Integrated Waste Tracking System Material Profile

Information Only

Material Profile Define 7123Q.R1

Material Profile No.:	7123Q.R1
Profile Date:	4/24/2013 9:22:59 AM
Name of Waste or Material:	U233 Solidified Grinding Sludge and Debris
Site Treatment Plan ID:	ID-BTO-030 SOLIDIFIED GRINDING SLUDGE, ETC.
Generating Unit (e.g. Building or Process):	BL : Bettis Laboratory
Material or Waste Type and Action:	Mixed Low Level Waste: Contact Handled

Record Status: Inactive

Record Lock Parameters: 05/08/2013 09:19:54 [redacted]

Insert Parameters: 04/24/2013 09:22:59 [redacted]

Inactivation allows a record to remain selectable for historical profiles prior to the inactivation date. The inactivation data defaults to the date/time of inactivation, but can be changed to a user defined date/time. A canceled record will not be selectable by past, present, or future records. After a record is cancelled, a historical profile may continue to reference it, but any attempt to update the reference will require a new selection.

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Certification, Review & Approval 7123Q.R1

Certified	Name: [redacted] Date: 05/08/2013 Phone: [redacted] Fax: [redacted] E-Mail [redacted]	This profile is being certified, reviewed, or approved to transfer a container(s) to facilitate further characterization or stage for shipment. This certification, review, or approval does not imply that this profile is acceptable for treatment and/or disposal. Information required for treatment and/or disposal of this waste is incomplete. To accomplish proper treatment and/or disposal the container must be moved to a facility where the contents can be sampled, evaluated and/or analyzed.
Reviewed	Name: [redacted] Date: 05/08/2013 Phone: [redacted] Fax: [redacted] E-Mail [redacted]	This profile is being certified, reviewed, or approved to transfer a container(s) to facilitate further characterization or stage for shipment. This certification, review, or approval does not imply that this profile is acceptable for treatment and/or disposal. Information required for treatment and/or disposal of this waste is incomplete. To accomplish proper treatment and/or disposal the container must be moved to a facility where the contents can be sampled, evaluated and/or analyzed.
Approved	Name: [redacted] Date: 05/08/2013 Phone: [redacted] Fax: E-Mail [redacted]	This profile is being certified, reviewed, or approved to transfer a container(s) to facilitate further characterization or stage for shipment. This certification, review, or approval does not imply that this profile is acceptable for treatment and/or disposal. Information required for treatment and/or disposal of this waste is incomplete. To accomplish proper treatment and/or disposal the container must be moved to a facility where the contents can be sampled, evaluated and/or analyzed.

Last Profile Update and Approval 7123Q.R1

Update/Approvals	Name: Date: Phone: Fax: E-Mail	

	First Name	Last Name	Phone	Fax	E-Mail	Mail Stop
Generator Contact:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Technical Contact:	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	
Charge No:	[redacted]					

Material Profile Rejection Log 7123Q.R1 No Data Available

Revision History 7123Q.R1

Char_id	Profile Name	Profile Date	Record Status
7123Q	U233 Solidified Grinding Sludge and Debris	11/12/2012	Inactive
7123Q.R1	U233 Solidified Grinding Sludge and Debris	04/24/2013	Inactive

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Material Profile Process 7123Q.R1

1. No **Will material and waste characterization be fully capable of complying with applicable Waste Acceptance Criteria?**

a. Waste Acceptance Criteria requirements not met (list each): Waste to be Macroencapsulated on-site to meet LDRs prior to disposal

b. Receiving organization approval letter number for nonstandard material or waste:

2.

Waste Generated from:	Cleanup/Stabilization Activity:	Generating Status:
Cleanup/Stabilization Activities	One-time Only Generation	On-going

No **Is this secondary waste?**

3. Generating Process description (describe the process and/or operations generating material, be specific):

Rev 1 to this profile needed to envelope BL020, BL040 and BL081 material.

This waste consists of solidfied grinding sludge, neutralized and solidified chemical wastes and debris such as filters, rags, gloves, plastic, paper, metal, brick, rubber, glass etc. associated with, and generated during, the production of fuel pellets for the Light Water Breeder Reactor (LWBR) program at Bettis Atomic Power Laboratory's (BAPL) Fuel Manufacturing Facility. BAPL waste streams IDC BL010 (U233 Compressible Debris), IDC BL020 (Non-Compressible Debris and neutralized and solidified chemical wastes), IDC BL030 (U233 grinding sludge and associated debris), IDC BL040 (Solidified Binary Scrap Powder, Pellets or Rods) and IDC BL081 (U233 metallography mounts) are covered by this profile.

