



LAWRENCE
LIVERMORE
NATIONAL
LABORATORY

LLNL-TR-416262

WDR-PK-AK-018

R. Hollister

August 27, 2009

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W 241308

Waste Disposal Requisition

COPY

CID #: LL85701609TRV	Workplace Start Date: 6/23/05
Building #: 235	Workplace End Date: 5/31/06
Room: 1130	PKE#/PIW/IGD: PKE # 555

☐ Non-Haz (N) ☐ CA Haz (C) ☐ RCRA Haz (H) ☐ Universal (UW)
☐ Low-Level (R) ☐ LLW Mixed (F) ☐ LLW Combined (S)
☐ NTS LLW (L) ☐ Medical (M) ☒ TRU (T) ☒ TRU Mixed (X)

Bin/SAW/DQO ☐ Yes ☒ No	SAA ☒
#	WAA ☐
Req Tracking Init	Date

Waste Name: ☒ (See WDR or Electronic File)
(SEE ATTACHED PARCEL CARDS)
Container Use:
☐ On-site use only ☒ Acceptable for off site use
Container Manufacturer
Serial No./Batch No. G5501/8537701
Employee #: XXXXXX Initial: XXXX Date: 6/23/05

RMMA Certification:
CC Init HU Shipping Init
Rad Survey (mR/hr) (if applicable):
By @ Contact: 1.25 By @ 1 Meter: .09
Neutron @ Contact 0 By @ 30 cm 0
Readings less than values in the ES&H Manual, Doc. 20.0, Appendix D (i.e., items may be transferred on-site)
Performed by (Print): SONEKING, RUKA
Performed by (Signature): Russ Honking
Employee #: XXXXXX Date: 5/31/06

Verifier Certification:
☒ I verify to the best of my knowledge, the information supplied by the waste generator on this form is complete and accurate, and that by visual inspection the waste is accurately described.
Name (Print): Karen Richards
Signature: Karen Richs
Employee #: XXXXXX Date: 5/31/06

Generator Container Custodian Certification:

☐ I certify, to the best of my knowledge that the information provided on the above requisition is correct. I understand that I may be liable to State and Federal prosecution by intentionally providing false information.

I have obtained this information from:

- ☐ Direct knowledge of the generating process
☐ Analytical Data
☐ Others knowledgeable of the waste process

Container Custodian Certification:

☒ I certify that the waste parcels identified on this requisition are contained in this waste container and have been packaged in accordance with the requirements specified in the appropriate LLNL TRU or LLW Program Certification and Quality Assurance Program.

RMMA Certification:

Does this waste contain radioactive materials?

☒ Yes ☐ No ☐ To Be Analyzed

RMMA: ☒ Yes ☐ No (If Yes and not rad complete below)
 Was waste possibly exposed to a process resulting in radioactive contamination? ☐ Yes ☐ No

Was waste exposed to radioactive inducing particle beams?

☐ Yes ☐ No

Generator / Custodian

Name (Print): JESSEE WELCH

Signature: Jesse Welch

Employee # ~~XXXXXX~~

Date: 5/31/06

NORM Rad Screening Conducted: ☐ Yes ☐ No ☒ N/A

Background Reading

(microR/hr):

Reading on Item

(microR/hr):

Employee #:

Date:

Scale Calibration Certification:

☐ Estimated Weight

☒ Weighed on calibrated scale certified by WCP

Tare Weight: 23.6 Kg

Gross Weight: 71.2 Kg

Date Weighed: 6/23/05

Date Weighed: 5/31/06

Scale Serial #: 3602

Scale Serial #: 4040-05

Cal. Due Date: 11/30/05

Cal. Due Date: 9/13/06

Initials: ~~XXXX~~

Initials: ~~XXXX~~

Packaging Procedure Followed:

☐ WCP-8 ☒ WCP-20 ☐ EX-404 ☐ WPT-104 ☐ Other

☐ Packaging Inst. #

☐ Other/Describe:

Waste & Documentation Inspected By:

Name (Print): Karen Richards

Signature: Karen Richs

Employee #: ~~XXXXXX~~

Date: 6/9/06

Radiological Appendix:

☐ Contains > 10 grams fissionable material

☐ Do not store in fissile array

RCA initials: K

RCA Certification:

☐ NTS Certified

☐ On-Site Treatment

RCA Name (Print): Karen Riley

RCA Signature: ~~XXXXXX~~

Employee #: ~~XXXXXX~~

Date: 6/9/06

Chemist Certification:

Chemist Name (Print): ~~XXXXXX~~

Chemist Signature: ~~XXXXXX~~

Employee #: ~~XXXXXX~~

Date: 6/9/06

REVIEWED AND APPROVED FOR S&D, INVENTORY QUANTITY
 WQS0088 (3/05) WITHIN LIMITS PER K. CAWELL

09 JUN-06



From AD Facility Manager Office

Interdepartmental letterhead

Mail Station L-236

Ext: 3-8512

Date: January 10, 2006

To: Bob Fischer, L-546

From: Greg Cooper, CMS Associate Director Facility Manager

Subject: CMS TRU Waste Verifiers Update

The following individuals are authorized as verifiers of TRU waste in CMS:

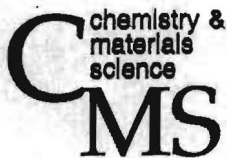
Name (Emp. No.)		Date EP0006-R, HZ, or HZRW Completed	Date EP0021, EP0006-RD, or RDRW Completed	Authorization Expires
Jody Drake (003790)	L-252	12/05/05	8/20/05	8/20/06
James Janvrin (004907)	L-252	11/09/05	11/09/05	11/09/06
Jackie Kenneally (000145)	L-236	3/15/05	7/05/05	3/15/06
Kenton Moody (620279)	L-236	8/05/05	8/06/05	8/05/06
Waltraud Prussin (721586)	L-232	2/18/05	9/16/05	2/18/06
Karen Richards (66C422)	L-252	3/08/05	4/11/05	3/08/06
Kevin Roberts (753550)	L-236	9/26/05	9/26/05	9/26/06
Mark Stoyer (864792)	L-236	8/01/05	8/01/05	8/01/06
Mark Wall (932512)	L-356	1/18/05	1/03/06	1/18/06
Jessee Welch (005613)	L-350	1/14/05	1/14/05	1/14/06
Pihong Zhao (996876)	L-231	4/19/05	8/24/05	4/19/06

EP0006 has been changed to EP0006-HZ or EP0006-HZRW and remains on a 12-month re-certification periodicity. EP0021 has changed to EP0006-RD or EP0006-RDRW and re-certification has changed from 24 months to 12 months. Underlined above are the course dates that have expired. The individuals are not certificated to be a "TRU Waste Verifier" for CMS. They should sign up and complete the coursework immediately in order to be re-certified.

CC: P. Baylacq L-236
T. Coburn L-546
K. Hainebach L-546
T. Simpson L-369
Employees Listed above



University of California
Lawrence Livermore National Laboratory



From AD Facility Manager Office

Interdepartmental letterhead

Mail Station L-236

Ext: 3-8512

Date: March 15, 2005

To: Bob Fischer, L-546

From: Greg Cooper, CMS Associate Director Facility Manager

Subject: CMS TRU Waste Verifiers Update

The following individuals are authorized as verifiers of TRU waste in CMS:

Name (Emp. No.)		Date EP0006-R, HZ, or HZRW Completed	Date EP0021, EP0006-RD, or RDRW Completed	Authorization Expires
Jody Drake (003790)	L-252	12/09/04	9/05/04	9/05/05
James Janvrin (004907)	L-252	11/09/04	11/09/04	11/09/05
Jackie Kenneally (000145)	L-236	3/15/05	7/06/04	7/06/05
Kenton Moody (620279)	L-236	3/08/05	8/02/04	8/02/05
Waltraud Prussin (721586)	L-232	2/18/05	9/20/04	9/20/05
Karen Richards (66C422)	L-252	3/08/05	5/25/04	5/25/05
Kevin Roberts (753550)	L-236	9/14/04	9/14/04	9/14/05
Mark Stoyer (864792)	L-236	8/02/04	8/02/04	8/02/05
Mark Wall (932512)	L-356	1/18/05	12/15/04	12/15/05
Jessee Welch (005613)	L-350	1/14/05	1/14/05	1/14/06
Pihong Zhao (996876)	L-231	<u>3/15/04</u>	8/19/04	<u>3/15/05</u>

EP0006 has been changed to EP0006-HZ or EP0006-HZRW and remains on a 12-month re-certification periodicity. EP0021 has changed to EP0006-RD or EP0006-RDRW and re-certification has changed from 24 months to 12 months. Underlined above are the course dates that have expired. The individuals are not certificated to be a "TRU Waste Verifier" for CMS. They should sign up and complete the coursework immediately in order to be re-certified.

CC: P. Baylacq L-236
J. Carlson L-090
T. Coburn L-546
K. Hainebach L-546
T. Simpson L-369
Employees Listed above



University of California
Lawrence Livermore National Laboratory

Perkins, TRU Verifier

To: Perkins
From: Karen Riley <riley1@llnl.gov>
Subject: TRU Verifier
Cc: Dominick, Hollister, Richards
Bcc:
Attached:

Brian,
According to the last authorized verifier list issued by Greg Cooper, Karen Richards was an authorized verifier for TRU waste until her training expired. I have verified that she is current in both required classes and can act as a verifier.

Karen

Karen Riley
Radiological Characterization Group Coordinator
RHWM
Phone: 3-7027, Pager: 01067
e-mail: riley1@llnl.gov

To: Cadwell, Lindsey, Warner, Barry
From: Karen Riley <riley1@llnl.gov>
Subject: MW TRU drum
Cc: Richards, Hollister, drake
Bcc:
Attached:

All,

I have completed RCA review and approval on a MW TRU drum that needs to come into S&D in June. Workplace start date 6/23/05.

W241308, LL85701609TRU, 55 gallon, mixed waste

Isotopes: Am-241: 1.4E-3 curies, Am-243: 5.4E-4 curies, Pu-238: 8.1E-2, Pu-239: 1.6E-2.

Total curies 9.894E-2

PE curies 0.0910
Pu- grams 0.2653

Beta gamma survey on contact 1.25 mR/Hr, neutron 0 mR/Hr.

Karen

TRU WASTE CONTAINER CLOSURE CHECKLIST

Container Serial Number: LL85 7 01609 TRU

Activity	Initials
1. Integrity of the container's construction is acceptable (tight seams and/or welds, lid fits, sound panels, no holes, no significant rust).	RKH
2. ☒ Container is a 55-gallon (208 liter) drum: Fill out Section 3. ☐ Container is a TRUPACT-II Standard Waste Box (SWB): Fill out Section 4.	RKH
3. Drum has been closed and sealed as follows:	
a. 3.5 mil plastic liner bag sealed by twist & tape method.	RKH
b. HDPE rigid liner: ☒ is not present or required ☐ is present and the lid: ☐ has been secured (required for all but Myers G5501 drums) ☐ is present but not secured ☐ is absent	RKH
c. Gasket is attached to the lid of the drum.	RKH
d. Lid has been placed on the drum.	RKH
e. For bolt, check calibration due date & record torque wrench serial #: <u>0601603334</u> <u>Cal due 8/23/06</u>	RKH
f. Bolt has been tightened in accordance with the manufacturer's instructions.	RKH
g. Jam nut has been tightened against: ☐ threaded lug ☒ unthreaded lug, either according to manufacturer's instructions. (Myers drums require tightening against unthreaded lug.)	RKH
h. For filter vent, check calibration due date & record torque wrench serial #: <u>0899304454</u> <u>Cal due 5/23/06</u>	RKH
i. Filter vent has been tightened in accordance with the manufacturer's instructions.	
j. Bolt TID seal number: <u>L10010</u> ✓	RKH ✓
k. Filter vent TID seal number: <u>L10011</u> ✓	RKH ✓
4. SWB has been closed and sealed as follows:	
a. Gasket is attached to the lid of the box.	
b. Lid has been placed on box.	
c. For bolts, check calibration due date & record torque wrench serial #:	
d. Bolts have been tightened in accordance with the manufacturer's instructions.	
e. For filter vents, check calibration due date & record torque wrench serial #:	
f. Filter vents have been tightened in accordance with the manufacturer's instructions.	
g. Waste package seals have been applied to the box, covering the 4 sides of the lid and the 4 filter vent ports. Seal numbers: _____ _____	

