UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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R. Paul Detwiler, Acting Manager
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Dear Dr. Detwiler:

The U.S. Environmental Protection Agency's (EPA) inspection reports for inspection numbers EPA-WIPP-6.04-28a (waste management and storage: Subpart A), EPA-WIPP-6.04-28b (waste emplacement), and EPA-WIPP-6.04-28c (certification monitoring parameters) of the Waste Isolation Pilot Plant (WIPP) are enclosed. We performed these inspections during the week of June 28, 2004, under authority of 40 CFR 194.21 and 40 CFR Part 191, Subpart A. We have determined that the activities related to emissions monitoring of waste management and storage that we inspected continue to comply with the requirements of 40 CFR Part 191, Subpart A. In addition, waste emplacement and monitoring activities examined during the inspection were found to be consistent with the Compliance Certification Application as approved by EPA in our certification decision of May 18, 1998. We identified one concern related to the waste emplacement inspection.

During the waste emplacement inspection, EPA examined the capabilities of the Department of Energy (DOE) to track the total amount of magnesium oxide (MgO) placed in the WIPP as waste is emplaced. Magnesium oxide is the only engineered barrier in the disposal system and the amount needed in the repository is proportional to the amount of cellulosics, plastics and rubber materials (CPR). While we did not find any evidence to suggest that there are errors in the MgO placement, we have a concern that the total amount of MgO co-located with WIPP waste cannot be verified because DOE does not appear to have a real-time system to track and calculate the actual MgO placed with WIPP waste at disposal. A mechanism to track MgO placement is important to verify that sufficient MgO is present to fulfill its function as an engineered barrier.

In the March 26, 2004 decision (A-98-49, II-B3-68) to allow super compacted waste from the Advanced Mixed Waste Treatment Facility, EPA required that DOE develop a plan to track MgO and to be able to verify that the appropriate MgO amounts are placed in the repository to

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maintain the barrier. EPA understands that DOE is working on an MgO emplacement plan in response to EPA's concerns and that the plan will discuss how DOE will track and verify the emplaced MgO. We will review the plan to ensure that DOE can track and verify emplaced MgO in the repository. As stated previously, the plan needs to be approved by EPA before compacted waste from the Advanced Mixed Waste Treatment Facility or other waste with high CPR can be shipped to WIPP.

If you have any questions regarding the enclosed reports, please call Betsy Forinash at (202) 564-9233.

Sincerely,

Bonnie C. Gitlin, Acting Director
Radiation Protection Division

Enclosures

cc: Russ Patterson, DOE/CBFO
Steve Casey, DOE/CBFO
Steve Zappe, NMED
EPA WIPP Team
Lynne Smith, DOE/EM

DOCKET NO: A-98-49
Item: II-B3-71

Subpart A Inspection Report

INSPECTION No. EPA-WIPP-6.04-28a
OF THE
WASTE ISOLATION PILOT PLANT
June 28 to July 1, 2004

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Radiation and Indoor Air
Center for Federal Regulation
1200 Pennsylvania Avenue, NW
Washington, DC 20460

August 2004

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1.0 Executive Summary

The U.S. Environmental Protection Agency (EPA) conducted an annual inspection of the Department of Energy (DOE) Waste Isolation Pilot Plant (WIPP) June 28 to July 1, 2004 as part of our continuing oversight program. This inspection was conducted under the authority of 40 CFR 191, Subpart A. The purpose of this inspection was to verify that DOE was in compliance with the dose release standard found at 40 CFR 191.03.

Inspectors reviewed DOE's ability to monitor radiation releases to the public due to normal waste disposal operations and any unplanned or accidental releases that might occur during disposal operations. We reviewed DOE's activities related to a minor, barely detectable release that took place in 2003. Inspectors examined WIPP's emission control devices and methods used to estimate radiation doses to the public. In addition, we inspected radiation sample locations and equipment, sample processing, and reviewed the computational methods used to estimate doses.

