

HWMA/RCRA PART B PERMIT
FOR THE
IDAHO NATIONAL LABORATORY

BOOK 1 OF 1

PER-140 – MATERIALS AND FUELS COMPLEX
SODIUM PROCESS FACILITY AND
SECONDARY SODIUM SYSTEM

ATTACHMENT 2

SECTION C – WASTE ANALYSIS PLAN

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1 **C. WASTE CHARACTERISTICS [IDAPA 58.01.05.008 and 58.01.05.012;**
2 **40 CFR 264.13 and 270.14(b)(2)]**

3 In accordance with the requirements of Idaho Administrative Procedures Act
4 (IDAPA) 58.01.05.008 and 58.01.05.012; 40 Code of Federal Regulations
5 (CFR) 264.13 and 270.14(b)(1), this section of the Hazardous Waste Management
6 Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Permit is the
7 waste analysis plan (WAP). The WAP describes the chemical and physical
8 characteristics of the HW/MW to be received/managed at the Materials and Fuels
9 Complex (MFC) SPF and Secondary Sodium System (SSS) piping/components
10 HWMA units and the waste analysis, sampling, and quality assurance plans that will
11 be implemented at each HWMA unit to ensure that the HW/MW are handled in a
12 manner that will protect human health and the environment.

13 The SSS Piping/Components unit will not receive any additional waste, but will
14 continue the storage and treatment of the remaining residual sodium.

15 The information provided in this section is organized by subsection as follows:

- 16 • Subsection C-1, HW/MW Chemical and Physical Analysis Methods and
17 Requirements
- 18 • Subsection C-2, Waste Analysis Plan
- 19 • Subsection C-3, Requirements Pertaining to Land Disposal Restrictions
20 (LDRs).

21 **C-1 HW/MW Chemical and Physical Analysis Methods and Requirements**
22 **[IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR 270.14(b)(2) and 264.13(a)]**

23 **C-1(a) HW/MW Received/Managed and Services Provided at HWMA Units**

24 The HWMA units will receive/manage solid, liquid, and debris HW/MW in
25 containers and tanks. A detailed description of each HWMA unit and the types of
26 HW/MW each unit will receive/manage is provided in this Permit in Attachment 1,
27 Section B, MFC Facility Description. A detailed description of each MFC HWMA
28 unit processes (storage and/or treatment) is provided in the Permit in Attachments 1
29 and 1a, Facility Description, Section D, Process Description.

1 **C-1(b) Containerized HW/MW and HW/MW Debris [IDAPA 58.01.05.012; 40 CFR**
2 **270.15(b)(1)]**

3 The HWMA units may receive/manage ignitable, reactive, corrosive, toxic metal
4 contaminated HW/MW (either solid, liquid, or debris) in various-sized containers.
5 Examples of the types of containers that may be received are described in this
6 Permit in Attachment 1, Facility Description, Section D, Process Description. As
7 there is some variability in the types of HW/MW that each of the HWMA units can
8 receive/manage, the specific waste types are listed in this Permit in Attachment 1,
9 Part A, for each of the HWMA units.

10 Material Safety Data Sheets (MSDSs) and the Integrated Waste Tracking System
11 (IWTS) Profiles describe the chemical and physical characteristics of the ignitable,
12 reactive, corrosive, toxic and/or listed HW/MW (and/or potential underlying
13 hazardous constituents [UHCs]) that HWMA units currently have in storage (or for
14 the approved waste streams that may typically be received at the HWMA unit). The
15 applicable MSDSs and IWTS Profiles for the HWMA units are provided in the
16 Permit Application (July 2003), Section C, Waste Characteristics, Attachment C-1.

17 **C-1(c) HW/MW in Tank Systems [IDAPA 58.01.05.008; 40 CFR 264.191(b)(2) and**
18 **264.192(a)(2)]**

19 The HWMA unit that may receive/manage and treat HW/MW in a tank system is
20 the Sodium Process Facility (SPF). The types and forms of HW/MW that the SPF
21 tanks may receive/store/treat are listed in this Permit in Attachment 1,
22 Part A. In addition, the SSS Piping/Components unit will also store and treat the
23 residual sodium that remains within the system.

24 **C-1(d) HW/MW Analysis Prior to Acceptance [IDAPA 58.01.05.008;**
25 **40 CFR 264.13(b)(1)]**

26 All HW/MW to be received at a HWMA unit will be required to meet waste specific
27 analysis (characterization) requirements and HWMA unit-specific waste acceptance
28 criteria (WAC) both tailored to address radiation hazards and safeguard workers.
29 The characterization of the HW/MW will be based on several methods or
30 combinations of methods to include sampling and laboratory analysis and, when
31 appropriate, acceptable knowledge. Acceptable knowledge is defined as (1) existing
32 published or documented waste analysis data or studies prepared previously for the
33 HW/MW such as manufactures' specifications, (2) previous analytical data for the
34 same HW/MW stream, or (3) detailed information on specific HW/MW such as
35 listed waste (F, P, U) from a specific source. Acceptable knowledge can be used

1 alone or in conjunction with fingerprint analysis and full-scale sampling and
2 laboratory analysis. This strategy for HW/MW analysis is discussed in the guidance
3 document, “Environmental Protection Agency (EPA) Waste Analysis at Facilities
4 that Generate, Store, Treat and Dispose of Hazardous Waste.”^{1,2}

5 When feasible, the preferred method to meet waste analysis (characterization)
6 requirements is to conduct sampling and laboratory analysis. However, there are
7 situations where it may be appropriate to apply acceptable knowledge such as if
8 HW/MW is a listed waste with a well documented process, if there are unwarranted
9 risks to the health and safety of personnel due to radiation or reactive characteristic
10 HW/MW should a container be opened for sampling, or if the physical nature of the
11 waste does not lend itself to taking a laboratory sample (such as debris, piping).^{1,2}

12 The “Joint Nuclear Regulatory Commission (NRC)/EPA Guidance on Testing
13 Requirements for Mixed Radioactive and Hazardous Wastes”² stresses the value of
14 acceptable waste knowledge and the flexibility allowed in testing MW to minimize
15 radiation hazards. The guidance offers the following two strategies for
16 characterizing MW: use a sample of <100 grams, as long as the test is sufficiently
17 sensitive, and use of surrogate material as long as they are chemically identical to
18 the MW and represent the hazardous constituents expected to be present in the MW.

19 Once a generator/owner has completed the characterization process, the
20 characterization data will be documented by the generator/owner on the INL IWTS
21 Profile. Using this IWTS Profile (or an equivalent profile form) is a standard
22 practice among HW/MW generators/owners.

