



Tennessee Valley Authority, PSC 1B, 1010 Reservation Road, Muscle Shoals, AL 35662-1010

August 28, 2015

Br. 3

REC R610831 15 AM 10:09

Philip D. Davis, Chief
Land Division
Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110

Attention: Krishna Morrissette

Mr. Davis:

03038667

TENNESSEE VALLEY AUTHORITY (TVA), MUSCLE SHOALS RESERVATION, HAZARDOUS WASTE STORAGE FACILITY (HWSF) ADEM PERMIT ID AL 2 640 090 005 - CERTIFICATION OF CLOSURE COMPLETENESS FINAL REPORT ADDENDUM

Enclosed are two copies and an electronic copy of the Merrick Team's Addendum to the Certification of Closure Completeness for the Tennessee Valley Authority (TVA), Power Service Center (PSC) Hazardous Waste Storage Facility (HWSF) (Permit ID Number AL 2 640 090 005) for the Mixed Waste Storage Buildings (MWSBs), (NRC License No. 41-08165-19) located in Muscle Shoals, Alabama. This Addendum describes those activities performed at the MWSBs in compliance with the Closure Plan.

On May 28, 2015, the NRC issued the License Termination (License No. 41-08165-19) releasing the MWSBs and thus allowing the Resource Conservation and Recovery Act (RCRA) closure process to begin. Washing and rinsing of the MWSBs was conducted on June 23, 2015. Final rinsate analysis and PCB wipe sample analysis show closure criteria have been met. This document contains a certification by a Professional Engineer (PE), registered in the State of Alabama, that closure was performed in accordance with the specifications outlined in the Closure Plan for the facility and is being transmitted to ADEM.

Rinsate and PCB wipe sample analysis of the north and south MWSBs have been compared to applicable regulatory thresholds and found to be below action levels and no further action is required.

Should ADEM approve this Addendum, as expected, TVA requests permission to cease all previous HWSF activities including inspections upon approval of this Addendum. TVA also requests that the HWSF and MWSBs be deemed as "clean closed" with "no further action". After receiving ADEM's approval, TVA will develop and submit a draft permit modification for a Post - Closure permit adding the HWSF and the MWSBs as solid waste management units (SWMUs).

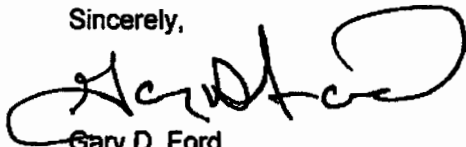
For further information please contact Mr. Ken Hickerson at (423) 751-7561.

585991

Mr. Philip D. Davis, Chief
Page 2
August 28, 2015

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,



Gary D. Ford
GM, Power Service Shops

Enclosure
cc (Enclosure):

Ms. Heatherly McTeer Toney, Regional Administrator
U.S. Environmental Protection Agency, Regional IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, Southwest
Atlanta, GA 30303-8960

Mr. Ken Feely
Resource Conservation and Recovery Act Division
U.S. Environmental Protection Agency, Regional IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, Southwest
Atlanta, GA 30303-8960

Ms. Jan Martin
Resource Conservation and Recovery Act Division
U.S. Environmental Protection Agency, Regional IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street, Southwest
Atlanta, GA 30303-8960

Ms. Krishna Morrissette
Governmental Hazardous Waste Branch - Land Division
Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110

Licensing Assistance Team
Division of Nuclear Materials Safety
U.S. Nuclear Regulatory Commission
2100 Renaissance Boulevard
King of Prussia, PA 19406-2713

Addendum
Certification of Closure Completeness for the
Tennessee Valley Authority, Power Service Center
Mixed Waste Storage Buildings
(former Hazardous Waste Storage Facility)
Muscle Shoals, Alabama

Mr. Sam W. Hixson
Manager, Waste Permits, Compliance, and Monitoring
Tennessee Valley Authority
1101 Market Street Blue
Ridge 4A Chattanooga, TN
37402

Re: Tennessee Valley Authority, Muscle Shoals Reservation
Mixed Waste Storage Buildings (NRC License No. 41-08165-19)
Certification of Closure Completeness Final Report (Addendum)

Dear Mr. Hixson:

The Merrick Team has prepared this Addendum to the Certification of Closure Completeness for the Tennessee Valley Authority (TVA) Muscle Shoals Reservation (MSR) to document closure activities at the Mixed Waste Storage Buildings (MWSBs) (NRC License No. 41-08165-19) located in Muscle Shoals, Alabama former Hazardous Waste Storage Facility (HWSF). This document describes those activities performed at the MWSBs in compliance with the Closure Plan. On May 28, 2015, the NRC issued the License Termination (License No. 41-08165-19) releasing the MWSBs and thus allowing the Resource Conservation and Recovery Act (RCRA) closure process to begin. Washing and rinsing of the MWSBs was conducted on June 23, 2015. Final rinsate analysis and PCB wipe sample analysis show closure criteria have been met. This document contains a certification by a Professional Engineer (PE), registered in the State of Alabama, that closure was performed in accordance with the specifications outlined in the Closure Plan for the facility.

This certification of Closure includes documentation of decontamination procedures, sampling and analysis results, as well as the following:

- Addendum Work Plan including Sampling Checklist (Appendix A);
- Daily Inspection Summary Reports (Appendix B);
- Photographic Reporting Data Sheets (Appendix C);
- Laboratory Reports (Appendix D);
- Wastewater Disposal Documentation (Appendix E);
- PCB Wipe Sampling Procedure Documentation (Appendix F);
- NRC Closure Documentation (Appendix G)
 - May 28, 2015, NRC License Termination Letter
 - April 28, 2015 Certificate of Management Letter
 - April 20, 2015 letter
 - January 27, 2015 letter (in February 23, 2015 report as Appendix J)

Addendum
Certification of Closure Completeness for the
Tennessee Valley Authority, Power Service Center
Mixed Waste Storage Buildings
(former Hazardous Waste Storage Facility)
Muscle Shoals, Alabama

Contents

Executive Summary 4

Facility Description 4

Closure Schedule 4

Summary of Closure Activities 5

Sample Summary 8

Conclusions 8

Certification 9

- Appendix A Addendum Work Plan including Sampling Checklist
- Appendix B Daily Inspection Summary Reports
- Appendix C Photographic Reporting Data Sheets
- Appendix D Laboratory Reports
- Appendix E Wastewater Disposal Documentation
- Appendix F PCB Wipe Sampling Procedure Documentation
- Appendix G NRC Closure Documentation

Executive Summary

This report describes the closure steps TVA has taken at the Mixed Waste Storage Buildings (MWSBs) located at the Muscle Shoals Reservation (MSR) former Hazardous Waste Storage Facility (HWSF). On May 28, 2015 the NRC issued the License Termination (License No. 41-08165-19) releasing the MWSBs and thus allowing the closure process to begin.

ADEM approved the closure of the MWSBs during a teleconference on April 17, 2015. Implementation of the closure activities began on June 23, 2015, with oversight by Keith Kaylor, the independent Professional Engineer (PE) and Juliana Morelli, PG, REM, the Quality Control Assurance Officer (QCAO).

Closure of the MWSBs was completed on June 23, 2015, with the cleaning of both the north and south buildings. A third MWSB was not installed on a concrete pad at the HWSF resulting in no waste storage of any type at that permitted location. Consequently, no additional actions were deemed necessary for clean closure of a MWSB that was never installed or used. Collection of clean confirmation samples from the third and fourth rinses of the buildings were obtained. The final rinsate sample analyses of the north and south MWSBs have been compared to RCRA Land Disposal Restrictions (LDRS) and were found to be below action levels. Results from PCB wipe sampling for both buildings were below detection level (BDL) for all contaminants.

Facility Description

The MWSB facility utilized two metal, portable, self-contained buildings for the temporary storage of mixed radioactive and hazardous waste in accordance with NRC License Number 41-08165-19. Each portable self-contained building is 8.25 feet wide by 22 feet long and 8.7 feet in height. The MWSBs are located north of the primary warehouse structure located on the HWSF site. All areas of the HWSF surrounding the primary warehouse, including the exterior storage areas and around the MWSBs, are paved with asphalt. A chain link fence topped with barbed wire encloses the facility and remains locked whenever the facility is unattended.

Closure Schedule

ADEM approved the closure of the MWSBs during a teleconference on April 17, 2015. This Addendum to the Certification of Closure documents that implementation of the Closure Plan for the MWSBs has been conducted and meets the required elements of compliance associated with the closure process.

Washing and rinsing of the MWSBs began on June 23, 2015, and was concluded the same day. Rinsate and wipe samples were collected for analysis and samples from both buildings. Analytical results were reported below LDR and PSL contaminant thresholds. Wastes derived from the cleaning activities were characterized and disposed of on July 21, 2015.

TVA will submit to the Department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan.

No survey plat is included because there is no waste remaining at the facility. All structures have been decontaminated, as described herein, and meet the standard of unrestricted use. No post closure care of the property is anticipated.

Summary of Closure Activities

The draft Addendum Work Plan was prepared on June 17, 2015, for conducting facility closure, including decontamination of interior floors and floor grates within the two MWSBs. After the Merrick Team received comments from TVA, the Work Plan was finalized on June 18, 2015. The cleaning of the two MWSBs was conducted on June 23, 2015. The final Addendum Work Plan is attached as **Appendix A** of this document. Inspection Summary Reports and Representative Photographs of field activities are presented in **Appendix B** and **C**, respectively.

The cleaning began with the removal of tape markers from the north and south building floors and from around the building HVAC units. Dust and debris was removed from the south building using a High Efficiency Particulate Air (HEPA) filter vacuum. Bagged debris was held to characterize wastes. A non-hazardous waste determination was made and the debris was disposed as industrial waste in a solid waste landfill. Next, the grates and metal panels in the south building were cleaned with soap and rinsed with tap water inside the building. The metal panels were then temporarily placed outside of the building on clean plastic formally used for clean forklift storage. The grating on the south building floor was then relocated inside the building in order to access the floor. The floor and risers were then rinsed. The rinse water was collected with a wet vacuum and stored in 55-gallon drums for management as wastewater. The floor was mopped after the initial rinse. A second rinse followed by a third rinse was conducted. A clean confirmation sample was collected from the third rinse.

Cleaning of the north building followed the same procedures as the south building.

Three PCB wipe samples were collected from the floor of the south building and an additional three PCB wipe samples were collected from the floor of the north building. All cleaning equipment was decontaminated or containerized for disposal. Samples were collected from the drums containing wastewater originating from the cleaning of both buildings for waste characterization.

Laboratory analysis was received and evaluated for all final rinsate samples. The analyte concentration data were compared to land disposal restriction (LDR) thresholds as noted in ADEM Administrative Code 335-14-9-.04 Subpart D. Laboratory data are provided in **Appendix D**. A summary of analytical results is compiled below.

Table 1 - Rinsate Analysis Following the Cleaning Effort of the North and South Mixed Waste Storage Buildings

Date	Analyte	EPA Method	SMWB-Rinse 3 Result (mg/L)	SMWB-Rinse 4 Result (mg/L)	NMWB-Rinse 3 Result (mg/L)	NMWB-Rinse 4 Result (mg/L)	NMWB-Wash/Rinse Result (mg/L)	Detection Limit (mg/L)	RCRA LDR ¹ (mg/L)	ADEM PSL ² (mg/L)
06/23/15	Mercury	7470A	BDL	BDL	BDL	BDL	0.00035	0.00020	0.15	0.002
06/23/15	Barium	6010B	0.041	0.039	0.066	0.076	0.22	0.0050	1.2	2.0
06/23/15	Cadmium	6010B	BDL	BDL	BDL	BDL	0.0069	0.0050	0.69	0.005
06/23/15	Chromium	6010B	0.012	0.012	BDL	BDL	0.047	0.010	2.77	0.1
06/23/15	Lead	6010B	BDL	BDL	BDL	BDL	0.042	0.0050	0.69	0.015
06/23/15	Bromodichloromethane	8260B	0.0017	0.0011	BDL	0.0010	0.0011	0.0010	0.35	0.08
06/23/15	Chloroform	8260B	0.0057	BDL	BDL	BDL	BDL	0.0050	0.046	0.08
06/23/15	Ethylbenzene	8260B	BDL	BDL	0.0097	0.0094	BDL	0.0010	0.057	0.7
06/23/15	4-Methyl-2-pentanone	8260B	BDL	BDL	0.056	0.049	BDL	0.010	0.14	0.2
06/23/15	Xylenes, total	8260B	0.0038	0.0065	0.074	0.071	BDL	0.0030	0.32	10
06/23/15	Benzo(a)anthracene	8270C	BDL	BDL	BDL	BDL	0.0013	0.0010	0.059	0.000092
06/23/15	Benzo(b)fluoranthene	8270C	BDL	BDL	BDL	BDL	0.0040	0.0010	0.11	0.000092
06/23/15	Benzo(k)fluoranthene	8270C	BDL	BDL	BDL	BDL	0.0020	0.0010	0.11	0.00092
06/23/15	Benzo(g,h,i)perylene	8270C	BDL	BDL	BDL	BDL	0.0021	0.0010	0.0055	0.0469
06/23/15	Benzo(a)pyrene	8270C	BDL	BDL	BDL	BDL	0.0018	0.0010	0.061	0.0002
06/23/15	Chrysene	8270C	BDL	BDL	BDL	BDL	0.0030	0.0010	0.059	0.0092
06/23/15	Fluoranthene	8270C	BDL	BDL	BDL	BDL	0.0052	0.0010	0.068	0.15
06/23/15	Indeno (1,2,3-cd) pyrene	8270C	BDL	BDL	BDL	BDL	0.0018	0.0010	0.0055	0.000092
06/23/15	Phenanthrene	8270C	BDL	BDL	BDL	BDL	0.0016	0.0010	0.059	0.0469
06/23/15	Bis (2-ethylhexyl) phthalate	8270C	0.0034	0.0033	BDL	0.0052	0.025	0.0030	0.28	0.006
06/23/15	Dimethyl phthalate	8270C	0.0074	0.0052	BDL	BDL	0.0039	0.0030	0.20	38
06/23/15	Pyrene	8270C	BDL	BDL	BDL	BDL	0.0038	0.0010	0.067	0.018

Notes:

1 - 40 CFR 268.40: Treatment Standards for Hazardous Waste- <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol28/xml/CFR-2012-title40-vol28-part268.xml#seqnum268.48>

2 - ADEM Preliminary Screening Levels for Groundwater/Tapwater (Table 2-2) <http://adem.alabama.gov/programs/land/landforms/arbcamanual.pdf>

Table 2 – Wipe Sampling Data Summary

Date	Analyte	EPA Method	SMWB-G-2 (µg/wipe)	SMWB-G9 (µg/wipe)	SMWB-G22 (µg/wipe)	NMWB-G5 (µg/wipe)	NMWB-G9 (µg/wipe)	NMWB-G21 Wipe 3 (µg/wipe)	Detection Limit (µg/wipe)
06/23/2015	PCB 1016	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1221	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1232	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1242	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1248	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1254	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5
06/23/2015	PCB 1260	8082	BDL	BDL	BDL	BDL	BDL	BDL	0.5

Notes:

- 1 - Analytical wipe results are reported as µg/wipe. As each wipe sampled a 100 cm² area, results and detection limits are equivalent to µg/100cm².
- 2 - All results for the South MWSB and North MWSB were BDL.

Sample Summary

The final rinsate sample analyses of the north and south MWSBs have been compared to RCRA Land Disposal Restrictions (LDRs) and were found to be below action levels. Results from PCB wipe sampling for both buildings were below detection level (BDL) for all contaminants.

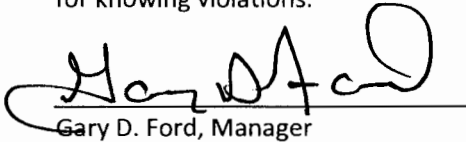
Wash water and rinsate collected during the various washing and rinsing activities within and around the MWSBs were collected and containerized in 55-gallon steel drums. These drums were temporarily stored within the TVA Power Service Center Less Than 90 Day Temporary Hazardous Waste Storage Area. Written permission was obtained from the City of Muscle Shoals Wastewater treatment plant (WWTP) to discharge the non-hazardous wastewater to the sanitary sewer system (see **Appendix E**). On July 21, 2015, 140 gallons were discharged in this manner.

Conclusions

The MWSBs were cleaned per the Closure Plan upon receipt of license closure from the Nuclear Regulatory Commission and referenced letters (see **Appendix G**). Prior NRC documentation is contained in Appendix J of the initial Closure Plan. Analysis of rinsate samples from the north and south buildings have been compared to applicable regulatory thresholds and were found to be below action levels. Based on the results, no further action is required.

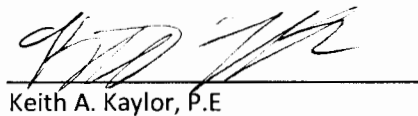
Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



Gary D. Ford, Manager
General Manager, Power Service Shops
Tennessee Valley Authority


8-28-15
Date



Keith A. Kaylor, P.E.
Independent Registered Professional Engineer
Alabama License Number 23588

8/6/2015
Date

(P. E. Seal)



Juliana Morelli, PG, REM
Quality Control Assurance Officer

8-6-2015
Date

FIGURE 1 - Site Layout

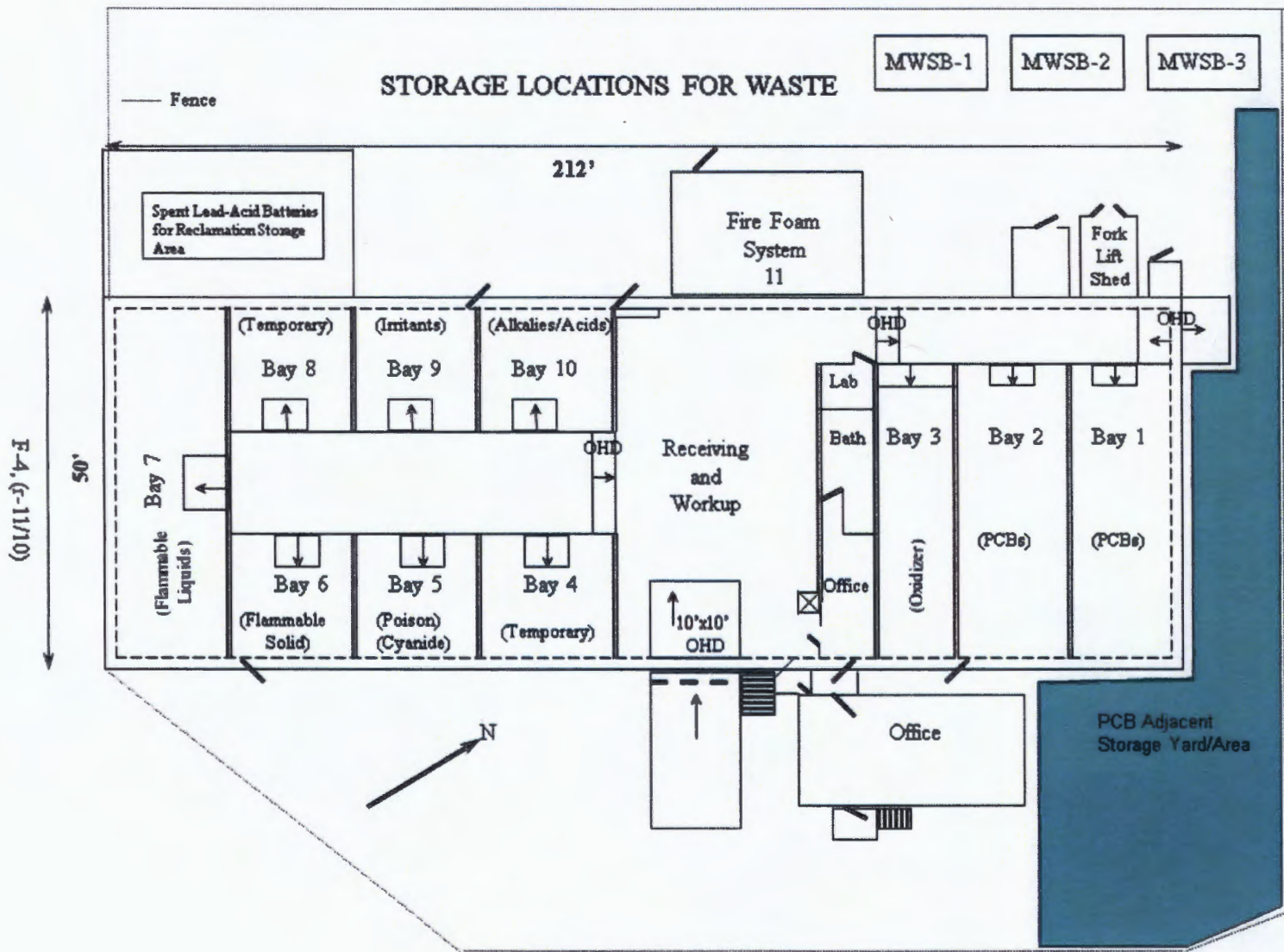


Figure F-1

Note: Fence and PCB adjacent storage area indicated are approximate locations.

**APPENDIX A - Addendum
Work Plan**

**WORK PLAN
FOR
MIXED WASTE STORAGE BUILDINGS (MWSB) CLOSURE**

**Muscle Shoals Reservation
Muscle Shoals, Alabama**

Prepared for:



**Tennessee Valley Authority
Muscle Shoals Reservation – Power Service Center
Muscle Shoals, Alabama 35661**

August 06, 2015

TABLE OF CONTENTS

1.0	PROJECT BACKGROUND	1
1.1	Site Description and History	1
1.2	Project Objectives and Scope.....	1
2.0	PROJECT ORGANIZATION AND RESPONSIBILITIES	2
3.0	SCHEDULE	3
3.1	Cleaning for Closure of Mixed Waste Buildings	3
3.1.1	Initial Planning and Preparation.....	3
3.1.2	Field Activities	3
3.1.3	Post-Field Activities	3
4.0	WORK PROCEDURES – MIXED WASTE STORAGE BUILDINGS	4
4.1	Initial Planning	4
4.2	Initial Preparation.....	4
4.3	Interior Decontamination	4
4.4	Waste Disposal.....	5
4.5	Reporting and Documentation.....	5
4.6	Closure Certification	6
5.0	SAMPLE CONTROL AND FIELD RECORDS.....	7
5.1	Chain-of-Custody Records	7
5.2	Sample Packaging and Shipping Procedures	7
5.3	Quality Assurance/Quality Control.....	7

1.0 PROJECT BACKGROUND

The Merrick Team was tasked by the Tennessee Valley Authority (TVA) to perform a Certification of Closure Completeness for the Muscle Shoals Reservation (MSR) Hazardous Waste Storage Facility (HWSF) (Permit ID Number AL 2 640 090 005) in Muscle Shoals, Alabama. This work plan was developed to ensure that the HWSF closure is performed in accordance with the Waste Analysis Plan and Spill Cleanup Procedure of the Resource Conservation and Recovery Act (RCRA) Part B Closure Plan for the facility. The Closure Plan has been approved by the Alabama Department of Environmental Management (ADEM).

The HWSF building and exterior areas were cleaned, as described herein, with the exception of the Mixed Waste Storage Buildings (MWSB). ADEM concurrence on the initial activities was received on April 17, 2015. The last disposal shipment of mixed waste from the facility was on June 12, 2013, and no additional mixed hazardous waste was received after that date. TVA's Mixed Waste Storage Buildings (MWSB) ceased principal activities as scheduled on June 30, 2014 and decommissioning activities were begun. A Final Radiological Status Survey was completed the week of December 1, 2014, concluding that the level of residual radioactivity that is distinguishable from background radiation is as low as reasonably achievable. The Final Status Survey Report demonstrates the facility is suitable for unrestricted release as required by 10 CFR 20.1402.

The Nuclear Regulatory Commission has provided TVA an official letter dated May 28, 2015, and received on June 18, 2015, terminating the materials license and releasing the facilities for unrestricted use. Since NRC has released the MWSBs for unrestricted use, TVA is providing this separate Addendum Work Plan to our Closure Report. This Work Plan includes a description of the MWSB and cleaning activities proposed for closure in accordance with the RCRA Permit.

1.1 Site Description and History

The MWSB has consisted of two one-story portable self-contained metal buildings used as temporary warehouses to store mixed waste for TVA since 1995 for the temporary storage of mixed waste (i.e., radioactive hazardous wastes) in accordance with NRC Material License Number 41-08165-19. Buildings 1 and 2 each measure 8.25 ft. wide by 22 ft. long and 8.7 ft. high. The MWSBs are located north of the primary warehouse structure.

1.2 Project Objectives and Scope

The purpose of this project is to provide a certification by an independent Professional Engineer registered in the State of Alabama that closure of the facility was performed in accordance with the Closure Plan. The TVA prepared the following scope of work to accomplish this objective:

- Develop an Addendum Work Plan (this document) including a sampling strategy that adopts the elements of the ADEM-approved Waste Analysis Plan.
- Collect and analyze wastewater and rinsate samples following the washing procedures required by the Closure Plan.
- The independent Professional Engineer or his designee will observe decontamination activities at the MWSBs and document these activities.
- Perform a close-out inspection of the facility.
- Prepare a Certification of Closure Completeness, to be signed and sealed by the independent Professional Engineer.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

The principal points-of-contact for this project is:

Mr. Kenneth Hickerson
TVA Waste Permits, Compliance, and Monitoring
Tennessee Valley Authority
1101 Market Street, BR 4 A - C
Chattanooga, TN 37402
423-751-7561

Mr. Keith Kaylor, PE
Spectra Tech, Inc.
5151 Brook Hollow Parkway, Suite 250
Norcross, GA 30071
770-286-7477

Ms. Juliana Morelli, PG, REM
Atkins North America, Inc.
10100 Reunion Place, Suite 850
San Antonio, TX 78216
210-386-6580
Juliana.Morelli@atkinsglobal.com

Mr. Michael Wade, P.G.
Spectra Tech, Inc.
5151 Brook Hollow Parkway, Suite 250
Norcross, GA 30071
678-428-5278
mwade@spectratechinc.com

3.0 SCHEDULE

This section includes the proposed schedule for all closure activities. Where precise dates are not yet known, approximate dates will be used. This schedule may be modified, based on actual field conditions and work activities projected and completed. Mr. Bobby Williams, TVA, maintains a Project Schedule for work assignments and anticipated completion dates in addition to the description provided herein.

3.1 Cleaning for Closure of Mixed Waste Buildings

3.1.1 Initial Planning and Preparation

- June 1, 2015 – TVA Status Meeting for coordination of the RCRA cleaning of the mixed waste building (in anticipation of the NRC termination letter)
- June 5, 2015 - Completion of Addendum to Work Plan and required field forms
- June 15, 2015 - TVA to obtain waste containers, waste labels, decontamination supplies such as plastic sheeting and personal protective equipment
- June 18, 2015 – Obtained License Termination dated May 28, 2015 from Nuclear Regulatory Commission

3.1.2 Field Activities

- June 23, 2015 – Conduct initial preparation for building decontamination, including set-up of waste staging area(s).
- June 23, 2015 - Collect full set of chemical constituents on
 - water to be used,
 - soap/washwater and first two rinses,
 - third rinsate water (clean confirmation no. 1), and
 - fourth rinsate water (clean confirmation no. 2)
 - 2nd set of rinse water.
 - One full set of trip blanks.
 - Send all four sets of samples to the offsite laboratory for analyses.
 - Decontamination activities to be observed by a 3rd party PE and will include pictures of all activities.
- July 3, 2015 – Receive analyses back from offsite laboratory on all six sets of full chemical constituents.

3.1.3 Post-Field Activities

- After all laboratory results received, disposal of all wastewater into sewer system or designate as hazardous waste.
- Prepare draft Addendum to Closure Certification and send to TVA for review.
- Resolve TVA comments
- Submit Addendum to Closure Certification to ADEM for final cleaning activities.

4.0 WORK PROCEDURES – MIXED WASTE STORAGE BUILDINGS

4.1 Initial Planning

The following steps will be performed under the supervision of the Independent Professional Engineer (P.E.) prior to initiation of decontamination activities on June 23, 2015.

- Preparation of Addendum to Work Plan (this document)
- Preparation of required field forms (field data checklist, safety behavior observation sheet, and job safety analysis worksheet)
- TVA to obtain waste containers, waste labels, decontamination supplies

4.2 Initial Preparation

TVA will provide all materials needed in time for the MWSF decontamination. These materials include:

- 55-gallon drums for waste disposal
- Labels for waste containers
- Decontamination supplies such as plastic sheeting and decontamination equipment
- Personal protective equipment
- Materials for protecting the two storm drains near the facility
- Sample kits, labels, pipettes, coolers, etc. for collection of rinsate for analysis

4.3 Interior Decontamination

Decontamination of the building interiors will be performed in two stages. Building 1 will be cleaned during the first stage. Building 2 will be cleaned during the second stage. All waste materials generated are to be analyzed in accordance with the Sample Analysis Checklist (Attachment A). The following procedures are to be followed, in order:

1. Prior to beginning the wash operation, a visual inspection will be performed to evaluate the integrity of the floor and identify any stained areas or surface residue. Any surface residue will be removed with detergent, solvent, or grinder before cleaning.
2. All floor mats must be removed prior to cleaning. Removal of mastic and adhesives may be required.
3. Each area is to be initially cleaned using a dry HEPA vacuum. The waste from the vacuum is to be placed in a 55-gallon drum and sampled for waste characterization.
4. Each Building floor is to be washed with detergent solution and rinsed using a clean mop and liquids will be collected using a wet vacuum. The water is to be containerized and a sample taken for waste characterization. Wash

- waters from Buildings 1 and 2 may be combined for waste characterization and disposal purposes.
5. A final rinse is to be performed for each area, with the water collected for a clean closure confirmation sample. Final rinsate samples should be collected directly from the floor using a glass pipette and transferred immediately to a laboratory prepared sample collection container.
 6. One additional rinse and sample shall be performed and collected to reduce the risk of an additional mobilization in the event that the initial rinsate analysis is returned above regulatory thresholds for closure.
 7. Containerized waste water will be placed into a "clean" area until laboratory results are received. The "clean" area will be lined with plastic sheeting.

4.4 Waste Disposal

It is anticipated that the following waste materials will be generated by this project:

- HEPA vacuum waste
- Floor rinse water
- Plastic sheeting
- Personal protective equipment
- Cleaning equipment (mops, etc.)

All waste materials generated are to be analyzed in accordance with the Sample Analysis Checklist (**Attachment A**). All rinse water is to be analyzed to determine if it can be disposed of into the industrial sewer system. The rinse water containers will be held in a "clean" area until sample results are received. All materials requiring disposal as hazardous waste will be shipped to an EPA-approved facility in accordance with EPA and TVA requirements.

4.5 Reporting and Documentation

The following records will be kept by the independent P. E. in order to meet the ADEM requirements for closure of the HWSF:

- Field log book including description of all significant activities, persons present, samples collected for analysis all deviations from the closure plan and this work plan. The date and time of each activity will be recorded. At the conclusion of each day, the person maintaining the logbook will sign and date the day's entries.
- Significant photographs will be collected into data sheets and included in the closure certification.
- Job safety analysis worksheets
- Safety Behavior Observation sheets
- Completed sampling checklist (**Attachment A**)

Weekly meetings will be held on this project, during which the independent P.E. or his representative will keep notes. Meeting notes will track all action items, responsible

person(s), and date due. A weekly report will be submitted to TVA by noon CST each Thursday documenting weekly happenings including meetings that have been held and are to be held.

4.6 Closure Certification

The independent P. E. will prepare an Addendum to the Closure Certification for the work at the MWSB confirming that closure of the HWSF has been accomplished in accordance with the closure plan. The certification will include the following elements:

- Letter report including all required signatures and certifications
- Work Plan Addendum
- Daily inspection summary reports (Copies of field log book)
- Problem identification and corrective measure reports (if any)
- Photographic reporting data sheets
- Analytical results
- Waste manifests
- Job safety analysis worksheets
- Safety Behavior Observation sheets

5.0 SAMPLE CONTROL AND FIELD RECORDS.

5.1 Chain-of-Custody Records

The Chain-of-Custody (COC) form provides documentation of the handling of each sample from the time it is collected until it is destroyed. The COC generated during the sampling phase of the project will be completed by the person assuming responsibility for the sample after it has been collected. The COC will remain with the sample(s) at all times. The completed form will be placed in the shipment cooler before it is sent to the laboratory. Upon delivery, the designated laboratory person will take custody of the samples and sign the COC form. The laboratory will return the completed COC forms with the analytical reports.

5.2 Sample Packaging and Shipping Procedures

Samples from the project will be shipped in accordance with U.S. Department of Transportation (DOT) regulations. The following general procedures apply to the packaging and shipment of all samples:

- All coolers will have the drain plug taped shut and will be lined with a large plastic garbage bag if they will be shipped. A layer of inert packing material will be placed in the bottom of the liner.
- The samples will be packaged and placed upright in the cooler in such a way that the samples do not touch each other during shipment.
- The empty space within each cooler will be filled with ice and/or packing material and the inner liner will be taped shut.
- The coolers will be shipped to the laboratory on ice and chilled to 4°C ($\pm 2^\circ\text{C}$). A 125-mL plastic bottle filled with water will be included as a temperature blank.
- All paperwork being sent to the laboratory, including the COC forms, will be placed in a plastic bag taped to the inside of the cooler lid.
- All coolers will be sealed with strapping tape and at least two custody seals.

5.3 Quality Assurance/Quality Control

All samples will be analyzed under a standard Level II laboratory quality control (QC) report which includes a sample check list, chain-of-custody, sample results, QC summary report, method blank, lab spike, batch matrix spike/matrix spike duplicate, and a sample duplicate.

ATTACHMENT A

CHECKLIST FOR SAMPLING AND ANALYSES – MUSCLE SHOALS MWSB

Item	Purpose	Sample Type	Analyses	Date Completed
RCRA Wash & Rinse				
HEPA vacuum dust (Bldg)	Waste characterization	solid	TCLP	6/23/2015
MWSB 1 Wash and Rinse Water	Waste characterization	Water	Full Spectrum*	6/23/2015
Second Rinse	Waste characterization	Water	Full Spectrum*	6/23/2015
Final rinse	Closure clearance	Water	Full Spectrum*	6/23/2015
HEPA vacuum dust (Bldg 2)	Waste characterization	solid	TCLP	6/23/2015
MWSB 2 Wash and Rinse Water	Waste characterization	Water	Full Spectrum*	6/23/2015
Second Rinse	Waste characterization	Water	Full Spectrum*	6/23/2015
Final rinse	Closure clearance	Water	Full Spectrum*	6/23/2015
PCB Survey				
MWSB 1 PCB Wipe Sampling	Environmental	Soil	PCBs (EPA 8081)	6/23/2015
MWSB 2 PCB Wipe Sampling	Environmental	Soil	PCBs (EPA 8081)	6/23/2015

*Full spectrum includes:

RCRA Metals (EPA 6010/6020)

VOCs (EPA 8260)

SVOCS EPA 8270)

Pesticides (EPA 8081)

Herbicides (EPA 8151)

**APPENDIX B - Daily
Inspection Summary
Reports**

6/23/15

0510 KEITH KAYLOR AND CHRIS KILLER ARRIVE AT HWSE
TO CLEAN MIXED WASTE BUILDINGS

0519 CUSTOMERS STAFF ARRIVE - MONA AND CAROLYN

0525 CHRIS KILLER CONDUCTS SAFETY BRIEFING

0535 BEGIN SETTING UP EQUIPMENT AND PUTTING ON PPE

0548 CAROLYN REMOVING TAPE MARKERS FROM SOUTH BUILDING FLOOR
AND AROUND HVAC UNIT

0555 CAROLYN REMOVING TAPE MARKERS FROM NORTH BUILDING FLOOR
AND AROUND HVAC UNIT

0602 BEGIN SPRAYING SOAP AND MOP OF GRATES IN SOUTH BUILDING

0608 MYSTERY METAL PANELS ARE INSIDE OF SOUTH BUILDING -
CHRIS IS SPRAYING WITH SOAP AND RINSE WITH TAP WATER -
THESE WILL BE TEMPORARILY PLACED OUTSIDE OF BUILDING AND REPLACED
WHEN CLEANING FINISHED (PLACED ON PLASTIC FORMERLY USED FOR
CLEAN FORK LIFT STORAGE)

0615 MONA RINSING GRATING ON SOUTH BUILDING FLOOR

0620 CHRIS AND MONA MOVING GRATES TO ACCESS FLOOR

0624 BEGIN RINSE OF FLOOR AND RISERS - COLLECT WATER WITH WET VAC
CAROLYN MOPPING FLOOR AFTER INITIAL RINSE

0656 COMPLETED WASH AND FIRST RINSE

0708 BEGIN SECOND RINSE AFTER WATER BREAK - RINSE WITH HOSE
AND COLLECT WITH WET VACS

0731 FINISH SECOND RINSE - BEGIN THIRD RINSE - SMWB - RINSE 3 - 062315

0740 THIRD RINSE SAMPLE COLLECTED BY BUTCH MINOR ↑
MONA AND CAROLYN BEGIN DRY VAC OF NORTH BUILDING
BEGIN SPRAYING SOAP AND MOP OF FLOOR GRATES AND FLOOR

0808 BEGIN WET VAC OF ~~FIRST~~^{THIRD} RINSE FROM SOUTH BUILDING

0820 BEGIN FOURTH RINSE OF SOUTH BUILDING

0825 FOURTH RINSE SAMPLE COLLECTED BY BUTCH - SMWB - RINSE 4 - 062315
BEGIN COLLECTION OF WASH AND RINSE WATER FROM NORTH BUILDING

0840 BEGIN SECOND RINSE OF NORTH BUILDING

0900 FINISH COLLECTION OF SECOND RINSE - BEGIN COLLECTION OF
FINAL RINSE WATER FROM SOUTH BUILDING

0913 BUTCH COLLECTING 3 PCB WIDE SAMPLES FROM SOUTH BUILDING FLOOR
MONA AND CAROLYN PERFORMING EQUIPMENT DECON

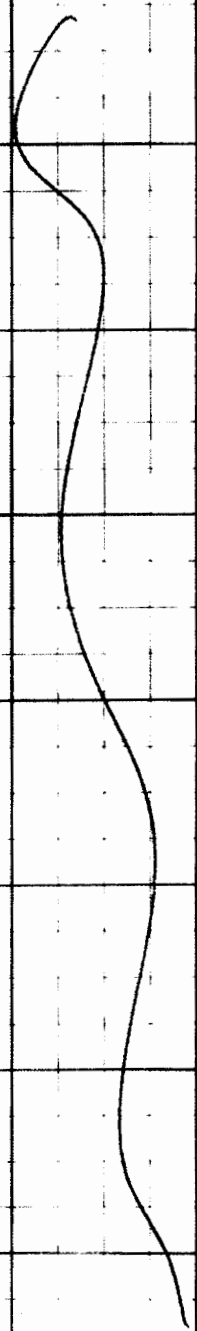
0925 BEGIN THIRD RINSE OF NORTH BUILDING

0945 BUTCH COLLECTING THIRD RINSE SAMPLE - NMWB - RINSE 3 - 062315

001 BEGIN FOURTH RINSE OF NORTH BUILDING
BUTCH COLLECTING FOURTH RINSE SAMPLE - NMWB - RINSE 4 - 062315

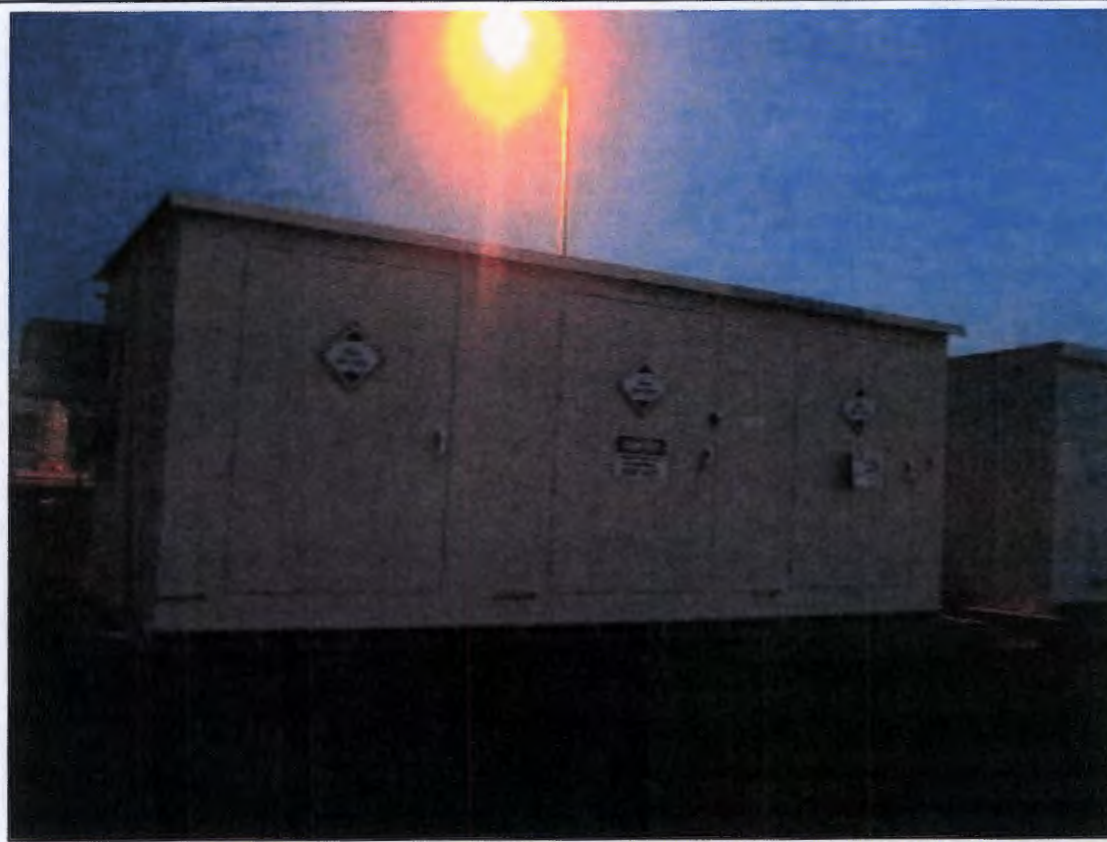
6/23/15

1038	BEGUN COLLECTING FINAL RWSE WATER BUTCH COLLECTING 3 PCB WIPE SAMPLES
1048	MONA AND CAROLYN PERFORMING FINAL DECON OF EQUIPMENT
1110	COLLECTION OF WIPE SAMPLES COMPLETE -
1115	BROCK BUTCH AND CHRIS COLLECTING WASTE SAMPLE FROM WASTEWATER DRUMS MWB - WAST/RWSE 062315
1135	FINISH WASTE CHARACTERIZATION SAMPLES LEFT SITE FOR TVA OFFICE



[Handwritten signature]

APPENDIX C - Photographic Reporting Datasheets



PHOTOGRAPH DATE:
06/23/2015

FACING:
WEST

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

SOUTH MIXED WASTE
BUILDING

PHOTOGRAPH 1



PHOTOGRAPH DATE:
06/23/2015

FACING:
WEST

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

NORTH MIXED WASTE
BUILDING

PHOTOGRAPH 2



CLOSURE CERTIFICATION
HAZARDOUS WASTE STORAGE FACILITY
MUSCLE SHOALS, AL 35661

APPENDIX E - PHOTOGRAPHS
BAT Project No. 141006



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

INTERIOR OF NORTH
MIXED WASTE
BUILDING BEFORE
CLEANING

PHOTOGRAPH **3**



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

INTERIOR OF SOUTH
MIXED WASTE
BUILDING BEFORE
CLEANING

PHOTOGRAPH **4**



CLOSURE CERTIFICATION
HAZARDOUS WASTE STORAGE FACILITY
MUSCLE SHOALS, AL 35661

APPENDIX E – PHOTOGRAPHS
BAT Project No. 141006



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

MOPPING OF FLOOR
GRATES - SOUTH
BUILDING

PHOTOGRAPH 5



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

REMOVAL OF RINSE
WATER - SOUTH
BUILDING

PHOTOGRAPH 6



CLOSURE CERTIFICATION
HAZARDOUS WASTE STORAGE FACILITY
MUSCLE SHOALS, AL 35661

APPENDIX E - PHOTOGRAPHS
BAT Project No. 141006



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:
DRY VACCUM OF
FLOOR - NORTH
BUILDING

PHOTOGRAPH 7



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:
MOPPING OF FLOOR
- NORTH BUILDING