We found that DOE continued to improve its air monitoring program during the past year, responded appropriately to the 2003 unplanned release, has an effective radiation sampling program, and can calculate both yearly and accidental dose estimates adequately. We have no findings, concerns, or observations.

2.0 Inspection Scope

The scope of this inspection was to verify that WIPP continues to effectively capture, measure, and calculate radiation dose to members of the public during waste disposal operations. Inspection activities included an examination of monitoring and sampling equipment both on and off site, and in the underground. This inspection was conducted under the authority of 40 CFR 191, Subpart A.

During this inspection, the Agency selected for review the unplanned release first recorded by Carlsbad Environmental Monitoring and Research Center (CEMRC) and the WIPP radio chemistry laboratory's move from the WIPP site to Carlsbad on quality of results. We also verified that other aspects of Subpart A compliance are adequate.

3.0 Inspection Team, Observers, and Participants

The inspection team consisted of three EPA staff.

Inspection Team Member	Position	Affiliation
Chuck Byrum	Inspection Team Leader	EPA
Nick Stone	Inspector	EPA
Tom Peake	Observer	EPA

Numerous DOE staff and contractors participated in the inspection; below is a partial list.

DOE/Contractor Participates	Affiliation
Russ Patterson	DOE/CBFO
Linda Frank-Supka	WTS
Don Harward	WTS
Larry Madl	WTS
Mansour Akbarzadeh	WTS
Ginny Whiteford	WTS
Raymond Neuman	WTS
Steve Casey	DOE
Marsh Beekman	WTS
Tom Goff	WTS
Andy Cooper	WTS
Glen Galloway	WTS
Richard Farrell	DOE

The inspection began on Monday, June 28, 2004, with a presentation by Don Harward about the history of the unplanned release in 2003, DOE's response to the release, and a list of program changes and improvements in response. He discussed changes in the program since the last EPA inspection. This discussion included the following changes to the program at WIPP during the past year:

- trend analysis of underground Fixed Air Sampler,
- modification by WTS of other parts of the program to enhance their ability to capture releases in a more timely manner.

The inspection team observed various activities to verify effective implementation of procedures. The team reviewed consequence assessment procedures and implementation, interviewed site staff about the steps involved in an accidental response scenario, looked at the sample setup at Station A, Station B, Station D, and underground sampling locations at the exhaust of the waste emplacement room in Panel two, and toured the radio chemical laboratory. This year the inspectors discussed in detail changes to the program because of the minor, near minimum detectable limits, unplanned release in 2003 and issues related to the move of the radio chemistry laboratory to Carlsbad from WIPP.

4.0 Performance of the Inspection

2003 Unplanned Release

In February 2003, Carlsbad Environmental Monitoring and Research Center notified DOE that they had found a minor release, just above the minimum detectable limit, in their second quarter composite. Subsequently DOE and Environmental Evaluation Group confirmed that a very low level of $^{239,240}Pu$ had been captured by filters at Station A during the month of June 2003. DOE performed a number of activities to deal with this event. DOE enhanced the program by ensuring that filters are processed more rapidly to attain data in a more timely fashion. It appears that DOE has used this minor event as a learning process to improve their overall program. EPA concurs with this response and approach.

Move of Radio Chemistry Laboratory to Carlsbad

During the past year, DOE moved the radio chemistry activities to Carlsbad from the WIPP site. Our major concern was how well DOE handles and process samples at this remote laboratory. We examined this issue during our inspection. DOE/WTS was able to demonstrate that off-normal samples are counted for alpha and beta quickly at the WIPP site and more advanced processing is done at the laboratory in Carlsbad. Mansour Akbarzadeh demonstrated that quality of chemistry measurements has not changed as a result of the move to Carlsbad. EPA believes that the new setup is satisfactory when one considers the early-warning from the quick measurements done at the site and the detailed, highly accurate, measurements done at the laboratory in Carlsbad.