Witnessed by: 
Radiological Characterization Analyst

5/31/06
Date

TRU WASTE PACKAGE CERTIFICATION CHECKLIST

CONTAINER DESCRIPTION:

Container Serial Number: LL85 7 01609 TRU

DOCUMENTATION SIGNOFF:

Initials

1. Review and approval section of the LLNL TRU Waste Container Inspection Card, if present, has been initialed and dated. (Or see WDR.) ✓
2. Review and approval sections of the LLNL TRU Waste Parcel Cards have been initialed and dated. ✓
☒ Yes ☐ No: All parcels are newly generated under the LLNL TRUWC QAPjP.
3. For Mixed or CA combined waste, Chemist has approved, initialed, and dated each LLNL Radioactive Waste Parcel Card and the WDR. ✓
4. TRU Waste Container Closure Checklist has been completed and signed. ✓
5. Record assay information:
☐ Parcels assayed as indicated on Parcel Cards.
☒ Drum assayed by: ☐ Segmented Gamma Scanner
☐ Passive-active Neutron Counter
☐ High Sensitivity Neutron Instrument
☐ IPAN/GEA
☐ Box assayed by: ☒ Gamma Spec
☒ Assay printout attached to data package or contained in batch data report # CES COC 16177
☐ Activity calculation spreadsheet attached to data package. N/A
☒ Yes ☐ No: Assay method meets the requirements of the LLNL TRUWC QAPjP and passed the NDA PDP. ✓
6. Review and approval section of the LLNL Waste Disposal Requisition has been initialed and dated. ✓
7. Accepted for storage at HWM facility per procedure HWM-800. ✓
8. Review and approval section of the LLNL TRU Waste Radiological Survey Card has been initialed and dated. ✓
9. Headspace gas sampling and analysis have been performed and the data validated and found acceptable. N/A
10. Real-time radiography (required of retrievably-stored waste only) has been completed and confirms that the container meets WIPP WAC and TRAMPAC criteria. N/A
11. Visual examination of radiographed container has been performed (if this container was selected for visual examination) and confirms that the drum meets WIPP WAC and TRAMPAC criteria. N/A
12. Sampling and RCRA constituent analysis (required of homogenous solids only) have been performed and the data validated and found acceptable, if this container was selected for S&A. N/A
13. TRAMPAC gas generation requirements:
☒ Container meets thermal power requirements (for analytical category).
☐ Container does not meet thermal power requirements but has been shown by testing to meet gas generation requirements.
☐ Container does not meet gas generation requirements: DO NOT SHIP. ✓

Checklist complete:

[Signature]
Radiological Characterization Analyst Signature

6/9/06

Date



COC
Version 4.0
10/6/2004

CES Chain of Custody

CES COC #
16177



Send Results to:

JODY DRAKE

L- 252 phone 30607

Copy: (please page for report)

L- pick-up - pgr:02131

Turnaround Time

☐ E
☐ R
☒ N

DQO:

N/A

Field Contact

JODY DRAKE

LLNL Account #

3293 - 59

Project Name

N/A

Tank Volume

N/A

liters

Data Package Required:

☒ Normal ☐ CLP ☐ YMP

Reporting level:

☐ Level 1 ☐ Level 2 ☐ Level 3

☐ RETURN UNUSED SAMPLE TO CLIENT

☐ EDD Required (data from off-site labs only)

Client ID

RHWM

~~FORCES USE ONLY~~

Condition Upon Receipt:

☒ No Discrepancies

☐ Condition/Variance

Client Sample
Identification

Date
Sampled

Time
Sampled

Bldg

RAD
(Y or N)

Matrix
Code

Gen
Code

Bottles

FIELD
GAMMA

Tests / Preservation Codes

TREAT
AS
RAD

NO
SCREEN
REQ'D

Additional Instructions:

Sample Composition

TRU DRUM CONTAINING
238 Pu ENRICHED WG
PLUTONIUM

Signature

Date

Time

Signature

Date

Time

Sampled and Relinquished by:

Relinquished by:

Relinquished by:

Received by:

Received by:

Received by:

CES phone # (925) 422-6605 or (925) 422-2060

See page 2 for codes and additional instructions.

ELAP Certifications #1554



CSF
Version 1.0
12/21/98

CES CASE SUMMARY FORM

Laboratory Identification:

C&MS Environmental Services
Lawrence Livermore National Laboratory
7000 East Avenue, L-Code 231
Livermore CA 94550
(925) 424-4127
ELAP Certification No. 1554

Packet Completion Date

June 7, 2006

Client: Jody Drake/ RHWL

Sample Receipt:

One (1) solid-material sample was submitted to CES on May 26, 2006 for field gamma analysis. The sample was counted on location at B235 in Rm1136. Sample was intact and without any visible sign of tampering.

Project Name: N/A

Client COC Number n/a CES COC Number 16177

Client ID

W241308

CES ID

81518

Requested Analyses

Field Gamma Scan

Case Narrative:

Analyses were conducted using methodology as detailed in CES SOPs. Any technical or administrative problems encountered during analysis or other relevant comments are listed below:

Additional Comments:

Field gamma scan is a non-Cal/EPA-certified test.

I certify that this data package is complete as per the customer's request and compliant with technical and administrative requirements. All analytical work performed by outside contract laboratories is reported on their letterhead and released by the associated laboratory, independent of CES. The Laboratory Director (or designee) as verified by the following signature authorizes release of this data package:

Robert J. Haslett Jr., ext. 4-2088
Customer Representative

Date June 7, 2006

COC Sample ID Listing

CES COC # 16177[illegible]

81518

Field Gamma Analysis of W241308

Report by: David Wruck

Date of Report: June 5, 2006

INTRODUCTION AND SAMPLE DESCRIPTION

This report documents the field gamma analysis of the following sample listed on CES Chain of Custody 16177.

Client Sample ID	CES ID	Sample Description
W241308	81518	55-gallon TRU drum

METHODS

Method. CES SOP-HW-P556 "Field and Bulk Gamma Analysis"

Detector. High-purity germanium, 40% relative efficiency

Calibration. The detector was calibrated on February 8, 2006 using a NIST-traceable sealed source, and the calibration was verified using an independent sealed source.

Count Time and Geometry. The sample was counted for 20 minutes at 72 inches from the detector. A lead collimator was used to limit the field-of-view to the region of the sample. The drum was rotated 180 degrees halfway through the count time.

Date and Location of Scans. June 1, 2006 in Building 235 Room 1136

Spectral Analysis. Spectra were analyzed with ORTEC GammaVision software. Matrix and geometry corrections were calculated using ORTEC Isotopic software. A background spectrum was measured at the counting location. No man-made radioactivity was observed in the background. Results were determined from the sample spectra without background subtraction. Minimum detectable activities were calculated by the Nureg 4.16 method.

RESULTS

Detected Pu-238, Pu-239, Am-241 and Am-243.

Nuclide	Activity (Ci)	Uncertainty (%)
Pu-238	8.1E-02	50
Pu-239	1.6E-02	50
Am-241	1.4E-03	40
Am-243	5.4E-04	40

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061188 on the parcel. Number each page. Page 1 of 2

3
3/31/06

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1 and 2

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

KKKK.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

99. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($\text{Pu-240} \leq 6\% + \text{Am-241} \leq 1\%$)☐ Fuel Pu ($6\% \leq \text{Pu-240} \leq 20\% + \text{Am-241} \leq 1\%$)☐ Reactor Pu ($20\% \leq \text{Pu-240} \leq 30\% + \text{Am-241} \leq 1\%$)☐ Am-enriched Pu ($\text{Pu-240} \leq 15\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Mixed Pu ($15\% \leq \text{Pu-240} \leq 50\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% \text{ Pu-238}, \leq 6\% \text{ Pu-240}$)☐ Pu-238 ($80\% \leq \text{Pu-238} \leq 85\%$)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci) Amount (g, Ci)

Pu 238 Am 243 90W 6/6

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium ($\text{U-235} \leq 0.7\%$)☐ Natural Uranium ($\text{U-235} = 0.7\%$)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall
Printed Name
M. A. Wall
Signature
3/31/06
Date
Employee No. 37162
Extension
L-code 4356

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch
Printed Name
Jesse Welch
Signature
3/31/06
Date
Employee No. 1-11-07
Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RK 5/31/06 500 8/6/06
Initials Date

H2. Characterization Chemist Review:

H 6 5/26/06
Initials Date

H/W
3/31/06

Component Checklist

General:

Estimated Parcel Weight: 1.45 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1.25 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
Other inorganic materials: Specify _____
Combustibles: Rubber, Cellulosics, Plastics <u>30</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A*Partial Roll of tape out of Glove Box Alien wrench A1 foil*B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061188

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
✓ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	✓ Plastic products
Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	✓ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130☐ N/A

4. Workstation:

Land 2☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A6. IGD #: ☐ (old PKE #, if needed 556)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations: _____

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

B. Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

100. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($\text{Pu-240} \leq 6\% + \text{Am-241} \leq 1\%$)☐ Fuel Pu ($6\% \leq \text{Pu-240} \leq 20\% + \text{Am-241} \leq 1\%$)☐ Reactor Pu ($20\% \leq \text{Pu-240} \leq 30\% + \text{Am-241} \leq 1\%$)☐ Am-enriched Pu ($\text{Pu-240} \leq 15\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Mixed Pu ($15\% \leq \text{Pu-240} \leq 50\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% \text{ Pu-238}, \leq 6\% \text{ Pu-240}$)☐ Pu-238 ($80\% \leq \text{Pu-238} \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

Pu-238 Am-241 Am-241 Am-241

B. Other Nuclides (not TRU) Amount (g, Ci)

☐ Depleted Uranium ($\text{U-235} \leq 0.7\%$)☐ Natural Uranium ($\text{U-235} = 0.7\%$)☐ Enriched Uranium:

_____%U-234 _____%U-235 _____%U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall Printed Name 3/31/06 Date

Mark Wall Signature 371102 Extension L-356 L-code

Employee No.

