Waste Acceptance Package for Drum Number 1 Generated at Niagara Falls Storage Site

Prepared for

Buffalo District USACE
1776 Niagara Street
Buffalo, NY 14207

May 2006

TETRA TECH, INC.

1634 Eastport Plaza Drive
Collinsville, IL 62234
(618)345-0669
(618)345-1281 (Fax)

Under Subcontract to SAIC
Dublin, Ohio

Table of Contents
NIAGARA FALLS STORAGE SITE (NFSS)
DRUM #1 CHARACTERIZATION

TETRA TECH, INC.

May 26, 2006
15892 Task 5

Ms. Victoria Guitierrez
Customer Service Representative
Waste Control Specialists (WCS)
9998 W. Highway 176
Andrews, Texas 79714

Subject: Updated Submittal of Waste Profile Sheets and Supporting Waste Characterization Data and Information to Obtain Acceptance of Solid Investigation-Derived Waste (IDW), Drum #1, Niagara Falls Storage Site (NFSS) Lewiston NY

Gentlemen:

Tetra Tech Inc is performing work under subcontract to SAIC on behalf of the US Army Corps of Engineers, Buffalo District. USACE Buffalo District wishes to dispose of Drum #1, which contains investigation-derived waste generated at the NFSS. Enclosed please find Waste Profile Sheets, analytical data, and supporting documentation. These are provided in hard copy and electronically on CD-ROM concerning the contents of Drum #1. We plan to arrange for shipment of Drum #1 to WCS during the summer of 2006.

During telephone discussions between Tetra Tech and WCS, your organization has offered to broker disposal of Drum #1 at the Energy Solutions site in Utah. We understand that the total cost of storage at WCS, transportation from WCS to Energy Solutions, testing, if necessary, and disposal of Drum #1 at Energy Solutions is estimated at $2000. We understand the actual price may be adjusted (up or down), depending only on surcharges which might be imposed by Energy Solutions, based only on the activity and dose rate of Drum #1. We understand that after receipt, this drum will be securely stored at WCS's Andrews TX facility until WCS arranges for shipment of this drum to Energy Solutions. We understand that WCS will be responsible for communication with Energy Solutions, and preparation of any necessary manifests, profiles, and other documentation concerning Drum #1. We understand WCS will arrange for transportation to and disposal of Drum #1 at Energy Solutions, with no further input necessary from Tetra Tech, SAIC, and/or the United States Army Corps of Engineers, and at no additional cost in excess of $2000, without our knowledge and approval. We understand that any testing or analysis performed by Waste Control Specialists and/or Energy Solutions will be performed at no additional cost to Tetra Tech, SAIC, and or the United States Army Corps of Engineers.

In accordance with direction provided by SAIC and the United States Army Corps of Engineers, Tetra Tech is requesting that WCS submit a copy of the waste profile sheets, analytical data, and supporting documentation to the Texas Board of Health. For your convenience, all this information is included in the enclosed CD-ROM. We request that Texas Board of Health review this information to ensure that storage of Drum #1 at WCS until it is shipped to Energy Solutions is acceptable, and in accordance with all applicable permits, regulations, and other requirements. We request that the Texas Board of Health provide written documentation concerning its approval for acceptance, storage, and transportation of the waste profiled in the attachment.

1634 Eastport Plaza Drive; Collinsville, IL 62234
Tel: (618) 345-0669 Fax: (618) 345-1281
www.tetratech.com

Upon completion of disposal of Drum #1, Tetra Tech is requesting written certification from WCS and Energy Solutions concerning the date and manner of disposal. Please plan to furnish these certifications to Tetra Tech for our transmittal to the United States Army Corps of Engineers.

Please contact the undersigned at the telephone number shown if you require any additional information. We look forward to your response concerning acceptance of this drum and confirmation of pricing.

Very truly yours

Robert Bessent
Senior Environmental Engineer

Thomas Lachajczyk
Project Manager

CC: Ms. Ann Dean, WCS
Dr. Judith Leithner, USACE Buffalo District
Ms. Michelle Rhodes, USACE Buffalo District
Ms. Debra Engelgau, SAIC

DEPARTMENT OF THE ARMY
BUFFALO DISTRICT, U.S. ARMY CORPS OF ENGINEERS
1776 NIAGARA STREET
BUFFALO, NEW YORK 14207-3199

REPLY TO
ATTENTION OF

May 23, 2006

Environmental Engineering

SUBJECT: Disposal of Drum Containing Natural Uranium

Ms. Anne Dean
Broad Spectrum Manager
Waste Control Specialists, LLC
P.O. Box 1129
Andrews, Texas 79714

Dear Ms. Dean:

According to Title I of the Atomic Energy Act of 1954 (AEA 1954), special nuclear material (SNM) is defined as "(1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission, pursuant to the provisions of Section 51, determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material."