PHOTOGRAPH 8



CLOSURE CERTIFICATION
HAZARDOUS WASTE STORAGE FACILITY
MUSCLE SHOALS, AL 35661

APPENDIX E - PHOTOGRAPHS
BAT Project No. 141006



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

FLOOR OF SOUTH
BUILDING AFTER
CLEANING

PHOTOGRAPH 9



PHOTOGRAPH DATE:
06/23/2015

FACING:
N/A

TAKEN BY:
KEITH KAYLOR

DESCRIPTION:

FLOOR OF NORTH
BUILDING AFTER
CLEANING

PHOTOGRAPH 10



CLOSURE CERTIFICATION
HAZARDOUS WASTE STORAGE FACILITY
MUSCLE SHOALS, AL 35661

APPENDIX E - PHOTOGRAPHS
BAT Project No. 141006

APPENDIX D - Laboratory Reports



12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Michael Gean
TVA- Colbert Fossil
900 Colbert Steam Plant Road
Tuscumbia, AL 35674-6905

Report Summary

Thursday July 02, 2015

Report Number: L773038

Samples Received: 06/24/15

Client Project:

Description: TVA HWSF

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Pam Langford , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,
NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002,
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-01

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 07:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/26/15	1
Arsenic	BDL	0.010	mg/l	6010B	06/25/15	1
Barium	0.041	0.0050	mg/l	6010B	06/25/15	1
Cadmium	BDL	0.0020	mg/l	6010B	06/25/15	1
Chromium	0.012	0.010	mg/l	6010B	06/25/15	1
Lead	BDL	0.0050	mg/l	6010B	06/25/15	1
Selenium	BDL	0.010	mg/l	6010B	06/25/15	1
Silver	BDL	0.0050	mg/l	6010B	06/25/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	07/01/15	1
Acrolein	BDL	0.050	mg/l	8260B	07/01/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	07/01/15	1
Benzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromodichloromethane	0.0017	0.0010	mg/l	8260B	07/01/15	1
Bromoform	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	07/01/15	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	07/01/15	1
Chloroform	0.0057	0.0050	mg/l	8260B	07/01/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	07/01/15	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

ESC Sample # : L773038-01

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 07:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	07/01/15	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	07/01/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Naphthalene	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Styrene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Toluene	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	07/01/15	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,3-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Xylenes, Total	0.0038	0.0030	mg/l	8260B	07/01/15	1
Surrogate Recovery						
Toluene-d8	101.		% Rec.	8260B	07/01/15	1
Dibromofluoromethane	93.2		% Rec.	8260B	07/01/15	1
4-Bromofluorobenzene	99.1		% Rec.	8260B	07/01/15	1
Pesticides						
Aldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Alpha BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Beta BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Delta BHC	BDL	0.000050	mg/l	8081	06/26/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-RINSE3-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 07:40

ESC Sample # : L773038-01

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Gamma BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Chlordane	BDL	0.00050	mg/l	8081	06/26/15	1
4,4-DDD	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDE	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDT	BDL	0.000050	mg/l	8081	06/26/15	1
Dieldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan I	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan II	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan sulfate	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin aldehyde	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin ketone	BDL	0.000050	mg/l	8081	06/26/15	1
Hexachlorobenzene	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor epoxide	BDL	0.000050	mg/l	8081	06/26/15	1
Methoxychlor	BDL	0.000050	mg/l	8081	06/26/15	1
Toxaphene	BDL	0.00050	mg/l	8081	06/26/15	1
Pesticides Surrogates						
Decachlorobiphenyl	43.8		% Rec.	8081	06/26/15	1
Tetrachloro-m-xylene	41.2		% Rec.	8081	06/26/15	1
Herbicides						
2,4-D	BDL	0.0020	mg/l	8151	06/26/15	1
Dalapon	BDL	0.0020	mg/l	8151	06/26/15	1
2,4-DB	BDL	0.0020	mg/l	8151	06/26/15	1
Dicamba	BDL	0.0020	mg/l	8151	06/26/15	1
Dichloroprop	BDL	0.0020	mg/l	8151	06/26/15	1
Dinoseb	BDL	0.0020	mg/l	8151	06/26/15	1
MCPA	BDL	0.10	mg/l	8151	06/26/15	1
MCPP	BDL	0.10	mg/l	8151	06/26/15	1
2,4,5-T	BDL	0.0020	mg/l	8151	06/26/15	1
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	8151	06/26/15	1
Surrogate Recovery						
2,4-Dichlorophenyl Acetic Acid	92.6		% Rec.	8151	06/26/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	06/29/15	1
Anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzidine	BDL	0.010	mg/l	8270C	06/29/15	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

ESC Sample # : L773038-01

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 07:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo(a)pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	06/29/15	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	06/29/15	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	06/29/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
Chrysene	BDL	0.0010	mg/l	8270C	06/29/15	1
Dibenz(a,h)anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
Fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Fluorene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachloroethane	BDL	0.010	mg/l	8270C	06/29/15	1
Indeno(1,2,3-cd)pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Isophorone	BDL	0.010	mg/l	8270C	06/29/15	1
Naphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
Nitrobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	06/29/15	1
Phenanthrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Bis(2-ethylhexyl)phthalate	0.0034	0.0030	mg/l	8270C	06/29/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Diethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Dimethyl phthalate	0.0074	0.0030	mg/l	8270C	06/29/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-01

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 07:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Surrogate Recovery						
2-Fluorophenol	49.0		% Rec.	8270C	06/29/15	1
Phenol-d5	29.9		% Rec.	8270C	06/29/15	1
Nitrobenzene-d5	53.4		% Rec.	8270C	06/29/15	1
2-Fluorobiphenyl	78.8		% Rec.	8270C	06/29/15	1
2,4,6-Tribromophenol	117.		% Rec.	8270C	06/29/15	1
p-Terphenyl-d14	87.3		% Rec.	8270C	06/29/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-RINSE4-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 08:23

ESC Sample # : L773038-02

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/26/15	1
Arsenic	BDL	0.010	mg/l	6010B	06/25/15	1
Barium	0.039	0.0050	mg/l	6010B	06/25/15	1
Cadmium	BDL	0.0020	mg/l	6010B	06/25/15	1
Chromium	0.012	0.010	mg/l	6010B	06/25/15	1
Lead	BDL	0.0050	mg/l	6010B	06/25/15	1
Selenium	BDL	0.010	mg/l	6010B	06/25/15	1
Silver	BDL	0.0050	mg/l	6010B	06/25/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	07/01/15	1
Acrolein	BDL	0.050	mg/l	8260B	07/01/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	07/01/15	1
Benzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromodichloromethane	0.0011	0.0010	mg/l	8260B	07/01/15	1
Bromoform	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	07/01/15	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	07/01/15	1
Chloroform	BDL	0.0050	mg/l	8260B	07/01/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	07/01/15	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
TVA- Colbert Fossil
900 Colbert Steam Plant Road
Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
Description : TVA HWSF
Sample ID : SMWB-RINSE4-062315
Collected By : B. Minor
Collection Date : 06/23/15 08:23

ESC Sample # : L773038-02

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	07/01/15	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	07/01/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Naphthalene	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Styrene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Toluene	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	07/01/15	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,3-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Xylenes, Total	0.0065	0.0030	mg/l	8260B	07/01/15	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/01/15	1
Dibromofluoromethane	92.1		% Rec.	8260B	07/01/15	1
4-Bromofluorobenzene	105.		% Rec.	8260B	07/01/15	1
Pesticides						
Aldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Alpha BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Beta BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Delta BHC	BDL	0.000050	mg/l	8081	06/26/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-RINSE4-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 08:23

ESC Sample # : L773038-02

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Gamma BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Chlordane	BDL	0.00050	mg/l	8081	06/26/15	1
4,4-DDD	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDE	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDT	BDL	0.000050	mg/l	8081	06/26/15	1
Dieldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan I	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan II	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan sulfate	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin aldehyde	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin ketone	BDL	0.000050	mg/l	8081	06/26/15	1
Hexachlorobenzene	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor epoxide	BDL	0.000050	mg/l	8081	06/26/15	1
Methoxychlor	BDL	0.000050	mg/l	8081	06/26/15	1
Toxaphene	BDL	0.00050	mg/l	8081	06/26/15	1
Pesticides Surrogates						
Decachlorobiphenyl	35.7		% Rec.	8081	06/26/15	1
Tetrachloro-m-xylene	43.9		% Rec.	8081	06/26/15	1
Herbicides						
2,4-D	BDL	0.0020	mg/l	8151	06/26/15	1
Dalapon	BDL	0.0020	mg/l	8151	06/26/15	1
2,4-DB	BDL	0.0020	mg/l	8151	06/26/15	1
Dicamba	BDL	0.0020	mg/l	8151	06/26/15	1
Dichloroprop	BDL	0.0020	mg/l	8151	06/26/15	1
Dinoseb	BDL	0.0020	mg/l	8151	06/26/15	1
MCPA	BDL	0.10	mg/l	8151	06/26/15	1
MCPP	BDL	0.10	mg/l	8151	06/26/15	1
2,4,5-T	BDL	0.0020	mg/l	8151	06/26/15	1
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	8151	06/26/15	1
Surrogate Recovery						
2,4-Dichlorophenyl Acetic Acid	97.9		% Rec.	8151	06/26/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	06/29/15	1
Anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzidine	BDL	0.010	mg/l	8270C	06/29/15	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-02

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE4-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 08:23

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo (a) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Bis (2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroethyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroisopropyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
Chrysene	BDL	0.0010	mg/l	8270C	06/29/15	1
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
Fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Fluorene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachloroethane	BDL	0.010	mg/l	8270C	06/29/15	1
Indeno (1,2,3-cd) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Isophorone	BDL	0.010	mg/l	8270C	06/29/15	1
Naphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
Nitrobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	06/29/15	1
Phenanthrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Bis (2-ethylhexyl) phthalate	0.0033	0.0030	mg/l	8270C	06/29/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Diethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Dimethyl phthalate	0.0052	0.0030	mg/l	8270C	06/29/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-02

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : SMWB-RINSE4-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 08:23

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Surrogate Recovery						
2-Fluorophenol	51.2		% Rec.	8270C	06/29/15	1
Phenol-d5	33.6		% Rec.	8270C	06/29/15	1
Nitrobenzene-d5	62.4		% Rec.	8270C	06/29/15	1
2-Fluorobiphenyl	84.3		% Rec.	8270C	06/29/15	1
2,4,6-Tribromophenol	138.		% Rec.	8270C	06/29/15	1
p-Terphenyl-d14	87.0		% Rec.	8270C	06/29/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-G2-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 09:17

ESC Sample # : L773038-03
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	67.3		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	70.9		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.
 Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-G9-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 09:20

ESC Sample # : L773038-04

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	67.8		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	71.7		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

July 02, 2015

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : SMWB-G22-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 09:25

ESC Sample # : L773038-05
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	66.4		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	71.0		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.
 Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
TVA- Colbert Fossil
900 Colbert Steam Plant Road
Tuscumbia, AL 35674-6905

ESC Sample # : L773038-06

Date Received : June 24, 2015
Description : TVA HWSF

Site ID : HWSF

Sample ID : NMWB-RINSE3-062315

Project # :

Collected By : B. Minor
Collection Date : 06/23/15 09:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/26/15	1
Arsenic	BDL	0.010	mg/l	6010B	06/25/15	1
Barium	0.066	0.0050	mg/l	6010B	06/25/15	1
Cadmium	BDL	0.0020	mg/l	6010B	06/25/15	1
Chromium	BDL	0.010	mg/l	6010B	06/25/15	1
Lead	BDL	0.0050	mg/l	6010B	06/25/15	1
Selenium	BDL	0.010	mg/l	6010B	06/25/15	1
Silver	BDL	0.0050	mg/l	6010B	06/25/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	07/01/15	1
Acrolein	BDL	0.050	mg/l	8260B	07/01/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	07/01/15	1
Benzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromodichloromethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromoform	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	07/01/15	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	07/01/15	1
Chloroform	BDL	0.0050	mg/l	8260B	07/01/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	07/01/15	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-RINSE3-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 09:40

ESC Sample # : L773038-06
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Ethylbenzene	0.0097	0.0010	mg/l	8260B	07/01/15	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	07/01/15	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	07/01/15	1
4-Methyl-2-pentanone (MIBK)	0.056	0.010	mg/l	8260B	07/01/15	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Naphthalene	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Styrene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Toluene	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	07/01/15	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,3-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Xylenes, Total	0.074	0.0030	mg/l	8260B	07/01/15	1
Surrogate Recovery						
Toluene-d8	103.		% Rec.	8260B	07/01/15	1
Dibromofluoromethane	91.7		% Rec.	8260B	07/01/15	1
4-Bromofluorobenzene	102.		% Rec.	8260B	07/01/15	1
Pesticides						
Aldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Alpha BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Beta BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Delta BHC	BDL	0.000050	mg/l	8081	06/26/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-06

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : NMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 09:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Gamma BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Chlordane	BDL	0.00050	mg/l	8081	06/26/15	1
4,4-DDD	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDE	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDT	BDL	0.000050	mg/l	8081	06/26/15	1
Dieldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan I	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan II	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan sulfate	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin aldehyde	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin ketone	BDL	0.000050	mg/l	8081	06/26/15	1
Hexachlorobenzene	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor epoxide	BDL	0.000050	mg/l	8081	06/26/15	1
Methoxychlor	BDL	0.000050	mg/l	8081	06/26/15	1
Toxaphene	BDL	0.00050	mg/l	8081	06/26/15	1
Pesticides Surrogates						
Decachlorobiphenyl	57.8		% Rec.	8081	06/26/15	1
Tetrachloro-m-xylene	48.7		% Rec.	8081	06/26/15	1
Herbicides						
2,4-D	BDL	0.0020	mg/l	8151	06/26/15	1
Dalapon	BDL	0.0020	mg/l	8151	06/26/15	1
2,4-DB	BDL	0.0020	mg/l	8151	06/26/15	1
Dicamba	BDL	0.0020	mg/l	8151	06/26/15	1
Dichloroprop	BDL	0.0020	mg/l	8151	06/26/15	1
Dinoseb	BDL	0.0020	mg/l	8151	06/26/15	1
MCPA	BDL	0.10	mg/l	8151	06/26/15	1
MCPP	BDL	0.10	mg/l	8151	06/26/15	1
2,4,5-T	BDL	0.0020	mg/l	8151	06/26/15	1
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	8151	06/26/15	1
Surrogate Recovery						
2,4-Dichlorophenyl Acetic Acid	106.		% Rec.	8151	06/26/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	06/29/15	1
Anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzdine	BDL	0.010	mg/l	8270C	06/29/15	1
Benzo (a)anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo (b)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo (k)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo (g,h,i)perylene	BDL	0.0010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-RINSE3-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 09:40

ESC Sample # : L773038-06

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo (a) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Bis (2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroethyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroisopropyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
Chrysene	BDL	0.0010	mg/l	8270C	06/29/15	1
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
Fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Fluorene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachloroethane	BDL	0.010	mg/l	8270C	06/29/15	1
Indeno (1,2,3-cd) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Isophorone	BDL	0.010	mg/l	8270C	06/29/15	1
Naphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
Nitrobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	06/29/15	1
Phenanthrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Bis (2-ethylhexyl) phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Diethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Dimethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

ESC Sample # : L773038-06

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : NMWB-RINSE3-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 09:40

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Surrogate Recovery						
2-Fluorophenol	52.6		% Rec.	8270C	06/29/15	1
Phenol-d5	34.4		% Rec.	8270C	06/29/15	1
Nitrobenzene-d5	61.1		% Rec.	8270C	06/29/15	1
2-Fluorobiphenyl	76.6		% Rec.	8270C	06/29/15	1
2,4,6-Tribromophenol	122.		% Rec.	8270C	06/29/15	1
p-Terphenyl-d14	80.2		% Rec.	8270C	06/29/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-RINSE4-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 10:20

ESC Sample # : L773038-07
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	BDL	0.00020	mg/l	7470A	06/26/15	1
Arsenic	BDL	0.010	mg/l	6010B	06/25/15	1
Barium	0.076	0.0050	mg/l	6010B	06/25/15	1
Cadmium	BDL	0.0020	mg/l	6010B	06/25/15	1
Chromium	BDL	0.010	mg/l	6010B	06/25/15	1
Lead	BDL	0.0050	mg/l	6010B	06/25/15	1
Selenium	BDL	0.010	mg/l	6010B	06/25/15	1
Silver	BDL	0.0050	mg/l	6010B	06/25/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	07/01/15	1
Acrolein	BDL	0.050	mg/l	8260B	07/01/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	07/01/15	1
Benzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromodichloromethane	0.0010	0.0010	mg/l	8260B	07/01/15	1
Bromoform	BDL	0.0010	mg/l	8260B	07/01/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	07/01/15	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	07/01/15	1
Chloroform	BDL	0.0050	mg/l	8260B	07/01/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	07/01/15	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

ESC Sample # : L773038-07

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : NMWB-RINSE4-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 10:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	07/01/15	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	07/01/15	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Ethylbenzene	0.0094	0.0010	mg/l	8260B	07/01/15	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	07/01/15	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	07/01/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	07/01/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	07/01/15	1
4-Methyl-2-pentanone (MIBK)	0.049	0.010	mg/l	8260B	07/01/15	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	07/01/15	1
Naphthalene	BDL	0.0050	mg/l	8260B	07/01/15	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Styrene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Toluene	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	07/01/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	07/01/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	07/01/15	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,2,3-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	07/01/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	07/01/15	1
Xylenes, Total	0.071	0.0030	mg/l	8260B	07/01/15	1
Surrogate Recovery						
Toluene-d8	102.		% Rec.	8260B	07/01/15	1
Dibromofluoromethane	93.3		% Rec.	8260B	07/01/15	1
4-Bromofluorobenzene	103.		% Rec.	8260B	07/01/15	1
Pesticides						
Aldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Alpha BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Beta BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Delta BHC	BDL	0.000050	mg/l	8081	06/26/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-RINSE4-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 10:20

ESC Sample # : L773038-07

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Gamma BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Chlordane	BDL	0.00050	mg/l	8081	06/26/15	1
4,4-DDD	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDE	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDT	BDL	0.000050	mg/l	8081	06/26/15	1
Dieldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan I	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan II	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan sulfate	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin aldehyde	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin ketone	BDL	0.000050	mg/l	8081	06/26/15	1
Hexachlorobenzene	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor epoxide	BDL	0.000050	mg/l	8081	06/26/15	1
Methoxychlor	BDL	0.000050	mg/l	8081	06/26/15	1
Toxaphene	BDL	0.000050	mg/l	8081	06/26/15	1
Pesticides Surrogates						
Decachlorobiphenyl	57.4		% Rec.	8081	06/26/15	1
Tetrachloro-m-xylene	50.5		% Rec.	8081	06/26/15	1
Herbicides						
2,4-D	BDL	0.0020	mg/l	8151	06/26/15	1
Dalapon	BDL	0.0020	mg/l	8151	06/26/15	1
2,4-DB	BDL	0.0020	mg/l	8151	06/26/15	1
Dicamba	BDL	0.0020	mg/l	8151	06/26/15	1
Dichloroprop	BDL	0.0020	mg/l	8151	06/26/15	1
Dinoseb	BDL	0.0020	mg/l	8151	06/26/15	1
MCPA	BDL	0.10	mg/l	8151	06/26/15	1
MCPP	BDL	0.10	mg/l	8151	06/26/15	1
2,4,5-T	BDL	0.0020	mg/l	8151	06/26/15	1
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	8151	06/26/15	1
Surrogate Recovery						
2,4-Dichlorophenyl Acetic Acid	111.		% Rec.	8151	06/26/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	06/29/15	1
Anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzidine	BDL	0.010	mg/l	8270C	06/29/15	1
Benzo(a)anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(b)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(k)fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzo(g,h,i)perylene	BDL	0.0010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

ESC Sample # : L773038-07

Date Received : June 24, 2015
 Description : TVA HWSF

Site ID : HWSF

Sample ID : NMWB-RINSE4-062315

Project # :

Collected By : B. Minor
 Collection Date : 06/23/15 10:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo (a) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Bis(2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	06/29/15	1
Bis(2-chloroethyl)ether	BDL	0.010	mg/l	8270C	06/29/15	1
Bis(2-chloroisopropyl)ether	BDL	0.010	mg/l	8270C	06/29/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
Chrysene	BDL	0.0010	mg/l	8270C	06/29/15	1
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
Fluoranthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Fluorene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachloroethane	BDL	0.010	mg/l	8270C	06/29/15	1
Indeno (1,2,3-cd) pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Isophorone	BDL	0.010	mg/l	8270C	06/29/15	1
Naphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
Nitrobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	06/29/15	1
Phenanthrene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Bis(2-ethylhexyl)phthalate	0.0052	0.0030	mg/l	8270C	06/29/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Diethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Dimethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Pyrene	BDL	0.0010	mg/l	8270C	06/29/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-RINSE4-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 10:20

ESC Sample # : L773038-07

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Surrogate Recovery						
2-Fluorophenol	44.9		% Rec.	8270C	06/29/15	1
Phenol-d5	29.3		% Rec.	8270C	06/29/15	1
Nitrobenzene-d5	59.5		% Rec.	8270C	06/29/15	1
2-Fluorobiphenyl	73.6		% Rec.	8270C	06/29/15	1
2,4,6-Tribromophenol	126.		% Rec.	8270C	06/29/15	1
p-Terphenyl-d14	88.2		% Rec.	8270C	06/29/15	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit (PQL)

Note:

The reported analytical results relate only to the sample submitted.

This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

July 02, 2015

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-G5-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:10

ESC Sample # : L773038-08
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	63.9		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	63.3		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.
 Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-G9-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:02

ESC Sample # : L773038-09
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	62.6		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	64.3		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.
 Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

July 02, 2015

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : NMWB-G21062315
 Collected By : B. Minor
 Collection Date : 06/23/15 10:57

ESC Sample # : L773038-10
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Polychlorinated Biphenyls						
PCB 1016	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1221	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1232	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1242	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1248	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1254	BDL	0.50	ug/wipe	8082	07/01/15	1
PCB 1260	BDL	0.50	ug/wipe	8082	07/01/15	1
PCBs Surrogates						
Decachlorobiphenyl	70.7		% Rec.	8082	07/01/15	1
Tetrachloro-m-xylene	74.5		% Rec.	8082	07/01/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:
 The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.
 Reported: 07/02/15 09:10 Revised: 07/02/15 13:43



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : MWB-WASH/RINSE-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:15

ESC Sample # : L773038-11

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Mercury	0.00035	0.00020	mg/l	7470A	06/26/15	1
Arsenic	BDL	0.010	mg/l	6010B	06/25/15	1
Barium	0.22	0.0050	mg/l	6010B	06/25/15	1
Cadmium	0.0069	0.0020	mg/l	6010B	06/25/15	1
Chromium	0.047	0.010	mg/l	6010B	06/25/15	1
Lead	0.042	0.0050	mg/l	6010B	06/25/15	1
Selenium	BDL	0.010	mg/l	6010B	06/25/15	1
Silver	BDL	0.0050	mg/l	6010B	06/25/15	1
Volatile Organics						
Acetone	BDL	0.050	mg/l	8260B	06/28/15	1
Acrolein	BDL	0.050	mg/l	8260B	06/28/15	1
Acrylonitrile	BDL	0.010	mg/l	8260B	06/28/15	1
Benzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Bromobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Bromodichloromethane	0.0011	0.0010	mg/l	8260B	06/28/15	1
Bromoform	BDL	0.0010	mg/l	8260B	06/28/15	1
Bromomethane	BDL	0.0050	mg/l	8260B	06/28/15	1
n-Butylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
sec-Butylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
tert-Butylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Carbon tetrachloride	BDL	0.0010	mg/l	8260B	06/28/15	1
Chlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Chlorodibromomethane	BDL	0.0010	mg/l	8260B	06/28/15	1
Chloroethane	BDL	0.0050	mg/l	8260B	06/28/15	1
2-Chloroethyl vinyl ether	BDL	0.050	mg/l	8260B	06/28/15	1
Chloroform	BDL	0.0050	mg/l	8260B	06/28/15	1
Chloromethane	BDL	0.0025	mg/l	8260B	06/28/15	1
2-Chlorotoluene	BDL	0.0010	mg/l	8260B	06/28/15	1
4-Chlorotoluene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2-Dibromo-3-Chloropropane	BDL	0.0050	mg/l	8260B	06/28/15	1
1,2-Dibromoethane	BDL	0.0010	mg/l	8260B	06/28/15	1
Dibromomethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2-Dichlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,3-Dichlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,4-Dichlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Dichlorodifluoromethane	BDL	0.0050	mg/l	8260B	06/28/15	1
1,1-Dichloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2-Dichloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1-Dichloroethene	BDL	0.0010	mg/l	8260B	06/28/15	1
cis-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	06/28/15	1
trans-1,2-Dichloroethene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2-Dichloropropane	BDL	0.0010	mg/l	8260B	06/28/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



L · A · B S · C · I · E · N · C · E · S

YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
TVA- Colbert Fossil
900 Colbert Steam Plant Road
Tuscumbia, AL 35674-6905

ESC Sample # : L773038-11

Date Received : June 24, 2015
Description : TVA HWSF

Site ID : HWSF

Sample ID : MWB-WASH/RINSE-062315

Project # :

Collected By : B. Minor
Collection Date : 06/23/15 11:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
1,1-Dichloropropene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,3-Dichloropropane	BDL	0.0010	mg/l	8260B	06/28/15	1
cis-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	06/28/15	1
trans-1,3-Dichloropropene	BDL	0.0010	mg/l	8260B	06/28/15	1
2,2-Dichloropropane	BDL	0.0010	mg/l	8260B	06/28/15	1
Di-isopropyl ether	BDL	0.0010	mg/l	8260B	06/28/15	1
Ethylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Hexachloro-1,3-butadiene	BDL	0.0010	mg/l	8260B	06/28/15	1
Isopropylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
p-Isopropyltoluene	BDL	0.0010	mg/l	8260B	06/28/15	1
2-Butanone (MEK)	BDL	0.010	mg/l	8260B	06/28/15	1
Methylene Chloride	BDL	0.0050	mg/l	8260B	06/28/15	1
4-Methyl-2-pentanone (MIBK)	BDL	0.010	mg/l	8260B	06/28/15	1
Methyl tert-butyl ether	BDL	0.0010	mg/l	8260B	06/28/15	1
Naphthalene	BDL	0.0050	mg/l	8260B	06/28/15	1
n-Propylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Styrene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1,1,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1,2,2-Tetrachloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1,2-Trichlorotrifluoroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
Tetrachloroethene	BDL	0.0010	mg/l	8260B	06/28/15	1
Toluene	BDL	0.0050	mg/l	8260B	06/28/15	1
1,2,3-Trichlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2,4-Trichlorobenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1,1-Trichloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
1,1,2-Trichloroethane	BDL	0.0010	mg/l	8260B	06/28/15	1
Trichloroethene	BDL	0.0010	mg/l	8260B	06/28/15	1
Trichlorofluoromethane	BDL	0.0050	mg/l	8260B	06/28/15	1
1,2,3-Trichloropropane	BDL	0.0025	mg/l	8260B	06/28/15	1
1,2,4-Trimethylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,2,3-Trimethylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
1,3,5-Trimethylbenzene	BDL	0.0010	mg/l	8260B	06/28/15	1
Vinyl chloride	BDL	0.0010	mg/l	8260B	06/28/15	1
Xylenes, Total	BDL	0.0030	mg/l	8260B	06/28/15	1
Surrogate Recovery						
Toluene-d8	99.2		% Rec.	8260B	06/28/15	1
Dibromofluoromethane	100.		% Rec.	8260B	06/28/15	1
4-Bromofluorobenzene	106.		% Rec.	8260B	06/28/15	1
Pesticides						
Aldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Alpha BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Beta BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Delta BHC	BDL	0.000050	mg/l	8081	06/26/15	1

BDL - Below Detection Limit
Det. Limit - Practical Quantitation Limit (PQL)



YOUR LAB OF CHOICE

12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : MWB-WASH/RINSE-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:15

ESC Sample # : L773038-11

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Gamma BHC	BDL	0.000050	mg/l	8081	06/26/15	1
Chlordane	BDL	0.00050	mg/l	8081	06/26/15	1
4,4-DDD	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDE	BDL	0.000050	mg/l	8081	06/26/15	1
4,4-DDT	BDL	0.000050	mg/l	8081	06/26/15	1
Dieldrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan I	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan II	BDL	0.000050	mg/l	8081	06/26/15	1
Endosulfan sulfate	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin aldehyde	BDL	0.000050	mg/l	8081	06/26/15	1
Endrin ketone	BDL	0.000050	mg/l	8081	06/26/15	1
Hexachlorobenzene	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor	BDL	0.000050	mg/l	8081	06/26/15	1
Heptachlor epoxide	BDL	0.000050	mg/l	8081	06/26/15	1
Methoxychlor	BDL	0.000050	mg/l	8081	06/26/15	1
Toxaphene	BDL	0.00050	mg/l	8081	06/26/15	1
Pesticides Surrogates						
Decachlorobiphenyl	30.8		% Rec.	8081	06/26/15	1
Tetrachloro-m-xylene	45.6		% Rec.	8081	06/26/15	1
Herbicides						
2,4-D	BDL	0.0020	mg/l	8151	06/26/15	1
Dalapon	BDL	0.0020	mg/l	8151	06/26/15	1
2,4-DB	BDL	0.0020	mg/l	8151	06/26/15	1
Dicamba	BDL	0.0020	mg/l	8151	06/26/15	1
Dichloroprop	BDL	0.0020	mg/l	8151	06/26/15	1
Dinoseb	BDL	0.0020	mg/l	8151	06/26/15	1
MCPA	BDL	0.10	mg/l	8151	06/26/15	1
MCPP	BDL	0.10	mg/l	8151	06/26/15	1
2,4,5-T	BDL	0.0020	mg/l	8151	06/26/15	1
2,4,5-TP (Silvex)	BDL	0.0020	mg/l	8151	06/26/15	1
Surrogate Recovery						
2,4-Dichlorophenyl Acetic Acid	71.8		% Rec.	8151	06/26/15	1
Base/Neutral Extractables						
Acenaphthene	BDL	0.0010	mg/l	8270C	06/29/15	1
Acenaphthylene	BDL	0.0010	mg/l	8270C	06/29/15	1
Anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
Benzidine	BDL	0.010	mg/l	8270C	06/29/15	1
Benzo(a)anthracene	0.0013	0.0010	mg/l	8270C	06/29/15	1
Benzo(b)fluoranthene	0.0040	0.0010	mg/l	8270C	06/29/15	1
Benzo(k)fluoranthene	0.0020	0.0010	mg/l	8270C	06/29/15	1
Benzo(g,h,i)perylene	0.0021	0.0010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

July 02, 2015

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tusculmbia, AL 35674-6905

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : MWB-WASH/RINSE-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:15

ESC Sample # : L773038-11

Site ID : HWSF

Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzo (a)pyrene	0.0018	0.0010	mg/l	8270C	06/29/15	1
Bis (2-chlorethoxy)methane	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroethyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
Bis (2-chloroisopropyl) ether	BDL	0.010	mg/l	8270C	06/29/15	1
4-Bromophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chloronaphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
4-Chlorophenyl-phenylether	BDL	0.010	mg/l	8270C	06/29/15	1
Chrysene	0.0030	0.0010	mg/l	8270C	06/29/15	1
Dibenz (a, h) anthracene	BDL	0.0010	mg/l	8270C	06/29/15	1
3,3-Dichlorobenzidine	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
2,6-Dinitrotoluene	BDL	0.010	mg/l	8270C	06/29/15	1
Fluoranthene	0.0052	0.0010	mg/l	8270C	06/29/15	1
Fluorene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachlorobenzene	BDL	0.0010	mg/l	8270C	06/29/15	1
Hexachloro-1,3-butadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachlorocyclopentadiene	BDL	0.010	mg/l	8270C	06/29/15	1
Hexachloroethane	BDL	0.010	mg/l	8270C	06/29/15	1
Indeno (1,2,3-cd) pyrene	0.0018	0.0010	mg/l	8270C	06/29/15	1
Isophorone	BDL	0.010	mg/l	8270C	06/29/15	1
Naphthalene	BDL	0.0010	mg/l	8270C	06/29/15	1
Nitrobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodimethylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodiphenylamine	BDL	0.010	mg/l	8270C	06/29/15	1
n-Nitrosodi-n-propylamine	BDL	0.010	mg/l	8270C	06/29/15	1
Phenanthrene	0.0016	0.0010	mg/l	8270C	06/29/15	1
Benzylbutyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Bis (2-ethylhexyl) phthalate	0.025	0.0030	mg/l	8270C	06/29/15	1
Di-n-butyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Diethyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Dimethyl phthalate	0.0039	0.0030	mg/l	8270C	06/29/15	1
Di-n-octyl phthalate	BDL	0.0030	mg/l	8270C	06/29/15	1
Pyrene	0.0038	0.0010	mg/l	8270C	06/29/15	1
1,2,4-Trichlorobenzene	BDL	0.010	mg/l	8270C	06/29/15	1
Acid Extractables						
4-Chloro-3-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Chlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dimethylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
4,6-Dinitro-2-methylphenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4-Dinitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
2-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
4-Nitrophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Pentachlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)



12065 Lebanon Rd.
 Mt. Juliet, TN 37122
 (615) 758-5858
 1-800-767-5859
 Fax (615) 758-5859
 Tax I.D. 62-0814289
 Est. 1970

REPORT OF ANALYSIS

Michael Gean
 TVA- Colbert Fossil
 900 Colbert Steam Plant Road
 Tuscumbia, AL 35674-6905

July 02, 2015

Date Received : June 24, 2015
 Description : TVA HWSF
 Sample ID : MWB-WASH/RINSE-062315
 Collected By : B. Minor
 Collection Date : 06/23/15 11:15

ESC Sample # : L773038-11
 Site ID : HWSF
 Project # :

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Phenol	BDL	0.010	mg/l	8270C	06/29/15	1
2,4,6-Trichlorophenol	BDL	0.010	mg/l	8270C	06/29/15	1
Surrogate Recovery						
2-Fluorophenol	55.4		% Rec.	8270C	06/29/15	1
Phenol-d5	34.9		% Rec.	8270C	06/29/15	1
Nitrobenzene-d5	65.8		% Rec.	8270C	06/29/15	1
2-Fluorobiphenyl	75.5		% Rec.	8270C	06/29/15	1
2,4,6-Tribromophenol	103.		% Rec.	8270C	06/29/15	1
p-Terphenyl-d14	81.9		% Rec.	8270C	06/29/15	1

BDL - Below Detection Limit
 Det. Limit - Practical Quantitation Limit (PQL)
 Note:

The reported analytical results relate only to the sample submitted.
 This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 07/02/15 09:10 Revised: 07/02/15 13:43

Attachment A
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L773038-01	WG798194	SAMP	Acetone	R3047214	J6J3
	WG798194	SAMP	Acrolein	R3047214	J3
	WG798194	SAMP	2-Chloroethyl vinyl ether	R3047214	J6J3
	WG798194	SAMP	2-Butanone (MEK)	R3047214	J6J3
	WG799043	SAMP	Pentachlorophenol	R3046760	J4
L773038-02	WG799043	SAMP	Pentachlorophenol	R3046760	J4
	WG799043	SAMP	2,4,6-Tribromophenol	R3046760	J1
	WG799043	SAMP	Pentachlorophenol	R3046760	J4
L773038-06	WG799043	SAMP	Pentachlorophenol	R3046760	J4
L773038-07	WG799043	SAMP	Pentachlorophenol	R3046760	J4
L773038-11	WG799043	SAMP	Pentachlorophenol	R3046760	J4

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy** - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision** - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate** - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC** - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

APPENDIX E - Wastewater Disposal Documentation

TVA Power Service Center (PSC) - Hazardous Waste Storage Facility (HWSF) Closure - Wash/Rinse Water Discharge Agreement

The following is a TVA PSC Wash/Rinse Water Discharge Agreement between the City of Muscle Shoals Wastewater Treatment Plant (herein called the "WWTP") and the TVA Power Service Center (herein called the PSC). This Agreement addresses wash and rinse water generated from cleaning the PSC Hazardous Waste Storage Facility (HWSF) Mixed Waste Buildings for closure. Only RCRA non-hazardous wash/rinse water containing no PCB will be considered in this agreement.

The PSC is requesting to be allowed to discharge a batch volume of wash/rinse water (RCRA non-hazardous) to the Muscle Shoals WWTP. (Additional wash or rinse water may be generated during HWSF closure activities and that wash/rinse water will be evaluated on another discharge agreement after the analytical results are received/reviewed.)

The WWTP and PSC do hereby agree as follows:

1. The PSC will analyze the volume (See Attachment 2 - Report No.: L773038, Dated 07/02/2015; Sample collection date: 05/23/15) of wash/rinse water for parameters requested by the WWTP. The analytical parameters will include, but are not limited to volatile organics, metals, pesticides/herbicides, etc.
2. The WWTP may request a sample of the wash/rinse water from the PSC to conduct in-house testing. Upon request, the PSC will deliver the requested sample volume to the WWTP or make arrangements for the WWTP to otherwise obtain samples.
3. The PSC will submit the laboratory analysis to the WWTP for review. If the analytical results are deemed acceptable by the WWTP, then written approval to discharge the wash/rinse water to the sanitary sewer system will be provided from the WWTP to the PSC prior to discharge.
4. The written approval from the WWTP will reference the volume of discharge in gallons/minute, days discharge can occur, and acceptable start & end times for the discharge and any other applicable criteria. See Attachment 1.
5. The WWTP will have access to the PSC to inspect the wash/rinse water prior to discharge and during the discharge process as they deem appropriate. The WWTP will also be allowed to take water samples at any time during the discharge process as they deem appropriate. The WWTP will follow TVA safety procedures while conducting on-site inspections.
6. This agreement is in effect for the batch of wash/rinse water covered in Attachment 2.

Approximate Volume (Gallons): 75

Muscle Shoals WWTP - By: [Signature] Date: 07/15/15

TVA - PSC General Manager - By: [Signature] Date: 7-15-15

ATTACHMENT 1

WWTP Approval for PSC HWSF MW Wash/Rinse Water

The WWTP approves the PSC batch volume of wash/rinse water for discharge to the Muscle Shoals WWTP as referenced in Attachment 2:

Days of Acceptable Discharge: M-F

Hours of Acceptable Discharge: 7:00A - 3:00P

Gallons per Minute of Discharge: 5 GPM

Other conditions: NO RESTRICTIONS / ESC SAMPLE # L77303B
75 GAL +/-

WWTP - Approved By: [Signature] Date: 07/15/15

PSC - General Manager Concurrence: [Signature] Date: 7-15-15

APPENDIX F - PCB Wipe Sampling Procedure Documentation

TVA-Hazardous Waste Storage Facility - Mixed Waste Buildings (North & South)

North Mixed Waste Building (NMWB) - PCB Sample Grid

G1	G3	X G5	G7	X G9	G11	G13	G15	G17	G19	X G21	(North End)
G2	G4	G6	G8	G10	G12	G14	G16	G18	G20	G22	
(Doorway)			(Doorway)			(Doorway)					

Sample ID's:

NMWB-G5-062315

NMWB-G9-062315

NMWB-G21-062315

South Mixed Waste Building (SMWB)- PCB Sample Grid

G1	G3	G5	G7	X G9	G11	G13	G15	G17	G19	G21	(North End)
X G2	G4	G6	G8	G10	G12	G14	G16	G18	G20	X G22	
(Doorway)			(Doorway)			(Doorway)					

Sample ID's:

SMWB-G2-062315

SMWB-G9-062315

SMWB-G22-062315

Home Games Numbers Lists & More Drawings Web Tools Statistics Testimonials Learn More Login

RANDOM.ORG

Search RANDOM.ORG

Search

True Random Number Service

Do you own an iOS or Android device? Check out our app!

Random Integer Generator

Here are your random numbers:

9 21
5

Timestamp: 2015-06-19 21:08:32 UTC

Again! Go Back

Note: The numbers are generated left to right, i.e., across columns.

Follow @RandomOrg 2.904 followers

Like Share 110k

8-1

DM ORG
Valid CSS
conditions

PCB
Wipe Test
Random #s

COCs

Mixed Waste Random numbers for
Building 1.

Assumes 22 grids and 3 samples
for PCB wipe test.

Home Games Numbers Lists & More Drawings Web Tools Statistics Testimonials Learn More Login

RANDOM.ORG

Search

True Random Number Service

Do you own an iOS or Android device? Check out our app!

Random Integer Generator

Here are your random numbers:

22 2
9

Timestamp: 2015-06-19 21:08:51 UTC

Again! Go Back

Note: The numbers are generated left to right, i.e., across columns.



Follow @RandomOrg 2804 followers

Like Share 110k

g-1

© 1998-2015 RANDOM.ORG
Valid XHTML 1.0 Transitional | Valid CSS
Terms and Conditions

Mixed waste Random numbers for Building 2.
Assumes 22 grids and 3 samples for PCB
wipe test.

TVA- Colbert Fossil 900 Colbert Steam Plant Road Tuscumbia, AL 35674-6905		Billing Information: TVA Accounts Payable 900 Colbert Steam Plant Road Tuscumbia, AL 35674-6905		Analysis / Container / Preservative					Chain of Custody Page ___ of ___  ESC L.A.B S.C.I.E.N.C.E.S. <hr/> YOUR LAB OF CHOICE 12065 Lebanon Rd Mount Juliet, TN 37122 Phone: 615-758-5858 Phone: 800-767-5859 Fax: 615-758-5859 									
Report to: <i>Michael Gean</i> Alison Horton		Email To: <i>crkillen@tva.gov</i> EDMSVK@tva.gov, magean@tva.gov, arhorton@tva.gov		8081 100ml Amb-NoPres 8270 100ml Amb NoPres RCFA METALS 500mHDPE-HNO3 SV8151 1L-Amb-No Pres V8260 40mlAmb-HCl <i>PCB Wipe Test</i>					L # _____ Table # _____ Acctnum: TVACOF Template: T103505 Prelogin: P514711 TSR: 633 - Pam Langford PB: <i>6-18-15 mg</i>									
Project Description: <i>TVA HWSF</i>		City/State Collected: _____							Shipped Via: FedEX Ground		Rem./Contaminant _____ Sample # (lab only) _____							
Phone: <i>256-4830210</i>		Client Project # _____ Lab Project # _____							P.O. # <i>833038</i>									
Collected by (print): <i>B. Minor, P. Enlow</i>		Site/Facility ID # <i>HWSF</i>							Date Results Needed _____									
Collected by (signature): _____		Rush? (Lab MUST Be Notified) <input type="checkbox"/> Same Day200% <input type="checkbox"/> Next Day100% <input type="checkbox"/> Two Day50% <input type="checkbox"/> Three Day25%							Email? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes FAX? <input type="checkbox"/> No <input type="checkbox"/> Yes		No. of Cntrs _____							
Immediately Packed on Ice N <input type="checkbox"/> Y <input checked="" type="checkbox"/>																		
Sample ID	Comp/Grab	Matrix *	Depth						Date	Time	No. of Cntrs							
		GW									9	X	X	X	X			
		GW									9	X	X	X	X			
		GW									9	X	X	X	X			
		GW				9	X	X	X	X								
		GW				9	X	X	X	X								
		GW				9	X	X	X	X								
		GW				9	X	X	X	X								
		GW				9	X	X	X	X								
		GW				9	X	X	X	X								

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

Remarks: pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Condition: _____ (lab use only)
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received by: (Signature) _____	Temp: _____ °C Bottles Received: _____	COC Seal Intact: _____ Y _____ N _____ NA
Relinquished by: (Signature) _____	Date: _____	Time: _____	Received for lab by: (Signature) _____	Date: _____ Time: _____	pH Checked: _____ NCF: _____

APPENDIX G – NRC Closure Documentation



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION I
2100 RENAISSANCE BOULEVARD, SUITE 100
KING OF PRUSSIA, PA 19406-2713

May 28, 2015

Docket No. 03038667
Control No. 585991

License No. 41-08165-19

J. W. Shea
Vice President, Nuclear Licensing
Tennessee Valley Authority
LP 3D-C
1101 Market Street
Chattanooga, TN 37402-2801

SUBJECT: TENNESSEE VALLEY AUTHORITY, LICENSE TERMINATION, CONTROL NO.
585991

Dear Mr. Shea:

Please find enclosed Amendment No. 1 terminating License No. 41-08165-19 as requested by your letters dated January 27, 2015 and April 20, 2015, and the Certificate of Management dated April 28, 2015. This termination is being issued in accordance with the requirements of the applicable NRC License Termination Rule (10 CFR 30.36, 10 CFR 40.42, and 10 CFR 70.38). All facilities previously used for licensed activities may be released for unrestricted use.