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

3/3/06 9910 Jessie Welch Printed Name 3/31/06 Date

Jessie Welch Signature 1-11-07 Date

Employee No. Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

AKW 5/31/06 5-11-06

Initials Date

H2. Characterization Chemist Review:

HC 5/26/06

Initials Date

Component Checklist

General:

Estimated Parcel Weight: 1.62 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
Other inorganic materials: Specify _____
Combustibles: Rubber, Cellulosics, Plastics <u>30</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings Weight: _____
Graphite/carbon products Weight: _____
HEPA filters (☐ form WGS 0028 completed)
BeO: ☐ powder ☐ solid pieces Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

small tools / nuts / washers

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061184

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated-rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061187 on the parcel. Number each page. Page 1 of 2

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1 and 2

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

JJJJ

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

98. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)
Pu 238 Am 241 3/31/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)☐ Natural Uranium ($U-235 = 0.7\%$)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall
Printed Name
3/31/06
Signature
37162
Employee No. Extension
L-356
L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch
Printed Name
3/31/06
Signature
1-11-07
Employee No. Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RK 5/31/06 500 6/6/6
Initials Date

H2. Characterization Chemist Review:

HL 5/26/06
Initials Date

Component Checklist

General:

Estimated Parcel Weight: 8.52 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 8 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number <u>2</u> ; Largest size <u>1 qt</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
☒ Other Metals/Alloys: Specify <u>Brass Copper</u>
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>50</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove)	
☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____)]	
specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Contains 2 photo trays with waste bagged separately 1 can with no lid contains sharps (needles) Q-tips, ceramic scrap, screws, old wire, Al foil and assorted lab glass (beakers) Polish

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061187

Page 3 of 3

Generator's or Verifier's Initials: mw JH

Component	Component
Aluminum oxide products	✓ Magnesium oxide
✓ Aluminum products	✓ Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
✓ Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
✓ Ceramic products	✓ Plastic products
✓ Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	✓ Radiac wash on wipes (dry)
cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	✓ Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	X Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	X Stainless steel products
✓ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ QCAL-ISO ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

III. Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

97. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Am-242 111N 6/6/06Pu-238 _____ _____ _____ _____

B. Other Nuclides (not TRU) Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)☐ Natural Uranium ($U-235 = 0.7\%$)☐ Enriched Uranium:_____ %U-234 _____ %U-235 _____ %U-238☐ Others: Amount (g, Ci) _____ _____ _____ _____

13. LLNL TRU Waste Forms

1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall ☒
Printed Name
M. A. Wall 3/6/06
Signature Date
37162 L-356
Employee No. Extension L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jessie Welch ☒
Printed Name
Jessie Welch 3/6/06
Signature Date
1-11-07
Employee No. Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

REH 5/31/06 JLD 6/6/06
Initials Date

H2. Characterization Chemist Review:

HL6 5/26/06
Initials Date

901W 3/6/86

Component Checklist

General:

Estimated Parcel Weight: 1.59 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 4.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
Other inorganic materials: Specify _____
Combustibles: Rubber, Cellulosics, Plastics <u>50</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings Weight: _____
Graphite/carbon products Weight: _____
HEPA filters (☐ form WGS 0028 completed)
BeO: ☐ powder ☐ solid pieces Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

AL foil crumpled into balls

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061186

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
✓ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	✓ Plastic products
Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

3
X 99W
3/6/06

- HL 5/26/06
Initials Date

3
3/6/06

Component Checklist

General:

Estimated Parcel Weight: 2.39 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>~12</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
☒ Other Metals/Alloys: Specify <u>CU</u>
☒ Other inorganic materials: Specify <u>GLASS</u>
Combustibles: Rubber, Cellulosics, Plastics <u>40</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/Aopen top can used for sharp - contaminant ~ 1 atB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061185

Page 3 of 3

Generator's or Verifier's Initials: AW/JW

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1

☐ N/A

5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)

No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ No

Free Liquids ☐ Yes ☒ No

Compressed Gases ☐ Yes ☒ No

Explosives ☐ Yes ☒ No

Pyrophorics ☐ Yes ☒ No

Ignitable Material ☐ Yes ☒ No

Corrosive Material ☐ Yes ☒ No

Reactive Material ☐ Yes ☒ No

Chelating Agents >1% ☐ Yes ☒ No

Friable Asbestos ☐ Yes ☒ No

PCBs ☐ Yes ☒ No

Deuterated Material ☐ Yes ☒ No

E-waste ☐ Yes ☒ No

Flammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ Q

Mass or Mass balance (weighing) ☐ I ☐ Q

CAL-ISO ☐ I ☐ Q

Alpha spectrometry ☐ I ☐ Q

Gamma spectrometry ☐ I ☐ Q

MM Accountability Data ☐ I ☐ Q

GGGG.

Full container method

Process Knowledge ☐ I ☐ Q

Field gamma spec ☐ I ☒ Q (PRELIMINARY)

SGS ☐ I ☐ Q

HSNI ☐ I ☐ Q

Other: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

95. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)

☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)

☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)

☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)

☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)

☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)

☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

Pu-238 Am-243 6/6/06

B. Other Nuclides (not TRU) Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)

☐ Natural Uranium ($U-235 = 0.7\%$)

☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

☐ 2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present

☐ 2b. Aqueous only

☐ 3. Metal Scrap Waste (large objects)

☐ 4. Waste Salt Blocks (no plastic, in steel can)

☐ 5. HEPA Filter Waste

☐ 6. Sealed Source Waste

14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐

Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No

Aerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall Printed Name

Signature Date 2/28/06

Employee No. 37162 L356

Extension L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch Printed Name

Signature Date 2/28/06

Employee No. 1-11-07

Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RKH 5/31/06 506/6/6

Initials Date

H2. Characterization Chemist Review:

HL 5/26/06

Initials Date

Component Checklist

General:

Estimated Parcel Weight: 4.64 ☐ g ☐ kg ☒ lb

Estimated Parcel Volume (w/ packaging): 4.0 L

Basic Checklist (check all that apply):

☐	Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
☐	Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☒	Other Metals/Alloys: Specify <u>BRASS</u>
☒	Other inorganic materials: Specify <u>GLASS</u>
☐	Combustibles: Rubber, Cellulosics, Plastics <u>40</u> % parcel volume
☐	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
☐	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
☐	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
☐	Soils
☐	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Boron Raschig rings Weight: _____
☐	Graphite/carbon products Weight: _____
☐	HEPA filters (☐ form WGS 0028 completed)
☐	BeO: ☐ powder ☐ solid pieces Weight: _____
☐	BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
☐	Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
☐	Circuit boards (1 gram lead per board)
☐	Equipment
☐	HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
☐	Kaufman cans (steel with lead-soldered seams)
☐	Lead products Weight: _____
☐	Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
☐	Light bulbs/tubes
☐	Steel cans, cadmium-lined
☐	Steel cans, lead-lined
☐	Steel cans, soldered
☐	Oil and trichloroethylene, solidified with PetroSet-II
☐	Trichloroethylene, solidified with PetroSet-II
☐	Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

BRASS and steel PIPE fittings and Lab GLASS

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061184

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
✓ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
✓ Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	Plastic products
Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	✓ Stainless steel products
✓ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (superscripts refer to component list items, also with this indicator)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061200

on the parcel. Number each page. Page 1 of 3

399W
2/22/064/22/06
99W

1. Hazardous category:

☒ Non-regulated (T) ☒ RCRA-regulated (X)2. Building: 2353. Room: 1130 ☐ N/A4. Workstation: 1 and 2 ☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ NoExplanations:

10. Hazardous Constituents

Weight

unit

Lead	1	g
Silver	1	g

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

WWW.

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

Full container method

111. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu (Pu-240 ≤ 6% + Am-241 ≤ 1%)☐ Fuel Pu (6% ≤ Pu-240 ≤ 20% + Am-241 ≤ 1%)☐ Reactor Pu ((20% ≤ Pu-240 ≤ 30% + Am-241 ≤ 1%)☐ Am-enriched Pu (Pu-240 ≤ 15% + 1% ≤ Am-241 ≤ 25%)☐ Mixed Pu (15% ≤ Pu-240 ≤ 50% + 1% ≤ Am-241 ≤ 25%)☐ Pu-238-enr'd Weapons Pu (≥ 0.08% Pu-238, ≤ 6% Pu-240)☐ Pu-238 (80% ≤ Pu-238 ≤ 85%)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci)

Pu 238 Am 243 99W 6/6/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium (U-235 ≤ 0.7%)☐ Natural Uranium (U-235 = 0.7%)☐ Enriched Uranium: %U-234 %U-235 %U-238☐ Others: Amount (g, Ci)

Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for

example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

<u>Mark Wall</u>	Printed Name	<u>2/22/06</u>
<u> </u>	Signature	<u>3-7162</u>
<u> </u>	Employee No.	<u>L-356</u>
	Extension	L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

<u>Jessie Welch</u>	Printed Name	<u>2/22/06</u>
<u> </u>	Signature	<u>1-11-07</u>
<u> </u>	Employee No.	Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

<u>RKH</u>	Initials	<u>5/31/06</u>	Date
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H2. Characterization Chemist Review:

<u>H6</u>	Initials	<u>5/26/06</u>	Date
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Component Checklist

General:

Estimated Parcel Weight: 2.23 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 2.5 L

Basic Checklist (check all that apply):

☐	Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
☐	Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☒	Other Metals/Alloys: Specify <u>Cu</u>
☒	Other inorganic materials: Specify <u>glass</u>
☐	Combustibles: Rubber, Cellulosics, Plastics <u>60</u> % parcel volume
☐	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
☐	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
☐	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
☐	Soils
☐	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Boron Raschig rings Weight: _____
☐	Graphite/carbon products Weight: _____
☐	HEPA filters (☐ form WGS 0028 completed)
☐	BeO: ☐ powder ☐ solid pieces Weight: _____
☐	BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
☐	Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
☒	Circuit boards (1 gram lead per board) <u>Ph meter</u> <u>1ea</u>
☐	Equipment
☐	HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
☐	Kaufman cans (steel with lead-soldered seams)
☐	Lead products Weight: _____
☐	Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
☐	Light bulbs/tubes
☐	Steel cans, cadmium-lined
☐	Steel cans, lead-lined
☐	Steel cans, soldered
☐	Oil and trichloroethylene, solidified with PetroSet-II
☐	Trichloroethylene, solidified with PetroSet-II
☐	Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/ABroken Ph meter S.S. screwB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061200

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
✓ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	✓ Plastic products
✓ Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
✓ cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
✓ Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	✓ Stainless steel products
✓ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
✓ Lead 2 (as a component of solder)	} 1 Circuit Board
✓ Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

3 g/m
10/19/05

1. Hazardous category:
☒ Non-regulated (T) ☐ RCRA-regulated (X)
2. Building: 235
3. Room: 1130 ☐ N/A
4. Workstation: 3 ☐ N/A
5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)
 No. _____ ☐ N/A
6. IGD #: _____ (old PKE #, if needed 555)
7. Container Serial # and Requisition #:
 A. Accumulation drum LL85 701609 TRU; W 241308
 B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste 701609
☒ Solid ☐ Sludge ☐ Liquid ☐ Gas
9. Does the waste contain any of the following? (If yes, explain.)
- | | | |
|----------------------|------------------------------|--|
| Classified Material | ☐ Yes | ☒ No |
| Free Liquids | ☐ Yes | ☒ No |
| Compressed Gases | ☐ Yes | ☒ No |
| Explosives | ☐ Yes | ☒ No |
| Pyrophorics | ☐ Yes | ☒ No |
| Ignitable Material | ☐ Yes | ☒ No |
| Corrosive Material | ☐ Yes | ☒ No |
| Reactive Material | ☐ Yes | ☒ No |
| Chelating Agents >1% | ☐ Yes | ☒ No |
| Friable Asbestos | ☐ Yes | ☒ No |
| PCBs | ☐ Yes | ☒ No |
| Deuterated Material | ☐ Yes | ☒ No |
| E-waste | ☐ Yes | ☒ No |
| Flammable VOCs | ☐ Yes | ☒ No |
- Explanations: _____

Hazardous Constituents	Weight	unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:
- A. Parcel-by-parcel method
- | | | |
|---------------------------------|---------------------------------------|----------------------------|
| Process Knowledge | ☒ I | ☐ Q |
| Mass or Mass balance (weighing) | ☐ I | ☐ Q |
| CAL-ISO | ☐ I | ☐ Q |
| Alpha spectrometry | ☐ I | ☐ Q |
| Gamma spectrometry | ☐ I | ☐ Q |
| MM Accountability Data | ☐ I | ☐ Q |
- VVV. Full container method
- | | | |
|-----------------------------------|----------------------------|---|
| Process Knowledge | ☐ I | ☐ Q |
| Field gamma spec | ☐ I | ☒ Q (PRELIMINARY) |
| SGS | ☐ I | ☐ Q |
| HSNI | ☐ I | ☐ Q |
| Other: <u>WIPP-APPROVED ASSAY</u> | ☐ I | ☒ Q (FINAL) |

110. Radionuclides in this parcel:
- A. TRU Nuclides
- ☒ Weapons Pu (Pu-240 ≤ 6% + Am-241 ≤ 1%)
 - ☐ Fuel Pu (6% ≤ Pu-240 ≤ 20% + Am-241 ≤ 1%)
 - ☐ Reactor Pu ((20% ≤ Pu-240 ≤ 30% + Am-241 ≤ 1%)
 - ☐ Am-enriched Pu (Pu-240 ≤ 15% + 1% ≤ Am-241 ≤ 25%)
 - ☐ Mixed Pu (15% ≤ Pu-240 ≤ 50% + 1% ≤ Am-241 ≤ 25%)
 - ☐ Pu-238-enr'd Weapons Pu (≥ 0.08% Pu-238, ≤ 6% Pu-240)
 - ☐ Pu-238 (80% ≤ Pu-238 ≤ 85%)