Prior to accepting a solid investigative-derived waste (IDW) drum from the Formerly Utilized Sites Remedial Action Program (FUSRAP) Niagara Falls Storage Site (NFSS) in Lewiston, NY for brokering to Envirocare, Waste Control Specialists (WCS) requested that the generator, U.S. Army Corps of Engineers Buffalo District (USACE Buffalo), provide a memorandum for record (MFR) stating that the solid IDW drum contents are not SNM as defined by AEA 1954.

The solid IDW drum of interest, labeled DRUM #1 in the waste profile sheet submitted to WCS, contains a deteriorated drum found on the ground surface during site characterization activities at the FUSRAP NFSS that exhibited elevated levels of natural uranium. The FUSRAP NFSS was used for the storage of various radioactive wastes and residues resulting from the processing of uranium ores during development of the atomic bomb. Many of these materials were delivered to the site in drums, and were subsequently unloaded and placed in various areas of the site for storage.

DRUM #1 was analyzed using Alpha Spectroscopy, Gamma Spectroscopy, and Kinetic Phosphorescence Analyzer (KPA) by General Engineering Laboratories, Inc. (GEL), an USACE certified laboratory. These results are attached and confirm that the uranium in this drum is natural and not enriched uranium. Natural uranium contains 0.72% U-235 by weight. Uranium containing a higher concentration of U-235 is enriched uranium (and defined to be *special nuclear material* in 10 CFR 20.1003), while uranium with a lower concentration is depleted uranium. The percent U-235 by mass according to the sample alpha spectroscopic results for DRUM #1 is 0.82%. Due to the large uncertainties (about 30% of the reported values) associated with the measured concentrations; the calculated enrichment of 0.82% is well within the range of values associated with natural uranium.

However, the most accurate means of determining if a sample of uranium is natural, enriched or depleted is to compare the activity concentrations of the two most prevalent isotopes, i.e., U-238 and U-234. These two isotopes are in secular equilibrium in natural uranium, that is, they have the same activity concentrations. When

uranium is enriched, the concentration of U-234 increases by a greater amount than does U-235 as it is a lighter isotope. A sample of low enriched uranium can be easily identified based on a higher ratio of U-234 to U-238 than present in natural uranium (which has a ratio of 1). Also, since these two isotopes are much more prevalent than U-235, they can be determined more accurately using standard analytical equipment.

The ratio of U-234 to U-238 in the alpha spectroscopy results performed by GEL is 0.994. There is considerable uncertainty associated with the isotopic-specific results, which is likely due to the small sample aliquot used in the analysis and relatively short counting of 8 hours used for these types of analyses. The error could be reduced by using a longer count time, but this was not necessary for this sample, which clearly indicates that the drum contains natural uranium.

The alpha spectroscopy results are considered to be more accurate than the gamma spectroscopy results due to interferences with various gamma rays emitted by other radionuclides that are present in the sample. Since U-234 decays by emission of an alpha particle (with minimal gamma radiation) and has no associated short-lived decay products that decay by beta-particle emission (and gamma rays), no results are provided for U-234 in the gamma spectroscopy analysis. Thus it is not possible to calculate the U-234 to U-238 ratio as was done for the alpha spectroscopy results. While the U-235 to U-238 ratio is higher in the gamma spectroscopy results than the alpha spectroscopy results, these also indicate that the material is likely natural uranium when the reported measurement uncertainties are taken into consideration.

Additionally, plutonium-238 (Pu-238) and Pu-239/240 were not detected using alpha spectroscopy according to the attached DRUM #1 sample results.

Since the sample results are clearly consistent with natural uranium, it is concluded that this drum contains natural uranium and not special nuclear material.

If there are any questions with respect to this memorandum, please feel free to contact me at (716) 879-4234.

Sincerely,

Judith S. Leithner

Dr. Judith Leithner
Niagara Falls Storage Site Project Manager
U.S. Army Corps of Engineers Buffalo District

Enc. (4)

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Certificate of Analysis

Company : Maxim Technologies, INC.
Address : 1908 Innerbelt Bus. Center Dr.
St. Louis, Missouri 63114--5700

Report Date: December 19, 2001

Contact: Paul Smith
Project: Niagara Falls Storage Site

Client Sample ID:	UNKNOWN1-2451	Project:	MAXT00199
Sample ID:	52355001	Client ID:	MAXT001
Matrix:	Solid		
Collect Date:	19-NOV-01		
Receive Date:	20-NOV-01		
Collector:	Client		
Moisture:	16%		