Current NRC regulations and guidance are included on the NRC's website at www.nrc.gov; select **Nuclear Materials; Med, Ind, & Academic Uses**; then **Licensee Toolkits**, see our **toolkit index page**. You may also obtain these documents by contacting the Government Printing Office (GPO) toll-free at 1-866-512-1800. The GPO is open from 8:00 a.m. to 5:30 p.m. EST, Monday through Friday (except Federal holidays).

Your cooperation with us is appreciated.

Sincerely,

A handwritten signature in black ink that reads "Kathy Modes".

Kathy Modes
Senior Health Physicist
Decommissioning and Technical Support
Division of Nuclear Materials Safety

Enclosure:
Amendment No. 1

cc:
James Colagross, Radiation Safety Officer
Lee Miller, Licensing

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

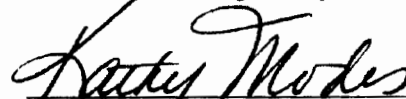
Licensee	
1. Tennessee Valley Authority	3. License number 41-08165-19
2. Vice President, Nuclear Licensing LP 3D-C 1101 Market Street Chattanooga, TN 37402-2801	4. Expiration date Not Applicable
	5. Docket No. 030-38667 Reference No. 01-25284-01/030-33440

In accordance with the letters dated January 27, 2015 and April 20, 2015, and the Certificate of Management dated April 28, 2015, this license is hereby terminated.

For the U.S. Nuclear Regulatory Commission

Date May 28, 2015

By



Kathy Modes

Decommissioning and Technical Support
Division of Nuclear Materials Safety
Region I

King of Prussia, Pennsylvania 19406

Thursday, May 28, 2015 08:05:22

U.S. NUCLEAR REGULATORY COMMISSION

MATERIALS LICENSE

Licensee	
1. Tennessee Valley Authority	3. License number 41-08165-19
2. Vice President, Nuclear Licensing LP 3D-C 1101 Market Street Chattanooga, TN 37402-2801	4. Expiration date Not Applicable
	5. Docket No. 030-38667 Reference No. 01-25284-01/030-33440

In accordance with the letters dated January 27, 2015 and April 20, 2015, and the Certificate of Management dated April 28, 2015, this license is hereby terminated.

For the U.S. Nuclear Regulatory Commission

Original signed by Kathy Modes

Date May 28, 2015

By _____

Kathy Modes
Decommissioning and Technical Support
Division of Nuclear Materials Safety
Region I
King of Prussia, Pennsylvania 19406
Thursday, May 28, 2015 08:05:22



Diversified Scientific Services, Inc.

657 Gallaher Road Kingston, TN 37763

April 28, 2015

TVA-Hazardous Waste Storage
P.O. Box 1010
Muscle Shoals, AL 35662

Attention: Jim Colagross

Subject: Certificate of Management - Diversified Scientific Services, Inc.
Manifest Number: 002785862JJK
Shipment Number: DSSI-07-224

Please find enclosed, Certificate(s) of Management for your waste which has been in storage at DSSI. Each certificate lists the manifest number under which the waste was shipped to DSSI and the date treatment of the waste was completed. The Hazardous Waste Manifest identifies the specific management method codes utilized for waste treatment. This certificate is verification that treatment has been made in full compliance with all applicable regulations.

DSSI appreciates the opportunity to serve your mixed waste treatment needs. If you have any questions or comments, please contact Dawn Garrett at 865-376-8747.

Sincerely,

Dawn Garrett
Waste Tracking & Shipping

EPA ID # TND 98-210-0142
TENNESSEE PERMIT #TNHW-102

DIVERSIFIED SCIENTIFIC SERVICES, INC.

Certificate No. 2015039



Certificate of Management

Diversified Scientific Services, Inc. of Kingston, Tennessee has managed waste(s) received from TVA-Hazardous Waste Storage
EPA ID Number AL2640090005 as identified in Hazardous Waste
Manifest Number 002785862LJK and hereby certifies such management as of
4/2/2009 in accordance with applicable Federal and State regulations.

Shipment Number: DSSI-07-224
Generator: TVA-Hazardous Waste Storage
Address: P.O. Box 1010
Muscle Shoals AL 35662

By: Dawn Garrett
Title: Waste Tracking & Shipping

Signature:

A handwritten signature in black ink, appearing to read 'Dawn Garrett', written over a horizontal line.

Contact: Jim Colagross
Muscle Shoals AL 35662

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL2640090005	2. Page 1 of 1	3. Emergency Response Phone 1-800-237-2322	4. Manifest Tracking Number 002785862 JJK		
5. Generator's Name and Mailing Address attn: Libby BTT, PSC 12-M, TVA-Hazardous Waste Storage Bldg, P.O. Box 1010, HWY 137N near Wilkerson, Muscle Shoals, AL 35662							
Generator's Phone: 256-714-7871							
6. Transporter 1 Company Name Hittman Transport Services				U.S. EPA ID Number TND987783065			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address Diversified Scientific Sys. Inc. (DSSI), 657 Gallahan Road, Kingston, TN 37763 WVV				U.S. EPA ID Number TND982109142			
Facility's Phone: 965-276-8786							
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	9c. Containers		11. Total Quantity	12. UNR W/M	13. Waste Codes	
		No.	Type				
RB	1. Waste Resin Solution, 3, UN1866, PG III	60	CM	13689	K	0001	
	2.						
	3.						
	4.						
14. Special Handling Instructions and Additional Information See Attached Manifest Info Sheet 961-ERG 127 wps # TVA Contract No. 66726 07-11-015 Note: Material in each package contains radioactivity at a concentration less than that specified in 49 CFR 173.403, 10 CFR 71.5, and IATA Regulation 10.3.1							
15. GENERATOR/BUFFERER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/corrupted, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste identification statement identified in 40 CFR 262.27(a) (1) is a large quantity generator) or (2) (3) is a small quantity generator) is true.							
Generator's/Owner's Printed/Typed Name B. Paul Bannauer				Signature <i>B. Paul Bannauer</i>	Month 12	Day 13	Year 07
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Part of consignment: _____ Date leaving U.S.: _____							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name RICHARD STEPHENS				Signature <i>[Signature]</i>	Month 12	Day 13	Year 07
Transporter 2 Printed/Typed Name				Signature	Month	Day	Year
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator)				Month	Day	Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
	H129						
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name Dawn Garrett				Signature <i>Dawn Garrett</i>	Month 12	Day 13	Year 07

EPA ID No. : FLD 980 711 071
Florida Part B Permit No. : 17680-010-HC

Certificate No. 20090326-001



Certificate of Management

Perma-Fix of Florida, Inc. has managed wastes received from: Diversified Scientific Services, Inc.

EPA ID Number: TND982109142

Manifest Number: 09017

3/26/2009

Shipment ID Number: DSSI-517-Q

Date Received: 3/13/2009

as identified in waste and hereby certifies such management as of in accordance with applicable Federal and State Regulations.

(Refer to the attached table for container specific information)

Generator: Diversified Scientific Services, Inc.

Address: 657 Gallaher Road
Kingston, TN 37763

By: Randy Self
Title: Site Nuclear Manager

Signature: _____

A handwritten signature in black ink, appearing to be "Randy Self", written over a horizontal line.



Certificate
of
Management

Order #	Quantity	Part #	Part Description	Lot #	Exp. Date	Location
DSSI-517-01	52599	RS-7754	DSSI-517-01	09081	3/28/2009	Towco [A09056]
DSSI-517-02	52600	RS-7754	DSSI-517-02	09081	3/28/2009	Towco [A09056]
DSSI-517-03	52617	RS-7754	DSSI-517-03	09081	3/28/2009	Towco [A09056]
DSSI-517-04	52636	RS-7754	DSSI-517-04	09081	3/28/2009	Towco [A09056]
DSSI-517-05	52685	RS-7754	DSSI-517-05	09081	3/28/2009	Towco [A09056]
DSSI-517-06	52788	RS-7754	DSSI-517-06	09081	3/28/2009	Towco [A09056]
DSSI-517-07	52769	RS-7754	DSSI-517-07	09081	3/28/2009	Towco [A09056]
DSSI-517-08	52770	RS-7754	DSSI-517-08	09081	3/28/2009	Towco [A09056]
DSSI-517-09	52771	RS-7754	DSSI-517-09	09081	3/28/2009	Towco [A09056]

Toxco

Toxco Materials Management Center (TMMC)
109 Flint Road, Oak Ridge, TN 37830
Phone: 865-482-5532 Fax: 865-482-5605

April 3, 2009

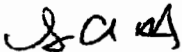
Mr. Steve Williams
Perma-fix of Florida
1940 NW 67th Place
Gainesville, FL 32653

Dear Mr. Williams:

Toxco Material Management Center is pleased to inform you that waste from shipment A09056 has been successfully disposed of at Chestnut Ridge Sanitary Landfill in Heiskell TN. This completes disposal of all waste from A09056. The three shipping drums have been placed in Toxco's asset container inventory and the 6 B-25 boxes have been surveyed and meet DOT Rad-Empty conditions and are awaiting return to DSSI.

<u>Incoming Manifest</u>	<u>Disposal Manifest</u>	<u>Weight (lbs)</u>	<u>Date</u>
A09056 (09081)	X09085	1,480	4/3/09

Sincerely,



George Barnet
Radiation Safety Officer

cc: Manifest File



Tennessee Valley Authority, 1101 Market Street, Chattanooga, Tennessee 37402

April 20, 2015

10 CFR 30.36

Licensing Assistance Team
Division of Nuclear Materials Safety
U. S. Nuclear Regulatory Commission, Region I
2100 Renaissance Blvd., Suite 100
King of Prussia, Pennsylvania 19406-2713

Tennessee Valley Authority
Materials License Number 41-08165-19
Docket Number 030-38667
Mail Control No. 585991

Subject: By-Product Materials License Number 41-08165-19 for TVA's Mixed Waste Storage Facility – Response to the Request for Records Important to Decommissioning

- References:**
1. Electronic Message from NRC to TVA, "Request for Records Important to Decommissioning" dated March 9, 2015.
 2. Letter from TVA to NRC, "By-Product Materials License Number 41-08165-19 for TVA's Mixed Waste Storage Facility – Request to Terminate NRC Materials License" dated January 27, 2015.

In Reference 1, the NRC requested TVA review the applicable regulations pertaining to the transfer of records of information important to decommissioning to the NRC to ensure their long-term availability. The NRC requested that the documents be provided within 30 days to enable the NRC to process TVA's license termination request that was provided in Reference 2. TVA's response, including the requested documents, is provided in the enclosures to this letter.

Information regarding the applicability of the regulations and associated records of information important to decommissioning is provided in Enclosure 1. Records of disposals, including waste manifests and waste disposal processing or disposal facility receipt records are provided in Enclosure 2. The records in Enclosure 2, waste manifests and associated documentation, provide the documentation necessary to demonstrate that all containers of mixed waste received and stored at the TVA's Mixed Waste Storage Facility as authorized by NRC Materials License No. 41-08165-19 were properly disposed by transfer to a waste processing or disposal facility.

NMSS/RGNI MATERIALS-002

REC RG 1 04 21 15 AM 1038

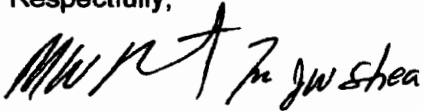
U.S. Nuclear Regulatory Commission

Page 2

April 20, 2015

If you have any questions regarding this information, please contact Lee Miller at (423) 751-3197.

Respectfully,

A handwritten signature in black ink, appearing to read "J. W. Shea". The signature is stylized and written in a cursive-like font.

J. W. Shea

Vice-President, Nuclear Licensing

Enclosures:

1. Records of Information Important to Decommissioning
2. Waste Manifests and Associated Documentation

Enclosure 1

Records of Information Important to Decommissioning

Records of Information Important to Decommissioning
For TVA's Mixed Waste Storage Facility
NRC Materials License No. 41-08165-19

- A. The regulations in 10 CFR 30.35(g), 40.36(f), and 70.25 (g), regard financial assurance and recordkeeping for decommissioning and apply to the licensed activities TVA conducted under NRC Materials License No. 41-08165-19 at the Mixed Waste Storage Facility (MWSF). TVA's response to each pertinent item of these regulations is provided below:

Each person licensed under this part shall keep records of information important to the decommissioning of a facility in an identified location until the site is released for unrestricted use. Information the Commission considers important to decommissioning consists of—

1. *Records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site. These records may be limited to instances when contamination remains after any cleanup procedures or when there is reasonable likelihood that contaminants may have spread to inaccessible areas as in the case of possible seepage into porous materials such as concrete. These records must include any known information on identification of involved nuclides, quantities, forms, and concentrations.*

There are no records of spills or other unusual occurrences involving the spread of contamination in and around the facility, equipment, or site at the MWSF, and TVA has no knowledge that such events occurred. There are no known occurrences where licensed material spilled or otherwise leaked from the containers in which the waste was received and stored at the MWST. During the conduct of operations at the MWSF, surveys performed in support of receipt, storage, handling, routine operations, shipping, or other authorized licensed activities revealed no spills or leaks from waste containers and no areas of contamination were detected.

2. *As-built drawings and modifications of structures and equipment in restricted areas where radioactive materials are used and/or stored, and of locations of possible inaccessible contamination such as buried pipes which may be subject to contamination. If required drawings are referenced, each relevant document need not be indexed individually. If drawings are not available, the licensee shall substitute appropriate records of available information concerning these areas and locations.*

As-built drawings of the MWSF were provided in TVA's letter to NRC dated January 27, 2015, Subject: By-Product Materials License Number 41-08165-19 for TVA's Mixed Waste Storage Facility – Request to Terminate NRC Materials License, pages E2-10 through 12. There have been no modifications to the structures and equipment depicted in these drawings since the license was issued. There are no locations of possible inaccessible contamination such as buried pipes which may be subject to contamination at the MWSF.

3. *Except for areas containing only sealed sources (provided the sources have not leaked or no contamination remains after any leak) or byproduct materials having*

only half-lives of less than 65 days, a list contained in a single document and updated every 2 years of the following (30.35(g)(3) & 70.25(g)(3):

Or

Except for areas containing depleted uranium used only for shielding or as penetrators in unused munitions, a list contained in a single document and updated every 2 years, of the following (40.36(f)(3):

- a. *All areas designated and formerly designated as restricted areas as defined under 10 CFR 20.1003;*

The areas designated and formerly designated as restricted areas are the two structures identified as Mixed Waste Storage Building 1 and Mixed Waste Storage Building 2 in the as-built drawings provided in TVA's letter to NRC dated January 27, 2015, Subject: By-Product Materials License Number 41-08165-19 for TVA's Mixed Waste Storage Facility – Request to Terminate NRC Materials License, pages E2-10 through 12.

- b. *All areas outside of restricted areas that require documentation under §30.35(g)(1), 40.36(f)(1), or 70.25(g)(1);*

TVA has no records or knowledge of spills or other unusual occurrences involving the spread of contamination in areas outside of restricted areas at the MWSF.

- c. *All areas outside of restricted areas where current and previous wastes have been buried as documented under 10 CFR 20.2108; and*

TVA has no records or knowledge of disposal of mixed waste received at the MWSF in any area outside of restricted areas where current and previous wastes have been buried. Records provided in the Enclosure 2 indicate that all containers of mixed hazardous waste received at the MWSF were shipped to authorized recipients for processing and/or disposal.

- d. *All areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in 10 CFR part 20, subpart E, or apply for approval for disposal under 10 CFR 20.2002.*

There are no records of areas outside of restricted areas that contain material such that, if the license expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in 10 CFR Part 20, subpart E, or apply for approval for disposal under 10 CFR 20.2002. The only mixed waste received at the MWSF was stored in the two Mixed Waste Storage Buildings described in the NRC materials license and this material was transferred for disposal to off-site facilities authorized to process and/or receive mixed waste. TVA has no records or knowledge that another means of disposal was utilized nor any knowledge of areas outside of restricted areas that contain material such that, if the license

expired, the licensee would be required to either decontaminate the area to meet the criteria for decommissioning in 10 CFR Part 20, subpart E, or apply for approval for disposal under 10 CFR 20.2002.

4. *Records of the cost estimate performed for the decommissioning funding plan or of the amount certified for decommissioning, and records of the funding method used for assuring funds if either a funding plan or certification is used.*

TVA's decommissioning cost estimate was updated and provided to the NRC in a letter dated March 17, 2014, Subject: "By-Product Materials License Number 41-08165-19 for TVA's Mixed Waste Storage Facility – Low Level Radioactive Waste Storage License – Decommissioning Cost Update, Control No. 582602." The Statement of Intent included with this document was the funding method used for assuring funds would be available for the decommissioning of the MWSF.

- B. The regulations in 10 CFR 30.51(d) & (f), 40.61(d) & (f), and 70.51(a) apply to licensees authorized to possess radioactive material with a half-life greater than 120 days, source, and special nuclear material in an unsealed form and require the licensee to forward records related to various radioactive material disposal methods, release of radioactive effluents to the environment, and the records related to section A above, to the appropriate NRC Regional Office.

As described below, the TVA does not have any records to forward to the NRC regarding the MWSF and these regulations for the reasons given below:

1. **The TVA did not apply for approval of proposed disposal procedures not otherwise authorized in the regulations in 10 CFR Part 20 and has no knowledge of disposal of licensed material in any manner at the MWSF other than authorized in 10 CFR 20.2006, "Transfer for disposal and manifests."**
2. **The TVA has no records or knowledge of the disposal of licensed material at the MWSF as authorized in:**
 - 20.2003, "Disposal by release into sanitary sewerage."**
 - 20.2004, "Treatment or disposal by incineration".**
 - 20.2005, "Disposal of specific wastes."**

3. **The TVA has no knowledge of the release of radioactive effluents to the environment at the MWSF and therefore there are no records of the results of measurements and calculations used to evaluate the release of radioactive effluents to the environment as required by 10 CFR 20.2103(b)(4).**

- C. **Records important to decommissioning associated with the MWSF are those records related to the transfer of the mixed waste to authorized waste processors and disposal facilities.**

The records, which represent the only method of waste disposal utilized to dispose of the mixed waste received and stored at the MWSF, include the waste manifests and related documents that serve as the record of receipt of the mixed waste by the waste processor and/or disposal facility. The records are provided in Enclosure 2.

Enclosure 2

Records Important to Decommissioning

Waste Manifests and Associated Documentation

NRC Form 540, Uniform Low-Level Radioactive Waste Manifest

Form 541 Uniform Low-Level Radioactive Waste Manifest -Container and Waste Description

Form 542 Uniform Low-Level Radioactive Waste Manifest - Manifest Index and Regional Compact Tabulation

EPA Form No. 8700-22, Uniform Hazardous Waste Manifest

Uniform Low-Level Radioactive Waste Manifest - Isotope Report

Certificate of Disposal

Mixed Waste Facility Excel Spreadsheet
Record of Receipts and Shipments
Page 1/2

	A	B	C	D	E	F	G	H	I	J	K	L	M
	ORIG/NO	GEN DRUM/NO	MANIFEST/IN	RECEIVED	MANIFEST/OUT	SHIPPED OUT	EPA CODES	WEIGHT	PROCURE	QUANTITY	GENERATOR	DISPOSER	BY
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
20													
21													
22													
23													
24													
25													
26													
27													
28													
29													
30													
31													
32													
33													
34													
35													
36													
37													
38													
39													
40													
41													
42													
43													
44													
45													
46													
47													
48													
49													
50													
51													
52													
53													
54													
55													
56													
57													
58													
59													
60													
61													

Attachment 1

Waste Manifest Numbers 0825-01-0001 and 0825-02-0001

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
0825-01-0001	00017	17	10/16/2000	Envirocare of Utah, Inc. Clive, UT	10/19/2000
0825-02-0001	00017	1	10/16/2000	Envirocare of Utah, Inc. Clive, UT	10/19/2000

NOTE: The contents of MWSF container number 994706 were placed inside MWSF container number 994269 (NRC Form 540 Manifest No. 0825-02-0001).

FORM 540 U.S. NUCLEAR REGULATORY COMMISSION		SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		7. FORM 540 AND 540A		8. TRACKING NUMBER	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		TVA Hazardous Waste Storage Facility		RS-00-212		PAGE 1 OF 5 PAGES		Also this number on all continuation pages	
		Paul Bernauer - P.O. 1010 AL Highway 133 N. At Wilson Dam Muscle Shoals AL 35661		0825-01-0001		FORM 541 AND 541A ADDITIONAL INFORMATION		0825-01-0001	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 1-800-237-2322 TVA Duty Ops. / 1-800-424-8300 Chem Trec 1-800-424-8802 National Response Center (RQ) Lead		3. CARRIER - Name and Address Tri-state Motor Transit P.O. Box 113 Joplin MO 64802		EPA I.D. NUMBER MOD095038998		8. CONSIGNEE - Name and Facility Address ENVIROCORE OF UTAH, INC. <i>MO4294</i> US I-80, Exit 49 Tooele County Cive UT 84083		9. CONTACT Robert English Receiving Department Telephone Number (Include Area Code) (435) 884-0155	
2. IS THIS AN "EXCLUSIVE USE SHIPMENT?" <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		5. CARRIER - Name and Address Tri-state Motor Transit P.O. Box 113 Joplin MO 64802		6. CONSIGNEE - Name and Facility Address ENVIROCORE OF UTAH, INC. <i>MO4294</i> US I-80, Exit 49 Tooele County Cive UT 84083		10. SHIPPER CERTIFICATION "This is to certify that the here-in named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked and labeled and are in proper condition for transportation and disposal as described in accordance with the requirements of 10 CFR part 20 and 81 or equivalent state regulations".	
3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 17		EPA MANIFEST NUMBER 00017		CONTACT Gerald Whisman Signature: <i>Gerald Whisman</i>		SHIPPING DATE 10-16-00		DATE 10/19/00	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES	
Waste, Radioactive Material, LSA, n.o.s., 7, UN2812 (EPA D008) (Lead Contaminated Solids) <i>RS</i>		NA		NA		Solid/ Metal Oxides		Cr-51 Mn-54 Fe-55 Co-58 Co-60 Zn-65 Ag-110m Cs-137	
16. TOTAL PACKAGE ACTIVITY		17. LSA/SCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE			
2.73E+01		LSA II		35.82 Kg 78.97 Lbs		(81) 972298 98RW001			
FOR CONSIGNEE USE ONLY		20. Terms and Condition							
<input type="checkbox"/> Record Waste Description Inadequate <input type="checkbox"/> Contamination or Leakage Detected <input type="checkbox"/> Unexpected Exposure Rates Detected <input type="checkbox"/> Labels, Markings, etc. Inadequate <input type="checkbox"/> Container Integrity Inadequate <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Violations Detected on this Shipment		A. HAZARDOUS MATERIALS. Generator represents & warrants that this Waste Material <u>X</u> is (or) <u> </u> is not a hazardous waste as defined in 40CFR261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and complete hazardous waste manifest, along with the appropriate land-disposal restriction notice and by certification as required by 40CFR268.1. B. TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc. and all appropriate regulatory authorities, title to the Waste Material which to Generator's representations herein shall hereupon transfer from Generator and be vested in Envirocare of Utah, Inc. C. WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license. D. INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters.							

FORM 840A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)**

6. TRACKING NUMBER

(Use this number on all continuation pages)

0825-01-0001

PAGE 2 OF 5 PAGE(S)

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES		16. TOTAL PACKAGE ACTIVITY		17. LEASCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
				MBq	mCi	MBq	mCi			
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.25E+01	3.38E-01	LSA II	64.675 Kg 142.57 Lbs	(#2) 972301 97RWD035
				Fe-55 Co-58	Ag-110m Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.23E+01	3.32E-01	LSA II	62.45 Kg 181.77 Lbs	(#3) 972297 95RWD050
				Fe-55 Co-58	Ag-110m Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.25E+01	3.39E-01	LSA II	65.835 kg 145.14 Lbs	(#4) 972302 97RWD053
				Fe-55 Co-58	Ag-110m Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.21E+01	3.26E-01	LSA II	43.56 Kg 95.11 Lbs	(#6) 972294 LW101
				Fe-55 Co-58	Ag-110m Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.91E+01	5.16E-01	LSA II	105.735 Kg 233.10 Lbs	(#8) 972298 95RWD010
				Fe-55 Co-58	Ag-110m Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-61 Mn-54	Co-60 Zn-65	1.27E+01	3.44E-01	LSA II	99.85 Kg 220.13 Lbs	(#7) 972299 96RWD168
				Fe-55 Co-58	Ag-110m Cs-137					

FORM 840A (4-87)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

0825-01-0001

PAGE 3 OF 5 PAGE(S)

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES		16. TOTAL PACKAGE Mg ACTIVITY mCi		17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
				Cr-51	Co-60	Mn-54	Zn-65			
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 Fissile Excepted (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-51	Co-60	1.25E+01	3.37E-01	LSA II	81.765 Kg 180.27 Lbs	(#8) 972303 97RWD083
				Mn-54	Zn-65					
				Fe-55	Ag-110m					
				Co-58	Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-51	Co-60	1.18E+01	3.20E-01	LSA II	80.41 Kg 183.29 Lbs	(#9) 972295 LW102
				Mn-54	Zn-65					
				Fe-55	Ag-110m					
				Co-58	Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-51	Co-60	1.29E+01	3.47E-01	LSA II	145.854 kg 321.55 Lbs	(#10) 972293 91RWD407
				Mn-54	Zn-65					
				Fe-55	Ag-110m					
				Co-58	Cs-137					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA D008) (Lead Contaminated Solids) <i>RG</i>	NA	NA	Solids/ Dep Metal Oxides	Cr-51	Co-60	1.27E+01	3.44E-01	LSA II	98.901 Kg 218.04 Lbs	(#11) 972300 97RWD028
				Mn-54	Zn-65					
				Fe-55	Ag-110m					
				Co-58	Cs-137					
Waste, Radioactive Material, Excepted Package-Limited Quantity of Material, 7, UN2910, Fissile Excepted (EPA D008)	NA	NA	Solids/ Dep Metal Oxides	Mn-54	Cs-137	2.56E-03	6.92E-05	N/A	6.993 Kg 15.42 Lbs	(#12) 980424 3709-05
				Fe-55	Ce-144					
				Co-60	Pu-238					
				Ni-63	Cm-243					
				Zn-65	(H-3-LLD)					
				Sr-90	(C-14-LLD)					
				Ag-110m	(Tc-99-LLD)					
				Cs-134	(I-129-LLD)					

FORM 540A

U. S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)**

5. MANIFEST NUMBER

(Use this number on all continuation pages)

0825-01-0001

PAGE 4 OF 5 PAGE(S)

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY		17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 Fissile Excepted (EPA D008) (Lead Contaminated Solids)	NA	NA	Solids/ Dep Metal Oxides	C-14 Mn-54	Ca-144 Pu-238	7.80E-08	2.11E-07	LSA II	10 Kg 22.05 Lbs	(#13) 983035 ENV 4067-05-0
				Fe-55 Co-60	Pu-241 Cm-242					
				Ni-63 Sr-90	Cm-244 (H-3-LLD)					
				Ag-110m Cs-134	(Tc-99-LLD) (I-129-LLD)					
				Cs-137	(Ce-141-LLD)					
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 Fissile Excepted (EPA D008) (Lead Contaminated Solids)	NA	NA	Solids/ Dep Metal Oxides	C-14 Mn-54	Pu-238 Pu-241	2.31E-05	6.25E-07	LSA II	52.95 kg 116.52 Lbs	(#14) 983036 98RWD088
				Fe-55 Co-60	Cm-242 Cm-244					
				Ni-63 Sr-90	(H-3-LLD) (Tc-99-LLD)					
				Ag-110m Cs-137	(I-129-LLD) (Ce-141-LLD)					
				Ce-144						
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 Fissile Excepted (EPA D008) (Lead Contaminated Solids)	NA	NA	Solids/ Dep Metal Oxides	C-14 Mn-54	Ca-137 Pu-241	1.26E-03	3.38E-05	LSA II	2.55 Kg 5.62 Lbs	(#15) 981419 3995-05-0
				Fe-55 Co-60	Cm-242 (H-3-LLD)					
				Ni-63 Zn-65	(Tc-99-LLD) (I-129-LLD)					
				Sr-90 Cs-134	(Ce-141-LLD)					

FORM 540A (4-97)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)**

(Use this number on all consecutive pages)

0825-01-0001

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION <small>(Including proper shipping name, hazard class, UN ID number, and any additional information)</small>	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY		17. LSA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME <small>(Use appropriate units)</small>	19. IDENTIFICATION NUMBER OF PACKAGE
				MBq	mCi					
Waste, Radioactive Material, LSA, n.d.s., 7, UN2912 Fissile Excepted (EPA D008) (Lead Contaminated Solids)	NA	NA	Solids/ Dep Metal Oxides	C-14 Mn-54	Ca-134 Cs-137	4.23E+00	1.14E-01	LSA II	77 Kg 169.75 Lbs	(#16) 991418 98RWD137
				Fe-55 Co-60	Cm-242 Pu-241					
				Ni-63 Zn-65	(H-3-LLD) (Tc-99-LLD)					
				Sr-90 Ag-110m	(I-129-LLD) (Ce-141-LLD)					
Waste, Radioactive Material, Excepted Package-Limited Quantity, 7, UN2910, (EPA D008 Lead Contaminated Solids)	NA	NA	Solids/ Dep Metal Oxides	Mn-54 Fe-55	Ca-134 Cs-137	4.19E-02	1.13E-03	N/A	12.2 Kg 26.90 Lbs	(#17) 994767 6192-05-0
				Co-60 Ni-63	(H-3-LLD) (C-14-LLD)					
				Zn-65 Ag-110m	(Tc-99-LLD) (I-129-LLD)					

FORM 641 U.S. NUCLEAR REGULATORY COMMISSION

NET NUMBER 0 875-01-0001

PAGE 1 OF 21 PAGES

GENERATOR NAME TVA Hazardous Waste Storage Facility

EQUIPMENT ID NUMBER RS-00-212

DISPOSAL CONTAINERS		NET WASTE		SPECIAL NUCLEONIC MATERIALS			
		VOLUME	WEIGHT	U-235	U-238	Pu	TOTAL
17	RS 100.78	2.957	1008.5	NP	NP	(5 pkgs) 3.15E-10	3.15E-10

ACTIVITY (Bq/cc)						SOURCE
ALL NUCLEIDES	TRITIUM	C-14	TC-99	P-32		
162.87	LLD(uCi/cc)	1.95E-04	LLD	LLD	NP	
4.4	[3.84E-15]	5.27E-06	[5.19E-15]	[5.02E-15]	NP	

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										14. WASTE CLASSIFICATION (A, B, C)		
1. CONTAINER IDENTIFICATION NUMBER	2. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME	8. WASTE AND CONTAINER WEIGHT	9. SURFACE RADIATION	10. SURFACE CONTAMINATION		11. WASTE DESCRIPTION (See Note 2)		12. APPROXIMATE WASTE VOLUME IN CONTAINERS		13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
					MBq/100 cm ²	dpm/100 cm ²	ALPHA	BETA	CS	LS		CHEMICAL FORM	WEIGHT % CHELATING AGENT IF > 1.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
		m ³	kg	mR/hr									RADIONUCLIDES	μCi/gm	Bq/g	mCi	mCi	
(1) 972298		0.212	35.82 Kg	0.04	<3.33E-7	<1.67E-5			0.207			Chelating Agent		Cr-51	1.97E+03	2.80E+00	7.04E-02	
98RWD001	3	7.5	78.97 Lb	4	<20	<1000		28	7.3			N/A	NP	Mn-54	2.12E+03	2.80E+00	7.59E-02	
														Fe-55	4.58E+03	6.07E+00	1.84E-01	
														Co-58	2.74E+02	3.64E-01	9.83E-03	
														Co-60	8.44E+03	1.12E+01	3.02E-01	
														Zn-65	1.74E+03	2.30E+00	6.22E-02	
														Ag-110m	1.32E+03	1.75E+00	4.74E-02	
														Cs-137	1.37E+02	1.81E-01	4.90E-03	
														TOTALS	2.06E+04	2.73E+01	7.37E-01	

NOTE 1: CONTAINER DESCRIPTION CODES.
For containers made in overseas, the material code must be followed by "OP".

1. Wooden Box or Crate	8. Drum/barrel
2. Metal Totes	10. Gas Cylinder
3. Metal Drum or Pail	11. Bag, Unpackaged Waste
4. Plastic Drum or Pail	12. Unpackaged Component
5. Tanker	13. High Integrity Container
6. Lab Pail	14. Other. Describe in Item 9 or additional page
7. Polyethylene Tote Liner	
8. Fluoropolymer Tote Liner	

NOTE 2: WASTE DESCRIPTION CODES. (Choose up to three which predominate by volume.)

20. Charcoal	28. Oxidation Residue	36. Separator Solutions/Sludges/Concentrations
21. Incinerator Ash	29. Carbon Ion-exchange Media	37. Composites Trash
22. Soil	31. Anion Ion-exchange Media	40. Noncombustible Trash
23. Gas	33. Mixed Bed Ion-exchange Media	41. Animal Carcass
24. Oil	32. Contaminated Equipment	42. Biological Material (except animal carcasses)
25. Aqueous Liquid	34. Organic Liquid	43. Activated Material
26. Filter Media	35. Gases or Liquors	58. Other. See Waste Profile Sheet
27. Mechanical Fiber	37. Paint or Plating	
28. EPA or State Hazardous		

Note 3: Sorption, solidification, stabilization, media codes.
100 = None required

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

MANIFEST NUMBER
825-01-0001

PAGE 2 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFICATION (41 CFR 101.11.6)		
6. CONTAINER IDENTIFICATION NUMBER	8. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ SS	9. WASTE AND CONTAINER WEIGHT kg lb	10. SURFACE RADIATION mSv/hr μR/hr	11. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		12. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA	11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ SS	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	RADIONUCLIDES	Bq/gm		MBq	mCi
(2) 972301		0.212	64.675	0.003	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	4.98E+02	1.19E+00	3.22E-02
97RWD035	3	7.5	142.58	0.3	<20	<1000		7.3			OXIDES / NA NP		Mn-54	5.37E+02	1.28E+00	3.47E-02
													Fe-55	1.16E+03	2.78E+00	7.51E-02
													Co-58	6.94E+01	1.66E-01	4.49E-03
													Co-60	2.15E+03	5.14E+00	1.39E-01
													Zn-65	4.40E+02	1.05E+00	2.85E-02
													Ag-110m	3.35E+02	8.03E-01	2.17E-02
													Cs-137	3.48E+01	8.33E-02	2.25E-03
													TOTALS	5.23E+03	1.25E+01	3.38E-01
(3) 972297		0.212	82.45	0.001	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	3.85E+02	1.17E+00	3.17E-02
95RWD050	3	7.5	181.77	0.1	<20	<1000		7.3			OXIDES / NA NP		Mn-54	4.13E+02	1.26E+00	3.40E-02
													Fe-55	8.94E+02	2.73E+00	7.37E-02
													Co-58	5.35E+01	1.63E-01	4.41E-03
													Continued on next page			

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION (44, AS, B, C)
9. CONTAINER IDENTIFICATION NUMBER	10. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME liters gallons	11. WASTE AND CONTAINER WEIGHT kg lb	12. SURFACE RADIATION mR/hr μR/hr	13. SURFACE CONTAMINATION MBq/100 cm ² μCi/100 cm ²		14. PHYSICAL DESCRIPTION			15. CHEMICAL DESCRIPTION		16. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA	17. WASTE DESCRIPTION (See Note 2)	18. APPROXIMATE WASTE VOLUME IN CONTAINERS liters gallons	19. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	20. CHEMICAL FORM CHELATING AGENT	21. WEIGHT % CHELATING AGENT IF >0.1%	RADIONUCLIDES	pCi/gm	MBq	μCi	
(4) 872302		0.212	65.835	0.003	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	4.91E+02	1.20E+00	3.23E-02
97RWD053	3	7.5	145.14	0.3	<20	<1000		7.3			OXIDES / NA NP		Mn-54	5.29E+02	1.29E+00	3.48E-02
													Fe-55	1.14E+03	2.79E+00	7.53E-02
													Co-58	6.83E+01	1.67E-01	4.50E-03
													Co-60	2.12E+03	5.18E+00	1.40E-01
													Zn-65	4.33E+02	1.05E+00	2.85E-02
													Ag-110m	3.30E+02	8.03E-01	2.17E-02
													Cs-137	3.42E+01	8.33E-02	2.25E-03
													TOTALS	5.15E+03	1.25E+01	3.39E-01
(5) 972294		0.212	43.56	<0.001	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	7.16E+02	1.15E+00	3.12E-02
LW101	3	7.5	96.05	<0.1	<20	<1000		7.3			OXIDES / NA NP		Mn-54	7.70E+02	1.24E+00	3.60E-02
													Fe-55	1.68E+03	2.68E+00	7.25E-02
													Co58	9.95E+01	1.61E-01	4.34E-03
													Continued on next page			

FORM 841A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

MANIFEST NUMBER

0825-01-0001

PAGE 6 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							18. WASTE CLASSIFI- CATION (A, B, C)			
9. CONTAINER IDENTIFICATION NUMBER	10. CONTAINER DESCRIPTION (See Note 1)	11. VOLUME gals liters	12. WASTE AND CONTAINER WEIGHT lbs kg	13. SURFACE RADIATION mR/hr μR/hr	14. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		15. PHYSICAL DESCRIPTION			16. CHEMICAL DESCRIPTION		17. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS gals liters	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF >0.1%	RADIONUCLIDES		pCi/gm	MBq	dCi
(6) 972296 95RWD010	3	0.212	105.735	0.001	<3.33E-07	<1.67E-05	28	0.207	METAL		Cr-51	4.67E+02	1.83E+00	4.94E-02		
		7.5	233.1	0.1	<20	<1000		7.3				OXIDES / NA NP	Mn-54	5.03E+02	1.97E+00	5.32E-02
													Fe-55	1.08E+03	4.26E+00	1.15E-01
													Co-58	6.50E+01	2.54E-01	6.87E-03
													Co-60	2.00E+03	7.81E+00	2.11E-01
													Zn-65	4.12E+02	1.61E+00	4.36E-02
													Ag-110m	3.14E+02	1.23E+00	3.32E-02
								Co-137	3.25E+01	1.27E-02	3.43E-03					
								TOTALS		4.86E+03	1.91E+01	5.16E-01				
(7) 972294 96RWD188	3	0.212	99.85	<0.001	<3.33E-07	<1.67E-05	28	0.207	METAL		Cr-51	3.29E+02	1.22E+00	3.29E-02		
		7.5	220.12	<0.1	<20	<1000		7.3				OXIDES / NA NP	Mn-54	3.54E+02	1.31E+00	3.53E-02
													Fe-55	7.65E+02	2.83E+00	7.64E-02
													Co-58	4.59E+01	1.69E-01	4.58E-03
								Continued on next page								

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

MANIFEST NUMBER
0825-01-0001

PAGE 8 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						18. WASTE CLASSIFICATION (M, HL, B, C)				
9. CONTAINER IDENTIFICATION NUMBER	10. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ gals	8. WASTE AND CONTAINER WEIGHT kg lbs	6. SURFACE RADIATION mR/hr mR/cm ² /hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION			16. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
					ALPHA	BETA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ gals	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF HL15		RADIONUCLIDE	Bq/gm	Mm	μCi
(8) 972303		0.212	81.755	<0.001	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	3.94E+02	1.19E+00	3.22E-02
97RWD083	3	7.5	180.24	<0.1	<20	<1000		7.3			OXIDES / NA NP		Mn-54	4.23E+02	1.28E+00	3.46E-02
													Fe-55	9.16E+02	2.77E+00	7.49E-02
													Co-58	5.46E+01	1.66E-01	4.48E-03
													Co-60	1.70E+03	5.14E+00	1.39E-01
													Zn-65	3.48E+02	1.05E+00	2.85E-02
													Ag-110m	2.65E+02	8.02E-01	2.17E-02
													Cs-137	2.73E+01	8.27E-02	2.24E-03
													TOTALS	4.13E+03	1.25E+01	3.37E-01
(9) 972295		0.212	80.41	<0.001	<3.33E-07	<1.67E-05	28	0.207			METAL		Cr-51	3.80E+02	1.13E+00	3.06E-02
LW102	3	7.5	177.3	<0.1	<20	<1000		7.3			OXIDES / NA NP		Mn-54	4.08E+02	1.21E+00	3.28E-02
													Fe-55	8.84E+02	2.83E+00	7.11E-02
													Co-58	5.29E+01	1.57E-01	4.25E-03
													Continued on next page			

FORM 641A

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

U.S. NUCLEAR REGULATORY COMMISSION

MANIFEST NUMBER
0825-01-0001

PAGE 9 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								14. WASTE CLASSIFICATION (40 CFR 61.23)		
9. CONTAINER IDENTIFICATION NUMBER	10. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ gals	8. WASTE AND CONTAINER WEIGHT kg lb	6. SURFACE RADIATION mSv/hr mR/hr	10. SURFACE CONTAMINATION		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
					mBq/100 cm ² dpm/100 cm ²		11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ gals	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM CHELATING AGENT	WEIGHT % CHELATING AGENT IF >0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA						RADIONUCLIDES	pCi/gm		Bq/g	mCi
(9) 872295 LW102												Co-60	1.64E+03	4.88E+00	1.32E-01	
												Zn-65	3.36E+02	1.00E+00	2.70E-02	
												Ag-110m	2.56E+02	7.61E-01	2.06E-02	
												Cs-137	2.64E+01	7.85E-02	2.12E-03	
												TOTALS	3.98E+03	1.18E+01	3.20E-01	

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								14. WASTE CLASSIFICATION (ML, LL, S, C)		
3. CONTAINER IDENTIFICATION NUMBER	4. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME ml or L	5. WASTE AND CONTAINER WEIGHT kg or lb	6. SURFACE RADIATION mSv/hr or μR/hr	8. SURFACE CONTAMINATION MBq/100 cm ² or dpm/100 cm ²		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS ml or L	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA				CHEMICAL FORM OR RELATING AGENT	WEIGHT % CHELATING AGENT IF APPLICABLE	RADIONUCLIDES				
												Radionuclide	pCi/gm		Bq	Bq
(10) 972283		0.328	145.854	0.001	<3.33E-07	<1.67E-05	28. OP	0.322		METAL		Cr-51	2.27E+02	1.22E+00	3.31E-02	
91RWD407	3	11.5	321.55	0.1	<20	<1000		11.38		OXIDES / NA	NP	Mn-54	2.45E+02	1.32E+00	3.57E-02	
												Fe-55	2.59E+02	2.86E+00	7.72E-02	
												Co-58	3.18E+01	1.72E-01	4.64E-03	
												Co-60	8.79E+02	5.29E+00	1.43E-01	
												Zn-65	2.01E+02	1.08E+00	2.93E-02	
												Ag-110m	1.53E+02	8.24E-01	2.23E-02	
												Cs-137	1.58E+01	8.54E-02	2.31E-03	
												TOTALS	2.38E+03	1.29E+01	3.47E-01	
(11) 972300		0.212	98.901	<0.001	<3.33E-07	<1.67E-05	28	0.207		METAL		Cr-51	3.31E+02	1.21E+00	3.28E-02	
97RWD028	3	7.5	218.04	<0.1	<20	<1000		7.3		OXIDES / NA	NP	Mn-54	3.58E+02	1.31E+00	3.54E-02	
												Fe-55	7.73E+02	2.83E+00	7.64E-02	
												Co-58	4.64E+01	1.70E-01	4.58E-03	
												Continued on next page				