23 The HW/MW characterization data documented on the IWTS Profile includes the
24 following:

- 25 • Waste stream-specific information
- 26 • Generator waste analysis certification and approval signature
- 27 • Physical, chemical and radiological characteristics
- 28 • Regulatory status information (EPA waste numbers, UHCs)
- 29 • Waste generation dates, container identification number, and container
30 configurations.

¹ “EPA Waste Analysis at Facilities that Generate, Store, Treat and Dispose of Hazardous Waste” (PB94-96303).

² “Joint EPA/NRC Guidance on Testing Requirements for Mixed Radioactive and Hazardous Waste,” *Federal Register*, November 20, 1997 (62 FR 62079-62094).

1 The IWTS Profile, or equivalent, is used by the HW/MW generator/owner to:

- 2 • Document detailed chemical and physical data for the HW/MW
- 3 • Certify (by signature) the quality of the characterization data they are
- 4 providing to the facility receiving the waste
- 5 • Track the HW/MW from generation through disposal.

6 The IWTS Profile is also used by the HWMA unit manger receiving the HW/MW
7 to:

- 8 • Ensure the HW/MW is adequately characterized prior to receipt for storage
- 9 or treatment
- 10 • Approve (by signature) the HW/MW for acceptance at the HWMA unit
- 11 following review
- 12 • Track the HW/MW while present in the HWMA unit
- 13 • Maintain an inventory of all HW/MW located in the HWMA unit.

14 A copy of an IWTS Profile is provided in Attachment C-1. The HW/MW currently
15 in the HWMA units has already completed the characterization process.

16 **C-2 Waste Analysis Plan [IDAPA 58.01.05.012 and 58.01.05.008; 40 CFR**
17 **270.14(b)(3) and 264.13(b) and (c)]**

18 **C-2(a) Waste Acceptance Criteria**

19 Prior to shipment of HW/MW to the HWMA unit, the following activities will
20 occur:

- 21 • The generator will provide detailed, certified, characterization data for each
- 22 HW/MW stream documented on the IWTS Profile, or equivalent
- 23 documentation.
- 24 • The generator-certified IWTS data will be reviewed and approved by the
- 25 HWMA unit manager.

26 All containers of HW/MW accepted at an MFC SPF HWMA unit will be:

- 27 • Accepted/managed only if the wastes are known and have the approved EPA
- 28 hazardous waste numbers (HWNs) identified in this Permit in Attachment 1,
- 29 Part A.

- 1 • Verified, through visual waste verification (also referred to as “fingerprint
2 analysis”). At the discretion of the SPF HWMA unit manager, on-Site³
3 HW/MW may be fingerprint analyzed and off-Site HW/MW (shipped to the
4 INL site) *will be* fingerprint analyzed when the HW/MW is received at an
5 HWMA unit.
- 6 • Labeled with barcode labels and entered in the IWTS database, or
7 equivalent, which will allow tracking of the HW/MW container movements.
- 8 • Stored in the SPF HWMA-permitted storage facilities identified in this
9 Permit in Attachment 1, Facility Description, Section B, MFC Facility
10 Description.
- 11 • Managed and stored appropriately in waste-compatible containers and, if
12 applicable, with other compatible wastes.

13 Fingerprint analysis will verify the contents of each container of HW/MW as it is
14 opened prior to connection to a HWMA unit treatment/process system. This analysis
15 will provide additional assurance that incompatible materials will not be
16 accidentally introduced into the HWMA unit systems. A record of each analysis will
17 be maintained as part of the HWMA unit operating records. A further description of
18 the fingerprint analysis is provided in Subsection C-2(e).

19 **C-2(b) HW/MW Analysis Parameters and Rationale [IDAPA 58.01.05.008; 40 CFR**
20 **264.13(b)(1)]**

21 The MFC SPF HWMA units may only receive/manage HW/MW that meets the
22 following parameters:

- 23 • Has been characterized by the generator/owner in accordance with
24 Subsection C-2(a) and the chemical and physical analysis data and/or
25 acceptable knowledge data is certified by the generator/owner
- 26 • Has the EPA HWNs identified in this Permit in Attachment 1, Part A, and
27 meets the WAC of the HWMA unit that will receive and manage the
28 HW/MW
- 29 • Has been approved by the Idaho Department of Environmental Quality
30 (IDEQ), if HW/MW is from an off-Site generator, in accordance with the
31 INL Site Treatment Plan (STP).

³ On-Site means HW/MW generated at a facility physically located on the INL site or HW/MW from a generator that is a contractor or subcontractor of the INL Management and Operations contractor.

1 The specific parameters and rationale (defined in Table C-1) were chosen to address
2 the following:

- 3 • Ensure HWMA unit WAC are met
- 4 • Provide adequate and accessible information in case of an emergency
- 5 • Ensure proper HW/MW handling, treatment, storage, and disposal
- 6 • Meet regulatory requirements.

7 As discussed in previous subsections, all HW/MW characterization data are
8 documented on the IWTS Profile. The HWMA unit manager or designee receives
9 the IWTS Profiles for review and approval prior to receiving the HW/MW (i.e.,
10 physical and chemical properties are known and documented).

11 If required by the HWMA unit manager, fingerprint analysis can be chosen to verify
12 HW/MW accepted at the HWMA unit is as expected.

13 **C-2(c) HW/MW Analysis Test Methods [IDAPA 58.01.05.008; 40 CFR 264.13(b)(2)]**

14 HW/MW must be sampled and analyzed in accordance with EPA Method SW-846,
15 or equivalent methods, as listed in Table C-1. The SPF HWMA/RCRA unit
16 manager may require fingerprint analysis to confirm the reported analysis and data
17 recorded on the IWTS Profile, or equivalent documentation.

18 HWMA unit procedures, or the sampling and analysis plan (SAP) prepared for a
19 specific waste stream, will identify modified EPA SW-846 procedures listed in the
20 NRC/EPA *Federal Register* guidance that can be used. These modifications include,
21 for example, INL Analytical Laboratory (AL) SW-846 equivalent test methods. INL
22 modified the EPA SW-846 protocols specifically to reduce personnel radiation
23 exposure during testing of radioactive samples. The modifications involved
24 decreasing sample sizes (1311) and changing test equipment (3010). It is recognized
25 that remote handling limitations may prevent verbatim compliance to the details of
26 the methods described in EPA SW-846. Whenever deviation is necessary, the actual
27 method details must be equal (or superior) to EPA SW-846 details. The rigor and
28 reliability of EPA SW-846 must be maintained whenever an equivalent method is
29 used. Changes to EPA SW-846 or other EPA-recognized methods that do not affect
30 the chemistry, such as minor equipment substitutions or minor differences in the
31 preparation of standards or reagents, are allowed within the scope of SW-846 and do
32 not require agency approval.