Containers in this profile may include waste from several different IDC waste streams e.g. a container identified as a BL040 or as a BL081 may include BL010 or BL020 type material. Placement in this material profile signifies that there is debris and/or rad lead solids associated with IDC□s BL010, BL020 or BL030 within the container that requires MACRO treatment.

Waste may carry EPA codes D008 and/or F001 and F002. See comments section for more detail on each IDC waste stream.
Waste to be macroencapsulated to treat the rad lead solids and debris. UHC's not identified.

4. Physical state at 70 degrees F: solid

5. No **Does material contain free liquids?**

6. Yes **Current waste minimization plan?** **Reference:** DOE/ID-10333

Special Characteristic 7123Q.R1

Characteristic
Accountable nuclear material
Debris - RCRA

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Characterization Requirements 7123Q.R1

1. Yes **Is this DOT regulated hazardous material ?**

   If yes, identify DOT primary hazard: Class 7 **and DOT subsidiary hazard(s):**

2. Yes **At the point of generation did this material contain any RCRA "F", "K", "U", or "P" Listed waste either in pure form, as a mixture, or as a treatment residue (i.e., ash, leachate, spill cleanup), or "D" Characteristic waste?**

   Waste Description: Solid waste from operations, maintenance or cleanup

   Source Code: G61 Waste Not Physically Generated On-Site: Haz waste received from off-site for storage/bulking & transfer off-site for treatment or disposal

   Source Code Comments:

   Form Code: W002 Mixed Media/Debris/Devices: Contaminated debris: paper/clothing/rags/wood, empty containers, glass/piping/other solids

   Form Code Comments:

3. **RCRA hazardous waste determination was made by:** Process Knowledge

4. No **Does this Material Profile contain Lab Packs?**

5. No **Was an Underlying Hazardous Constituent (UHC) determination performed?**

   If a UHC determination was performed, were any detected in concentrations exceeding the Universal Treatment Standards? List on UHC Screen.

6. Yes **Is supporting documentation submitted? If yes, list:**

   WDDFs: RWMC1009.R2, INTEC-027-12, INTEC-026-12, INTEC-028-12 and INTEC-06-13. Safeguard and Security Forms 741, AMWTP-RPT-TRUW-60, Rev. 0, TBL-462 and TBL-467.

7. Yes **Additional narrative:**

   Waste is to be macroencapsulated prior to offsite disposal.

8. No **Is the material LDR Compliant?**

Generation Active Estimates 7123Q.R1

Estimate Date	Start Date	End Date	Vol Qty	Vol Units	Mass Qty	Mass Units	Data Entered By	Active	Estimate Type	Inactivated By	Inactivated Date
04/24/2013	04/24/2013	04/24/2014	3300	GAL			[redacted]	Yes	CY		

Generation Inactive Estimates 7123Q.R1 No Data Available

Layers 7123Q.R1

Layer or Phase	Physical State at 70 F	Range of Percentage From	To	Units	Color
1	solid	0	100	vol%	various. sludge
2	solid	0	100	vol%	various. debris

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Physical Characteristics 7123Q.R1

1. **Density of material or waste (may not be required for hazardous waste and recyclable material):**

   Liquid: **To:** **g/ml** **Solid:** **To:**

2. No **Is this aqueous waste? If yes, give total solids range:**

   From: **To:** **g/ml**

3. No **Is this incinerable liquid? If yes, give viscosity range:**

   From: **To:** **SSU**

Physical Composition 7123Q.R1

Char. No.	Related Characteristic (Use *Other* Where NA)	Name of Material	Carcinogen	Composition Range From/To/Units		
0	*Other*	Debris items e.g. rubber gloves, rags, cellulosics, metal, plastic, glass, brick	No	0	100	vol%
0	*Other*	Neutralized and solidified chemical wastes	No	0	100	vol%
0	*Other*	Radioactive lead solids	Yes	0	100	vol%
0	*Other*	Solidified Grinding Sludge	No	0	100	vol%
0	*Other*	Thorium oxide	No	0	25	vol%
0	*Other*	uranium oxide	No	0	10	vol%
2	Free liquid - Aqueous based	Neutralized chemical waste	No	0	1	vol%
3	Absorbents	Oil dry, vermiculite or similar absorbents	No	0	10	vol%
34	Metal combinations or assemblies	Met Mounts	No	0	95	vol%