FORM 641A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

 2. MANIFEST NUMBER
0825-01-0001

 3. PAGE 12 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFICATION (A, B, C)		
1. CONTAINER IDENTIFICATION NUMBER	4. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ g	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION mR/hr μR/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
					ALPHA	BETA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ g	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM CHELATING AGENT	14. WEIGHT % CHELATING AGENT IF > 1%	15. INDIVIDUAL RADIOISOTOPES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT				
												RADIOISOTOPES	μCi/gm		MBq	μCi
(12) 980424		0.019	6.993	<0.001	<3.33E-07	<1.67E-05	28	0.014		METAL		Mn-54	6.29E-01	1.63E-04	4.40E-06	
3709-05	3	0.87	15.42	<0.1	<20	<1000		0.5		OXIDES / NA NP		Fe-55	2.74E+00	7.10E-04	1.92E-05	
												Co-60	3.98E+00	1.02E-03	2.77E-05	
												Ni-63	1.71E-01	4.44E-05	1.20E-06	
												Zn-65	3.29E-01	8.50E-05	2.30E-06	
												Sr-90	4.47E-03	1.16E-06	3.13E-08	
												Ag-110m	5.27E-01	1.36E-04	3.69E-06	
												Cs-134	7.70E-02	1.99E-05	5.38E-07	
												Cs-137	1.46E+00	3.77E-04	1.02E-05	
												Cs-144	7.11E-04	1.84E-07	4.98E-09	
												Pu-238	4.44E-05	1.15E-08	3.11E-10	
												Cm-243	4.84E-05	1.28E-08	3.46E-10	
												H-3 (LLD)	MBq/cc 4.33E-06	uCi/cc 1.17E-10		
												C-14 (LLD)	MBq/cc 3.07E-06	uCi/cc 8.30E-11		
												Continued on next page				

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								15 WASTE CLASSIFI- CATION (A, B, & C)	
1. CONTAINER IDENTIFICATION NUMBER	2. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m3 gals	8. WASTE AND CONTAINER WEIGHT kg lbs	9. SURFACE RADIATION mR/hr μR/hr	10. SURFACE CONTAMINATION		11. PHYSICAL DESCRIPTION		12. SOLIDIFICATION OR STABILIZATION MEDIA See Note 3	14. CHEMICAL DESCRIPTION CHEMICAL FORM OR CHELATING AGENT WEIGHT % CHELATING AGENT IF #1,15	13. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIOISOTOPES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT				
					MBq/100 cm2	Bq/100 cm2	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m3			RADIOISOTOPES	pCi/gm	Bq/g		mCi
					ALPHA	BETA	13. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m3							
(13) 983035		0.019	10	<0.001	<3.33E-07	<1.67E-05	28	0.014		METAL	C-14	1.10E-06	4.07E-10	1.10E-11	
ENV 4087-05-0	3	0.67	22	<0.1	<20	<1000		0.5		OXIDES / NA NP	Mn-54	3.80E-04	1.41E-07	3.80E-09	
											Fe-55	7.22E-03	2.67E-06	7.22E-08	
											Co-60	9.13E-03	3.38E-06	9.13E-08	
											Ni-63	6.59E-05	2.44E-08	6.59E-10	
											Sr-90	7.07E-08	2.62E-09	7.07E-11	
											Ag110m	5.10E-04	1.89E-07	5.10E-09	
											Ce-134	2.15E-04	7.96E-08	2.15E-09	
											Ce-137	3.58E-03	1.32E-06	3.58E-08	
											Ce-144	8.11E-07	3.00E-10	8.11E-12	
											Pu-238	1.01E-08	3.74E-12	1.01E-13	
											Pu-241	4.61E-06	1.71E-09	4.61E-11	
											Cm-242	4.29E-08	1.59E-11	4.29E-13	
											Cm-244	1.24E-08	4.59E-12	1.24E-13	
										Continued on next page					

FORM 641A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

 2. MANIFEST NUMBER
0825-01-0001

3. PAGE 18 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFICATION (A, B, C)			
6. CONTAINER IDENTIFICATION NUMBER	5. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ gals	4. WASTE AND CONTAINER WEIGHT kg lbs	3. SURFACE RADIATION μR/hr mR/hr	2. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. WASTE DESCRIPTION (See Note 2)		13. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ gals	12. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIOISOTOPES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT				
					ALPHA	BETA	CHEMICAL FORM CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%			RADIOISOTOPES	Bq/gm	MBq		μCi		
(14) 983036		0.212	52.95	0.001	<3.33E-07	<1.87E-05	28	0.207			METAL		C-14	5.68E-07	1.11E-09	3.00E-11	
98-RWD-098	3	7.5	116.75	0.1	<20	<1000		7.3			OXIDES / NA NP		Mn-54	1.31E-03	2.58E-06	6.92E-08	
													Fe-55	3.72E-03	7.28E-06	1.97E-07	
													Co-60	4.72E-03	9.24E-08	2.50E-07	
													Ni-63	3.40E-05	6.65E-08	1.80E-09	
													Sr-90	2.53E-06	4.95E-09	1.34E-10	
													Ag110m	7.47E-04	1.49E-06	3.98E-08	
													Cs-137	1.28E-03	2.50E-06	6.76E-08	
													Ce-144	2.91E-07	5.69E-10	1.54E-11	
													Pu-238	3.64E-09	7.13E-12	1.93E-13	
													Pu-241	1.65E-06	3.24E-09	8.75E-11	
													Cm-242	1.54E-08	3.02E-11	8.15E-13	
													Cm-244	4.45E-09	8.72E-12	2.38E-13	
													H-3 (LLD)	MBq/cc 1.42E-10	μCi/cc 3.84E-15		
													Continued on next page				

FORM 641A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

 MANIFEST NUMBER
 0825-01-0001

PAGE 18 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFI- CATION (M, LL, B, C)		
1. CONTAINER IDENTIFICATION NUMBER	2. CONTAINER DESCRIPTION (See Note 1)	3. VOLUME gals liters	4. WEIGHT AND CONTAINER WEIGHT kg lb	5. SURFACE RADIATION cpm/hr μR/hr	6. SURFACE CONTAMINATION Bq/100 cm ² dpm/100 cm ²		7. PHYSICAL DESCRIPTION			8. CHEMICAL DESCRIPTION		9. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINER m ³ ft ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM OR CHELATING AGENT	WEIGHT % CHELATING AGENT IF 14.1%	RADIONUCLIDES	Bq/gm		Bq/l	μCi/cc
(15) 991419		0.019	2.55	<0.001	<3.33E-07	<1.87E-05	28	0.014		METAL		C-14	8.30E-04	7.83E-08	2.12E-09	
3995-05-0	3	0.67	5.62	<0.1	<20	<1000		0.5		OXIDES / NA NP		Mn-54	5.10E-01	4.81E-05	1.30E-08	
												Fe-55	4.40E+00	4.15E-04	1.12E-05	
												Co-60	6.20E+00	5.85E-04	1.58E-05	
												Ni-63	4.97E-02	4.69E-06	1.27E-07	
												Zn-65	2.89E-01	2.72E-05	7.36E-07	
												Sr-90	2.25E-03	2.12E-07	5.73E-09	
												Cs-134	6.50E-01	6.13E-05	1.88E-08	
												Cs-137	1.13E+00	1.07E-04	2.89E-08	
												Pu-241	1.43E-03	1.35E-07	3.88E-09	
												Cm-242	3.73E-06	3.52E-10	9.52E-12	
												H-3 (LLD)	1.98E-08	1.98E-08	3.57E-12	
												Tc-99 (LLD)	2.68E-08	2.68E-08	4.83E-12	
												I-129 (LLD)	3.05E-08	3.05E-08	5.50E-12	
												Ce-141(LLD)	9.88E-08	9.88E-08	1.78E-11	
												TOTALS	1.32E+01	1.25E-03	3.38E-05	

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION							WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							14. WASTE CLASSIFICATION (AU, AS, B, C)		
1. CONTAINER IDENTIFICATION NUMBER	2. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ B3	4. WASTE AND CONTAINER WEIGHT kg b	5. SURFACE RADIATION mSv/hr mR/hr	10. SURFACE CONTAMINATION		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
					MBq/100 cm ² dpm/100 cm ²		11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS m ³ B3	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM OR CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA						RADIONUCLIDES	µCi/gm		MBq	mCi
(16) 991418		0.212	77	0.12	<3.33E-07	<1.67E-05	28	0.207			METAL		C-14	6.84E-02	1.95E-04	5.27E-06
98RWD137	3	7.5	189.75	12	<20	<1000		7.3			OXIDES / NA NP		Mn-54	3.97E+01	1.13E-01	3.06E-03
													Fe-55	3.62E+02	1.03E+00	2.79E-02
													Co-60	5.09E+02	1.45E+00	3.82E-02
													Ni-63	4.09E+00	1.17E-02	3.15E-04
													Zn-65	6.35E+01	1.81E-01	4.89E-03
													Sr-90	6.06E-01	1.73E-03	4.87E-05
													Ag-110m	5.21E+01	1.48E-01	4.01E-03
													Cs-134	1.49E+02	4.26E-01	1.15E-02
													Cs-137	3.05E+02	8.70E-01	2.35E-02
													Cm-242	1.01E-03	2.87E-06	7.75E-08
													Pu-241	3.87E-01	1.10E-03	2.98E-05
													H-3 (LLD)		MBq/cc 2.59E-05	µCi/cc 7.00E-10
													Tc-99 (LLD)		MBq/cc 3.00E-05	µCi/cc 9.45E-10
													Continued on next page			

FORM 641A

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)**

2. MANIFEST NUMBER
0825-01-0001

PAGE 21 OF 21 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								15 WASTE CLASSIFI- CATION (A, B, C)		
A CONTAINER IDENTIFICATION NUMBER	B CONTAINER DESCRIPTION (See Note 1)	7. VOLUME L GAL	8. WASTE AND CONTAINER WEIGHT kg lb	9. SURFACE RADIATION μR/hr mR/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
					ALPHA	BETA	11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS L GAL	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM CHELATING AGENT	14. WEIGHT % CHELATING AGENT IF >0.1%	15. RADIONUCLIDES				
												μCi/gm	Bq		Bq	Bq
(17) 8192-05-0 994767	3	0.019	12.2	<0.001	<3.33E-07	<1.67E-05	28	0.014			METAL	Mn-54	4.89E+00	2.21E-03	5.97E-05	
		0.67	26.9	<0.1	<20	<1000						0.5	OXIDES / NA NP	Fe-55	2.89E+01	1.30E-02
												Co-60	3.60E+01	1.63E-02	4.39E-04	
												Ni-63	7.16E-01	3.23E-04	8.74E-06	
												Zn-65	1.95E+00	8.82E-04	2.38E-05	
												Ag-110m	1.95E+00	8.82E-04	2.38E-05	
												Cs-134	1.11E+00	5.03E-04	1.36E-05	
												Cs-137	1.73E+01	7.82E-03	2.11E-04	
												H-3 (LLD)	MBq/cc 8.51E-04	uCi/cc 2.30E-08		
												C-14 (LLD)	MBq/cc 2.86E-04	uCi/cc 7.74E-09		
												Tc-99(LLD)	MBq/cc 1.88E-04	uCi/cc 5.07E-09		
												I-129(LLD)	MBq/cc 1.04E-04	uCi/cc 2.80E-09		
												TOTALS	9.28E+01	4.19E-02	1.13E-03	
SHIPMENT		3.158	1066.53													
TOTAL:		111.7	2499										4.13E+03	1.63E+02	4.40E+00	

FORM 640 U.S. NUCLEAR REGULATORY COMMISSION		5. SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		7. FORM 540 AND 540A		8. TRACKING NUMBER	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		TVA Hazardous Waste Storage Facility		RS-00-212		PAGE 1 OF 1 PAGE(S)		0825-02-0001	
		Paul Bernauer - P.O. 1010 AL Highway 133 N. At Wilson Dam Muscle Shoals AL 35661				FORM 541 AND 541A ADDITIONAL INFORMATION			
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 1-800-237-2322 TVA Duty Ops. / 1-800-424-9300 Chem Trec 1-800-424-8802 National Response Center (RQ) Lead		USER PERMIT NUMBER		SHIPMENT NUMBER		8. CONSIGNEE - Name and Facility Address		CONTACT	
ORGANIZATION Tennessee Valley Authority - Hazardous Waste Storage Facility		0825-02-0001		0825-02-0001		ENVIROCARE OF UTAH, INC. MO4293		ROBERT ENGLISH	
2. IS THIS AN "EXCLUSIVE USE SHIPMENT?" <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 1		CONTACT Paul Bernauer / Jim Colagross (256) 314-7870 / (256) 386-3019		US 1-80, Exit 48 Tooele County Clive UT 84083		Receiving Department TELEPHONE NUMBER (Include Area Code) (435) 884-0155	
4. DOES EPA REGULATED WASTE REQUIRING A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number		EPA MANIFEST NUMBER 00017		9. CARRIER - Name and Address Tri-state Motor Transit P.O. Box 113 Joplin MO 64802		License No. UT 2300249 Amendment 10		DATE 10/19/00	
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				EPA I.D. NUMBER MOD095038998		SIGNATURE - Authorized CONSIGNEE acknowledging waste receipt <i>[Signature]</i>			
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIOCLIDES	
Waste, Radioactive Material, LSA, n.o.s., 7, UN2912 (EPA 0008) (Lead Contaminated Solids), RG		NA		NA		Solids/ Dep Metal Oxides		Pu-238 Mn-54 Fe-56 (H-3-LLD) Co-58 (Tc-99-LLD) Co-60 (I-129-LLD) Zn-65 (C-14-LLD) Ag-110m Cs-137 Ni-63 Sr-90 Cs-134	
								TOTAL PACKAGE ACTIVITY 1.84E+00 MBq : 4.97E-02 mCi	
								17. LSABCO CLASS LSA II	
								18. TOTAL WEIGHT OR VOLUME (Use appropriate units) 62 kg 137.02 Lbs	
								19. IDENTIFICATION NUMBER OF PACKAGE (#1) 994289	
FOR CONSIGNEE USE ONLY		20. Terms and Condition							
<input type="checkbox"/> Record Waste Description Inadequate <input type="checkbox"/> Contamination or Leakage Detected <input type="checkbox"/> Unexpected Exposure Rates Detected <input type="checkbox"/> Labels, Markings, etc. Inadequate <input type="checkbox"/> Container Integrity Inadequate <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Violations Detected on this Shipment		A. HAZARDOUS MATERIALS. Generator represents & warrants that this Waste Material <u>X</u> is (or) <u> </u> is not a hazardous waste as defined in 40CFR261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and complete hazardous waste manifest, along with the appropriate land-disposal restriction notice and by certification as required by 40CFR268.1. B. TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc. and all appropriate regulatory authorities, title to the Waste Material which to Generator's representations herein shall hereupon transfer from Generator and be vested in Envirocare of Utah, Inc. C. WASTE MATERIAL: Generator represents and warrants that all data set forth in this (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license. D. INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, employees and agents against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the (UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST) or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters.							

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

1. MANIFEST TOTALS		SPECIAL NUCLEAR (GASMS)				2. MANIFEST NUMBER 0875-02-0001	
# OF DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	U-233	U-235	TOTAL	3. PAGE 1 OF 2 PAGES	
1	7.5	137.02	NP	NP	(1 pkgs) 5.75E-15	4. GENERATOR NAME TVA Hazardous Waste Storage Facility	
ACTIVITY (Bq/mCi)						5. EQUIPMENT ID NUMBER RS-00-212	
ALL NUCLIDES	TRITIUM	C-14	TC-99	H-3	SOURCE		
1.84E+00	LLD	LLD	LLD	LLD	NP		
4.97E-02	[8.48E-14]	[2.03E-14]	[1.27E-13]	[1.71E-11]	NP		

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION (40, 48, 51, C)
7. CONTAINER IDENTIFICATION NUMBER	8. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME	9. WASTE AND CONTAINER WEIGHT	10. SURFACE RADIATION LEVEL	10. SURFACE CONTAMINATION	11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION					
						11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME IN CONTAINERS	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM	WEIGHT & CHELATING AGENT IF APPLICABLE	SINGLE OR CONTAINER TOTAL: OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT					
		m3	kg	μR/hr	ALPHA	BETA/GAMMA	m3	m3	Chelating Agent	AGENT IF APPLICABLE	RADIOISOTOPE	Bq/gm	Bq	mCi		
(1) 994289	3	0.212	62	<0.001	<3.33E-07	<1.67E-05	28	0.207	METAL		Cr-51	7.66E+01	1.76E-01	4.75E-03		
		7.5	137.02	<0.1	<20	<1000		7.3	OXIDES / NA	NP	Mn-54	8.22E+01	1.89E-01	5.09E-03		
											Fe-55	1.78E+02	4.09E-01	1.10E-02		
											Co-58	1.07E+01	2.45E-02	6.61E-04		
											Co-60	3.30E+02	7.57E-01	2.05E-02		
											Zn-65	6.76E+01	1.55E-01	4.19E-03		
											Ag-110m	5.15E+01	1.18E-01	3.19E-03		
											Cs-137	5.29E+00	1.23E-02	3.28E-04		
											Package continued					
											on next page					

NOTE 1: CONTAINER DESCRIPTION CODES.
For containers with an exception, the numerical code must be followed by "OP".

1. Wooden box or Crate	9. Drum/Can
2. Metal Totes	10. Gas Cylinder
3. Metal Drum or Pail	11. Bag, Unpackaged Waste
4. Plastic Drum or Pail	12. Unpackaged Components
5. Tanker	13. High Integrity Container
6. Lab Pail	14. Other. Describe in text 6 or additional copy
7. Polyethylene Tote Liner	
8. Fiberglass Tote Liner	

NOTE 2: WASTE DESCRIPTION CODES. (Choose up to three which predominate by volume.)

20. Chemical	26. Decontam Rubble	32. Evaporator Residues/Sludge/Concentrations
21. Inert/Inert Ash	27. Case Ion-Exchange Media	33. Compressible Trash
22. Soil	28. Air Ion-Exchange Media	34. Noncompressible Trash
23. Gas	29. Mixed Bed Ion-Exchange Media	41. Animal Carcass
24. Oil	30. Concentrated Equipment	42. Biological Material (except animal carcasses)
25. Aqueous Liquid	31. Organic Liquid	43. Artificial Material
26. Filter Media	32. Gaseous or Liquors	44. Other. See Waste Profile Sheet
27. Mechanical Filter	33. Sealed Source/Device	
28. EPA or State Hazardous	34. Part of Plant	

Note 3: Sorption, solidification, stabilization, media codes.
100 = None required

10/16/2000

NRC Form 541A

U.S. NUCLEAR REGULATORY COMMISSION
**UNIFORM LOW-LEVEL RADIOACTIVE
 WASTE MANIFEST**
 CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

2. NRC CASE NUMBER
 0825-02-0001

3. PAGE 2 OF 2 PAGES

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							19. WASTE CLASSIFICATION (AU, AS, L, C)			
8. CONTAINER IDENTIFICATION NUMBER	9. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME m ³ gals	10. WASTE AND CONTAINER WEIGHT kg lbs	11. SURFACE RADIATION mSv/hr mR/hr	12. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		13. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION BY ISOTOPE: TOTAL ACTIVITY AND CONCENTRATION OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT				
					ALPHA	BETA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME BY CONTAINERS m ³ gals	13. SOLIDIFICATION OR STABILIZATION MEDIA See Note 3	14. CHEMICAL FORM CHELATING AGENT	14. WEIGHT % CHELATING AGENT IF >0.1%	RADIOISOTOPES		αBq/g	MBq	μCi
(1) 994289												Ni-63	3.80E-04	8.71E-07	2.38E-08	
												Sr-90	1.68E-05	3.86E-08	1.04E-09	
												Cs-134	4.73E-03	1.08E-05	2.93E-07	
												Ce-144	8.03E-08	1.85E-10	4.98E-12	
												Pu-238	5.02E-09	1.15E-11	3.11E-13	
												Cm-243	5.58E-08	1.28E-11	3.46E-13	
												H-3 (LLD)			uCi/cc 8.46E-14	
												Tc-99(LLD)			uCi/cc 1.27E-13	
												I-129 (LLD)			uCi/cc 1.71E-11	
												C-14 (LLD)			uCi/cc 2.03E-14	
												Pu-241	1.04E-05	2.39E-08	6.45E-10	
												Cm-242	2.71E-08	6.22E-11	1.68E-12	
												Cm-244	3.81E-12	8.73E-15	2.36E-16 uCi/cc	
												Ce-141(LLD)			2.79E-13	
												TOTALS	8.02E+02	1.84E+00	4.97E-02	

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. AL2640090005	Manifest Document No. 00017	2. Page 1 of 2		Information in the shaded areas is not required by Federal law.		
3. Generator's Name and Mailing Address TVA-Hazardous Waste Storage Facility ATTN: Libby Pitts P.O. Box 1010				A. State Manifest Document Number 00017		B. State Generator's ID		
4. Generator's Phone (256) 314-7871 Muscle Shoals, AL 35662				C. State Transporter's ID		D. Transporter's Phone 1-800-234-8768		
5. Transporter 1 Company Name Tri-State Motor Transit Company		6. US EPA ID Number MOD095038998		E. State Transporter's ID		F. Transporter's Phone		
7. Transporter 2 Company Name		8. US EPA ID Number		G. State Facility's ID		H. Facility's Phone		
9. Designated Facility Name and Site Address Envirocare of Utah, Inc. Clive Disposal Site Interstate 80, Exit 49				10. USEPA ID Number UTD982598898		XX 1-435-884-0155		
11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)				12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	15. Waste No.
a.	RQ	Waste Radioactive Material, LSA, N.O.S., 7, UN2912, (EPA Waste Code D008-Solids)		0 0 1	D M	0 0 0 6 2	K	D008
b.	RQ	Waste Radioactive Material, LSA, N.O.S., 7, UN2912 (EPA Waste Code D008-Solids)		0 1 0	D M	0 0 8 2 5	K	D008
c.	RQ	Waste Radioactive Material, LSA, N.O.S., 7, UN2912, Fissile Excepted (EPA D008-Solids)		0 0 1	D M	0 0 0 8 2	K	D008
d.	X	Waste Radioactive Material, LSA, N.O.S., 7, UN2912, Fissile Excepted (EPA D008-Solids)		0 0 4	D M	0 0 1 4 3	K	D008
J. Additional Descriptions for Materials Listed Above				K. Handling Codes for Wastes Listed Above				
11a. Mixed Waste-Disposal Profile 0825-02 (Debris D008)								
11b. Mixed Waste-Disposal Profile 0825-01 (D008)								
11c. Mixed Waste-Disposal Profile 0825-01 (D008)								
11d. Mixed Waste-Disposal Profile 0825-01 (D008)								
15. Special Handling Instructions and Additional Information				TVA Contract No. 99PPF-253768-000 0825-02-M0427				
11a. ERG 162		11d. ERG 162		Emergency Contact: Chemtrec 1-800-424-9300				
11b. ERG 162		11c. ERG 162		TVA ODS Contact: 1-800-237-2322. 0825-01-M0424				
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.								
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.								
Printed/Typed Name B. Paul Bernauer				Signature <i>B Paul Bernauer</i>		Month Day Year 11/11/16		
17. Transporter 1 Acknowledgement of Receipt of Materials				Signature <i>Stephen W. Howard</i>		Month Day Year 11/11/16		
18. Transporter 2 Acknowledgement of Receipt of Materials				Signature		Month Day Year		
19. Discrepancy Indication Space								
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.								
Printed/Typed Name J GARZA				Signature <i>J Garza</i>		Month Day Year 11/11/16		

UNIFORM HAZARDOUS WASTE MANIFEST (Continuation Sheet)		21. Generator's US EPA ID No. AL2640090005	Manifest Document No. 00017	22. Page 2 of 2	Information in the shaded area is not required by Federal law.	
23. Generator's Name ATTN: Libby Pitts (256)314-7871			TVA-Hazardous Waste Storage Facility P. O. Box 1010 Muscle Shoals, Alabama 35662		L. State Manifest Document Number	
24. Transporter 1 Company Name Tri-State Motor Transit Company			25. US EPA ID Number MOD095038998		N. State Transporter's ID	
26. Transporter Company Name			27. US EPA ID Number		O. Transporter's Phone 1-800-234-8768	
					P. State Transporter's ID	
					Q. Transporter's Phone	
28. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number)			29. Containers No.	Type	30. Total Quantity	31. Unit Wt/Vol
a. Waste Radioactive Material, Excepted Package-Limited Quantity of Material, 7, UN2910			001	DM	00007	K
b. Waste Radioactive Material, Excepted Package-Limited Quantity of Material, 7, UN2910			001	DM	00012	K
c.						
d.						
e.						
f.						
g.						
h.						
i.						
S. Additional Descriptions for Materials Listed Above				T. Handling Codes for Wastes Listed Above		
11a. Mixed Waste Disposal Profile 0825-01 (Fissile Excepted-D008)						
11b. Mixed Waste Disposal Profile 0825-01 (D008)						
32. Special Handling Instructions and Additional Information				Shipment #s		
28a. ERG 161 TVA Contract No. 99PFP-253768-000				0825-01-0001		
28b. ERG 161 Emergency Contact: Chemtec 1-800-424-9300				0825-02-0001		
TVA ODS Contact: 1-800-237-2322						
33. Transporter <u>L</u> Acknowledgement of Receipt of Materials					Date	
Printed/Typed Name Stephen W. Howard			Signature <i>Stephen W. Howard</i>		Month Day Year 10/16/08	
34. Transporter <u> </u> Acknowledgement of Receipt of Materials					Date	
Printed/Typed Name			Signature		Month Day Year	
35. Discrepancy Indication Space						

UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST
 ISOTOPE REPORT
 For Manifest # 0825-01-0001
 Envirocare of Utah, Inc.

ISOTOPE	<u>Total Activity</u>	
	MBq	mCi
Cr-51	1.51E+01	4.09E-01
Mn-54	1.64E+01	4.43E-01
Fe-55	3.63E+01	9.80E-01
Co-58	2.11E+00	5.70E-02
Co-60	6.68E+01	1.80E+00
Zn-65	1.35E+01	3.66E-01
Ag-110m	1.03E+01	2.79E-01
Cs-137	1.93E+00	5.22E-02
Ni-63	1.20E-02	3.25E-04
Sr-90	1.73E-03	4.67E-05
Cs-134	4.26E-01	1.15E-02
Ce-144	1.85E-07	5.00E-09
Pu-238	1.15E-08	3.11E-10
Cm-243	1.28E-08	3.46E-10
C-14	1.95E-04	5.27E-06
Pu-241	1.10E-03	2.98E-05
Cm-242	2.87E-06	7.75E-08
Cm-244	1.33E-11	3.60E-13

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
ISOTOPES REPORT
For Manifest # 0825-02-0001
Envirocare of Utah, Inc.

ISOTOPE	Total Activity	
	(MBq)	(mCi)
Cr-51	1.76E-01	4.75E-03
Mn-54	1.89E-01	5.09E-03
Fe-55	4.09E-01	1.10E-02
Co-58	2.45E-02	6.61E-04
Co-60	7.57E-01	2.05E-02
Zn-65	1.55E-01	4.19E-03
Ag-110m	1.18E-01	3.19E-03
Cs-137	1.23E-02	3.28E-04
Ni-63	8.71E-07	2.36E-08
Sr-90	3.86E-08	1.04E-09
Cs-134	1.08E-05	2.93E-07
Pu-238	1.15E-11	3.11E-13
Cm-243	1.28E-11	3.46E-13
Pu-241	2.39E-08	6.45E-10
Cm-242	6.22E-11	1.68E-12
Cm-244	8.73E-15	2.38E-16
Ce-144	1.85E-10	4.98E-12

CERTIFICATE OF DISPOSAL

3 miles South, Exit 49, I-80
Clive, Utah 84029
EPA ID: UTD982598898

Tennessee Valley Authority, Muscle Shoals

This certificate acknowledges that the following manifested shipments have been disposed of as listed below:

<u>Shipment</u>	<u>Manifest</u>	<u>Disposal Date</u>	<u>Volume (Cu/Ft)</u>	<u>Process</u>	<u>Disposal Location</u>
0825-01-0001	00017	06/19/2001	111.7	Landfill	Mixed Waste

The total volume above represents the cubic feet of waste disposed of at EnergySolutions' Disposal Facility Landfill. Disposal is subject to EnergySolutions' Radioactive Material License, all other applicable licenses, permits and regulations, and the Disposal Agreement.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identification section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.



4/17/15
Date



ENVIROCARE OF UTAH, INC.
THE SAFE ALTERNATIVE

CERTIFICATE OF DISPOSAL

Tennessee Valley Authority

This Certificate acknowledges that the following manifested shipments:

0825-02-0001

Representing 7.5 cubic feet of waste have been disposed in Envirocare's Mixed Waste Disposal Facility. Disposal is subject to Envirocare's Radioactive Material License, all other applicable licenses, permits and regulations, and the Disposal Agreement.

A handwritten signature in black ink, appearing to read "Jesse C. Garcia", is written over a horizontal line.

Jesse C. Garcia
Mixed Waste Storage and Disposal Manager

2/20/01
Date

Attachment 2

Waste Manifest Numbers 0825-03-0001

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
0825-03-0001	003715092JJK	2	1/28/2008	Energy Solutions Clive Disposal Site Clive, UT	2/1/2008

Reference to this response is hereby made to the information collection source: 49 CFR. This uniform manifest is required by 49 CFR to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Read comments regarding burden estimate to the Bureau and PCMA/Very Serious Group (7-6 P.M.), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to information@nrc.gov, and to the Back Office, Office of Information and Regulatory Affairs, Room 14200, 1215-0444, Office of Management and Budget, Washington, DC 20503. If a source used to improve information collection does not display a currently valid OMB control number, the OMB may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 540 UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		EnergySolutions, Ohio Disposal Site		SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		7. FORM 540 AND 540A PAGE 1 OF 1 PAGE(S) FORM 541 AND 541A PAGE 2 OF 2 PAGE(S) FORM 542 AND 542A PAGE 3 OF 3 PAGE(S) ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages)	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) (888) 220-1855		UTAH DISPOSAL PERMIT NUMBER 0711 004 880		SHIPMENT NUMBER 0825-03-0001		COLLECTOR PROCESSOR		X GENERATOR TYPE (Specify) <input checked="" type="checkbox"/> O		CONTACT Treatment Facility	
ORGANIZATION Durotek Inc.		CONTACT B. Barner		TELEPHONE NUMBER (Include Area Code) (888) 314-7670		TELEPHONE NUMBER (Include Area Code) (888) 314-7670		9. CONDITION - Name and Facility Address EnergySolutions, Ohio Disposal Site Operated By EnergySolutions Toledo County, OH 43080 Ohio, UT 84088		TELEPHONE NUMBER (Include Area Code) 438-884-0166	
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 2		4. CARRIER - Name and Address Hillman Transport Services 1880 Bear Creek Road Oak Ridge, TN 37830		Truck # 888 Trailer # W48217		EPA I.D. NUMBER TMD-88-778-3065		SIGNATURE - Authorized consignee acknowledging waste receipt Quintanilla	
5. DOES EPA REGULATED WASTE REQUIRE A MANIFEST ACCOMPANY THIS SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		EPA MANIFEST NUMBER 003715082 JJK		CONTACT Karen Koby		TELEPHONE NUMBER (Include Area Code) 800-233-0993		SHIPPING DATE 01/28/08		DATE 01/28/08	
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIOISOTOPES		16. CERTIFICATION This is to certify that the herein-named materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulation.	
NON DOT REGULATED SOLID-PCB (50 OR GREATER PPM, < 1 LB) DAW 1 - 5 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		AG-110M ; C-14 ; CE-144 ; CO-67 ; CO-88 ; CO-90 ; CR-51 ; CS-134 ; CS-137 ; FE-56 ; FE-59 ; H-3 ; I-129 ; MN-54 ; NB-95 ; NI-63 ; OS-124 ; SB-125 ; SM-113 ; TC-99 ; ZN-65		TOTAL PACKAGE ACTIVITY Bq : 1.8864E+02 mCi : (3.9832E-04)	
UN2810, Radioactive material, excepted package limited quantity of material, 7 DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		AG-110M ; C-14 ; CO-60 ; CR-51 ; CS-134 ; CS-137 ; FE-56 ; H-3 ; I-129 ; MN-54 ; NI-63 ; TC-99 ; ZN-65		TOTAL PACKAGE ACTIVITY Bq : 9.7371E+00 mCi : (2.6317E-01)	
FOR CONSIGNEE USE ONLY		<ul style="list-style-type: none"> <input type="checkbox"/> Record Waste Description Incomplete <input type="checkbox"/> Contamination or Leakage Detected <input type="checkbox"/> Unreported Exposure Route Detected <input type="checkbox"/> Labels, Markings, etc. Inadequate <input type="checkbox"/> Container Integrity Inadequate <input type="checkbox"/> Other <input checked="" type="checkbox"/> No Violations Detected on this Shipment 		17. LHA/SCO CLASS NA 18. TOTAL WEIGHT OR VOLUME (Use appropriate units) 0.55 g ¹ 1022898 19. IDENTIFICATION NUMBER OF PACKAGE 08-000008 (982887) 08-000010 (1022898)							
FOR CONSIGNEE USE ONLY		10. SIGNATURE AND TITLE OF AUTHORIZED SIGNATURE 11. DATE 12. TITLE 13. DATE 14. SIGNATURE 15. TITLE 16. DATE 17. SIGNATURE 18. TITLE 19. DATE 20. SIGNATURE 21. TITLE 22. DATE 23. SIGNATURE 24. TITLE 25. DATE 26. SIGNATURE 27. TITLE 28. DATE 29. SIGNATURE 30. TITLE 31. DATE 32. SIGNATURE 33. TITLE 34. DATE 35. SIGNATURE 36. TITLE 37. DATE 38. SIGNATURE 39. TITLE 40. DATE 41. SIGNATURE 42. TITLE 43. DATE 44. SIGNATURE 45. TITLE 46. DATE 47. SIGNATURE 48. TITLE 49. DATE 50. SIGNATURE 51. TITLE 52. DATE 53. SIGNATURE 54. TITLE 55. DATE 56. SIGNATURE 57. TITLE 58. DATE 59. SIGNATURE 60. TITLE 61. DATE 62. SIGNATURE 63. TITLE 64. DATE 65. SIGNATURE 66. TITLE 67. DATE 68. SIGNATURE 69. TITLE 70. DATE 71. SIGNATURE 72. TITLE 73. DATE 74. SIGNATURE 75. TITLE 76. DATE 77. SIGNATURE 78. TITLE 79. DATE 80. SIGNATURE 81. TITLE 82. DATE 83. SIGNATURE 84. TITLE 85. DATE 86. SIGNATURE 87. TITLE 88. DATE 89. SIGNATURE 90. TITLE 91. DATE 92. SIGNATURE 93. TITLE 94. DATE 95. SIGNATURE 96. TITLE 97. DATE 98. SIGNATURE 99. TITLE 100. DATE									

Estimated transfer per response to comply with this information collection requires 2.5 hours. This estimate is required by EPCRA to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate or this information collection through the Office of Management and Budget, Paperwork Project Director, Washington, DC 20503, or by Internet e-mail to information@omb.eop.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, (EPCRA-1082), (2024-1102), Office of Management and Budget, Washington, DC 20503. If a person does not display a currently valid OMB control number, the EPCRA may not respond or process, and a person is not required to respond to, the information collection.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION (CONTINUATION)										2. MANIFEST NUMBER 622-00-001		PAGE 2 OF 2 PAGES			
DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										5. WASTE CLASSIFICATION A - Class A B - Class B C - Class C
1. CONTAINER IDENTIFICATION NUMBER	2. CONTAINER DESCRIPTION (See Note 1 & 1A)	3. VOLUME m³ liters	4. WASTE AND CONTAINER WEIGHT kg lbs	6. SURFACE RADIATION LEVEL mSv/hr rem/hr	7. SURFACE CONTAMINATION Bq/cm² and dpm/100 cm²		8. WASTE DESCRIPTION (See Note 2 & Note 2A)	9. APPROXIMATE WASTE VOLUME IN CONTAINER m³ liters	10. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	11. CHEMICAL FORM OR CHEMICAL AGENT	12. WEIGHT % CHEMICAL AGENT P > 0.75	13. RADIOLOGICAL DESCRIPTION ISOTOPE, HALF-LIFE, AND ACTIVITY AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIOLOGICAL PERCENT			
					ALPHA	BETA-GAMMA						ISOTOPE	ACTIVITY (Ci)	ACTIVITY (Bq)	
62-000016 (Y02002) Origin: AL TVA Hazardous Waste Storage Facility TVA Reservation Facility 1200 West Wilson Dam Waynesboro, AL 36891	4	0.21220	42.89900	0.094	<0.0000074	<0.0000074	H	0.21220	100	SOLID METAL OXIDES / NP	NP	AB-100M	5.800E-02	4.800E-01	1.200E-02
												G-14	1.200E-02	1.200E-02	1.200E-02
												CO-60	3.000E-02	3.000E-02	1.000E-01
												CR-51	5.700E-01	5.700E-02	2.000E-02
												CS-134	3.000E-02	3.000E-01	6.000E-02
												CS-137	7.000E-02	6.000E-01	3.000E-02
												FE-55	3.000E-02	3.000E-02	3.000E-02
												Na-22	4.000E-02	4.000E-02	1.000E-01
												Na-24	4.000E-01	4.000E-01	1.000E-02
												Na-26	3.000E-02	3.000E-02	1.000E-02
												Na-28	7.000E-01	7.000E-02	3.000E-02
												TD-80	7.000E-01	3.000E-02	2.400E-02
												Zn-65	3.000E-02	3.000E-01	3.000E-02
												Sub Total	0.000E-02	0.727E-02	2.000E-01
Package Total		0.000E-02	0.727E-02	2.000E-01											
Component Total		0.21104	42.89900										0.701E-02	2.000E-01	
		0.10000	0.00000												

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send statements regarding burden estimate to the Records and Paperwork Reduction Project (7-8788), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by internet e-mail to infocentre@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, WECS-1428B, (202) 417-1001, Office of Management and Budget, Washington, DC 20503. If a person used to prepare an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 542		EnergySolutions, Clive Disposal Site		1. WASTE COLLECTOR/PROCESSOR										2. MANIFEST NUMBER			
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST				NAME		SHIPPER USE ONLY								0225-05-0001			
MANIFEST INDEX AND REGIONAL COMPACT TABULATION				TVA Hazardous Waste Storage Facility/CO EnergySolutions										PAGE 1 OF 1 PAGE(S)			
List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators				SHIPPER DATE													
				04/22/08													
													AS PROCESSED/COLLECTED TOTAL				
GENERATOR NAME AND TELEPHONE NUMBER	GENERATOR FACILITY ADDRESS	WASTE DESCRIPTION (NONSPECIFIC)	PRE-PROCESSED WASTE (OR MATERIAL) VOLUME		WASTE CODE	ORIGINATOR ORIGINATOR NAME OR STATE	A. SOURCE MATERIAL		B. DATE	C. ACTIVITY		D. VOLUME		E. WEIGHT	F. HAZARDOUS PACKAGE RADIATION LEVEL (mrem/hr)		
			SP	BP			SP	BP		SP	BP	SP	BP				
TVA Hazardous Waste Storage Facility (202) 244-7278	TVA Reservation Property COE near Shasta Dam Shasta County, AL 35891	0204	0.23104	0.00000	0204	0204	SP	SP	SP	0.77916E+02	2.52084E+01	0.00100	0.10000	00.00000	0.0		
TOTALS OF ALL PAGES (FORMS 542 AND 542A)							SP	BP	SP	BP	0.77916E+02	2.52084E+01	0.00100	0.10000	00.00000	N/A	

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL 2640090005	2. Page 1 of 1	3. Emergency Response Phone 865 220 1555	4. Manifest Tracking Number 003715092 JJK		
5. Generator's Name and Mailing Address TVA Hazardous Waste Storage Facility Energy Solutions 210 Energy Solutions TVA Construction Road NW 1532007 Wilson Dam							
Generator's Phone: (256) 314-7876 Mobile: Shoels AL 35661							
6. Transporter 1 Company Name Hittman Transport Services				U.S. EPA ID Number TND 987783065			
7. Transporter 2 Company Name				U.S. EPA ID Number			
8. Designated Facility Name and Site Address Energy Solutions, Chlorine Disposal Site Toledo County, US I 80, Exit 49 Chlorine UT 84029				U.S. EPA ID Number UTD 982598898			
Facility's Phone: (435) 884-0155							
9a. HMI	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes	
		No.	Type				
	1. NOU DOT REGULATED SOLID - PCB (500g greater PPM, < 1 lb)	01	DM	8	K		
X	2. UN 2910, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE - LIMITED QUANTITY OF MATERIAL, 7	01	DM	53	K		
	3.						
	4.						
14. Special Handling Instructions and Additional Information 1) PCB type-debris out of service date - 10/15/98 ERG-NA 2) PCB type-debris out of service date - 12/20/89 ERG-161 contact 26316 - WDA JADMS-30 Shipment # 0025-03-0001							
15. GENERATOR/SUPPLIER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.							
Generator's/Supplier's Printed/Typed Name DAVID W WIFFEN		Signature <i>D.W. Wiffen</i>		Month Day Year 01 12 08			
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Part of entry/exit: Date leaving U.S.:							
17. Transporter Acknowledgment of Receipt of Materials							
Transporter 1 Printed/Typed Name BRUNET-PAC-TOA		Signature <i>Brunet</i>		Month Day Year 1 18 08			
Transporter 2 Printed/Typed Name		Signature		Month Day Year			
18. Discrepancy							
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection							
Manifest Reference Number:							
18b. Alternate Facility (or Generator)				U.S. EPA ID Number			
Facility's Phone:							
18c. Signature of Alternate Facility (or Generator)				Month Day Year			
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)							
1.	2.	3.	4.				
H129	H129						
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a							
Printed/Typed Name Justin Lee		Signature <i>Justin Lee</i>		Month Day Year 12 11 08			

**UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
ISOTOPIC SUMMARY**

For Manifest # 0825-03-0001

EnergySolutions, Clive Disposal Site

Isotops	Total Activity			Total SNM	Total Source
	(MBq)	(mCi)	(Ci)	(gm)	(lb)
AG-110M	4.0703E-01	1.1001E-02	1.1001E-05	.0000E+00	.0000E+00
C-14	1.4201E-03	3.8380E-05	3.8380E-08	.0000E+00	.0000E+00
CE-144	3.4410E-05	9.3000E-07	9.3000E-10	.0000E+00	.0000E+00
CO-57	2.0831E-05	5.6300E-07	5.6300E-10	.0000E+00	.0000E+00
CO-58	6.0680E-03	1.6400E-04	1.6400E-07	.0000E+00	.0000E+00
CO-60	3.9971E+00	1.0803E-01	1.0803E-04	.0000E+00	.0000E+00
CR-51	9.9167E-02	2.6802E-03	2.6802E-06	.0000E+00	.0000E+00
CS-134	3.3493E-01	9.0523E-03	9.0523E-06	.0000E+00	.0000E+00
CS-137	8.2548E-01	2.2310E-02	2.2310E-05	.0000E+00	.0000E+00
FE-55	3.1992E+00	8.6488E-02	8.6466E-05	.0000E+00	.0000E+00
FE-59	4.8840E-05	1.3200E-06	1.3200E-09	.0000E+00	.0000E+00
H-3	4.2010E-03	1.1354E-04	1.1354E-07	.0000E+00	.0000E+00
I-129	5.1730E-04	1.3981E-05	1.3981E-08	.0000E+00	.0000E+00
MN-54	4.3299E-01	1.1702E-02	1.1702E-05	.0000E+00	.0000E+00
NB-95	1.2728E-03	3.4400E-05	3.4400E-08	.0000E+00	.0000E+00
NI-63	8.1204E-02	2.1947E-03	2.1947E-06	.0000E+00	.0000E+00
SB-124	1.5022E-05	4.0600E-07	4.0600E-10	.0000E+00	.0000E+00
SB-125	1.8637E-04	5.0100E-06	5.0100E-09	.0000E+00	.0000E+00
SN-113	5.6130E-05	1.4900E-06	1.4900E-09	.0000E+00	.0000E+00
TC-99	9.4128E-04	2.5440E-05	2.5440E-08	.0000E+00	.0000E+00
ZN-65	3.5890E-01	9.7000E-03	9.7000E-06	.0000E+00	.0000E+00
ZR-95	9.8790E-04	2.6700E-05	2.6700E-08	.0000E+00	.0000E+00
Totals:	9.7518E+00	2.6358E-01	2.8356E-04	.0000E+00	.0000E+00

CERTIFICATE OF DISPOSAL

3 mi. S. Est. 49, I-80 Clive, Utah
84029 EPA ID: UT982598898

Tennessee Valley Authority, Muscle Shoals

This Certificate acknowledges that the following manifested shipments:

<u>Shipment</u>	<u>Manifest</u>	<u>Date(s) of Disposal</u>	<u>Cu/Ft</u>	<u>Process</u>	<u>Disposal Location</u>
0825-03-0001	15092	3/7/2008	8.18	Landfill	Mixed Waste

Representing 8.18 Cubic feet of waste disposed of at EnergySolutions' above listed Disposal Facility landfill. Disposal is subject to EnergySolutions' Radioactive Material License, all other applicable licenses, permits and regulations, and the Disposal Agreement.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identification section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.


