E. Report data on a liquid basis.

TABLE 3

List of Analytical Parameters for Field Blank Samples

Recommended analysis	Method	Notes
Anions (F^-, Cl^-, NO_3^-, PO_4^{-3}, SO_4^{-2})	EPA 300 Series	1
Mercury	EPA - 7470/7471	
Total Constituent Analysis by ICP (including Beryllium and Nickel)	Total Dissolution Prep - EPA - 3050/6010	
PCBs (Aroclors)	EPA - 8080	A
TCLP - SVOA Organics	EPA - 8270	
Technetium - 99	Liquid Scintillation Counting	3
Gross Alpha/Beta	TSD - 553 - 230	3

APPENDIX A

SUMMARY OF RFD NUMBERS
Waste Stream 705-2 Heavy Metal Sludge

Note: RFD# 6294 includes 32 containers:
- 14 BOB (6x6x8) w/B-25's overpacked inside, and
- 18 B-25 boxes (not overpacked).

RFD Number	Containers per RFD
10643	2
11501	1
11515	2
13526	1
13527	1
13546	1
13559	1
14236	1
14237	1
14238	1
14251	1
14253	1
14258	1
15453	1
15466	1
15469	1
15472	1
15490	1
15492	1
15493	1
15546	1
15552	1
15554	1
15557	1
15563	1
1731	17
17532	1
17537	1
17543	1
17548	1
17552	1
18976	1

RFD Number	Containers per RFD
1962	8
1967	2
1991	6
19971	1
19976	1
1999	5
2000	2
2152	4
2207	1
24	33
2804	13
2821	9
4404	8
4413	5
4436	1
4439	8
4441	4
4796	5
5351	10
5415	8
559	16
6294	32
8430	5
8439	11
8464	11
8473	2
950	9
M107	74
M136	17
M140	10
M155	30
M165	29
M183	15

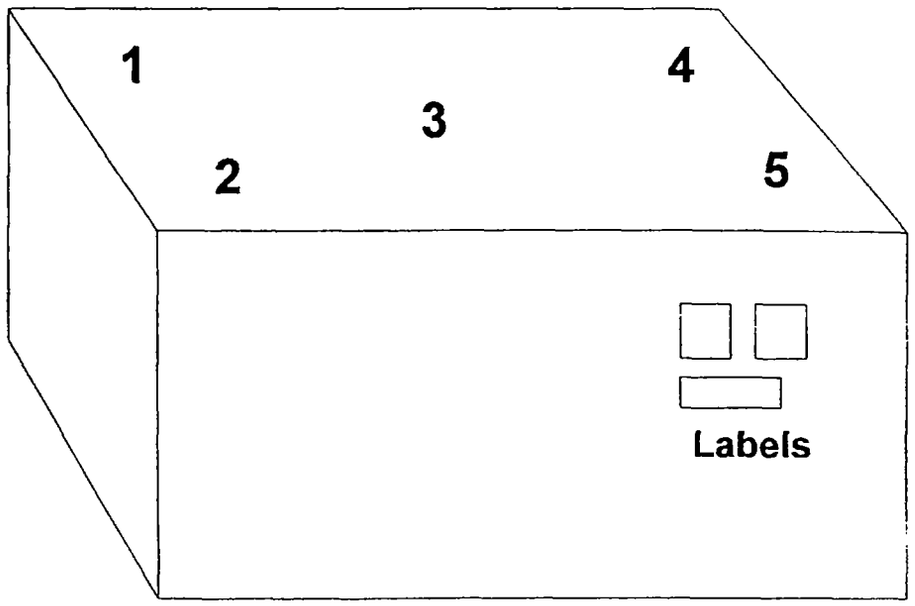
Total RFD's: 65

Total Containers: 445

APPENDIX B

B-25 Box IndicatingCore Sampling Locations

This figure indicates the layout of the core sampling locations. The core numbers listed in Appendix C (listing of selected sampling locations) will be sampled using this figure as a guide.



B-25 Box Front View

APPENDIX C
LIST OF CONTAINERS
LOCATION AND OVERPACK INFORMATION

Selected Containers

CONTAINER TYPES:
Type 3 = B-25 Box
Type 4 = Big Orange Box (BOB)
Type 6 = 110 gallon drum

Number	RFD Number	Container Number	Core Sample Location	Container Type	Section	Row	RFD NO. of overpack
1	13527	1		6	CC	7	
2	15546	1		6	CC	8	
3	24	22		6	CC	2	
4	24	32		6	CC	3	
5	2804	9		6	CC	3	
6	2821	2		6	BA	21	
7	6294	1	4	3	AA	19	
8	6294	25	5	3	AA	19	
9	1962	3		6	CC	1	
10	1962	8		6	CC	1	
11	24	4		6	CC	2	
12	24	10		6	CC	3	
13	2821	4		6	CC	3	
14	4439	5		6	CC	1	
15	6294	5	5	3	AA	19	Note 2
16	6294	5	2	3	AA	19	Note 2
17	6294	6	2	3	AA	19	
18	6294	10	3	3	AA	19	
19	6294	13	3	3	AA	19	
20	**6294**	**15**	**1**	**3(4)**	**AA**	**18**	**6294-15**
21	**6294**	**31**	**4**	**3(4)**	**AA**	**18**	**6294-31**
22	M107	26		6	CC	5	
23	M107	42		6	BA	21	
24	M107	69		6	CC	4	
25	M107	74		6	CC	8	
26	**M136**	**11**		**6(3)**	**AA**	**19**	**20775-1**
27	M140	8		6	CC	5	
28	**M155**	**1**		**6(3)**	**AA**	**19**	**20771-1**
29	**M155**	**23**		**6(3)**	**AA**	**19**	**20245-1**

Notes: 1. Bolded containers are overpacked (*the number in parenthesis is the container type of the overpack*).
2. B-25 box sampled twice (*2 different core locations*)

SUMMARY: Sampling includes:
seventeen (17) 110 gallon drums,
seven (7) bulk filled B-25 boxes,
three (3) B-25 boxes with two (2) 110 gallon drums inside each,
two (2) BOBs with one (1) B-25 box located inside each.

APPENDIX C (Cont.)
LIST OF CONTAINERS
LOCATION AND OVERPACK INFORMATION

Alternate Containers

CONTAINER TYPES: Type 3 = B-25 Box
Type 4 = Big Orange Box (BOB)
Type 6 = 110 gallon drum

Number	RFD Number	Container Number	Core Sample Location	Container Type	Section	Row	RFD NO. of overpack
30	17552	1		6	CC	7	
31	4413	5		6	CC	1	
32	6294	3	2	3	AA	19	
33	**559**	**12**		**6(3)**	**AA**	**19**	**22883-1**
34	24	15		6	CC	1	
35	M165	12		6	CC	5	
36	**6294**	**18**	**3**	**3(4)**	**AA**	**18**	**6294-18**
37	5351	8		6	CC	8	
38	**6294**	**14**	**2**	**3(4)**	**AA**	**18**	**6294-14**
39	24	21		6	CC	3	

Note: Bolded containers are overpacked (*the number in parenthesis is the container type of the overpack*).

Heavy Metal Sludge

Statistical Summary

May 1996

MARTIN MARIETTA

Internal Correspondence

45-033 1171960052

MARTIN MARIETTA ENERGY SYSTEMS, INC.

~~RECORD COPY~~ FAA 7/12/02

RECEIVED MAY 1 1996

Date: May 17, 1996
LMES-1171-96-066

To: Chris Warner

cc/att: Jo Anna Cole
Jim Popp
Chuck Scheibly
Ollie Vita
File—Waste Management
File—RMDC Center—RC

From: Tullus Crawford, X-7725, MS-7550, PORTS (3499)

Subject: **Characterization of Heavy Metal Sludge (PORTS Waste Stream #705-2, MWIR W015)**

Attached are the results of a statistical analysis, performed and presented by Theta Engineering of Oak Ridge, for the Heavy Metal Sludge project. In order for this project to proceed with due diligence, please review this data and provide a written determination of the characterization of this waste stream by Friday, May 24, 1996.

If you have any questions, please contact Jo Anna Cole at extension 5532 or me.

TEC:ad

Attachment

INFORMATION ONLY

THETA ENGINEERING, INC.
101 East Tennessee Avenue · Oak Ridge, Tennessee 37830-5447 · (423) 482-0056 · (800) 489-0057 · Fax (423) 482-7583

May 14, 1996

Mr. Tullus Crawford
Lockheed Martin Energy Systems
Room 3025, MS 7602
3930 U.S. Route 23 South
Piketon, OH 45661

Dear Mr. Crawford:

Please find enclosed the following:

1. Our status report on PORTS Waste Stream #705-2, MWIR W015.
2. Four computer disks supplied to us by LMES.
3. Two computer disks containing the Lotus files PD1, PD2, PD3, and HMS1 - HMS40 (omitting HMS 10 o-Cresol, 11 m-Cresol, and 12 p-Cresol).

If you have questions concerning any of this, please contact Kay King at (423) 482-0056.

Sincerely,

M. K. King

M. K. King
Environmental Mathematician

Enclosure

PORTSMOUTH
RCRA SECTION 261.24 CONTAMINANTS LIST
STATUS REPORT

MWIR W015 WMD Waste Stream #705-2

File HMS #	Contaminant	CAS. No.	Notes
1	Arsenic	7440-38-2	Not Hazardous
2	Barium	7440-39-3	Not Hazardous
3	Benzene	71-43-2	Not Hazardous
4	Cadmium	7440-43-9	Not Hazardous
5	Carbon tetrachloride	56-23-5	Not Hazardous
6	Chlordane	57-74-9	Not Hazardous
7	Chlorobenzene	108-90-7	Not Hazardous
8	Chloroform	67-66-3	Not Hazardous
9	Chromium	7440-47-3	Not Hazardous
10	Cresol		Not Hazardous
14	2,4-D	94-75-7	Not Hazardous
15	1,4-Dichlorobenzene	106-46-7	Not Hazardous
16	1,2-Dichloroethane	107-06-2	Not Hazardous
17	1,1-Dichloroethylene	75-35-4	Not Hazardous
18	2,4-Dinitrotoluene	121-14-2	Not Hazardous
19	Endrin	72-20-8	Not Hazardous
20	Heptachlor (and its epoxide)	76-44-8	Not Hazardous
21	Hexachlorobenzene	118-74-1	Not Hazardous
22	Hexachlorobutadiene	87-68-3	Not Hazardous
23	Hexachloroethane	67-72-1	Not Hazardous
24	Lead	7439-92-1	Not Hazardous
25	Lindane	58-89-9	Not Hazardous
26	Mercury	7439-97-6	Not Hazardous
27	Methoxychlor	72-43-5	Not Hazardous
28	Methy ethyl ketone	78-93-3	Not Hazardous
29	Nitrobenzene	98-95-3	Not Hazardous
30	Pentrachlorophenol	87-86-5	Not Hazardous
31	Pyridine	110-86-1	Not Hazardous
32	Selenium	7782-49-2	Not Hazardous
33	Silver	7440-22-4	Not Hazardous
34	Tetrachloroethylene	127-18-4	Not Hazardous
35	Toxaphene	8001-35-2	Not Hazardous
36	Trichloroethylene	79-01-6	Not Hazardous
37	2,4,5-Trichlorophenol	95-95-4	Not Hazardous
38	2,4,6-Trichlorophenol	88-06-2	Not Hazardous
39	2,4,5-TP (Silvex)	93-72-1	Not Hazardous
40	Vinyl Chloride	75-01-4	Not Hazardous

1.0 Definitions

Confidence Interval (CI)	A CI is a pair of value, the lower limit and the upper limit, which embraces with a particular probability the true mean of the population under consideration. A CI of 80% is used for this study per the method prescribed in SW846 (EPA, 1986). The lower limit of the 80% CI ($LCI_{80\%}$) and upper limit of the 80% CI ($UCI_{80\%}$) are computed from the samples. If the concentrations of a contaminant in the population are normally distributed, we are 90% certain the true population mean is less than the $UCI_{80\%}$.
Not Hazardous	A contaminant of concern is not considered to be present at a hazardous level if the $UCI_{80\%}$ is less than the applicable regulatory threshold.
Definitely Hazardous	A contaminant of concern is considered to be present at a hazardous level if the $LCI_{80\%}$ is greater than the applicable regulatory threshold.
Potentially Hazardous	A contaminant of concern is considered potentially hazardous if the applicable regulatory threshold is between the $LCI_{80\%}$ and the $UCI_{80\%}$. Under these circumstances and depending on other conditions, SW846 suggests obtaining more samples and outlines a procedure for determining how many more should be collected.
Regulatory Threshold (RT)	The RT is the maximum concentration of the contaminant of concern. For this study the contaminants of concern and their regulatory thresholds are listed in Table 1, 40 CFR 261.24(a). The values are based on using the Toxicity Characteristic Leaching Procedure (TCLP).

2.0 Procedure

Lockheed Martin Energy Systems (LMES) supplied the initial data electronically in Lotus. Theta used a four-step process to determine whether the waste stream was hazardous. The steps used were:

1) Sorting the data;
2) Computing the statistics;
3) Determining whether the contaminant is present at hazardous level;
4) And finally determining whether the waste stream is hazardous.

Each of these steps is discussed below.

2.1 Sorting the Data

Theta sorted the initial electronic data supplied by LMES according to its Chemical Abstracts Service (CAS) number and named the files obtained PD1, PD2, and PD3. Theta is supplying PD1, PD2, and PD3 on disks as well as returning LMES's original disks with this report. The

Analytical Results, Appendix 1, for each potential contaminant were compiled by Theta. Each line references the electronic file and row number for the analytical result.

2.2 Computing the Statistics

Statistics were computed only for cadmium. All analytical results for the other contaminants of concern were below the RT so the data met the regulatory requirements.

Pursuant to SW846, the validity of a CI for the true mean (μ) concentration of a chemical contaminant of a solid waste is based on the assumption that individual concentrations of the contaminant exhibit a normal distribution. The only "test" for normality mentioned in SW846 is that the sample mean is expected to be greater than the sample variance. In computing the sample mean and variance, non-detects were entered as one-half the Practical Quantitation Limit (PQL) as requested by LMES and as outlined in *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities - Interim Final Guidance* page 8-2. If more than one PQL was listed among the various laboratory results for a particular chemical constituent, the higher (and hence more conservative) value was used. For example, in the case of cadmium, the Data Chem Analysis Data Sheet for Sample 629400107052 states the PQL is 0.005 and the results in Vol. 2, pg. 0138 for Sample M15502307052 states the PQL is 0.01. Hence, in Appendix 1, the PQL for cadmium is listed as 0.01 mg/L. Since the sample mean (0.600 mg/L) is smaller than the sample variance (1.088 mg/L), cadmium fails the SW846 "test" for normality.

To further test the cadmium data for normality we chose the Shapiro-Wilk Test because it is recommended in *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance*. **The cadmium data failed the Shapiro-Wilk Test for Normality on the original data.**

Pursuant to SW846, we transformed the original data by taking the natural logarithm. We selected this transformation because *Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance*, page 2, states that "EPA's experience with environmental concentration data ... suggests that a Lognormal distribution is generally more appropriate as a default statistical model than the Normal distribution , ..." **The transformed cadmium data passed the Shapiro-Wilk Test for Normality.** Consequently, the $UCI_{80\%}$ was calculated on the transformed data as required by SW846, page NINE-10.

2.3 Determining Whether a Contaminant Is Present at a Hazardous Level

Thirty-seven TCLP chemicals were analyzed for the waste stream #705-2. Three patterns were observed among the results:

1. Some chemicals of concern were not detected in any of the samples;
2. Some were detected at low concentration which are all below the RT;
3. Cadmium was detected both above and below RT.

Contaminants of concern which exhibited the first and second data patterns are **not** present at a hazardous level and no statistics are required.

For cadmium, two different approaches were used.

1. The population was assumed to be normal and the CI was calculated using equation 6,

page NINE-3, of SW846. The $UCI_{80\%}$ (0.855 mg/L) is below the RT (1 mg/L) and hence is not hazardous.

2. The original data were checked for normality as outlined above and the $UCI_{80\%}$ computed for the transformed data. Because the $UCI_{80\%}$ for the transformed cadmium data (-1.28) is less than the applicable transformed regulatory threshold (0), the contaminant of concern is not considered to be present in the waste at a hazardous level.

2.4 Determining Whether the Waste Stream Is Hazardous

The waste stream #705-2 is not hazardous based on these statistical analyses of the TCLP results.

Appendix 1 Analytical Results

Appendix 2 Statistical Analyses

APPENDIX 1

ANALYTICAL RESULTS

File Name: HMS1
PORTS
IWIR W015
/MD Waste Stream #705-2

Date Started: March 19, 1996
Last Used: May 14, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

ARSENIC 7440-38-2
PQL is 0.5 mg/L; Regulatory level is 5.0 mg/L.
Analysis Method - 6010

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1. 2732
M107	42	7052	ND	PD1, 2737
M107	69	7052	ND	PD1, 2756
M107	74	7052	ND	PD1, 2758
M140	8	7052	ND	PD1, 2766
M155	1	7052	ND	PD1, 2768
M155	23	7052	ND	PD2, 512
M165	12	7052	ND	PD2, 520
24	4	7052	ND	PD1, 2812
24	10	7052	ND	PD1, 2798
24	15	7052	ND	PD2, 525
24	22	7052	ND	PD1, 2800
24	32	7052	ND	PD1, 2802
559	12	7052	ND	PD2, 531
1962	3	7052	ND	PD1, 2814
1962	8	7052	ND	PD1, 2816
2821	2	7052	ND	PD1, 2803
2821	4	7052	ND	PD1, 2806
4413	5	7052	ND	PD2, 528
4439	5	7052	ND	PD1, 2817
6294	1	7052	ND	PD3, 464
6294	6	7052	ND	PD1, 2821
6294	13	7052	ND	PD1, 2824
6294	25	7052	ND	PD3, 459
6294	52	7052	ND	PD1, 2829
6294	55	7052	ND	PD1, 2831
13527	1	7052	ND	PD1, 2807
15546	1	7052	ND	PD1, 2810
17552	1	7052	ND	PD2, 527

ND - Not Detected.