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec												
Alphaspec Th, Solid												
Thorium-228		0.380	+/-0.202	0.0712	1.00	pCi/g		JLE	12/09/01	1307	123183	1
Thorium-230		12.8	+/-2.57	0.204	1.00	pCi/g						
Thorium-232		0.186	+/-0.136	0.0697	1.00	pCi/g						
Alphaspec U, Solid												
Uranium-233/234		7960	+/-2160	20.9	1.00	pCi/g		JLE	12/12/01	0917	123184	2
Uranium-235/236		425	+/-132	13.7	1.00	pCi/g						
Uranium-238		8010	+/-2180	7.76	1.00	pCi/g						
Rad Gamma Spec												
Gammaspec, Gamma, Solid (Standard List)												
Actinium-227	U	0.09	+/-1.48	1.69	0.500	pCi/g		CRB	12/06/01	0209	121942	3
Americium-241		9.88	+/-1.30	0.488	0.100	pCi/g						
Cesium-137	U	-0.0426	+/-0.0878	0.147	0.100	pCi/g						
Cobalt-60	U	-0.0188	+/-0.0395	0.0649	0.100	pCi/g						
Potassium-40		2.91	+/-0.784	0.572		pCi/g						
Protactinium-231	U	3.71	+/-3.63	6.10	1.00	pCi/g						
Radium-226		2.32	+/-0.383	0.260	0.100	pCi/g						
Radium-228	U	0.161	+/-0.219	0.378	0.200	pCi/g						
Thorium-228	U	0.207	+/-0.138	0.232	0.100	pCi/g						
Uranium-235		230	+/-44.6	2.40	0.500	pCi/g						
Uranium-238		3380	+/-633	4.59	1.50	pCi/g						
Rad Total U												
KPA, Total U, Solid												
Total Uranium		22000	+/-865	4.43	1.00	ug/g		ATB1	12/14/01	1428	122462	4

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
SW846 3550B	3550B BNA Soil Prep-8270C Analysis Fed	HDB	11/28/01	1104	122088
SW846 3550B	3550B Pesticide/PCB Prep Soil	RDH	11/29/01	1539	122418
SW846 3050B	846 3050BS PREP	AJM	11/30/01	1245	122344
Ash Soil Prep	Ash Soil Prep RAD A-021,A-021B,A-026	KMI	11/27/01	1625	122446
Dry Soil Prep	Dry Soil Prep RAD A-021,A-021B,A-026	KMI	11/26/01	0919	121894
SW846 7471A	EPA 7471A Mercury Prep Soil	ARD	12/06/01	1130	122822
SW846 3050B	ICP-MS 3050BS PREP	AJM	12/07/01	1530	124727

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Certificate of Analysis

Company : Maxim Technologies, INC.
Address : 1908 Innerbelt Bus. Center Dr.
St. Louis, Missouri 63114-5700

Report Date: December 19, 2001

Contact: Paul Smith
Project: Niagara Falls Storage Site

Client Sample ID: UNKNOWN1-2451
Sample ID: 52355001

Project: MAXT00199
Client ID: MAXT001

Parameter	Qualifier	Result	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
SW846 3050B	ICP-MS 3050B5 PREP			BCD1		11/29/01	1045	122565		

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL 300	
2	DOE EML HASL 300	
3	DOE EML HASL 300	
4	ASTM D 5174	

Notes:
The Qualifiers in this report are defined as follows :

** Indicates the analyte is a surrogate compound.
< Actual result is less than amount reported
> Actual result is greater than amount reported
B Analyte found in the sample as well as the associated blank.
E Concentration exceeds instrument calibration range
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
U Indicates the compound was analyzed for but not detected above the detection limit
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier - must be fully described in case narrative and data summary package

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.
This data report has been prepared and reviewed in accordance with General Engineering Laboratories, Inc. standard operating procedures. Please direct any questions to your Project Manager, Gina Anderson.

Reviewed by

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407
(843) 556-8171 • Fax (843) 766-1178

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Maxim Technologies, INC
Address : 1908 Innerbelt Bus. Center Dr.
St. Louis, Missouri 63114-5700

Report Date: August 21, 2003

Contact: Paul Smith
Project: Niagara Falls Storage Site

Client Sample ID: RS-DRUM1-3368
Sample ID: 83797020
Matrix: Soil
Collect Date: 08-JUL-03 14:00
Receive Date: 10-JUL-03
Collector: Client

Project: MAXT00199
Client ID: MAXT001

Parameter	Qualifier	Result		DL	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Alpha Spec Analysis												
Alphaspec Pu, Solid												
Plutonium-238	U	-0.128	+/-0.133	0.556	1.00	pCi/g		AS1	08/12/03	1319	267658	1
Plutonium-239/240	U	0.0102	+/-0.0786	0.252	1.00	pCi/g						
Rad Gas Flow Proportional Counting												
GFPC, Sr90, solid												
Strontium-90	U	0.169	+/-0.266	0.601	2.00	pCi/g		AB2	08/07/03	1551	266729	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Ash Soil Prep	Ash Soil Prep, GL-RAD-A-021B	MJM1	07/11/03	1346	262586
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	MJM1	07/11/03	1340	262585