Jesse C. Garcia
Mixed Waste Site Manager

3/18/08
Date

423 West 300 South, Salt Lake City, Utah 84101 Telephone (801) 649-2000

Attachment 3

Waste Manifest Numbers 0825-04-0001

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
0825-04-0001	003715093JJK	2	1/28/2008	Energy Solutions Clive Disposal Site Clive, UT	2/1/2008

Indicated boxes per response to comply with this information collection request. All entries. This uniform manifest is required by EPCRA to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Read comments regarding burden estimate in the Remarks and PCB/PCB-waste Branch (7-4 PWS), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by internet e-mail to infocent@nrc.gov, and to the Branch Chief, Office of Information and Regulatory Affairs, 8000-10800, (202-456-6040), Office of Management and Budget, Washington, DC 20503. If a manifest used to transport information collection data not displaying a currently valid OMB control number, the OMB may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 840 UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		EnergySolutions, Clive Disposal Site		5. SHIPPER - NAME AND FACILITY TVA Hazardous Waste Storage Facility CO EnergySolutions TVA Reservation Road/Highway 135N near Wilson Dam Muscle Shoals, AL 35881		SHIPMENT ID NUMBER 0825-04-0001		7. FORM 840 AND 840A PAGE 1 OF 1 PAGE(S) FORM 841 AND 841A 2 PAGE(S) FORM 842 AND 842A 1 PAGE(S) FORM 843 AND 843A 1 PAGE(S) ADDITIONAL INFORMATION		8. MANIFEST NUMBER (Use this number on all continuation pages) 0825-04-0001							
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) (800) 230-1854		UTAH DISPOSAL PERMIT NUMBER 0711 004 880		SHIPMENT NUMBER 0825-04-0001		X GENERATOR TYPE (Specify) O		9. CONSIGNEE - Name and Facility Address EnergySolutions, Clive Disposal Site Owned by EnergySolutions Tazewell County, US I-80 Exit 49 Clive, UT 84203		CONTACT Treatment Facility TELEPHONE NUMBER (Include Area Code) 435-884-0185							
ORGANIZATION Durotek Inc.		CONTACT B. Burmaster		TELEPHONE NUMBER (Include Area Code) (208) 314-7570		SIGNATURE - Authorized consignee acknowledging waste receipt <i>Quintan</i>		DATE 2/18/08		10. CERTIFICATION This is to certify that the hazardous materials are properly classified, described, packaged, marked, and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. This also certifies that the materials are classified, packaged, marked, and labeled and in proper condition for transportation and disposal in accordance with the requirements of 10 CFR Parts 20 and 61, or equivalent state regulation.							
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 2		4. CARRIER - Name and Address Hiltman Transport Services 1980 Bear Creek Road Oak Ridge, TN 37830		Trust #: 888 Trailer #: W40817		SPA ID NUMBER TMD-08-778-3085		DATE 01/29/2008							
4. DOES EPA REGULATED WASTE REQUIRE A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes", provide Manifest Number		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		EPA MANIFEST NUMBER 003715083 JJK		CONTACT Karen Kirby		SIGNATURE - Authorized carrier acknowledging waste receipt <i>Karen Kirby</i> 46927		DATE 1-28-08							
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT BOXES		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIOISOTOPES		16. TOTAL PACKAGE ACTIVITY mCi		17. LEASCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
UN1983, WASTE FLAMMABLE LIQUIDS, N.O.S. (0001), 2; H LIQUID 1 - 85 GALLON DRUM		NA		NA		LIQUID/METAL OXIDES		C-14 ; CS-144 ; CM-263 ; CO-60 ; CB-137 ; FE-55 ; H-3 ; I-129 ; N-63 ; PU-238 ; SR-90 ; TC-99		3.8844E-01 (8.9039E-03)		NA		7.60 R ³		08-000011 (881444)	
UN1983, WASTE FLAMMABLE LIQUIDS, N.O.S. (0001), (LIMITED QUANTITY RADIOACTIVE MATERIAL), 2; H LIQUID 1 - 110 GAL DRUM		NA		NA		LIQUID/METAL OXIDES		C-14 ; CM-263 ; CO-60 ; CB-137 ; FE-55 ; H-3 ; I-129 ; N-63 ; PU-238 ; SR-90 ; TC-99		3.1484E+00 (8.5010E-02)		NA		16.00 R ³		08-000012 (881445)	
FOR CONSIGNEE USE ONLY		<ul style="list-style-type: none"> ___ Record Waste Description Inadequate ___ Contamination or Leakage Detected ___ Unreported Exposure Sites Detected ___ Labels, Markings, etc. Inadequate ___ Container Integrity Inadequate ___ Other <input checked="" type="checkbox"/> No Violations Detected on this Shipment 		<p>20. TERMS AND CONDITIONS</p> <p>A. THE SHIPPER AND CONSIGNEE AGREE TO THE TERMS AND CONDITIONS OF THIS MANIFEST AND TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER.</p> <p>B. THE SHIPPER AND CONSIGNEE AGREE TO THE TERMS AND CONDITIONS OF THIS MANIFEST AND TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER.</p> <p>C. THE SHIPPER AND CONSIGNEE AGREE TO THE TERMS AND CONDITIONS OF THIS MANIFEST AND TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER.</p> <p>D. THE SHIPPER AND CONSIGNEE AGREE TO THE TERMS AND CONDITIONS OF THIS MANIFEST AND TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER. THE SHIPPER AND CONSIGNEE AGREE TO THE OMB CONTROL NUMBER.</p>													

Estimated hours per response to comply with this information collection request 2.0 hours. This uniform numbering is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. And compliance regarding licenses issued to the Records and Compliance Services Branch (F-4 P&H), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0041, or by Internet e-mail to information@nrc.gov, with the Desk Officer, Office of Information and Regulatory Affairs, NRC-0602, 01-10-0160, Office of Management and Budget, Washington, DC 20503. If a name used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 541		Energy/Defense, Give Disposal Site		1. MANIFEST TOTALS										2. MANIFEST NUMBER	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				NUMBER OF DISPOSAL CONTAINERS	NET WASTE VOLUME	NET WASTE WEIGHT	SPECIAL NUCLEAR MATERIAL (gms)				TOTAL	625-04-001			
							U-235	U-238	Pu			PAGE 1 OF 2 Pages			
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				1	0.23714 m ³	21,232.00 lb	U-235	U-238	Pu	TOTAL	4. SHEET NAME				
							0.00000	0.00000	2.3295-12 g (2 lbs)	2.3295-12 g (2 lbs)	TVA Hazardous Waste Storage Facility/CO Inc				
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				ACTIVITY (Becquerels) (Bq) (Units in column)				6-43	70-43	8-43	SOURCE	5. SHEET NUMBER			
				ALL ISOTOPES	TRU-232	TRU-234	TRU-234m					TRU-230	TRU-231	625-04-001	
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste				U-235	U-238	U-235	U-238	U-235	U-238	U-235	U-238	6. WASTE CLASSIFICATION			
				0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	A - Class A B - Class B C - Class C	
DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										6. WASTE CLASSIFICATION	
CONTAINER IDENTIFICATION NUMBER	CONTAINER DESCRIPTION (See Note 1 & 1A)	VOLUME (m ³)	WASTE AND CONTAINER WEIGHT (kg)	SURFACE RADIATION (mSv/hr)	SURFACE CONTAMINATION (dpm/100 cm ²)	PHYSICAL DESCRIPTION		GENERAL DESCRIPTION		NUCLEONIC DESCRIPTION		NUCLEONIC DESCRIPTION			
60-00001	Origin AL TVA Hazardous Waste Storage Facility TVA Reservation Roadway 1204 near Wilson Dam Muscle Shoals, AL 35891	0.2125	18,600	0.05	< 0.000004	1	0.2125	00	LIQUID METAL CONCRETE / SP	U-235	0.00000	U-238	0.00000	A1	
		7.2800	6,3072	0.05	< 0.000004	25	7.2800			U-235	0.00000	U-238	0.00000		
Package Total				0.2125	18,600	0.05	< 0.000004	26	0.2125		U-235	0.00000	U-238	0.00000	

Estimated burden per response to comply with this information collection request: 2.5 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Read carefully regarding burden estimate to the General and Postsecondary Service Branch (1-6 FBI), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by internet e-mail to info@nrc.gov, and to the Great Britain, Office of Information and Regulatory Affairs, 1203-0188, (215)-610-0100, Office of Management and Budget, Washington, DC 20503. If a space used to prepare an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 541A										EnergySolutions, Ciba Disposal Site		2. REPORT NUMBER 0000-01-0001																																																																																		
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										PAGE 2 OF 2 PAGE(S)																																																																																				
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)																																																																																														
DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER																																																																																								
CONTAINER IDENTIFICATION NUMBER	CONTAINER DESCRIPTION (See Note 1 & 1A)	VOLUME OF WASTE	WASTE AND CONTAINER WEIGHT	SURFACE RADIATION LEVEL	SURFACE CONTAMINATION (See Note 2)		PHYSICAL DESCRIPTION			IX CHEMICAL DESCRIPTION		XII CHEMICAL DESCRIPTION				XIII WASTE CLASSIFICATION (See Note 3)																																																																														
					ALPHA	BETA-GAMMA	WASTE DESCRIPTION (See Note 2 & Note 2A)	APPROXIMATE WASTE VOLUME IN CONTAINER (See Note 2)	COMPOSITION OR SEPARATION MEDIA (See Note 2)	CHEMICAL FORM OR LITHIUM AGENT	WEIGHT & CHEMICAL AGENT (F>0.1%)	GENERAL RADIOISOTOPES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPES PERCENT																																																																																		
<table border="1"> <thead> <tr> <th rowspan="2">Radioisotope</th> <th rowspan="2">Activity (Ci)</th> <th rowspan="2">Activity (Bq)</th> <th rowspan="2">Activity (dpm)</th> <th rowspan="2">Activity (dps)</th> </tr> <tr> <th>Activity (Ci)</th> <th>Activity (Bq)</th> <th>Activity (dpm)</th> <th>Activity (dps)</th> </tr> </thead> <tbody> <tr> <td>C-14</td> <td>1.000E-02</td> <td>3.700E-01</td> <td>1.000E-02</td> <td>1.000E-02</td> </tr> <tr> <td>CM-243</td> <td>5.000E-02</td> <td>1.850E-01</td> <td>5.000E-02</td> <td>5.000E-02</td> </tr> <tr> <td>CO-60</td> <td>5.000E-02</td> <td>1.850E-01</td> <td>5.000E-02</td> <td>5.000E-02</td> </tr> <tr> <td>CS-137</td> <td>2.000E-02</td> <td>7.400E-02</td> <td>2.000E-02</td> <td>2.000E-02</td> </tr> <tr> <td>FE-59</td> <td>4.000E-02</td> <td>1.480E-01</td> <td>4.000E-02</td> <td>4.000E-02</td> </tr> <tr> <td>HA-190</td> <td>2.000E-02</td> <td>7.400E-02</td> <td>2.000E-02</td> <td>2.000E-02</td> </tr> <tr> <td>I-131</td> <td>1.000E-02</td> <td>3.700E-01</td> <td>1.000E-02</td> <td>1.000E-02</td> </tr> <tr> <td>IR-192</td> <td>2.000E-02</td> <td>7.400E-02</td> <td>2.000E-02</td> <td>2.000E-02</td> </tr> <tr> <td>PL-239</td> <td>7.000E-02</td> <td>2.590E-01</td> <td>7.000E-02</td> <td>7.000E-02</td> </tr> <tr> <td>SR-90</td> <td>7.700E-02</td> <td>2.830E-01</td> <td>7.700E-02</td> <td>7.700E-02</td> </tr> <tr> <td>TC-99</td> <td>4.000E-02</td> <td>1.480E-01</td> <td>4.000E-02</td> <td>4.000E-02</td> </tr> <tr> <td>Sub Total</td> <td>1.000E-02</td> <td>3.700E-01</td> <td>1.000E-02</td> <td>1.000E-02</td> </tr> <tr> <td>Package Total</td> <td>1.000E-02</td> <td>3.700E-01</td> <td>1.000E-02</td> <td>1.000E-02</td> </tr> <tr> <td>Manifest Total</td> <td>1.000E-02</td> <td>3.700E-01</td> <td>1.000E-02</td> <td>1.000E-02</td> </tr> </tbody> </table>																Radioisotope	Activity (Ci)	Activity (Bq)	Activity (dpm)	Activity (dps)	Activity (Ci)	Activity (Bq)	Activity (dpm)	Activity (dps)	C-14	1.000E-02	3.700E-01	1.000E-02	1.000E-02	CM-243	5.000E-02	1.850E-01	5.000E-02	5.000E-02	CO-60	5.000E-02	1.850E-01	5.000E-02	5.000E-02	CS-137	2.000E-02	7.400E-02	2.000E-02	2.000E-02	FE-59	4.000E-02	1.480E-01	4.000E-02	4.000E-02	HA-190	2.000E-02	7.400E-02	2.000E-02	2.000E-02	I-131	1.000E-02	3.700E-01	1.000E-02	1.000E-02	IR-192	2.000E-02	7.400E-02	2.000E-02	2.000E-02	PL-239	7.000E-02	2.590E-01	7.000E-02	7.000E-02	SR-90	7.700E-02	2.830E-01	7.700E-02	7.700E-02	TC-99	4.000E-02	1.480E-01	4.000E-02	4.000E-02	Sub Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02	Package Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02	Manifest Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02
Radioisotope	Activity (Ci)	Activity (Bq)	Activity (dpm)	Activity (dps)																																																																																										
					Activity (Ci)	Activity (Bq)	Activity (dpm)	Activity (dps)																																																																																						
C-14	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																																										
CM-243	5.000E-02	1.850E-01	5.000E-02	5.000E-02																																																																																										
CO-60	5.000E-02	1.850E-01	5.000E-02	5.000E-02																																																																																										
CS-137	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																																										
FE-59	4.000E-02	1.480E-01	4.000E-02	4.000E-02																																																																																										
HA-190	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																																										
I-131	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																																										
IR-192	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																																										
PL-239	7.000E-02	2.590E-01	7.000E-02	7.000E-02																																																																																										
SR-90	7.700E-02	2.830E-01	7.700E-02	7.700E-02																																																																																										
TC-99	4.000E-02	1.480E-01	4.000E-02	4.000E-02																																																																																										
Sub Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																																										
Package Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																																										
Manifest Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																																										
00-000012 (001402)	(110 GAL DRUM)	0.10000	100.00000	0.00	< 0.00000004	< 0.00000004	1	GLASS	00	LIQUID METAL	00	C-14	1.000E-02	3.700E-01	1.000E-02	1.000E-02	AL																																																																													
		12.00000	5.10000	0.0	< 0.00	< 0.000	26	10.00000				CM-243	5.000E-02	1.850E-01	5.000E-02	5.000E-02																																																																														
												CO-60	5.000E-02	1.850E-01	5.000E-02	5.000E-02																																																																														
												CS-137	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																														
												FE-59	4.000E-02	1.480E-01	4.000E-02	4.000E-02																																																																														
												HA-190	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																														
												I-131	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																														
												IR-192	2.000E-02	7.400E-02	2.000E-02	2.000E-02																																																																														
												PL-239	7.000E-02	2.590E-01	7.000E-02	7.000E-02																																																																														
												SR-90	7.700E-02	2.830E-01	7.700E-02	7.700E-02																																																																														
												TC-99	4.000E-02	1.480E-01	4.000E-02	4.000E-02																																																																														
												Sub Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																														
												Package Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																														
												Manifest Total	1.000E-02	3.700E-01	1.000E-02	1.000E-02																																																																														

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Read comments regarding burden estimate to the Records and Communications Services Branch (7-3 PWS), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to InfoCenter@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, 4410-1020, (202-456-6000), Office of Management and Budget, Washington, DC 20503. If a system used to improve information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 642		EnergySolutions, Clive Disposal Site		1. WASTE COLLECTOR/PROCESSOR							2. MANIFEST NUMBER																																						
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST				NAME							0025-04-0001																																						
MANIFEST INDEX AND REGIONAL COMPACT TABULATION				TVA Reservoir Waste Storage Facility/CO Energy/Products							3. PAGE 1 OF 1 PAGE(S)																																						
List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators				SHIPPING DATE							01/02/00																																						
A. GENERATOR NAME AND TELEPHONE NUMBER		B. GENERATOR FACILITY ADDRESS		7. PROCESSED WASTE (OR MATERIAL) VOLUME		8. WASTE CODE		9. SOURCE MATERIAL		10. ACTIVITY		11. VOLUME		12. WEIGHT																																			
C. WASTE DESCRIPTION (OR REGULATORY)		D. WASTE CODE		E. SOURCE MATERIAL		F. ACTIVITY		G. VOLUME		H. WEIGHT		I. MANIFEST PACKAGE SUBMITTER LABEL		J. WEIGHT																																			
kg		kg		kg		kg		kg		kg		kg		kg																																			
TVA Reservoir Waste Storage Facility (202) 344-7070		TVA Reservoir Roadway 153M near Wilson Dam Muscle Shoals, AL 35891		Aqueous Liquid Composites		0.03714		23.00000		Radioactive Generation		0		AL		kg		kg		2.3000E-12		3.5110E-05		0.4014E-02		0.03714		23.00000		03131070		4.0																	
TOTALS OF ALL PAGES (FORMS 642 AND 542A)																																kg		kg		2.3000E-12		3.5110E-05		0.4014E-02		0.03714		23.00000		03131070		N/A	

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL2640090005	2. Page 1 of 1	3. Emergency Response Phone 865 220 1555	4. Manifest Tracking Number 003715093 JJK			
5. Generator's Name and Mailing Address TVA HAZARDOUS WASTE STORAGE FACILITY		Generator's Site Address (if different than mailing address) 410 Energy Solutions TVA Construction Road Hwy 133N near Wilson Dam						
Generator's Phone (256) 344 7874		Muscle Shoals AL 35661						
6. Transporter 1 Company Name Hittman Transport Services				U.S. EPA ID Number TXND 987783065				
7. Transporter 2 Company Name				U.S. EPA ID Number				
8. Designated Facility Name and Site Address ENERGY SOLUTIONS, CLIVE MARSHAL SITE TOOLE COUNTY, US E-BOKIT 49 CLIVE UT 84029				U.S. EPA ID Number (UTL) 982598898				
Facility's Phone (435) 884 0155								
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes		
		No.	Type					
X	1. UN1993, WASTE FLAMMABLE LIQUIDS, N.O.S., (D001), 3, III	01	DM	161	K	D001	D007	D018
						D035	D039	D040
X	2. UN1993, WASTE FLAMMABLE LIQUIDS, N.O.S., (D001) (LIMITED QUANTITY REACTIVE MATERIAL), 3, III	01	DM	80	K	D001	D008	D022
						D035	D039	
	3.							
	4.							
14. Special Handling Instructions and Additional Information ERG-128 SHIPMENT # 0825-04-0001								
Contract # 26316 - RD 2004530								
15. GENERATOR/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.								
Generator's/Officer's Printed/Typed Name DAVID W WIFFEN		Signature <i>[Signature]</i>			Month Day Year 01 28 08			
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Part of entry/exit: Date leaving U.S.:								
17. Transporter Acknowledgment of Receipt of Materials								
Transporter 1 Printed/Typed Name ARREST PROCTOR		Signature <i>[Signature]</i>			Month Day Year 1 25 08			
Transporter 2 Printed/Typed Name		Signature			Month Day Year			
18. Discrepancy								
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection								
Manifest Reference Number:								
18b. Alternate Facility (or Generator)				U.S. EPA ID Number				
Facility's Phone:								
18c. Signature of Alternate Facility (or Generator)				Month Day Year				
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)								
1.	2.	3.	4.					
H129	H129							
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18a								
Printed/Typed Name Justin Lee		Signature <i>[Signature]</i>			Month Day Year 12 1 08			

ISOTOPIC SUMMARY
For Manifest # 0825-04-0001
EnergySolutions, Clive Disposal Site

Isotops	Total Activity			Total SNM	Total Source
	(MBq)	(mCi)	(Ci)	(gm)	(lb)
C-14	8.0273E-05	1.6290E-06	1.6290E-09	.0000E+00	.0000E+00
CE-144	2.0091E-05	6.4300E-07	5.4300E-10	.0000E+00	.0000E+00
CM-243	1.6147E-06	4.3640E-08	4.3640E-11	.0000E+00	.0000E+00
CO-60	1.9932E+00	5.3870E-02	5.3870E-05	.0000E+00	.0000E+00
CS-137	4.7397E-02	1.2810E-03	1.2810E-06	.0000E+00	.0000E+00
FE-55	1.3849E+00	3.7430E-02	3.7430E-05	.0000E+00	.0000E+00
H-3	8.4093E-05	2.2890E-06	2.2890E-09	.0000E+00	.0000E+00
I-129	5.0431E-05	1.3630E-06	1.3630E-09	.0000E+00	.0000E+00
NI-63	8.5803E-02	2.3190E-03	2.3190E-06	.0000E+00	.0000E+00
PU-238	1.4486E-06	3.9160E-08	3.9160E-11	2.3029E-12	.0000E+00
SR-90	1.4674E-04	3.9390E-06	3.9390E-09	.0000E+00	.0000E+00
TC-99	1.5322E-04	4.1410E-06	4.1410E-09	.0000E+00	.0000E+00
Totals:	3.5118E+00	9.4914E-02	9.4914E-05	2.3029E-12	.0000E+00



3 mi. S. Ext. 49, I-80
Clive, Utah 84029 EPA
ID: UT982598898

CERTIFICATE OF DISPOSAL

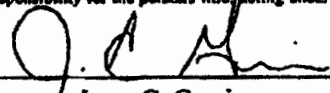
Rev. 0

This Certificate acknowledges that the following manifested shipment(s):

<u>Shipment</u>	<u>Manifest</u>	<u>Date(s) of Disposal</u>	<u>Cu/Ft</u>	<u>Process</u>	<u>Disposal Location</u>
0825-04-0001	15093	06/23/08	22.5	Landfill	Mixed Waste Cell

Representing 22.5 Cubic feet of waste of at listed Disposal Facility landfill. Disposal is subject to EnergySolutions Radioactive Material License, all other applicable licenses, permits and regulations, and the Disposal Agreement. This does not include the treatment byproduct secondary waste (condensate). Treatment byproduct secondary waste is awaiting incineration at a third party incinerator.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identification section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.



Jesse C. Garcia
Director of Mixed Waste Operations

7/21/08
Date

Attachment 4

Waste Manifest Numbers 0825-02-0002

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
0825-02-0002	003715091JJK	7	1/28/2008	Energy Solutions Clive Disposal Site Clive, UT	2/1/2008

Estimated burden per response to comply with this information collection request 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate or this form and instructions to Washington, DC 20543-0001, U.S. Nuclear Regulatory Commission, Washington, DC 20543-0001, or by Internet e-mail to information@nrc.gov, and to the Mail Office, Office of Information and Regulatory Affairs, 1215 Jefferson Avenue, NE, Washington, DC 20004, Office of Management and Budget, Washington, DC 20503. If a waste used to improve an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 540 UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		EnergySolutions, Clive Disposal Site		SHIPPER - NAME AND FACILITY		SHIPMENT ID NUMBER		PAGE 1 OF 2 PAGES (3) FORM 540 AND 540A FORM 541 AND 541A FORM 542 AND 542A ADDITIONAL INFORMATION		R. MANIFEST NUMBER (See this number on all certification pages)							
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) (801) 220-1855		TVA Hazardous Waste Storage Facility C/O EnergySolutions TVA Reservation Road by 13th near Wilson Dam Muscle Shoals, AL 35881		SHIPMENT ID NUMBER 0625-02-0002		COLLECTOR		PROCESSOR		0625-02-0002							
ORGANIZATION Drexel Inc.		UTAH DISPOSAL PERMIT NUMBER 0711 004 880		SHIPMENT NUMBER 0625-02-0002		X. GENERATOR TYPE (Specify)		G. COMMENSEE - Name and Facility Address EnergySolutions, Clive Disposal Site Operated By EnergySolutions Tusset County, UT 84050		CONTACT Treatment Facility TELEPHONE NUMBER (Include Area Code) 435-864-0165							
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 7		S. CARRIER - Name and Address Hibman Transport Services 1880 Bear Creek Road Oak Ridge, TN 37830		TELEPHONE NUMBER (Include Area Code) (603) 514-7870		SIGNATURE - Authorized consignee acknowledging waste receipt <i>Quits de</i>		DATE 2/1/08							
4. DOES EPA REGULATED WASTE REQUIRE A MANIFEST ACCOMPANY THIS SHIPMENT? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		EPA MANIFEST NUMBER 002710001 JJK		CONTACT Karen Kirby		TELEPHONE NUMBER (Include Area Code) 800-225-0823		SIGNATURE - Authorized sender acknowledging waste receipt <i>E. S. Baker #49937</i>		DATE 1-28-08							
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY MBq mCi		17. LEAKAGE CLASS		18. TOTAL WEIGHT OR VOLUME (See appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
HA3077, HAZARDOUS WASTE, SOLID, N.O.S. (D008), 8; II DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		C-14; CS-144; CM-342; CM-343; CM-344; CO-60; CR-51; FE-55; H-3; I-129; N-16; SR-90; TC-99; U-235		1.6873E-02 (4.0108E-04)		NA		7.80 R ³ 06-000002 (1001484)			
HA3077, HAZARDOUS WASTE, SOLID, N.O.S. (D008, D007, D006), 8; II DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		AG-110M; C-14; CO-60; CR-51; CR-61; CS-134; CS-137; FE-55; FE-59; H-3; I-129; MN-54; NB-99; N-16; N-132; N-133; TC-99; ZN-65; ZN-69		3.8109E-02 (2.6518E-03)		NA		7.80 R ³ 06-000003 (1004276)			
HA3077, HAZARDOUS WASTE, SOLID, N.O.S. (D008, D007, D006), 8; II DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		C-14; CR-61; CS-137; H-3; MN-54; N-16; N-132; ZN-65		3.1676E-02 (8.5946E-04)		NA		7.80 R ³ 06-000004 (1004277)			
HA3077, HAZARDOUS WASTE, SOLID, N.O.S. (D008, D007, D006), 8; II DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		CO-60; CR-61; FE-55; MN-54; N-16; N-132		6.6312E-03 (1.8733E-04)		NA		7.80 R ³ 06-000005 (1004278)			
HA3077, HAZARDOUS WASTE, SOLID, N.O.S. (D008), 8; II DAW 1 - 55 GALLON DRUM		NA		NA		SOLIDMETAL OXIDES		AG-110M; AM-241; C-14; CM-343; CM-344; CS-134; CS-137; FE-55; H-3; MN-54; PU-238; PU-239; PU-240; PU-241; SR-90		4.7170E-02 (1.2748E-03)		NA		7.80 R ³ 06-000006 (1006224)			
FOR CONSIGNEE USE ONLY				<ul style="list-style-type: none"> ____ Record Waste Description Inadequate ____ Contamination or Leakage Suspected ____ Unapproved Exposure Rates Suspected ____ Labels, Markings, etc. Inadequate ____ Container Integrity Inadequate ____ Other <input checked="" type="checkbox"/> No Violations Detected on this Shipment 				<p>20. TITLES AND COMMENTS</p> <p>A. HAZARDOUS MATERIALS: Consignor represents & warrants that Waste Shipment is not hazardous waste as defined by 49 CFR 172.101. Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate test-strip results under master conditions as required by 49 CFR 172.101.</p> <p>B. WASTE: Waste originates at the disposal site by EnergySolutions, Inc. and all appropriate regulatory activities, up to the Waste Shipment which conforms to Generator's Representative levels and Shipped under their Generator and is visible to EnergySolutions, Inc.</p> <p>C. WASTE MATERIALS: Consignor represents and warrants that all data entered in this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST are true and accurate to all requests and in accordance with all applicable governmental laws, rules, and regulations and Executive Order 12958.</p> <p>D. MANIFEST: Consignor agrees to indemnify EnergySolutions, Inc. in all claims, damages, and costs against all losses and liability whatsoever if such losses or liability results from the failure of the Waste Shipment to conform to the data recorded on this UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST, or if this shipment fails to meet the standards provided by the Department of Transportation or any governmental Agency having jurisdiction over such matters.</p>									

Form 540 (10-96)

Modified Date: 01/28/2008 11:21

Estimated burden per response to comply with this information includes requests for records. The uniform manifest is required by RCRA and reporting requirements of Federal and State Agencies for the safe transportation and disposal of hazardous waste. State agencies reporting burden estimates to the President and Regulatory Commission, Washington, DC 20565-0001, or by Internet e-mail to manifest@epa.gov and to the Data Office, Office of Information and Regulatory Affairs, EPC-A-0001, 1215-A-0001, Office of Management and Budget, Washington, DC 20503. If a manifest is used to transport or otherwise dispose of hazardous waste and a manifest number, the manifest number, and a person is not required to respond to the information estimates.

FORM 5484

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)
 12. DOT LABEL
 13. TRANSPORT INDEX
 14. PHYSICAL AND CHEMICAL FORM
 15. RADIOACTIVE MATERIALS
 16. TOTAL PACKAGE ACTIVITY CLASS (has appropriate units)
 17. TOTAL WEIGHT OR VOLUME
 18. IDENTIFICATION NUMBER OR PACKAGE

HAZARDOUS WASTE SOLID, N.O.S.(0007/DO08), R: N	HA	HA	SOLID METAL OXIDES	HA	HA	7.50 g ³	08-000007 (100884)
HAZARDOUS WASTE SOLID, N.O.S.(0007/DO08), R: N	HA	HA	SOLID METAL OXIDES	HA	HA	7.50 g ³	08-000008 (100885)

1-55 GALLON DRUM CS-137 : FE-59 : FE-99 : H-3 : NH-4 : SR-128 : C-14 : CO-60 : CO-58 : CO-63 : CR-51 : CR-134 : 8.184E-03 (2.120E-04) NA NA 08-000007 (100884)							
1-55 GALLON DRUM CS-137 : FE-59 : FE-99 : H-3 : NH-4 : SR-128 : C-14 : CO-60 : CO-58 : CO-63 : CR-51 : CR-134 : 8.184E-03 (2.120E-04) NA NA 08-000008 (100885)							

FORM 5484 (10-88)

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER (CONTINUATION)

Instructions for preparing this report are given in the Uniform Low-Level Radioactive Waste Manifest and Waste Section and Department of Radiologic Health, and Department of Health, Education, and Welfare, Washington, DC 20540. If a waste is used to improve an incinerator, incineration does not change a waste's hazard characteristics. The manifest is used to track the waste from the time it is generated to the time it is disposed. The waste generator is required to complete and sign the manifest and the Agency for the safe transportation and disposal of low-level waste. Read instructions regarding manifest entries in the General and Packaging Section Form 750-2000, U.S. Nuclear Regulatory Commission, Washington, DC 20540. The manifest is used to track waste from the time it is generated to the time it is disposed. The waste generator is required to complete and sign the manifest and the Agency for the safe transportation and disposal of low-level waste. Read instructions regarding manifest entries in the General and Packaging Section Form 750-2000, U.S. Nuclear Regulatory Commission, Washington, DC 20540.

Form 644
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
CONTAINER AND WASTE SECTION
 Address: Federal Register, Regulatory Commission (200) Department for Control, Training and Disposal of Radioactive Waste

1. MANIFEST NUMBER: 0000-0000

2. REPORT DATE: 0000-00-00

3. REPORT PAGE: PAGE 1 OF 4 PAGES

4. REPORT DATE: 0000-00-00

5. REPORT DATE: 0000-00-00

6. REPORT DATE: 0000-00-00

7. REPORT DATE: 0000-00-00

8. REPORT DATE: 0000-00-00

9. REPORT DATE: 0000-00-00

10. REPORT DATE: 0000-00-00

11. REPORT DATE: 0000-00-00

12. REPORT DATE: 0000-00-00

13. REPORT DATE: 0000-00-00

14. REPORT DATE: 0000-00-00

15. REPORT DATE: 0000-00-00

16. REPORT DATE: 0000-00-00

17. REPORT DATE: 0000-00-00

18. REPORT DATE: 0000-00-00

19. REPORT DATE: 0000-00-00

20. REPORT DATE: 0000-00-00

21. REPORT DATE: 0000-00-00

22. REPORT DATE: 0000-00-00

23. REPORT DATE: 0000-00-00

24. REPORT DATE: 0000-00-00

25. REPORT DATE: 0000-00-00

26. REPORT DATE: 0000-00-00

27. REPORT DATE: 0000-00-00

28. REPORT DATE: 0000-00-00

29. REPORT DATE: 0000-00-00

30. REPORT DATE: 0000-00-00

31. REPORT DATE: 0000-00-00

32. REPORT DATE: 0000-00-00

33. REPORT DATE: 0000-00-00

34. REPORT DATE: 0000-00-00

35. REPORT DATE: 0000-00-00

36. REPORT DATE: 0000-00-00

37. REPORT DATE: 0000-00-00

38. REPORT DATE: 0000-00-00

39. REPORT DATE: 0000-00-00

40. REPORT DATE: 0000-00-00

41. REPORT DATE: 0000-00-00

42. REPORT DATE: 0000-00-00

43. REPORT DATE: 0000-00-00

44. REPORT DATE: 0000-00-00

45. REPORT DATE: 0000-00-00

46. REPORT DATE: 0000-00-00

47. REPORT DATE: 0000-00-00

48. REPORT DATE: 0000-00-00

49. REPORT DATE: 0000-00-00

50. REPORT DATE: 0000-00-00

51. REPORT DATE: 0000-00-00

52. REPORT DATE: 0000-00-00

53. REPORT DATE: 0000-00-00

54. REPORT DATE: 0000-00-00

55. REPORT DATE: 0000-00-00

56. REPORT DATE: 0000-00-00

57. REPORT DATE: 0000-00-00

58. REPORT DATE: 0000-00-00

59. REPORT DATE: 0000-00-00

60. REPORT DATE: 0000-00-00

61. REPORT DATE: 0000-00-00

62. REPORT DATE: 0000-00-00

63. REPORT DATE: 0000-00-00

64. REPORT DATE: 0000-00-00

65. REPORT DATE: 0000-00-00

66. REPORT DATE: 0000-00-00

67. REPORT DATE: 0000-00-00

68. REPORT DATE: 0000-00-00

69. REPORT DATE: 0000-00-00

70. REPORT DATE: 0000-00-00

71. REPORT DATE: 0000-00-00

72. REPORT DATE: 0000-00-00

73. REPORT DATE: 0000-00-00

74. REPORT DATE: 0000-00-00

75. REPORT DATE: 0000-00-00

76. REPORT DATE: 0000-00-00

77. REPORT DATE: 0000-00-00

78. REPORT DATE: 0000-00-00

79. REPORT DATE: 0000-00-00

80. REPORT DATE: 0000-00-00

81. REPORT DATE: 0000-00-00

82. REPORT DATE: 0000-00-00

83. REPORT DATE: 0000-00-00

84. REPORT DATE: 0000-00-00

85. REPORT DATE: 0000-00-00

86. REPORT DATE: 0000-00-00

87. REPORT DATE: 0000-00-00

88. REPORT DATE: 0000-00-00

89. REPORT DATE: 0000-00-00

90. REPORT DATE: 0000-00-00

91. REPORT DATE: 0000-00-00

92. REPORT DATE: 0000-00-00

93. REPORT DATE: 0000-00-00

94. REPORT DATE: 0000-00-00

95. REPORT DATE: 0000-00-00

96. REPORT DATE: 0000-00-00

97. REPORT DATE: 0000-00-00

98. REPORT DATE: 0000-00-00

99. REPORT DATE: 0000-00-00

100. REPORT DATE: 0000-00-00

1. MANIFEST TOTALS		2. REPORT DATE		3. REPORT PAGE		4. REPORT DATE		5. REPORT DATE		6. REPORT DATE		7. REPORT DATE		8. REPORT DATE		9. REPORT DATE		10. REPORT DATE		11. REPORT DATE		12. REPORT DATE		13. REPORT DATE		14. REPORT DATE		15. REPORT DATE		16. REPORT DATE		17. REPORT DATE		18. REPORT DATE		19. REPORT DATE		20. REPORT DATE		21. REPORT DATE		22. REPORT DATE		23. REPORT DATE		24. REPORT DATE		25. REPORT DATE		26. REPORT DATE		27. REPORT DATE		28. REPORT DATE		29. REPORT DATE		30. REPORT DATE		31. REPORT DATE		32. REPORT DATE		33. REPORT DATE		34. REPORT DATE		35. REPORT DATE		36. REPORT DATE		37. REPORT DATE		38. REPORT DATE		39. REPORT DATE		40. REPORT DATE		41. REPORT DATE		42. REPORT DATE		43. REPORT DATE		44. REPORT DATE		45. REPORT DATE		46. REPORT DATE		47. REPORT DATE		48. REPORT DATE		49. REPORT DATE		50. REPORT DATE		51. REPORT DATE		52. REPORT DATE		53. REPORT DATE		54. REPORT DATE		55. REPORT DATE		56. REPORT DATE		57. REPORT DATE		58. REPORT DATE		59. REPORT DATE		60. REPORT DATE		61. REPORT DATE		62. REPORT DATE		63. REPORT DATE		64. REPORT DATE		65. REPORT DATE		66. REPORT DATE		67. REPORT DATE		68. REPORT DATE		69. REPORT DATE		70. REPORT DATE		71. REPORT DATE		72. REPORT DATE		73. REPORT DATE		74. REPORT DATE		75. REPORT DATE		76. REPORT DATE		77. REPORT DATE		78. REPORT DATE		79. REPORT DATE		80. REPORT DATE		81. REPORT DATE		82. REPORT DATE		83. REPORT DATE		84. REPORT DATE		85. REPORT DATE		86. REPORT DATE		87. REPORT DATE		88. REPORT DATE		89. REPORT DATE		90. REPORT DATE		91. REPORT DATE		92. REPORT DATE		93. REPORT DATE		94. REPORT DATE		95. REPORT DATE		96. REPORT DATE		97. REPORT DATE		98. REPORT DATE		99. REPORT DATE		100. REPORT DATE	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100																																																																																																				

Form 644 (10-80) - Indicates Cross Contamination

1. CONTAINER NUMBER: 0000-00-00

2. CONTAINER DESCRIPTION: 0000-00-00

3. WASTE DESCRIPTION: 0000-00-00

4. WASTE TYPE: 0000-00-00

5. WASTE QUANTITY: 0000-00-00

6. WASTE ACTIVITY: 0000-00-00

7. WASTE DENSITY: 0000-00-00

8. WASTE TEMPERATURE: 0000-00-00

9. WASTE PH: 0000-00-00

10. WASTE SOLUBILITY: 0000-00-00

11. WASTE TOXICITY: 0000-00-00

12. WASTE CORROSIVITY: 0000-00-00

13. WASTE FLAMMABILITY: 0000-00-00

14. WASTE REACTIVITY: 0000-00-00

15. WASTE STABILITY: 0000-00-00

16. WASTE COMPATIBILITY: 0000-00-00

17. WASTE PACKAGING: 0000-00-00

18. WASTE LABELING: 0000-00-00

19. WASTE DOCUMENTATION: 0000-00-00

20. WASTE TRACKING: 0000-00-00

21. WASTE DISPOSAL: 0000-00-00

22. WASTE RECOVERY: 0000-00-00

23. WASTE REUSE: 0000-00-00

24. WASTE INCINERATION: 0000-00-00

25. WASTE LANDFILL: 0000-00-00

26. WASTE STORAGE: 0000-00-00

27. WASTE TREATMENT: 0000-00-00

28. WASTE MONITORING: 0000-00-00

29. WASTE RECORDS: 0000-00-00

30. WASTE AUDIT: 0000-00-00

31. WASTE COMPLIANCE: 0000-00-00

32. WASTE SAFETY: 0000-00-00

33. WASTE SECURITY: 0000-00-00

34. WASTE PROTECTION: 0000-00-00

35. WASTE PREVENTION: 0000-00-00

36. WASTE MITIGATION: 0000-00-00

37. WASTE RESTORATION: 0000-00-00

38. WASTE REMEDIATION: 0000-00-00

39. WASTE INVESTIGATION: 0000-00-00

40. WASTE ASSESSMENT: 0000-00-00

41. WASTE EVALUATION: 0000-00-00

42. WASTE ANALYSIS: 0000-00-00

43. WASTE TESTING: 0000-00-00

44. WASTE MEASUREMENT: 0000-00-00

45. WASTE MONITORING: 0000-00-00

46. WASTE SURVEILLANCE: 0000-00-00

47. WASTE INSPECTION: 0000-00-00

48. WASTE AUDITING: 0000-00-00

49. WASTE REVIEW: 0000-00-00

50. WASTE REPORTING: 0000-00-00

51. WASTE DOCUMENTATION: 0000-00-00

52. WASTE RECORDS: 0000-00-00

53. WASTE ARCHIVING: 0000-00-00

54. WASTE RETRIEVAL: 0000-00-00

55. WASTE ACCESS: 0000-00-00

56. WASTE SECURITY: 0000-00-00

57. WASTE PROTECTION: 0000-00-00

58. WASTE PREVENTION: 0000-00-00

59. WASTE MITIGATION: 0000-00-00

60. WASTE RESTORATION: 0000-00-00

61. WASTE REMEDIATION: 0000-00-00

62. WASTE INVESTIGATION: 0000-00-00

63. WASTE ASSESSMENT: 0000-00-00

64. WASTE EVALUATION: 0000-00-00

65. WASTE ANALYSIS: 0000-00-00

66. WASTE TESTING: 0000-00-00

67. WASTE MEASUREMENT: 0000-00-00

68. WASTE MONITORING: 0000-00-00

69. WASTE SURVEILLANCE: 0000-00-00

70. WASTE INSPECTION: 0000-00-00

71. WASTE AUDITING: 0000-00-00

72. WASTE REVIEW: 0000-00-00

73. WASTE REPORTING: 0000-00-00

74. WASTE DOCUMENTATION: 0000-00-00

75. WASTE RECORDS: 0000-00-00

76. WASTE ARCHIVING: 0000-00-00

77. WASTE RETRIEVAL: 0000-00-00

78. WASTE ACCESS: 0000-00-00

79. WASTE SECURITY: 0000-00-00

80. WASTE PROTECTION: 0000-00-00

81. WASTE PREVENTION: 0000-00-00

82. WASTE MITIGATION: 0000-00-00

83. WASTE RESTORATION: 0000-00-00

84. WASTE REMEDIATION: 0000-00-00

85. WASTE INVESTIGATION: 0000-00-00

86. WASTE ASSESSMENT: 0000-00-00

87. WASTE EVALUATION: 0000-00-00

88. WASTE ANALYSIS: 0000-00-00

89. WASTE TESTING: 0000-00-00

90. WASTE MEASUREMENT: 0000-00-00

91. WASTE MONITORING: 0000-00-00

92. WASTE SURVEILLANCE: 0000-00-00

93. WASTE INSPECTION: 0000-00-00

94. WASTE AUDITING: 0000-00-00

95. WASTE REVIEW: 0000-00-00

96. WASTE REPORTING: 0000-00-00

97. WASTE DOCUMENTATION: 0000-00-00

98. WASTE RECORDS: 0000-00-00

99. WASTE ARCHIVING: 0000-00-00

100. WASTE RETRIEVAL: 0000-00-00

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

PAGE 2 OF 4 PAGES

Additional parties not mentioned in this manifest are required to sign this manifest in order to ensure that the waste is properly managed. The manifest must be retained by the waste generator for the entire period of the waste's life cycle. The waste generator must also retain a copy of this manifest for the entire period of the waste's life cycle. The waste generator must also retain a copy of this manifest for the entire period of the waste's life cycle. The waste generator must also retain a copy of this manifest for the entire period of the waste's life cycle.