File Name: HMS2
BARIUM 7440-39-3
PORTS
WIR W015
NMD Waste Stream #705-2

Date Started: March 25, 1996
Last Used: May 14, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

BARIUM 7440-39-3
File Name: HMS2
PQL is 0.02 mg/L; Regulatory level is 100.0 mg/L.
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	0.809 B	PD1, 2838
M107	42	7052	1.27 B	PD1, 2842
M107	69	7052	0.69	PD1, 2854
M107	74	7052	0.24	PD1, 2855
M140	8	7052	0.25	PD1, 2864
M155	1	7052	0.12	PD1, 2866
M155	23	7052	0.56	PD2, 536
M165	12	7052	0.45	PD2, 540
24	4	7052	0.41	PD1, 2904
24	10	7052	0.455 B	PD1, 2890
24	15	7052	0.23	PD2, 545
24	22	7052	0.319 B	PD1, 2893
24	32	7052	0.463 B	PD1, 2895
559	12	7052	0.21	PD2, 552
1962	3	7052	0.071	PD1, 2907
1962	8	7052	0.13	PD1, 2909
2821	2	7052	0.235 B	PD1, 2896
2821	4	7052	0.303 B	PD1, 2899
4413	5	7052	0.13	PD2, 550
4439	5	7052	0.076	PD1, 2910
6294	1	7052	3.3	PD3, 473
6294	6	7052	0.82	PD1, 2914
6294	13	7052	0.61	PD1, 2916
6294	25	7052	3.3	PD3, 471
6294	52	7052	0.33	PD1, 29219
6294	55	7052	0.95	PD1, 2920
13527	1	7052	0.197 B	PD1, 2900
15546	1	7052	0.148 B	PD1, 2903
17552	1	7052	0.13	PD2, 547

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS3
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

BENZENE 71-43-2
PQL is 0.005 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1700
M107	42	7052	ND	PD1, 1701
M107	69	7052	ND	PD1, 1719
M107	74	7052	ND	PD1, 1720
M140	8	7052	ND	PD1, 1723
M155	1	7052	ND	PD1, 1724
M155	23	7052	ND	PD2, 300
M165	12	7052	ND	PD2, 303
24	4	7052	ND	PD1, 1759
24	10	7052	ND	PD1, 1752
24	15	7052	ND	PD2, 308
24	22	7052	ND	PD1, 1753
24	32	7052	ND	PD1, 1754
559	12	7052	ND	PD2, 311
1962	3	7052	ND	PD1, 1760
1962	8	7052	ND	PD1, 1761
2821	2	7052	ND	PD1, 1755
2821	4	7052	ND	PD1, 1756
4413	5	7052	ND	PD2, 310
4439	5	7052	ND	PD1, 1762
6294	1	7052	ND	PD1, 1763
6294	6	7052	ND	PD1, 1764
6294	13	7052	ND	PD1, 1765
6294	25	7052	ND	PD1, 1766
6294	52	7052	ND	PD1, 1767
6294	55	7052	ND	PD1, 1768
13527	1	7052	ND	PD1, 1757
15546	1	7052	ND	PD1, 1758
17552	1	7052	ND	PD2, 309

ND - Not Detected.

File Name: HMS4
CADMIUM 7440-43-9
ORTS
WIR W015
WMD Waste Stream #705-2

Date Started: March 22, 1996
Last Used: May 14, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

CADMIUM 7440-43-9
File Name: HMS4
PQL is 0.01 mg/L; Regulatory level is 1.0 mg/L.
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	0.402	PD1, 2986
M107	42	7052	0.221	PD1, 2991
M107	69	7052	0.05	PD1, 3003
M107	74	7052	0.044	PD1, 3005
M140	8	7052	0.072	PD1, 3013
M155	1	7052	ND	PD1, 3015
M155	23	7052	0.033	PD2, 569
M165	12	7052	0.16	PD2, 572
24	4	7052	0.22	PD1, 3053
24	10	7052	0.25	PD1, 3040
24	15	7052	2.9	PD2, 578
24	22	7052	0.102 B	PD1, 3041
24	32	7052	1.5	PD1, 3044
559	12	7052	0.76	PD2, 583
1962	3	7052	4.9	PD1, 3056
1962	8	7052	0.25	PD1, 3057
2821	2	7052	0.307	PD1, 3046
2821	4	7052	0.321	PD1, 3048
4413	5	7052	1	PD2, 582
4439	5	7052	0.39	PD1, 3059
6294	1	7052	0.62	PD3, 490
6294	6	7052	0.43	PD1, 3062
6294	13	7052	0.013	PD1, 3065
6294	25	7052	0.54	PD3, 486
6294	52	7052	ND	PD1, 3067
6294	55	7052	ND	PD1, 3070
13527	1	7052	1.74	PD1, 3050
15546	1	7052	0.0890 B	PD1, 3052
17552	1	7052	0.084	PD2, 579

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS5
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7 , 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

CARBON TETRACHLORIDE 56-23-5
PQL is 0.005 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1423
M107	42	7052	ND	PD1, 1424
M107	69	7052	ND	PD1, 1442
M107	74	7052	ND	PD1, 1443
M140	8	7052	ND	PD1, 1446
M155	1	7052	ND	PD1, 1447
M155	23	7052	ND	PD2, 255
M165	12	7052	ND	PD2, 258
24	4	7052	ND	PD1, 1481
24	10	7052	ND	PD1, 1474
24	15	7052	ND	PD2, 263
24	22	7052	ND	PD1, 1475
24	32	7052	ND	PD1, 1476
559	12	7052	ND	PD2, 266
1962	3	7052	ND	PD1, 1482
1962	8	7052	ND	PD1, 1483
2821	2	7052	ND	PD1, 1477
2821	4	7052	ND	PD1, 1478
4413	5	7052	ND	PD2, 265
4439	5	7052	ND	PD1, 1484
6294	1	7052	ND	PD1, 1485
6294	6	7052	ND	PD1, 1986
6294	13	7052	ND	PD1, 1987
6294	25	7052	ND	PD1, 1488
6294	52	7052	ND	PD1, 1489
6294	55	7052	ND	PD1, 1490
13527	1	7052	ND	PD1, 1479
15546	1	7052	ND	PD1, 1480
17552	1	7052	ND	PD2, 264

ND - Not Detected.

File Name: HMS6
PORTS
IWIR W015
/MD Waste Stream #705-2

Date Started: April 11, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

CHLOR NE 57-74-9
PQL is)2 mg/L; Regulatory level is 0.03 mg/L.
Analysi ethod TCLP - 8080

Sample RFDRFI	CC	NUMBER WSWSW	Value mg/L	File, row #
M1(	26	7052	ND	PD1, 4707
M1(	42	7052	ND	PD1, 4708
M1(	69	7052	ND	PD1, 4719
M1(	74	7052	ND	PD1, 4720
M1<	8	7052	ND	PD1, 4723
M1[	1	7052	ND	PD1, 4724
M1[	23	7052	ND	PD2, 865
M1(	12	7052	ND	PD2, 866
2	4	7052	ND	PD1,4753
2	10	7052	ND	PD1, 4746
2	15	7052	ND	PD2, 867
2	22	7052	ND	PD1, 4747
2	32	7052	ND	PD1, 4748
55	12	7052	ND	PD2, 870
196	3	7052	ND	PD1, 4754
196	8	7052	ND	PD1, 4755
282	2	7052	ND	PD1, 4749
282	4	7052	ND	PD1, 4750
441	5	7052	ND	PD2, 869
443	5	7052	ND	PD1, 4756
629	1	7052	ND	PD1, 4757
629	6	7052	ND	PD1, 4758
629	13	7052	ND	PD1, 4759
6294	25	7052	ND	PD1, 4760
6294	52	7052	ND	PD1, 4761
6294	55	7052	ND	PD1, 4762
13527	1	7052	ND	PD1, 4751
15546	1	7052	ND	PD1, 4752
17552	1	7052	ND	PD2, 868

ND - Not Detected.

File Name: HMS7
PORTS
1WIR W015
/MD Waste Stream #705-2

Date Started: March 7, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

CHLOROBENZENE 108-90-7
PQL is 0.005 mg/L; Regulatory level is 100.0 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 219
M107	42	7052	ND	PD1, 220
M107	69	7052	ND	PD1, 238
M107	74	7052	ND	PD1, 239
M140	8	7052	ND	PD1, 242
M155	1	7052	ND	PD1, 243
M155	23	7052	ND	PD2, 44
M165	12	7052	ND	PD2, 47
24	4	7052	ND	PD1. 278
24	10	7052	ND	PD1, 271
24	15	7052	ND	PD2, 52
24	22	7052	ND	PD1, 272
24	32	7052	ND	PD1, 273
559	12	7052	ND	PD2, 55
1962	3	7052	ND	PD1, 279
1962	8	7052	ND	PD1, 280
2821	2	7052	ND	PD1, 274
2821	4	7052	ND	PD1, 275
4413	5	7052	ND	PD2, 54
4439	5	7052	ND	PD1, 281
6294	1	7052	ND	PD1, 282
6294	6	7052	ND	PD1, 283
6294	13	7052	ND	PD1, 284
6294	25	7052	ND	PD1, 285
6294	52	7052	ND	PD1, 286
6294	55	7052	ND	PD1, 287
13527	1	7052	ND	PD1, 276
15546	1	7052	ND	PD1, 277
17552	1	7052	ND	PD2, 53

ND - Not Detected.

File Name: HMS8
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

CHLOROFORM 67-66-3
PQL is 0,005 mg/L; Regulatory level is 6.0 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1575
M107	42	7052	ND	PD1, 1576
M107	69	7052	ND	PD1, 1594
M107	74	7052	ND	PD1, 1595
M140	8	7052	ND	PD1, 1598
M155	1	7052	ND	PD1, 1599
M155	23	7052	ND	PD2, 275
M165	12	7052	ND	PD2, 278
24	4	7052	ND	PD1, 1633
24	10	7052	ND	PD1, 1626
24	15	7052	ND	PD2, 284
24	22	7052	ND	PD1, 1627
24	32	7052	ND	PD1, 1628
559	12	7052	ND	PD2, 286
1962	3	7052	ND	PD1, 1634
1962	8	7052	ND	PD1, 1635
2821	2	7052	ND	PD1, 1629
2821	4	7052	ND	PD1, 1630
4413	5	7052	ND	PD2, 285
4439	5	7052	ND	PD1, 1636
6294	1	7052	ND	PD1, 1637
6294	6	7052	ND	PD1, 1638
6294	13	7052	ND	PD1, 1639
6294	25	7052	ND	PD1, 1640
6294	52	7052	ND	PD1, 1641
6294	55	7052	ND	PD1, 1642
13527	1	7052	ND	PD1, 1631
15546	1	7052	ND	PD1, 1632
17552	1	7052	ND	PD2, 284

ND - Not Detected.

File Name: HMS9
CHROMIUM 7440-47-3
ORTS
WIR W015
NMD Waste Stream #705-2

Date Started: March 25, 1996
May 14, 1996
Author: Kay King
Theta Engineering, Inc. - O.R.

CHROMIUM 7440-47-3
File Name: HMS9
PQL is 0.02 mg/L; Regulatory level is 5.0 mg/L.
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	0.250 B	PD1, 3095
M107	42	7052	3.6	PD1,3099
M107	69	7052	2.6	PD1,3110
M107	74	7052	1.7	PD1,3113
M140	8	7052	0.15	PD1,3121
M155	1	7052	0.14	PD1,3122
M155	23	7052	0.24	PD2, 588
M165	12	7052	0.17	PD2, 594
24	4	7052	0.41	PD1, 3162
24	10	7052	0.219 B	PD1, 3148
24	15	7052	0.27	PD2, 598
24	22	7052	0.130 B	PD1, 3149
24	32	7052	3.93	PD1,3152
559	12	7052	0.13	PD2, 604
1962	3	7052	0.16	PD1, 3164
1962	8	7052	0.093	PD1,3165
2821	2	7052	0.140 B	PD1,3153
2821	4	7052	0.468 B	PD1, 3155
4413	5	7052	0.12	PD2, 603
4439	5	7052	0.19	PD1, 3167
6294	1	7052	0.63	PD3, 496
6294	6	7052	0.25	PD1,3171
6294	13	7052	0.4	PD1, 3173
6294	25	7052	0.66	PD3, 501
6294	52	7052	0.14	PD1, 3175
6294	55	7052	ND	PD1, 3177
13527	1	7052	0.0848 B	PD1,3157
15546	1	7052	0.209 B	PD1, 3159
17552	1	7052	0.18	PD2 , 600

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS10
PORTS
IWIR W015
/MD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

Total CRESOLS
PQL is 0.1 mg/L; Regulatory level is 200 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4454
M107	42	7052	ND	PD1, 4455
M107	69	7052	ND	PD1, 4465
M107	74	7052	ND	PD1, 4466
M140	8	7052	ND	PD1, 4469
M155	1	7052	ND	PD1, 4470
M155	23	7052	ND	PD2, 833
M165	12	7052	ND	PD2, 836
24	4	7052	ND	PD1, 4497
24	10	7052	ND	PD1, 4490
24	15	7052	ND	PD2, 839
24	22	7052	ND	PD1, 4491
24	32	7052	ND	PD1, 4492
559	12	7052	ND	PD2, 842
1962	3	7052	ND	PD1, 4498
1962	8	7052	ND	PD1, 4499
2821	2	7052	ND	PD1, 4493
2821	4	7052	ND	PD1, 4494
4413	5	7052	ND	PD2, 841
4439	5	7052	ND	PD1, 4500
6294	1	7052	ND	PD1, 4501
6294	6	7052	ND	PD1, 4502
6294	13	7052	ND	PD1, 4503
6294	25	7052	ND	PD1, 4504
6294	52	7052	ND	PD1, 4505
6294	55	7052	ND	PD1, 4506
13527	1	7052	ND	PD1, 4495
15546	1	7052	ND	PD1, 4496
17552	1	7052	ND	PD2, 840

ND - Not Detected.
m and p Cresols from RLIMS100.DAT

File Name: HMS14
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

2,4,-D 94-75-7
PQL is 0.02 mg/L; Regulatory level is 10.0 mg/L.
Analysis Method TCLP - 8150

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4392
M107	42	7052	ND	PD1, 4393
M107	69	7052	ND	PD1, 4406
M107	74	7052	ND	PD1, 4407
M140	8	7052	ND	PD1, 4410
M155	1	7052	ND	PD1, 4411
M155	23	7052	ND	PD2, 826
M165	12	7052	ND	PD2, 827
24	4	7052	ND	PD1, 4442
24	10	7052	ND	PD1, 4435
24	15	7052	ND	PD2, 828
24	22	7052	ND	PD1, 4436
24	32	7052	ND	PD1, 4437
559	12	7052	ND	PD2, 831
1962	3	7052	ND	PD1, 4443
1962	8	7052	ND	PD1, 4444
2821	2	7052	ND	PD1, 4438
2821	4	7052	0.021	PD1, 4439
4413	5	7052	ND	PD2, 830
4439	5	7052	ND	PD1, 4445
6294	1	7052	ND	PD1, 4446
6294	6	7052	ND	PD1, 4447
6294	13	7052	ND	PD1, 4448
6294	25	7052	ND	PD1, 4449
6294	52	7052	ND	PD1, 4450
6294	55	7052	ND	PD1, 4451
13527	1	7052	ND	PD1, 4440
15546	1	7052	ND	PD1, 4441
17552	1	7052	ND	PD2, 829

ND - Not Detected.

File Name: HMS15
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 7, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

1,4-DICHLOROBENZENE 106-46-7
PQL is 0.1 mg/L; Regulatory level is 7.5 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 83
M107	42	7052	ND	PD1, 84
M107	69	7052	ND	PD1, 94
M107	74	7052	ND	PD1, 95
M140	8	7052	ND	PD1, 98
M155	1	7052	ND	PD1, 99
M155	23	7052	ND	PD2, 18
M165	12	7052	ND	PD2, 19
24	4	7052	ND	PD1, 126
24	10	7052	ND	PD1, 119
24	15	7052	ND	PD2, 24
24	22	7052	ND	PD1, 120
24	32	7052	ND	PD1, 121
559	12	7052	ND	PD2, 27
1962	3	7052	ND	PD1, 127
1962	8	7052	ND	PD1, 128
2821	2	7052	ND	PD1, 122
2821	4	7052	ND	PD1, 123
4413	5	7052	ND	PD2, 26
4439	5	7052	ND	PD1, 129
6294	1	7052	ND	PD1, 130
6294	6	7052	ND	PD1, 131
6294	13	7052	ND	PD1, 132
6294	25	7052	ND	PD1, 133
6294	52	7052	ND	PD1, 134
6294	55	7052	ND	PD1, 135
13527	1	7052	ND	PD1, 124
15546	1	7052	ND	PD1, 125
17552	1	7052	ND	PD2, 25

ND - Not Detected.

File Name: HMS16
PORTS
IWIR W015
VMD Waste Stream #705-2

Date Started: March 7, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

1,2-DICHLOROETHANE 107-06-2
PQL is 0.005 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 140
M107	42	7052	ND	PD1, 141
M107	69	7052	ND	PD1, 159
M107	74	7052	ND	PD1, 160
M140	8	7052	ND	PD1, 163
M155	1	7052	ND	PD1, 164
M155	23	7052	ND	PD2, 30
M165	12	7052	ND	PD2, 33
24	4	7052	ND	PD1, 198
24	10	7052	ND	PD1, 191
24	15	7052	ND	PD2, 38
24	22	7052	ND	PD1, 192
24	32	7052	ND	PD1, 193
559	12	7052	ND	PD2, 41
1962	3	7052	ND	PD1, 199
1962	8	7052	ND	PD1, 200
2821	2	7052	ND	PD1, 194
2821	4	7052	ND	PD1, 195
4413	5	7052	ND	PD2, 40
4439	5	7052	ND	PD1, 201
6294	1	7052	ND	PD1, 202
6294	6	7052	ND	PD1, 203
6294	13	7052	ND	PD1, 204
6294	25	7052	ND	PD1, 205
6294	52	7052	ND	PD1, 206
6294	55	7052	ND	PD1, 207
13527	1	7052	ND	PD1, 196
15546	1	7052	ND	PD1, 197
17552	1	7052	ND	PD2, 39

ND - Not Detected.

File Name: HMS17
PORTS
VIR W015
ID Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

1,1,-DICHLOROETHYLENE 75-35-4
PQL is 0.005 mg/L; Regulatory level is 0.7 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 3591
M107	42	7052	ND	PD1, 3592
M107	69	7052	ND	PD1, 3610
M107	74	7052	ND	PD1, 3611
M140	8	7052	ND	PD1, 3614
M155	1	7052	ND	PD1, 3615
M155	23	7052	ND	PD2, 691
M165	12	7052	ND	PD2, 694
24	4	7052	ND	PD1, 3650
24	10	7052	ND	PD1, 3643
24	15	7052	ND	PD2, 699
24	22	7052	ND	PD1, 3644
24	32	7052	ND	PD1, 3645
559	12	7052	ND	PD2, 702
1962	3	7052	ND	PD1, 3651
1962	8	7052	ND	PD1, 3652
2821	2	7052	ND	PD1, 3646
2821	4	7052	ND	PD1, 3647
4413	5	7052	ND	PD2, 701
4439	5	7052	ND	PD1, 3653
6294	1	7052	ND	PD1, 3654
6294	6	7052	ND	PD1, 3655
6294	13	7052	ND	PD1, 3656
6294	25	7052	ND	PD1, 3657
6294	52	7052	ND	PD1, 3758
6294	55	7052	ND	PD1, 3759
13527	1	7052	ND	PD1, 3648
15546	1	7052	ND	PD1, 3649
17552	1	7052	ND	PD2, 700

ND - Not Detected.

File Name: HMS18
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

2,4-DINITROTOLUENE 121-14-2
PQL is 0.1 mg/L; Regulatory level is 0.13 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 527
M107	42	7052	ND	PD1, 528
M107	69	7052	ND	PD1, 538
M107	74	7052	ND	PD1, 539
M140	8	7052	ND	PD1, 542
M155	1	7052	ND	PD1, 543
M155	23	7052	ND	PD2, 104
M165	12	7052	ND	PD2, 107
24	4	7052	ND	PD1, 570
24	10	7052	ND	PD1, 563
24	15	7052	ND	PD2, 110
24	22	7052	ND	PD1, 564
24	32	7052	ND	PD1, 565
559	12	7052	ND	PD2, 113
1962	3	7052	ND	PD1, 571
1962	8	7052	ND	PD1, 572
2821	2	7052	ND	PD1, 566
2821	4	7052	ND	PD1, 567
4413	5	7052	ND	PD2, 112
4439	5	7052	ND	PD1, 573
6294	1	7052	ND	PD1, 574
6294	6	7052	ND	PD1, 575
6294	13	7052	ND	PD1, 576
6294	25	7052	ND	PD1, 577
6294	52	7052	ND	PD1, 578
6294	55	7052	ND	PD1, 579
13527	1	7052	ND	PD1, 568
15546	1	7052	ND	PD1, 569
17552	1	7052	ND	PD2, 111

ND - Not Detected.