5.0 Summary of Findings

Inspectors concluded that DOE adequately implemented a radiological monitoring and sampling program for WIPP disposal operations and appropriately performed calculations to

estimate potential releases to the public. We have no findings, concerns, or observations.

Attachment A

Inspection Plan and Check list

Attachment B

Table of Documents Reviewed

Part 191 Subpart A for year 2004 - Compliance Reporting Checklist

#	Question	EPA Citation	Comment (Objective Evidence)	Result
	40 CFR 191.03 Compliance Standard			
	Does DOE "...provide reasonable assurance that the combined annual dose equivalent to any member of the public in the general environment resulting from: (1) Discharges of radioactive material and direct radiation from such management and storage and (2) all operations covered by Part 190; shall not exceed 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other critical organ."	40 CFR 191.03 Subpart A - Environmental Standards for Management and Storage	DOE has demonstrated that they can capture, measure, and calculate releases to assure that they are and remain below these limits.	Sat.
	Scope of activities considered in determining compliance			
1	Does DOE demonstrate that all activities at the WIPP up until the point of disposal are considered in determining compliance?	EPA 402-R-97-001 Section 2.3, Page 4	The Site Environmental Report (COB-A2004-C) documents the results of DOE/WIPPs efforts to consider all activities that impact compliance.	Sat.
2	Does DOE demonstrate that radiation doses to the public due to 1) actual normal operation and 2) any unplanned or accidental releases are examined?	EPA 402-R-97-001 Section 2.3, Page 5	Section 3.0 of COB-A2004-A, documents the program planned to show how this requirement is examined. COB-A2004-F, documents the QA requirements for the sampling of emissions. COB-A2004-I demonstrate that normal operations are examined. COB-A2004-G documents DOE's review of potential accidents at WIPP. Procedure WP 12-HP4000 (COB-A2004-J) documents emergency responses.	Sat.
	Media considered in determining compliance			
3	Does DOE demonstrate that the air pathway is the credible release pathway?	EPA 402-R-97-001 Section 2.4, Page 5	COB-A2004-C page(s) 12, 37 (DOE/WIPP 03-2225) documents that the air pathway is the only credible release pathway.	Sat.
4	Does DOE demonstrate that other exposure mechanisms from an air release could include inhalation of contaminated air, immersion in a plume of radioactive particles, ingestion of soil on which contaminated particles have been deposited, swimming in ponds in which radionuclides have been deposited are considered?	EPA 402-R-97-001 Section 2.4, Page 5	Section 2.1 and 3.5 of COB-A2004-A documents the detailed plan for measurements these potential exposure mechanisms. COB-A2004-I demonstrates that these exposure mechanisms are included.	Sat.
#	Question	EPA Citation	Comments (Objective Evidence)	Results