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	DOE EML HASL-300, Pu-11-RC Modified	
2	EPA 905.0 Modified	

Notes:
The Qualifiers in this report are defined as follows :

< Result is less than amount reported.
> Result is greater than amount reported.
B Target analyte was detected in the sample as well as the associated blank.
BD Flag for results below the MDC or a flag for low tracer recovery.
E Concentration of the target analyte exceeds the instrument calibration range.
H Analytical holding time exceeded.
J Indicates an estimated value. The result was greater than the detection limit, but less than the reporting limit.
P The response between the confirmation column and the primary column is >40%D.
U Indicates the target analyte was analyzed for but not detected above the detection limit.
UI Uncertain identification for gamma spectroscopy.
X Lab-specific qualifier-please see case narrative, data summary package or contact your project manager for details.
Y QC Samples were not spiked with this compound.
h Sample preparation or preservation holding time exceeded.

The above sample is reported on a dry weight basis except where prohibited by the analytical procedure.

GENERAL ENGINEERING LABORATORIES, LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : Maxim Technologies, INC.
Address : 1908 Innerbelt Bus. Center Dr.
St. Louis, Missouri 63114--5709

Report Date: August 21, 2003

Contact: Paul Smith

Project: Niagara Falls Storage Site

Client Sample ID: RS-DRUM1-3368
Sample ID: 83797020

Project: MAXT00199
Client ID: MAXT001

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	Method

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories, LLC standard operating procedures. Please direct any questions to your Project Manager, Edith Kent.

Reviewed by

Facility Address For Manifest:	SAMPLE – FedEx/UPS Address:	WCS	Business Mailing Address:	Site Contracts:
9998 W. Hwy. 176 Andrews, TX 79714	9998 W. Hwy. 176 Eunice, NM 88231		PO Box 1129 Andrews, TX 79714	Ph#: (888) 789-2783/ (505) 394-4300 Fax#: (505) 394-3427

Sales Representative

Waste Profile Sheet

Exhibit "B"

TBD
Profile Number

WCS EPA ID # TXD988088464 WCS State ID/RCRA # HW-50358

Attachments: ☐ Chain of Custody ☐ MSDS ☒ Attachment for Radioactive Material (includes NORM/Exempt) ☒ Other ☒ RCRA Analytical ☒ Radiological Analytical Representative Sample: ☐ Yes ☒ No

List any unacceptable treatment methods:	**PO Required for Invoicing:** ☒ Yes ☐ No
SECTION 1 **Generator Name:** Buffalo District – US Army Corps of Engineers	☐ Check if billing information is the same address. **Billing Company:** Tetra Tech, Inc.
Physical Address: 1776 Niagara Street	**Mail Address:** 1634 Eastport Plaza Drive
City, State, Zip: Buffalo, NY 14207	**City, State, Zip:** Collinsville, IL 62234
Technical Contact: Mr. Dennis Rimer, Site Superintendent **e-mail:** Dennis.Rimer@usace.army.mil	**Billing Contact:** Bob Bessent **e-mail:** Robert.Bessent@tetratech.com
Phone #: 716-879-4444 **Fax #:** 716-879-4355	**Phone #:** 618-345-0669 **Fax #:** 618-345-1281
Manifest Return Address: Tetra Tech, Inc.; 1634 Eastport Plaza Drive; Collinsville, IL 62234; ATTN: Mr. Bob Bessent	

SECTION 2 Generator Regulatory Status

EPA ID#: NY7890108973 **State ID#:** D0036

☒ Industrial ☐ Municipal ☐ PST Waste ☐ Universal Waste ☐ SQG ☐ CESQG
☐ Oil & Gas Exempt ☐ Oil & Gas Non-Exempt

Section 3 General Description and Regulatory Information

Waste Name: Solid Waste in Drum #1

Process Generating Waste: This drum was found on-site during Remedial Investigation Activities at the Niagara Falls Storage Site, Lewiston, NY (Environmental Investigation)

Is this a US EPA hazardous waste? ☐ Yes ☒ No **If yes, list all codes including all LDR subcategories – e.g. D003-cyanides (attach additional pages if necessary).**