File Name: HMS19
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: March 18, 1996
Author: Kay King
Theta Engineering, Inc. - O.R.

ENDRIN 72-20-8
PQL is 0.0005 mg/L; Regulatory level is 0.02 mg/L.
Analysis Method TCLP - 8080

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1773
M107	42	7052	ND	PD1, 1774
M107	69	7052	ND	PD1, 1787
M107	74	7052	ND	PD1, 1788
M140	8	7052	ND	PD1, 1791
M155	1	7052	ND	PD1, 1792
M155	23	7052	ND	PD2, 312
M165	12	7052	ND	PD2, 313
24	4	7052	ND	PD1, 1823
24	10	7052	ND	PD1, 1816
24	15	7052	ND	PD2, 314
24	22	7052	ND	PD1, 1817
24	32	7052	ND	PD1, 1818
559	12	7052	ND	PD2, 317
1962	3	7052	ND	PD1, 1824
1962	8	7052	ND	PD1, 1825
2821	2	7052	ND	PD1, 1819
2821	4	7052	ND	PD1, 1820
4413	5	7052	ND	PD2, 316
4439	5	7052	ND	PD1, 1826
6294	1	7052	ND	PD1, 1827
6294	6	7052	ND	PD1, 1828
6294	13	7052	ND	PD1, 1829
6294	25	7052	ND	PD1, 1830
6294	52	7052	ND	PD1, 1831
6294	55	7052	ND	PD1, 1832
13527	1	7052	ND	PD1, 1821
15546	1	7052	ND	PD1, 1822
17552	1	7052	ND	PD2, 315

ND - Not Detected.

File Name: HMS20
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

HEPTACHLOR (AND ITS EPOXIDE) 76-44-8
PQL is 0.001 mg/L; Regulatory level is 0.008 mg/L.
Analysis Method TCLP - 8080

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 3664
M107	42	7052	ND	PD1, 3665
M107	69	7052	ND	PD1, 3678
M107	74	7052	ND	PD1, 3679
M140	8	7052	ND	PD1, 3682
M155	1	7052	ND	PD1, 3683
M155	23	7052	ND	PD2, 703
M165	12	7052	ND	PD2, 704
24	4	7052	ND	PD1, 3714
24	10	7052	ND	PD1, 3707
24	15	7052	ND	PD2, 705
24	22	7052	ND	PD1, 3708
24	32	7052	ND	PD1, 3709
559	12	7052	ND	PD2, 708
1962	3	7052	ND	PD1, 3715
1962	8	7052	ND	PD1, 3716
2821	2	7052	ND	PD1, 3710
2821	4	7052	ND	PD1, 3711
4413	5	7052	ND	PD2, 707
4439	5	7052	ND	PD1, 3717
6294	1	7052	ND	PD1, 3718
6294	6	7052	ND	PD1, 3719
6294	13	7052	ND	PD1, 3720
6294	25	7052	ND	PD1, 3721
6294	52	7052	ND	PD1, 3722
6294	55	7052	ND	PD1, 3723
13527	1	7052	ND	PD1, 3712
15546	1	7052	ND	PD1, 3713
17552	1	7052	ND	PD2, 706

ND - Not Detected.

File Name: HMS21
PORTS
VIR W015
MD Waste Stream #705-2

Date Started: March 7, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

HEXACHLOROBENZENE 118-74-1
PQL IS 0.1 mg/L; Regulatory level is 0.13 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 472
M107	42	7052	ND	PD1, 473
M107	69	7052	ND	PD1, 483
M107	74	7052	ND	PD1, 484
M140	8	7052	ND	PD1, 487
M155	1	7052	ND	PD1, 488
M155	23	7052	ND	PD2, 93
M165	12	7052	ND	PD2, 96
24	4	7052	ND	PD1, 515
24	10	7052	ND	PD1, 508
24	15	7052	ND	PD2, 99
24	22	7052	ND	PD1, 509
24	32	7052	ND	PD1, 510
559	12	7052	ND	PD2, 102
1962	3	7052	ND	PD1, 516
1962	8	7052	ND	PD1, 517
2821	2	7052	ND	PD1, 511
2821	4	7052	ND	PD1, 512
4413	5	7052	ND	PD2, 101
4439	5	7052	ND	PD1, 518
6294	1	7052	ND	PD1, 519
6294	6	7052	ND	PD1, 520
6294	13	7052	ND	PD1, 521
6294	25	7052	ND	PD1, 522
6294	52	7052	ND	PD1, 523
6294	55	7052	ND	PD1, 524
13527	1	7052	ND	PD1, 513
15546	1	7052	ND	PD1, 514
17552	1	7052	ND	PD2, 100

ND -Not Detected.

File Name: HMS22
PORTS
WIR W015
IMD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 7, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

HEXACHLOROBUTADIENE 87-68-3
PQL is 0.1 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4085
M107	42	7052	ND	PD1, 4086
M107	69	7052	ND	PD1, 4096
M107	74	7052	ND	PD1, 4097
M140	8	7052	ND	PD1, 4100
M155	1	7052	ND	PD1, 4101
M155	23	7052	ND	PD2, 777
M165	12	7052	ND	PD2, 780
24	4	7052	ND	PD1, 4128
24	10	7052	ND	PD1, 4121
24	15	7052	ND	PD2, 783
24	22	7052	ND	PD1, 4122
24	32	7052	ND	PD1, 4123
559	12	7052	ND	PD2, 786
1962	3	7052	ND	PD1, 4129
1962	8	7052	ND	PD1, 4130
2821	2	7052	ND	PD1, 4124
2821	4	7052	ND	PD1, 4125
4413	5	7052	ND	PD2, 785
4439	5	7052	ND	PD1, 4131
6294	1	7052	ND	PD1, 4132
6294	6	7052	ND	PD1, 4133
6294	13	7052	ND	PD1, 4134
6294	25	7052	ND	PD1, 4135
6294	52	7052	ND	PD1, 4136
6294	55	7052	ND	PD1, 4137
13527	1	7052	ND	PD1, 4126
15546	1	7052	ND	PD1, 4127
17552	1	7052	ND	PD2, 784

ND - Not Detected.

File Name: HMS23
PORTS
/IR W015
ID Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

HEXACHLOROETHANE 67-72-1
PQL is 0.1 mg/L; Regulatory level is 3.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1645
M107	42	7052	ND	PD1, 1646
M107	69	7052	ND	PD1, 1656
M107	74	7052	ND	PD1, 1657
M140	8	7052	ND	PD1, 1660
M155	1	7052	ND	PD1, 1661
M155	23	7052	ND	PD2, 288
M165	12	7052	ND	PD2, 291
24	4	7052	ND	PD1, 1688
24	10	7052	ND	PD1, 1681
24	15	7052	ND	PD2, 294
24	22	7052	ND	PD1, 1682
24	32	7052	ND	PD1, 1683
559	12	7052	ND	PD2, 297
1962	3	7052	ND	PD1, 1689
1962	8	7052	ND	PD1, 1690
2821	2	7052	ND	PD1, 1684
2821	4	7052	ND	PD1, 1685
4413	5	7052	ND	PD2, 296
4439	5	7052	ND	PD1, 1691
6294	1	7052	ND	PD1, 1692
6294	6	7052	ND	PD1, 1693
6294	13	7052	ND	PD1, 1694
6294	25	7052	ND	PD1, 1695
6294	52	7052	ND	PD1, 1696
6294	55	7052	ND	PD1, 1697
13527	1	7052	ND	PD1, 1686
15546	1	7052	ND	PD1, 1687
17552	1	7052	ND	PD2, 295

ND - Not Detected.

File Name: HMS24
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 25, 1996
Last Used: May 13, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

LEAD 7439-92-1
PQL is 0.1 mg/L; Regulatory level is 5.0 mg/L.
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	0.208 B	PD1, 1987
M107	42	7052	0.279 B	PD1, 1992
M107	69	7052	0.28	PD1, 2007
M107	74	7052	ND	PD1, 2009
M140	8	7052	ND	PD1, 2017
M155	1	7052	ND	PD1, 2019
M155	23	7052	ND	PD2, 351
M165	12	7052	ND	PD2, 354
24	4	7052	0.25	PD1, 2059
24	10	7052	0.0578 B	PD1, 2045
24	15	7052	ND	PD2, 360
24	22	7052	0.0463 B	PD1, 2047
24	32	7052	0.146 B	PD1, 2049
559	12	7052	ND	PD2, 366
1962	3	7052	0.23	PD1, 2062
1962	8	7052	ND	PD1, 2063
2821	2	7052	0.223 B	PD1, 2051
2821	4	7052	0.0151 B	PD1, 2054
4413	5	7052	0.99	PD2, 364
4439	5	7052	0.13	PD1, 2066
6294	1	7052	ND	PD1, 2068
6294	6	7052	ND	PD1, 2069
6294	13	7052	ND	PD1, 2071
6294	25	7052	ND	PD1, 2074
6294	52	7052	ND	PD1, 2077
6294	55	7052	ND	PD1, 2079
13527	1	7052	0.348 B	PD1, 2056
15546	1	7052	0.00640 B	PD1, 2057
17552	1	7052	ND	PD2, 361

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS25
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

LINDANE 58-89-9
PQL IS 0.0005 mg/L; Regulatory level is 0.4 mg/L.
Analysis Method TCLP - 8080

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1496
M107	42	7052	ND	PD1, 1497
M107	69	7052	ND	PD1, 1510
M107	74	7052	ND	PD1, 1511
M140	8	7052	ND	PD1, 1514
M155	1	7052	ND	PD1, 1515
M155	23	7052	ND	PD2, 267
M165	12	7052	ND	PD2, 268
24	4	7052	ND	PD1, 1546
24	10	7052	ND	PD1, 1539
24	15	7052	ND	PD2, 269
24	22	7052	ND	PD1, 1540
24	32	7052	ND	PD1, 1541
559	12	7052	ND	PD2, 272
1962	3	7052	ND	PD1, 1547
1962	8	7052	ND	PD1, 1548
2821	2	7052	ND	PD1, 1542
2821	4	7052	ND	PD1, 1543
4413	5	7052	ND	PD2, 271
4439	5	7052	ND	PD1, 1549
6294	1	7052	ND	PD1, 1550
6294	6	7052	ND	PD1, 1551
6294	13	7052	ND	PD1, 1552
6294	25	7052	ND	PD1, 1553
6294	52	7052	ND	PD1, 1554
6294	55	7052	ND	PD1, 1555
13527	1	7052	ND	PD1, 1544
15546	1	7052	ND	PD1, 1545
17552	1	7052	ND	PD2, 270

ND - Not Detected.

File Name: HMS26
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 26, 1996
Last Used: May 13, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

MERCURY 7439-97-6
PQL is 0.0002 mg/L; Regulatory level is 0.2 mg/L.
Analysis Method 7470

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	ND	PD1, 2216
M107	42	7052	0.0103 B	PD1, 2217
M107	69	7052	0.00052	PD1, 2234
M107	74	7052	0.00085	PD1, 2236
M140	8	7052	0.0004	PD1, 2242
M155	1	7052	0.00025	PD1, 2245
M155	23	7052	0.0002	PD2, 401
M165	12	7052	0.0048	PD , 405
24	4	7052	0.014	PD1, 2281
24	10	7052	0.0208 B	PD1, 2268
24	15	7052	0.0057	PD2, 408
24	22	7052	0.00289 B	PD1, 2270
24	32	7052	ND	PD1, 2271
559	12	7052	0.00036	PD2, 411
1962	3	7052	0.022	PD1, 2283
1962	8	7052	0.0098	PD1, 2284
2821	2	7052	ND	PD1, 2273
2821	4	7052	0.043 B	PD1, 2275
4413	5	7052	0.00075	PD2, 410
4439	5	7052	0.0038	PD1, 2286
6294	1	7052	0.0049	PD1, 2289
6294	6	7052	0.0027	PD1, 2290
6294	13	7052	0.0044	PD1, 2292
6294	25	7052	0.0054	PD1, 2294
6294	52	7052	0.0076	PD1, 2296
6294	55	7052	0.00084	PD1, 2299
13527	1	7052	0.0190 B	PD1, 2276
15546	1	7052	0.0053 B	PD1, 2279
17552	1	7052	0.0048	PD2, 409

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS27
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

METHOXYCHLOR 72-43-5
PQL is 0.005 mg/L; Regulatory level is 10.0 mg/L.
Analysis Method TCLP - 8080

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 1835
M107	42	7052	ND	PD1, 1836
M107	69	7052	ND	PD1, 1849
M107	74	7052	ND	PD1, 1850
M140	8	7052	ND	PD1, 1853
M155	1	7052	ND	PD1, 1854
M155	23	7052	ND	PD2, 318
M165	12	7052	ND	PD2, 319
24	4	7052	ND	PD1, 1885
24	10	7052	ND	PD1, 1878
24	15	7052	ND	PD2, 320
24	22	7052	ND	PD1, 1879
24	32	7052	ND	PD1. 1880
559	12	7052	ND	PD2, 323
1962	3	7052	ND	PD1, 1886
1962	8	7052	ND	PD1, 1887
2821	2	7052	ND	PD1, 1881
2821	4	7052	ND	PD1, 1882
4413	5	7052	ND	PD2, 322
4439	5	7052	ND	PD1, 1888
6294	1	7052	ND	PD1, 1889
6294	6	7052	ND	PD1, 1890
6294	13	7052	ND	PD1, 1891
6294	25	7052	ND	PD1, 1892
6294	52	7052	ND	PD1, 1893
6294	55	7052	ND	PD1, 1894
13527	1	7052	ND	PD1, 1883
15546	1	7052	ND	PD1, 1884
17552	1	7052	ND	PD2, 321

ND - Not Detected.

File Name: HMS28
PORTS
IWIR W015
/MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 13, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

METHYL ETHYL KETONE 78-93-3
PQL is 0.100 mg/L; Regulatory level is 200.0 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 3885
M107	42	7052	ND	PD1, 3886
M107	69	7052	ND	PD1, 3904
M107	74	7052	ND	PD1, 3905
M140	8	7052	ND	PD1, 3908
M155	1	7052	0.0088	PD1, 3909
M155	23	7052	ND	PD2, 744
M165	12	7052	ND	PD2, 747
24	4	7052	ND	PD1, 3943
24	10	7052	ND	PD1, 3936
24	15	7052	ND	PD2, 752
24	22	7052	ND	PD1, 3937
24	32	7052	ND	PD1, 3938
559	12	7052	ND	PD2, 755
1962	3	7052	ND	PD1, 3944
1962	8	7052	ND	PD1, 3945
2821	2	7052	ND	PD1, 3939
2821	4	7052	ND	PD1, 3940
4413	5	7052	ND	PD2, 754
4439	5	7052	ND	PD1, 3946
6294	1	7052	ND	PD1, 3947
6294	6	7052	ND	PD1, 3948
6294	13	7052	ND	PD1, 3949
6294	25	7052	ND	PD1, 3950
6294	52	7052	ND	PD1, 3951
6294	55	7052	ND	PD1, 3952
13527	1	7052	ND	PD1, 3941
15546	1	7052	ND	PD1, 3942
17552	1	7052	ND	PD2, 753

ND - Not Detected.

File Name: HMS29
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 12, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

NITROBENZENE 98-95-3
PQL is 0. 1 mg/L; Regulatory level is 2.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4568
M107	42	7052	ND	PD1, 4569
M107	69	7052	ND	PD1, 4579
M107	74	7052	ND	PD1, 4580
M140	8	7052	ND	PD1, 4583
M155	1	7052	ND	PD1, 4584
M155	23	7052	ND	PD2, 855
M165	12	7052	ND	PD2, 858
24	4	7052	ND	PD1, 4611
24	10	7052	ND	PD1, 4604
24	15	7052	ND	PD2, 861
24	22	7052	ND	PD1, 4605
24	32	7052	ND	PD1, 4606
559	12	7052	ND	PD2, 864
1962	3	7052	ND	PD1, 4612
1962	8	7052	ND	PD1, 4613
2821	2	7052	ND	PD1, 4607
2821	4	7052	ND	PD1, 4608
4413	5	7052	ND	PD2, 863
4439	5	7052	ND	PD1,4614
6294	1	7052	ND	PD1, 4615
6294	6	7052	ND	PD1, 4616
6294	13	7052	ND	PD1, 4617
6294	25	7052	ND	PD1, 4618
6294	52	7052	ND	PD1,4619
6294	55	7052	ND	PD1, 4620
13527	1	7052	ND	PD1, 4609
15546	1	7052	ND	PD1, 4610
17552	1	7052	ND	PD2, 862

ND - Not Detected.

File Name: HMS30
PORTS
VIR W015
MD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

PENTRACHLOROPHENOL 87-86-5
PQL is 0.5 mg/L; Regulatory level is 100.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4220
M107	42	7052	ND	PD1, 4221
M107	69	7052	ND	PD1, 4231
M107	74	7052	ND	PD1, 4232
M140	8	7052	ND	PD1, 4235
M155	1	7052	ND	PD1, 4236
M155	23	7052	ND	PD2, 799
M165	12	7052	ND	PD2, 802
24	4	7052	ND	PD1, 4263
24	10	7052	ND	PD1, 4256
24	15	7052	ND	PD2, 805
24	22	7052	ND	PD1, 4257
24	32	7052	ND	PD1, 4258
559	12	7052	ND	PD2, 808
1962	3	7052	ND	PD1, 4264
1962	8	7052	ND	PD1, 4265
2821	2	7052	ND	PD1, 4259
2821	4	7052	ND	PD1, 4260
4413	5	7052	ND	PD2, 807
4439	5	7052	ND	PD1, 4266
6294	1	7052	ND	PD1, 4267
6294	6	7052	ND	PD1, 4268
6294	13	7052	ND	PD1, 4269
6294	25	7052	ND	PD1, 4270
6294	52	7052	ND	PD1, 4271
6294	55	7052	ND	PD1, 4272
13527	1	7052	ND	PD1, 4261
15546	1	7052	ND	PD1, 4262
17552	1	7052	ND	PD2, 806

ND - Not Detected.

File Name: HMS31
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 7, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

PYRIDINE 110-86-1
PQL is 0.1 mg/L; Regulatory level is 5.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 362
M107	42	7052	ND	PD1, 363
M107	69	7052	ND	PD1, 373
M107	74	7052	ND	PD1, 374
M140	8	7052	ND	PD1, 377
M155	1	7052	ND	PD1, 378
M155	23	7052	ND	PD2, 71
M165	12	7052	ND	PD2, 74
24	4	7052	ND	PD1, 405
24	10	7052	ND	PD1, 398
24	15	7052	ND	PD2, 77
24	22	7052	ND	PD1, 399
24	32	7052	ND	PD1, 400
559	12	7052	ND	PD2, 80
1962	3	7052	ND	PD1, 406
1962	8	7052	ND	PD1, 407
2821	2	7052	ND	PD1, 401
2821	4	7052	0.034 J	PD1, 402
4413	5	7052	ND	PD2, 79
4439	5	7052	ND	PD1, 408
6294	1	7052	ND	PD1, 409
6294	6	7052	ND	PD1, 410
6294	13	7052	ND	PD1, 411
6294	25	7052	ND	PD1, 412
6294	52	7052	ND	PD1, 413
6294	55	7052	ND	PD1, 414
13527	1	7052	ND	PD1, 403
15546	1	7052	0.2	PD1, 404
17552	1	7052	0.24 J	PD2, 78

ND - Not Detected.
J - Recoveries less than the reporting limit but greater than the method detection limit (MDL).