12. Radionuclides in this parcel (continued):
- A. Others: Amount (g, Ci) Amount (g, Ci)
- | | | |
|---------------|--|--|
| <u>Pu 238</u> | | |
| | | |
| | | |
| | | |
- B. Other Nuclides (not TRU) Amount (g, Ci)
- ☐ Depleted Uranium (U-235 ≤ 0.7%)
 - ☐ Natural Uranium (U-235 = 0.7%)
 - ☐ Enriched Uranium: _____ %U-234 _____ %U-235 _____ %U-238
 - ☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms
- ☒ 1. Glove Box Waste
 - ☐ 2. Solidified Liquid Waste:
 - ☐ 2a. Oils or solvents present
 - ☐ 2b. Aqueous only
 - ☐ 3. Metal Scrap Waste (large objects)
 - ☐ 4. Waste Salt Blocks (no plastic, in steel can)
 - ☐ 5. HEPA Filter Waste
 - ☐ 6. Sealed Source Waste
14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No
15. Management of Gas Containment
- Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____
 - Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No
 - Aerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☒ Yes ☐ No)
16. Generator Certification: 99W 10/19/05
 I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark A. Wall Printed Name
M.A. Wall Signature
3-7162 Extension
10/19/05 Date
L-356 L-code

17. Verifier Certification:
 I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.
- Jessie Welch Printed Name
Jessie Welch Signature
1-14-06 Date
 Date TRUW Verifier Authorization Expires

- H1. Radiological Characterization Analyst Review:
RK6 Initials 5/31/06 Date
- H2. Characterization Chemist Review:
H6 Initials 5/26/06 Date

Component Checklist

General:

Estimated Parcel Weight: 1.74 ☐ g ☐ kg ☐ lbEstimated Parcel Volume (w/ packaging): 0.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
Aluminum-based Metals/Alloys
Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
☒ Other inorganic materials: Specify <u>glass</u>
☒ Combustibles: Rubber, Cellulosics, Plastics <u>90</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Lab trash from Decon of microscope

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/1/06</u>

Parcel Card No. P 061199

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

Component Checklist

General:

Estimated Parcel Weight: 1.2 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1.5 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>250 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
	Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
☒	Other inorganic materials: Specify <u>glass</u>
	Combustibles: Rubber, Cellulosics, Plastics <u>10</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/AAll sample mounting can with 5.5 Cap screwsB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

N/A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/1/06</u>

Parcel Card No. P 061198

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Generator's or Verifier's Initials

[Signature]

Component	Component
☐ Aluminum oxide products	☐ Magnesium oxide
☒ Aluminum products	☐ Mineral oil residues
☐ Aqueous liquids, solidified with Aquaset	☐ Organic liquids, solidified with Petroset
☐ Brass products	☒ Paper products
☐ Carbon products, including diamonds	☐ Petroleum hydrocarbon residues
☐ Carbon tetrachloride residues (<i>non-hazardous</i>)	☐ Plastic-coated iron magnets
☐ Ceramic products	☒ Plastic products
☐ Copper metal/alloy products	☒ PPE (gloves, booties)
☐ Copper oxide powder	☐ Radiac wash on wipes (dry)
☐ cotton swabs	☐ Rubber gloves
☐ Cotton wipers	☐ Rubber products
☒ Cotton-tipped Q-tips	☐ Sandpaper
☐ DURAMIDE 285 residues	☐ Silica
☐ Dust cloths (mineral oil treated rayon/polyester fabric)	☐ Silicon with Si ₃ N ₄ (silicon nitride)
☐ Electric components	☐ Silicone fluid residues
☐ Epoxi-Patch Black Epoxy (cured and hardened)	☐ Small hand tools (brass, plastic, steel, wood)
☐ Felt-tip pens	☒ Stainless steel products
☒ Glass products	☐ TLC-free stripcoat (dry)
☐ Glove box HEPA filters	☐ X-caliber Cleaning Compound (dried)
☐ Kerosene residues (<i>non-hazardous</i>)	☐ Zirconium oxide
☐ Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

123

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

TTTT.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

108. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)☐ Reactor Pu ($(20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%)$)☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

Pu 238

Am 241

Amount (g, Ci) 06/06/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)☐ Natural Uranium ($U-235 = 0.7\%$)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci)

Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste☐ 2. Solidified Liquid Waste:☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

☐ Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3☐ Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No☐ Aerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

MARK A. WALL

M. A. Wall

Printed Name

10/17/05

Signature

2-7162

Date

L-356

Employee No.

Extension

L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Jesse Welch

Printed Name

10/17/05

Signature

01-14-06

Date

Employee No.

Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RKH

Initials

5/31/06

Date

SW 6/6/06

H2. Characterization Chemist Review:

H6

Initials

5/26/06

Date

399W
16/17/65

Component Checklist

General:

Estimated Parcel Weight: 1.34 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 3.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
☒ Other inorganic materials: Specify <u>mineral salts</u>
Combustibles: Rubber, Cellulosics, Plastics <u>30</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Lab Trash

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>4/9/06</u>

Parcel Card No. P 061197

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	☒ Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	☒ Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

3 PW
10/17/03

- NOTE:** You may use metric multiples

Component Checklist

General:

Estimated Parcel Weight: 1.54 ☐ g ☐ kg ☒ lb
Estimated Parcel Volume (w/ packaging): 2.0 L

Basic Checklist (check all that apply):

☐	Cans/bottles/buckets, Number <u>4</u> ; Largest size <u>20 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
☐	Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☒	Other Metals/Alloys: Specify <u>Cu</u>
☒	Other inorganic materials: Specify <u>glass</u>
☐	Combustibles: Rubber, Cellulosics, Plastics <u>10</u> % parcel volume
☐	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
☐	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
☐	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
☐	Soils
☐	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Small sample vials Small Petridish

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used) NA

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Boron Raschig rings Weight: _____
☐	Graphite/carbon products Weight: _____
☐	HEPA filters (☐ form WGS 0028 completed)
☐	BeO: ☐ powder ☐ solid pieces Weight: _____
☐	BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
☐	Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
☐	Circuit boards (1 gram lead per board)
☐	Equipment
☐	HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
☐	Kaufman cans (steel with lead-soldered seams)
☐	Lead products Weight: _____
☐	Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
☐	Light bulbs/tubes
☐	Steel cans, cadmium-lined
☐	Steel cans, lead-lined
☐	Steel cans, soldered
☐	Oil and trichloroethylene, solidified with PetroSet-II
☐	Trichloroethylene, solidified with PetroSet-II
☐	Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061196

Page 3 of 3

Generator's or Verifier's Initials: [Signature] [Signature]

Component	Component
☒ Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	PPE (gloves, booties)
☒ Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	☒ Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

3 90W
10/17/03

Component Checklist

General:

Estimated Parcel Weight: 1.05 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
☒ Other Metals/Alloys: Specify <u>Cu</u>
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>25</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/ALab trash with chem wipes contng Dry Duramide 285B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061195

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
☒ Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
☒ Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
☒ DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

3

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A6. IGD #: (old PKE #, if needed SSS)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ QCAL-ISO ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

QQQQ.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: UIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

105. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($\text{Pu-240} \leq 6\% + \text{Am-241} \leq 1\%$)☐ Fuel Pu ($6\% \leq \text{Pu-240} \leq 20\% + \text{Am-241} \leq 1\%$)☐ Reactor Pu ($20\% \leq \text{Pu-240} \leq 30\% + \text{Am-241} \leq 1\%$)☐ Am-enriched Pu ($\text{Pu-240} \leq 15\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Mixed Pu ($15\% \leq \text{Pu-240} \leq 50\% + 1\% \leq \text{Am-241} \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% \text{ Pu-238}, \leq 6\% \text{ Pu-240}$)☐ Pu-238 ($80\% \leq \text{Pu-238} \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

Pu-238

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium ($\text{U-235} \leq 0.7\%$)☐ Natural Uranium ($\text{U-235} = 0.7\%$)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste☐ 2. Solidified Liquid Waste:☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

MARK A. WALL

M. A. Wall

Printed Name

10/17/05

Signature

Rack

Date

Employee No.

Extension

3-7162

L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Jesse Welch

Printed Name

10/17/05

Signature

Date

Employee No.

01-14-06

Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RKH

Initials

5/31/06

Date

H2. Characterization Chemist Review:

HLO

Initials

5/26/06

Date

3
9/11/15

Component Checklist

General:

Estimated Parcel Weight: 2.04 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 2.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
☒ Other Metals/Alloys: Specify <u>Cu</u>
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>10</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings Weight: _____
Graphite/carbon products Weight: _____
HEPA filters (☐ form WGS 0028 completed)
BeO: ☐ powder ☐ solid pieces Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Lab glass Beaker petri dish

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

NA

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061194Page 3 of 3Generator's or Verifier's Initials: [Signature]

Component	Component
☒ Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
☒ Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
☒ DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)¹ potassium hydroxide, CA corrosive (C)² lead, RCRA toxic (T), CA toxic (X)³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

3

☐ N/A

5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)

No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ No

Free Liquids ☐ Yes ☒ No

Compressed Gases ☐ Yes ☒ No

Explosives ☐ Yes ☒ No

Pyrophorics ☐ Yes ☒ No

Ignitable Material ☐ Yes ☒ No

Corrosive Material ☐ Yes ☒ No

Reactive Material ☐ Yes ☒ No

Chelating Agents >1% ☐ Yes ☒ No

Friable Asbestos ☐ Yes ☒ No

PCBs ☐ Yes ☒ No

Deuterated Material ☐ Yes ☒ No

E-waste ☐ Yes ☒ No

Flammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ Q

Mass or Mass balance (weighing) ☐ I ☐ Q

CAL-ISO ☐ I ☐ Q

Alpha spectrometry ☐ I ☐ Q

Gamma spectrometry ☐ I ☐ Q

MM Accountability Data ☐ I ☐ Q

PPPP.

Full container method

Process Knowledge ☐ I ☐ Q

Field gamma spec ☐ I ☒ Q (PRELIMINARY)

SGS ☐ I ☐ Q

HSNI ☐ I ☐ Q

Other: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL ASSAY)

104. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)

☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)

☐ Reactor Pu ($(20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%)$)

☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)

☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)

☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)

☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci) Amount (g, Ci)

Pu-238

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

☐ 2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present

☐ 2b. Aqueous only

☐ 3. Metal Scrap Waste (large objects)

☐ 4. Waste Salt Blocks (no plastic, in steel can)

☐ 5. HEPA Filter Waste

☐ 6. Sealed Source Waste

14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐

Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No

Aerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall
Printed Name
M. H. Wall
Signature
Employee No.
3-7162
Extension
7/14/05
Date
L-356
L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch
Printed Name
Jesse Welch
Signature
Employee No.
1-14-06
Date TRUW Verifier Authorization Expires
7/14/05
Date

H1. Radiological Characterization Analyst Review:

AKK
Initials
5/31/06
Date

H2. Characterization Chemist Review:

HG
Initials
5/26/06
Date

Component Checklist

General:

Estimated Parcel Weight: 2.91 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 3.5 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>1 Qt</u> : Largest size <u>1 Qt</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☒ once contained liquid (☒ required absorbent added)
☐	Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☒	Other Metals/Alloys: Specify <u>Cu Al</u> <u>7/14/05</u>
☒	Other inorganic materials: Specify <u>glass</u> <u>circuits</u>
☒	Combustibles: Rubber, Cellulosics, Plastics <u>65</u> % parcel volume
☐	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
☐	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
☐	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
☐	Soils
☐	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Boron Raschig rings Weight: _____
☐	Graphite/carbon products Weight: _____
☐	HEPA filters (☐ form WGS 0028 completed)
☐	BeO: ☐ powder ☐ solid pieces Weight: _____
☐	BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
☐	Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
☐	Circuit boards (1 gram lead per board)
☐	Equipment
☐	HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
☐	Kaufman cans (steel with lead-soldered seams)
☐	Lead products Weight: _____
☐	Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
☐	Light bulbs/tubes
☐	Steel cans, cadmium-lined
☐	Steel cans, lead-lined
☐	Steel cans, soldered
☐	Oil and trichloroethylene, solidified with PetroSet-II
☐	Trichloroethylene, solidified with PetroSet-II
☐	Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A
Steel Can, Lid cut out, Filled with Q-tips, Cu wire and DISKS, Xacto Blades
Small Hand tools (Allen) Type tools

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/1/06</u>

Parcel Card No. P 061193Generator's or Verifier's Initials: (initials)Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
☒ Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
☒ DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)¹ potassium hydroxide, CA corrosive (C)² lead, RCRA toxic (T), CA toxic (X)³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061192 on the parcel. Number each page. Page 1 of 2

399W
7/14/05

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1 end 3

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ QCAL-ISO ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

OOOO.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☐ QSGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

103. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci)

Pu-238

Amount (g, Ci)

Am-243

6/6/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)☐ Natural Uranium ($U-235 = 0.7\%$)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci)

Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☒ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall

Printed Name

M. Wall

Signature

Employee No.