State Waste Code #: OUTS3191

	N/A	Yes	No		N/A	Yes	No
				RCRA Exempt Waste (List Reference ___)		☐	☒
TSCA regulated for PCB's Concentration?		☐	☒	Regulated Subpart CC Waste (VOC>500ppm)		☐	☒
Asbestos Regulated Material (If yes, is material friable?)		☐	☒	Does waste contain sorbents (If yes, are sorbents biodegradeable?)		☐	☒
Regulated Ozone Depleting Substance		☐	☒	Waste soil subject to LDR alternate treatment standards		☐	☒
Benzene NESHP Regulated		☐	☒	Waste debris subject to LDR alternate treatment standards		☐	☒
Does non-debris waste requiring treatment contain <85ppm Volatile Organic Compounds? (If yes, analysis may be required)	☒	☐	☐	Does debris contain <85ppm Volatile Organic Compounds?	☒	☐	☐
Does material contain any regulated UHC's If yes, list:		☐	☒				

SECTION 4 Waste Composition ☒ **Percentage by Weight** ☐ **Percentage by Volume**

Physical Composition	Actual/Avg.	Range		Physical Composition	Actual/Avg.	Range	
Solids within 1 Solid Waste Drum (Drum #1)	100%	%	%		%	%	%

Range Totals Must Be ≥ 100%

Waste Profile Number: TBD

Metals ☒ **TCLP** ☒ **Totals** ☒ **Generator's Knowledge** ☐ **ppm** ☐ **ppb**			
Antimony: See attached pages for metals data	Cadmium:	Selenium:	Mercury:
Arsenic:	Chromium:	Silver:	
Barium:	Lead:	Thallium:	☒ Mercury <260 ppm totals
Beryllium:	Nickel:	Zinc:	☐ Mercury >260 ppm totals

Other Chemical Constituents	☐ **ppm** ☐ **ppb** ☐ **% by weight** ☐ **% by volume**			
Bromine: See attached pages for other chemical constituents analytical results (formerly Pgs. 393-396 of previous submittal) %	Benzene :	☐ TCLP	☐ Totals	☐ Gen. Knowledge
Chlorine: %	:	☐ TCLP	☐ Totals	☐ Gen. Knowledge
Iodine: %	:	☐ TCLP	☐ Totals	☐ Gen. Knowledge
Cyanides: Total Amenable Reactive	:	☐ TCLP	☐ Totals	☐ Gen. Knowledge
Sulfides: Total Reactive	:	☐ TCLP	☐ Totals	☐ Gen. Knowledge
	Use attachment for additional chemical constituents			

SECTION 5 Waste Characteristics		**Flashpoint °F**	**pH**	**Turbidity**	**Viscosity**	**Fuel Values**
Liquid ____%	# of Layers 1	**Note 1** Actual	☐ 0-2	☐ Transparent	☐ Light (water)	☒ <5,000 BTU
Solid 100%	Color ____	☐ >200	☐ >2.1-4	☐ Translucent	NA	NA
Sludge ____%	Odor ____	☒ >140-200	☒ >4-10	☐ Opaque	☐ Medium (syrup)	☐ 5,000-10,000 BTU
Debris ____%	Specific Gravity ____	☐ >100-139	☐ >10-12.4	☒ Other	☐ Heavy (syrup)	☐ >10,000 BTU
☒% by weight	Density ____	☐ <100	☐ >12.5-14	NA(no analysis)		
☐% by volume						

Other Characteristics of Waste ☒ **None Apply**

Yes	No		Yes	No		Yes	No	
☐	☒	Oxidizer	☐	☒	Dioxin Listed (Storage Only)	☐	☒	Liquid Organic Peroxide (not acceptable)
☐	☒	Explosive (not acceptable)	☐	☒	Infectious or Etiological (not acceptable)	☐	☒	Fuming/Smoking Waste
☐	☒	Pyrophoric (not acceptable)	☐	☒	Putrescible (not acceptable)	☐	☒	Pressurized Gasses (other than aerosols, not acceptable)
☐	☒	Water Reactive	☐	☒	Autopolymerizable	☐	☒	Solid Organic Peroxide

SECTION 6 Shipping Information DOT Shipping Name: Non-RCRA, Non-DOT Regulated Wastes

Hazard Class/Div.	ID# (UN/NA)	Packing Group (PG)	RQ
☐ Soft Top Rolloff	☐ Vac Tanker	(Type: Fiber, Poly, Steel) ☒ 55 gal. (Steel 85-gal OP)	Quantity 1 estimated
☐ Hard Top Rolloff	☐ Cu Yd Box or Super Sack	☐ 30 gal.	Frequency 1X
☐ Gondola	☐ Shrink Wrapped Pallet	☐ 15 gal.	Overpacked Drums: Type 1 Size 85-gal.
☐ Intermodal	☐ Consumer Packaging	☐ 5 gal	
☐ Tanker	☐ B-25 ☐ B-12	☐ 1 gal.	
☒ Other, please specify: 53' Box Trailer with Tractor			

SECTION 7 Certification

The information contained herein is based on ☒ generator's knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known suspected hazards have been disclosed. I certify that the sample(s) provided to WCS is representative of all materials described by this document, that the materials tested are representative of all materials described by this document, and that the methods of analysis used are the appropriate analytical methods as specified in the current editions of EPA (SW-846) or equivalent methods.