File Name: HMS32
PORTS
WIR W015
'MD Waste Stream #705-2

Date Started: March 26, 1996
Last Used: April 9, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

Jo Anna Cole verified on 4/9/96 OK to use numbers from these two methods

SELENIUM 7782-49-2
PQL is 0.3 mg/L; Regulatory level is 1.0 mg/L.
Analysis

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #	ANALYSIS METHOD
M107	26	7052	0.0144 B	PD1, 3772	7740
M107	42	7052	0.0089 B	PD1, 3777	7740
M107	69	7052	ND	PD1, 3802	6010
M107	74	7052	ND	PD1, 3803	6010
M140	8	7052	ND	PD1, 3812	6010
M155	1	7052	ND	PD1, 3813	6010
M155	23	7052	ND	PD2, 723	6010
M165	12	7052	ND	PD2, 730	6010
24	4	7052	ND	PD1, 3857	6010
24	10	7052	0.0142 B	PD1, 3843	7740
24	15	7052	ND	PD2, 735	6010
24	22	7052	0.0152 B	PD1, 3844	7740
24	32	7052	0.0188 B	PD1, 3847	7740
559	12	7052	ND	PD2, 741	6010
1962	3	7052	ND	PD1, 3858	6010
1962	8	7052	ND	PD1, 3860	6010
2821	2	7052	0.0161 B	PD1, 3849	7740
2821	4	7052	0.0159 B	PD1, 3851	7740
4413	5	7052	ND	PD2, 738	6010
4439	5	7052	ND	PD1, 3863	6010
6294	1	7052	ND	PD1, 3866	6010
6294	6	7052	ND	PD1, 3868	6010
6294	13	7052	ND	PD1, 3870	6010
6294	25	7052	ND	PD1, 3873	6010
6294	52	7052	ND	PD1, 3877	6010
6294	55	7052	ND	PD1, 3880	6010
13527	1	7052	0.0137 B	PD1, 3853	7740
15546	1	7052	0.0143 B	PD1, 3854	7740
17552	1	7052	ND	PD2, 739	6010

B - Analyte appeared in the method blank.
ND - Not Detected.

File Name: HMS33
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 18, 1996
Last Used: May 14, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

SILVER 7440-22-4
PQL is 0.02 mg/L; Regulatory level is 5.0 mg/L.
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 2437
M107	42	7052	ND	PD1, 2440
M107	69	7052	ND	PD1, 2452
M107	74	7052	ND	PD1, 2455
M140	8	7052	ND	PD1, 2463
M155	1	7052	ND	PD1, 2465
M155	23	7052	ND	PD2, 449
M165	12	7052	ND	PD2, 453
24	4	7052	ND	PD1, 2504
24	10	7052	ND	PD1, 2489
24	15	7052	ND	PD2, 458
24	22	7052	ND	PD1, 2491
24	32	7052	ND	PD1, 2493
559	12	7052	ND	PD2, 464
1962	3	7052	ND	PD1, 2505
1962	8	7052	ND	PD1, 2507
2821	2	7052	ND	PD1, 2495
2821	4	7052	ND	PD1, 2497
4413	5	7052	ND	PD2, 463
4439	5	7052	ND	PD1, 2509
6294	1	7052	ND	PD3, 436
6294	6	7052	ND	PD1, 2513
6294	13	7052	ND	PD1, 2515
6294	25	7052	ND	PD3, 433
6294	52	7052	0.023	PD1, 2518
6294	55	7052	ND	PD1, 2519
13527	1	7052	ND	PD1, 2500
15546	1	7052	ND	PD1, 2501
17552	1	7052	ND	PD2, 460

ND - Not Detected.

File Name: HMS34
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 14 , 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

TETRACHLOROETHYLENE 127-18-4
PQL is 0.005 mg/L; Regulatory level is 0.7 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	VALUE mg/L	File, row #
M107	26	7052	0.0023 B	PD1, 613
M107	42	7052	0.029 BJ	PD1, 614
M107	69	7052	ND	PD1, 632
M107	74	7052	0.0014 B	PD1, 633
M140	8	7052	ND	PD1, 636
M155	1	7052	0.017 BJ	PD1, 637
M155	23	7052	ND	PD2, 123
M165	12	7052	ND	PD2, 126
24	4	7052	ND	PD1, 671
24	10	7052	0.0041 B	PD1, 664
24	15	7052	ND	PD2, 131
24	22	7052	0.034 BJ	PD1, 665
24	32	7052	0.0032 B	PD1, 666
559	12	7052	0.015 J	PD2, 134
1962	3	7052	0.00066 B	PD1, 672
1962	8	7052	ND	PD1, 673
2821	2	7052	0.0018 B	PD1, 667
2821	4	7052	0.00071 B	PD1, 668
4413	5	7052	ND	PD2, 133
4439	5	7052	0.0016 B	PD1, 674
6294	1	7052	ND	PD1, 675
6294	6	7052	ND	PD1, 676
6294	13	7052	0.014 BJ	PD1, 677
6294	25	7052	ND	PD1, 678
6294	52	7052	ND	PD1, 679
6294	55	7052	0.008 B	PD1, 680
13527	1	7052	0.003 B	PD1, 669
15546	1	7052	0.002 B	PD1, 670
17552	1	7052	ND	PD2, 132

B - Analyte appeared in the method blank.
ND - Not Detected.
J - Recoveries less than the reporting limit but greater than the method detection limit (MDL).

File Name: HMS35
PORTS
'IR W015
ID Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

TOXAPHENE 8001-35-2
PQL is 0.01 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8080

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4028
M107	42	7052	ND	PD1, 4029
M107	69	7052	ND	PD1, 4042
M107	74	7052	ND	PD1, 4043
M140	8	7052	ND	PD1, 4046
M155	1	7052	ND	PD1, 4047
M155	23	7052	ND	PD2, 770
M165	12	7052	ND	PD2, 771
24	4	7052	ND	PD1, 4073
24	10	7052	ND	PD1, 4066
24	15	7052	ND	PD2, 772
24	22	7052	ND	PD1, 4067
24	32	7052	ND	PD1, 4068
559	12	7052	ND	PD2, 775
1962	3	7052	ND	PD1, 4074
1962	8	7052	ND	PD1, 4075
2821	2	7052	ND	PD1, 4069
2821	4	7052	ND	PD1, 4070
4413	5	7052	ND	PD2, 774
4439	5	7052	ND	PD1, 4076
6294	1	7052	ND	PD1, 4077
6294	6	7052	ND	PD1, 4078
6294	13	7052	ND	PD1, 4079
6294	25	7052	ND	PD1, 4080
6294	52	7052	ND	PD1, 4081
6294	55	7052	ND	PD1, 4082
13527	1	7052	ND	PD1, 4071
15546	1	7052	ND	PD1, 4072
17552	1	7052	ND	PD2, 773

ND - Not Detected.

File Name: HMS36
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

TRICHLOROETHYLENE 79-01-6
PQL is 0.005 mg/L; Regulatory level is 0.5 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 3957
M107	42	7052	ND	PD1, 3958
M107	69	7052	ND	PD1, 3976
M107	74	7052	ND	PD1, 3977
M140	8	7052	ND	PD1, 3980
M155	1	7052	ND	PD1, 3981
M155	23	7052	ND	PD2, 758
M165	12	7052	ND	PD2, 761
24	4	7052	ND	PD1, 4016
24	10	7052	ND	PD1, 4009
24	15	7052	ND	PD2, 766
24	22	7052	ND	PD1, 4010
24	32	7052	ND	PD1. 4011
559	12	7052	ND	PD2, 769
1962	3	7052	ND	PD1, 4017
1962	8	7052	ND	PD1, 4018
2821	2	7052	ND	PD1, 4012
2821	4	7052	ND	PD1, 4013
4413	5	7052	ND	PD2, 768
4439	5	7052	ND	PD1, 4019
6294	1	7052	ND	PD1, 4020
6294	6	7052	ND	PD1, 4021
6294	13	7052	ND	PD1, 4022
6294	25	7052	ND	PD1, 4023
6294	52	7052	ND	PD1, 4024
6294	55	7052	ND	PD1, 4025
13527	1	7052	ND	PD1, 4014
15546	1	7052	ND	PD1, 4015
17552	1	7052	ND	PD2, 767

ND - Not Detected.

File Name: HMS37
PORTS
WIR W015
MD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

2,4,5-TRICHLOROPHENOL 95-95-4
PQL is 0.1 mg/L; Regulatory level is 400.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4509
M107	42	7052	ND	PD1, 4510
M107	69	7052	ND	PD1, 4520
M107	74	7052	ND	PD1, 4521
M140	8	7052	ND	PD1, 4524
M155	1	7052	ND	PD1, 4525
M155	23	7052	ND	PD2, 844
M165	12	7052	ND	PD2, 847
24	4	7052	ND	PD1, 4552
24	10	7052	ND	PD1, 4545
24	15	7052	ND	PD2, 850
24	22	7052	ND	PD1, 4546
24	32	7052	ND	PD1, 4547
559	12	7052	ND	PD2, 853
1962	3	7052	ND	PD1, 4553
1962	8	7052	ND	PD1, 4554
2821	2	7052	ND	PD1, 4548
2821	4	7052	ND	PD1, 4549
4413	5	7052	ND	PD2, 852
4439	5	7052	ND	PD1, 4555
6294	1	7052	ND	PD1, 4556
6294	6	7052	ND	PD1, 4557
6294	13	7052	ND	PD1, 4558
6294	25	7052	ND	PD1, 4559
6294	52	7052	ND	PD1, 4560
6294	55	7052	ND	PD1, 4561
13527	1	7052	ND	PD1, 4550
15546	1	7052	ND	PD1, 4551
17552	1	7052	ND	PD2, 851

ND - Not Detected.

File Name: HMS38
PORTS
**WIR W015
MD Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

2,4,6-TRICHLOROPHENOL 88-06-2
PQL is 0.1 mg/L; Regulatory level is 2.0 mg/L.
Analysis Method TCLP - 8270

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4275
M107	42	7052	ND	PD1, 4276
M107	69	7052	ND	PD1, 4286
M107	74	7052	ND	PD1, 4287
M140	8	7052	ND	PD1, 4290
M155	1	7052	ND	PD1, 4291
M155	23	7052	ND	PD2, 810
M165	12	7052	ND	PD2, 813
24	4	7052	ND	PD1, 4318
24	10	7052	ND	PD1, 4311
24	15	7052	ND	PD2, 816
24	22	7052	ND	PD1, 4312
24	32	7052	ND	PD1, 4313
559	12	7052	ND	PD2, 819
1962	3	7052	ND	PD1, 4319
1962	8	7052	ND	PD1, 4320
2821	2	7052	ND	PD1, 4314
2821	4	7052	ND	PD1, 4315
4413	5	7052	ND	PD2, 818
4439	5	7052	ND	PD1, 4321
6294	1	7052	ND	PD1, 4322
6294	6	7052	ND	PD1, 4323
6294	13	7052	ND	PD1, 4324
6294	25	7052	ND	PD1, 4325
6294	52	7052	ND	PD1, 4326
6294	55	7052	ND	PD1, 4327
13527	1	7052	ND	PD1, 4316
15546	1	7052	ND	PD1, 4317
17552	1	7052	ND	PD2, 817

ND - Not Detected.

File Name: HMS39
PORTS
WIR W015
ID Waste Stream #705-2

Date Started: March 11, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

2,4,5-TP (SILVEX) 93-72-1
PQL is 0.01 mg/L; Regulatory level is 1.0 mg/L.
Analysis Method TCLP - 8150

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 4330
M107	42	7052	ND	PD1, 4331
M107	69	7052	ND	PD1, 4344
M107	74	7052	ND	PD1, 4345
M140	8	7052	ND	PD1, 4348
M155	1	7052	ND	PD1, 4349
M155	23	7052	ND	PD2, 820
M165	12	7052	ND	PD2, 821
24	4	7052	ND	PD1, 4380
24	10	7052	ND	PD1, 4373
24	15	7052	ND	PD2, 822
24	22	7052	ND	PD1, 4374
24	32	7052	ND	PD1, 4375
559	12	7052	ND	PD2, 825
1962	3	7052	ND	PD1, 4381
1962	8	7052	ND	PD1, 4382
2821	2	7052	ND	PD1, 4376
2821	4	7052	ND	PD1, 4377
4413	5	7052	ND	PD2, 824
4439	5	7052	ND	PD1, 4383
6294	1	7052	ND	PD1, 4384
6294	6	7052	ND	PD1, 4385
6294	13	7052	ND	PD1, 4386
6294	25	7052	ND	PD1, 4387
6294	52	7052	ND	PD1, 4388
6294	55	7052	ND	PD1, 4389
13527	1	7052	ND	PD1, 4378
15546	1	7052	ND	PD1, 4379
17552	1	7052	ND	PD2, 823

ND - Not Detected.

File Name: HMS40
PORTS
MWIR W015
MD Waste Stream #705-2

Date Started: March 8, 1996
Last Used: May 8, 1996
Author: Kay King/Yuequn Jin
Theta Engineering, Inc. - O.R.

VINYL CHLORIDE 75-01-4
PQL is 0.010 mg/L; Regulatory level is 0.2 mg/L.
Analysis Method TCLP - 8240

Sample RFDRFD	CCC	NUMBER WSWSW	Value mg/L	File, row #
M107	26	7052	ND	PD1, 3443
M107	42	7052	ND	PD1, 3444
M107	69	7052	ND	PD1,3462
M107	74	7052	ND	PD1, 3463
M140	8	7052	ND	PD1, 3466
M155	1	7052	ND	PD1, 3467
M155	23	7052	ND	PD2, 663
M165	12	7052	ND	PD2, 666
24	4	7052	ND	PD1, 3501
24	10	7052	ND	PD1, 3494
24	15	7052	ND	PD2, 671
24	22	7052	ND	PD1, 3495
24	32	7052	ND	PD1, 3496
559	12	7052	ND	PD2, 674
1962	3	7052	ND	PD1, 3502
1962	8	7052	ND	PD1, 3503
2821	2	7052	ND	PD1, 3497
2821	4	7052	ND	PD1, 3498
4413	5	7052	ND	PD2, 673
4439	5	7052	ND	PD1, 3504
6294	1	7052	ND	PD1, 3505
6294	6	7052	ND	PD1, 3506
6294	13	7052	ND	PD1, 3507
6294	25	7052	ND	PD1, 3508
6294	52	7052	ND	PD1, 3509
6294	55	7052	ND	PD1, 3510
13527	1	7052	ND	PD1, 3499
15546	1	7052	ND	PD1, 3500
17552	1	7052	ND	PD2, 672

ND - Not Detected.

APPENDIX 2

STATISTICAL ANALYSES

CADMIUM 7440-43-9
File Name: HMS4
PQL is 0.01 mg/L; Regulatory level is 1.0 mg/L.
UCI(80%) = 0.278 Not Hazaedous
Analysis Method 6010

Sample RFDRFD	CCC	NUMBER WSWSW	x VALUE mg/L	NOTES	Ln(x)
M107	26	7052	0.402		-0.91
M107	42	7052	0.221		-1.51
M107	69	7052	0.050		-3.00
M107	74	7052	0.044		-3.12
M140	8	7052	0.072		-2.63
M155	1	7052	0.005	1/2 PQL	-5.30
M155	23	7052	0.033		-3.41
M165	12	7052	0.160		-1.83
24	4	7052	0.220		-1.51
24	10	7052	0.250		-1.39
24	15	7052	2.900		1.06
24	22	7052	0.102		-2.28
24	32	7052	1.500		0.41
559	12	7052	0.760		-0.27
1962	3	7052	4.900		1.59
1962	8	7052	0.250		-1.39
2821	2	7052	0.307		-1.18
2821	4	7052	0.321		-1.14
4413	5	7052	1.000		0.00
4439	5	7052	0.390		-0.94
6294	1	7052	0.620		-0.48
6294	6	7052	0.430		-0.84
6294	13	7052	0.013		-4.34
6294	25	7052	0.540		-0.62
6294	52	7052	0.005	1/2 PQL	-5.30
6294	55	7052	0.005	1/2 PQL	-5.30
13527	1	7052	1.740		0.55
15546	1	7052	0.089		-2.42
17552	1	7052	0.084		-2.48

n = 29
df = 28
t(.20, 28) = 1.313

ORIGINAL DATA

Mean =	0.600
Variance =	1.088
Std. Dev. =	1.043
Std. err. =	0.194

CI: Mean - t(.20)Std. err. < x < Mean + t(.20)Std. err.
0.346 < x < 0.855

TRANSFORMED DATA

Mean =	-1.723
Variance =	3.326
Std. Dev. =	1.824
Std. err. =	0.339

CI: Mean - t(.20)Std. err. < x < Mean + t(.20)Std. err.
-2.168107 < x < -1.277893
exp(-1.278) = 0.278

Shapiro-Wilk Test of Normality for Cadmium

Test of Normality on the Original Data

Sample RFDRFD	CCC	NUMBER WSWSW	Leachate Conc. MG/L	Ordered Conc. x(i)	Reverse Ordered x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
M107	26	7052	0.402	0.005	4.900	4 895	0.4291	2.100
M107	42	7052	0.221	0.005	2.900	2.895	0.2968	0.859
M107	69	7052	0.050	0.005	1.740	1.735	0.2499	0.434
M107	74	7052	0.044	0.013	1.500	1.487	0.2150	0.320
M140	8	7052	0.072	0.033	1.000	0.967	0.1864	0.180
M155	1	7052	0.005	0.044	0.760	0.716	0.1616	0.116
M155	23	7052	0.033	0.050	0.620	0.57	0.1395	0.080
M165	12	7052	0.160	0.072	0.540	0.468	0.1192	0.056
24	4	7052	0.220	0.084	0.430	0.346	0.1002	0.035
24	10	7052	0.250	0.089	0.402	0.313	0.0822	0.026
24	15	7052	2.900	0.102	0.390	0.288	0.0650	0.019
24	22	7052	0.102	0.160	0.321	0.161	0.0483	0.008
24	32	7052	1.500	0.220	0.307	0.087	0.032	0.003
559	12	7052	0.760	0.221	0.250	0.029	0.0159	0.000
1962	3	7052	4.900	0.250	0.250	0	0	
1962	8	7052	0.250	0.250	0.221	-0.029	B=	4.234
2821	2	7052	0.307	0.307	0.220	-0.087		
2821	4	7052	0.321	0.321	0.160	-0.161	W=	0.588
4413	5	7052	1.000	0.390	0.102	-0.288	W(0.05,29)=	0.926
4439	5	7052	0.390	0.402	0.089	-0.313	Normality=	Not Normal
6294	1	7052	0.620	0.430	0.084	-0.346		
6294	6	7052	0.430	0.540	0.072	-0.468		
6294	13	7052	0.013	0.620	0.050	-0.57		
6294	25	7052	0.540	0.760	0.044	-0.716		
6294	52	7052	0.005	1.000	0.033	-0.967		
6294	55	7052	0.005	1.500	0.013	-1.487		
13527	1	7052	1.740	1.740	0.005	-1.735		
15546	1	7052	0.089	2.900	0.005	-2.895		
17552	1	7052	0.084	4.900	0.005	-4.895		

n= 29

Std. Dev.= 1.04

Test of Normality on the Log-Transformed Data

Ordered Conc. Ln(x(i))	Reverse Order ln(x(n-i+1))	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
-5.30	1.59	6.89	0.4291	2.955
-5.30	1.06	6.36	0.2968	1.889
-5.30	0.55	5.85	0.2499	1.462
-4.34	0.41	4.75	0.2150	1.021
-3.41	0.00	3.41	0.1864	0.636
-3.12	-0.27	2.85	0.1616	0.460
-3.00	-0.48	2.52	0.1395	0.351
-2.63	-0.62	2.01	0.1192	0.240
-2.48	-0.84	1.63	0.1002	0.164
-2.42	-0.91	1.51	0.0822	0.124
-2.28	-0.94	1.34	0.0650	0.087
-1.83	-1.14	0.70	0.0483	0.034
-1.51	-1.18	0.33	0.032	0.011
-1.51	-1.39	0.12	0.0159	0.002
-1.39	-1.39	0.00	0	
-1.39	-1.51	-0.12	B=	9.436
-1.18	-1.51	-0.33		
-1.14	-1.83	-0.70	W=	0.956
-0.94	-2.28	-1.34	W(0.05,29)=	0.926
-0.91	-2.42	-1.51	Normality=	Normal
-0.84	-2.48	-1.63		
-0.62	-2.63	-2.01		
-0.48	-3.00	-2.52		
-0.27	-3.12	-2.85		
0.00	-3.41	-3.41		
0.41	-4.34	-4.75		
0.55	-5.30	-5.85		
1.06	-5.30	-6.36		
1.59	-5.30	-6.89		

n= 29

Std. Dev = 1 82

Heavy Metal Sludge

Environmental Compliance Concurrence for Change in Waste Classification

June 1996

MARTIN MARIETTA

Internal Correspondence

MARTIN MARIETTA ENERGY SYSTEMS, INC.