Table C-1. Waste analysis parameters, methods, and rationale.

Parameter	Method		Rationale (see key)	
Physical state	As required		1	
Radioactivity	Acceptable knowledge, if appropriate, may be used. Alpha and beta detectors, gamma spectroscopy, etc.		2	
Ignitability	EPA SW-846 1010, Pensky-Martens Closed-Cup Method for Determining Ignitability, and/or EPA SW-846 1020, Setaflash Closed-Cup Method for Determining Ignitability. Acceptable knowledge, if appropriate, may be used.		1, 3, and 4	
Corrosivity	Environmental Protection Agency (EPA) SW-846 1110, Corrosivity Toward Steel, 9040, pH Electrometric Measurement, and/or 9041, pH Paper. Acceptable knowledge, if appropriate, may be used.		1, 3, and 4	
Reactivity	Acceptable knowledge		1, 3, and 4	
Toxicity	1311, Toxicity Characteristic Leaching Procedure or SW-846 1311, Toxicity Characteristic Leaching Procedure. Acceptable knowledge, if appropriate, may be used.		4 and 5	
Metals	Hazardous Constituent	EPA SW-846 Method	Measurement Technique	1, 4, and 5
	Arsenic	7000A, Atomic Absorption Methods.	Hydride	
	Antimony	6010B, Inductively Coupled Plasma—Mass Spectrometry, or 7000A	ICP/Flame	
	Barium	6010B or 7000A	ICP/Flame	
	Beryllium	6010B or 7000A	ICP/Flame	
	Cadmium	7000A	Furnace	
	Chromium	6010B or 7000A	ICP/Flame	
	Lead	6010B or 7000A	ICP/Flame	
	Mercury	7000A	Cold Vapor	
	Nickel	6010B or 7000A	ICP/Flame	
	Selenium	7000A	Hydride	
	Silver	6010B or 7000A	ICP/Flame	
Thallium	6010B or 7000A	ICP/Flame		
Volatile ^a	8015, 8010/8240, 8020/8260, or process knowledge		1, 4, 5	
Semi-volatile ^a	8250/8270 or process knowledge		1, 4, 5	
Free liquids	9095, Paint Filter Liquids Test Procedure, EPA SW-846 9095, Paint Filter Liquids Test. Acceptable knowledge, if appropriate, may be used.		1	
F,P,U Listed	Acceptable knowledge		1, 4, 5	
<p>Key:</p> <ul style="list-style-type: none"> 1 - Ensure safe waste handling, storage, and/or treatment. 2 - Determine if the waste is HW or MW and any applicable radiological control limits (Hazard-Category-3 threshold quantities must not be exceeded). 3 - Determine if waste is characteristically hazardous under HWMA/RCRA. 4 - Determine applicable land disposal restrictions and treatment standards. 5 - Determine if waste is regulated under the Hazardous Waste Management Act/Resource Conservation and Recovery Act. 				
a. HFEF Only				

1 **C-2(c)(1) Test Methods for Debris [IDAPA 58.01.05.008; 40 CFR 264.13(b)(2)]**

2 The heterogeneous nature of debris HW/MW streams makes collection of
3 representative samples impractical and as a result, characterization through
4 sampling and analysis is not a reasonable option. Characterization of the debris
5 HW/MW streams therefore relies heavily on generator acceptable knowledge
6 documented on the IWTS Profile, or equivalent documentation. EPA has recognized
7 the inherent difficulty of debris characterization by promulgating alternative debris
8 treatment standards based on performance and/or design and operating standards
9 rather than numerical, concentration-based standards. As standard test methods for
10 debris are not available, each debris HW/MW stream treated at the HWMA unit will
11 be evaluated separately.

12 **C-2(d) HW/MW Sampling Methods [IDAPA 58.01.05.008; 40 CFR 264.13(b)(3)]**

13 A SAP will be developed for any waste stream needing verification prior to
14 HW/MW receipt, and, if treated, the SAP will also cover post-treatment sampling of
15 the waste. Sampling will be conducted in accordance with approved procedures. In
16 general, where standard samples are collected, the following basic sampling
17 procedure is used:

- 18 • Obtain samples using pre-cleaned sample equipment, in accordance with the
19 applicable method.
- 20 • Fill sample containers. Uniquely identify and label each sample
21 (Attachment C-2) and document necessary information in the field record
22 (e.g., location, time, characteristics).
- 23 • Place containers in a durable ice-filled cooler or container for storage or
24 transport to the laboratory. The sample containers may be wrapped in bubble
25 packing or other protective material before placement in the cooler or
26 container, if necessary.
- 27 • Install custody seals to ensure sample integrity (Attachment C-2).
- 28 • Complete the chain-of-custody (COC) record, and retain an administrative
29 copy (Attachment C-3).
- 30 • Review all paperwork and attach the COC record to the cooler or
31 comparable receptacle.
- 32 • Seal the coolers or containers, and mark them in accordance with
33 Department of Transportation and/or procedural requirements.
- 34 • Transport samples to the analytical laboratory.

1 **C-2(e) Quality Assurance/Quality Control**

2 Quality assurance/quality control (QA/QC) is conducted to obtain defensible and
3 valid data from sampling and analysis events. Defensible and valid data require the
4 implementation of the process of field and laboratory control samples, data
5 validation, performance assessments, and, as necessary, corrective action(s).

6 **C-2(e)(1) Field Control Samples**

7 Control samples are QC samples that are intended to monitor the performance of the
8 sampling event. In accordance with this WAP, the following field control samples
9 may be collected:

- 10 • Field duplicates
- 11 • Equipment rinsate
- 12 • Trip blank-sample.

13 **C-2(e)(2) Laboratory QA/QC**

14 Analytical laboratories, used for sample analysis of received or treated waste, are
15 required to have an approved QA/QC program. The analytical laboratory QA/QC
16 program provides the guidelines and requirements to achieve QC during sample
17 analysis. Depending on the data end-use and overall data quality objectives (DQOs),
18 the laboratory QA/QC control samples may include:

- 19 • Matrix spike
- 20 • Matrix duplicate
- 21 • Matrix spike duplicate.