Flash Point, Incinerable Properties, and RCRA 7123Q.R1

1. No **Is flash point applicable? If yes, complete the following:**

   Flash Point: **To:** **Method used:**

   (Specify Other):

2. **Information for incinerable waste only:**

   a. **Heat of combustion:** **To:** **BTU/lb**

   b. **Ash content:** **To:** **wt%**

   c. **Total halogen content:** **To:** **ppm**

   d. **Water content:** **To:** **wt%**

   e. **Suspended particulates content:** **To:** **ppm**

3. Yes **Was a RCRA Waste analysis performed? If yes, enter data using "EPA Codes" screen.**

4. No **Were the sampling and analysis protocols used in full compliance with SW-846 protocol or other equivalent regulatory agency approved methods?**

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EPA Codes 7123Q.R1

Hazardous Constituents

			Expected Range			Representative Sample			Detection Limit	
EPA Code ID	**TCLP Value**	**Type of Analysis**	**From**	**To**	**Units**	**From**	**To**	**Units**	**Limit**	**Units**
D008A	No	Process Knowledge								
Lead										
D008C	No	Process Knowledge								
Lead Radioactive lead solids										
F001A	No	Process Knowledge								
Spent halogenated solvents used in degreasing 1,1,1-Trichloroethane										
F001B	No	Process Knowledge								
Spent halogenated solvents used in degreasing 1,1,2-Trichloro-1,2,2-trifluoroethane										
F001C	No	Process Knowledge								
Spent halogenated solvents used in degreasing Carbon tetrachloride										
F001D	No	Process Knowledge								
Spent halogenated solvents used in degreasing Methylene chloride										
F001E	No	Process Knowledge								
Spent halogenated solvents used in degreasing Tetrachloroethylene										
F001F	No	Process Knowledge								
Spent halogenated solvents used in degreasing Trichloroethylene										
F002B	No	Process Knowledge								
Spent halogenated solvents 1,1,1-Trichloroethane										
F002C	No	Process Knowledge								
Spent halogenated solvents 1,1,2-Trichloro-1,2,2-trifluoroethane										
F002F	No	Process Knowledge								
Spent halogenated solvents Methylene chloride										
F002H	No	Process Knowledge								
Spent halogenated solvents Tetrachloroethylene										
F002I	No	Process Knowledge								
Spent halogenated solvents Trichloroethylene										
F002K	No	Process Knowledge								
Spent halogenated solvents Carbon Tetrachloride										

Underlying Hazardous Constituents 7123Q.R1 No Data Available

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Chemical Composition 7123Q.R1

CAS	Flam-mable	EPCRA	TSCA	TCLP Value	Type of Analysis	Expected Range From	Expected Range To	Expected Range Units	Representative Sample From	Representative Sample To	Representative Sample Units	Detection Limit Limit	Detection Limit Units
71-55-6 1,1,1-Trichloroethane		Yes	No	No	Process Knowledge								
56-23-5 Carbon Tetrachloride		Yes	No	No	Process Knowledge								
7439-92-1 Lead		Yes	No	No	Process Knowledge								
75-09-2 Methylene Chloride		Yes	No	No	Process Knowledge								
127-18-4 Tetrachloroethene		Yes	No	No	Process Knowledge								
79-01-6 Trichloroethene	X	Yes	No	No	Process Knowledge								
76-13-1 Freon-113		No	No	No	Process Knowledge								

Radiological Characteristics 7123Q.R1

1. Y **Is fissile material present?** **Is fissile material >=.04 g/kg, waste matrix group is:** Polyethylene

2. Total transuranic activity per gram of waste is:

Y **<= 10 nCi/g (LLW)**

Y **> 10 nCi/g and <= 100 nCi/g (alpha LLW)**

N **> 100 nCi/g (TRU)**

3. Expected radiation dose rate:

at contact of waste package(s)	0.1	**to**	100	**mrem/hr**
at 30cm from waste package(s)	0.1	**to**	90	**mrem/hr**
at 1-meter from waste package(s)	0.1	**to**	80	**mrem/hr**

4. N **Is the waste greater than Class C as defined in 10 CFR 61.55?**

Isotopes - TRU U233, U-235 7123Q.R1

Isotope	Activity Range or Sample Data From	Activity To	Activity Sample	Activity Units	Fissionable Material Range or Sample Data From	Fissionable To	Fissionable Sample	Fissionable Units
Pu-239	0.000E+00	2.600E-01		Ci/m3	0.000E+00	9.000E+01		nCi/g
U-233	0.000E+00	2.600E+03		Ci/m3	0.000E+00	9.000E+01		nCi/g
U-235	0.000E+00	3.400E-02		Ci/m3	0.000E+00	9.000E+01		nCi/g