Date: June 26, 1996
LMES-1171-96-082

To: Dick Snyder

cc/att: Terry Acox
Gary Conner
Joel Duling
Lisa Heckendorn
Chris Warner
File—Waste Management
File—RMDC Center—RC

From: Chuck Scheibly, X-7725, MS-7550, PORTS (3623)

Subject: Review and Concurrence on the Resource Conservation and Recovery Act (RCRA) Regulatory Status of Heavy Metal Sludge

Attached for your review and concurrence is the RCRA characterization package for a specific population of Heavy Metal Sludge currently stored in the X-7725.

The characterization package documents a statistically based sampling, analysis and data review of the waste stream. Based on the results of the statistically based characterization, Waste Management Division, with the concurrence of Environmental Management Division (EMD), would like to reclassify the identified population as non RCRA hazardous, low level radioactive waste and proceed with disposition. Marc Hill of your staff has reviewed the characterization package and provided no comments. If you have any questions, please contact Jo Anna Cole at extension 5532.

By signature below, EMD concurs with the revised characterization status of the specified population of Heavy Metal Sludge.

Dick Snyder, Manager
Environmental Management Division

CES:JACole:ad

Attachment

ATTACHMENT B

Heavy Metal Sludge
RCRA Characterization Package

Heavy Metal Sludge
MWIR PO-WO15
RCRA Characterization

This characterization applies the PORTS Heavy Metal Sludge inventory identified in Attachment One of this document.

Solid Waste Determination:

- Heavy Metal Sludge (HMS) *is* being *abandoned by being disposed of;* burned or incinerated; or *accumulated, stored* or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned or incinerated. *OAC 3745-51-02(B) (40 CFR261.2(b))* HMS is a solid waste by virtue of this definition.

Hazardous Waste Determination:

- Heavy Metal Sludge does not meet any of the exclusions to the hazardous waste regulations as outlined in *OAC 3745-51-04(B)*

- Heavy Metal Sludge does not contain the spent solvents listed under *OAC 3745-51-31* that were used for their solvent properties. HMS is not a listed waste by virtue of this definition.

- Heavy Metal Sludge does not meet the listing description of a listed hazardous waste from a non-specific or specific source (i.e. non-spent solvent F listed or K listed waste), either directly or by virtue of the mixture or derived from rules. *OAC 3745-51-32* HMS is not a listed waste by virtue of this definition.

- Heavy Metal Sludge does not meet the listing description of listed discarded commercial chemical product, off-specification species, container residues, and spill residues thereof (i.e. P and U listed waste) either directly or by virtue of the mixture or derived from rules. *OAC 3745-51-33* HMS is not a listed waste by virtue of this definition.

- Heavy metal sludge does not meet the criteria established for the characteristic of ignitability as defined in *OAC 3745-51-21.* HMS is a solid and is not characteristic for ignitability.

- Heavy metal sludge does not meet the criteria established for the characteristic of corrosivity as defined in *OAC 3745-51-22.* HMS is a solid and is not characteristic for corrosivity.

Heavy Metal Sludge
MWIR PO-WO15
RCRA Characterization

- Heavy metal sludge does not meet the criteria established for the characteristic of reactivity as defined in *OAC 3745-51-23* (data summary located in attachment two). HMS is not characteristic for reactivity.

- Heavy metal sludge does not meet the criteria established for the characteristic of toxicity as defined in *OAC 3745-51-24*. Specifically, the results of a statistically based sampling program and a statistical evaluation of the results generated from the TCLP analysis of the waste demonstrate that it is not hazardous for toxicity (summary analytical results, statistical evaluation of the data and LMES[1] review of the statistical evaluation are located in attachment two). HMS is not characteristic for toxicity.

1 Memo, J. W. Zolyniak to J. A. Cole, "TCLP Cadmium Results on Heavy Metal Sludge (705-2), dated May 23, 1996.

Heavy Metal Sludge
MWIR PO-WO15
RCRA Characterization

Attachment One
RFD Inventory

SUMMARY OF RFD NUMBERS
Waste Stream 705-2 Heavy Metal Sludge

Note: RFD# 6294 includes 32 containers:
- 14 BOB (6x6x8) w/B-25's overpacked inside, and
- 18 B-25 boxes (not overpacked).

RFD Number	Containers per RFD
10643	2
11501	1
11515	2
13526	1
13527	1
13546	1
13559	1
14236	1
14237	1
14238	1
14251	1
14253	1
14258	1
15453	1
15466	1
15469	1
15472	1
15490	1
15492	1
15493	1
15546	1
15552	1
15554	1
15557	1
15563	1
1731	17
17532	1
17537	1
17543	1
17548	1
17552	1
18976	1

RFD Number	Containers per RFD
1962	3
1967	2
1991	6
19971	1
19976	1
1999	5
2000	2
2152	4
2207	1
24	33
2804	13
2821	9
4404	8
4413	5
4436	1
4439	8
4441	4
4796	5
5351	10
5415	8
559	16
6294	32
8430	5
8439	11
8464	11
8473	2
950	9
M107	74
M136	17
M140	10
M155	30
M165	29
M183	15

Total RFD's: 65

Total Containers: 445

RFD 2294-1

During the OEPA RCRA inspection, an OEPA representative randomly selected container 2294-1 during a field tour. There was a single EPA ID code (D002) marked on the container. During a records review later, the OEPA representative noted that a hardcopy RFD had four EPA ID codes indicated for the same waste container. The representative requested information as to what had changed in the container to change the EPA ID codes.

During my review of the RFD file, it was found that the original RFD (2294) had a single EPA ID code (D002) marked on the form. This EPA ID codes matches the EPA ID code marked on the container.

Additionally, there is a copy of another RFD (28425) in the file. RFD 28425-1 is a lab pack of chemicals (lab pack list attached) and has EPA ID codes D001, D022, D035, and U159 marked on the RFD. A packing list in this file indicates that a returned sample was removed from RFD2294 and placed in RFD 28425. The packing list indicates that the sample return has the EPA ID code D001 associated with it. It is not known what sample was removed from RFD 2294 nor is there any indication of sample results in the file for RFD 2294. (It is not the practice to sample labeled excess chemical products.)

Please note that RFD 28425 does not indicate a D002 waste code and RFD2294 does not indicate the waste codes D001, D022, D035, or U159.

During a subsequent inspection of RFD 2294, 16 containers of photographic fixer and/or hardener were found in the container. This matches what is stated on the RFD. (Waste verification form is attached.)

RFD 2294

A—2522 (9—88)

S/N 04-06-384

REQUEST FOR DISPOSAL (RFD)

RFD № 2294

TE GENERATOR TO COMPLETE

Waste Location: X-720 2. Waste Origin: Stores

. Number of Containers this RFD: 16 (Note: List only one container type and one waste type per RFD.) → COMBINED INTO 1 DRUM

4. Container Type:
- [] DOT 17C (removable top)
- [] DOT 17E (bung hole top)
- [x] Other Describe 16 plastic gallon jugs (state size) gallon
- [] Wooden box:
  - [] 4' X 4' X 8'
  - [] 4' X 4' X 4'
  - [] 2' X 4' X 8'
  - [] Other state size

5. Physical State
- [] Solid
- [x] Liquid
- [] Sludge
- [] Other Describe

6. Fully Describe the Waste Constituents: (check all which may apply and add description as necessary) ASD 12-20-1
- [] PCB
- [x] Hazardous Corrosive
- [] Radioactive
- [] Asbestos
- [] Waste Oil
- [] Burnable
- [] Flammable
- [] Lab Chemicals
- [] Chlorinated Solvents
- [] Heavy Metal Sludge
- [] Scrap Metal
- [] Tc Ion Exchange Resin
- [] Metal Turnings
- [] Other Solvents
- [] MSDS Attached
- [] Capacitors, How Many?
- [] Lab Analysis Attached
- [] Additional Description Attached
- [] Empty Drum (Also check boxes describing prior contents)
- [] Transformer, ID No.& Type
- [] Equipment, Describe
- [x] Other, Describe X-RAY FIXER & hardener

7. Certification Statement:

This is to certify that the above named material is properly described and in the stated container, which is in good condition, marked with the RFD number and date filled, and at the stated location.

Supervisory Personnel Signature: Shirley Hanson Date: 10-30-91 Badge No: 6534

Phone 4597 Dept. 332 MS 3106 Cost Center 212 Work Order 611

SEND REQUEST FOR DISPOSAL TO WASTE MANAGEMENT MS 1237

WASTE MANAGEMENT TO COMPLETE 11/07/91

RFD Form Received Date: ~~11-01-91~~ 9. Waste Management Tracking Number

DOT Proper Shipping Name: HAZARDOUS WASTE LIQUID, NOS 11. DOT No. NA 3082

. EPA Identification Numbers: D002 13. Sampling Required: [] Yes [] No 14. Date Sampled

15. Location to be Stored or Disposed:
- [] X-752
- [] X-744G
- [] X-749A&C
- [] X-333 PCB
- [] X-326 PCB
- [] X-749
- [] X-330 North
- [] X-326L
- [] X-735
- [] X-740
- [] Other X-7725

COMBINE IN DRUM

16. Waste Transporter:
- [] Lubrication Maintenance
- [] Janitors
- [] Chemical Operations
- [] Uranium Material Handling
- [] Electrical Maintenance

17. Markings Required:
- [x] Hazardous
- [] PCB
- [x] Radioactive
- [] Asbestos
- [] Other

17. Certification Statement:

This is to certify that, based on the information provided by the generator, the above named material is properly classified, named, packaged, labeled, marked and in proper condition for transportation for interim storage or disposal requirements.

Waste Management Signature: B. Upham Date: 12-18-91 Badge No: 1 Phone:

WASTE TRANSPORTER TO COMPLETE

19. RFD Form Received: Date:

21. Storage or Disposal Location:
- [] X-752
- [] X-744G
- [] X-749A&C
- [] X-333 PCB
- [] X-326 PCB
- [] X-749
- [] X-330 North
- [] X-326L
- [] X-735
- [] X-740
- [x] Other 7725

20. Date Placed in Storage 12/23/91

23. Gross Weight in Pounds Container and Contents 338

22. Checked for the following markings:
- [x] Hazardous
- [] PCB
- [] Radioactive
- [] Asbestos
- [] Other

24. RFD voided, state reason:

25. Certification Statement:

This is to certify that the container is stored in accordance with the instructions provided by Waste Management Department, the container was not damaged in moving or handling and is suitable for storage or shipment.

Supervisory Personnel Signature: [signature] Date: 12/23/91

dge No: Phone: Dept. MS

Distribution: White—*Waste Management*, Blue—*Storage Facility*, Pink—*Transporter*, Green—*Generator*

section EC
Row 1
Position 12
Module

Rc D—104 (07—D40—R48)

☆ U.S. GOVERNMENT PRINTING OFFICE. 1988—649-082

WASTE VERIFICATION FORM

--Use Black Ink Only--

INSPECTOR SECTION

1. RFD #: 2294 2. Container #: 1 3. Owner: [ ] USEC [X] DOE

4. Container Size (e.g., 55-gallon, 110-gallon): 55 gal 5. Container material (e.g. steel, plastic): steel

6. Is the waste compatible with the container type: [X] Yes [ ] No

7. Physical state of waste: [ ] Solid [X] Liquid [ ] Gas [ ] Sludge

8. How many phases are present: 1 9. pH (aqueous liquids) NA

10. (Optional) Take a photograph of waste. Include RFD# of the container in the photograph. yes

11. Describe the contents of container. Be as detailed as possible. Observations include odor, appearance, etc.

bottles of Kodak rapid fixer solution A cat 146 4114 and Kodak rapid fixer solution B (hardener) CWT

12. Comments: solution B contains H_2SO_4

Name: J P Tomlin Badge Number: Date: 7-11-02

Phone: Mail Stop:

WASTE VERIFICATION ENGINEER SECTION

13. Date Verification Form Received: 7-11-02

14. RFD Description: SW-11. X-ray fixer and hardener solution D002, 16 plastic jugs

15. Does the description of the waste in 11. above match the RFD description? [X] Yes [ ] No

16. Name of person notified of verification failures:

17. Date generator notified of verification failures: 18. Time notified:

19. Comments:

Name: J P Tomlin Badge Number: Date: 7-11-02

Phone: Mail Stop:

RFD 28425

-2522 (9-93) Rev.5

REQUEST FOR DISPOSAL

(Only one container type and one waste type per RFD.)

RFD No. 28425

1. location: X7725 2. Waste origin: X7725 3. Number of containers: 1

4. ity generating waste: REPACK of LABPACKS

5. Container type: [X] 55 Gallon open top [ ] 55 Gallon closed top [ ] Other (Specify):

6. Physical state: [ ] Solid [X] Liquid [ ] Sludge [ ] Gas

7. Fully describe waste, including all known chemicals present in waste: LABPACK (SEE ATTACHED PACKING SLIP FOR CHEMICAL NAMES AND QUANTITIES; REPACKED from RFD's: 2671-11, 2669-6, 12165-1, 2284-1, 2826-1, 4101-1, 3931-5, 12980-1)

8. For RCRA Hazardous wastes, the date the container(s) was filled (accumulation start date): 3/27/90

9. For PCB waste, the date the container was first placed into use:

10. For PCB equipment, the date removed from service:

11. For PCB waste, the PCB concentration if known:

12. Certification: this certifies that I have properly described the waste indicated above, and have disclosed all known information about the hazardous, toxic, and radioactive characteristics of the waste, and I certify that the waste has been properly containerized, at the location stated above.

Name: JOHN MACKINNON Badge No.: J-52608 Today's Date: 6-8-95

Phone: 5004 Dept No.: MS: 7550 Cost Center: PJ030 Work Order:

Block 13 on the RFD form must be signed by the Generator's Field Services representative prior to sending the RFD to Waste Management, MS7550, X-7725.

13. Field Services signature: 14. Date RFD form received: 6-08-95

15. Waste labels: [X] RCRA Haz [ ] PCB ML [ ] PCB<50 [X] Rad [ ] Asbestos [ ] Nonregulated

16. Other labels: [X] Flammable [ ] Corrosive [ ] Oxidizer [ ] Poison [X] Other (Specify): DOE

17. Waste type: HR 4159 U-235

18. Special instructions: STORE WITH FLAMMABLES

19. EPA ID. No.: D001, D035, U159, D022

20. Waste Stream ID No.: SW-1 21. Sampling requested? [ ] Yes [No]

22. [X] Storage locations: X-7725-M 23. [ ] Disposal location

24. Name: J Bad Date: 06-16-95

25. Date RFD form received: 26. Gross weight (lbs.): 214 lbs.

27. Storage location: X-7725 H-10 28. Storage date: 6-8-95

29. Disposal location: 30. Disposal date:

31. Labels and bar codes placed on containers? [ ] Yes [ ] No

32. aste shipped for treatment/disposal, the date, and manifest number:

3 FD is voided, state reason:

34. Name: O. N. Moore, Jr. Date: 6-13-96

DISTRIBUTION: WHITE - WASTE MGT., BLUE - STORAGE FACILITY, GREEN - GENERATOR

D/461 (07-D39-B48)

D001
D035
U159
D022

PACKING SLIP

RFD NUMBER 28425-1

HAZARD FLAMMABLE LIQUID

CHEMICAL NAME (Description)	VOLUME/TYPE OF CONTAINER	EPA ID NUMBER	PREVIOUS RFD NUMBER
POLYESTER RESIN	1x 5GAL METAL	D001	2671-11
CARBOLINE® THINNER	2x 1QT METAL	D001	2669-6
CARBOLINE® MEK	1x 1QT METAL	D001, D035, U159	2669-6
VESSEL SOLUTION CONTAINS METHANOL, CHLOROFORM, IODIDE, SULFUR DIOXIDE			
	4x 1L GLASS	D001, D022	12155-1
SAMPLE REMOVER	2x 2oz GLASS	D001	2294
" "	1x 4oz GLASS	D001	2826
LUBRIZOL® 850	1x 4oz METAL	D001	4101-1
CATALYST REDUCER			
	3x 1GAL PLASTIC	D001	3931-5
PENTYL ACETATE	1x 1 GAL METAL	D001	3931-5
N-OCTYL-ALCOHOL	1x 1PT GLASS	D001	3931-5
DIMETHYLFORAMIDE			
	1x 150ML GLASS	D001	12880-1

MSDS

Kodak Rapid Fixer

See Scanned MSDS
PORTS MSDS #: 5672

PRODUCT: KODAK RAPID FIXER

PART NUMBER:

FORMULA:

KEYWORD: FIXER

PORTS NUMBER: 16-806-3840; 66-011-3035; 66-011-3036; 66-011-3041

PORTS MISC INFO:
04-06-3840

PORTS RATING: HFR=220

MANUFACTURER:
EASTMAN KODAK CO.

Date Prepared/Revised 03/04/1998

MATERIAL SAFETY DATA SHEET

200000591/F/USA
Approval Date: 03/04/1998
Print Date: 03/25/2000
Page 1

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK Rapid Fixer

Catalog Number(s):
146 4106 - To Make 1 gallon (U.S.)
146 4114 - To Make 5 gallons (U.S.)
197 3247 - 5 gallons (U.S.) - Part A
128 2839 - 30 gallons (U.S.) - Part A
186 6342 - 52 gallons (U.S.) - Part A
173 3013 - 72 ounce(s) - Part B
197 3221 - 5 gallons (U.S.) - Part B

Manufacturer/Supplier: EASTMAN KODAK COMPANY, Rochester, New York 14650

For Emergency Health, Safety & Environmental Information, call (716) 722-5151

For other information or to request an MSDS, call (800) 242-2424.