22 **C-2(e)(3) Data Validation**

23 Data in the analytical laboratory is validated through the analysis of QC samples,
24 where available and applicable prior to, or concurrent with, the analysis of samples
25 and through the use of control charts (as deemed needed). In addition, depending on
26 the data end-use and overall project DQOs, data validation may include evaluation
27 of the following subjects:

- 28 • Completeness of laboratory records with regard to processing of all required
29 samples and analyses
- 30 • Implementation of appropriate procedures

- 1 • Evaluation of sample analytical data to required detection and quantity
- 2 • Evaluation of QC analytical data to applicable control criteria
- 3 • Comparison of sample holding times to the required holding times
- 4 prescribed by this WAP.

5 All deviations are documented and corrective actions implemented, as necessary.

6 **C-2(e)(4) Corrective Action**

7 Corrective action measures fall into the following two categories:

8 Project Corrective Action—Corrective actions are performed when the project
9 objectives are not met, when conditions adverse to quality have been identified, or
10 when an assessment of data reveals questionable or unknown data quality.

11 Conditions adverse to quality are identified promptly and corrected as soon as
12 possible. When significant conditions adverse to quality are identified, the causes
13 are determined, and corrective actions to prevent their recurrence are performed and
14 documented.

15 Laboratory Corrective Actions—The contract laboratory possesses a QA program
16 plan identifying warning, control, and rejection limits and what actions will be taken
17 when the warning, control, and rejection limits are exceeded. Warning conditions
18 may only require more frequent observations of a piece of equipment, while
19 rejection conditions require instrument maintenance and re-analysis of all samples
20 run in the out-of-control condition.

21 **C-2(f) Frequency of Analysis [IDAPA 58.01.05.008; 40 CFR 264.13(b)(4)]**

22 Initial Analysis—Prior to acceptance at the HWMA unit, initial analyses
23 (characterization), either through review of analytical data or acceptable knowledge
24 (depending on generator/owner category), will have been completed. Initial analysis
25 will be used to determine waste composition and EPA HWNs.

26 Fingerprint Analysis—Prior to receipt or treatment at the HWMA unit, fingerprint
27 analysis may be performed (if required by HWMA unit manager) for HW/MW on
28 all containers of HW/MW as each container is opened. Fingerprint analysis will be
29 used to verify container contents and ensure the HW/MW is as documented on the
30 IWTS Profile.

1 Post-Treatment Analysis—Prior to shipment to an appropriate disposal facility,
2 characterization of the treated waste via process knowledge or post-treatment
3 sampling and analysis will be performed to ensure the HW/MW treatment residuals
4 meet land disposal restrictions (LDRs) and the WAC of the disposal facility.
5 Treated HW/MW will be characterized/analyzed for UHCs to ensure they meet
6 Universal Treatment Standards (UTS). All treated HW/MW streams will be
7 characterized/analyzed for the hazardous constituents identified during the initial
8 characterization/sampling and analysis by the generator/owner and any confirmatory
9 sampling and analyses performed by appropriate personnel.

10 If the UTS limits are not exceeded, no additional sampling and analyses are required
11 to demonstrate compliance with LDRs. If the UTS limits are exceeded in any
12 HW/MW stream, an additional sample will be taken from the sampled container. If
13 the backup sample yields the same results, the containers of HW/MW treated in the
14 same batch will be divided into groups of eight or less. Two random samples from
15 each group will be analyzed. If the UTS limits for the group of containers are again
16 exceeded, that group will be set aside for further treatment. If the UTS limits for the
17 group of containers are not exceeded, that group of containers will be sent to an
18 appropriate disposal facility.

19 Debris Post-Treatment Analysis—HW/MW must meet standards presented in 40
20 CFR 268.45. No sampling is required to demonstrate post-treatment standards
21 although treatment residues resulting after the treatment of debris will be further
22 treated and tested in accordance with this WAP.

23 **C-2(g) Requirements for HW/MW Received from Off-Site Generators/Owners**
24 **[IDAPA 58.01.05.008; 40 CFR 264.13(c)]**

25 HW/MW received for storage and/or treatment from off-Site generators/owners will
26 be managed as described in Subsection C-3(a).

27 Following receipt, each container will be bar-coded and entered in the IWTS
28 database. This system will ensure accurate tracking (movement) of the HW/MW
29 containers until the containers are treated at the HWMA unit and shipped for
30 disposal or returned to the generator/owner.

1 **C-2(h) Requirements for Ignitable, Reactive, or Incompatible HW/MW [IDAPA**
2 **58.01.05.008; 40 CFR 264.13(b)(6) and 264.17]**

3 As specified in this Permit in Attachment 1, Facility Description, Section B, MFC
4 Facility Description, Table B-1, HWMA units have been designed as storage and/or
5 treatment facilities for ignitable and reactive HW/MW. The ignitable/reactive
6 HW/MW that will be received and managed at the HWMA unit will be segregated
7 during storage and treated separately from HW/MW that are incompatible with the
8 reactive metals (such as HW/MW containing water). In addition, the routine
9 characterization requirements identified in this WAP and the review and approval
10 process prior to accepting HW/MW for storage and treatment are in place to prevent
11 the accidental mixing of incompatible materials.

12 Additional precautions for ignitable and reactive HW/MW are found in this Permit
13 in Attachment 6, Section F, Procedures to Prevent Hazards.

14 **C-3 Requirements Pertaining to LDRs [IDAPA 58.01.05.008; 40 CFR 268.7]**

15 **C-3(a) HW/MW LDR-Related Parameters and Rational**

16 Generators/owners must test their HW/MW or an extract derived from the
17 HW/MW, or use acceptable knowledge of the HW/MW (as applicable), to
18 determine if the HW/MW is restricted from land disposal under IDAPA
19 58.01.05.011 and 40 CFR 268. If the generator/owner determines the HW/MW is a
20 restricted HW/MW that does not meet the applicable treatment standards, the
21 generator must notify the HWMA unit manager, or designee. The LDRs require
22 generators to provide notification and certification to the treatment and storage
23 facilities that essentially explains the restrictions applicable to their HW/MW.

24 Generators/owners will be required to complete and submit an LDR Notification
25 Form prior to shipment of the HW/MW to the HWMA unit. An example of an LDR
26 Notification Form is provided in Attachment C-4. The LDR Notification Form will
27 be used to inform the HWMA unit manager that the shipment contains restricted
28 HW/MW that does not meet the applicable treatment standards set forth in IDAPA
29 58.01.05.011 and 40 CFR 268, Subpart D, or that exceeds the applicable prohibition
30 levels set forth in IDAPA 58.01.05.011 and 40 CFR 268.32 or RCRA Section
31 3004(d).