Extension

7/14/05

Date

L-356

L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Printed Name

Jesse Welch

Signature

Employee No.

Date TRUW Verifier Authorization Expires

7/14/05

Date

H1. Radiological Characterization Analyst Review:

RKK

Initials

Date

5/31/06 5/06/06

H2. Characterization Chemist Review:

H6

Initials

Date

5/24/06

Component Checklist

General:

Estimated Parcel Weight: 675 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 6 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>4</u> ; Largest size <u>500 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
☒	Solidification Matrix (<u>40</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☐	Other Metals/Alloys: Specify _____
☒	Other inorganic materials: Specify <u>glass</u>
☒	Combustibles: Rubber, Cellulosics, Plastics <u>20</u> % parcel volume
☐	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
☐	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
☐	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
☐	Soils
☐	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Boron Raschig rings Weight: _____
☐	Graphite/carbon products Weight: _____
☐	HEPA filters (☐ form WGS 0028 completed)
☐	BeO: ☐ powder ☐ solid pieces Weight: _____
☐	BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
☐	Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

☐	Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
☐	Circuit boards (1 gram lead per board)
☐	Equipment
☐	HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
☐	Kaufman cans (steel with lead-soldered seams)
☐	Lead products Weight: _____
☐	Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
☐	Light bulbs/tubes
☐	Steel cans, cadmium-lined
☐	Steel cans, lead-lined
☐	Steel cans, soldered
☐	Oil and trichloroethylene, solidified with PetroSet-II
☐	Trichloroethylene, solidified with PetroSet-II
☐	Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

2 ea, 600ml POLY Beakers filled with Aqueous - AquaSet and aqueous
liquor 2 ea 500ml Bottle w/o lids on 7/14/05 with AquaSet to absorb residue

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

See A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061192

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061191

on the parcel. Number each page. Page 1 of 2

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1 and 3

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)

No.

☐ N/A

6. IGD #:

(old PKE #, if needed)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge

☒ I ☐ Q

Mass or Mass balance (weighing)

☐ Q

CAL-ISO

☐ Q

Alpha spectrometry

☐ I ☐ Q

Gamma spectrometry

☐ I ☐ Q

MM Accountability Data

☐ I ☐ Q

NNNN.

Full container method

Process Knowledge

☐ I ☐ Q

Field gamma spec

☐ I ☒ Q (PRELIMINARY)

SGS

☐ I ☐ Q

HSNI

☐ I ☐ QOther: WIPP-APPROVED ESSAY ☐ I ☒ Q (FINAL)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

Pu-238

Am-241

W 6/6/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium (U-235 $\leq$ 0.7%)☐ Natural Uranium (U-235 = 0.7%)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☒ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☐ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

MARK WALL

Printed Name

M. A. Wall

Signature

3-1162

Extension

7/14/05

L-356

L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Printed Name

Jesse Welch

Signature

1-14-06

Date

7/14/05

Date

Employee No.

Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RKH

Initials

5/31/06

Date

SW 6/6/06

H2. Characterization Chemist Review:

H6

Initials

5/26/06

Date

Component Checklist

General:

Estimated Parcel Weight: 8.30 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 6 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>600 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
	Solidification Matrix (<u>20</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____, ☐ inventory item
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
☒	Other Metals/Alloys: Specify <u>Cu, Al</u>
☒	Other inorganic materials: Specify <u>glass</u>
☒	Combustibles: Rubber, Cellulosics, Plastics <u>30</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A600 ml Beaker with aquaset and liquid Plastic Bottle with lid on with aquaset (500ml) Sharps (blade tweezers) wrapped to prevent punctureB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/AC. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used) see A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 06/191

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061153 on the parcel. Number each page. Page 1 of 3

3 JAW
6/29/05

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)2. Building: 2353. Room: 1130 ☐ N/A4. Workstation: 2 ☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241305B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ NoExplanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

BBB.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci) Amount (g, Ci)Pu 238

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste☐ 2. Solidified Liquid Waste:☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall M. A. Wall

H1. Radiological Characterization Analyst Review:

AKH 5/31/06

H2. Characterization Chemist Review:

46 5/26/06

Component Checklist

General:

Estimated Parcel Weight: 2.66 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 4 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☐ Iron-based Metals/Alloys
☐ Other Metals/Alloys: Specify _____
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>90</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A*In plastic tray Small glass beaker*B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061153

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1132

☐ N/A

4. Workstation:

1 and 3

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #:

(old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste 701609

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ QCAL-ISO ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

CCC.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

65. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu (Pu-240 $\leq$ 6% + Am-241 $\leq$ 1%)☐ Fuel Pu (6% $\leq$ Pu-240 $\leq$ 20% + Am-241 $\leq$ 1%)☐ Reactor Pu ((20% $\leq$ Pu-240 $\leq$ 30% + Am-241 $\leq$ 1%)☐ Am-enriched Pu (Pu-240 $\leq$ 15% + 1% $\leq$ Am-241 $\leq$ 25%)☐ Mixed Pu (15% $\leq$ Pu-240 $\leq$ 50% + 1% $\leq$ Am-241 $\leq$ 25%)☐ Pu-238-enr'd Weapons Pu ($\geq$ 0.08% Pu-238, $\leq$ 6% Pu-240)☐ Pu-238 (80% $\leq$ Pu-238 $\leq$ 85%)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci)

Pu238

Amount (g, Ci)

Am243

Amount (g, Ci)

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium (U-235 $\leq$ 0.7%)☐ Natural Uranium (U-235 = 0.7%)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci)

Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall
M. A. Wall Printed NameSignature
37162
Employee No. Extension6/29/05
Date
L-356
L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch
Jesse Welch Printed NameSignature
1-14-06
Employee No. Date TRUW Verifier Authorization Expires6/29/05
Date

H1. Radiological Characterization Analyst Review:

LKH
Initials5/31/06
Date

SW 6/6/06

H2. Characterization Chemist Review:

HL
Initials5/26/06
Date

Component Checklist

General:

Estimated Parcel Weight: 3.26 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____, ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>80</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/AContains small hand toolsB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 061154

Generator's or Verifier's Initials: [Signature]

HWM only:	RCA: <u>[Signature]</u>
	Date: <u>6/9/00</u>

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
☒ Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building: 235

3. Room: 1130 ☐ N/A

4. Workstation: 2 ☐ N/A

5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)

No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308 6/28/05

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ No

Free Liquids ☐ Yes ☒ No

Compressed Gases ☐ Yes ☒ No

Explosives ☐ Yes ☒ No

Pyrophorics ☐ Yes ☒ No

Ignitable Material ☐ Yes ☒ No

Corrosive Material ☐ Yes ☒ No

Reactive Material ☐ Yes ☒ No

Chelating Agents >1% ☐ Yes ☒ No

Friable Asbestos ☐ Yes ☒ No

PCBs ☐ Yes ☒ No

Deuterated Material ☐ Yes ☒ No

E-waste ☐ Yes ☒ No

Flammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ Q

Mass or Mass balance (weighing) ☐ I ☐ Q

CAL-ISO ☐ I ☐ Q

Alpha spectrometry ☐ I ☐ Q

Gamma spectrometry ☐ I ☐ Q

MM Accountability Data ☐ I ☐ Q

DDD. Full container method

Process Knowledge ☐ I ☐ Q

Field gamma spec ☐ I ☒ Q (PRELIMINARY)

SGS ☐ I ☐ Q

HSNI ☐ I ☐ Q

Other: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

66. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)

☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)

☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)

☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)

☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)

☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)

☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci) Amount (g, Ci)

Pu-238

B. Other Nuclides (not TRU) Amount (g, Ci)

☐ Depleted Uranium ($U-235 \leq 0.7\%$)

☐ Natural Uranium ($U-235 = 0.7\%$)

☐ Enriched Uranium:

 %U-234 %U-235 %U-238

☐ Others: Amount (g, Ci) Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

☐ 2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present

☒ 2b. Aqueous only

☐ 3. Metal Scrap Waste (large objects)

☐ 4. Waste Salt Blocks (no plastic, in steel can)

☐ 5. HEPA Filter Waste

☐ 6. Sealed Source Waste

14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐

Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No

Aerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall 6/28/05
Printed Name Date

Signature Extension L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jessie Welch 6/28/05
Printed Name Date

Signature Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review: 1-14-16

AK46 5/31/06
Initials Date

H2. Characterization Chemist Review:

AD6 5/26/06
Initials Date

3 9/14
6/28/05

Component Checklist

General:

Estimated Parcel Weight: 1.30 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 2.5 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>4</u> ; Largest size <u>500 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☒ once contained liquid (☒ required absorbent added)
	Solidification Matrix (<u>30</u> % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	Aluminum-based Metals/Alloys
	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
	Other inorganic materials: Specify _____
☒	Combustibles: Rubber, Cellulosics, Plastics <u>100</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood (contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____))	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Four (4) plastic containers (2) 500 Bottles with Lids Remove
two (2) Zip Filters with Kenwipes Lids are in bag also

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/04</u>

Parcel Card No. P P061155
 Generator's or Verifier's Initials: [Signature]

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

Component Checklist

General:

Estimated Parcel Weight: 6.40 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1.0 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
Other inorganic materials: Specify _____
Combustibles: Rubber, Cellulosics, Plastics <u>2</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

1/4" Steel Rods of Different Length in Plastic Bag with Kevlar
on end of Rods to prevent Sharps Hazard

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061156

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Generator's or Verifier's Initials: [Signature]

Component		Component
Aluminum oxide products		Magnesium oxide
Aluminum products		Mineral oil residues
Aqueous liquids, solidified with Aquaset		Organic liquids, solidified with Petroset
Brass products	X	Paper products
Carbon products, including diamonds		Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)		Plastic-coated iron magnets
Ceramic products	X	Plastic products
Copper metal/alloy products		PPE (gloves, booties)
Copper oxide powder		Radiac wash on wipes (dry)
cotton swabs		Rubber gloves
Cotton wipers		Rubber products
Cotton-tipped Q-tips		Sandpaper
DURAMIDE 285 residues		Silica
Dust cloths (mineral oil treated rayon/polyester fabric)		Silicon with Si ₃ N ₄ (silicon nitride)
Electric components		Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)		Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	X	Stainless steel products
Glass products		TLC-free stripcoat (dry)
Glove box HEPA filters		X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)		Zirconium oxide
Light bulbs		

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

- NOTE:** You may use metric multiples

Component Checklist

General:

Estimated Parcel Weight: 0.83 ☐ g ☐ kg ☒ lb

Estimated Parcel Volume (w/ packaging) 0.750 L ^{627/65}

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>750 ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)	
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item	
☒	Aluminum-based Metals/Alloys
☒	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
☒	Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>60</u> % parcel volume	
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)	
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____	
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____	
Soils	
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume	

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Steel can with out lid filled with Sharps and tips and foil (Al)

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

See A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061157

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Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

Component Checklist

General:

Estimated Parcel Weight: 4.79 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 1.3 L

Basic Checklist (check all that apply):