	Media considered in determining compliance			
5	Is DOE monitoring the expected air exhaust pathway and performing environmental monitoring of other release points and exposure pathways to confirm air exhaust as the only release pathway?	EPA 402-R-97-001 Section 2.4, Page 5 and page 6.	Section 2.1 of COB-A2004-A explains DOE plan to fulfill this requirement. COB-A2004-C demonstrates that DOE implements a groundwater surveillance, biota sampling and off-site air monitoring programs.	Sat.
	Boundary of compliance			
6	Does DOE demonstrate compliance at the "exclusive use area" boundary? If not, does DOE justify changing this boundary?	EPA 402-R-97-001 Section 2.5, Page 6. EPA 402-R-97-001 Section 2.5, Page 7	Section 3.1 of COB-A2004-A states that the "Exclusive Use Area" will be used as the boundary for 40 CFR 191 Subpart A compliance.	Sat.
	Location of maximally exposed individual			
7	Does DOE examine radiation doses to individuals at any offsite point where there is a residence, school, business, or office? (Such as grazing, mining, or oil drilling in the vicinity.)	EPA 402-R-97-001 Section 2.6.1, Page 8	COB-A2004-I demonstrates that DOE does consider doses at appropriate offsite points, such as Smith Ranch located 7.5 km away in the WNW sector of WIPP.	Sat.
8	Does DOE analyze potential exposure pathways and examine demographic information and conduct field investigations to identify the location of actual individual who could be exposed via those pathways?	EPA 402-R-97-001 Section 2.6.1, Page 8	COB-A2004-I demonstrates that DOE does consider doses at appropriate offsite points, such as Smith Ranch located 7.5 km away in the WNW sector of WIPP.	Sat.
9	Does DOE conduct separate analyses of potential dose received from each exposure pathway? Then does DOE assume that a member of the public resides at the single geographic point on the surface where the maximum dose would be received?	EPA 402-R-97-001 Section 2.6.1, Page 8	COB-A2004-I Section 6 demonstrates that DOE does consider doses at appropriate offsite points, such as Smith Ranch located 7.5 km away in the WNW sector of WIPP.	Sat.
#	**Question**	**EPA Citation**	**Comments (Objective Evidence)**	**Results**
	Personal parameters			

10	Does DOE assume that the individual exhibits personal characteristics of the "reference man" when evaluating radiation dose to the maximally exposed individual?	EPA 402-R-97-001 Section 2.6.2, Page 8	Section 3.2 of COB-A2004-A describes the "reference man" parameters as described in the CAP88-PC computer code. COB-A2004-I demonstrates that "reference man" is used to evaluate radiation doses.	Sat.
	Calculation of dose - Modeling - Parameters			
11	Does DOE provide both whole body radiation dose and critical organ radiation dose for the maximally exposed individual (or a hypothetical individual conservatively located at a point of higher exposure)?	EPA 402-R-97-001 Section 2.7.1, Page 8	COB-A2004-I demonstrates that DOE appropriately fulfills this requirement.	Sat.
12	Does DOE calculate radiation doses including all release points and reflecting evaluation of all exposure pathways?	EPA 402-R-97-001 Section 2.7.1, Page 8	Section 2.1 COB-A2004-A states that the air pathway is the most credible but other exposure pathways will be monitored. COB-A2004-I demonstrates that all release points are evaluated.	Sat.
13	Does DOE use computer modeling to calculate radiation doses for compliance with the Subpart A standard?	EPA 402-R-97-001 Section 2.7.2, Page 9	Section 3.2 of COB-A2004-A states that a computer model will be used to calculate radiation doses. COB-A2004-I demonstrates that DOE is using computer modeling.	Sat
14	Does DOE use CAP88-PC to perform dose calculations?	EPA 402-R-97-001 Section 2.7.2, Page 9	Section 3.2 of COB-A2004-A states that CAP88-PC is used for dose calculations. COB-A2004-I demonstrates that DOE is using CAP88-PC.	Sat.
15	Does DOE use an alternate model for calculating radiation doses? If so, does DOE justify such usage?	EPA 402-R-97-001 Section 2.7.2, Page 10	Section 3.2 of COB-A2004-A states that DOE uses the atmospheric dispersion code (CXQ) to determine concentrations for accidental releases.	Sat.
16	Does DOE adequately support exposure parameters used in dose calculations?	EPA 402-R-97-001 Section 2.7.3, Page 10	COB-A2004-I demonstrates that DOE is using appropriate parameters in dose calculations.	Sat.
#	**Question**	**EPA Citation**	**Comments (Objective Evidence)**	**Results**
	Calculation of dose - Modeling - Parameters			