CONTAINER INFORMATION		CONTAINER DESCRIPTION (See Item 1)		WASTE DESCRIPTION (See Item 2)		WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER		WASTE DESCRIPTION		WASTE DESCRIPTION		WASTE DESCRIPTION		WASTE DESCRIPTION		WASTE DESCRIPTION		WASTE DESCRIPTION		WASTE DESCRIPTION	
CONTAINER NUMBER	CONTAINER TYPE (See Item 1)	VOLUME	WASTE CONTAINER NUMBER	WASTE TYPE	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION	WASTE DESCRIPTION
09-00000	1700-000	0.21230	100.00000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
09-00000	1700-000	0.21230	100.00000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

EnergySolutions, One Disposal Site

MANIFEST NUMBER

09545-0001

PAGE 3 OF 4 PAGES

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

CONTAINER IDENTIFICATION NUMBER	CONTAINER DESCRIPTION (See Item 1.2)	VOLUME (See Item 1.4)	WASTE AND SURFACE CONTAMINATION LEVEL	WASTE SERVICE CONTAMINATION REPORT and SURFACE	PARTIAL DESCRIPTION (See Item 1.1)	WASTE APPROPRIATE SOLIDIFICATION OR STABILIZATION MEDIA (See Item 1.3)	CHEMICAL FORM AND CHEMICAL AGENT (See Item 1.4)	WEIGHT (See Item 1.5)	WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER	
									INORGANIC	ORGANIC
09-00005 (1900270)	700 Gallons TVA Environmental Remediation Storage Facility TVA Environmental Remediation Storage Facility, AL 35801	7.0000	0.11444	< 0.00000004 < 0.00000004 < 0.00000004	0.12308	0.12308	0.12308	0.12308	0.12308	0.12308
09-00005 (1900270)	700 Gallons TVA Environmental Remediation Storage Facility TVA Environmental Remediation Storage Facility, AL 35801	7.0000	0.11444	< 0.00000004 < 0.00000004 < 0.00000004	0.12308	0.12308	0.12308	0.12308	0.12308	0.12308

CONTAINER IDENTIFICATION NUMBER	CONTAINER DESCRIPTION (See Item 1.2)	VOLUME (See Item 1.4)	WASTE AND SURFACE CONTAMINATION LEVEL	WASTE SERVICE CONTAMINATION REPORT and SURFACE	PARTIAL DESCRIPTION (See Item 1.1)	WASTE APPROPRIATE SOLIDIFICATION OR STABILIZATION MEDIA (See Item 1.3)	CHEMICAL FORM AND CHEMICAL AGENT (See Item 1.4)	WEIGHT (See Item 1.5)	WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER	
									INORGANIC	ORGANIC
09-00005 (1900270)	700 Gallons TVA Environmental Remediation Storage Facility TVA Environmental Remediation Storage Facility, AL 35801	7.0000	0.11444	< 0.00000004 < 0.00000004 < 0.00000004	0.12308	0.12308	0.12308	0.12308	0.12308	0.12308
09-00005 (1900270)	700 Gallons TVA Environmental Remediation Storage Facility TVA Environmental Remediation Storage Facility, AL 35801	7.0000	0.11444	< 0.00000004 < 0.00000004 < 0.00000004	0.12308	0.12308	0.12308	0.12308	0.12308	0.12308

Estimated burden per response to comply with this information collection request is 1.5 hours. This uniform manifest is required by 49 CFR to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimates to the Bureau and Compliance Burden Team (1-8-10) U.S. Nuclear Regulatory Commission, Washington, DC 20549, or by Internet e-mail to burden@nrc.gov, and to the Data Office, Office of Information and Regulatory Affairs, 1225-N-1002, (1515-0101), Office of Management and Budget, Washington, DC 20503. If a waste used to improve an industrial operation does not display a currently valid OMB control number, the right may not extend or expire, and a permit is not required to transport it. Use appropriate address.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

1. WASTE CLASSIFICATION (SEE INSTRUCTIONS) 2. MANIFEST NUMBER 0055-02-0002 PAGE 4 OF 4 PAGES

Table with columns for Container Identification Number, Container Description, Waste Description, Physical Description, Solubilization, Chemical Form, Weight, Radioisotope, and Disposal Container Description. Includes sub-sections for Surface Contamination, Surface Radiation Level, and Volume and Weight. Includes a summary table at the bottom right.

Recipient must provide per response to comply with this information collection request. This manifest is required by NRC in most reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Bureau and Privacy Office, Washington, DC 20545-0001, or by Internet e-mail to privacy@nrc.gov, and in the Desk Officer, Office of Information and Regulatory Affairs, EPCB-0002, (202-418-0102).

Indicated burden for response to queries by this information collection request. All records, this uniform manifest is required by RCRA to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of hazardous waste. Hazardous waste is defined by the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 9601-9607, and by Executive Order 12812. If a waste is not listed as hazardous under RCRA, it is not subject to RCRA reporting requirements. For more information, contact the Office of Management and Budget, Washington, DC 20503. If a waste is not listed as hazardous under RCRA, it is not subject to RCRA reporting requirements. For more information, contact the Office of Management and Budget, Washington, DC 20503. If a waste is not listed as hazardous under RCRA, it is not subject to RCRA reporting requirements. For more information, contact the Office of Management and Budget, Washington, DC 20503.

FORM 342 ENERGY/OTHER, CHEMICAL, OR OTHER

1. MANIFEST NUMBER 002-42-002	2. WASTE COLLECTOR/PROCESSOR SHIPPER USE ONLY	3. MANIFEST DATE DATE	4. TWA NUMBER WITH STATE FIDUCIARY ID NUMBER DATE	5. NAME SHIPPER USE ONLY
PAGE 1 OF 1 PAGE(S)		MANIFEST INDEX AND REMOVAL COMPACT TABULATION		
LIST ALL OTHER "PROCESSED WASTE" GENERATORS (IF ANY) BEFORE "COLLECTED WASTE" GENERATORS				

1. GENERATOR NAME AND TELEPHONE NUMBER	2. GENERATOR FACILITY ADDRESS	3. WASTE DESCRIPTION	4. PROCESSED WASTE VOLUME (GROSS WEIGHT)	5. HAZARDOUS WASTE CODE	6. SPECIAL TREATMENT OR STATE	7. A. SOURCE MATERIAL	8. B. NAME	9. C. ACTIVITY	10. D. VOLUME	11. E. WEIGHT	12. HAZARDOUS WASTE PACKAGE IDENTIFICATION LABEL
TVA Resources Mobile Plant Mobile Site Mobile Site, AL 36511	TVA Resources Mobile Plant Mobile Site Mobile Site, AL 36511	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

AS PROCESSED/COLLECTED TOTAL											
------------------------------	--	--	--	--	--	--	--	--	--	--	--

TOTALS OF ALL PAGES (FORMS 342 AND 342A)											
NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
N/A											

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL 2640090005	2. Page 1 of 1	3. Emergency Response Phone 865 220 1555	4. Manifest Tracking Number 003715091 JJK	
5. Generator's Name and Mailing Address TVA Hazardous Waste Storage Facility 410 Energy Solutions TVA Reactor Area Facility, 133A near Wilson Dam						
Generator's Site Address (if different than mailing address)						
Generator's Phone: (256) 344-7876 Muscle Shoals AL 35661						
6. Transporter 1 Company Name Hittman Transport Services				U.S. EPA ID Number TND 98 778 3065		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address Energy Solutions, Clump Disposal Site TOOLEY COUNTY, US 5-80 EXIT 44 CLINE UT 84029				U.S. EPA ID Number UTD 982598698		
Facility's Phone: (435) 884-0155						
9a. H-M	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
X	NA3077, HAZARDOUS WASTE, SOLID, U.O.S. (D008), 9, III	02	DM	97	K	D008
X	NA3077, HAZARDOUS WASTE, SOLID, U.O.S (D006, D007, D008), 9, III	03	DM	247	K	D006 D007 D008
X	NA3077, HAZARDOUS WASTE, SOLID, U.O.S (D007, D008), 9, III	02	DM	137	K	D007 D008
14. Special Handling Instructions and Additional Information ER6-171 SHIPMENT # 0625-02-0002 Contact # 26316 - RD 20045 30						
15. GENERATOR'S/OFFICER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Officer's Printed/Typed Name DAVID W WIFFEN				Signature DW W W		Month Day Year 10 28 08
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name ERNEST PACTON				Signature [Signature]		Month Day Year 1 28 08
Transporter 2 Printed/Typed Name				Signature		Month Day Year
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
18b. Alternate Facility (or Generator) Manifest Reference Number: _____ U.S. EPA ID Number: _____						
18c. Signature of Alternate Facility (or Generator) Facility's Phone: _____ Month Day Year _____						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. H129		2. H129		3. H129		4. _____
20. Designated Facility Owner or Operator. Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name Justin Lee				Signature [Signature]		Month Day Year 12 11 08



**UNI-CRIM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
ISOTOPIC SUMMARY**

For Manifest # 0826-02-0002
Energy Solutions, Clive Disposal Site

Isotope	(MBq)	(mCi)	(Ci)	(gms)	(µg)
AG-110A	1.2907E-03	3.5100E-05	3.5100E-06	.0000E+00	.0000E+00
AM-241	6.2540E-05	1.4200E-06	1.4200E-06	.0000E+00	.0000E+00
C-14	1.1168E-03	3.0717E-05	3.0717E-05	.0000E+00	.0000E+00
CE-144	3.7370E-05	1.0710E-06	1.0710E-06	.0000E+00	.0000E+00
CM-242	6.0800E-08	1.8000E-08	1.8000E-12	.0000E+00	.0000E+00
CM-243	1.0900E-05	2.9500E-07	2.9500E-16	.0000E+00	.0000E+00
CM-244	1.0800E-05	2.9300E-07	2.9300E-16	.0000E+00	.0000E+00
CO-57	4.2807E-04	1.1815E-05	1.1815E-08	.0000E+00	.0000E+00
CO-58	2.5718E-02	6.9800E-04	6.9800E-07	.0000E+00	.0000E+00
CO-60	2.3448E-02	6.3170E-04	6.3170E-07	.0000E+00	.0000E+00
CM-111	8.5443E-03	2.3140E-04	6.3146E-07	.0000E+00	.0000E+00
CM-134	2.8800E-02	7.9000E-04	1.7890E-07	.0000E+00	.0000E+00
FE-55	1.5114E-01	3.2740E-03	3.2740E-05	.0000E+00	.0000E+00
FE-59	1.8440E-03	5.1440E-05	5.1440E-05	.0000E+00	.0000E+00
I-131	5.8514E-02	1.6110E-04	2.7017E-07	.0000E+00	.0000E+00
I-135	4.1874E-04	1.1510E-05	1.1510E-08	.0000E+00	.0000E+00
Mn-54	3.2400E-02	8.9400E-04	3.6440E-07	.0000E+00	.0000E+00
Mn-55	3.5200E-04	9.5200E-06	6.8200E-09	.0000E+00	.0000E+00
Mn-56	3.5200E-04	9.5200E-06	6.8200E-09	.0000E+00	.0000E+00
PL-238	3.5200E-04	9.5200E-06	6.8200E-09	.0000E+00	.0000E+00
PL-239	4.9100E-05	1.3000E-05	1.3000E-03	7.6471E-11	.0000E+00
PL-240	1.2907E-05	3.5100E-07	3.5100E-10	1.5291E-08	.0000E+00
PL-241	1.0520E-03	2.7800E-05	2.7800E-08	.0000E+00	.0000E+00
SR-90	6.2870E-03	1.8000E-04	1.8000E-07	.0000E+00	.0000E+00
SR-113	1.3177E-04	3.7100E-06	8.7100E-09	.0000E+00	.0000E+00
SR-135	1.5020E-04	4.0810E-06	4.0810E-09	.0000E+00	.0000E+00
TC-99	7.2186E-04	1.9800E-05	1.9800E-08	.0000E+00	.0000E+00
U-235	7.2186E-04	1.9800E-05	1.9800E-08	.0000E+00	.0000E+00
U-238	6.3172E-04	1.7000E-05	1.7000E-08	.0000E+00	.0000E+00
Zr-95	2.1900E-04	5.9200E-06	6.5200E-09	.0000E+00	.0000E+00
Totals	3.0332E-01	8.1877E-03	8.1877E-06	8.0908E-03	.0000E+00

CERTIFICATE OF DISPOSAL

3 mi. S. Est. 49, I-80 Clve, Utah
84029 EPA ID: UT982598898

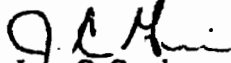
Tennessee Valley Authority, Muscle Shoals

This Certificate acknowledges that the following manifested shipments:

<u>Shipment</u>	<u>Manifest</u>	<u>Date(s) of Disposal</u>	<u>Cu/Ft</u>	<u>Process</u>	<u>Disposal Location</u>
0825-02-0002	15091	3/19/2008	52.5	Landfill	Mixed Waste

Representing 52.5 Cubic feet of waste disposed of at EnergySolutions' above listed Disposal Facility landfill. Disposal is subject to EnergySolutions' Radioactive Material License, all other applicable licenses, permits and regulations, and the Disposal Agreement.

Under civil and criminal penalties of law for the making or submission of false or fraudulent statements or representations (18 U.S.C 1001 and 15 U.S.C. 2615) I certify that the information contained in or accompanying this document is true, accurate and complete. As to the identification section(s) of this document for which I cannot personally verify truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete.



Jesse C. Garcia
Mixed Waste Site Manager

4/2/08
Date

423 West 300 South, Salt Lake City, Utah 84101 Telephone (801) 649-2000

Attachment 5

Waste Manifest Numbers T074683

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
T074683		3	11/16/2007	Energy Solutions Clive Disposal Site Clive, UT	11/21/2007

NOTE: The container numbers routinely used on the NRC Form 540 is the number assigned to the container by the Mixed Waste Storage Facility. In this case, the container numbers listed on the NRC Form 540 are the Generator assigned container numbers. The numbers correspond as listed below:

Generator Container No.	MWSF Container No.
DR04-081	1022766
DR02-077	1022767
DR04-072	1022768

As noted on NRC Form 540 Item 4 No EPA Manifest is required.

Delivered under per response to comply with this information collection request of 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding manifest format to the Records and Publicity Section Branch (F-476), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to infocenter@nrc.gov, and to the East Office, Office of Information and Regulatory Affairs, NRC-1000, (703) 648-7100, Office of Management and Budget, Washington, DC 20503. If a waste receipt is an information collection, does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 548 Energy Solutions, Bear Creek Processing Operations UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		5. SHIPPER - NAME AND FACILITY TVA-Power Service Center CPO Energy Solutions 127 Reservation Road Moody Works, AL 36061			8. SHIPMENT NUMBER T074693 X COLLECTOR PROGRESSOR GENERATOR TYPE (Specify) NA TELEPHONE NUMBER (Include Area Code) (205) 314-7070 EPA ID NUMBER T0102770000 ISSUANCE DATE 11/19/07 TELEPHONE NUMBER (Include Area Code) 686-376-8100 DATE 11-19-07	7. FORM 548 AND 550A PAGE 1 OF 1 PAGES FORM 541 AND 551A 1 PAGES FORM 549 AND 551A 1 PAGES ADDITIONAL INFORMATION 1 PAGES		6. MANIFEST NUMBER (Also this number on all continuation pages) T074693	
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) (205) 220-1800		USER PERMIT NUMBER T074693	SHIPMENT NUMBER T074693	GENERATOR TYPE (Specify) NA TELEPHONE NUMBER (Include Area Code) (205) 314-7070	9. COMMENTS - Name and Facility Address Energy Solutions, Bear Creek Processing Operations Operated by Energy Solutions 1888 Bear Creek Road Oak Ridge, TN 37863		CONTACT Fred Smith TELEPHONE NUMBER (Include Area Code) (888) 481-0222		
ORGANIZATION Energy Solutions Attn: Emergency Duty Officer		CONTACT Fred Smith	CONTACT Fred Smith	TELEPHONE NUMBER (Include Area Code) (205) 314-7070	10. DRIVER - Authorized employee participating in this activity Nicholas Decker 11/21/07		DATE 11/21/07		
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? () YES (X) NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 3	4. DOES EPA REGULATED WASTE REQUIRE A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes", provide Manifest Number _____	EPA MANIFEST NUMBER NA	11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)				
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE" NA	13. TRANSPORT INDEX NA	14. PHYSICAL AND CHEMICAL FORM LIQUID/METAL OXIDES	15. MATERIAL RADIOISOTOPES CS-137	16. TOTAL PACKAGE ACTIVITY mCi 4.21E+04 (1.14E+05)	17. LEAKAGE CLASS NA	18. TOTAL WEIGHT OR VOLUME (Use appropriate scales)	19. IDENTIFICATION NUMBER OF PACKAGE
Non-Radioactive per DOT LIQUID 1 - METAL DRUM		NA	NA	LIQUID/METAL OXIDES	CS-137	4.21E+04 (1.14E+05)	NA	11.88 g ³ 371.00 lb	07-001891 (0904-072)
Non-Radioactive per DOT OIL 1 - METAL DRUM		NA	NA	LIQUID/METAL OXIDES	CO-60 ; CS-137	2.54E+02 (6.99E+04)	NA	11.88 g ³ 486.00 lb	07-001892 (0904-77)
Non-Radioactive per DOT OIL 1 - METAL DRUM		NA	NA	LIQUID/METAL OXIDES	CO-60 ; CS-137	6.69E+02 (1.79E+05)	NA	11.88 g ³ 477.88 lb	07-001893 (0904-661)
FOR CONSIGNEE USE ONLY Tennessee "License For Delivery" No. _____ South Carolina Transport Permit No. _____ US Ecology Generator No. _____ US Ecology Permit No. _____		20. Generator Certification Statement I, the undersigned, certify that the information on this manifest and the information on the waste has been given in accordance with the requirements of the manifest regulations of the Nuclear Regulatory Commission, and that the waste is being transported in accordance with the requirements of the manifest regulations of the Nuclear Regulatory Commission. I further certify that the waste is being transported in accordance with the requirements of the manifest regulations of the Nuclear Regulatory Commission. I further certify that the waste is being transported in accordance with the requirements of the manifest regulations of the Nuclear Regulatory Commission. I further certify that the waste is being transported in accordance with the requirements of the manifest regulations of the Nuclear Regulatory Commission.						James A. Colaprete 11-16-07	

Form 548 (10-05)

Modified Date: 10/12/2007 (05-28)

Received 11/20/07
 B Hawwell

Indicates Cross Contamination

1. MANIFEST NUMBER		2. SHIPPER NAME		3. TYPICAL SOURCE OR ENERGY SOURCE		4. SHIPMENT TO NUMBER		5. MANIFEST TOTALS		6. SPECIAL NUCLEAR MATERIAL (SNM)		7. TOTAL		8. NET WEIGHT		9. NET VOLUME		10. NUMBER OF CONTAINERS		11. ACTIVITY (UdL Units in uCi)		12. INITIALS		13. DATE		14. TIME			
T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001	
T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001		T01001	

16. WASTE CLASSIFICATION	17. WASTE DESCRIPTION	18. WASTE DESCRIPTION	19. WASTE DESCRIPTION	20. WASTE DESCRIPTION	21. WASTE DESCRIPTION	22. WASTE DESCRIPTION	23. WASTE DESCRIPTION	24. WASTE DESCRIPTION	25. WASTE DESCRIPTION	26. WASTE DESCRIPTION	27. WASTE DESCRIPTION	28. WASTE DESCRIPTION	29. WASTE DESCRIPTION	30. WASTE DESCRIPTION	31. WASTE DESCRIPTION	32. WASTE DESCRIPTION	33. WASTE DESCRIPTION	34. WASTE DESCRIPTION	35. WASTE DESCRIPTION	36. WASTE DESCRIPTION	37. WASTE DESCRIPTION	38. WASTE DESCRIPTION	39. WASTE DESCRIPTION	40. WASTE DESCRIPTION	41. WASTE DESCRIPTION	42. WASTE DESCRIPTION	43. WASTE DESCRIPTION	44. WASTE DESCRIPTION	45. WASTE DESCRIPTION
LI	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL	LIQUID METAL

Obtained before per response to comply with this information collection request. This manifest number is required by NRC to track receipt of Federal and State Agencies for the safe transportation and disposal of low-level waste. Serial numbers regarding waste streams in the Records and Regulatory Services Branch (7-6 P23), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by licensee used to license/transport, and to the State Office, Office of Radiation and Regulatory Affairs, NRCOR-1202, (202-416-4561). Office of Management and Budget, Washington, DC 20503. If a waste used to license in information collection does not display a currently valid DUNS control number, the NRC may not conduct a review, and a person is not required to request it, the information submitted.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste

Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Address: Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer

Federal action for cleanup is necessary to protect the public health and safety of the community and to prevent or minimize the release of hazardous substances from the site. This action is required by RCRA to meet reporting requirements of Federal and State agencies for the site. Reporting and cleanup of hazardous substances from the site is required by RCRA to meet reporting requirements of Federal and State agencies for the site. Reporting and cleanup of hazardous substances from the site is required by RCRA to meet reporting requirements of Federal and State agencies for the site.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST		WASTE COLLECTOR/PROCESSOR	
EnergySolutions, Bear Creek Processing Operations		WASTE NUMBER ONLY	
MANIFEST INDEX AND REGIONAL CONTACT INFORMATION		PAGE 1 OF 1 PAGE(S)	
NAME TWA-Power Service Center/Old Bldg Bldg IDENTIFICATION NUMBER 0460 RECEIVED DATE 11/10/07		LIST OF REGIONAL "PROCESSOR WASTE" GENERATORS (if any) Below "COLLECTED WASTE" generator	

4. GENERATOR IDENTIFICATION NUMBER AND TELEPHONE NUMBER	5. GENERATOR NAME AND TELEPHONE NUMBER	6. GENERATOR FACILITY ADDRESS	7. PROCESSOR WASTE (OR WASTE) RECEIVED DATE	8. WASTE CODE	9. WASTE QUANTITY ON STATE REPORT	10. REGIONAL CONTACT NUMBER	11. AS PROCESSED/COLLECTED TOTAL
---	--	-------------------------------	---	---------------	-----------------------------------	-----------------------------	----------------------------------

11. AS PROCESSED/COLLECTED TOTAL	10. REGIONAL CONTACT NUMBER	9. WASTE QUANTITY ON STATE REPORT	8. WASTE CODE	7. PROCESSOR WASTE (OR WASTE) RECEIVED DATE	6. GENERATOR FACILITY ADDRESS	5. GENERATOR NAME AND TELEPHONE NUMBER	4. GENERATOR IDENTIFICATION NUMBER AND TELEPHONE NUMBER
0.00	000000	0.00	0000	11/09/07	(27) Riverbank Road Shoals Creek, AL 36861	TVA - Power Service Center 866-214-2776	0000
TOTALS OF ALL PAGES (FORMS 542 AND 542A)							
0.00	000000	0.00	0000	11/09/07	(27) Riverbank Road Shoals Creek, AL 36861	TVA - Power Service Center 866-214-2776	0000

ISOTOPIC SUMMARY

For Manifest # T074683

EnergySolutions, Bear Creek Processing Operations

Isotope	Total Activity			Total SNM	Total Source
	(MBq)	(mCi)	CI]	(gm)	(lb)
CO-60	2.9807E-02	8.0560E-04	8.0560E-07	.0000E+00	.0000E+00
CS-137	6.2545E-02	1.5904E-03	1.5904E-06	.0000E+00	.0000E+00
Totals:	9.2352E-02	2.4960E-03	2.4960E-06	.0000E+00	.0000E+00



Wednesday, November 21, 2007

Bobby Davis
Tennessee Valley Authority (Power Service Shop)/AL
1490 Dock Street
Memphis, TN 38113

Dear Mr. Davis:

The attached signed shipping manifest copies are your notice of receipt of the radioactive waste materials shipment specified on the manifest number below.

<u>Manifest Number</u>	<u>Date Received</u>
3650-T074883	11/21/2007

Thank you for your business.

Sincerely,

A handwritten signature in black ink that reads "Pam Thompson".

Shipping and Receiving

cc: Manifest File
Shipping and Receiving file



February 11, 2008

Mr. Jim Colagross
Tennessee Valley Authority (Power Service Shop)/AL
Reservation Road
Muscle Shoals, AL 35662

Dear Mr. Colagross:

This letter certifies that Duratek, Inc. has completed processing and/or shipment of all the radioactive materials shipped to Duratek, Inc. on the following manifest(s) sent by Tennessee Valley Authority (Power Service Shop)/AL.

Manifest Number
3650-T074683

Close Date
01/03/08

Should you have any questions concerning the processing of the waste, please refer to your monthly Customer Summary Report. Please contact your Account Executive if further data is required.

Duratek Tracking Systems

To: Jim Colagross

Attachment 6

Waste Manifest Numbers 002785862JJK

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
002785862JJK	002785862JJK	60	12/13/2007	Diversified Scientific Services, Inc. Kingston, TN	12/13/2007

APPROVED BY OMB: NO. 200-0164
EXPIRES 04/2007

Estimated burden per response to comply with this information collection request: 48 minutes. This uniform manifest is required by NRC in most reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimates to the Research and Policy Advisory Services Branch (7-3 FCB), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to burden@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, 1215-2601, Office of Management and Budget, Washington, DC 20503. If a system used to impose an information collection does not display a currently valid OMB control number, the OMB may not conduct or sponsor, and a person is not required to respond to, an information collection.

U.S. NUCLEAR REGULATORY COMMISSION UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER		3. SHIPPER - NAME AND FACILITY Classified Scientific Services, Inc. 657 Colshire Road Kingston, TN 37763		SHIPPER'S NUMBER UNIFORMS <input checked="" type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR		7. NRC FORM 640 AND 640A PAGE 1 OF 8 PAGES NRC FORM 641 AND 641A 14 PAGES NRC FORM 642 AND 642A 1 PAGES ADDITIONAL INFORMATION: none PAGES		8. MANIFEST NUMBER (Also file number on all continuation sheets) 602956 JAK									
1. EMERGENCY TELEPHONE NUMBER (800-672-6222)		USER PERMIT NUMBER T-20071-037		SHIPMENT NUMBER		8. CONTACTS - Name and Facility/Address Classified Scientific Services, Inc. 657 Colshire Road Kingston, TN 37763		CONTACT Waste Tracking TELEPHONE NUMBER (Include Area Code) 800-378-6247									
ORGANIZATION TVA Operationally Separable		CONTACT Randy Fleisher		TELEPHONE NUMBER (Include Area Code) 615-845-1644		9. COMMENTS - Name and Facility/Address Dawn Gault 12/13/07		DATE									
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 18		6. CARRIER - Name and Address Nissan Transportation Services 657 Colshire Road Kingston, TN 37763		SHPA LB. NUMBER T000000000		DATE 12/13/07									
4. DOES EPA REGULATED WASTE REQUIRE A MANIFEST ACCOMPANY THIS SHIPMENT? If "Yes," provide Manifest Number: _____		EPA MANIFEST NUMBER 602956 JAK		CONTACT Jill Pugh		TELEPHONE NUMBER (Include Area Code) 800-672-6227		DATE 12/13/07									
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (including proper shipping name, hazard class, UN ID number, and any additional information)		12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIOACTIVITY		16. TOTAL PACKAGE ACTIVITY (Bq)		17. LEGACY CLASS		18. TOTAL WEIGHT OR VOLUME (Also see previous sheet)		19. IDENTIFICATION NUMBER OF PACKAGE	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0763E-02		NA		476 LBS; 7.36 FT ³		1023180	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0133E-02		NA		486 LBS; 7.36 FT ³		1023181	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0253E-02		NA		486 LBS; 7.36 FT ³		1023182	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0763E-02		NA		484 LBS; 7.36 FT ³		1023183	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0133E-02		NA		476 LBS; 7.36 FT ³		1023184	
Waste, Radio solution, Removable 3 UN1988 PGM, Spent Insulating Varnish (R, PGM)		NA		NA		Liquid Oxide		05-197		1.0133E-02		NA		476 LBS; 7.36 FT ³		1023185	

RECEIVED AT HW
DEC 19 2007
MUSCLE SHOALS

NRC FORM 540A
(3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

U.S. NUCLEAR REGULATORY COMMISSION

MANIFEST NUMBER
(Use the number on all continuation pages)
00278982 JJK

Page 2 of 8

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES	16. TOTAL PACKAGE ACTIVITY (Bq)	17. LEASCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8088E-02	NA	813 LBS; 7.36 FT3	1023188 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8836E-02	NA	806 LBS; 7.36 FT3	1023187 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8296E-02	NA	817 LBS; 7.36 FT3	1023189 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8088E-02	NA	813 LBS; 7.36 FT3	1023188 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8964E-02	NA	810 LBS; 7.36 FT3	1023180 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8068E-02	NA	813 LBS; 7.36 FT3	1023181 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8088E-02	NA	813 LBS; 7.36 FT3	1023182 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8910E-02	NA	808 LBS; 7.36 FT3	1023183 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8132E-02	NA	816 LBS; 7.36 FT3	1023184 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8088E-02	NA	813 LBS; 7.36 FT3	1023188 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8132E-02	NA	816 LBS; 7.36 FT3	1023186 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8984E-02	NA	810 LBS; 7.36 FT3	1023187 ✓
Waste, Resin solution, flammable 3 UN1988 PGM, Spent insulating Varnish <i>Ra(D001)</i>	NA	NA	Liquid Oxide	Co-137	1.8364E-02	NA	821 LBS; 7.36 FT3	1023188 ✓

NRC FORM 540A (3-85)

NRC FORM 840A
(3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

U.S. NUCLEAR REGULATORY COMMISSION

5. MANIFEST NUMBER
(Use this number on all continuation pages)
00278582 JK

Page 3 of 6

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES	16. TOTAL PACKAGE ACTIVITY (MBq)	17. ICA/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.5910E-02	NA	508 LBS; 7.35 FT3	1023169 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6290E-02	NA	519 LBS; 7.35 FT3	1023170 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6200E-02	NA	517 LBS; 7.35 FT3	1023171 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6200E-02	NA	519 LBS; 7.35 FT3	1023172 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6200E-02	NA	517 LBS; 7.35 FT3	1023173 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.35 FT3	1023174 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6910E-02	NA	508 LBS; 7.35 FT3	1023175 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.35 FT3	1023176 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6132E-02	NA	518 LBS; 7.35 FT3	1023177 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.35 FT3	1023178 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.0619E-02	NA	366 LBS; 7.35 FT3	1023179 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.35 FT3	1023180 ✓
Waste, Resin solution, flammable 3 UN1888 PGM, Spent insulating Varnish Rd (D01)	NA	NA	Liquid Oxide	Ce-137	1.6984E-02	NA	510 LBS; 7.35 FT3	1023181 ✓

NRC FORM 840A (3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES	16. TOTAL PACKAGE ACTIVITY (mSv/h)	17. LS/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6206E-02	NA	617 LBS; 7.36 FT3	1023182 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6280E-02	NA	619 LBS; 7.36 FT3	1023183 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6132E-02	NA	618 LBS; 7.36 FT3	1023184 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6132E-02	NA	618 LBS; 7.36 FT3	1023185 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6884E-02	NA	610 LBS; 7.36 FT3	1023186 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6280E-02	NA	619 LBS; 7.36 FT3	1023187 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6088E-02	NA	613 LBS; 7.36 FT3	1023188 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6884E-02	NA	610 LBS; 7.36 FT3	1023189 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6884E-02	NA	610 LBS; 7.36 FT3	1023190 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6132E-02	NA	618 LBS; 7.36 FT3	1023191 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6810E-02	NA	608 LBS; 7.36 FT3	1023192 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6280E-02	NA	619 LBS; 7.36 FT3	1023193 ✓
Waste, Resin solution, flammable 3 UN1868 PGM, Spent insulating Varnish RQ (D001)	NA	NA	Liquid Oxide	Cs-137	1.6206E-02	NA	617 LBS; 7.36 FT3	1023194 ✓

NRC FORM 640A
(3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

U.S. NUCLEAR REGULATORY COMMISSION

MANIFEST NUMBER
(Use this number on all continuation pages)
02278582 JJK

Page 5 of 8

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIOISOTOPES	16. TOTAL PACKAGE ACTIVITY (mCi)	17. LS/SCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.5910E-02	NA	508 LBS; 7.36 FT3	1023195 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6280E-02	NA	519 LBS; 7.36 FT3	1023196 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6290E-02	NA	517 LBS; 7.36 FT3	1023197 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.4841E-02	NA	488 LBS; 7.36 FT3	1023198 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6485E-02	NA	534 LBS; 7.35 FT3	1023199 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6364E-02	NA	521 LBS; 7.36 FT3	1023200 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6364E-02	NA	521 LBS; 7.36 FT3	1023201 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.36 FT3	1023202 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6364E-02	NA	521 LBS; 7.36 FT3	1023203 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6838E-02	NA	508 LBS; 7.36 FT3	1023204 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.5864E-02	NA	510 LBS; 7.36 FT3	1023205 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6864E-02	NA	510 LBS; 7.36 FT3	1023206 ✓
Waste, Resin solution, flammable 3 UN1998 PGM, Spent insulating Varnish RA(D001)	NA	NA	Liquid Oxide	Ce-137	1.6058E-02	NA	513 LBS; 7.36 FT3	1023207 ✓

NRC FORM 640A (3-85)

NRC FORM 540A
(3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPPING PAPER (CONTINUATION)

U.S. NUCLEAR REGULATORY COMMISSION

3. MANIFEST NUMBER
(Use this number on all continuation pages)
00278892 JJK

Page 8 of 8

11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES			16. TOTAL PACKAGE ACTIVITY (mCi)	17. LSABCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE
Waste, Resin solution, flammable 3 UN1988 POM, Spent Insulating Varnish <i>RA(D01)</i>	NA	NA	Liquid Oxide	Ce-137			1.5688E-02	NA	682 LBS; 7.35 FT3	1023208 ✓
Waste, Resin solution, flammable 3 UN1988 POM, Spent Insulating Varnish <i>RA(D01)</i>	NA	NA	Liquid Oxide	Ce-137			1.2347E-03	NA	86 LBS; 7.35 FT3	1023209 ✓

2.57E-2 mCi ✓

APPROVED BY OMB: NO. 3164-0168
EXPIRES: 06/30/2007

Estimated burden per response to comply with this information collection request: 1.5 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and Privacy Service Branch (7-6192), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0091, or by internet e-mail to info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, HSCA-10302, (7180-1106), Office of Management and Budget, Washington, DC 20503. If a manifest used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

NRC FORM 641 (6-2004)										U.S. NUCLEAR REGULATORY COMMISSION													
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										CONTAINER AND WASTE DESCRIPTION													
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste																							
DISPOSAL CONTAINER DESCRIPTION										1. MANIFEST TOTALS										2. MANIFEST NUMBER			
										NUMBER OF PACKAGES/ DISPOSAL CONTAINERS		NET WASTE VOLUME (m3)		NET WASTE WEIGHT (kg)		SPECIAL NUCLEAR MATERIAL (grams)				Total		00278862 JJK	
										60		12.4860		13660.3688		NP		NP		NP		NP	
										ACTIVITY (Bq/g)										SOURCE (Pd)		4. SHIPPER NAME	
										ALL NUCLIDES		TRITIUM		C-14		Tc-99		I-129		NA		Diversified Scientific Services, Inc.	
										8.4121E-01		NP		NP		NP		NP		NA		SHIPPER ID NUMBER TND982109142	
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										13. WASTE CLASSIFICATION			
										PHYSICAL DESCRIPTION			CHEMICAL DESCRIPTION			RADIOLOGICAL DESCRIPTION							
										11. WASTE DESCRIPTION	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)		13. FOREBTY SOLIDIFICATION MEDIA	14. CHEMICAL FORM/ CHELATING AGENT		15. WEIGHT % CHELATING AGENT (if > 0.1%)		16. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT					
										34	0.2081		100	None/NA		NP		Cs-137 1.4763E-02				AU	
																		Total 1.4763E-02 MBq					
										34	0.2081		100	None/NA		NP		Cs-137 1.5133E-02				AU	
																		Total 1.5133E-02 MBq					
										34	0.2081		100	None/NA		NP		Cs-137 1.5836E-02				AU	
																		Total 1.5836E-02 MBq					

Note 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "OP."

1. Wooden Box or Crate	9. Demineralizer
2. Metal Box	10. Gas Cylinder
3. Plastic Drum or Pail	11. Bulk, Unpackaged Waste
4. Metal Drum or Pail	12. Unpackaged Components
5. Metal Tank or Liner	13. High Integrity Container
6. Concrete Tank or Liner	14. Other. Describe in Item 6, or additional page
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal	28. Demolition Rubble	36. Evaporator Bottoms/Slags/Concentrates
21. Incinerator Ash	30. Cation Ion-exchange Media	38. Compostable Trash
22. Soil	31. Anion Ion-exchange Media	40. Noncombustible Trash
23. Gas	32. Mixed Bed Ion-exchange Media	41. Animal Carcass
24. Oil	33. Contaminated Equipment	42. Biological Material (except animal carcass)
25. Aqueous Liquids	34. Organic Liquid (except oil)	43. Activated Material
26. Filter Media	35. Glassware or Labware	89. Other. Describe in Item 11, or additional page
27. Mechanical Parts	36. Sealed Source/Device	
28. EPA or State Hazardous	37. Paint or Plating	

Note 3: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S." For all solidification media, the vendor (manufacturer) and brand name must also be identified in Item 13. Code 100=NONE REQUIRED.

Sorption	Solidification
60. Sawdust Df	64. Sale T Sorb
61. Catman	65. Sale H Df
62. Floor Dry/ Superfine	66. Floto X
63. H Df	68. Sand A Bob
	69. Charcol 30
	70. Charcol 60
	71. Charcol 2030
	72. Diaporit HP200
	73. Diaporit HP500
	74. Petrocast
	75. Petrocast II
	76. Aquecast
	77. Aquecast II
	80. Cement
	81. Concrete (encapsulation)
	82. Bitumen
	83. Vinyl Concrete
	84. Vinyl Ester Styrene
	89. Other. Describe in Item 13, or additional page
	100. None Required

NRC FORM 641 (6-2004)

12/13/07

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
CONTAINER AND WASTE DESCRIPTION**

DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					9. WASTE CLASSIFICATION A0-Class A A1-Class A U-Unknown B-Class B C-Class C
8. CONTAINER IDENTIFICATION NUMBER OR GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m3)	4. WASTE AND CONTAINER WEIGHT (kg)	5. SURFACE RADIATION LEVEL (mSv/hr) (mR/hr)	10. SURFACE CONTAMINATION (Bq/100 cm2)		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUMES IN CONTAINER (m3)	13. BARRIER SOLIDIFICATION STABILIZATION MEDIA (See Note 2)	14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION			
					ALPHA	BETA-GAMMA				CHEMICAL FORM OR CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
1022187AL34008000 8	4	0.201	288.618	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	CaSO4	NP	Ce-137	1.5762E-02	AU	
												Total	1.5762E-02 MBq		
1022187AL34008000 8	4	0.201	288.601	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	CaSO4	NP	Ce-137	1.6132E-02	AU	
												Total	1.6132E-02 MBq		
1022187AL34008000 8	4	0.201	288.601	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	CaSO4	NP	Ce-137	1.6132E-02	AU	
												Total	1.6132E-02 MBq		
1022187AL34008000 8	4	0.201	282.828	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	CaSO4	NP	Ce-137	1.6068E-02	AU	
												Total	1.6068E-02 MBq		
1022187AL34008000 8	4	0.201	288.5178	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	CaSO4	NP	Ce-137	1.5836E-02	AU	

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
002785862 JJK

3. PAGE 3 OF 14 PAGE(S)

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							15. WASTE CLASSIFICATION AS-Class A S-Sub A AU-Class A U-Sub A B-Class B C-Class C			
6. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	8. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	9. WASTE AND CONTAINER WEIGHT (kg)	10. SURFACE RADIATION LEVEL (µSv/h)	11. SURFACE CONTAMINATION (Bq/100 cm ²)			12. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		13. RADIOLOGICAL DESCRIPTION		
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SOLUBILITY/STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%		INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT		
													Total	1.5836E-02 MBq	
1022158AL294009000	4	0.2081	234.5973	<3.0000E-00	<3.6740E-08	<3.6740E-05	34	0.2081	100 100	Oxide/HA	NP	Ce-137	1.6208E-02	AU	
													Total	1.6208E-02 MBq	
1022158AL294009000	4	0.2081	232.5828	<3.0000E-00	<3.6740E-08	<3.6740E-05	34	0.2081	100 100	Oxide/HA	NP	Ce-137	1.6058E-02	AU	
													Total	1.6058E-02 MBq	
1022160AL294009000	4	0.2081	231.3321	<3.0000E-00	<3.6740E-08	<3.6740E-05	34	0.2081	100 100	Oxide/HA	NP	Ce-137	1.5984E-02	AU	
													Total	1.5984E-02 MBq	
1022161AL294009000	4	0.2081	232.8829	<3.0000E-00	<3.6740E-08	<3.6740E-05	34	0.2081	100 100	Oxide/HA	NP	Ce-137	1.6058E-02	AU	
													Total	1.6058E-02 MBq	

434
04
20

NRC FORM 541A
(3-85)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
002788002 JJK

3. PAGE 4 OF 14 PAGE(S)

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					WASTE CLASSIFICATION A1-Class A S1-Class A U-Usable B-Class B C-Class C			
5. CONTAINER IDENTIFICATION NUMBER, GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT PbI	9. SURFACE RADIATION LEVEL <input checked="" type="checkbox"/> (μSv/hr) (mSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm ²)		11. PHYSICAL DESCRIPTION		14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION		
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SORBENT/SOLIDIFICATION STABILIZATION MEDIA (See Note 3)		CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
1023182AL284000005	4	0.2081	232.8628	<4.0000E-00	<3.8740E-06	<3.8740E-06	34	0.2081	100/100	Caustic/HA	NP	Cs-137 1.6058E-02	AU
												Total 1.6058E-02 MBq	
1023183AL284000000	4	0.2081	230.4248	<4.0000E-00	<3.8740E-06	<3.8740E-06	34	0.2081	100/100	Caustic/HA	NP	Cs-137 1.5910E-02	AU
												Total 1.5910E-02 MBq	
1023184AL284000000	4	0.2081	233.6001	<4.0000E-00	<3.8740E-06	<3.8740E-06	34	0.2081	100/100	Caustic/HA	NP	Cs-137 1.6132E-02	AU
												Total 1.6132E-02 MBq	
1023185AL284000000	4	0.2081	232.8628	<4.0000E-00	<3.8740E-06	<3.8740E-06	34	0.2081	100/100	Caustic/HA	NP	Cs-137 1.6058E-02	AU
												Total 1.6058E-02 MBq	
1023186AL284000000	4	0.2081	233.6001	<4.0000E-00	<3.8740E-06	<3.8740E-06	34	0.2081	100/100	Caustic/HA	NP	Cs-137 1.6132E-02	AU

NRC FORM 541A (3-85)

NRC FORM 641A
(3-85)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
002786982 JJK

CONTAINER AND WASTE DESCRIPTION

3. PAGE 5 OF 14 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						WASTE CLASSIFICATION A-Class A B-Class A C-Class A D-Class B E-Class C		
CONTAINER IDENTIFICATION NUMBER/GENERATION ID NUMBER(S)	CONTAINER DESCRIPTION (See Note 1)	VOLUME (m ³)	WASTE AND CONTAINER WEIGHT (kg)	SURFACE RADIATION LEVEL (μSv/hr) (mSv/hr)	SURFACE CONTAMINATION (dpm/100 cm ²)		PHYSICAL DESCRIPTION			CHEMICAL DESCRIPTION			RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. BARRIER SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WISBY % CHELATING AGENT IF > 0.1%			
												Total	1.8132E-02 MBq	
102310RALM000000 5	4	0.3081	281.5501	<0.0005-00	<0.0740E-00	<0.0740E-00	34	0.2081	100 100	Other/NA	NP	Cs-137	1.5684E-02	AU
												Total	1.5684E-02 MBq	
102310RALM000000 5	4	0.3081	281.5278	<0.0005-00	<0.0740E-00	<0.0740E-00	34	0.2081	100 100	Other/NA	NP	Cs-137	1.6354E-02	AU
												Total	1.6354E-02 MBq	
102310RALM000000 5	4	0.3081	282.0248	<0.0005-00	<0.0740E-00	<0.0740E-00	34	0.2081	100 100	Other/NA	NP	Cs-137	1.5910E-02	AU
												Total	1.5910E-02 MBq	
102310RALM000000 5	4	0.3081	280.4148	<0.0005-00	<0.0740E-00	<0.0740E-00	34	0.2081	100 100	Other/NA	NP	Cs-137	1.6280E-02	AU
												Total	1.6280E-02 MBq	