1 HWMA units that treat HW/MW must sample and analyze the treated HW/MW
2 and/or residues in accordance with the frequency specified in Subsection C-2(f).
3 When analysis results indicate the HW/MW can be land disposed, an LDR
4 Notification will be sent with each HW/MW shipment to the appropriate disposal
5 facility and will include the following information:

- 6 • EPA HWN(s)
- 7 • Treatment standards (including the applicable five-letter treatment code
8 listed in IDAPA 58.01.05.011 and 40 CFR 268.42, Table 1) for restricted
9 waste either included or referenced by including the applicable non-
10 wastewater category per IDAPA 58.01.05.011 and 40 CFR 268.2(d), the
11 applicable subdivisions made within a waste code based on waste-specific
12 criteria, and the CFR section(s) and paragraph(s) where the applicable
13 treatment standard appears
- 14 • Manifest number associated with the shipment of HW/MW
- 15 • Waste analysis data, where available.

16 A certification will also be submitted with each shipment of a restricted HW/MW to
17 the appropriate disposal facility stating that the HW/MW has been treated in
18 compliance with the applicable performance standards specified in IDAPA
19 58.01.05.011 and 40 CFR 268, Subpart D. This certification statement will read as
20 stated in IDAPA 58.01.05.011 and 40 CFR 268.7(b) or (d), as applicable.

21 In addition, a one-time notification/certification for waste no longer exhibiting a
22 characteristic in accordance with IDAPA 58.01.05.011 and 40 CFR 268.9(d) will
23 be placed in the files and provided to the treatment facility. This notification and/or
24 certification will also include the applicable UHCs. A copy of this notification/
25 certification and update the information if the process changes or the disposal
26 facility receiving the HW/MW changes will be retained.

27 **C-3(b) HW/MW LDR-Related Analysis Test Methods**

28 Analysis and test methods are identified in Subsection C-2(c).

29 **C-3(c) HW/MW LDR-Related Sampling Methods**

30 Sampling methods are identified in Subsection C-2(d).

31 **C-3(d) HW/MW LDR-Related Frequency of Analysis**

32 Frequency of analysis methods are identified in Subsection C-2(f).

Attachment C-1

Example of an IWTS Profile



**Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY**



5125N : Lead Shot Containing Feedthrough

Waste Stream Information

Material Profile No.: 5125N

Profile Date: 16-Nov-2006

Profile Name: Lead Shot Containing Feedthrough

Site Treatment Plan ID: ID-INL-1YR

Generating Location: ANL785 : ANL Bldg 785, Hot Fuel Examination Facility

Waste Type and Action: Mixed Low Level Waste: Contact Handled

- Status:** Active (waste currently being generated)
 Inactive (waste not currently being generated)
 Cancelled (waste never generated)

Certification, Review, & Approval

Certified	<p>Name: Charlyss D Lee Date: 09-Jan-2007 Phone: (208) 533-7616 FAX: (208) 533-7524 E-Mail: Charlyss.Lee@icp.doe.gov</p>
------------------	---

A waste determination process for this waste stream has been performed. Characterization data was derived by approved analytical methods or process knowledge information and any data limitations have been documented. Legally and scientifically defensible data was used for characterization whenever possible. The required data provided in this Material & Waste Characterization Profile is complete and accurate based on the analytical data or process knowledge information used for characterization.

Reviewed	<p>Name: Rodney B Allen Date: 09-Jan-2007 Phone: (208) 533-7577 FAX: (208) 533-7029 E-Mail: ALLERB@inl.gov</p>
-----------------	---

An independent review of the Material and Waste Characterization Profile has shown that a waste determination was performed and that the required profile data is complete and accurate based on the analytical data or process knowledge information provided. All comments from this review have been addressed. The characterization data is sufficient to justify an approval or disapproval for the material or waste to be offered for disposition.

Approved	<p>Name: Richard A Willson Date: 09-Jan-2007 Phone: (208) 526-8938 FAX: (208) 526-4394 E-Mail: Richard.Willson@icp.doe.gov</p>
-----------------	---

The Material and Waste Characterization Profile has been certified and independently reviewed. A regulatory based disposition path has been identified for the material defined by this profile. Approval to offer this material or waste for disposition is granted.

Last Profile Update and Approval

Updated/Approved	<p>Name: Date: Phone: FAX: E-Mail:</p>
-------------------------	---



**Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY**



5125N : Lead Shot Containing Feedthrough

General Information

1. Yes No Will material and waste characterization be fully capable of complying with applicable Waste Acceptance Criteria?
If "No", receiving organization approval and completion of the following is required:
- a. Waste Acceptance Criteria requirement(s) not met (list each):
- b. Receiving organization approval letter number for nonstandard material or waste: _____

Contact	Name	E-Mail ID	Phone	Pager	Mail Stop
2. Generator Contact	Eric W Papaioannou	Eric.Papaioannou@inl.g	(208) 533-7868	4073	6174
3. Technical Contact	Charlyss D Lee	Charlyss.Lee@lcp.doe.d	(208) 533-7616	9049	6164

Charge Number: P80400W13

4. Material or waste type and action: Mixed Low Level Waste: Contact Handled
5. Profile Name: Lead Shot Containing Feedthrough
6. Waste Generated From: Is this secondary Cleanup/Stab. waste? Cleanup/Stabilization Activity: Generating Status:
- Routine Operations One time only
 Cleanup/Stabilization Activities Yes No On-going
7. Generating process description: Radioactive lead solids.
A pneumatic feedthrough was removed from HFEF. The feedthrough is stainless steel containing lead shot.
8. Physical state at 70 degrees F (solid, liquid, sludge, gel, etc.): solid
9. Yes No Does the material contain free liquids?
10. Yes No Current waste minimization plan? (INEEL Generators Only)
 Reference: DOE/ID-10333
11. Indicate all that apply:

NOTE: Indicates whether there will be one shipment or a series of shipments

- | | | | | |
|--|--|---|---|--|
| <input type="checkbox"/> CERCLA | <input type="checkbox"/> Nonfriable asbestos | <input type="checkbox"/> Compressed gas cylinders | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Debris - 435.1 |
| <input type="checkbox"/> Scrap Metal | <input type="checkbox"/> FIFRA | <input type="checkbox"/> Friable asbestos | <input type="checkbox"/> Classified material | <input type="checkbox"/> Debris - Non RCRA/435.1 |
| <input type="checkbox"/> OSHA carcinogen | <input type="checkbox"/> Unused material | <input type="checkbox"/> Soil | <input type="checkbox"/> Accountable nuclear material | <input type="checkbox"/> RR Nonradioactive Metals |
| <input type="checkbox"/> PCB >= 50 ppm | <input type="checkbox"/> Used oil | <input checked="" type="checkbox"/> Debris - RCRA | <input type="checkbox"/> > 100 PPM VOCs | <input type="checkbox"/> IW Conditional INEEL Landfil |
| <input type="checkbox"/> Etiologic Agent | <input type="checkbox"/> Aerosol cans | <input type="checkbox"/> Spill cleanup | <input type="checkbox"/> Universal Waste | <input type="checkbox"/> IW Nonconditional INEEL Landfil |
| | | | | <input type="checkbox"/> IW Off-site Disposal |



**Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY**



5125N : Lead Shot Containing Feedthrough

12. Yes No Is this DOT regulated hazardous material? If yes, identify DOT primary hazard: 7
and DOT subsidiary hazard(s):
13. Yes No At the point of generation did this material contain RCRA "F", "K", "U", or "P" listed waste either in pure form, as a mixture, or as treatment residual (i.e., ash, leachate, spill cleanup), or "D" characteristic waste? If yes, give applicable EPA:
Source Code: G13 : Other Intermittent Events or Processes : Cleaning out process equipment
Form Code: W002 : Mixed Media/Debris/Devices : Contaminated debris: paper/clothing/rags/wood, empty containers, glass/piping/other s
and EPA Hazardous Waste Numbers (40 CFR 261): D008
and attach applicable LDR notification and certification (40 CFR 261)
14. RCRA hazardous waste determination was made by: Waste analysis, Process knowlege and/or Both
15. Yes No Does this Material Profile contain Lab Packs?
16. Yes No Was an Underlying Hazardous Constituent (UHC) determination preformed?
16a. Yes No If a UHC determination was performed, were any detected in concentrations exceeding the Universal Treatment Standard
17. Yes No Is supporting documentation submitted? If yes, list:
WDDF, EDF-7524 documenting source term can be found in the WGS files.
18. Yes No Additional narrative:
19. Yes No NA Is the material LDR Compliant?

Current Generation Estimates

Estimate Date	Start Date	End Date	Volume		Mass		Data Entry By		Estimate Type	Inactivated By	
			Quan.	Units	Quan.	Units	User ID	Date		User ID	Date
16-Nov-2006	11/16/06	12/31/06			280	LBS	LeeC	11/16/06	<input checked="" type="radio"/> CY <input type="radio"/> FY		

Characteristics of Material

1. Physical Characteristics of Material
- a. Layer characteristics:
- | Layer No. | Physical State at 70 degrees F | Range of Percentage of Total | | | Description (as required by GI) |
|-----------|--------------------------------|------------------------------|----|-----|---------------------------------|
| 1. | solid | 100 | to | 100 | wt% |
- b. Density of material or waste (NA for hazardous waste and recyclable material).
Liquid: _____ to _____ g/ml Solid: 0.0 to 11.4 g/cc
- c. Yes No Is this aqueous? If yes, give total solids range:
_____ to _____ g/ml
- d. Yes No Is this incinerable liquid? If yes, give viscosity range:
_____ to _____ SSU
2. Chemical Characteristics of Material:



Integrated Waste Tracking System
Material and Waste Characterization Profile
INFORMATION ONLY



5125N : Lead Shot Containing Feedthrough

a. Composition of material:

Related Characteristic (*Other* Where NA)	Name of Material or Chemical	Carcinogen	Composition Range		
			From	To	Units
Metal combinations or assemblies	feedthrough for hot cell, with lead shot	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	100	100	wt%

b. Yes No Is flash point applicable? If yes, complete the following:

Flash point is: _____ to _____ Method used: _____

(Specify Other):

c. Information for incinerable waste only:

- (1) Heat of combustion _____ to _____ BTU/lb
- (2) Ash content _____ to _____ wt%
- (3) Total halogen content _____ to _____ ppm
- (4) Water content _____ to _____ wt%
- (5) Suspended particulates content _____ to _____ ppm



Integrated Waste Tracking System
Material and Waste Characterization Profile
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5125N : Lead Shot Containing Feedthrough

- d. Yes No Was a waste analysis performed (e.g., TCLP Data)?
 Yes No Were the sampling and analysis protocols used in full compliance with SW-846 protocol or other equivalent regulatory agency approved methods?

e. RCRA Hazardous Constituents (Concentration Based D004-D043)

EPA Code	Hazardous Constituent	Exp.? (Y,N)	TCLP Values	Type	Waste Concentration Range			Representative Sample			Detect Limit	
					From	To	Units	From	To	Units	Limit	Units
Metals:												
D004	Arsenic	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D005	Barium	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D006	Cadmium	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D007	Chromium	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D008	Lead	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D009	Mercury	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D010	Selenium	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D011	Silver	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
Volatiles:												
D018	Benzene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D019	Carbon tetrachloride	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D021	Chlorobenzene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D022	Chloroform	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D027	p-Dichlorobenzene (1,4-Dichlorobenzene)	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D028	1,2-Dichloroethane	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D029	1,1-Dichloroethylene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D035	Methyl ethyl ketone	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D038	Pyridine	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D039	Tetrachloroethylene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D040	Trichloroethylene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D043	Vinyl chloride	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
Semi-Volatiles:												
D023	o-Cresol	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D024	m-Cresol	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D025	p-Cresol	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D026	Cresol	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D030	2,4-Dinitrotoluene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D032	Hexachlorobenzene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D033	Hexachlorobutadiene	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			
D034	Hexachloroethane	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N			-	-		-	-			



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5125N : Lead Shot Containing Feedthrough

EPA Code	Hazardous Constituent	Exp.? (Y,N)	TCLP Values	Type	Waste Concentration Range			Representative Sample			Detect Limit	
					From	To	Units	From	To	Units	Limit	Units
Semi-Volatiles:												
D036	Nitrobenzene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D037	Pentachlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D041	2,4,5-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D042	2,4,6-Trichlorophenol	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
Pesticides and Herbicides:												
D012	Endrin	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D012	Endrin, Endrin aldehyde	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, alpha-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, beta-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, delta-BHC	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D013	Lindane, gamma-BHC (Lindane)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D014	Methoxychlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D015	Toxaphene	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D016	2,4-D	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D017	2,4,5-TP (Silvex)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D020	Chlordane	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D031	Heptachlor	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			
D031	Heptachlor epoxide	<input type="checkbox"/>	<input checked="" type="checkbox"/>		-	-		-	-			

Note: "Type" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

f. RCRA Hazardous Constituents (Other)

EPA Code	Hazardous Constituent	TCLP Values	Type	Concentration Range			Representative Sample			Detect Limit	
				From	To	Units	From	To	Units	Limit	Units
D008C	Lead; Radioactive lead solids	No	2	-	-		-	-			

Note: "Type" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)

g. Underlying Hazardous Constituents



**Integrated Waste Tracking System
 Material and Waste Characterization Profile
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5125N : Lead Shot Containing Feedthrough

h. Analyte Data

Analyte	Flammable	TCLP Values	Type	Concentration Range			Representative Sample			Detect Limit	
				From	To	Units	From	To	Units	Limit	Units
Iron	No	No	2	0	- 35	wt%	-	-	-	-	-
Lead	No	No	2	65	- 75	wt%	-	-	-	-	-
Copper	No	No	2	0	- 10	wt%	-	-	-	-	-

Note: "Type" column designates type of analysis. (1=Approved Methods, 2=Process Knowledge, 3=Both)



Integrated Waste Tracking System
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5125N : Lead Shot Containing Feedthrough

3. Radiological Characteristics of Material:

a. Yes No Is fissile material present?