Dennis Rimer — Mr. Dennis Rimer, NFSS Site Superintendent — 5/9/2006

Signature | Printed/Typed Name | Date

Drum #1

Semivolatile Organic Compounds (ug/Kg) EPA Method 8270C Niagara Falls Storage Site (NFSS), Lewiston, New York					
Sample No.			UNKNOWN1-2451		
Drum Tag Number			1		
Lab ID			52355001		
Batch No.			122089		
Collected Date			11/19/2001		
Received Date			11/20/2001		
Extraction Date			11/28/2001	Estimated Maximum Leachate Concentration (ug/L)	TCLP Regulatory Limit ug/L
Analysis Date			12/11/2001		
SDG			S-4-22		
Dilution Factor			1		
CAS Number	Parameter	EPA HW No.	Results		
120-82-1	1,2,4-Trichlorobenzene	-	397 U	-	-
95-50-1	1,2-Dichlorobenzene	-	397 U	-	-
541-73-1	1,3-Dichlorobenzene	-	397 U	-	-
106-46-7	1,4-Dichlorobenzene	D027	21.4 JB	1.07	7500
95-95-4	2,4,5-Trichlorophenol	D041	397 U	19.85	400000
88-06-2	2,4,6-Trichlorophenol	D042	397 U	19.85	2000
120-83-2	2,4-Dichlorophenol	-	397 U	-	-
105-67-9	2,4-Dimethylphenol	-	397 U	-	-
51-28-5	2,4-Dinitrophenol	-	794 U	-	-
121-14-2	2,4-Dinitrotoluene	D030	397 U	19.85	130
606-20-2	2,6-Dinitrotoluene	-	397 U	-	-
91-58-7	2-Chloronaphthalene	-	39.7 U	-	-
95-57-8	2-Chlorophenol	-	6 J	-	-
534-52-1	2-Methyl-4,6-dinitrophenol	-	397 U	-	-
91-57-6	2-Methylnaphthalene	-	39.7 U	-	-
88-75-5	2-Nitrophenol	-	397 U	-	-
91-94-1	3,3'-Dichlorobenzidine	-	397 U	-	-
101-55-3	4-Bromophenylphenylether	-	397 U	-	-
59-50-7	4-Chloro-3-methylphenol	-	397 U	-	-
106-47-8	4-Chloroaniline	-	397 U	-	-
7005-72-3	4-Chlorophenylphenylether	-	397 U	-	-
100-02-7	4-Nitrophenol	-	397 U	-	-
83-32-9	Acenaphthene	-	39.7 U	-	-
208-96-8	Acenaphthylene	-	39.7 U	-	-
120-12-7	Anthracene	-	39.7 U	-	-
56-55-3	Benzo(a)anthracene	-	39.7 U	-	-
50-32-8	Benzo(a)pyrene	-	39.7 U	-	-
205-99-2	Benzo(b)fluoranthene	-	39.7 U	-	-
191-24-2	Benzo(g,h,i)perylene	-	39.7 U	-	-
207-08-9	Benzo(k)fluoranthene	-	39.7 U	-	-
111-91-1	bis(2-Chloroethoxy)methane	-	397 U	-	-
111-44-4	bis(2-Chloroethyl)ether	-	397 U	-	-
108-60-1	bis(2-Chloroisopropyl)ether	-	397 U	-	-
117-81-7	bis(2-Ethylhexyl)phthalate	-	397 U	-	-