X	Cans/bottles/buckets, Number <u>2</u> ; Largest size <u>600</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
	Solidification Matrix <u>90</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	Aluminum-based Metals/Alloys
X	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
	Other inorganic materials: Specify _____
X	Combustibles: Rubber, Cellulosics, Plastics <u>10</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Two (2) 600 ml Beakers with Aqueous Solidicide with a stainless steel spatula in each

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

See A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 061158

Generator's or Verifier's Initials: [Signature]

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

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Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:
☒ Non-regulated (T) ☐ RCRA-regulated (X)
2. Building: 235
3. Room: 130 ☐ N/A
4. Workstation: 123 ☐ N/A
5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)
 No. _____ ☐ N/A
6. IGD #: _____ (old PKE #, if needed 555)
7. Container Serial # and Requisition #: 555
 A. Accumulation drum LL85 701609 TRU; W 241308
 B. Final drum LL85 701609 TRU; W 241308
8. Physical Form of the Waste
☒ Solid ☐ Sludge ☐ Liquid ☐ Gas
9. Does the waste contain any of the following? (If yes, explain.)
- | | | |
|----------------------|------------------------------|--|
| Classified Material | ☐ Yes | ☒ No |
| Free Liquids | ☐ Yes | ☒ No |
| Compressed Gases | ☐ Yes | ☒ No |
| Explosives | ☐ Yes | ☒ No |
| Pyrophorics | ☐ Yes | ☒ No |
| Ignitable Material | ☐ Yes | ☒ No |
| Corrosive Material | ☐ Yes | ☒ No |
| Reactive Material | ☐ Yes | ☒ No |
| Chelating Agents >1% | ☐ Yes | ☒ No |
| Friable Asbestos | ☐ Yes | ☒ No |
| PCBs | ☐ Yes | ☒ No |
| Deuterated Material | ☐ Yes | ☒ No |
| E-waste | ☐ Yes | ☒ No |
| Flammable VOCs | ☐ Yes | ☒ No |
- Explanations: _____

Hazardous Constituents	Weight	unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:
- A. Parcel-by-parcel method
- | | | |
|---------------------------------|---------------------------------------|----------------------------|
| Process Knowledge | ☒ I | ☐ Q |
| Mass or Mass balance (weighing) | ☐ I | ☐ Q |
| CAL-ISO | ☐ I | ☐ Q |
| Alpha spectrometry | ☐ I | ☐ Q |
| Gamma spectrometry | ☐ I | ☐ Q |
| MM Accountability Data | ☐ I | ☐ Q |
- HHH. Full container method
- | | | |
|-----------------------------------|----------------------------|---|
| Process Knowledge | ☐ I | ☐ Q |
| Field gamma spec | ☐ I | ☒ Q (PRELIMINARY) |
| SGS | ☐ I | ☐ Q |
| HSNI | ☐ I | ☐ Q |
| Other: <u>WIPP-APPROVED ASSAY</u> | ☐ I | ☒ Q (FINAL) |

70. Radionuclides in this parcel:
- A. TRU Nuclides
- ☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)
 - ☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)
 - ☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)
 - ☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)
 - ☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)
 - ☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)
 - ☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):
- | Others: | Amount (g, Ci) | Amount (g, Ci) |
|--------------|----------------|-------------------|
| <u>Pu238</u> | <u>Am243</u> | <u>80W 6/6/06</u> |
| | | |
| | | |
| | | |
- B. Other Nuclides (not TRU)
- | | | |
|--|----------------------------------|--|
| ☐ Depleted Uranium ($U-235 \leq 0.7\%$) | Amount (g, Ci) | |
| ☐ Natural Uranium ($U-235 = 0.7\%$) | | |
| ☐ Enriched Uranium: | | |
| <u> </u> %U-234 <u> </u> %U-235 <u> </u> %U-238 | | |
| ☐ Others: | Amount (g, Ci) Amount (g, Ci) | |
| | | |
| | | |
| | | |

13. LLNL TRU Waste Forms
- ☒ 1. Glove Box Waste
 - ☐ 2. Solidified Liquid Waste:
 - ☐ 2a. Oils or solvents present
 - ☒ 2b. Aqueous only
 - ☐ 3. Metal Scrap Waste (large objects)
 - ☐ 4. Waste Salt Blocks (no plastic, in steel can)
 - ☐ 5. HEPA Filter Waste
 - ☐ 6. Sealed Source Waste
14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No
15. Management of Gas Containment
- Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____
 - Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No
 - Aerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:
- I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall ☒
 Printed Name
M. A. Wall
 Signature
3-7162
 Employee No. Extension L-code
6/27/05
 Date

17. Verifier Certification:
- I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jessie Welch ☒
 Printed Name
Jessie Welch
 Signature
1-14-06
 Employee No. Date TRUW Verifier Authorization Expires

- H1. Radiological Characterization Analyst Review:

RKA 5/31/06 50616/6
 Initials Date

- H2. Characterization Chemist Review:

HL 5/26/06
 Initials Date

Component Checklist

General:

Estimated Parcel Weight: 4.56 g ☐ kg ☒ lb
Estimated Parcel Volume (w/ packaging): 5 L

Basic Checklist (check all that apply):

X	Cans/bottles/buckets, Number <u>2</u> ; Largest size <u>600 ml</u>
	☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☒ once contained liquid (☒ required absorbent added)
X	Solidification Matrix (<u>10</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	Aluminum-based Metals/Alloys
	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify <u>BRASS</u>
X	Other inorganic materials: Specify <u>GLASS</u>
	Combustibles: Rubber, Cellulosics, Plastics <u>80</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Dry Filters, one 600 ml with stainless steel spatula and tape over top

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

see A

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/00</u>

Parcel Card No. P 061159

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
☒ Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

12. Radionuclides in this parcel (continued):
- | Others: Amount (g, Ci) | Amount (g, Ci) |
|------------------------|----------------|
| <u>Pu-238</u> | |
| | |
| | |
| | |
| | |
- B. Other Nuclides (not TRU)
- | Amount (g, Ci) |
|--|
| ☐ Depleted Uranium ($U-235 \leq 0.7\%$) |
| ☐ Natural Uranium ($U-235 = 0.7\%$) |
| ☐ Enriched Uranium: |
| <u> </u> %U-234 <u> </u> %U-235 <u> </u> %U-238 |
| ☐ Others: Amount (g, Ci) |
| |
| |
| |

13. LLNL TRU Waste Forms
- ☒ 1. Glove Box Waste
- ☒ 2. Solidified Liquid Waste:
- ☐ 2a. Oils or solvents present
- ☐ 2b. Aqueous only
- ☐ 3. Metal Scrap Waste (large objects)
- ☐ 4. Waste Salt Blocks (no plastic, in steel can)
- ☐ 5. HEPA Filter Waste
- ☐ 6. Sealed Source Waste

14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

- 15. Management of Gas Containment**
- Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____
 - Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No
 - Aerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled?) ☐ Yes ☒ No

16. Generator Certification:
I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

- Mark Wall ☒ 6/23/05
 Printed Name
 M. A. Wall
 Signature
 [Redacted] 37162 Date
 Employee No. Extension L-code

- 17. Verifier Certification:**
I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

- the waste generator on this card is complete and accurate.
- 6/23/05 Mark Watt Jessie Welch ✓
Printed Name
Jessie Welch 6/23/05
Signature Date
1-14-06 6/23/05
Employee No. Date TRUW Verifier Authorization Expires

- ### H1. Radiological Characterization Analyst Review:

- ## H2. Characterization Chemist Review:

Component Checklist

General:

Estimated Parcel Weight: 3.68 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 2 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
Aluminum-based Metals/Alloys
Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
Other inorganic materials: Specify _____
Combustibles: Rubber, Cellulosics, Plastics <u>99.0</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings Weight: _____
Graphite/carbon products Weight: _____
HEPA filters (☐ form WGS 0028 completed)
BeO: ☐ powder ☐ solid pieces Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A*Collapsed glove bag w/ partial roll of tape and a couple kem wipes*B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 061160

Generator's or Verifier's Initials: DTW mu

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

1. Hazardous category:
☒ Non-regulated (T) ☐ RCRA-regulated (X)
2. Building: 235
3. Room: 1130 ☐ N/A
4. Workstation: 3 ☐ N/A
5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)
 No. _____ ☐ N/A
6. IGD #: _____ (old PKE #, if needed 557 6/23/05)
7. Container Serial # and Requisition #: 701609
 A. Accumulation drum LL85-01609 TRU; W 241308
 B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste
☒ Solid ☐ Sludge ☐ Liquid ☐ Gas
9. Does the waste contain any of the following? (If yes, explain.)
- | | | |
|----------------------|------------------------------|--|
| Classified Material | ☐ Yes | ☒ No |
| Free Liquids | ☐ Yes | ☒ No |
| Compressed Gases | ☐ Yes | ☒ No |
| Explosives | ☐ Yes | ☒ No |
| Pyrophorics | ☐ Yes | ☒ No |
| Ignitable Material | ☐ Yes | ☒ No |
| Corrosive Material | ☐ Yes | ☒ No |
| Reactive Material | ☐ Yes | ☒ No |
| Chelating Agents >1% | ☐ Yes | ☒ No |
| Friable Asbestos | ☐ Yes | ☒ No |
| PCBs | ☐ Yes | ☒ No |
| Deuterated Material | ☐ Yes | ☒ No |
| E-waste | ☐ Yes | ☒ No |
| Flammable VOCs | ☐ Yes | ☒ No |
- Explanations: _____

10. Hazardous Constituents	Weight	unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:
- A. Parcel-by-parcel method
- | | | |
|---------------------------------|---------------------------------------|----------------------------|
| Process Knowledge | ☒ I | ☐ Q |
| Mass or Mass balance (weighing) | ☐ I | ☐ Q |
| CAL-ISO | ☐ I | ☐ Q |
| Alpha spectrometry | ☐ I | ☐ Q |
| Gamma spectrometry | ☐ I | ☐ Q |
| MM Accountability Data | ☐ I | ☐ Q |
- JJJ. Full container method
- | | | |
|-----------------------------------|----------------------------|---|
| Process Knowledge | ☐ I | ☐ Q |
| Field gamma spec | ☐ I | ☒ Q (PRELIMINARY) |
| SGS | ☐ I | ☐ Q |
| HSNI | ☐ I | ☐ Q |
| Other: <u>WIPP-APPROVED ASSAY</u> | ☐ I | ☒ Q (FINAL) |

72. Radionuclides in this parcel:
- A. TRU Nuclides
- ☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)
 - ☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)
 - ☐ Reactor Pu ($20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%$)
 - ☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)
 - ☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)
 - ☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)
 - ☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):
- | | |
|--|----------------|
| ☒ Others: Amount (g, Ci) | Amount (g, Ci) |
| <u>Pu-238</u> | |
| | |
| | |
| | |
| | |
- B. Other Nuclides (not TRU) Amount (g, Ci)
- ☐ Depleted Uranium ($U-235 \leq 0.7\%$)
 - ☐ Natural Uranium ($U-235 = 0.7\%$)
 - ☐ Enriched Uranium: _____
- | | | |
|---|----------------|--------------|
| _____ %U-234 | _____ %U-235 | _____ %U-238 |
| ☐ Others: Amount (g, Ci) | Amount (g, Ci) | |
| | | |
| | | |
| | | |
| | | |

13. LLNL TRU Waste Forms
- ☒ 1. Glove Box Waste
 - ☐ 2. Solidified Liquid Waste:
 - ☐ 2a. Oils or solvents present
 - ☒ 2b. Aqueous only
 - ☐ 3. Metal Scrap Waste (large objects)
 - ☐ 4. Waste Salt Blocks (no plastic, in steel can)
 - ☐ 5. HEPA Filter Waste
 - ☐ 6. Sealed Source Waste
14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No
15. Management of Gas Containment
- Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____
 - Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No
 - Aerosol can and pressure vessels are absent ☒ Yes ☐ No (If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)
16. Generator Certification:
 I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall ☒
 Printed Name
M. A. Wall 6/23/05
 Signature Date
37162 356
 Employee No. Extension L-code