NRC FORM 641A (3-85)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**
CONTAINER AND WASTE DESCRIPTION

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
002785863 JJK

3. PAGE 6 OF 14 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					W. WASTE CLASSIFICATION AS-Class A B-Classes A C-Classes A Unstable B-Class B C-Class C		
A. CONTAINER IDENTIFICATION NUMBER (SEE NOTE 1)	B. CONTAINER DESCRIPTION (SEE NOTE 1)	F. VOLUME (L)	G. WASTE AND CONTAINER WEIGHT (KG)	D. SURFACE RADIATION LEVEL (SEE NOTE 2)	I. SURFACE CONTAMINATION (Bq/100 cm ²)		11. WASTE DESCRIPTION (SEE NOTE 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (L)	13. SOLIDIFICATION/STABILIZATION MEDIA (SEE NOTE 3)	14. CHEMICAL FORM OR RELATED AGENT		15. WEIGHT % CHELATING AGENT IF > 0.1%	16. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
					ALPHA	BETA-GAMMA							
1025176ALB4000000	4	0.2081	254.8973	<0.0000E+00	<0.0740E-08	<0.0740E-08	34	0.2081	100 100	ORGANIC	NP	Co-137 1.6208E-02	AU
												Total 1.6208E-02 MBq	
1025176ALB4000000	4	0.2081	258.4148	<0.0000E+00	<0.0740E-08	<0.0740E-08	34	0.2081	100 100	ORGANIC	NP	Co-137 1.6208E-02	AU
												Total 1.6208E-02 MBq	
1025176ALB4000000	4	0.2081	254.8973	<0.0000E+00	<0.0740E-08	<0.0740E-08	34	0.2081	100 100	ORGANIC	NP	Co-137 1.6208E-02	AU
												Total 1.6208E-02 MBq	
1025176ALB4000000	4	0.2081	252.6828	<0.0000E+00	<0.0740E-08	<0.0740E-08	34	0.2081	100 100	ORGANIC	NP	Co-137 1.6068E-02	AU
												Total 1.6068E-02 MBq	
1025176ALB4000000	4	0.2081	252.4240	<0.0000E+00	<0.0740E-08	<0.0740E-08	34	0.2081	100 100	ORGANIC	NP	Co-137 1.5910E-02	AU

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										5E WASTE CLASSIFICATION AS Class A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	
6. CONTAINER IDENTIFICATION NUMBER (GENERATOR ID NUMBER)	7. CONTAINER DESCRIPTION (See Note 1)	8. VOLUME (m ³)	9. WASTE AND CONTAINER WEIGHT (kg)	10. SURFACE CONTAMINATION (Bq/100 cm ²)		11. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION				
				10a. ALPHA	10b. BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SOLIDIFICATION/STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/CHELATING AGENT	15. WEIGHT % CHELATING AGENT F = 0.1%	15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
													Total	1.6810E-02 MBq	
1025176ALM4000005	4	0.201	231.8629	<1.000E+00	<1.8740E-08	<1.8740E-08	34	0.201	100	100	ORGANIC	NP	Cs-137	1.6058E-02	AU
													Total	1.6058E-02 MBq	
1025177ALM4000005	4	0.201	231.8601	<1.000E+00	<1.8740E-08	<1.8740E-08	34	0.201	100	100	ORGANIC	NP	Cs-137	1.6132E-02	AU
													Total	1.6132E-02 MBq	
1025178ALM4000005	4	0.201	231.8625	<1.000E+00	<1.8740E-08	<1.8740E-08	34	0.201	100	100	ORGANIC	NP	Cs-137	1.6058E-02	AU
													Total	1.6058E-02 MBq	
1025179ALM4000005	4	0.201	191.4788	<1.000E+00	<1.8740E-08	<1.8740E-08	34	0.201	100	100	ORGANIC	NP	Cs-137	1.0619E-02	AU
													Total	1.0619E-02 MBq	

NRC FORM 641A
(3-88)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
00278882 JJK

CONTAINER AND WASTE DESCRIPTION

3. PAGE 8 OF 14 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					WASTE CLASSIFICATION AS Class A B or AL-Class A License B-Class B C-Class C				
6. CONTAINER IDENTIFICATION NUMBER (GENERATOR ID NUMBER)	7. CONTAINER DESCRIPTION (See Note 1)	8. VOLUME (m3)	9. WASTE AND CONTAINER WEIGHT (kg)	10. SURFACE RADIATION LEVEL (μSv/hr) (mSv/hr)	11. PHYSICAL DESCRIPTION			12. WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER			13. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			
					11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m3)	13. SURFACE SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF = 0.1%					
1025184AL364000000	4	0.2081	232.8823	<0.0002E+00	<0.0748E-08	<0.0748E-08	34	0.2081	100 100	ORGANIC	NP	Cs-137	1.8058E-02	AU
												Total	1.8058E-02 MBq	
1025184AL364000000	4	0.2081	231.3381	<0.0002E+00	<0.0748E-08	<0.0748E-08	34	0.2081	100 100	ORGANIC	NP	Cs-137	1.5984E-02	AU
												Total	1.5984E-02 MBq	
1025184AL364000000	4	0.2081	244.8278	<0.0002E+00	<0.0748E-08	<0.0748E-08	34	0.2081	100 100	ORGANIC	NP	Cs-137	1.6206E-02	AU
												Total	1.6206E-02 MBq	
1025184AL364000000	4	0.2081	226.1148	<0.0002E+00	<0.0748E-08	<0.0748E-08	34	0.2081	100 100	ORGANIC	NP	Cs-137	1.6268E-02	AU
												Total	1.6268E-02 MBq	
1025184AL364000000	4	0.2081	233.8801	<0.0002E+00	<0.0748E-08	<0.0748E-08	34	0.2081	100 100	ORGANIC	NP	Cs-137	1.6132E-02	AU

NRC FORM 641A (3-88)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
902785882 JJK

3. PAGE 9 OF 14 PAGE(S)

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						16. WASTE CLASSIFICATION: A6-Class A Subclass A AUC-Class A Unstable B-Class B C-Class C			
7. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	8. CONTAINER DESCRIPTION (See Note 1)	9. VOLUME (m ³)	10. WASTE AND CONTAINER WEIGHT (kg)	11. SURFACE RADIATION LEVEL		12. SURFACE CONTAMINATION (MBq/100 cm ²)		13. PHYSICAL DESCRIPTION			14. CHEMICAL DESCRIPTION		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINERS TOTAL ACTIVITY AND RADIONUCLIDE PERCENT		
				11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (L)	13. SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF > 0.1%	ALPHA	BETA-GAMMA	11. SURFACE RADIATION LEVEL (μSv/hr) (mSv/hr)			12. SURFACE CONTAMINATION (MBq/100 cm ²)	13. WASTE DESCRIPTION (See Note 2)
													Total	1.8132E-02 MBq	
1023186AL264008000	4	0.2081	238.6091	<3.0000E-06	<3.8740E-06	<3.8740E-06	34	0.2081	100 100	Other/NA	NP	Cs-137	1.8132E-02	AU	
													Total	1.8132E-02 MBq	
1023186AL264008000	4	0.2081	231.3321	<3.0000E-06	<3.8740E-06	<3.8740E-06	34	0.2081	100 100	Other/NA	NP	Cs-137	1.5984E-02	AU	
													Total	1.5984E-02 MBq	
1023187AL264008000	4	0.2081	233.4143	<3.0000E-06	<3.8740E-06	<3.8740E-06	34	0.2081	100 100	Other/NA	NP	Cs-137	1.6280E-02	AU	
													Total	1.6280E-02 MBq	
1023188AL264008000	4	0.2081	232.8829	<3.0000E-06	<3.8740E-06	<3.8740E-06	34	0.2081	100 100	Other/NA	NP	Cs-137	1.6058E-02	AU	
													Total	1.6058E-02 MBq	

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER					WASTE CLASSIFICATION AS-CLASS A S-CLASS A U-CLASS A L-CLASS B C-CLASS C	
7. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	8. CONTAINER DESCRIPTION (See Note 1)	9. VOLUME (m ³)	10. WASTE AND CONTAINER WEIGHT (kg)	11. SURFACE RADIATION LEVEL (mSv/hr)		12. PHYSICAL DESCRIPTION			13. CHEMICAL DESCRIPTION			14. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
				15. ALPHA	16. BETA-GAMMA	17. WASTE DESCRIPTION (See Note 2)	18. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	19. FORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	20. CHEMICAL FORM/ CHELATING AGENT	21. WEIGHT % CHELATING AGENT F > 0.1%		
1023188AL264008000 5	4	0.2081	231.5321	<3.000E-00	<3.8740E-06	34	0.2081	100 100	Other/N/A	NP	Cs-137 1.5984E-02	AU
											Total 1.5984E-02 MBq	
1023188AL264008000 5	4	0.2081	231.3321	<3.000E-00	<3.8740E-06	34	0.2081	100 100	Other/N/A	NP	Cs-137 1.5984E-02	AU
											Total 1.5984E-02 MBq	
1023188AL264008000 5	4	0.2081	231.6001	<3.000E-00	<3.8740E-06	34	0.2081	100 100	Other/N/A	NP	Cs-137 1.6132E-02	AU
											Total 1.6132E-02 MBq	
1023188AL264008000 5	4	0.2081	230.4248	<3.000E-00	<3.8740E-06	34	0.2081	100 100	Other/N/A	NP	Cs-137 1.5910E-02	AU
											Total 1.5910E-02 MBq	
1023188AL264008000 5	4	0.2081	235.4148	<3.000E-00	<3.8740E-06	34	0.2081	100 100	Other/N/A	NP	Cs-137 1.6280E-02	AU

NRC FORM 641A
(3-88)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
00278882 JJK

CONTAINER AND WASTE DESCRIPTION

3. PAGE 11 OF 14 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						16. WASTE CLASSIFICATION AS-CLASS A UNCLASS A B-CLASS B C-CLASS C		
CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	CONTAINER DESCRIPTION (See Note 1)	VOLUME (m ³)	WASTE AND CONTAINER WEIGHT (kg)	SURFACE RADIATION LEVEL		PHYSICAL DESCRIPTION			CHEMICAL DESCRIPTION		BIOLOGICAL DESCRIPTION			
				α (μSv/hr)	β/γ (mSv/hr)	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (lit)	13. SOLIDIFY OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WISBY # CHELATING AGENT IF > 0.1%			INDIVIDUAL RADIONUCLIDES AND ACTIVITY (Bq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	
												Total	1.6200E-02 MBq	
10278882-000000	4	0.201	24.897	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	ORGANIC	WP	Cs-137	1.6200E-02	AU
												Total	1.6200E-02 MBq	
10278882-000000	4	0.201	20.426	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	ORGANIC	WP	Cs-137	1.5910E-02	AU
												Total	1.5910E-02 MBq	
10278882-000000	4	0.201	26.414	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	ORGANIC	WP	Cs-137	1.6200E-02	AU
												Total	1.6200E-02 MBq	
10278882-000000	4	0.201	24.897	<0.000E+00	<0.0740E-06	<0.0740E-06	34	0.201	100 100	ORGANIC	WP	Cs-137	1.6200E-02	AU
												Total	1.6200E-02 MBq	

NRC FORM 641A (3-88)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER

002786863 JJK

3. PAGE 12 OF 14 PAGE(S)

CONTAINER AND WASTE DESCRIPTION

DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							16. WASTE CLASSIFICATION AS Class A B or C Class A Low-level B-Class B C-Class C		
3. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	4. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL <input type="checkbox"/> (μR/hr) <input type="checkbox"/> (mR/hr)	10. SURFACE CONTAMINATION (dpm/100 cm ²)		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. ISOTHERM SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT		15. RADIOLOGICAL DESCRIPTION HEAVY % CHELATING AGENT IF > 0.1%	15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT
102110AL3400000 5	4	0.2081	212.758	<0.0002⁻⁰³	<0.0740E-03</sup>	<0.0740E-03</sup>	34	0.2081	100 100	Other/MA	NP	Cs-137 1.4841E-02 Total 1.4841E-02 MBq	AU
102110AL3400000 6	4	0.2081	237.6824	<0.0002⁻⁰³	<0.0740E-03</sup>	<0.0740E-03</sup>	34	0.2081	100 100	Other/MA	NP	Cs-137 1.6485E-02 Total 1.6485E-02 MBq	AU
102220AL3400000 5	4	0.2081	238.3214	<0.0002⁻⁰³	<0.0740E-03</sup>	<0.0740E-03</sup>	34	0.2081	100 100	Other/MA	NP	Cs-137 1.6334E-02 Total 1.6334E-02 MBq	AU
102220AL3400000 6	4	0.2081	238.3214	<0.0002⁻⁰³	<0.0740E-03</sup>	<0.0740E-03</sup>	34	0.2081	100 100	Other/MA	NP	Cs-137 1.6334E-02 Total 1.6334E-02 MBq	AU
102220AL3400000 8	4	0.2081	238.3214	<0.0002⁻⁰³	<0.0740E-03</sup>	<0.0740E-03</sup>	34	0.2081	100 100	Other/MA	NP	Cs-137 1.8068E-02 Total 1.8068E-02 MBq	AU

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
06278882 JJK

CONTAINER AND WASTE DESCRIPTION

3. PAGE 13 OF 14 PAGE(S)

DEPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER									16. WASTE CLASSIFICATION A6-Class A B6b A1-Class A U-Class B C-Class C	
1. CONTAINER IDENTIFICATION NUMBER (GENERATOR ID NUMBER)	2. CONTAINER DESCRIPTION (See Note 1)	3. VOLUME (m ³)	4. WASTE AND CONTAINER WEIGHT (kg)	5. SURFACE RADIATION LEVEL (μR/hr) (mR/hr)	6. SURFACE CONTAMINATION (MBq/100 cm ²)		7. WASTE DESCRIPTION (See Note 2)	8. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	9. SCREENING SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	10. CHEMICAL FORM, CHELATING AGENT	11. WEIGHT % CHELATING AGENT (F = 0.1%)	12. BIOLOGICAL DESCRIPTION		
				10. SURFACE CONTAMINATION (MBq/100 cm ²)		15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL, OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT								
				ALPHA	BETA-GAMMA									
												Total	1.6058E-02 MBq	
10000ALB400000	4	0.201	221.328	<0.000E-00	<1.0E-01	<1.0E-01	34	0.201	100 100	ORGANIC	NP	Co-137	1.6354E-02	AU
												Total	1.6354E-02 MBq	
10000ALB400000	4	0.201	221.318	<0.000E-00	<1.0E-01	<1.0E-01	34	0.201	100 100	ORGANIC	NP	Co-137	1.6358E-02	AU
												Total	1.6358E-02 MBq	
10000ALB400000	4	0.201	221.321	<0.000E-00	<1.0E-01	<1.0E-01	34	0.201	100 100	ORGANIC	NP	Co-137	1.5964E-02	AU
												Total	1.5964E-02 MBq	
10000ALB400000	4	0.201	221.321	<0.000E-00	<1.0E-01	<1.0E-01	34	0.201	100 100	ORGANIC	NP	Co-137	1.6064E-02	AU
												Total	1.6064E-02 MBq	

NRC FORM 541A
(3-83)

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER
00278882 JJK

3. PAGE 14 OF 14 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION							CONTAINER AND WASTE DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER		15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	16. WASTE CLASSIFICATION AS-CLASS A CLASS A CLASS B CLASS C
1. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	2. CONTAINER DESCRIPTION <small>(See Note 1)</small>	3. VOLUME <small>(mL)</small>	4. WASTE AND CONTAINER WEIGHT <small>(kg)</small>	5. SURFACE CONTAMINATION LEVEL <small>(dpm/100 cm²)</small>	6. SURFACE CONTAMINATION (dpm/100 cm²)		11. WASTE DESCRIPTION <small>(See Note 2)</small>	12. APPROXIMATE VOLUME(S) IN CONTAINER <small>(mL)</small>	13. SOLIDIFICATION STABILIZATION MEDIA <small>(See Note 3)</small>	14. CHEMICAL DESCRIPTION		15. MERCH % CHELATING AGENT F = 0.7%			
					ALPHA	BETA-GAMMA				CHEMICAL FORM/ CHELATING AGENT					
100000000000000000	4	0.2091	221.8829	<0.0000E+00	<0.0740E-06	<0.0740E-06	31	0.2091	100 100	ORGANICA		NP	Cs-137 1.6058E-02	AU	
													Total 1.6058E-02 MBq		
100000000000000000	4	0.2091	227.7634	<0.0000E+00	<0.0740E-06	<0.0740E-06	31	0.2091	100 100	ORGANICA		NP	Cs-137 1.5688E-02	AU	
													Total 1.5688E-02 MBq		
100000000000000000	4	0.2091	38.0089	<0.0000E+00	<0.0740E-06	<0.0740E-06	31	0.2091	100 100	ORGANICA		NP	Cs-137 1.2247E-03	AU	
													Total 1.2247E-03 MBq		

NRC FORM 541A (3-83)

APPROVED BY OMB: NO. 3150-0165
EXPIRES: 08/29/2007

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Private Service Branch (7-5 FRG, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0091, or by Internet e-mail to info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-10302, (215-9162), Office of Management and Budget, Washington, DC 20503. If a message used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

NRC FORM 542
(6-2004)

U.S. NUCLEAR REGULATORY COMMISSION

**UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST**

MANIFEST BOX AND REGIONAL COMPACT TABULATION

List all original "PROCESSED WASTE" generators (if any)
before "COLLECTED WASTE" generators.

1. WASTE COLLECTOR/PROCESSOR		2. MANIFEST NUMBER
NAME Diversified Scientific Services, Inc.	SHIPPER USE ONLY	00278682 JJK
IDENTIFICATION NUMBER TND002109142		
SHIPPING DATE 12/13/2007		3. PAGE 1 OF 1 PAGE(S)

4. GENERATOR IDENTIFICATION NUMBER	5. GENERATOR NAME PERMIT NUMBER (IF APPLICABLE) AND TELEPHONE NUMBER	6. GENERATOR FACILITY ADDRESS	7. PREPROCESSED WASTE (OR MATERIAL) VOLUME (m3)	8. MANIFEST NUMBER(S) UNDER WHICH WASTE (OR MATERIAL) RECEIVED AND DATE OF RECEIPT	9. WASTE CODE P = PROCESSED C = COLLECTED	10. ORIGINATING COMPACT REGION OR STATE	11. AS PROCESSED/COLLECTED TOTAL			
							A. SOURCE MATERIAL (m3)	B. SNM (g)	C. ACTIVITY (MBq)	D. VOLUME (m3)
AL384080005	TVA Power Service Co. Waste Storage Facility 208-314-7870	Hwy 133 North PO Box 1010 Muscle Shoals, AL 35662-1010	12.4880	00278682 JJK (12/13/2007)	C	AL	0.0000E+00	0.0000E+00	9.4121E-01	12.4877
TOTALS OF ALL PAGES (FORMS 542 AND 542A):							0.0000E+00	0.0000E+00	9.4121E-01	12.4877

NRC FORM 542 (6-2004)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL2640090005	2. Page 1 of 1	3. Emergency Response Phone 1-800-237-2322	4. Manifest Tracking Number 002785862 JJK	
5. Generator's Name and Mailing Address attn: Kirby Pitts, PSC 1E-01, TVA-Hazardous Waste Storage Facility, R.D. Box 1010, Hwy 133N near Wilson Dam, Muscle Shoals, AL 35662						
6. Generator's Phone: 256-314-7871						
6. Transporter 1 Company Name Hittman Transport Services				U.S. EPA ID Number TND987783065		
7. Transporter 2 Company Name				U.S. EPA ID Number		
8. Designated Facility Name and Site Address Diversified Scientific Sys. Inc. (DSSI), 657 Ballahur Road, Kingston, TN 37763				U.S. EPA ID Number TND982109142		
Facility's Phone: 965-376-8786						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit W/Ad.	13. Waste Codes
		No.	Type			
1. RD	Waste Resin Solution, 3, UN1866, PG III	60	CM	13689	K	D001
2.						
3.						
4.						
14. Special Handling Instructions and Additional Information See Attached Manifest Info Sheet 961-ERG 127 Note: Material in each package contains radioactivity at a concentration less than that specified in 49CFR 173.403, 10CFR 71.5, and IATA Regulation 10.3.1						
15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this assignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this assignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste identification statement identified in 40 CFR 262.27(a) (1) (I am a large quantity generator) or (2) (I am a small quantity generator) is true.						
Generator's/Owner's Printed/Typed Name P. Paul Bannauer				Signature <i>P. Paul Bannauer</i>		Month Day Year 12 13 07
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of embarkment: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name RICHARD STEPHENS				Signature <i>[Signature]</i>		Month Day Year 12 13 07
Transporter 2 Printed/Typed Name				Signature		Month Day Year
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Reaction <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
18b. Alternate Facility (or Generator) U.S. EPA ID Number						
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator) Month Day Year						
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. H129		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name Dawn Garrett				Signature <i>Dawn Garrett</i>		Month Day Year 12 23 07

ISOTOPIC SUMMARY

For Manifest # T074683

EnergySolutions, Bear Creek Processing Operations

Isotope	Total Activity			Total SNM	Total Source
	(MBq)	(mCi)	(Ci)	(gm)	(lb)
CO-60	2.9807E-02	8.0560E-04	8.0580E-07	.0000E+00	.0000E+00
CS-137	6.2543E-02	5.904E-03	5.6904E-06	.0000E+00	.0000E+00
Totals:	9.2352E-02	2.4960E-03	2.4960E-06	.0000E+00	.0000E+00



Diversified Scientific Services, Inc.
 657 Gallaher Road Kingston, TN 37763
 Phone: 865-376-0084
 Fax: 865-376-0087

Date Sent: 12/13/07

ACKNOWLEDGMENT OF RECEIPT OF RADIOACTIVE WASTE

This is to certify that the radioactive material described below was received at the Diversified Scientific Services, Inc. (DSSI) facility in Kingston, Tennessee. This certification satisfies the requirements of Title 10 Code of Federal Regulations Part 20, Appendix G and the Tennessee "State Regulations for Protection Against Radiation". This letter acknowledges receipt of the waste only. Waste analysis has not been completed. If any discrepancies exist after waste analysis is complete, you will be contacted by separate correspondence.

Manifest Number: 002785862JJK

Shipment Authorization #: DSSI-07-224

Generator Name: TVA Power Service Center
 Address: P.O. Box 1010, Hwy. 133N near Wilson
Dam
Muscle Shoals, AL 35662-1010

Attention: Paul Bernauer

Shipper: Hittman Transport Services

Date Received: 12/13/07

Waste Tracking Specialist Signature: *Dawn Garrett* Date: 12/13/07

Discrepancies (if any):

RECEIVED AT HW.
 DEC 18 2007
 MUSCLE SHOALS

Attachment 7

Waste Manifest Numbers TVA-April-2013

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
TVA-April-2013	005342927FLE	8 (MWSF)	4/25/2013	Perma-Fix of Florida Gainesville, FL	4/26/2013

NOTE: The container numbers routinely used on the NRC Form 540 is the number assigned to the container by the Mixed Waste Storage Facility. In this case, the container numbers listed on the NRC Form 540 are the Generator assigned container numbers. The numbers correspond as listed below:

Generator Container No.	MWSF Container No.
11-RW0091	1044499
98-RWD-094	1044498
12-075	1045162
12-076	1045163
12-077	1045164
12-078	1045165
12-079	1045166
12-080	1045186

The NRC Form 540 includes 6 containers of low-level radioactive waste that are not hazardous waste and were not received or stored at the MWSF. This material is identified on the NRC Form 540 as Non-Regulated Material and was generated by the TVA's Power Services Shop under NRC Materials License No. 41-08165-08. The container numbers for this material as listed on the NRC Form 540 are provided below:

12-081	12-082	12-088
12-089	12-090	12-115

APPROVED
EXP.

NO. 3150-0164
A2913

Estimated burden per response to comply with this information collection request
regarding burden estimate to the Records and FOIA Privacy Service Branch (1
505-0100, (301-815-6100, Office of Management and Budget, Washington, DC 20503.
information collection.

This uniform manifest is required by NRC to meet reporting requirements of Federal and
1. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to
means used to impose an information collection does not display a currently valid OMB control no.

Use for the safe transportation and disposal of low-level
radioactive materials, and to the Desk Officer, Office of Information
in NRC may not conduct or sponsor, and a person is not

and comments
submitting Agency,
to respond to, the

NRC FORM 540 (8-2010)				U.S. NUCLEAR REGULATORY COMMISSION				A. SHIPPER - NAME AND FACILITY				SHIPPER ID NUMBER		7. NRC FORM 540 AND 540A PAGE 1 OF 2 PAGES		B. MANIFEST NUMBER			
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHIPPING PAPER				TYA PSC Hazardous Waste Storage Facility 383 Matthews Drive Shuclo Shoals, AL 36881				UBRR PERMIT NUMBER NA		SHIPMENT NUMBER		<input type="checkbox"/> COLLECTOR <input type="checkbox"/> PROCESSOR <input checked="" type="checkbox"/> GENERATOR TYPE (Specify) NP		NRC FORM 541 AND 541A NRC FORM 542 AND 542A ADDITIONAL INFORMATION		(Use file number on all continuation pages)			
1. EMERGENCY TELEPHONE NUMBER 1-800-625-6000								CONTACT Stoney McCloskey		TELEPHONE NUMBER (Include Area Code) 238-314-7872		E. CORSIGNEE - Name and Facility Address Parma-Pix of Florida 1840 NW 57th Place Gainesville, FL 32653		TVA-April-2013					
ORGANIZATION Name (Assign # 0000)								6. CARRIER - Name and Address Hubbard Trucking 1977 Highway 223 Pvt Ltd, NY 48866		EPA ID NUMBER KWR00032841		SIGNATURE - Authorized generator/shipper/holding waste receipt <i>Tom McGarr</i>		CONTACT Tom McGarr TELEPHONE NUMBER (Include Area Code) 800-365-8000					
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				3. TOTAL NUMBER OF PACKAGES IDENTIFIED ON THIS MANIFEST 14				CONTACT Joe Hubbard		SHIPPING DATE 04/25/13		TELEPHONE NUMBER (Include Area Code) (888) 827-0913		DATE 4-26-13					
4. DOES EPA REGULATED WASTE REQUIRING A SHIPMENT ACCOMPANY THIS SHIPMENT? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO If "Yes," provide Manifest Number				EPA MANIFEST NUMBER 00042827.FLE				SIGNATURE - Authorized carrier/holding waste receipt <i>James Blakley</i>		DATE 4-25-13		AUTHORIZED SIGNATURE <i>J Green E. Taylor Baker</i>		TITLE <i>J Green E. Taylor Baker</i>					
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)				12. DOT LABEL "RADIOACTIVE"		13. TRANSPORT INDEX		14. PHYSICAL AND CHEMICAL FORM		15. INDIVIDUAL RADIONUCLIDES		16. TOTAL PACKAGE ACTIVITY (MBq)		17. LB/RCO CLASS		18. TOTAL WEIGHT OR VOLUME (Use appropriate units)		19. IDENTIFICATION NUMBER OF PACKAGE	
RQ, NA3077, Hazardous waste, solid, a.s.s., 3, PG III (Polychlorinated Biphenyls, Tetrachlorobiphenyls) ERG #171 Profile 00097				NA		NA		Solid Oxide		Ag-110m Co-60 Na-24		1.6485E-04		NA		105.84 LBS; 7.4 FT3		11-RWD-091	
RQ, UN1993, Waste flammable liquids, a.s.s., 3, PG II (Vinyl Toluene, Resin) ERG #128 Profile 0R20064				NA		NA		Liquid Oxide		Co-137		3.1043E-03		NA		483.65 LBS; 7.4 FT3		12-076	
RQ, UN1993, Waste flammable liquids, a.s.s., 3, PG II (Vinyl Toluene, Resin) ERG #128 Profile 0R20064				NA		NA		Liquid Oxide		Co-137		4.8546E-03		NA		507.16 LBS; 7.4 FT3		13-076	
RQ, UN1993, Waste flammable liquids, a.s.s., 3, PG II (Vinyl Toluene, Resin) ERG #128 Profile 0R20064				NA		NA		Liquid Oxide		Co-137		2.1867E-03		NA		458.64 LBS; 7.4 FT3		12-077	
RQ, UN1993, Waste flammable liquids, a.s.s., 3, PG II (Vinyl Toluene, Resin) ERG #128 Profile 0R20064				NA		NA		Liquid Oxide		Co-137		2.9833E-03		NA		284.66 LBS; 7.4 FT3		12-078	
RQ, UN1993, Waste flammable liquids, a.s.s., 3, PG II (Vinyl Toluene, Resin) ERG #128 Profile 0R20064				NA		NA		Liquid Oxide		Co-137		8.1770E-03		NA		376.44 LBS; 7.4 FT3		12-079	

FOR COMSIGNEE USE ONLY

sect# 610284

NRC FORM 640A
(8-2012)

UNIFORM LOW-LEVEL RADIOACTIVE
WASTE MANIFEST
SHIPMENT PAPER (CONTINUATION)

U.S. NUCLEAR REGULATORY COMMISSION

1. SHIPMENT NUMBER
(Do not number on preceding pages)
78-0484813
Page 2 of 2 Pages

II. U.S. DEPARTMENT OF ENERGY/NUCLEAR REGULATORY COMMISSION (Include name, telephone number, fax, and email address and Department/Division)	III. SHIPPER "ORIGINATOR"	IV. TRANSPORT MODE	V. PHYSICAL AND CHEMICAL FORM	VI. RADIOACTIVE ISOTOPE	VII. TOTAL RADIOACTIVE ACTIVITY (RAA)	VIII. LICENSE CLASS	IX. U.S. DEPARTMENT OF ENERGY/NUCLEAR REGULATORY COMMISSION OFFICE AND STATE	X. NUMBER OF CONTAINERS
NO. 171102, Waste Remediation System, s.s.c., 3, PO B (West Tennessee, Reactor) 688 P20 - Profile 8100000	NA	NA	Liquid Oxide	65-02	4.3000E-03	NA	688 P20, TN	13-000
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	1.8710E-03	NA	688 P20, TN	13-001
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	4.3010E-03	NA	688 P20, TN	13-002
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	1.8700E-03	NA	688 P20, TN	13-003
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	1.8700E-04	NA	688 P20, TN	13-004
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	1.8690E-03	NA	688 P20, TN	13-005
Non-Regulated Material Profile 8100000	NA	NA	Solid Oxide	65-02	1.8680E-03	NA	688 P20, TN	13-006
UNSAFE, Hazardous waste, solid, s.s.c., 3, PO B Shelby County, Tennessee Profile 8100000	NA	NA	Solid Oxide	65-02, 65-03, 65-04, 65-05, 65-06, 65-07, 65-08	1.8670E-04	NA	688 P20, TN	13-007

NUCLEAR FORM

APPROVED BY OMB: NO. 3150-0166
EXPIRES: 08/31/2013

Estimated burden per response to comply with this information collection request is 15 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State laws for the safe transportation and disposal of low-level radioactive waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollections@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NE08-10292, (3150-0166), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

U.S. NUCLEAR REGULATORY COMMISSION										1. MANIFEST TOTALS							2. MANIFEST NUMBER				
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										NUMBER OF PACKAGES/DISPOSAL CONTAINERS	NET WASTE VOLUME (m ³)	NET WASTE WEIGHT (kg)	SPECIAL NUCLEAR MATERIAL (grams)				Total	3. PAGE 1 OF 4 PAGE(S)			
CONTAINER AND WASTE DESCRIPTION										14	2.9330	1812.3103	U-233	U-235	Pu	NP	NP	NP	NP	4. SHIPPER NAME TVA PSC Hazardous Waste Storage Facility	
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste										ALL NUCLIDES	TRITIUM	C-14	Tc-99	I-129	SOURCE (kg)	NA	NA	NA	SHIPPER I.D. NUMBER NA		
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION	
5. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL (µSv/hr) (mSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm ²)		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION	15. RADIOLOGICAL DESCRIPTION	16. WASTE CLASSIFICATION									
					ALPHA	BETA-GAMMA															
11-RWD-091AL2640090005 1044499	4	0.2095	48.0082	<5.0000E-03	<3.8740E-08	<3.8740E-05	29-SOLID, 28	0.2095	100/100	Oxide/NP	NP	Ag-110m Co-60 Mn-54	9.2130E-06 1.5022E-04 5.5130E-06	1.6495E-04 MBq	AU						
12-075AL2640080003 1045162	4	0.2095	210.0360	<5.0000E-03	<3.8740E-08	<3.8740E-05	34,28	0.2095	100/100	Oxide/NP	NP	Cs-137	3.1043E-03	3.1043E-03 MBq	AU						
12-075AL2640090005 1045163	4	0.2095	230.6394	<5.0000E-03	<3.8740E-08	<3.8740E-05	34,28	0.2095	100/100	Oxide/NP	NP	Cs-137	4.8840E-03	4.8840E-03 MBq	AU						

Note 1: Container Description Codes. For containers/waste requiring disposal in approved structural overpacks the numerical code must be followed by "OP."

1. Wooden Box or Crate	9. Demineralizer
2. Metal Box	10. Gas Cylinder
3. Plastic Drum or Pail	11. Bulk Unpackaged Waste
4. Metal Drum or Pail	12. Unpackaged Components
5. Metal Tank or Liner	13. High Integrity Container
6. Concrete Tank or Liner	19. Other. Describe in item 6, or additional page
7. Polyethylene Tank or Liner	
8. Fiberglass Tank or Liner	

NOTE 2: Waste Descriptor Codes. (Choose up to three which predominate by volume.)

20. Charcoal	29. Demolition Rubble	38. Evaporator Bottoms/Slag/Concentrates
21. Incinerator Ash	30. Cation Ion-exchange Media	39. Compactible Trash
22. Soil	31. Anion Ion-exchange Media	40. Noncompactible Trash
23. Gas	32. Mixed Bed Ion-exchange Media	41. Animal Carcass
24. Oil	33. Contaminated Equipment	42. Biological Material (except animal carcass)
25. Aqueous Liquid	34. Organic Liquid (except oil)	43. Activated Material
26. Filter Media	35. Glassware or Labware	59. Other. Describe in item 11, or additional page
27. Mechanical Filter	36. Sealed Source/Device	
28. EPA or State Hazardous	37. Paint or Plating	

Notes: For solidification media that meet disposal site structural stability requirements, the numerical code must be followed by "S." For all solidification media, the vendor (manufacturer) and brand name must also be identified in item 15. Code 100-NONE REQUIRED.

Sorption		Solidification
60. Speed Dry	64. Safe T Sorb	65. Chemil 30
61. Celatom	65. Safe N Dn	69. Chemil 30
62. Floor Dry/Superline	66. Floro	70. Chemil 3030
63. rd Dn	67. Floro X	72. Occaperi HP200
	68. Solid A Sorb	73. Occaperi HP500
		74. Petrocel II
		75. Petrocel II
		76. Aquaset
		77. Aquaset II
		78. Aquaset III
		79. Aquaset IV
		80. Cement
		81. Concrete (encapsulation)
		82. Bitumen
		83. Vinyl Chloride
		84. Vinyl Ester Styrene
		85. Other. Describe in item 13, or additional page
		86. Other. Describe in item 13, or additional page
		87. Other. Describe in item 13, or additional page
		88. Other. Describe in item 13, or additional page
		89. Other. Describe in item 13, or additional page
		90. None Required

4/25/13

UNIFORM LOW LEVEL RADIOACTIVE WASTE MANIFEST

U.S. NUCLEAR REGULATORY COMMISSION

2. MANIFEST NUMBER

1000000000

APRIL 2013

1... April 2013

3. PAGE 2 OF 4 PAGE(S)

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

DISPOSAL CONTAINER DESCRIPTION					PHYSICAL DESCRIPTION			WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER			16. WASTE CLASSIFICATION AS-Class A Stable AU-Class A Unstable B-Class B C-Class C
5. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(4/3)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL (µSv/hr) (MSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm ²) ALPHA BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SORBENT STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	
12-0771AL2640090006 1045164	4	0.2085	208.0368	<5.0000E-03 <input checked="" type="checkbox"/> (µSv/hr) (MSv/hr)	<3.8740E-06 <3.8740E-06 <3.8740E-06	34.28	0.2086	100 100	Oxide/NP	NP Cs-137 2.1867E-03	AU
Total 2.1867E-03 MBq											
12-0781AL2640090006 1045165	4	0.2085	130.0223	<5.0000E-03	<3.8740E-06 <3.8740E-06 <3.8740E-06	34.28	0.2095	100 100	Oxide/NP	NP Cs-137 2.9933E-03	AU
Total 2.9933E-03 MBq											
12-0791AL2640090005 1045166	4	0.2085	168.0280	<5.0000E-03	<3.8740E-06 <3.8740E-06 <3.8740E-06	34.28	0.2095	100 100	Oxide/NP	NP Cs-137 8.1770E-03	AU
Total 8.1770E-03 MBq											
12-0801AL2640090005 1045186	4	0.2085	120.0265	<5.0000E-03	<3.8740E-06 <3.8740E-06 <3.8740E-06	34.28	0.2085	100 100	Oxide/NP	NP Cs-137 4.3660E-03	AU
Total 4.3660E-03 MBq											
12-0811AL2640090005 N.W.	4	0.2085	109.0187	<5.0000E-03	<3.8740E-06 <3.8740E-06 <3.8740E-06	56-SOLID	0.2085	100 100	Oxide/NP	NP Cs-137 5.9570E-03	AU

N.W. - NOT MIXED WASTE

UNIFORM LOW LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR

REGULATORY COMMISSION

2. MANIFEST

NUMBER

1 of 4 April-2013

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

3. PAGE 3 OF 4 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION				WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION AS-Class A SL-1 AL-Class A UL-1000 B-Class B C-Class C				
5. CONTAINER IDENTIFICATION NUMBER GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL			10. SURFACE CONTAMINATION (MBq/100 cm ²)			11. PHYSICAL DESCRIPTION			12. CHEMICAL DESCRIPTION		13. RADIOLOGICAL DESCRIPTION			
				μSv/hr	mSv/hr	ALPHA	BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SORBENT SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	CHEMICAL FORM/ CHELATING AGENT	WEIGHT % CHELATING AGENT IF > 0.1%	INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT					
				<input checked="" type="checkbox"/>												Total	5.9570E-03 MBq	
12-088/AL2640090005 NMW	4	0.2095	129.0221	<5.0000E-03	<3.8740E-06	<3.8740E-06	58-SOLID	0.2095	100 100	Oxide/NP	NP	Cs-137	4.5510E-03			Total	4.5510E-03 MBq	AL
12-088/AL2640090005 NMW	4	0.2095	120.0205	<5.0000E-03	<3.8740E-06	<3.8740E-06	58-SOLID	0.2095	100 100	Oxide/NP	NP	Cs-137	5.4390E-03			Total	5.4390E-03 MBq	AL
12-088/AL2640090005 NMW	4	0.2095	127.0217	<5.0000E-03	<3.8740E-06	<3.8740E-06	58-SOLID	0.2095	100 100	Oxide/NP	NP	Cs-137	9.8790E-04			Total	9.8790E-04 MBq	AL
12-090/AL2640090005 NMW	4	0.2095	115.0197	<5.0000E-03	<3.8740E-06	<3.8740E-06	58-SOLID	0.2095	100 100	Oxide/NP	NP	Cs-137	1.6428E-02			Total	1.6428E-02 MBq	AL

UNIFORM LOW LEVEL RADIOACTIVE
WASTE MANIFEST

U.S. NUCLEAR

REGULATORY COMMISSION

2. MANIF

NUMBER

April-2013

CONTAINER AND WASTE DESCRIPTION (CONTINUATION)

3. PAGE 4 OF 4 PAGE(S)

DISPOSAL CONTAINER DESCRIPTION					PHYSICAL DESCRIPTION			WASTE DESCRIPTION FOR EACH WASTE TYPE PER CONTAINER			16. WASTE CLASSIFICATION: AS-Class A SL- Class A U- Class A U- Class B C- Class B C- Class C		
5. CONTAINER IDENTIFICATION NUMBER/GENERATOR ID NUMBER(S)	6. CONTAINER DESCRIPTION (See Note 1)	7. VOLUME (m ³)	8. WASTE AND CONTAINER WEIGHT (kg)	9. SURFACE RADIATION LEVEL <input type="checkbox"/> (uSv/hr) <input checked="" type="checkbox"/> (mSv/hr)	10. SURFACE CONTAMINATION (MBq/100 cm ²) ALPHA BETA-GAMMA	11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER (m ³)	13. SORBENT/SOLIDIFICATION STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF > 0.1%		15. INDIVIDUAL RADIONUCLIDES AND ACTIVITY (MBq) AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	
12-113/AL384009005	4	0.2095	45.0077	<5.0000E-03	<3.6740E-08 <3.8740E-08	99-SOLID	0.2095	100 100	Other/NP	NP	Cs-137 1.0656E-03	AU	
NMW											Total	1.0656E-03 MBq	
28-RWD-094/AL284009005	4	0.2095	33.0081	<5.0000E-03	<3.6740E-08 <3.8740E-08	99-SOLID 28	0.2095	100 100	Other/NP	NP	Ag-110m 8.1770E-06 Co-60 5.1430E-05 Cs-134 1.0841E-04 Cs-137 8.3620E-05 F-18 7.4740E-06 Mn-54 2.1460E-05 Nb-97 9.2870E-06 Zn-65 3.8480E-05	AU	
1344478											Total	3.2834E-04 MBq	

Please print or type. (Form designed for use on 60-lb (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0036

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL 2040090005	2. Page 1 of 1	3. Emergency Response Phone 800-535-6053	4. Manifest Tracking Number 005342927 FLE				
5. Generator's Name and Mailing Address TVA PSC Hazardous Waste Storage Facility PO Box 1010 Muscle Shoals, AL 35662				Generator's Site Address (if different than mailing address) 283 Materials Drive Muscle Shoals, AL 35661					
Generator's Phone: 256-544-7873 Attn: Libby Pitts				U.S. EPA ID Number KYR000033241					
6. Transporter 1 Company Name Hubbard Trucking, Inc.				U.S. EPA ID Number					
7. Transporter 2 Company Name				U.S. EPA ID Number					
8. Designated Facility Name and Site Address Formis-Fix of Florida, Inc. 1840 NW 87th Pl Gainesville, FL 32603				U.S. EPA ID Number FLD090711071					
Facility's Phone: 800-365-6006									
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt/Vol	13. Waste Codes			
		No.	Type						
X ¹	RG, UN1693, Waste Recoverable liquids, n.o.s., 3, PGII (Vinyl Toluene, Resin) ERG #128 2, 3, 4, 5, 6, 7	8	DM	1088	K	DD01			
X ²	NA3077, Hazardous waste, solid, n.o.s., 8, PGII (Methylene Chloride, Methanol) ERG #171 Profile #RS6065 14	1	DM	83	K	FD02			
X ³	RG, NA3077, Hazardous waste, solid, n.o.s., 8, PGII (Polychlorinated Biphenyls, Tetrachlorobiphenyls) ERG #171 Profile #RS6067 out of service date: 10/6/2009	1	DM	48	K	DD39	DD40	FD02	
X ⁴	Non-Regulated Material 8, 9, 10, 11, 12, 13	8	DM	845	K				
14. Special Handling Instructions and Additional Information 9-1) 12-075, 12-076, 12-077, 12-078, 12-079, 12-080; 9-2) 99-RWD-004; 9-3) 11-RWD-001; 9-4) 12-081, 12-082, 12-088, 12-089, 12-090, 12-110 Emergency Contact #: In-state 1-800-535-6053 (Account #888000); 984-155-4 Exclusive Use Shipment PCB Manifest									
15. GENERATOR'S/OFFICER'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true. Contract #: 534716									
Generator's Officer's Printed/Typed Name Stacey S McCluskey						Signature 		Month Day Year 7 12 13	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry: _____ Date leaving U.S.: _____									
17. Transporter Acknowledgment of Receipt of Materials Transporter 1 Printed/Typed Name James Blakley Signature Month Day Year 7 12 13									
Transporter 2 Printed/Typed Name Signature Month Day Year									
18. Discrepancy 18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection Manifest Reference Number: _____									
18b. Alternate Facility (or Generator) Facility's Name: _____ U.S. EPA ID Number: _____ Facility's Phone: _____									
18c. Signature of Alternate Facility (or Generator) Signature: _____ Month Day Year: _____									
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. H01		2. H01		3. H01		4. H01			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18b Printed/Typed Name Tom McGee Signature Month Day Year 7 26 13									

**UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
ISOTOPES REPORT**

For Manifest # TVA-April-2013
U.S. NUCLEAR REGULATORY COMMISSION

<u>Isotope</u>	<u>Total Activity</u>	
	<u>(MBq)</u>	<u>(mCi)</u>
Ag-110m	1.7390E-05	4.7000E-07
Co-60	2.0165E-04	5.4500E-06
Cs-134	1.0841E-04	2.9300E-06
Cs-137	6.0223E-02	1.6277E-03
F-18	7.4740E-06	2.0200E-07
Mn-54	2.6973E-05	7.2900E-07
Nb-97	9.2870E-06	2.5100E-07
Zn-65	3.8480E-05	1.0400E-06



01-May-13

TVA PSC HAZARDOUS WASTE STORAGE FAC
LIBBY PITTS
ENVIRONMENTAL SAFETY
PO BOX 1010
MUSCLE SHOALS AL 35662

REF: MANIFEST NUMBER: 005342927FLE
SHIPMENT NUMBER: DSSI-942-O
SHIPMENT DATE: 04/28/2013

ON THE ABOVE DATE, YOUR WASTE MATERIAL WAS RECEIVED AT OUR FACILITY.
PERMA-FIX OF FLORIDA EPA ID NUMBER FLD080711071

Received at HWSF

MAY 06 2013

Muscle Shoals, AL



EPA ID No. : FLD 980 711 071
Florida Part B Permit No. : 17680-010-HC

Certificate No. 20150331-001



Certificate of Management

Perma-Fix of Florida, Inc. has

managed wastes received from: TVA PSC Hazardous Waste Storage Facility

EPA ID Number: AL2640090005

Manifest Number: 005342927FLE
3/31/2015

Shipment ID Number: DSSI-942-Q

Date Received: 4/28/2013

as identified in waste

**and hereby certifies such management as of
in accordance with applicable Federal and
State Regulations.**

(Refer to the attached table for container specific information)

Generator: TVA PSC Hazardous Waste Storage Facility

Address: P.O. Box

Muscle Shoals, AL 35662

ATTN: Libby Pitts

By: Randy Self

Title: Site Nuclear Manager

Signature:

A handwritten signature in black ink, appearing to read "Randy Self", written over a horizontal line.