If Fissile Material ≥ 0.04 g/kg, waste matrix group is: _____

b. Total transuranic activity per gram of waste is: ≤ 10 nCi/g (LLW) or
 > 10 nCi/g and ≤ 100 nCi/g (Alpha LLW) or
 > 100 nCi/g (TRU)

c. Isotope inventory:

Transuranic Isotope Inventory

Isotope	Activity Range		Fissionable Material Range	Representative Sample Analysis	
				Activity	Fissionable Material
Am-241	0.000E+00	to 3.000E-05	Ci/m3	_____	_____
Pu-238	0.000E+00	to 2.000E-05	Ci/m3	_____	_____
Pu-239	0.000E+00	to 3.000E-04	Ci/m3	_____	_____
Summation:	0.000E+00	to 3.500E-04	Ci/m3	0.000E+00	to 0.000E+00 nCi/g

Note: Sample Analysis Activity and Fissionable Material Units must correspond to Activity Range and Fissionable Material Range.

Other Isotopes

Isotope	Activity Range			Representative Sample Analysis Activity
Ba-137m	0.000E+00	to 4.000E-02	Ci/m3	_____
Ce-144	0.000E+00	to 5.000E-04	Ci/m3	_____
Co-60	0.000E+00	to 2.000E-02	Ci/m3	_____
Cs-134	0.000E+00	to 2.000E-04	Ci/m3	_____
Cs-137	0.000E+00	to 4.000E-02	Ci/m3	_____
Eu-154	0.000E+00	to 9.000E-05	Ci/m3	_____
Eu-155	0.000E+00	to 9.000E-05	Ci/m3	_____
Pr-144	0.000E+00	to 5.000E-04	Ci/m3	_____
Rh-106	0.000E+00	to 5.000E-05	Ci/m3	_____
Ru-106	0.000E+00	to 5.000E-05	Ci/m3	_____
Sb-125	0.000E+00	to 6.000E-05	Ci/m3	_____
Sr-90	0.000E+00	to 5.000E-02	Ci/m3	_____
Y-90	0.000E+00	to 5.000E-02	Ci/m3	_____



Integrated Waste Tracking System
Material and Waste Characterization Profile
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5125N : Lead Shot Containing Feedthrough

- d. Expected radiation dose rate at surface: 0 to 5 mrem/hr
 at 30-cm: 0 to 5 mrem/hr
 at 1-meter: 0 to 5 mrem/hr
- e. Yes No Is the waste greater than Class C as defined in 10 CFR 61.557?
- f. Content Codes:

Quality Record Log

Screen	Column	Trans. Type	Before Change	After Change	Reason For Change	Insert
Composition 34: feedthrough for hot cell, with lead shot	Carcinogen	Update	-1	0	Lead is not a carcinogen.	WillsonR 01/22/2007
Physical Char.	Solid Density From	Update		0	update.	LeeC 01/30/2007
Physical Char.	Solid Density To	Update		11.4	update	LeeC 01/30/2007
Physical Char.	Density Units	Update		g/cc	update.	LeeC 01/30/2007
Isotopes-Other Sr-90	Activity Range to	Update	0.04	0.05	update	AllenRB 08/21/2007
Isotopes-Other Y-90	Activity Range to	Update	0.04	0.05	update	AllenRB 08/21/2007
Isotopes-Other Ba-137m	Activity Range to	Update	0.02	0.04	update	AllenRB 08/21/2007
Isotopes-Other Cs-137	Activity Range to	Update	0.02	0.04	update	AllenRB 08/21/2007

Supplemental Information

A. Containers Defined to Date:

Container ID	Container Date	Container Size/Type	Status	De-comm.	Common Name or Material
MFC060524	16-Nov-2006	10.3 - FT3	Active	<input type="checkbox"/>	Lead Shot Containing Feedthrough
MFC070172	24-Jul-2007	9.5 - FT3	Active	<input type="checkbox"/>	Lead Shot Containing Feedthrough
MFC070173	24-Jul-2007	9.5 - FT3	Active	<input type="checkbox"/>	Lead Shot Containing Feedthrough
MFC070174	29-Aug-2007	9.5 - FT3	Active	<input type="checkbox"/>	Lead Shot Containing Feedthrough

B. Profile Change History:

User Name	Date	Explanation
allenrb	21-Aug-2007 10:39 AM	update
AllenRB	21-Aug-2007 10:39 AM	ALLENRB. WGS. Call Point-4. Authorized on Generating Unit (ANL785).
Leec	30-Jan-2007 08:48 AM	to enter density.



**Integrated Waste Tracking System
 Material and Waste Characterization Profile
 INFORMATION ONLY**



5125N : Lead Shot Containing Feedthrough

B. Profile Change History:

User Name	Date	Explanation
LeeC	30-Jan-2007 08:48 AM	LEEC. WGS. Call Point-4. Authorized on Generating Unit (ANL785).
willsonr	22-Jan-2007 02:15 PM	Correction.
WillsonR	22-Jan-2007 02:15 PM	WILLSONR. WGS. Call Point-4. Authorized on Generating Unit (ANL785).
WillsonR	09-Jan-2007 01:04 PM	Material Profile: 5125N BEGIN VALIDATION FOR MATERIAL PROFILE APPROVE WILLSONR. WGS. Call Point-7. Authorized on Generating Unit (ANL785). RAD DATA VALIDATION PASSED HAZ DATA VALIDATION WASTE DESCRIPTION PASSED SITE TREATMENT PLAN VALIDATION PASSED COMPOSITION VALIDATION PASSED OVERALL VALIDATION PASSED
AllenRB	09-Jan-2007 10:16 AM	Material Profile: 5125N BEGIN VALIDATION FOR MATERIAL PROFILE REVIEW ALLENRB. WGS. Call Point-6. Authorized on Generating Unit (ANL785). RAD DATA VALIDATION PASSED HAZ DATA VALIDATION WASTE DESCRIPTION PASSED SITE TREATMENT PLAN VALIDATION PASSED COMPOSITION VALIDATION PASSED OVERALL VALIDATION PASSED