Drum #1

Semivolatile Organic Compounds (ug/Kg) EPA Method 8270C Niagara Falls Storage Site (NFSS), Lewiston, New York					
Sample No.			UNKNOWN1-2451		
Drum Tag Number			1		
Lab ID			52355001		
Batch No.			122089		
Collected Date			11/19/2001		
Received Date			11/20/2001	Estimated Maximum Leachate Concentration (ug/L)	TCLP Regulatory Limit ug/L
Extraction Date			11/28/2001		
Analysis Date			12/11/2001		
SDG			S-4-22		
Dilution Factor			1		
CAS Number	Parameter	EPA HW No.	Results		
85-68-7	Butylbenzylphthalate	-	397 U	-	-
86-74-8	Carbazole	-	397 U	-	-
218-01-9	Chrysene	-	39.7 U	-	-
53-70-3	Dibenzo(a,h)anthracene	-	39.7 U	-	-
132-64-9	Dibenzofuran	-	397 U	-	-
84-66-2	Diethylphthalate	-	397 U	-	-
131-11-3	Dimethylphthalate	-	397 U	-	-
84-74-2	Di-n-butylphthalate	-	397 U	-	-
117-84-0	Di-n-octylphthalate	-	397 U	-	-
206-44-0	Fluoranthene	-	39.7 U	-	-
86-73-7	Fluorene	-	39.7 U	-	-
118-74-1	Hexachlorobenzene	D032	397 U	19.85	130
87-68-3	Hexachlorobutadiene	D033	397 U	19.85	500
77-47-4	Hexachlorocyclopentadiene	-	397 U	-	-
67-72-1	Hexachloroethane	D034	397 U	19.85	3000
139-95-5	Indeno(1,2,3-cd)pyrene	-	39.7 U	-	-
78-59-1	Isophorone	-	397 U	-	-
106-44-5	m,p-Cresols	D024/D025	397 U	19.85	200000
99-09-2	m-Nitroaniline	-	397 U	-	-
91-20-3	Naphthalene	-	39.7 U	-	-
98-95-3	Nitrobenzene	D036	397 U	19.85	2000
621-64-7	N-Nitroso-di-n-propylamine	-	397 U	-	-
86-30-6	N-Nitrosodiphenylamine	-	397 U	-	-
95-48-7	o-Cresol	D023	397 U	19.85	200000
88-74-4	o-Nitroaniline	-	397 U	-	-
87-65-5	Pentachlorophenol	D037	397 U	19.85	100000
85-01-8	Phenanthrene	-	39.7 U	-	-
108-95-2	Phenol	-	12.3 J	-	-
100-01-6	p-Nitroaniline	-	397 U	-	-
129-00-0	Pyrene	-	39.7 U	-	-

Drum #1

Volatile Organic Compounds (ug/Kg) EPA Method 8260B Niagara Falls Storage Site (NFSS), Lewiston, New York					
Sample No.			UNKNOWN1-2451		
Drum Tag Number			1		
Lab ID			52355001		
Batch No.			122089		
Collected Date			11/19/2001		
Received Date			11/20/2001	Estimated Maximum Leachate Concentration (ug/L)	TCLP Regulatory Limit ug/L
Extraction Date			11/29/2001		
Analysis Date			11/29/2001		
SDG			S-4-22		
Dilution Factor			1		
CAS Number	Parameter	EPA HW No.	Results		
71-55-6	1,1,1-Trichloroethane	-	1 U	-	-
79-34-5	1,1,2,2-Tetrachloroethane	-	1 U	-	-
79-00-5	1,1,2-Trichloroethane	-	1 U	-	-
75-34-3	1,1-Dichloroethane	-	1 U	-	-
75-35-4	1,1-Dichloroethene	D029	1 U	0.0500	700
107-06-2	1,2-Dichloroethane	D028	1 U	0.0500	500
78-87-5	1,2-Dichloropropane	-	1 U	-	-
78-93-3	2-Butanone	D035	5.1 U	0.2550	200000
591-78-6	2-Hexanone	-	5.1 U	-	-
108-10-1	4-methyl-2-pentanone	-	5.1 U	-	-
67-64-1	Acetone	-	20.2 B	-	-
71-43-2	Benzene	D018	1 U	0.0500	500
75-27-4	Bromodichloromethane	-	1 U	-	-
75-25-2	Bromoform	-	1 U	-	-
74-83-9	Bromomethane	-	1 U	-	-
75-15-0	Carbon disulfide	-	5.1 U	-	-
56-23-5	Carbon tetrachloride	D019	1 U	0.0500	500
108-90-7	Chlorobenzene	D021	1 U	0.0500	100000
75-00-3	Chloroethane	-	1 U	-	-
67-66-3	Chloroform	D022	1 U	0.0500	6000
74-87-3	Chloromethane	-	1 U	-	-
156-59-2	cis-1,2-Dichloroethene	-	1 U	-	-
10061-01-5	cis-1,3-Dichloropropene	-	1 U	-	-
124-48-1	Dibromochloromethane	-	1 U	-	-
100-41-4	Ethyl Benzene	-	1 U	-	-
75-09-2	Methylene chloride	-	5.1 U	-	-
100-42-5	Styrene	-	1 U	-	-
127-18-4	Tetrachloroethene	D039	1 U	0.0500	700
108-88-3	Toluene	-	1 U	-	-
156-60-5	trans-1,2-Dichloroethene	-	1 U	-	-
10061-02-6	trans-1,3-Dichloropropene	-	1 U	-	-
79-01-6	Trichloroethene	D040	1 U	0.0500	500
75-01-4	Vinyl chloride	D043	1 U	0.0500	200
1330-20-7	Xylenes (total)	-	3.1 U	-	-