17	Does DOE document that "conservative simplifying assumptions" are used in the radiation dose calculations?	EPA 402-R-97-001 Section 2.7.3, Page 10	COB-A2004-I demonstrates that DOE is using conservative simplifying assumptions in dose calculations.	Sat.
18	Are DOE's exposure parameters as conservative as the following? For a maximally exposed individual located at a residence, assumed continuous exposure (24 hours per day). For a maximally exposed individual located at a business, office, or school, assume exposure of 8 hours per day. Assume individuals consume 3 liters per day of drinking water from an underground source of drinking water. Assume inhalation rate for air to be 9E+5 cm3/hr. Assume ingestion rate of meat to be 85 kg/yr. Assume ingestion rate of leafy vegetables to be 18 kg/yr. Assume ingestion of milk to be 112 liter/yr. Assume ingestion rate of produce to be 176 kg/yr.	EPA 402-R-97-001 Section 2.7.3, Page 10	Section 3.2 of COB-A2004-A states that DOE is using these values as exposure parameters. COB-A2004-I demonstrates that DOE is using these parameters in dose calculations.	Sat.
#	**Question**	**EPA Citation**	**Comments (Objective Evidence)**	**Results**
	Emissions and Environmental Monitoring - Air			

19	Does DOE demonstrate that effluent flow rate measurements are made using Reference Method 2 of Appendix A to 40 CFR Part 60 to determine velocity and volumetric flow rate for stacks and large vents?	EPA 402-R-97-001 Section 3.1, Page 11, (1(i))	COB-A2004-F Section 4.1 documents that this requirement is appropriately implemented at WIPP.	Sat.
20	Does DOE demonstrate that effluent flow rate measurements are made using Reference Method 2a of Appendix A to 40 CFR 60 to measure flow rates through pipes and small vents?	EPA 402-R-97-001 Section 31, Page 11, (1(ii))	Not applicable at WIPP. Duct diameter associated with WIPP exhaust point exceed the 40 CFR 60 requirements.	NA
21	Does DOE demonstrate that the frequency of flow rate measurements depend on the variability of the effluent flow rate? **Note:** For variable flow rates, continuous or frequent flow rate measurements are expected to be made. For relatively constant flow rates, only periodic measurements are expected.	EPA 402-R-97-001 Section 3.1, Page 11, (1(iii))	COB-A2004-A, Section 3.3.1 describe the continuous air monitoring requirements at WIPP.	Sat.
22	Does DOE demonstrate that radionuclides to be directly monitored or extracted, collected and measured using Reference Method 1 of Appendix A to 40 CFR Part 60 for selected monitoring or sampling sites?	EPA 402-R-97-001 Section 3.1, Page 11, (2(i))	DOE uses 40 CFR 61 Appendix B Method 114. COB-A2004-F documents in Section 4.1 the location of sampling sites.	Sat.

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Emissions and Environmental Monitoring - Air			
23	Does DOE demonstrate that radionuclides to be directly monitored or extracted, collected and measured continuously with an in-line detector capable of distinguish relevant radionuclides? As an acceptable alternative to direct radiation monitoring, the effluent air stream may be continuously sampled such that analysis of filters or other collectors will provide an accurate estimate of emissions from a known flow rate during a fixed sampling time.	EPA 402-R-97-001 Section 3.1, Page 11, (2(ii))	DOE uses periodic monitoring at WIPP to show compliance with 40 CFR 191 Subpart A. However, COB-A2004-A Section 3.3.1 states that DOE uses continuous monitoring. COB-A2004-A Sections 3.5 and 3.3.5 document relevant radionuclides at WIPP> COB-A2004-I demonstrate that these radionuclides are sampled and tested.	NA
24	Does DOE demonstrate that radionuclides are collected and measured using procedures based on the principles of measurement described in Appendix B, Method 114 of 40 CFR 61? If not, does DOE demonstrate that the Administrator has approve the method used?	EPA 402-R-97-001 Section 3.1, Page 12, (2(iii))	COB-A2004-F page 10 documents that DOE used these principles.	Sat
25	If DOE is using the "Shrouded Probe", does DOE demonstrate that this alternative method is being used according to the guidance provide in "An Explanation of Particle Sampling in a Moving Gas Stream Within a Duct Using an Unshrouded and Shrouded Probe"?	EPA 402-R-97-001 Section 3.1, Page 12, (2(iii)(a))	An Assessment of the WIPP Shrouded Probe Against EPA Approval Criteria for Use of Single Point Sampling with the Shrouded Probe HA:98:0100 (Included in August 2000 Inspection Report, A-98-49, II-B3-12, COB 191A-AO-2000) documents DOE's evaluation of the Shrouded Probe and its compliance with the EPA criteria.	Sat.
26	Does DOE's quality assurance program meet the performance requirements described in Appendix, Method 114 of 40 CFR Part 61?	EPA 402-R-97-001 Section 3.1, Page 12, (2(iv))	COB-A2004-F Section 6.0 documents DOE quality assurance requirements. These meet the requirements of 40 CFR 61. COB-A2003-A Section 4.0 states that DOE implements NQA requirements which are equivalent to Method 114.	Sat.