Synonym(s): Part A: KAN 427810, PCD 4896, D-0018.000
Part B: CIN 10066362, KAN 365686, PCD 4415, PCD 14817, D-0019.000
Working solution (film): KAN 471329, D-0018.100
Working solution (paper): KAN 471330, D-0019.100

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

Part A:

40-45	Water (007732-18-5)
40-45	Ammonium thiosulfate (007783-18-8)
5-10	Sodium acetate (000127-09-3)
1-5	Boric acid (010043-35-3)
1-5	Ammonium sulfite (010196-04-0)

1-5	Acetic acid (000064-19-7)
< 1	Sodium bisulfite (007631-90-5)

Part B:

70-75	Water (007732-18-5)
15-20	Aluminum sulfate (010043-01-3)
10-15	Sulfuric acid (007664-93-9)

Working solution (film):

80-85	Water (007732-18-5)
10-15	Ammonium thiosulfate (007783-18-8)
1-5	Sodium acetate (000127-09-3)
< 1	Boric acid (010043-35-3)
< 1	Ammonium sulfite (010196-04-0)
< 1	Acetic acid (000064-19-7)

Working solution (paper):

90-95	Water (007732-18-5)
5-10	Ammonium thiosulfate (007783-18-8)
1-5	Sodium acetate (000127-09-3)
< 1	Boric acid (010043-35-3)
< 1	Ammonium sulfite (010196-04-0)
< 1	Acetic acid (000064-19-7)

---

3. HAZARDS IDENTIFICATION

Part A:

CONTAINS: Boric acid (010043-35-3); ammonium sulfite (010196-04-0); acetic acid (000064-19-7); sodium bisulfite (007631-90-5)
WARNING!
MAY BE HARMFUL IF SWALLOWED
MAY BE HARMFUL IF ABSORBED THROUGH SKIN

HMIS Hazard Ratings:
Health - 1 , Flammability - 0, Reactivity - 0, Personal Protection - B

NFPA Hazard Ratings:
Health - 1, Flammability - 0, Reactivity (Stability) - 0

Part B:

CONTAINS: Sulfuric acid (007664-93-9)
DANGER!
POISON
MAY BE FATAL OR HARMFUL IF SWALLOWED
CAUSES SKIN AND EYE IRRITATION

HMIS Hazard Ratings:
Health - 2 , Flammability - 0, Reactivity - 0, Personal Protection - C

NFPA Hazard Ratings:
Health - 2, Flammability - 0, Reactivity (Stability) - 0

Working solution (film):

CONTAINS: Ammonium sulfite (010196-04-0)
WARNING!
MAY BE HARMFUL IF SWALLOWED

HMIS Hazard Ratings:
Health - 1 , Flammability - 0, Reactivity - 0, Personal Protection - A
NFPA Hazard Ratings:
Health - 1, Flammability - 0, Reactivity (Stability) - 0

Working solution (paper):

CONTAINS: Ammonium sulfite (010196-04-0)
WARNING!
MAY BE HARMFUL IF SWALLOWED

HMIS Hazard Ratings:
Health - 1 , Flammability - 0, Reactivity - 0, Personal Protection - A

NFPA Hazard Ratings:
Health - 0, Flammability - 0, Reactivity (Stability) - 0

NOTE: HMIS and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. The personal protection index is only intended for general guidance on personal protection equipment (PPE) that is suitable for the potential hazards of the material. PPE (e.g., respirators) may not be needed if engineering controls (e.g., local ventilation) are adequate. An asterisk (*), in the HMIS health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

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4. FIRST-AID MEASURES

Inhalation: If symptomatic, move to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Eyes:

Part A & Working solution: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Part B: Immediately flush with plenty of water for at least 15 minutes. Get medical attention.

Skin:

Part A & Working solution: Wash with soap and water. Get medical attention if symptoms occur.

Part B: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion:

Part A: Only induce vomiting at the instruction of medical personnel. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

Part B: Do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Working solution: Drink 1-2 glasses of water. Seek medical attention. Never give anything by mouth to an unconscious person.

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Use appropriate agent for adjacent fire.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: None (noncombustible) (see also Hazardous Decomposition Products section)

Unusual Fire and Explosion Hazards: None

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6. ACCIDENTAL RELEASE MEASURES

May require neutralization if pH < 2.0 or > 12.5. Flush to sewer with large
amounts of water. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

---

7. HANDLING AND STORAGE

Personal Precautionary Measures:

Part A: Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

Part B: Avoid breathing mist at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling.

Working solution: Avoid breathing mist or vapor. Avoid contact with eyes and prolonged or repeated contact with skin. Use with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion:

Part A & Working solution: Keep from contact with oxidizing materials.

Part B: No special precautionary measures should be needed under anticipated conditions of use.

Storage: Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section).

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Acetic acid: 10 ppm TWA; 15 ppm STEL
Aluminum sulfate: 2 mg/m3 TWA, as Al soluble salts
Sulfuric acid: 1 mg/m3 TWA; 3 mg/m3 STEL
Sodium bisulfite: 5 mg/m3 TWA

OSHA (USA) Permissible Exposure Limit (PEL - 1971 Table Z-1 Values):

Acetic acid: 10 ppm TWA
Sulfuric acid: 1 mg/m3 TWA

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

Respiratory Protection:

Part A & Working solution: None should be needed. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Full-face positive-pressure air-supplied. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Part B: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: Full-face cartridge respirator; acid gas with dust/mist prefilter. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Eye Protection: Wear safety glasses with side shields (or goggles).
Skin Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Eye bath, washing facilities, safety shower

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9. PHYSICAL AND CHEMICAL PROPERTIES

	Part A	Part B	Working solution (film)	Working solution (paper)
Physical Form:	liquid	liquid	liquid	liquid
Color:	light yellow	colorless	colorless	colorless
Odor:	slight sulfur dioxide, acetic acid	slight sulfur dioxide	slight sulfur dioxide	slight sulfur dioxide
Specific Gravity (water = 1):	1.32	1.30	1.09	1.04
Vapor Pressure at 20°C (68°F):	24 mbar (18 mm Hg)	24 mbar (18 mm Hg)	24 mbar (18 mm Hg)	24 mbar (18 mm Hg)
Vapor Density (Air = 1):	0.6	0.6	0.6	0.6
Volatile Fraction by Weight:	40-45%	70-75%	80-85%	90-95%
Boiling Point: >100°C (>212°F)	>100°C (>212°F)	>100°C (>212°F)	>100°C (>212°F)	
Solubility in Water:	complete	complete	complete	complete
pH:	5.0	1.0	4.4	4.4
Flash Point:	none, noncombustible liquid	none, noncombustible liquid	none, noncombustible liquid	none, noncombustible liquid

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10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility:

Part A: Bases, sodium hypochlorite (bleach), strong oxidizing agents, strong acids. Contact with base liberates flammable material.

Part B: Bases

Working solution: Bases, sodium hypochlorite (bleach), strong oxidizing agents, strong acids.

Hazardous Decomposition Products:

Part A: Ammonia, nitrogen oxides (NOx), sulfur dioxide, chloramine, carbon dioxide, carbon monoxide

Part B: Sulfur dioxide

Working solution: Ammonia, nitrogen oxides (NOx), sulfur dioxide, chloramine

Hazardous Polymerization: Will not occur.

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11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

General:

Part A: Contains: boric acid. Based on repeated-dose ingestion studies in animals, may cause adverse reproductive and developmental effects. However, the doses administered were many times those to which humans would normally be exposed.

Part B: Contains: sulfuric acid. International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic mists or vapors containing sulfuric acid is carcinogenic to humans. This product is not expected to generate mists or vapors when product instructions for mixing and use are followed.

Inhalation:

Part A & Working solution: Expected to be a low hazard for recommended handling. In contact with strong acids or if heated, sulfites may liberate sulfur dioxide gas. Sulfur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Part B: Expected to be a low hazard for recommended handling.

Eyes:

Part A & Working solution: No specific hazard known. May cause transient irritation.

Part B: Causes irritation.

Skin:

Part A: May be absorbed in toxic amounts through damaged or abraded skin.

This material has a low potential to cause allergic skin reactions; however, cases of human skin sensitization have been reported.

Part B: Causes irritation.

Working solution: This material has a low potential to cause allergic skin reactions; however, cases of human skin sensitization have been reported.

Ingestion:

Part A & Working solution: May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Part B: May be fatal or harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.

Acute Toxicity Data:

Data for Part A

Oral LD-50 (rat): > 2540 mg/kg
Dermal LD-50: > 20 mL/kg
Skin irritation: slight
Eye irritation: slight

Data for Part B

Oral LD-50 (rat): 0.5-5.0 g/kg
Skin irritation: moderate
Eye irritation: slight
Skin sensitization: negative

---

12. ECOLOGICAL INFORMATION

Introduction: This environmental effects summary is written to assist in addressing emergencies created by an accidental spill which might occur during the shipment of this material, and, in general, it is not meant to address discharges to sanitary sewers or publically owned treatment works.

Summary: Data for the major components of this material have been used to estimate the environmental impact of this material. However, this material, itself, has not been tested for environmental effects.

Part A:

This material is a moderately acidic aqueous solution, and this property may cause adverse environmental effects. It is expected to have the following properties: a high biochemical oxygen demand and a potential to cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a high potential to affect the growth of some plant seedlings, a low potential to persist in the environment, a low potential to bioconcentrate. After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

Part B:

This material is a strongly acidic aqueous solution, and this property may cause adverse environmental effects. It is expected to have the following properties: no biochemical oxygen demand and no potential to cause oxygen depletion in aqueous systems, a high potential to affect some aquatic organisms, a low potential to affect secondary waste treatment microbial

metabolism, a low potential to affect the germination and/or early growth of some plants, a low potential to bioconcentrate. After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

---

13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. May require neutralization if pH < 2.0 or pH > 12.5. Flush to sewer with
large amounts of water.

Part B: Since emptied containers retain product residue, follow label warnings even after container is emptied.

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14. TRANSPORT INFORMATION

For transportation information regarding this product call the Kodak Worldwide Transportation Hazmat Hot Line: (716) 722-2400 between 8 a.m. and 5 p.m. (Eastern Standard Time), Monday through Friday.

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15. REGULATORY INFORMATION

Material(s) known to the State of California to cause cancer: None
Material(s) known to the State of California to cause adverse reproductive effects: None

Carcinogenicity Classification (components present at 0.1% or more):
International Agency for Research on Cancer (IARC): Group 1A, Strong inorganic mists or vapors containing sulfuric acid
American Conference of Governmental Industrial Hygienists (ACGIH): Sulfuric acid (A2)
National Toxicology Program (NTP): None
Occupational Safety and Health Administration (OSHA): None

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: None

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16. OTHER INFORMATION

US/Canadian Label Statements:

Part A:

WARNING! CONTAINS: Boric acid (010043-35-3); ammonium sulfite (010196-04-0); acetic acid (000064-19-7); sodium bisulfite (007631-90-5)
MAY BE HARMFUL IF SWALLOWED
MAY BE HARMFUL IF ABSORBED THROUGH SKIN

Avoid breathing mist or vapor.
Avoid contact with eyes, skin, and clothing.
Use with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. In case of skin contact, wash skin with soap and plenty of water. Get medical attention if symptoms occur.

Keep out of reach of children.
For additional information, see Material Safety Data Sheet (MSDS) for this material.

Part B:

CONTAINS: Sulfuric acid (007664-93-9)
DANGER! POISON
MAY BE FATAL OR HARMFUL IF SWALLOWED
CAUSES SKIN AND EYE IRRITATION

Avoid breathing mist.
Use with adequate ventilation.
Avoid contact with eyes, skin, and clothing.
Wash thoroughly after handling.

FIRST AID: If swallowed, do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. In case of contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

Since emptied containers retain product residue, follow label warnings even after container is emptied.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood.

Working solution:

CONTAINS: Ammonium sulfite (010196-04-0)
WARNING!
MAY BE HARMFUL IF SWALLOWED

Avoid breathing mist or vapor.
Avoid contact with eyes and prolonged or repeated contact with skin.
Use with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If swallowed, seek medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Keep out of reach of children.

For additional information, see Material Safety Data Sheet (MSDS) for this material.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.

A:R-1, S-2, F-0, C-0
B:R-1, S-2, F-0, C-0
WS:R-1, S-1, F-0, C-0 - Working solution (film)
WS:R-1, S-1, F-0, C-0 - Working solution (paper)

Photographs

Kodak
rapid fixer
Kodak
rapid fixer
Kodak
rapid fixer
solution A
CAT 146 4114

Kodak
rapid fixer,
solution B (Hardener)
Made in U.S.A. by
EASTMAN KODAK COMPANY
Rochester, N.Y. 14650

FIX A
Kodak
rapid fixer
solution A
For Films, Plates and Papers
To Make
5 U.S. Gallons
19 Litres of Film and Plate Fixer
To Make
10 U.S. Gallons
38 Litres of Paper Fixer
CAT 146 4114

DOE
2294-1
CAUTION
RADIOACTIVE MATERIAL
INSIDE CONTAINER

PORTS PART B REQUIREMENTS FOR LABORATORIES

Part B Requirements for Laboratories

Requirements for laboratories are stated in Section C-2 of the Part B Hazardous Waste Permit. Section C-2b of the Permit states that analytical methods used are annotated in the latest revision of *Test Methods for Evaluation of Solid Wastes, Physical/Chemical Methods,* U.S. EPA Publication SW-846. This document is incorporated by reference in OAC 3745-50-11.

Where an SW-846 procedure is not applicable, recognized analytical methods from authorities such as *Standard Methods for Examination of Water and Wastewater,* L. S. Clesceri, et.al., latest edition, and American Society for Testing and Materials (ASTM) are used.

PORTS utilizes the DOE Sample Management Office (SMO) in Oak Ridge, TN. The SMO audits and approves laboratories for use by Oak Ridge Operations facilities. The SMO maintains all audit records from the laboratories including QA/QC plans.

Attached are two Statements of Work (SOW) which demonstrate that PORTS requires laboratories to follow SW-846 analytical methods where applicable.

Statement of Work

NXPT05192

NFT Incorporated
Environmental Services/Products

SOW: NXPT05192A
Revision: 0
Date: 02/04/2002
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - P-108, POLYCHLORINATED BIPHENYL (PCB) CONTAMINATED WATER AND P-760, PCB CONTAMINATED AQUEOUS SLUDGE. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF LIQUID AND SLUDGE IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0204
Work Release No: WASTREN-NFT CON

Project Manager: Scott Payne
Telephone: 740-897-4755
Fax: 740-897-3050
Address: Wastren, Inc.
U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Robert White
Telephone: (865)576-9881
Fax: (865)574-9433
Alternate:

Charge Number: ITEM#3
Job No.: 9108-002
Proposal No.: WASTREN-NFT CON
Funding Source: PO2010034

Sample Start Date: 02/18/2002
Sample Completion Date: 02/25/2002
Sampling Events: ONE.
Containers: Lab **WILL NOT** supply containers.

Sample Quantity: 3 SAMPLES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 SAMPLE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: PCBs, RAD. **TSCA Regulated:** Yes
(PCBs > 50 ppm)

Isotopes of Concern: TC-99, U-238, U-235
Estimated Level of Radioactivity: 2100 pCi/l
Comments: EXPECT U-238, U-234, U-235, TH-231, TC-99 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

SOW: NXPT05192 A

TE: All turnaround and holding times are in calendar days. An 'NC' in the Hold Time column indicates that the holding time will ot be calculated for these analyses. CAS Numbers with the prefix of 'N' are non-standard identifiers assigned by the Oak Ridge Environmental Information System. The provided standard and non-standard CAS numbers must be used to report the listed analytes in electronic data.)

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
1	SLUDGE	EPA-1664M	Recoverable TPH	NS1774	PER METHOD	14	NC
1	SLUDGE	EPA-300.0M	Chloride	16687-00-6	PER METHOD	14	NC
1	SLUDGE	EPA-300.0M	Phosphate	14265-44-2	PER METHOD	14	NC
1	SLUDGE	EPA-300.0M	Sulfur	7704-34-9	PER METHOD	14	NC
1	SLUDGE	EPA-340.2M	Fluoride	1698-44-8	PER METHOD	14	NC
1	SLUDGE	SW846-6010B	ALL ANALYTES		SEE ATTACHMENT	14	NC
1	SLUDGE	SW846-7471A	Mercury	7439-97-6	PER METHOD	14	NC
1	SLUDGE	SW846-7841	Thallium	7440-28-0	PER METHOD	14	NC
1	SLUDGE	SW846-8082A	ALL ANALYTES		SEE ATTACHMENT	14	NC
1	SLUDGE	SW846-8260B	ALL ANALYTES		SEE ATTACHMENT	14	14
1	SLUDGE	SW846-9012A	Amenable Cyanide		PER METHOD	14	NC
1	SLUDGE	SW846-9012A	Total Cyanide	57-12-5	PER METHOD	14	NC
1	SLUDGE	SW846-9020A	ALL ANALYTES		PER METHOD	14	28
1	SLUDGE	SW846-9045C	pH	N704	PER METHOD	14	NC
1	SLUDGE	SW846-9060M	Total Organic Carbon	N997	PER METHOD	14	NC
1	SLUDGE	SW846-CHAPTER 7C	Reactive Hydrogen Cyanide	NS2236	1 MG/KG	14	NC
1	SLUDGE	SW846-CHAPTER 7S	Reactive Hydrogen Sulfide	NS2235	75 MG/KG	14	NC
1	SLUDGE	TCLP-1311NV	Prep Method		NONE	14	14
1	SLUDGE	TCLP-1311ZHE	Prep Method		NONE	14	14
1	SLUDGE	TCLP-6010B	ALL ANALYTES		SEE ATTACHMENT	14	180
1	SLUDGE	TCLP-8260B	ALL ANALYTES		SEE ATTACHMENT	14	NC
1	SLUDGE	TCLP-8270C	ALL ANALYTES		SEE ATTACHMENT	14	NC
1	LIQUID	EPA-160.2	Residue, Non-Filterable	N873	PER METHOD	14	7
1	LIQUID	EPA-1664	Recoverable TPH	NS1774	PER METHOD	14	NC
1	LIQUID	EPA-300.0M	Chloride	16687-00-6	0.1 WEIGHT %	14	NC
1	LIQUID	EPA-300.0M	Sulfate	14808-79-8	PER METHOD	14	NC
1	LIQUID	EPA-340.2	Fluoride	1698-44-8	PER METHOD	14	28
1	LIQUID	SW846-6010B	ALL ANALYTES		SEE ATTACHMENT	14	NC
1	LIQUID	SW846-7470	Mercury	7439-97-6	0.08 MG/L	14	28
1	LIQUID	SW846-7841	Thallium	7440-28-0	PER METHOD	14	180
1	LIQUID	SW846-8082	ALL ANALYTES		SEE ATTACHMENT	14	14
1	LIQUID	SW846-8260B	ALL ANALYTES		PER METHOD	14	14
1	LIQUID	SW846-8270C	ALL ANALYTES		PER METHOD	14	14
1	LIQUID	SW846-9012A	Amenable Cyanide		PER METHOD	14	NC
1	LIQUID	SW846-9012A	Total Cyanide	57-12-5	PER METHOD	14	NC
1	LIQUID	SW846-9020B	ALL ANALYTES		PER METHOD	14	28
1	LIQUID	SW846-9060	Total Organic Carbon	N997	PER METHOD	14	28
1	LIQUID	SW846-CHAPTER 7C	Reactive Hydrogen Cyanide	NS2236	PER METHOD	14	NC
1	LIQUID	SW846-CHAPTER 7S	Reactive Hydrogen Sulfide	NS2235	PER METHOD	14	NC

SOW: NXPT05192 A

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
METALS	PER APPROPRIATE AMS	SEE COMMENT
PEST,PCB,HERB	PER APPROPRIATE AMS	SEE COMMENT
VOA & SVOA	PER APPROPRIATE AMS	SEE COMMENT
WET CHEM	PER APPROPRIATE AMS	SEE COMMENT
OTHER	SEE COMMENT/ATTACH.	SEE COMMENT

QC COMMENTS: BOA for Laboratory Services (NFT 1.0), dated May 2001

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS: FROMS ONLY, DATA SUMMARY TABLE & DETAIL REPORT, AMSED.