17. Verifier Certification:
 I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.
- Jessie Welch ☒
 Printed Name
Jessie Welch 6/23/05
 Signature Date
1-14-06
 Employee No. Date TRUW Verifier Authorization Expires

- H1. Radiological Characterization Analyst Review:
RKA 5/31/06
 Initials Date
- H2. Characterization Chemist Review:
H6 5/26/06
 Initials Date

Component Checklist

General:

Estimated Parcel Weight: 3.79 ☐ g ☐ kg ☐ lb

Estimated Parcel Volume (w/ packaging): 7 L

Basic Checklist (check all that apply):

X	Cans/bottles/buckets, Number <u>5</u> ; Largest size <u>1000ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☒ once contained liquid (☒ required absorbent added)
	Solidification Matrix (<u>5</u> % parcel volume) Agent ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	Aluminum-based Metals/Alloys
	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
X	Other inorganic materials: Specify <u>glass</u>
X	Combustibles: Rubber, Cellulosics, Plastics <u>70</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces Weight: _____	
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces) Weight: _____	

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Empty Bottles with Lids Removed But in Bag

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>12</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061161

Page 3 of 3

Generator's or Verifier's Initials: MM JNW

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	☒ Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	Rubber gloves
Cotton wipers	Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
☒ Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
☒ Felt-tip pens	Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

of ~~2~~ 3 6/23/05

- 73. Radionuclides in this parcel:**
- A. TRU Nuclides**
- ☒ Weapons Pu ($\text{Pu-240} \leq 6\% + \text{Am-241} \leq 1\%$)
 - ☐ Fuel Pu ($6\% \leq \text{Pu-240} \leq 20\% + \text{Am-241} \leq 1\%$)
 - ☐ Reactor Pu ($(20\% \leq \text{Pu-240} \leq 30\% + \text{Am-241} \leq 1\%)$)
 - ☐ Am-enriched Pu ($\text{Pu-240} \leq 15\% + 1\% \leq \text{Am-241} \leq 25\%$)
 - ☐ Mixed Pu ($15\% \leq \text{Pu-240} \leq 50\% + 1\% \leq \text{Am-241} \leq 25\%$)
 - ☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% \text{ Pu-238}, \leq 6\% \text{ Pu-240}$)
 - ☐ Pu-238 ($80\% \leq \text{Pu-238} \leq 85\%$)

12. Radionuclides in this parcel (continued):
- | Others: Amount (g, Ci) | Amount (g, Ci) |
|------------------------|--------------------------------------|
| <u>Pu238</u> | <u>Am243</u> <u>SM</u> <u>6/6/06</u> |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
- B. Other Nuclides (not TRU)
- | Amount (g, Ci) | |
|--|-------|
| ☐ Depleted Uranium (U-235 $\leq$ 0.7%) _____ | |
| ☐ Natural Uranium (U-235 = 0.7%) _____ | |
| ☐ Enriched Uranium: _____ | |
| _____ %U-234 _____ %U-235 _____ %U-238 | |
| ☐ Others: Amount (g, Ci) _____ Amount (g, Ci) _____ | |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
| _____ | _____ |
13. LLNL TRU Waste Forms
- ☒ 1. Glove Box Waste
 - ☒ 2. Solidified Liquid Waste:
 - ☐ 2a. Oils or solvents present
 - ☒ 2b. Aqueous only
 - ☐ 3. Metal Scrap Waste (large objects)
 - ☐ 4. Waste Salt Blocks (no plastic, in steel can)
 - ☐ 5. HEPA Filter Waste
 - ☐ 6. Sealed Source Waste

14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No
15. Management of Gas Containment
- Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ _____
 - Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ No
 - Aerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)
16. Generator Certification:
- I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall		✓
M. A. Wall	Printed Name	6/23/05
[Redacted]	Signature	Date
37162	Extension	356
Employee No.		L-code

- 17. Verifier Certification:**
I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jessie Welch ✓
Printed Name
Signature 6/23/05
Date
Employee No. 1-14-06
Date TRUW Verifier Authorization Expires

- H1. Radiological Characterization Analyst Review:

- H2. Characterization Chemist Review:
- H6 5/26/06
Initials Date

Component Checklist

General:

Estimated Parcel Weight: 8.95 ☐ g ☐ kg ☒ lb
Estimated Parcel Volume (w/ packaging): 6 L

Basic Checklist (check all that apply):

X	Cans/bottles/buckets, Number <u>2</u> ; Largest size <u>600ml</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
	Solidification Matrix (<u>5</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	Aluminum-based Metals/Alloys
X	Iron-based Metals/Alloys
	Other Metals/Alloys: Specify _____
X	Other inorganic materials: Specify <u>Glass</u>
X	Combustibles: Rubber, Cellulosics, Plastics <u>50</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A
Two (2) 600ml Pe Beakers. With solidification liquid with stainless steel spatula with tape over top of Beakers. 3 used Dry Zipfite plastic with sample membrane
B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used) See A 600ml See eirs 10439.03

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 061162

Generator's or Verifier's Initials: [Signature] [Signature]

HWM only:	RCA: <u>[Signature]</u>
	Date: <u>6/9/06</u>

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	☒ Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

2

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

1 and 2

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)

No.

☐ N/A

6. IGD #:

(old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

B. Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

12. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu (Pu-240 $\leq$ 6% + Am-241 $\leq$ 1%)☐ Fuel Pu (6% $\leq$ Pu-240 $\leq$ 20% + Am-241 $\leq$ 1%)☐ Reactor Pu ((20% $\leq$ Pu-240 $\leq$ 30% + Am-241 $\leq$ 1%)☐ Am-enriched Pu (Pu-240 $\leq$ 15% + 1% $\leq$ Am-241 $\leq$ 25%)☐ Mixed Pu (15% $\leq$ Pu-240 $\leq$ 50% + 1% $\leq$ Am-241 $\leq$ 25%)☐ Pu-238-enr'd Weapons Pu ($\geq$ 0.08% Pu-238, $\leq$ 6% Pu-240)☐ Pu-238 (80% $\leq$ Pu-238 $\leq$ 85%)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci)

Pu 238

Am 243

Amount (g, Ci)

JW 6/6/06

B. Other Nuclides (not TRU)

Amount (g, Ci)

☐ Depleted Uranium (U-235 $\leq$ 0.7%)☐ Natural Uranium (U-235 = 0.7%)☐ Enriched Uranium:

%U-234 %U-235 %U-238

☐ Others: Amount (g, Ci)

Amount (g, Ci)

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall

Printed Name

M. A. Wall

Signature

Employee No.

Extension

5/2/06

Date

356

L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Printed Name

Jesse Welch

Signature

Employee No.

Date TRUW Verifier Authorization Expires

5-2-06

Date

H1. Radiological Characterization Analyst Review:

RKH

Initials

5/3/06

Date

JW 6/6/06

H2. Characterization Chemist Review:

HL

Initials

5/26/04

Date

Component Checklist

General:

Estimated Parcel Weight: 1.23 ☐ g ☐ kg ☒ lb

Estimated Parcel Volume (w/ packaging): 1.5 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>1 qt</u> ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)	
Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item	
☒ Aluminum-based Metals/Alloys	
☒ Iron-based Metals/Alloys	
☒ Other Metals/Alloys: Specify <u>Type K Thermal lead</u>	
☒ Other inorganic materials: Specify <u>glass</u>	
Combustibles: Rubber, Cellulosics, Plastics <u>50</u> % parcel volume	
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)	
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____	
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____	
Soils	
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume	

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Can w/out Lid with sharp wire glass with AL foil over top to keep sharp in

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

Steel Can See A.

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 0661828

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
☐ Aluminum oxide products	☐ Magnesium oxide
☒ Aluminum products	☐ Mineral oil residues
☐ Aqueous liquids, solidified with Aquaset	☐ Organic liquids, solidified with Petroset
☐ Brass products	☒ Paper products
☐ Carbon products, including diamonds	☐ Petroleum hydrocarbon residues
☐ Carbon tetrachloride residues (<i>non-hazardous</i>)	☒ Plastic-coated iron magnets <u>Joseph 5/2/06</u>
☐ Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
☐ Copper oxide powder	☒ Radiac wash on wipes (dry)
☐ cotton swabs	☒ Rubber gloves
☐ Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	☒ Sandpaper
☐ DURAMIDE 285 residues	☐ Silica
☐ Dust cloths (mineral oil treated rayon/polyester fabric)	☐ Silicon with Si ₃ N ₄ (silicon nitride)
☐ Electric components	☐ Silicone fluid residues
☐ Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
☐ Felt-tip pens	☒ Stainless steel products
☒ Glass products	☒ TLC-free stripcoat (dry) <u>10/15/2/06</u>
☐ Glove box HEPA filters	☐ X-caliber Cleaning Compound (dried)
☐ Kerosene residues (<i>non-hazardous</i>)	☐ Zirconium oxide
☐ Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

- AL 5/26/04
Initials Date

Component Checklist

General:

Estimated Parcel Weight: 1.73 ☐ g ☐ kg ☒ lb

Estimated Parcel Volume (w/ packaging): 1.75 L

Basic Checklist (check all that apply):

☒	Cans/bottles/buckets, Number <u>1</u> ; Largest size <u>800 ml</u>
	☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
☒	Solidification Matrix (<u>40</u> % parcel volume) Agent: ☒ AquaSet ☐ PetroSet-II; Waste Material: ☒ aqueous (☒ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
	☒ Aluminum-based Metals/Alloys
	☒ Iron-based Metals/Alloys
	☒ Other Metals/Alloys: Specify <u>Cu</u>
	Other inorganic materials: Specify _____
	Combustibles: Rubber, Cellulosics, Plastics <u>10</u> % parcel volume
	Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
	Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
	Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
	Soils
	Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____) specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

800 ml Plastic Beaker with aquaset and Sharps

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 0661854

Generator's or Verifier's Initials: Jesse Miller

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	☒ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

2

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

1130

☐ N/A

4. Workstation:

2

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☐ Yes ☒ NoFree Liquids ☐ Yes ☒ NoCompressed Gases ☐ Yes ☒ NoExplosives ☐ Yes ☒ NoPyrophorics ☐ Yes ☒ NoIgnitable Material ☐ Yes ☒ NoCorrosive Material ☐ Yes ☒ NoReactive Material ☐ Yes ☒ NoChelating Agents >1% ☐ Yes ☒ NoFriable Asbestos ☐ Yes ☒ NoPCBs ☐ Yes ☒ NoDeuterated Material ☐ Yes ☒ NoE-waste ☐ Yes ☒ NoFlammable VOCs ☐ Yes ☒ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

B. Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIPP-APPROVED ASSAY ☐ I ☒ Q (FINAL)

12. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu (Pu-240 ≤6% + Am-241 ≤1%)☐ Fuel Pu (6% ≤Pu-240 ≤20% + Am-241 ≤1%)☐ Reactor Pu ((20% ≤Pu-240 ≤30% + Am-241 ≤1%)☐ Am-enriched Pu (Pu-240 ≤15% + 1% ≤Am-241 ≤25%)☐ Mixed Pu (15% ≤Pu-240 ≤50% + 1% ≤Am-241 ≤25%)☐ Pu-238-enr'd Weapons Pu (≥0.08% Pu-238, ≤6% Pu-240)☐ Pu-238 (80% ≤Pu-238 ≤85%)

12. Radionuclides in this parcel (continued):

☒ Others: Amount (g, Ci) Amount (g, Ci)

Pu 238

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste

2. Solidified Liquid Waste:

☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

MARC A. WALL

M. A. Wall

5/2/06

356

Employee No. Extension L-code

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jesse Welch

Jesse Welch

5/2/06

1-11-07

Employee No. Date TRUW Verifier Authorization Expires

H1. Radiological Characterization Analyst Review:

RK

5/31/06

Initials Date

H2. Characterization Chemist Review:

HG

5/26/06

Initials Date

Component Checklist

General:

Estimated Parcel Weight: 1.17 ☐ g ☐ kg ☒ lb

Estimated Parcel Volume (w/ packaging): 1.73 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number <u>1</u> ; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☒ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____% parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
☒ Other Metals/Alloys: Specify <u>cu Brass</u>
☒ Other inorganic materials: Specify <u>glass</u>
Combustibles: Rubber, Cellulosics, Plastics <u>10%</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings	Weight: _____
Graphite/carbon products	Weight: _____
HEPA filters (☐ form WGS 0028 completed)	
BeO: ☐ powder ☐ solid pieces	Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements	
☐ furnace parts, ☐ wipes, ☐ other _____	
Beryllium metal (solid pieces)	Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D	
Circuit boards (1 gram lead per board)	
Equipment	
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)	
Kaufman cans (steel with lead-soldered seams)	
Lead products	Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene	
Light bulbs/tubes	
Steel cans, cadmium-lined	
Steel cans, lead-lined	
Steel cans, soldered	
Oil and trichloroethylene, solidified with PetroSet-II	
Trichloroethylene, solidified with PetroSet-II	
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]	

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/A

Can without lid containing sharp and small tools

B. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mr/h dose rate)]. ☒ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

Parcel Card No. P 0661853

Generator's or Verifier's Initials: [Signature]

HWM only:	RCA: <u>[Signature]</u>
	Date: <u>6/9/06</u>

Page 3 of 3

Component	Component
Aluminum oxide products	Magnesium oxide
☒ Aluminum products	Mineral oil residues
☒ Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
☒ Brass products	Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	☒ Plastic products
☒ Copper metal/alloy products	☒ PPE (gloves, booties)
Copper oxide powder	Radiac wash on wipes (dry)
cotton swabs	☒ Rubber gloves
Cotton wipers	☒ Rubber products
☒ Cotton-tipped Q-tips	Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated-rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	☒ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	☒ Stainless steel products
☒ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt)	
with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)

LLNL RADIOACTIVE WASTE PARCEL CARD (TRU/MIXED)

Print P 061190 on the parcel. Number each page. Page 1 of 2

1. Hazardous category:

☒ Non-regulated (T) ☐ RCRA-regulated (X)

2. Building:

235

3. Room:

113D

☐ N/A

4. Workstation:

2

☐ N/A5. Authorizing document (☐ OSP, ☐ Work plan/permit, ☒ FSP)No. ☐ N/A

6. IGD #: (old PKE #, if needed 555)

7. Container Serial # and Requisition #:

A. Accumulation drum LL85 701609 TRU; W 241308

B. Final drum LL85 701609 TRU; W 241308

8. Physical Form of the Waste

☒ Solid ☐ Sludge ☐ Liquid ☐ Gas

9. Does the waste contain any of the following? (If yes, explain.)

Classified Material ☒ Yes ☐ NoFree Liquids ☒ Yes ☐ NoCompressed Gases ☒ Yes ☐ NoExplosives ☒ Yes ☐ NoPyrophorics ☒ Yes ☐ NoIgnitable Material ☒ Yes ☐ NoCorrosive Material ☒ Yes ☐ NoReactive Material ☒ Yes ☐ NoChelating Agents >1% ☒ Yes ☐ NoFriable Asbestos ☒ Yes ☐ NoPCBs ☒ Yes ☐ NoDeuterated Material ☒ Yes ☐ NoE-waste ☒ Yes ☐ NoFlammable VOCs ☒ Yes ☐ No

Explanations:

10. Hazardous Constituents

Weight

unit

11. Methods used or to be used to identify (I) and quantify (Q) radionuclides in this parcel:

A. Parcel-by-parcel method

Process Knowledge ☒ I ☐ QMass or Mass balance (weighing) ☐ I ☐ QCAL-ISO ☐ I ☐ QAlpha spectrometry ☐ I ☐ QGamma spectrometry ☐ I ☐ QMM Accountability Data ☐ I ☐ Q

MMMM.

Full container method

Process Knowledge ☐ I ☐ QField gamma spec ☐ I ☒ Q (PRELIMINARY)SGS ☐ I ☐ QHSNI ☐ I ☐ QOther: WIFE-APPROVED ASSAY ☐ I ☒ Q (FINAL)

101. Radionuclides in this parcel:

A. TRU Nuclides

☒ Weapons Pu ($Pu-240 \leq 6\% + Am-241 \leq 1\%$)☐ Fuel Pu ($6\% \leq Pu-240 \leq 20\% + Am-241 \leq 1\%$)☐ Reactor Pu ($(20\% \leq Pu-240 \leq 30\% + Am-241 \leq 1\%)$)☐ Am-enriched Pu ($Pu-240 \leq 15\% + 1\% \leq Am-241 \leq 25\%$)☐ Mixed Pu ($15\% \leq Pu-240 \leq 50\% + 1\% \leq Am-241 \leq 25\%$)☐ Pu-238-enr'd Weapons Pu ($\geq 0.08\% Pu-238, \leq 6\% Pu-240$)☐ Pu-238 ($80\% \leq Pu-238 \leq 85\%$)

12. Radionuclides in this parcel (continued):

Others: Amount (g, Ci) Amount (g, Ci)

R 238

13. LLNL TRU Waste Forms

☒ 1. Glove Box Waste☐ 2. Solidified Liquid Waste:☐ 2a. Oils or solvents present☐ 2b. Aqueous only☐ 3. Metal Scrap Waste (large objects)☐ 4. Waste Salt Blocks (no plastic, in steel can)☐ 5. HEPA Filter Waste☐ 6. Sealed Source Waste14. Waste resulted from Defense-related R&D? ☒ Yes ☐ No

15. Management of Gas Containment

Parcel has the following number of gas confinement layers (for example, intact, taped plastic bags): ☐ 1, ☒ 2, ☐ 3Parcel contains sealed rigid container > 4 liters ☐ Yes ☒ NoAerosol can and pressure vessels are absent ☒ Yes ☐ No
(If "no", has can/vessel been obviously mangled? ☐ Yes ☐ No)

16. Generator Certification:

I certify that this waste parcel contains only the waste identified on this card and that, to the best of my knowledge, its characterization is complete and accurate.

Mark Wall
H. A. Wall Printed Name
Signature 37162
Employee No. Extension L-code
5/11/06
L-356

17. Verifier Certification:

I certify that, to the best of my knowledge, information supplied by the waste generator on this card is complete and accurate.

Jessie Welch
Jessie Welch Printed Name
Signature 1-14-06
Employee No. Date TRUW Verifier Authorization Expires
5/11/06
5/11/06

H1. Radiological Characterization Analyst Review:

RK
Initials Date
5/31/06

H2. Characterization Chemist Review:

H6
Initials Date
5/26/06

Component Checklist

General:

Estimated Parcel Weight: 3.55 ☐ g ☐ kg ☒ lbEstimated Parcel Volume (w/ packaging): 3 L

Basic Checklist (check all that apply):

Cans/bottles/buckets, Number _____; Largest size _____ ☐ w/ lid (☐ sealed, ☐ vented), ☐ w/o lid, ☐ lid only ☐ once contained liquid (☐ required absorbent added)
Solidification Matrix (_____ % parcel volume) Agent: ☐ AquaSet ☐ PetroSet-II; Waste Material: ☐ aqueous (☐ equal volume absorbent added), ☐ non-aqueous (☐ oil ☐ other), ☐ volatile liquid present; specify what & how much _____ ☐ inventory item
☒ Aluminum-based Metals/Alloys
☒ Iron-based Metals/Alloys
Other Metals/Alloys: Specify _____
☒ Other inorganic materials: Specify <u>glass</u>
☒ Combustibles: Rubber, Cellulosics, Plastics <u>50</u> % parcel volume
Salt blocks (spent) ☐ Pyrochemical salt blocks (chlorides of Ca, Mg, Cs, and other metals): ☐ w/ CaF, ☐ w/o CaF ☐ Other (specify: _____)
Inventory Item (attach MM documentation, if possible) ☐ salt, ☐ ceramic (oxide), ☐ metal Specify MM tracking number _____
Sealed Source (attach MM documentation, if possible) ☐ encased in steel ☐ encased in plastic Specify MM tracking number _____
Soils
Dunnage/Bracing (no radioactivity) (required for items >25 lb), _____ % parcel volume

Specific Component Checklist: The following specific items are present (check all that apply).

A. The following are allowed in TRU or MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Boron Raschig rings Weight: _____
Graphite/carbon products Weight: _____
HEPA filters (☐ form WGS 0028 completed)
BeO: ☐ powder ☐ solid pieces Weight: _____
BeO contaminated items: ☐ filters, ☐ heater elements ☐ furnace parts, ☐ wipes, ☐ other _____
Beryllium metal (solid pieces) Weight: _____

B. The following are allowed only in MIXED TRU Waste [if included on the IGD (See, WCP 20)]

Batteries, alkaline: ☐ AAA, ☐ AA, ☐ A, ☐ B, ☐ C, ☐ D
Circuit boards (1 gram lead per board)
Equipment
HEPA filters contaminated with RCRA metals (☐ form WGS 0028 completed)
Kaufman cans (steel with lead-soldered seams)
Lead products Weight: _____
Leaded Gloves (1 pound lead per glove) ☐ Hypalon, ☐ Neoprene
Light bulbs/tubes
Steel cans, cadmium-lined
Steel cans, lead-lined
Steel cans, soldered
Oil and trichloroethylene, solidified with PetroSet-II
Trichloroethylene, solidified with PetroSet-II
Contaminated ☐ paper, ☐ Q-tips, ☐ sandpaper, ☐ wipes, or ☐ wood [contaminant is ☐ solvent, ☐ TCE, ☐ acid, ☐ RCRA metal (specify contaminant: _____ specify amount of contaminant: _____)]

Comments

A. Specify anything unusual that radiography will identify by shape and/or density (Note any impenetrable object). ☐ N/Asmall Hand toolsB. Provide dose rate (through 30-ml leaded glove). [Required for any non-dispersed active item (e.g., for an inventory item/source and for any component expected to have >50 mR/h dose rate)]. ☐ N/A

C. Other (for example, note for solidified liquids: a) size of container; b) method used for sealing/packaging; c) reference procedure used)

PKE No. 555 Building 235 Room 1130 Workstation 1, 2, 3

Authorized Components Checklist

HWM only:	RCA: <u>✓</u>
	Date: <u>6/9/06</u>

Parcel Card No. P 061190

Page 3 of 3

Generator's or Verifier's Initials: [Signature]

Component	Component
Aluminum oxide products	Magnesium oxide
✓ Aluminum products	Mineral oil residues
Aqueous liquids, solidified with Aquaset	Organic liquids, solidified with Petroset
Brass products	✓ Paper products
Carbon products, including diamonds	Petroleum hydrocarbon residues
Carbon tetrachloride residues (<i>non-hazardous</i>)	Plastic-coated iron magnets
Ceramic products	✓ Plastic products
Copper metal/alloy products	✓ PPE (gloves, booties)
Copper oxide powder	✓ Radiac wash on wipes (dry)
cotton swabs	✓ Rubber gloves
Cotton wipers	✓ Rubber products
✓ Cotton-tipped Q-tips	✓ Sandpaper
DURAMIDE 285 residues	Silica
Dust cloths (mineral oil treated rayon/polyester fabric)	Silicon with Si ₃ N ₄ (silicon nitride)
Electric components	Silicone fluid residues
Epoxi-Patch Black Epoxy (cured and hardened)	✓ Small hand tools (brass, plastic, steel, wood)
Felt-tip pens	✓ Stainless steel products
✓ Glass products	TLC-free stripcoat (dry)
Glove box HEPA filters	X-caliber Cleaning Compound (dried)
Kerosene residues (<i>non-hazardous</i>)	Zirconium oxide
Light bulbs	

Component with RCRA or CA Hazardous Constituent	Component
Batteries (alkaline; size: AAA, AA, A, B, C, D, 9 volt) with potassium hydroxide 1	
Lead 2 (as a component of solder)	
Silver 3 (as a component of solder)	

Hazardous Items: (*superscripts refer to component list items, also with this indicator*)

¹ potassium hydroxide, CA corrosive (C)

² lead, RCRA toxic (T), CA toxic (X)

³ silver, RCRA toxic (T), CA toxic (X)