**Certificate
of
Management**

DSSI-042-01	11-RWD-001	RS-0007	E-3326
DSSI-042-02	12-075	RS-0004	P14-05-000
DSSI-042-03	12-076	RS-0004	P14-05-000
DSSI-042-04	12-077	RS-0004	P14-05-000
DSSI-042-05	12-078	RS-0004	E-3245
DSSI-042-06	12-079	RS-0004	E-3245
DSSI-042-07	12-080	RS-0004	E-3245

DSSI-042-08	12-081	RS-0006	E-3195
DSSI-042-09	12-082	RS-0006	E-3195
DSSI-042-10	12-088	RS-0006	E-3179
DSSI-042-11	12-089	RS-0006	E-3195
DSSI-042-12	12-090	RS-0006	E-3195
DSSI-042-13	12-115	RS-0006	E-3158
DSSI-042-14	00-RWD-004	RS-0005	E-3177 E-3245

Attachment 8

Waste Manifest Numbers 2764-01

NRC Form 540 Manifest No.	EPA Form 8700-22 Manifest No.	Containers	Date Shipped	Recipient	Date Received
2764-01	002226727JJK	11	6/12/2013	Diversified Scientific Services, Inc. Kingston, TN	6/13/2013

Submitted herein per response to comply with this information collection request of collection. This collection is required by DOE to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of nuclear waste. Send comments regarding burden estimate to the Bureau of Transportation Statistics (PL 86-36), U.S. Bureau of Economic Analysis, Washington, DC 20540-6001, or to the Office of Management and Budget, Paperwork Reduction Project (0707-0188), Washington, DC 20503. Do not send comments to the Office of Management and Budget, Washington, DC 20503. Do not send comments to the Office of Management and Budget, Washington, DC 20503. Do not send comments to the Office of Management and Budget, Washington, DC 20503.

FORM 548 UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST SHEETING PAPER		SHIPPER - NAME AND FACILITY TVA Power Service Center CO Energy Solutions 325 Main St., PO Box 1010 Muskegon, MI 49862		SHIPMENT NUMBER T132132		FORM 548 USE ONLY FORM 548 USE ONLY FORM 548 USE ONLY ADDITIONAL INFORMATION		PAGE 1 OF 2 PAGES 5 PAGES 1 PAGE(S) 2 PAGE(S)		B. MANIFEST NUMBER (Give this number on all continuation pages) 2764-01					
1. EMERGENCY TELEPHONE NUMBER (Include Area Code) 888-824-4825		OVER PERMIT NUMBER T-132132-1-13		SHIPMENT NUMBER T132132		7. FORM 548 USE ONLY FORM 548 USE ONLY FORM 548 USE ONLY ADDITIONAL INFORMATION		PAGE 1 OF 2 PAGES 5 PAGES 1 PAGE(S) 2 PAGE(S)		B. MANIFEST NUMBER (Give this number on all continuation pages) 2764-01					
2. IS THIS AN "EXCLUSIVE USE" SHIPMENT? [] YES [X] NO		3. TOTAL NUMBER OF PACKAGES SHIPPED ON THIS MANIFEST 11		4. SHIPPER - Name and Address TVA Power Service Center 325 Main St., PO Box 1010 Muskegon, MI 49862		5. GENERATOR TYPE (If any) T-132132		6. CONTACT Steve McCloskey 612/13		CONTACT Fred DeWitt TELEPHONE NUMBER (Include Area Code) 888-824-4825					
4. DOES EPA REGULATE THIS WASTE? (YES/NO) [] YES [X] NO		EPA MANIFEST NUMBER 612/13		5. GENERATOR - Name and Address TVA Power Service Center 325 Main St., PO Box 1010 Muskegon, MI 49862		6. CONTACT Steve McCloskey 612/13		7. FORM 548 USE ONLY FORM 548 USE ONLY FORM 548 USE ONLY ADDITIONAL INFORMATION		8. DATE 6/13/13					
9. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Include proper shipping name, hazard class, UN ID number, and any additional information)		10. DOT LABEL "RADIOACTIVE"		11. TRANSPORT MODE		12. PHYSICAL AND CHEMICAL FORM		13. RADIOACTIVE MATERIAL		14. TOTAL PACKAGE ACTIVITY (Bq)		15. TOTAL WEIGHT OR VOLUME (See appropriate units)		16. RADIOACTIVE MATERIAL	
UNDETAILED, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7, RQ (D008) GAS; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM		NA		NA		SOLID METAL OXIDES		C-44; C5-144; CO-60; CO-60; CO-137; FS-61; MS-64; NS-65; NS-65; ZN-62		2.82E+08 (7.827E-02)		7.82 E ² 176.00 lb		13-000000 (131007 (10-00000))	
UNDETAILED, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7, RQ (D008) GAS; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM		NA		NA		SOLID METAL OXIDES		C-44; C5-144; CO-60; CO-60; CO-137; FS-61; MS-64; NS-65; NS-65; ZN-62		2.841E+08 (7.827E-02)		7.82 E ² 228.00 lb		13-000000 (131007 (10-00000))	
UNDETAILED, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7, RQ (D008) GAS; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM		NA		NA		SOLID METAL OXIDES		C-44; C5-144; CO-60; CO-60; CO-137; FS-61; MS-64; NS-65; NS-65; ZN-62		2.822E+08 (7.827E-02)		7.82 E ² 188.00 lb		13-000000 (131007 (10-00000))	
UNDETAILED, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7, RQ (D008) GAS; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM		NA		NA		SOLID METAL OXIDES		C-44; C5-144; CO-60; CO-60; CO-137; FS-61; MS-64; NS-65; NS-65; ZN-62		2.820E+08 (7.827E-02)		7.82 E ² 128.00 lb		13-000000 (131007 (10-00000))	
UNDETAILED, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7, RQ (D008) GAS; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM		NA		NA		SOLID METAL OXIDES		C-44; C5-144; CO-60; CO-60; CO-137; FS-61; MS-64; NS-65; NS-65; ZN-62		2.820E+08 (7.827E-02)		7.82 E ² 208.00 lb		13-000000 (131007 (10-00000))	
FOR COMMONS USE ONLY Tennessee "License For Railway" No. _____ South Carolina Transport Permit No. _____ US Ecology Generator No. _____ US Ecology Permit No. _____				17. SHIPPER SIGNATURE Steve S. McCloskey 6/12/13								18. DATE 6/12/13			

Received 6/12/13
B. Horvath

Estimated burden per response to comply with this information collection request: 45 minutes. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Good comments regarding burden estimates in the Records and Policy Advisory Services Branch (7-6 PAB), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0091, or by Internet e-mail to info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-10222, 9142-1100, Office of Management and Budget, Washington, DC 20503. If a response cannot be prepared on information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 648A										Energy Solutions / Bear Creek Operations		1. MANIFEST NUMBER (Use this number on all continuation pages) 2704-01	
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										PAGE 2 OF 2 PAGE(S)			
SHIPPING PAPER (CONTINUATION)													
11. U.S. DEPARTMENT OF TRANSPORTATION DESCRIPTION (Including proper shipping name, hazard class, UN ID number, and any additional information)	12. DOT LABEL "RADIOACTIVE"	13. TRANSPORT INDEX	14. PHYSICAL AND CHEMICAL FORM	15. INDIVIDUAL RADIONUCLIDES	16. TOTAL PACKAGE ACTIVITY MBq		17. LEASCO CLASS	18. TOTAL WEIGHT OR VOLUME (Use appropriate units)	19. IDENTIFICATION NUMBER OF PACKAGE				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	C-14 ; C6-144 ; CO-60 ; CO-60 ; CS-137 ; FE-55 ; MH-84 ; NB-95 ; NI-63 ; ZN-65	6.7861E+00	(1.2608E-01)	NA	7.50 m ³ 180.00 lb	13-08804-0 (121228 (1048888))				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	C-14 ; C6-144 ; CO-60 ; CO-60 ; CS-137 ; FE-55 ; MH-84 ; NB-95 ; NI-63 ; ZN-65	2.7363E+00	(7.4008E-02)	NA	7.50 m ³ 180.00 lb	13-08804-1 (121284 (1048888))				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	C-14 ; C6-144 ; CO-60 ; CO-60 ; CS-137 ; FE-55 ; MH-84 ; NB-95 ; NI-63 ; ZN-65	2.7363E+00	(7.3708E-02)	NA	7.50 m ³ 180.00 lb	13-08804-2 (121474 (1048887))				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	CS-144 ; CO-60 ; CO-60 ; CO-60 ; CR-51 ; CS-137 ; FE-55 ; FE-59 ; MH-84 ; NB-95 ; NI-63 ; ZN-65 ; ZN-65	6.8008E+01	(1.801E+00)	NA	7.50 m ³ 180.00 lb	13-08804-3 (07-0039 (1048887))				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	C-14 ; C6-144 ; CO-60 ; CO-60 ; CS-137 ; FE-55 ; MH-84 ; NB-95 ; NI-63 ; ZN-65	2.8220E+00	(7.6270E-02)	NA	7.50 m ³ 180.00 lb	13-08804-4 (121222 (1048888))				
UN2810, WASTE, RADIOACTIVE MATERIAL, EXCEPTED PACKAGE-LIMITED QUANTITY OF MATERIAL, 7; RQ (D008) DHW; EPA OR STATE HAZARDOUS; LEAD; PAINT OR PLATING 1 - METAL DRUM	NA	NA	SOLIDMETAL OXIDES	C-14 ; C6-144 ; CO-60 ; CO-60 ; CS-137 ; FE-55 ; MH-84 ; NB-95 ; NI-63 ; ZN-65	2.868E+00	(7.827E-02)	NA	7.50 m ³ 200.00 lb	13-08804-6 (121016 (1048883))				

Estimated burden per response to comply with this information collection request: 3.3 hours. This information is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low level waste. See comments regarding burden estimate to the Records and Privacy Services Branch (T-3 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to info.comments@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOS-1022, (2160-0160), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 641 Energy Solutions / Bear Creek Operations										1. MANIFEST TOTALS				2. MANIFEST NUMBER											
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION										NUMBER OF PACKAGES/ DISPOSAL CONTAINERS		NET WASTE VOLUME		NET WASTE WEIGHT		SPECIAL NUCLEAR MATERIAL (grams)				2764-01					
										U-235		U-238		Pu		TOTAL		3. PAGE 1 OF 6 PAGE(S)							
Additional Nuclear Regulatory Commission (NRC) Requirements for Control, Transfer and Disposal of Radioactive Waste										11		m ³		kg		952.48		NP		NP		NP		4. SHIPPER NAME	
										1246.00		62.6000		1246.00		62.6000		NP		NP		NP		TVA Power Service Center/CO Energy Solutions	
										ACTIVITY (MBq/mCi) (LD UNITS in uCi/l)				SOURCE				SHIPMENT ID NUMBER							
										ALL NUCLIDES				TRITIUM		C-14		Yr-90		I-129		T12323			
										MBq		7.7491E+01		NP		2.7702E+02		NP		NP					
										mCi		2.3648E+00		NP		7.4870E+01		NP		NP					
DISPOSAL CONTAINER DESCRIPTION										WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION					
1. CONTAINER IDENTIFICATION NUMBER GENERATOR NUMBER	2. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 2A) RUMALDISPOSITION (See Note 2A)	3. VOLUME m ³ g	4. WASTE AND CONTAINER WEIGHT kg lb	5. SURFACE RADIATION LEVEL mSv/hr mR/hr	6. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ ft ³	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM/ CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF > 0.1%	16. RADIOLOGICAL DESCRIPTION			16. WASTE CLASSIFICATION										
					ALPHA	BETA-GAMMA						INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT	MBq	mCi											
13-00030 (120693 (104889)) 2764	4 O-PROCESS TO BE DETERMINED E	0.2124 7.8000	77.11 170.00	< 5.000E-03 < 5.000E-01	< 1.870E-06 < 1.000E-02	60(LEAD) 60(DAW) 37 28	0.2124 7.8000	100	SOLID METAL OXIDES / NP	NP	RADIONUCLIDES	C-14 2.5211E-01 CE-144 1.2173E-02 CO-58 1.2643E-01 CO-90 4.1010E-01 CS-137 2.8540E-02 FE-55 1.8200E-00 MN-54 1.2536E-01 NI-63 3.6926E-02 NI-63 2.1887E-01 Zn-65 3.8250E-02	5.8330E-03 3.2800E-04 3.3800E-03 1.1100E-02 4.3800E-02 2.4700E-03 6.8000E-04 6.9100E-03 9.8000E-04	7.7491E-02	7.7491E-02	AU									
Package Total												2.8686E-00	7.7491E-02												
13-00030 (120693 (104889)) 2764	4 O-PROCESS TO BE DETERMINED E	0.2124 7.8000	102.26 226.00	< 5.000E-03 < 5.000E-01	< 1.870E-06 < 1.000E-02	60(LEAD) 60(DAW) 37 28	0.2124 7.8000	100	SOLID METAL OXIDES / NP	NP	RADIONUCLIDES	C-14 2.5688E-01 CE-144 1.2802E-02 CO-58 1.3172E-01 CO-90 4.2925E-01 CS-137 2.8800E-02 FE-55 1.7020E-00 MN-54 1.3625E-01 NI-63 3.8880E-02 NI-63 2.3048E-01 Zn-65 3.8110E-02	7.1800E-03 2.4900E-04 3.5600E-03 1.1800E-02 7.8700E-04 4.6000E-02 3.8800E-03 1.0900E-03 6.3210E-03 1.0300E-03	8.1304E-02	8.1304E-02	AU									
Package Total												3.0116E-00	8.1304E-02												

NOTE 1: Container Description Codes. For certain manifests received through approved transfer agreements, the numerical code must be followed by "G".

1. Metal Box or Can	9. Drum or other
2. Metal Box	10. Box
3. Plastic Drum or Can	11. Solid, Unpackaged Waste
4. Metal Drum or Can	12. Liquid or Slurry
5. Metal Tank or Drum	13. High Integrity Container
6. Concrete Tank or Drum	14. Other (Describe in Item 4, or additional page)
7. Polyethylene Tank or Drum	
8. Fiberglass Tank or Drum	

NOTE 1A: Process Requested

G. Compositing
H. Slurry Refining
I. Slurry Interchange
J. Salt & Inhibitor
K. Slurry
L. Green to Green
M. Mixed Salt
N. Tramp-Slag
O. Liquid for Incineration
P. Other (Describe in Item 4, or additional page)

NOTE 2: Waste Descriptor Codes (Choose up to three which pertain to the waste.)

20. Drywood	25. Corrosive Residue	30. Evaporator Bottoms/Sludge
21. Unmelted Ash	26. Carbon Residue/Sludge	31. Evaporator
22. Salt	27. Ashes from waste-to-energy plants	32. Compressed Tank
23. Oil	28. Mixed Bag from waste-to-energy plants	33. Recovery residue from
24. Oil	29. Compressed Residue	34. Activated Carbon
25. Activated Carbon	30. Dry gas/Liquid (except oil)	35. Sludge from water treatment
26. Filter Sludge	31. Sludge from water treatment	36. Sludge from water treatment
27. Mechanical Filter	32. Sludge from water treatment	37. Sludge from water treatment
28. EPA or State Residue	33. Sludge from water treatment	38. Sludge from water treatment
	34. Sludge from water treatment	39. Sludge from water treatment
	35. Sludge from water treatment	40. Sludge from water treatment
	36. Sludge from water treatment	41. Sludge from water treatment
	37. Sludge from water treatment	42. Sludge from water treatment
	38. Sludge from water treatment	43. Sludge from water treatment
	39. Sludge from water treatment	44. Sludge from water treatment
	40. Sludge from water treatment	45. Sludge from water treatment
	41. Sludge from water treatment	46. Sludge from water treatment
	42. Sludge from water treatment	47. Sludge from water treatment
	43. Sludge from water treatment	48. Sludge from water treatment
	44. Sludge from water treatment	49. Sludge from water treatment
	45. Sludge from water treatment	50. Sludge from water treatment
	46. Sludge from water treatment	51. Sludge from water treatment
	47. Sludge from water treatment	52. Sludge from water treatment
	48. Sludge from water treatment	53. Sludge from water treatment
	49. Sludge from water treatment	54. Sludge from water treatment
	50. Sludge from water treatment	55. Sludge from water treatment
	51. Sludge from water treatment	56. Sludge from water treatment
	52. Sludge from water treatment	57. Sludge from water treatment
	53. Sludge from water treatment	58. Sludge from water treatment
	54. Sludge from water treatment	59. Sludge from water treatment
	55. Sludge from water treatment	60. Sludge from water treatment
	56. Sludge from water treatment	61. Sludge from water treatment
	57. Sludge from water treatment	62. Sludge from water treatment
	58. Sludge from water treatment	63. Sludge from water treatment
	59. Sludge from water treatment	64. Sludge from water treatment
	60. Sludge from water treatment	65. Sludge from water treatment
	61. Sludge from water treatment	66. Sludge from water treatment
	62. Sludge from water treatment	67. Sludge from water treatment
	63. Sludge from water treatment	68. Sludge from water treatment
	64. Sludge from water treatment	69. Sludge from water treatment
	65. Sludge from water treatment	70. Sludge from water treatment
	66. Sludge from water treatment	71. Sludge from water treatment
	67. Sludge from water treatment	72. Sludge from water treatment
	68. Sludge from water treatment	73. Sludge from water treatment
	69. Sludge from water treatment	74. Sludge from water treatment
	70. Sludge from water treatment	75. Sludge from water treatment
	71. Sludge from water treatment	76. Sludge from water treatment
	72. Sludge from water treatment	77. Sludge from water treatment
	73. Sludge from water treatment	78. Sludge from water treatment
	74. Sludge from water treatment	79. Sludge from water treatment
	75. Sludge from water treatment	80. Sludge from water treatment
	76. Sludge from water treatment	81. Sludge from water treatment
	77. Sludge from water treatment	82. Sludge from water treatment
	78. Sludge from water treatment	83. Sludge from water treatment
	79. Sludge from water treatment	84. Sludge from water treatment
	80. Sludge from water treatment	85. Sludge from water treatment
	81. Sludge from water treatment	86. Sludge from water treatment
	82. Sludge from water treatment	87. Sludge from water treatment
	83. Sludge from water treatment	88. Sludge from water treatment
	84. Sludge from water treatment	89. Sludge from water treatment
	85. Sludge from water treatment	90. Sludge from water treatment
	86. Sludge from water treatment	91. Sludge from water treatment
	87. Sludge from water treatment	92. Sludge from water treatment
	88. Sludge from water treatment	93. Sludge from water treatment
	89. Sludge from water treatment	94. Sludge from water treatment
	90. Sludge from water treatment	95. Sludge from water treatment
	91. Sludge from water treatment	96. Sludge from water treatment
	92. Sludge from water treatment	97. Sludge from water treatment
	93. Sludge from water treatment	98. Sludge from water treatment
	94. Sludge from water treatment	99. Sludge from water treatment
	95. Sludge from water treatment	100. Sludge from water treatment

NOTE 3: Solidification and Stabilization Media Codes. (Choose up to three which pertain to the waste.)

B. Barite	1. Waste Management Facility
E. Evaporator	
R. Residual, W.	
PR. Process or Refuse	
O. Other	

NOTE 4: Shipping and Handling Instructions. (Choose up to three which pertain to the waste.)

20. Control	25. Vinyl Ester Epoxy
21. Concrete (encapsulation)	26. Other (Describe in Item 11, or additional page)
22. Slurry	27. None Required
23. Vinyl Chloride	

Form 641 (10-98)

* Indicates Cross Contamination

6/12/83

Estimate of burden per response to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-3 P33), U.S. Nuclear Regulatory Commission, Washington, DC 20455-0001, or by Internet e-mail to info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOS-10232, (3150-0180), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 541A	UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										2. MANIFEST NUMBER																							
										Energy Solutions / Bear Creek Operations		2764-01																						
												PAGE 2 OF 6 PAGE(S)																						
DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										16. WASTE CLASSIFICATION AU - Class A HA - Class A Unstable B - Class B C - Class C																			
1. CONTAINER IDENTIFICATION NUMBER OR GENERATOR NUMBER	4. CONTAINER DESCRIPTION (See Note 1) PROCESS REGULATORY SURVEILLANCE POSITION (See Note 2)	5. VOLUME m ³ g	6. WASTE AND CONTAINER WEIGHT kg lb	7. SURFACE RADIATION LEVEL mSv/hr mR/hr	10. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		11. WASTE DESCRIPTION (See Note 2)	12. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ l	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL DESCRIPTION CHEMICAL FORM/ CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF > 0.1%	15. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT																						
					ALPHA	BETA-GAMMA						RADIONUCLIDES																						
13-000037 (121036 (1046680)) 2764	4 O - PROCESS TO BE DETERMINED	0.2124	86.04	< 6.000E-03	< 1.870E-08	< 1.870E-06	69(LEAD) 88(DAW) 37 28	0.2124	100	SOLID METAL OXIDES / NP	NP	C-14	2.460E-01	6.720E-03	AU																			
		7.8000	180.00	< 6.000E-01	< 1.000E-02	< 1.000E-03						CE-144	1.198E-02	3.240E-04		CO-58	1.236E-01	3.340E-03	CO-60	4.033E-01	1.090E-02	CS-137	3.823E-02	7.890E-04	FE-55	1.5047E-00	4.310E-02	MN-54	1.2504E-01	3.420E-03	NB-95	3.834E-02	8.820E-04	NI-63
												Package Total	2.822E-00	7.821E-02																				
13-000038 (121037 (1046684)) 2764	4 O - PROCESS TO BE DETERMINED	0.2124	84.43	< 5.000E-03	< 1.870E-08	< 1.870E-06	69(LEAD) 88(DAW) 37 28	0.2124	100	SOLID METAL OXIDES / NP	NP	C-14	2.434E-01	6.680E-03	AU																			
		7.8000	180.00	< 5.000E-01	< 1.000E-02	< 1.000E-03						CE-144	1.172E-02	3.170E-04		CO-58	1.209E-01	3.370E-03	CO-60	3.869E-01	1.070E-02	CS-137	2.587E-02	6.840E-04	FE-55	1.5614E-00	4.288E-02	MN-54	1.236E-01	3.380E-03	NB-95	3.508E-02	8.820E-04	NI-63
												Package Total	2.784E-00	7.479E-02																				

Estimated burden per response to comply with this information collection request: 1.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and Privacy Services Branch (7-8 F82), U.S. Nuclear Regulatory Commission, Washington, DC 20454-0001, or by Internet e-mail to infocentre@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-1032, (3130-0188), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

FORM 541A	UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										Energy Solutions / Bear Creek Operations	1. MANIFEST NUMBER			
												2764-01			
												PAGE 3 OF 6 PAGE(S)			
DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER								16. WASTE CLASSIFICATION	
8. CONTAINER IDENTIFICATION NUMBER OR GENERATOR NUMBER	9. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 14) BURIAL/DEPOSITION (See Note 34)	10. VOLUME m ³ / ft ³	11. WASTE AND CONTAINER WEIGHT kg / lb	12. SURFACE RADIATION LEVEL mSv/hr / μR/hr	13. SURFACE CONTAMINATION MBq/100 cm ² / dpm/100 cm ²		14. WASTE DESCRIPTOR (See Note 2)	15. APPROXIMATE WASTE VOLUME(S) IN CONTAINER m ³ / ft ³	16. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	17. CHEMICAL FORM OR CHELATING AGENT	18. WEIGHT % CHELATING AGENT IF > 0.1%	19. INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			16. WASTE CLASSIFICATION AU - Class A Unstable B - Class B C - Class C
					ALPHA	BETA-GAMMA						RADIONUCLIDES			
13-000038 (121090 (1048841)) 2764	4 O - PROCESS TO BE DETERMINED E	0.2124 7.8000	80.72 200.00	< 8.0000E-03 < 8.0000E-01	< 1.8700E-06 < 1.0000E-02	< 1.8700E-06 < 1.0000E-03	69(LEAD) 89(DAW) 37 28	0.2124 7.8000	100	SOLID METAL OXIDES / NP	NP	C-14 2.8937E-01 7.8100E-03 CE-144 1.2806E-02 3.2800E-04 CO-60 1.2878E-01 3.4800E-03 CO-60 4.2180E-01 1.1400E-02 CS-137 2.7343E-02 7.3800E-04 FE-60 1.8866E-00 4.8000E-02 MN-54 1.2206E-01 3.5700E-03 NB-95 3.7740E-02 1.0200E-03 NI-63 2.3428E-01 8.0800E-03 ZN-66 1.7370E-02 1.0100E-03 Sub Total 2.8462E+00 7.8627E-02	AU		
13-000040 (121285 (1048848)) 2764	4 O - PROCESS TO BE DETERMINED E	0.2124 7.8000	81.56 180.00	< 8.0000E-03 < 8.0000E-01	< 1.8700E-06 < 1.0000E-02	< 1.8700E-03 < 1.0000E-03	69(LEAD) 89(DAW) 37 28	0.2124 7.8000	100	SOLID METAL OXIDES / NP	NP	C-14 5.1062E-01 1.3800E-02 CE-144 2.4588E-02 8.8400E-04 CO-60 2.9308E-01 8.9400E-03 CO-60 8.2810E-01 2.2300E-02 CS-137 5.3602E-02 1.4800E-03 FE-60 3.2709E-00 8.8400E-02 MN-54 2.8637E-01 7.8100E-03 NB-95 7.4370E-02 2.0100E-03 NI-63 4.4030E-01 1.1800E-02 ZN-66 7.3380E-02 1.9800E-03 Sub Total 5.7851E+00 1.5639E-01	AU		
												Package Total	6.7851E+00 1.5639E-01		

Estimated burden per response to comply with this information collection request: 3.5 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and FOIA Privacy Services Branch (T-9 F82), U.S. Nuclear Regulatory Commission, Washington, DC 20545-0001, or by Internet e-mail to: InfoCollect@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOR-10202, (3150 6166), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										2. MANIFEST NUMBER																									
FORM 541A										2764-G1																									
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)										3. PAGE 4 OF 6 PAGE(S)																									
DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER						16. WASTE CLASSIFICATION AU - Class A B - Class B C - Class C																							
1. CONTAINER IDENTIFICATION NUMBER / GENERATOR NUMBER	2. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 2A) OR BALANCE POSITION (See Note 2A)	3. VOLUME m ³ / gal	4. WASTE AND CONTAINER WEIGHT kg / lb	5. SURFACE RADIATION LEVEL mSv/hr / μR/hr	6. SURFACE CONTAMINATION MBq/100 cm ² / dpm/100 cm ²		7. PHYSICAL DESCRIPTION		8. CHEMICAL DESCRIPTION		9. RADIOLOGICAL DESCRIPTION																								
					ALPHA	BETA-GAMMA	11. WASTE DESCRIPTOR (See Note 2)	12. APPROXIMATE WASTE VOLUME (l) IN CONTAINER	13. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	14. CHEMICAL FORM CHELATING AGENT	15. WEIGHT % CHELATING AGENT IF > 5.1%		10. INDIVIDUAL RADIOISOTOPES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIOISOTOPE PERCENT																						
											RADIOISOTOPES	MBq	mCi																						
13-00001 (121356 (104880)) 2784	4 O - PROCESS TO BE DETERMINED E	0.2124	47.53	< 6.6000E-03	< 1.8700E-06	< 1.8700E-06	80(LEAD) 89(DAW) 37 26	0.2124	100	SOLID METAL OXIDES / NP	NP	C-14	2.6124E-01	6.8200E-03	AU																				
		7.5000	106.00	< 5.0000E-01	< 1.0000E-02	< 1.0000E-02						7.5000	CE-144	1.1618E-02		3.1400E-04	CO-60	1.1988E-01	3.2400E-03	CO-60	3.8220E-01	1.0000E-02	CS-137	2.6419E-02	6.8700E-04	FE-55	1.6488E-00	4.1800E-02	MN-54	1.2384E-01	3.3200E-03	NB-95	3.824E-02	9.5000E-04	NI-63
Package Total											2.738E-00	7.400E-02																							
13-00002 (121474 (104887)) 2784	4 O - PROCESS TO BE DETERMINED E	0.2124	46.39	< 5.0000E-03	< 1.8700E-06	< 1.8700E-06	80(LEAD) 89(DAW) 37 26	0.2124	100	SOLID METAL OXIDES / NP	NP	C-14	2.4050E-01	6.568E-03	AU																				
		7.5000	100.00	< 5.0000E-01	< 1.0000E-02	< 1.0000E-02						7.5000	CE-144	1.1981E-02		3.1300E-04	CO-60	1.1981E-01	3.2300E-03	CO-60	3.8880E-01	1.0000E-02	CS-137	2.6348E-02	6.8300E-04	FE-55	1.6428E-00	4.1700E-02	MN-54	1.2217E-01	3.310E-03	NB-95	3.8113E-02	9.4900E-04	NI-63
Package Total											2.728E-00	7.378E-02																							

Form 541A (10-96)

* - Indicates Cross Contamination

Estimated burden per response to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate to the Records and Policy/Privacy Services Branch (1-9 PSA), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by Internet e-mail to infocoll@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, AROB-1032, (3150-0128), OIG of Management and Budget, Washington, DC 20503. If a notice used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										Energy Solutions / Bear Creek Operations		2. MANIFEST NUMBER 2/64-01			
CONTAINER AND WASTE DESCRIPTION (CONTINUATION)										3. PAGE 5 OF 6 PAGE(S)					
DISPOSAL CONTAINER DESCRIPTION					WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER										
6. CONTAINER IDENTIFICATION NUMBER GENERATOR NUMBER	7. CONTAINER DESCRIPTION (See Note 1) PROCESS REQUESTED (See Note 1A) SURFACEDISPOSITION (See Note 2A)	8. VOLUME m ³ R ³	9. WASTE AND CONTAINER WEIGHT kg	10. SURFACE RADIATION LEVEL mSv/hr	11. SURFACE CONTAMINATION MBq/100 cm ² dpm/100 cm ²		12. WASTE DESCRIPTOR (See Note 2)	13. APPROXIMATE WASTE VOLUMES IN CONTAINER m ³ R ³	14. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	15. CHEMICAL FORM/ CHELATING AGENT	16. WEIGHT % CHELATING AGENT (If > 5.1%)	17. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT			18. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C
					ALPHA	BETA-GAMMA						RADIONUCLIDES	MBq	mCi	
13-00043 (07-0030 (1048062)) 2764	4 O - PROCESS TO BE DETERMINED E	0.2124 7.9000	88.18 180.00	< 8.000E-03 < 8.000E-01	< 1.870E-06 < 1.000E-02	< 1.870E-06 < 1.000E+03	58(LEAD) 59(DAW) 37 26	0.2124 7.9000	100	SOLID METAL OXIDES / NP	NP	CE-144 CO-67 CO-58 CO-60 CR-51 CS-137 FE-59 FE-60 FE-65 MN-54 NB-95 NI-63 Zn-65 Zr-95	1.4874E-02 6.3840E-03 7.3280E-01 3.7740E-04 6.7710E-01 6.8080E-03 4.3280E-01 3.0340E-01 3.8860E-00 9.0850E-02 1.7848E+00 1.2813E+00 8.8460E-02	4.0200E-04 1.7200E-04 1.9600E-02 1.8200E-01 1.8300E-02 1.3400E-04 1.7700E-00 6.8040E-03 1.0800E-01 2.4800E-03 4.8500E-02 2.4900E-02 2.1800E-03	AU
Sub Total												5.8095E-01	1.6161E-00		
Package Total												5.8095E-01	1.6161E-00		
13-00044 (121222 (1048065)) 2764	4 O - PROCESS TO BE DETERMINED E	0.2124 7.9000	88.04 180.00	< 8.000E-03 < 8.000E-01	< 1.870E-06 < 1.000E-02	< 1.870E-06 < 1.000E+03	58(LEAD) 59(DAW) 37 26	0.2124 7.9000	100	SOLID METAL OXIDES / NP	NP	C-14 CE-144 CO-58 CO-60 CS-137 FE-59 FE-60 MN-54 NB-95 NI-63 Zn-65	2.4884E-01 1.1988E-02 1.2308E-01 4.0320E-01 2.8213E-02 1.8847E-00 1.3884E-01 3.8334E-02 2.1487E-01 3.5708E-02	6.1200E-03 3.2400E-04 3.2400E-03 1.0800E-02 7.0800E-04 4.3100E-04 3.4200E-03 9.8200E-04 3.8100E-03 9.8400E-04	AU
Sub Total												2.8220E-00	7.8276E-02		
Package Total												2.8220E-00	7.8276E-02		

Estimated burden per response to comply with this information collection request: 3.3 hours. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding burden estimate in the Records and Communications Services Branch (7-1-92), U.S. Nuclear Regulatory Commission, Washington, DC 20548-0001, or by internet e-mail to: info@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-10202, (1-800-0148), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

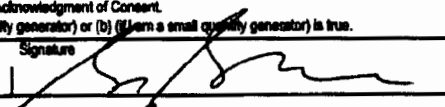
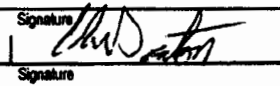
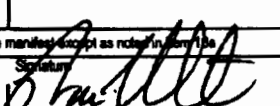
FORM #41A	Energy Solutions / Bear Creek Operations											2. MANIFEST NUMBER			
UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST CONTAINER AND WASTE DESCRIPTION (CONTINUATION)													2784-01		
													3. PAGE 6 OF 8 PAGE(S)		
DISPOSAL CONTAINER DESCRIPTION						WASTE DESCRIPTION FOR EACH WASTE TYPE IN CONTAINER							16. WASTE CLASSIFICATION AS - Class A Stable AU - Class A Unstable B - Class B C - Class C		
6. CONTAINER IDENTIFICATION NUMBER GENERATOR NUMBER	7. CONTAINER DESCRIPTION (See Note 1) PROGRAM REQUESTED (See Note 1A) SURFACE CONTAMINATION (See Note 2A)	8. VOLUME m ³ ft ³	9. WASTE AND CONTAINER WEIGHT lb kg	10. SURFACE RADIATION LEVEL mSv/hr (mrem/hr)	11. SURFACE CONTAMINATION (See Note 2) ALPHA BETA-GAMMA	12. WASTE DESCRIPTION (See Note 2)	13. APPROXIMATE WASTE VOLUME(S) BY CONTAINER	14. SOLIDIFICATION OR STABILIZATION MEDIA (See Note 3)	15. CHEMICAL FORM CHELATING AGENT	16. WEIGHT % CHELATING AGENT W = 0.1%	17. RADIOLOGICAL DESCRIPTION INDIVIDUAL RADIONUCLIDES AND ACTIVITY AND CONTAINER TOTAL; OR CONTAINER TOTAL ACTIVITY AND RADIONUCLIDE PERCENT				
												RADIONUCLIDES			
												Bq	MBq	mCi	
#. Inventory Generator															
13-000048 (121918 (1948903)) 2784	4 O - PROCESS TO BE DETERMINED 6	0.2124 7.6000	90.72 300.00	< 6.9000E-03 < 5.0000E-01	< 1.8700E-06 < 1.8000E-02	< 1.8700E-06 < 1.0600E-03	88(LEAD) 89(COAW) 97 28	0.2124 7.6000	100	SOLID METAL OXIDES / HP	NP	C-14 CE-144 CO-60 CO-60 CS-137 FE-56 Mn-54 NB-96 NI-63 Zn-65	2.9637E-01 1.2809E-02 1.2819E-01 4.2180E-01 2.7943E-02 1.8960E-06 1.3309E-01 3.7740E-02 2.2422E-01 3.7370E-03	7.0160E-03 3.3890E-04 3.4800E-03 1.1400E-02 7.3900E-04 4.9600E-02 3.8700E-03 1.0200E-02 6.0800E-03 1.6100E-03	AU
Sub Total												2.9462E+00	7.9837E-02		
Package Total												2.9462E+00	7.9837E-02		
Shipment Total												2.3364	811.94		
												82.5000	1798.00		

UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST										
MANIFEST INDEX AND REGIONAL COMPACT TABULATION										
List all original "PROCESSED WASTE" generators (if any) before "COLLECTED WASTE" generators										
NAME										
TVA Power Service Center/ Energy Solutions										
IDENTIFICATION NUMBER										
SHIPMENT DATE										
SHIPMENT NUMBER										
SHIPMENT USE ONLY										
WASTE COLLECTOR/PROCESSOR										
2. MANIFEST NUMBER										
2764-01										
PAGE 1 OF 1 PAGE(S)										
AS PROCESSED/COLLECTED TOTAL										
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	
GENERATION IDENTIFICATION NUMBER	GENERATION NAME, FACILITY AND TELEPHONE NUMBER	GENERATION FACILITY ADDRESS	PROCESSED WASTE VOLUME (OR MATERIAL)	MANIFEST NUMBER UNDER WHICH WASTE IS RECEIVED	WASTE CODE	WASTE COLLECTOR OR REGIONAL COMPACT ON STATE	A. SOURCE MATERIAL	B. SHIP	C. ACTIVITY	D. VOLUME
2764	TVA Power Service Center SPA # 15 000 000 2200 214-702	223 Northch Drive, PO Box 1610 Muscle Shoals, AL 35661	2.23M	0404	0404	AL	0404	0404	0404	2.23M
TOTALS OF ALL PAGES (FORMS 542 AND 542A)										
2764										

Reduced hazard per response in comply with this information otherwise request: 45 index. This uniform manifest is required by NRC to meet reporting requirements of Federal and State Agencies for the safe transportation and disposal of low-level waste. Send comments regarding forms to the Records and Compliance Branch (1-4 PLS, U.S. Nuclear Regulatory Commission, Washington, DC 20540-0001, or by Internet e-mail to rlh@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NRC-15202, (202-108-1520). Other arrangements and Budget, Washington, DC 20540. If a manifest is to be used to transport or otherwise collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor it, and a person is not required to respond to, the information requested.

Please print or type. (Form designed for use on site (12-pitch) typewriter.)

Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number AL2640090005	2. Page 1 of 1	3. Emergency Response Phone 865-220-1555	4. Manifest Tracking Number 002226727 JJK	
5. Generator's Name and Mailing Address TVA Power Services Center PO #1010, PSC I E-TH Muscle Shoals AL 35662		Generator's Site Address (if different than mailing address) 283 Materials Drive Muscle Shoals, AL 35661				
Generator's Phone: 256-314-7872		6. Transporter 1 Company Name HITMAN Transport Services		U.S. EPA ID Number TNR0000J4686		
7. Transporter 2 Company Name		U.S. EPA ID Number				
8. Designated Facility Name and Site Address Energy Solutions 1560 Bear Creek Road Oak Ridge TN 37830		U.S. EPA ID Number TND982157570				
Facility's Phone: 865-220-1526						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers		11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes
		No.	Type			
X	1. UN2910 Waste Radioactive Material, excepted package - limited quantity of material, 7, RQ (D008)	11	DM	1240	P	D008
	2.					
	3.					
	4.					
14. Special Handling Instructions and Additional Information ERG #161 * See attached NBC manifest for additional information. TVA RLS #2005997 PO #550903 Contract #69885						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(e) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offeror's Printed/Typed Name Stacey S. McCluskey		Signature 			Month Day Year 10 12 13	
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____						
17. Transporter Acknowledgment of Receipt of Materials						
Transporter 1 Printed/Typed Name Chris Denton		Signature 			Month Day Year 10 06 13	
Transporter 2 Printed/Typed Name		Signature			Month Day Year	
18. Discrepancy						
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number: _____						
18b. Alternate Facility (or Generator)					U.S. EPA ID Number	
Facility's Phone: _____						
18c. Signature of Alternate Facility (or Generator)					Month Day Year	
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1. H141		2.		3.		4.
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in item 18.					Month Day Year	
Printed/Typed Name Zon Mitchell		Signature 			10 13 13	

**UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST
ISOTOPIC SUMMARY**

For Manifest # 2764-01

Energy Solutions / Bear Creek Operations

Isotope	Total Activity			Total SNM	Total Source
	(MBq)	(mCi)	(Ci)	(gm)	(lb)
C-14	2.7702E+00	7.4870E-02	7.4870E-05	.0000E+00	.0000E+00
CE-144	1.4833E-01	4.0090E-03	4.0090E-06	.0000E+00	.0000E+00
CO-57	6.3640E-03	1.7200E-04	1.7200E-07	.0000E+00	.0000E+00
CO-58	2.1079E+00	5.6970E-02	5.6970E-05	.0000E+00	.0000E+00
CO-60	8.2658E+00	2.2340E-01	2.2340E-04	.0000E+00	.0000E+00
CR-51	6.7710E-01	1.8300E-02	1.8300E-05	.0000E+00	.0000E+00
CS-137	2.9870E-01	8.0730E-03	8.0730E-06	.0000E+00	.0000E+00
FE-55	6.1054E+01	1.6501E+00	1.6501E-03	.0000E+00	.0000E+00
FE-59	3.0340E-01	8.2000E-03	8.2000E-06	.0000E+00	.0000E+00
MN-54	5.4053E+00	1.4609E-01	1.4609E-04	.0000E+00	.0000E+00
NB-95	4.9488E-01	1.3375E-02	1.3375E-05	.0000E+00	.0000E+00
NI-63	4.1892E+00	1.1322E-01	1.1322E-04	.0000E+00	.0000E+00
ZN-65	1.6891E+00	4.5851E-02	4.5851E-05	.0000E+00	.0000E+00
ZR-95	8.0660E-02	2.1800E-03	2.1800E-06	.0000E+00	.0000E+00
Totals:	8.7491E+01	2.3648E+00	2.3648E-03	.0000E+00	.0000E+00



Thursday, June 13, 2013

Jim Colagross
TVA Environmental Research Center/AL
P.O. Box 1010 Research Reactor
Western Area Radiological Lab
Muscle Shoals, AL 35662-1010

Dear Mr. Colagross:

The attached signed shipping manifest copies are your notice of receipt of the radioactive waste materials shipment specified on the manifest number below.

Manifest Number
2764-2764-01

Date Received
06/13/2013

Thank you for your business.

Sincerely,

Shipping and Receiving

cc: Manifest File
Shipping and Receiving file



September 03, 2013

Mr. Jim Colagross
TVA Environmental Research Center/AL
Western Area Radiological Lab
P.O. Box 1010 Research Reactor
Muscle Shoals, AL 35662-1010

Dear Mr. Colagross:

Subject: Manifest Closure Letter

This letter certifies that EnergySolutions has completed processing and/or shipment of all the radioactive materials shipped to EnergySolutions on the following manifest(s) sent by TVA Environmental Research Center/AL.

Manifest Number	Close Date
2764-01	08/29/13

Should you have any questions concerning the processing of the waste, please refer to your monthly Customer Summary Report. Please contact your Account Executive if further data is required.

EnergySolutions Tracking Systems

To: Jim Colagross