TICS: For GC/MS methods, lab must report TICs: **YES**

(For AMSED files, lab must submit .tic file when TICs are required.)

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: 1) 6010B ANALYTE LIST. 2) 8081A/8082 ANALYTE LIST. 3) 8260B ANALYTE LIST. 4) 8270C ANALYTE LIST. 5) ALPHA SPEC NUCLIDE LIST. 6) GAMMA SPECTROSCOPY NUCLIDE LIST. 7) SAMPLE DATA SUMMARY TABLE. 8) SAMPLE DETAIL REPORT. 9) TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT.

Scott Payne — 2/6/02
Scott Payne — **Date**
Project Manager

2/6/02
Approving Manager — **Date**

James A. Applegate Jr — 02/06/02
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

NFT Incorporated
Environmental Services/Products

SOW: NXPT05192B
Revision: 0
Date: 02/04/2002
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - P-108, POLYCHLORINATED BIPHENYL (PCB) CONTAMINATED WATER AND P-760, PCB CONTAMINATED AQUEOUS SLUDGE. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF LIQUID AND SLUDGE IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0204
Work Release No: WASTREN-NFT CON

Project Manager: Scott Payne
Telephone: 740-897-4755
Fax: 740-897-3050
Address: Wastren, Inc.
U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Robert White
Telephone: (865)576-9881
Fax: (865)574-9433
Alternate:

Charge Number: ITEM#3
Job No.: 9108-002
Proposal No.: WASTREN-NFT CON
Funding Source: PO2010034

Sample Start Date: 02/18/2002
Sample Completion Date: 02/25/2002
Sampling Events: ONE.
Containers: Lab **WILL NOT** supply containers.

Sample Quantity: 3 SAMPLES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 SAMPLE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: PCBs, RAD. **TSCA Regulated:** Yes
(PCBs > 50 ppm)

Isotopes of Concern: TC-99, U-238, U-235
Estimated Level of Radioactivity: 2100 pCi/l
Comments: EXPECT U-238, U-234, U-235, TH-231, TC-99 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

SOW: NXPT05192 B

E: All turnaround and holding times are in calendar days. An 'NC' in the Hold Time column indicates that the holding time will e calculated for these analyses. CAS Numbers with the prefix of 'N' are non-standard identifiers assigned by the Oak Ridge .vironmental Information System. The provided standard and non-standard CAS numbers must be used to report the listed analytes in electronic data.)

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
1	SLUDGE	RAD-GAMMA SPECTROSCOPY	ALL ANALYTES		SEE ATTACHMENT	14	180
1	SLUDGE	RAD-GROSS ALPHA/BETA	Gross alpha	12587-46-1	PER METHOD	14	180
1	SLUDGE	RAD-GROSS ALPHA/BETA	Gross beta	12587-47-2	PER METHOD	14	180
3	SLUDGE	RAD-NP-237 BY ALPHA	NP-237	13994-20-2	SEE ATTACHMENT	14	180
3	SLUDGE	RAD-PU ISO BY ALPHA	ALL ANALYTES		SEE ATTACHMENT	14	180
1	SLUDGE	RAD-SR-90 BY BETA GPC	SR-90	10098-97-2	PER METHOD	14	180
1	SLUDGE	RAD-TC-99 BY BETA LSC	TC-99	14133-76-7	PER METHOD	14	180
1	SLUDGE	RAD-TH ISO BY ALPHA	ALL ANALYTES		SEE ATTACHMENT	14	180
1	SLUDGE	RAD-TOTAL U BY ALPHA	Total U by Alpha	NS829	PER METHOD	14	180
3	SLUDGE	RAD-U ISO BY ALPHA	ALL ANALYTES		PER METHOD	14	180
1	LIQUID	RAD-GAMMA SPECTROSCOPY	ALL ANALYTES		SEE ATTACHMENT	14	180
1	LIQUID	RAD-GROSS ALPHA/BETA	Gross alpha	12587-46-1	PER METHOD	14	180
1	LIQUID	RAD-GROSS ALPHA/BETA	Gross beta	12587-47-2	PER METHOD	14	180
3	LIQUID	RAD-NP-237 BY ALPHA	NP-237	13994-20-2	1 PCI/G	14	180
3	LIQUID	RAD-PU ISO BY ALPHA	Plutonium-238	13981-16-3	1 PCI/G	14	180
3	LIQUID	RAD-PU ISO BY ALPHA	Plutonium-239/240	N760	1 PCI/G	14	180
1	LIQUID	RAD-SR-90 BY BETA LSC	SR-90	10098-97-2	PER METHOD	14	180
1	LIQUID	RAD-TC-99 BY BETA LSC	TC-99	14133-76-7	20 PCI/G	14	180
1	LIQUID	RAD-TH ISO BY ALPHA	Thorium-228	14274-82-9	1 PCI/G	14	180
1	LIQUID	RAD-TH ISO BY ALPHA	Thorium-230	14269-63-7	1 PCI/G	14	180
	LIQUID	RAD-TH ISO BY ALPHA	Thorium-232	7440-29-1	1 PCI/G	14	180
3	LIQUID	RAD-TOTAL U BY ALPHA	Total U by Alpha	NS829	1 UG/G	14	180
3	LIQUID	RAD-U ISO BY ALPHA	U-233/234	NS632	1 PCI/G	14	180
3	LIQUID	RAD-U ISO BY ALPHA	U-235	15117-96-1	1 PCI/G	14	180
3	LIQUID	RAD-U ISO BY ALPHA	U-236	13982-70-2	1 PCI/G	14	180
3	LIQUID	RAD-U ISO BY ALPHA	U-238	24678-82-8	1 PCI/G	14	180

SOW: NXPT05192 B

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
RADIOLOGICAL	PER APPROPRIATE AMS	SEE COMMENT

QC COMMENTS: BOA for Laboratory Services (NFT 1.0), dated May 2001

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS: FROMS ONLY, DATA SUMMARY TABLE & DETAIL REPORT, AMSED.

TICS: For GC/MS methods, lab must report TICs: **NO**

(For AMSED files, lab must submit .tic file when TICs are required.)

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: 1) 6010B ANALYTE LIST. 2) 8081A/8082 ANALYTE LIST. 3) 8260B ANALYTE LIST. 4) 8270C ANALYTE LIST. 5) ALPHA SPEC NUCLIDE LIST. 6) GAMMA SPECTROSCOPY NUCLIDE LIST. 7) SAMPLE DATA SUMMARY TABLE. 8) SAMPLE DETAIL REPORT. 9) TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT.

Scott Payne
Project Manager
Date: 2/6/02

Approving Manager
Date: 2/6/02

James A Applegate, Jr
Jim Applegate
SMO Representative
Date: 02/06/02

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

Mon. February 04, 2002 03:51:16

(SOW Main Menu)

NFT Incorporated
Environmental Services/Products

SOW: NXPT05192C
Revision: 0
Date: 02/04/2002
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - P-108, POLYCHLORINATED BIPHENYL (PCB) CONTAMINATED WATER AND P-760, PCB CONTAMINATED AQUEOUS SLUDGE. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF LIQUID AND SLUDGE IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0204
Work Release No: WASTREN-NFT CON

Project Manager: Scott Payne
Telephone: 740-897-4755
Fax: 740-897-3050
Address: Wastren, Inc.
U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Robert White
Telephone: (865)576-9881
Fax: (865)574-9433
Alternate:

Charge Number: ITEM#3
Job No.: 9108-002
Proposal No.: WASTREN-NFT CON
Funding Source: PO2010034

Sample Start Date: 02/18/2002
Sample Completion Date: 02/25/2002
Sampling Events: ONE.
Containers: Lab **WILL NOT** supply containers.

Sample Quantity: 3 SAMPLES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 SAMPLE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: PCBs, RAD. **TSCA Regulated:** Yes
(PCBs > 50 ppm)

Isotopes of Concern: TC-99, U-238, U-235
Estimated Level of Radioactivity: 2100 pCi/l
Comments: EXPECT U-238, U-234, U-235, TH-231, TC-99 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

SOW: NXPT05192 C

E: All turnaround and holding times are in calendar days. An 'NC' in the Hold Time column indicates that the holding time will be calculated for these analyses. CAS Numbers with the prefix of 'N' are non-standard identifiers assigned by the Oak Ridge Environmental Information System. The provided standard and non-standard CAS numbers must be used to report the listed analytes in electronic data.)

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
1	SLUDGE	ASTM-D2216-92	Moisture	N544	PER METHOD	14	NC
1	SLUDGE	ASTM-D5057-90	Bulk Density	N1956	PER METHOD	14	NC
1	SLUDGE	ASTM-D698-78	Maximum Density	NS1234	PER METHOD	14	NC
1	SLUDGE	ASTM-D698-78	Optimum Moisture	NS1235	PER METHOD	14	NC
1	SLUDGE	ASTM-E711-87	BTU	N157	PER METHOD	14	NC
1	SLUDGE	ASTM-E830-87	Ash	NS1314	PER METHOD	14	NC
1	SLUDGE	SW846-1010	Ignitability	N384	PER METHOD	14	NC
1	SLUDGE	SW846-9095	Paint Filter Liquids	N419	PER METHOD	14	NC
1	LIQUID	ASTM-D240-92	Heat Content	NS2254	PER METHOD	14	NC
1	LIQUID	ASTM-D287-82	Specific Gravity	N851	PER METHOD	14	NC
1	LIQUID	ASTM-D482-87	% Ash	N1887	0.05%	14	NC
1	LIQUID	SW846-1010	Ignitability	N384	NONE	14	NC
1	LIQUID	SW846-9045C	pH	N704	PER METHOD	14	NC

SOW: NXPT05192 C

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
OTHER	SEE COMMENT/ATTACH.	SEE COMMENT

QC COMMENTS: BOA for Laboratory Services (NFT 1.0), dated May 2001

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS: FROMS ONLY, DATA SUMMARY TABLE & DETAIL REPORT, AMSED.

TICS: For GC/MS methods, lab must report TICs: **NO**

(For AMSED files, lab must submit .tic file when TICs are required.)

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: 1) 6010B ANALYTE LIST. 2) 8081A/8082 ANALYTE LIST. 3) 8260B ANALYTE LIST. 4) 8270C ANALYTE LIST. 5) ALPHA SPEC NUCLIDE LIST. 6) GAMMA SPECTROSCOPY NUCLIDE LIST. 7) SAMPLE DATA SUMMARY TABLE. 8) SAMPLE DETAIL REPORT. 9) TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT.

Scott Payne
Scott Payne
Project Manager

2/6/02
Date

Approving Manager

2/6/02
Date

James A. Applegate, Jr
Jim Applegate
SMO Representative

02/06/02
Date

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

NFT Incorporated
Environmental Services/Products

SOW: NXPT05192D
Revision: 0
Date: 02/04/2002
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - P-108, POLYCHLORINATED BIPHENYL (PCB) CONTAMINATED WATER AND P-760, PCB CONTAMINATED AQUEOUS SLUDGE. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF LIQUID AND SLUDGE IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0204
Work Release No: WASTREN-NFT CON

Project Manager: Scott Payne
Telephone: 740-897-4755
Fax: 740-897-3050
Address: Wastren, Inc.
U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Robert White
Telephone: (865)576-9881
Fax: (865)574-9433
Alternate:

Charge Number: ITEM#3
Job No.: 9108-002
Proposal No.: WASTREN-NFT CON
Funding Source: PO2010034

Sample Start Date: 02/18/2002
Sample Completion Date: 02/25/2002
Sampling Events: ONE.
Containers: Lab **WILL NOT** supply containers.

Sample Quantity: 3 SAMPLES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 SAMPLE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: PCBs, RAD. **TSCA Regulated:** Yes
(PCBs > 50 ppm)

Isotopes of Concern: TC-99, U-238, U-235
Estimated Level of Radioactivity: 2100 pCi/l
Comments: EXPECT U-238, U-234, U-235, TH-231, TC-99 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

SOW: NXPT05192 D

TE: All turnaround and holding times are in calendar days. An 'NC' in the Hold Time column indicates that the holding time will be calculated for these analyses. CAS Numbers with the prefix of 'N' are non-standard identifiers assigned by the Oak Ridge Environmental Information System. The provided standard and non-standard CAS numbers must be used to report the listed analytes in electronic data.)

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
3	SLUDGE	RAD-%U-233 BY TIMS	%U-233 by TIMS		PER METHOD	14	180
3	SLUDGE	RAD-%U-235 BY TIMS	%U-235 by TIMS	15117-96-1	PER METHOD	14	180
1	SLUDGE	RAD-TOTAL ACTIVITY LSC	Total Activity, LSC	N931	PER METHOD	14	180
3	SLUDGE	RAD-TOTAL U BY TIMS	Total U by TIMS	NS829	PER METHOD	14	180
1	LIQUID	ASTM-D1120-89	Boiling Point	N146	NONE	14	NC
1	LIQUID	ASTM-D1177-88	Freezing Point	N420	DOWN TO 32F	14	NC
1	LIQUID	ASTM-D1533-83	Water Content	NS2233	PER METHOD	14	NC
1	LIQUID	ASTM-D2983-87	Viscosity	N1172	PER METHOD	14	NC
1	LIQUID	OTHER-NUMBER OF PHASES	Number of Phases		PER METHOD	14	NC
3	LIQUID	RAD-%U-233 BY TIMS	%U-233 by TIMS		PER METHOD	14	180
3	LIQUID	RAD-%U-235 BY TIMS	%U-235 by TIMS	15117-96-1	PER METHOD	14	180
1	LIQUID	RAD-TOTAL ACTIVITY LSC	Total Activity, LSC	N931	PER METHOD	14	180
3	LIQUID	RAD-TOTAL U BY TIMS	Total U by TIMS	NS829	PER METHOD	14	180
1	LIQUID	SW846-1110	Corrosivity	N259	NA	14	NC

SOW: NXPT05192 D

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
RADIOLOGICAL	PER APPROPRIATE AMS	SEE COMMENT
OTHER	SEE COMMENT/ATTACH.	SEE COMMENT

QC COMMENTS: BOA for Laboratory Services (NFT 1.0), dated May 2001

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS: FROMS ONLY, DATA SUMMARY TABLE & DETAIL REPORT, AMSED.

TICS: For GC/MS methods, lab must report TICs: **NO**

(For AMSED files, lab must submit .tic file when TICs are required.)

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: 1) 6010B ANALYTE LIST. 2) 8081A/8082 ANALYTE LIST. 3) 8260B ANALYTE LIST. 4) 8270C ANALYTE LIST. 5) ALPHA SPEC NUCLIDE LIST. 6) GAMMA SPECTROSCOPY NUCLIDE LIST. 7) SAMPLE DATA SUMMARY TABLE. 8) SAMPLE DETAIL REPORT. 9) TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT.

Scott Payne — 2/6/02
Scott Payne — **Date**
Project Manager

2/6/02
Approving Manager — **Date**

James A Applegate, Jr — 02/06/02
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

Statement of Work

NXPT05150

NFT Incorporated
Environmental Services/Products

SOW: NXPT05150A
Revision: 0
Date: 08/22/2001
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - MWIR-W019, WASTE OILS & MWIR-W057, WASTE SOLVENTS. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF MULTI-PHASE WASTE LIQUIDS IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0147
Work Release No:

Project Manager: Terry Acox
Telephone: (740)897-6415
Fax: (740)897-3050
Address: Wastren, Incorporated
3930 U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Patty Dadosky
Telephone: (740)897-5301
Fax: (740)897-2040
Alternate:

Charge Number:
Job No.:
Proposal No.:
Funding Source: 9108-006

Sample Start Date: 09/17/2001
Sample Completion Date: 09/21/2001
Sampling Events: ONE.
Containers: Lab **SHOULD NOT** supply containers.

Sample Quantity: 3 COMPOSITES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 COMPOSITE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: D001,D002,D004-D010,D018,F001,F002,F003,F005,PCB,RAD,SEE PLA
TSCA Regulated: Yes
(PCBs > 50 ppm)

Isotopes of Concern: TC-99, NP-237, U-235
Estimated Level of Radioactivity: 1.6E8 pCi/l
Comments: ALSO PU-239/240,U-238,TH-231,TH-234 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

ty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
	LIQUID	EPA-160.2	Residue, Non-Filterable	N873	PER METHOD	30	7
1	LIQUID	EPA-300.0M	Chloride	16687-00-6	0.1 WEIGHT %	30	
1	LIQUID	EPA-300.0M	Sulfate	14808-79-8	PER METHOD	30	
1	LIQUID	EPA-340.2	Fluoride	1698-44-8	PER METHOD	30	28
1	LIQUID	EPA-418.1	Petroleum Hydrocarbons	NS254	PER METHOD	30	28
1	LIQUID	OTHER-8082	Aroclor 1268	11100-14-4	0.5 MG/L	30	
1	LIQUID	OTHER-NUMBER OF PHASES	Number of Phases		PER METHOD	30	
1	LIQUID	SW846-1010	Ignitability	N384	NONE	30	
1	LIQUID	SW846-1110	Corrosivity	N259	NA	30	
1	LIQUID	SW846-6010B	Aluminum	7429-90-5	PER METHOD	30	
1	LIQUID	SW846-6010B	Antimony	7440-36-0	PER METHOD	30	
1	LIQUID	SW846-6010B	Arsenic	7440-38-2	PER METHOD	30	
1	LIQUID	SW846-6010B	Barium	7440-39-3	PER METHOD	30	
1	LIQUID	SW846-6010B	Beryllium	7440-41-7	0.045 MG/L	30	
1	LIQUID	SW846-6010B	Cadmium	7440-43-9	PER METHOD	30	
1	LIQUID	SW846-6010B	Chromium	7440-47-3	PER METHOD	30	
1	LIQUID	SW846-6010B	Copper	7440-50-8	PER METHOD	30	
1	LIQUID	SW846-6010B	Iron	7439-89-6	PER METHOD	30	
1	LIQUID	SW846-6010B	Lead	7439-92-1	3 MG/L	30	
1	LIQUID	SW846-6010B	Lithium	7439-93-2	PER METHOD	30	
1	LIQUID	SW846-6010B	Magnesium	7439-95-4	PER METHOD	30	
1	LIQUID	SW846-6010B	Manganese	7439-96-5	PER METHOD	30	
1	LIQUID	SW846-6010B	Nickel	7440-02-2	PER METHOD	30	
1	LIQUID	SW846-6010B	Phosphorous	7723-14-0	PER METHOD	30	
1	LIQUID	SW846-6010B	Selenium	7782-49-2	PER METHOD	30	
1	LIQUID	SW846-6010B	Silver	7440-22-4	PER METHOD	30	
1	LIQUID	SW846-6010B	Sodium	7440-23-5	PER METHOD	30	
1	LIQUID	SW846-6010B	Zinc	7440-66-6	PER METHOD	30	
1	LIQUID	SW846-7470	Mercury	7439-97-6	0.08 MG/L	30	28
1	LIQUID	SW846-7841	Thallium	7440-28-0	PER METHOD	30	180
1	LIQUID	SW846-8082	Aroclor 1016	12674-11-2	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1221	11104-28-2	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1232	11141-16-5	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1242	53469-21-9	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1248	12672-29-6	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1254	11097-69-1	0.5 MG/L	30	14
1	LIQUID	SW846-8082	Aroclor 1260	11096-82-5	0.5 MG/L	30	14
1	LIQUID	SW846-8260A	ALL ANALYTES		PER METHOD	30	14
1	LIQUID	SW846-8270TAL	ALL ANALYTES		PER METHOD	30	
1	LIQUID	SW846-9010	Cyanide	57-12-5	PER METHOD	30	14
1	LIQUID	SW846-9045C	pH	N704	PER METHOD	30	
1	LIQUID	SW846-9060	Total Organic Carbon	N997	PER METHOD	30	28
1	LIQUID	SW846-CHAPTER 7C	Reactive Hydrogen Cyanide	NS2236	PER METHOD	30	
1	LIQUID	SW846-CHAPTER 7S	Reactive Hydrogen Sulfide	NS2235	PER METHOD	30	

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
METALS	PER APPROPRIATE AMS	RESULTS ONLY
PEST,PCB,HERB	PER APPROPRIATE AMS	RESULTS ONLY
VOA & SVOA	PER APPROPRIATE AMS	RESULTS ONLY
WET CHEM	PER APPROPRIATE AMS	RESULTS ONLY
OTHER	SEE COMMENT/ATTACH.	RESULTS ONLY

QC COMMENTS: PER ANALYTICAL MASTER SPECIFICATIONS.