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Emissions and Environmental Monitoring - Air			
27	If it is impractical to measure the effluent flow rate in accordance with the method(s) in Section 3.1(1) or to monitor or sample extraction according to methods in Section 3.1(2) has DOE demonstrated that the use of alternative effluent flow rate measurement or site selection and sample extraction are appropriate and that the alternate method are used provided the following: (i) DOE shows that methods in Section 3.1(1) or (2) are impractical; (ii) DOE shows the alternative procedure will not significantly underestimate the emissions; (iii) DOE show the alternative procedure is fully documented; and (iv) DOE has received prior approval from EPA.	EPA 402-R-97-001 Section 3.1, Page 12, (3(i) to 3(iv))	See question #19, DOE uses Section 3.1 (1)(i) of EPA 402-R-97-001 page 11.	NA.
28	Does DOE demonstrate that radionuclide emission measurements are in conformance with the methods in Section 3.1(1) and (2) to be made at all release points which have a potential to discharge radionuclides into the air in quantities which could cause a combined annual dose equivalent in excess of 1% of the dose limit in Subpart A?	EPA 402-R-97-001 Section 3.1, Page 12 and page 13, (4(i))	Section 3.3.3 of COB-A2004-A documents DOE's compliance with this requirement.	Sat.
29	Does DOE demonstrate that all radionuclides which could contribute greater than 10% of the combined annual dose equivalent for a release point are being measured?	EPA 402-R-97-001 Section 3.1, Page 13, (4(i))	Section 3.3 of COB-A2004-A documents DOE's compliance with this requirement.	Sat.

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Emissions and Environmental Monitoring - Air			
30	If DOE uses alternative procedures to determine emissions, does DOE demonstrate that they have prior EPA approval?	EPA 402-R-97-001 Section 3.1, Page 13, (4(i))	DOE does not use alternative procedures at WIPP.	NA
31	Does DOE demonstrate that for other release points which have a potential to release radionuclides into the air it has performed periodic confirmatory measurements to verify the low emissions?	EPA 402-R-97-001 Section 3.1, Page 13, (4(i))	DOE does not have other release points which have a potential to release radionuclides. COB-A2004-G documents these conclusions.	NA
32	Does DOE demonstrate that an evaluation has been done to evaluate the potential for radionuclide emissions for that release point?	EPA 402-R-97-001 Section 3.1, Page 13, (4(ii))	Chapter 5 of COB-A2004-G documents this evaluation.	NA
33	Does DOE demonstrate that estimated radionuclide release rates are based on discharge of effluent stream that would result if all pollution control equipment did not exist, but the facilities operations were otherwise normal?	EPA 402-R-97-001 Section 3.1, Page 13, (4(ii))	Section 5.2 of COB-A2004-G documents this demonstration.	Sat.