Isotopes - Other 7123Q.R1

Isotope	Activity Range or Sample Data From	To	Sample	Units
Ac-225	0.000E+00	9.300E+00		Ci/m3
Ac-227	0.000E+00	1.300E-05		Ci/m3
Ac-228	0.000E+00	7.100E-01		Ci/m3

At-217	0.000E+00	9.300E+00	Ci/m3
Bi-210	0.000E+00	2.300E-05	Ci/m3
Bi-211	0.000E+00	1.300E-05	Ci/m3
Bi-212	0.000E+00	3.000E+01	Ci/m3
Bi-213	0.000E+00	9.300E+00	Ci/m3
Bi-214	0.000E+00	7.200E-05	Ci/m3
Fr-221	0.000E+00	9.300E+00	Ci/m3
Fr-223	0.000E+00	1.700E-07	Ci/m3
Pa-231	0.000E+00	2.900E-05	Ci/m3
Pa-234	0.000E+00	4.500E-04	Ci/m3
Pa-234m	0.000E+00	3.500E-01	Ci/m3
Pb-209	0.000E+00	9.300E+00	Ci/m3
Pb-210	0.000E+00	2.300E-05	Ci/m3
Pb-211	0.000E+00	1.300E-05	Ci/m3
Pb-212	0.000E+00	3.000E+01	Ci/m3
Pb-214	0.000E+00	7.200E-05	Ci/m3
Po-210	0.000E+00	2.300E-05	Ci/m3
Po-211	0.000E+00	3.500E-08	Ci/m3
Po-212	0.000E+00	1.900E+01	Ci/m3
Po-213	0.000E+00	9.100E+00	Ci/m3
Po-214	0.000E+00	7.200E-05	Ci/m3
Po-215	0.000E+00	1.300E-05	Ci/m3
Po-216	0.000E+00	3.000E+01	Ci/m3
Po-218	0.000E+00	7.200E-05	Ci/m3
Ra-223	0.000E+00	1.300E-05	Ci/m3
Ra-224	0.000E+00	3.000E+01	Ci/m3
Ra-225	0.000E+00	9.300E+00	Ci/m3
Ra-226	0.000E+00	7.200E-05	Ci/m3
Ra-228	0.000E+00	7.100E-01	Ci/m3
Rn-219	0.000E+00	1.300E-05	Ci/m3
Rn-220	0.000E+00	3.000E+01	Ci/m3
Rn-222	0.000E+00	7.200E-05	Ci/m3
Th-227	0.000E+00	1.200E-05	Ci/m3
Th-228	0.000E+00	3.000E+01	Ci/m3
Th-229	0.000E+00	9.300E+00	Ci/m3
Th-230	0.000E+00	8.400E-03	Ci/m3
Th-231	0.000E+00	3.400E-02	Ci/m3
Th-232	0.000E+00	7.100E-01	Ci/m3
Th-234	0.000E+00	3.500E-01	Ci/m3

Tl-206	0.000E+00	3.000E-11	Ci/m3
Tl-207	0.000E+00	1.300E-05	Ci/m3
Tl-208	0.000E+00	1.100E+01	Ci/m3
Tl-209	0.000E+00	1.900E-01	Ci/m3
U-232	0.000E+00	2.900E+01	Ci/m3
U-234	0.000E+00	2.300E+01	Ci/m3
U-236	0.000E+00	7.000E-03	Ci/m3
U-238	0.000E+00	3.500E-01	Ci/m3

Containers 7123Q.R1

Container Barcode	Container Date	Size	Container Units	Type	Common Name of Materials	Decommissioned
10032037	10/12/1976	55	GAL	DM	U233 Solidified Grinding Sludge and Debris	No
10289756	08/18/1973	55	GAL	DM	U233 Solidified Grinding Sludge and Debris	No
10289773	09/14/1973	55	GAL	DM	U233 Solidified Grinding Sludge and Debris	No
10290111	01/23/1974	55	GAL	DM	U233 Solidified Grinding Sludge and Debris	No
10290115	09/14/1973	55	GAL	DM	U233 Solidified Grinding Sludge and Debris	No
10291024	08/13/1973	83	GAL	DM	U233 Solidified Grinding Sludge and Debris	No