Integrated Waste Tracking System
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5125N : Lead Shot Containing Feedthrough

B. Profile Change History:

User Name	Date	Explanation
LeeC	09-Jan-2007 08:33 AM	Material Profile: 5125N BEGIN VALIDATION FOR MATERIAL PROFILE CERTIFY
		LEEC. WGS. Call Point-5. Authorized on Generating Unit (ANL785).
		RAD DATA VALIDATION PASSED
		HAZ DATA VALIDATION WASTE DESCRIPTION PASSED
		SITE TREATMENT PLAN VALIDATION PASSED
		COMPOSITION VALIDATION PASSED
		OVERALL VALIDATION PASSED
AllenRB	19-Dec-2006 09:55 AM	Material Profile: 5125N BEGIN VALIDATION FOR MATERIAL PROFILE CERTIFY
		ALLENRB. WGS. Call Point-5. Authorized on Generating Unit (ANL785).
		RAD DATA VALIDATION PASSED
		HAZ DATA VALIDATION WASTE DESCRIPTION PASSED
		SITE TREATMENT PLAN VALIDATION STP FAILED: Site Treatment Plan number required.
		COMPOSITION VALIDATION PASSED
		OVERALL VALIDATION FAILED
AllenRB	19-Dec-2006 09:28 AM	Material Profile: 5125N BEGIN VALIDATION FOR MATERIAL PROFILE CERTIFY
		ALLENRB. WGS. Call Point-5. Authorized on Generating Unit (ANL785).
		RAD DATA VALIDATION PASSED
		HAZ DATA VALIDATION WASTE DESCRIPTION PASSED
		SITE TREATMENT PLAN VALIDATION STP FAILED: Site Treatment Plan number required.
		COMPOSITION VALIDATION PASSED
		OVERALL VALIDATION FAILED

End of Report

Attachment C-2

Example of a Sample Label and Custody Seal

COC SAMPLE SEAL	
Collection Date/Time	_____
Sample Number	_____
Sample Location	_____
Signature	_____
FRM-152	

Example Custody Seal.

<u>COC SAMPLE LABEL</u>	
Sample Number	
Collection Date/Time	
Name of Sampler (print)	
Sample Location	
Waste Type/Sample Type	
Preservative Added (check) <input type="checkbox"/> Yes <input type="checkbox"/> No	
FRM-151	

Example Sample Seal.

Attachment C-3

Example of a Chain of Custody Record

Attachment C-4

Example LDR Notification Form

TSD Facilities				
Manifest or Container No.		Notification of Waste Subject to Land Disposal Restrictions		
Pursuant to 40 CFR 268.7(a)(2), I hereby notify the Idaho National Laboratory (INL), TSD Facilities Management that this waste shipment contains a restricted waste(s) that does not meet the applicable treatment standards set forth in 40 CFR 268, Subpart D. The appropriate regulatory citation (40 CFR section and paragraph) for the waste's treatment standard is listed below with the EPA hazardous waste number(s), waste treatability group(s), and subcategory of the code. For wastes where treatment standards are expressed as specific technologies in Section 268.42, the five-letter treatment code from Table 1 of Section 268.42 is also listed.				
(CIRCLE ALL APPLICABLE EPA WASTE CODES ASSOCIATED WITH THIS SHIPMENT OR CONTAINER)				
EPA Waste No.	Waste Treatability Group(s) (40 CFR 268.2) (Some TSDs only accept nonwastewaters)	Waste Subcategory (if any)	Treatment Standards for Hazardous Wastes 40 CFR 268.40 (mg/l)	Technology Standard
D001	WW NWW	Ignitable Characteristic Wastes, except for the § 261.2(a)(1) High TOC Subcategory.		DEACT and meet § 268.48 standards; or RORGS; or CMBST
D002	WW NWW	Corrosive Characteristic Waste		DEACT and meet § 268.48 standards
D003	WW NWW	Water Reactive Subcategory based on 261.23(a)(2), (3), and (4)		DEACT and meet § 268.48 standards
D004	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the toxicity characteristic leaching procedure (TCLP) in SW846.	5.0 mg/l TCLP and meet § 268.48 standards	
D005	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	21.0 mg/l TCLP and meet § 268.48 standards	
D006	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	0.11 mg/l TCLP and meet § 268.48 standards	
D007	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	0.6 mg/l TCLP and meet § 268.48 standards	
D008	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the toxicity characteristic leaching procedure (TCLP) in SW846.	0.75 mg/l TCLP and meet § 268.48 standards	
D008	WW NWW	Radioactive Lead Solids Subcategory		MACRO
D009	WW NWW	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC (High Mercury-Inorganic Subcategory)		RMERC
D009	WW NWW	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are residues from RMERC only. (Low Mercury Subcategory)	0.2 mg/l TCLP and meet § 268.48 standards	
D009	WW NWW	All other nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are not residues from RMERC. (Low Mercury Subcategory)	0.025 mg/l TCLP and meet § 268.48 standards	
D009	WW NWW	Elemental mercury contaminated with radioactive materials		AMLGM
D010	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	5.7 mg/l TCLP and meet § 268.48 standards	
D011	WW NWW	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the toxicity characteristic leaching procedure (TCLP) in SW846.	0.14 mg/l TCLP and meet § 268.48 standards	
(Other)				
Does the waste require listing of Underlying Hazardous Constituents? (Check one): If "Yes" is marked, attach a listing of any hazardous constituents, which can be reasonably expected to be present at the point of generation of the hazardous waste at a concentration above the constituent-specific treatment Universal Treatment Standard (UTS) listed in § 40 CFR 268.48				<input type="checkbox"/> Yes <input type="checkbox"/> No
Is this waste hazardous debris? (Check One) If "Yes" is marked, attach a description of the alternative treatment technology provided by § 40 CFR 268.45, the contaminants subject to treatment as described in § 268.45(b), and an indication that these contaminants are being treated to comply with § 268.45.				<input type="checkbox"/> Yes <input type="checkbox"/> No
Is waste analysis data attached? (Check One) If "no" is marked, indicate where information used to classify the waste is stored:				<input type="checkbox"/> Yes <input type="checkbox"/> No
I hereby certify that information submitted in this and all associated documents is complete and accurate to the best of my knowledge and information.				
Signature		Title		Date