WCS — WASTE CONTROL SPECIALISTS LLC

Attachment to Waste Profile Sheet

For Radioactive Material

PROFILE #:TBD

Check Appropriate Box: ☒ Storage Only ☐ Direct Disposal ☐ Treatment/Disposal ☐ Treatment/Return to Generator ☒ Treatment/3rd Party Disposal Disposal Site: Energy Solutions (UT); Formerly Envirocare

Radioactive Characteristics: ☐ Mixed ☒ Radioactive

Chemical Form: Solid Waste in DRUM #1; This drum was found during Remedial Investigation Activities at the Niagara Falls Storage Site, Lewiston, New York (Environmental Investigation)

Is material waste (Check one): ☒ Yes ☐ No

Is material exempt (Check one): ☒ Yes ☐ No (WAC Section 3.2.1)

If Waste, what waste class (Check one): ☒ A ☐ B ☐ C or ☐ >C ☐ N/A
(see Title 10 CFR 61.55 and 25 TAC 289.202 (ggg)(4))

Is material NORM (Check one): ☒ Yes ☐ No

Is material source material (Check one): ☐ Yes ☒ No

If NORM radium, please indicate Radon emanation rate: 1.16 pCi/m^2/sec

Grams of special nuclear material (Total for Profile): Pu 0 U-233 0 U-235 0

Highest dose rate in mR/hr: On contact ____ At 1 ft. Health Physicist will monitor drums during loading process into transporters

Are the containers overpacked? (Check one): ☒ Yes ☐ No

Describe the packaging: 55-Gallon drum (within an 85-gallon overpack drum) will be placed in a 53' Box Trailer with Tractor to be taken to WCS for temporary storage and subsequent shipment to Energy Solutions (formerly Envirocare), UT. USACE/Buffalo to receive a letter of disposition from Energy Solutions (via WCS) after the drum has been through the treatment/disposal process.

≤7.35 (est.) Total Cubic Feet

Radioactive Constituents:
List all radionuclides present in the waste, the concentration pCi/gm and the total activity in millicuries. (Attach additional sheets if necessary – please use the same table format as below.)

Nuclide	Concentration Range (pCi/gm)			
	Min.	Max.	Avg.	Total Activity (mCi)
Ra-226	2.32	2.32	2.32	0.00078
Ra-228	0.161U	0.161U	0.161U	0.00005
Th-228	0.207U	0.207 U	0.207 U	0.00007
Th-230	12.8	12.8	12.8	0.00433
Th-232	0.186	0.186	0.186	0.00006
U-233/234	7960	7960	7960	2.689
U-235/236	425	425	425	0.1436
U-238	8010	8010	8010	2.760

Generator's Certification:

The information contained herein is based on ☒ generator knowledge and/or ☒ analytical data. I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine that no deliberate or willful omissions of composition properties exist and that all known or suspected hazards have been disclosed. I certify that the sample(s) provided to WCS is representative of all materials described by this document, that the materials tested are representative of all materials described by this document, and that the methods of analysis used are the appropriate analytical methods as specified in the current editions of EPA (SW-846) or equivalent methods.

Authorized Signature: Dennis Rimer **Date:** 5/9/2006

Printed Name: Mr. Dennis Rimer **Title:** NFSS Site Superintendent

Drum# 1

RAD (pCi/g) and Total Uranium (ug/g) EPA Method 900, 905, HASL 300, ASTM D5174, GL-RAD-A-041 Niagara Falls Storage Site (NFSS), Lewiston, New York		
Sample No.		UNKNOWN1-2451
Drum Tag Number		1
Lab ID		52355001
Batch No.		121942
Collected Date		11/19/2001
Received Date		11/20/2001
Analysis Date		12/6/2001
SDG		S-4-22
CAS Number	Parameter	Results
14952-40-0	Actinium-227, Gamma	0 U
14596-10-2	Americium-241, Gamma	9.88
10045-97-3	Cesium-137, Gamma	-0.0426 U
10198-40-0	Cobalt-60, Gamma	-0.0188 U
13966-00-2	Potassium-40	2.91
14331-85-2	Protactinium-231, Gamma	3.71 U
13982-63-3	Radium-226, Gamma	2.32
15262-20-1	Radium-228, Gamma	0.161 U
14274-82-9	Thorium-228, Alpha	-0.207 U
14269-63-7	Thorium-230, Alpha	12.8
7440-29-1	Thorium-232, Alpha	0.186
7440-61-1	Total Uranium	22000
13966-29-5	Uranium-233/234, Alpha	7960
15117-96-1	Uranium-235/236, Alpha	425
7440-61-1	Uranium-238, Alpha	8010