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS:

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT. COMMENT: 1) GAMMA ANALYSIS - REPORT PA-234M, TH-234, U-235, CS-137 AND ALL OTHERS DETECTED.

Terrance A. Acox — 08/24/01
Terry Acox — **Date**
Project Manager

Steve Moore — 8-27-01
Approving Manager — **Date**

James A. Applegate Jr — 08/28/01
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

NFT Incorporated
Environmental Services/Products

SOW: NXPT05150B
Revision: 0
Date: 08/22/2001
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - MWIR-W019, WASTE OILS & MWIR-W057, WASTE SOLVENTS. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF MULTI-PHASE WASTE LIQUIDS IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0147
Work Release No:

Project Manager: Terry Acox
Telephone: (740)897-6415
Fax: (740)897-3050
Address: Wastren, Incorporated
3930 U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Patty Dadosky
Telephone: (740)897-5301
Fax: (740)897-2040
Alternate:

Charge Number:
Job No.:
Proposal No.:
Funding Source: 9108-006

Sample Start Date: 09/17/2001
Sample Completion Date: 09/21/2001
Sampling Events: ONE.
Containers: Lab **SHOULD NOT** supply containers.

Sample Quantity: 3 COMPOSITES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 COMPOSITE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: D001,D002,D004-D010,D018,F001,F002,F003,F005,PCB,RAD,SEE PLA
TSCA Regulated: Yes (PCBs > 50 ppm)

Isotopes of Concern: TC-99, NP-237, U-235
Estimated Level of Radioactivity: 1.6E8 pCi/l
Comments: ALSO PU-239/240,U-238,TH-231,TH-234 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
	LIQUID	RAD-GAMMA SPECTROSCOPY	Gamma Peak Heighth Analysis	N431	0.1 PCI/G	30	180
1	LIQUID	RAD-GROSS ALPHA/BETA	Gross Alpha/Beta	N/A	1 PCI/G	30	180
3	LIQUID	RAD-NP-237 BY ALPHA	NP-237	13994-20-2	1 PCI/G	30	180
3	LIQUID	RAD-PU ISO BY ALPHA	Plutonium-238	13981-16-3	1 PCI/G	30	180
3	LIQUID	RAD-PU ISO BY ALPHA	Plutonium-239/240	N760	1 PCI/G	30	180
1	LIQUID	RAD-TC-99 BY BETA LSC	TC-99	14133-76-7	20 PCI/G	30	180
1	LIQUID	RAD-TH ISO BY ALPHA	Thorium-228	14274-82-9	1 PCI/G	30	180
1	LIQUID	RAD-TH ISO BY ALPHA	Thorium-230	14269-63-7	1 PCI/G	30	180
1	LIQUID	RAD-TH ISO BY ALPHA	Thorium-232	7440-29-1	1 PCI/G	30	180
1	LIQUID	RAD-TOTAL ACTIVITY LSC	Total Activity	N931	PER METHOD	30	180
153	LIQUID	RAD-TOTAL U BY ALPHA	Total U by Alpha	NS829	1 UG/G	30	180
153	LIQUID	RAD-U ISO BY ALPHA	U-233/234	NS632	1 PCI/G	30	180
153	LIQUID	RAD-U ISO BY ALPHA	U-235	15117-96-1	1 PCI/G	30	180
153	LIQUID	RAD-U ISO BY ALPHA	U-236	13982-70-2	1 PCI/G	30	180
153	LIQUID	RAD-U ISO BY ALPHA	U-238	2478-82-8	1 PCI/G	30	180

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
RADIOLOGICAL	PER APPROPRIATE AMS	RESULTS ONLY

QC COMMENTS: PER ANALYTICAL MASTER SPECIFICATIONS.

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS:

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

Jim A. Applegate
NFT
3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT. COMMENT: 1) GAMMA ANALYSIS - REPORT PA-234M, TH-234, U-235, CS-137 AND ALL OTHERS DETECTED.

Terrance A. Acox — 08/28/01
Terry Acox — **Date**
Project Manager

Steve Moore — 8-28-01
Approving Manager — **Date**

James A. Applegate Jr — 08/28/01
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

NFT Incorporated
Environmental Services/Products

SOW: NXPT05150C
Revision: 0
Date: 08/22/2001
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - MWIR-W019, WASTE OILS & MWIR-W057, WASTE SOLVENTS. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF MULTI-PHASE WASTE LIQUIDS IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0147
Work Release No:

Project Manager: Terry Acox
Telephone: (740)897-6415
Fax: (740)897-3050
Address: Wastren, Incorporated
3930 U.S. Route 23 South
P.O. Box 307
Building X-3012
Piketon, OH 45661

Project Control Engineer: Patty Dadosky
Telephone: (740)897-5301
Fax: (740)897-2040
Alternate:

Charge Number:
Job No.:
Proposal No.:
Funding Source: 9108-006

Sample Start Date: 09/17/2001
Sample Completion Date: 09/21/2001
Sampling Events: ONE.
Containers: Lab **SHOULD NOT** supply containers.

Sample Quantity: 3 COMPOSITES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 COMPOSITE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: D001,D002,D004-D010,D018,F001,F002,F003,F005,PCB,RAD,SEE PLA
TSCA Regulated: Yes (PCBs > 50 ppm)

Isotopes of Concern: TC-99, NP-237, U-235
Estimated Level of Radioactivity: 1.6E8 pCi/l
Comments: ALSO PU-239/240,U-238,TH-231,TH-234 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

Qty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
1	LIQUID	ASTM-D1120-89	Boiling Point	N146	NONE	30	
1	LIQUID	ASTM-D1177-88	Freezing Point	N420	DOWN TO 32F	30	
1	LIQUID	ASTM-D1533-83	Water Content	NS2233	PER METHOD	30	
1	LIQUID	ASTM-D240-92	Heat Content	NS2254	PER METHOD	30	
1	LIQUID	ASTM-D287-82	Specific Gravity	N851	PER METHOD	30	
1	LIQUID	ASTM-D482-87	% Ash	N1887	0.05%	30	

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
OTHER	SEE COMMENT/ATTACH.	RESULTS ONLY

QC COMMENTS: PER ANALYTICAL MASTER SPECIFICATIONS.

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Bldg. X-7725
Piketon, OH 45661

Copy:

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Oak Ridge, TN 37831

ATTACHMENTS: TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT. COMMENT: 1) GAMMA ANALYSIS - REPORT PA-234M, TH-234, U-235, CS-137 AND ALL OTHERS DETECTED.

Terrence A. Acox — 05/28/01
Terry Acox — **Date**
Project Manager

Steve Moore — 8-28-01
Approving Manager — **Date**

James A. Applegate Jr — 08/28/01
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

NFT Incorporated
Environmental Services/Products

SOW: NXPT05150D
Revision: 0
Date: 08/22/2001
SOW Group: STANDARD

OAK RIDGE SAMPLE MANAGEMENT OFFICE
ANALYTICAL STATEMENT OF WORK

Project Description: PORTSMOUTH WATERSHED - MWIR-W019, WASTE OILS & MWIR-W057, WASTE SOLVENTS. TOXIC SUBSTANCES CONTROL ACT (TSCA) INCINERATOR WASTE ACCEPTANCE CRITERIA. ANALYSIS OF MULTI-PHASE WASTE LIQUIDS IN ACCORDANCE WITH USEPA REQUIREMENTS FOR SUBSEQUENT INCINERATION AT THE TSCA INCINERATOR IN OAK RIDGE, TN.

Project No: WSTN0147
Work Release No:

Project Manager: Terry Acox
Telephone: (740)897-6415
Fax: (740)897-3050
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Project Control Engineer: Patty Dadosky
Telephone: (740)897-5301
Fax: (740)897-2040
Alternate:

Charge Number:
Job No.:
Proposal No.:
Funding Source: 9108-006

Sample Start Date: 09/17/2001
Sample Completion Date: 09/21/2001
Sampling Events: ONE.
Containers: Lab **SHOULD NOT** supply containers.

Sample Quantity: 3 COMPOSITES FOR TOTAL U, %U233, %U235, Np237, Pu238, Pu239/240; 1 COMPOSITE FOR REMAINING TESTS.

Sample Disposal: RETURN TO PROJECT **Required Archival:** 1 Month(s)
Comments: COMPLETE DISPOSAL IN ACCORDANCE WITH APPLICABLE REGS.

Suspected Hazards: D001,D002,D004-D010,D018,F001,F002,F003,F005,PCB,RAD,SEE PLA
TSCA Regulated: Yes (PCBs > 50 ppm)

Isotopes of Concern: TC-99, NP-237, U-235
Estimated Level of Radioactivity: 1.6E8 pCi/l
Comments: ALSO PU-239/240,U-238,TH-231,TH-234 (READ PLAN).

Shipping: The Project Manager is to fax the Chain of Custody and any supporting documentation (RFA, Total Activity Report, etc.) to the OR SMO prior to each shipment.

ty	Matrix Type	Proponent/Method	Analyte	Cas No.	Req Report Limit	Turn Time	Hold Time
1	LIQUID	ASTM-D2983-87	Viscosity	N1172	PER METHOD	30	
3	LIQUID	RAD-%U-233 BY TIMS	%U-233 by TIMS		PER METHOD	30	180
3	LIQUID	RAD-%U-235 BY TIMS	%U-235 by TIMS		PER METHOD	30	180
3	LIQUID	RAD-TOTAL U BY TIMS	Total U by TIMS	NS829	PER METHOD	30	180

QUALITY CONTROL REQUIREMENTS / DATA DELIVERABLE:

METHODOLOGY	QC REQUIREMENTS	DATA DELIVERABLE
RADIOLOGICAL	PER APPROPRIATE AMS	RESULTS ONLY
OTHER	SEE COMMENT/ATTACH.	FORMS ONLY

QC COMMENTS: PER ANALYTICAL MASTER SPECIFICATIONS.

Results will be reported as wet weight unless otherwise specified in the following comment field or as an attachment.

DATA DELIVERABLE COMMENTS:

ANALYTICAL BATCH REQUIREMENTS: NONE

REPORTING REQUIREMENTS: (Report results formally to:)

Original:

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3930 U.S. Route 23 South
Bldg. X-7725
Piketon, OH 45661

Copy:

Joe Pardue
NFT Sample Management Office
East Tennessee Technology Park
Building K-1035, Room 109
Hwy. 58 and Blair Road
Oak Ridge, TN 37831

ATTACHMENTS: TABLE 1 OF THE TSCA INCINERATOR WASTE ACCEPTANCE CRITERIA (WAC) DOCUMENT. COMMENT: 1) GAMMA ANALYSIS - REPORT PA-234M, TH-234, U-235, CS-137 AND ALL OTHERS DETECTED.

Terrance A. Acox — 08/28/01
Terry Acox — **Date**
Project Manager

Steve Moore — 8-28-01
Approving Manager — **Date**

James A. Applegate, Jr — 08/28/01
Jim Applegate — **Date**
SMO Representative

SAMPLE RECEIPT CONFIRMATION: *The laboratory is to fax a copy of the signed Chain of Custody, Sample Receipt Report, and other supporting documentation to the OR SMO and the Project Manager with each shipment received.*

Hazardous Waste Storage Volumes

			Volume (gal) waste in storage as of 07/10/02
Facility	X-326 L		3,575
		Area	
	X-7725	A	176,903
		B	142,633
		C&C1	250,461
		D	5,488
		E&F	147,832
		G	34,381
		H	18,481
		J	20,960
		K	16,455
		L	5,320
		M	30
		M1	0
		N	7,965
		N1	0
		P	1,582
		P1	75
		P3	27,070
		Q	12,461
		4A	8,201
		4B	2,482
		4C	7,861
		4E	12,165
Totals		Total (X-7725)	898,807
		Total Volume (gal)	902,382
		Total Volume (cu.ft.)	120,648

Summary of Representative Analytical Data[1]
For
Fernald Depleted UF_4

Calculation	U-235 %	U+6 %	H2O %	UF4 %	UO2F 2 %	AOI (UO2)%	Ni ppm U	Fe ppm U	Cr ppm U	Cu ppm U	C ppm U	U-234	U-236 ppm U	Am-241 ppm U	Pu-238 ppm U	Pu-239/240	Np-237	Tc-99	U-235	U-238 ppm U
Number of Samples	439	429	431	439	431	408	429	431	431	431	419	62	62	62	62	62	62	62	60	60
Mean	0.1976	0.4094	0.0383	99.4449	0.5270	0.01	10.6573	28.5244	5.0186	9.4084	22.3317	7.873	24.1	8.0988e-7	1.5927e-8	6.5453e-6	0.0026	0	1586.8	813583.3
Minimum Value	0.14	0.01	0.01	98.36	0.01	0.01	5	5	5	5	13	0.057	4.36	-5.0902e-7	-1.9915e-9	-1.8845e-5	0.0016	0	1060	544000
Maximum Value	1.696	1.2	0.16	99.99	1.55	0.01	110	381	6	229	290	26.2	64.4	5.6103e-6	1.1965e-7	4.2825e-5	0.0053	0	1880	985000
Standard Deviation	0.1065	0.2631	0.0256	0.3622	0.3423		10.9507	40.9798		15.6681	30.1643	5.803	11.5	8.5446e-7	1.8521e-8	6.6209e-6	0.0008	0	190.3	100884.3

Note:

1. Summary data represents actual samples of product from the Fernald UF_4 production process, but cannot be identified with specific containers of UF_4 in interim storage at Portsmouth.

Summary of Representative Analytical Data[1]
For
Fernald Low Enriched UF_4 (All UF_4)

Calculation	Al ug/gU	Sb ug/gU	AOI wt%(UO2F2)	As ug/gU	Ba ug/gU	Be ug/gU	Bi ug/gU	B ug/g	Br ug/gU	Cd ug/gU	Ca ug/gU	Cl ug/gU	CR ug/gU	CU ug/gU	GAMMA ug/gU	Fe ug/gU	Pb ug/gU	Li ug/gU	Mg ug/gU
Number of Samples	122	122	122	122	122	122	122	122	122	121	122	122	122	122	122	120	122	122	122
Mean	15.59	0.6	7.0405	3.0002	3.0102	0.6	0.6	0.5	69.71	0.9044	59.7607	35.3934	7.9722	10.413	10.534	62.5533	4.6734	0.6014	16.2861
Minimum Value	13	0.513	3.92	2.57	2.57	0.513	0.513	0.5	35	0.77	14	35	1.48	1.69	0	52	3.08	0.513	13
Maximum Value	19	0.734	17.95	3.67	3.99	0.734	0.734	0.5	70	1.47	3000	70	49	104	150	111	19.3	0.743	29.7
Standard Deviation	0.677	0.0229	2.4051	0.1142	0.1434	0.0229	0.0229	0	3.169	0.0621	274.6799	3.3711	6.5593	16.4708	26.5091	7.3036	2.934	0.0262	2.5201

Note:

1. Summary data represents actual samples of product from the Fernald UF_4 production process, but cannot be identified with specific containers of UF_4 in interim storage at Portsmouth.

Summary of Representative Analytical Data[1]
For
Fernald Low Enriched UF_4 (All UF_4)

Calculation	Mn ug/gU	H20 g/100g Sampled	Mo ug/gU	NI ug/gU	Nb ug/gU	NP237 Bg/gU	P ug/gU	K ug/gU	RU106 Bg/gU	Ru ug/gU	Si ug/gU	Ag ug/gU	Na ug/gU	Sr ug/gU	Ta ug/gU	TC_99 ug/gU	Th ug/gU	Sn ug/gU	Ti ug/gU
Number of Samples	122	122	122	122	121	121	122	122	122	122	122	121	122	122	122	122	122	122	122
Mean	1.2047	0.153	2.0308	42.9025	0.8957	10.41	22.662	15.5893	4.8811	14.997	20.3279	0.6112	30.682	30.0016	1.2053	9.7747	9.8714	5.1342	1.2292
Minimum Value	0.582	0.03	1.35	13.5	0.475	5.33	13.2	13	0	12.8	20	0.513	26	25.7	0.634	1.82	0.513	0.593	1.03
Maximum Value	4.79	0.66	13.6	324	1.1	14.8	103.3	19	56.6	18.4	50	1.3	37	36.7	1.91	22.7	150	11.1	2.18
Standard Deviation	0.8015	0.1007	1.782	55.1176	0.0646	1.7534	18.204	0.6774	11.2486	0.5742	2.8559	0.0802	1.113	1.1417	0.1139	3.0885	28.5136	1.2909	0.1257

Note:

1. Summary data represents actual samples of product from the Fernald UF_4 production process, but cannot be identified with specific containers of UF_4 in interim storage at Portsmouth.

Summary of Representative Analytical Data[1]
For
Fernald Low Enriched UF_4 (All UF_4)

Calculation	TOTAL_ALPHA dpm/gU	TOTAL_U wt%	W ug/gU	U232 ppb U	U234 wt%	U235 wt%	U236 wt%	V ug/gU	Zn ug/gU	Zr ug/gU
Number of Samples	122	122	122	122	122	122	122	122	122	122
Mean	974.9262	75.7984	0.7277	0.0236	0.0069	0.9266	0.0698	0.6034	16.282	10.2794
Minimum Value	700	75.6	0.513	0.0064	0.005	0.826	0.0515	0.513	13.9	1.03
Maximum Value	2170	76.1	3.88	0.06	0.0086	1	0.074	0.912	21.8	194
Standard Deviation	268.6071	0.0953	0.4802	0.0087	0.0006	0.0416	0.0051	0.0363	0.8668	31.0177

Note:

1. Summary data represents actual samples of product from the Fernald UF_4 production process, but cannot be identified with specific containers of UF_4 in interim storage at Portsmouth.