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Environmental Measurements (Page 1)			
34	Does DOE demonstrate that environmental measurements of concentrations of radionuclides in air at the critical receptor locations are used as an alternative to air dispersion calculations in demonstrating compliance with the standard?	EPA 402-R-97-001 Section 3.1, Page 13, (5)	Section 3.5, COB-A2004-A documents that DOE does not use environmental monitoring as an alternative.	NA
35	Does DOE demonstrate that air at the point of measurement is continuously sampled for collection of radionuclides if environmental measurements are used?	EPA 402-R-97-001 Section 3.1, Page 13, (5(i))	Section 3.3.3, COB-A2004-A documents that DOE uses periodic confirmatory monitoring to comply with 40 CFR 194 Subpart A annual requirements because doses are below 1% of the standard.	NA
36	Does DOE demonstrate that the environmental measurement program is appropriately designed to collect and measure specifically those radionuclides which are major contributors to the annual radiation dose from the facility?	EPA 402-R-97-001 Section 3.1, Page 13, (5(ii))	COB-A2004-I documents the results DOE's environmental monitoring program. This report demonstrates that the results are based on major radionuclides.	Sat.
37	Does DOE demonstrate that radionuclide concentrations which would cause an annual dose equivalent of 10% of the standard are readily detectable and distinguishable from background?	EPA 402-R-97-001 Section 3.1, Page 13, (5(iii))	COB-A2004-D and COB-A2004-H describe the methods used by DOE to measure radionuclide concentrations. These methods will detect doses that are in compliance with this requirement.	Sat.
38	Does DOE demonstrate that a quality assurance program that meets the performance requirements described in 40 CFR Part 61, Appendix B, Method 114 is conducted for environmental measurements?	EPA 402-R-97-001 Section 3.1, Page 13, (5(iv))	COB-A2004-F documents that DOE's QA program meets these requirements.	Sat.

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Environmental Measurements (Page 2)			
39	Does DOE demonstrate that EPA has granted prior approval for the use of environmental measurements to demonstrate compliance with the standard?	EPA 402-R-97-001 Section 3.1, Page 13, (5(v))	DOE has not requested approval to use environmental measurements.	NA
	Emissions and Environmental Monitoring - Other Media			
40	Does DOE demonstrate that environmental monitoring of other release points or critical receptor locations to confirm air exhaust as the only release pathway?	EPA 402-R-97-001 Section 3.2, Page 14.	COB-A2004-C demonstrates that DOE's environmental program monitors other release points and critical receptor locations.	Sat.

Part 191 Subpart A for year 2004 - Compliance Reporting Checklist

#	Question	EPA Citation	Comments (Objective Evidence)	Results
	Compliance Reporting			
41a	Does DOE demonstrate compliance with the Subpart A standard by showing that the annual radiation dose to any member of the public in the general environment falls below the regulatory limits?	EPA 402-R-97-001 Section 4.2, Page 15.	Section 3.3.3 of COB-A2004-A documents that DOE's plans to report results yearly. COB-A2004-I demonstrates that DOE does report results yearly.	Sat.
41b	Does DOE report results of monitoring and the dose calculations for each reporting period?	EPA 402-R-97-001 Section 4.2, Page 15	Section 3.3.3 of COB-A2004-A documents that DOE's plans to report results yearly. COB-A2004-I demonstrates that DOE does report results yearly.	Sat.
41c	Does DOE demonstrate that monitoring is performed each calendar year of facility operation, and that radiation doses are calculated after the end of each year?	EPA 402-R-97-001 Section 4.2, Page 15	Section 3.3.3 of COB-A2004-A documents that DOE's plans to report results yearly. COB-A2004-I demonstrates that DOE does report results yearly.	Sat.
	Notification of construction or modification.			
42	Does DOE demonstrate that they have provided the EPA written notification of any planned construction or modification to the WIPP facility, prior to commencing any such activity, if it results in an increase in the rate of emissions of radionuclides during operation?	EPA 402-R-97-001 Section 4.3, Page 16.	Section 5.0 of COB-A2004-A documents that DOE's plans to report results yearly. COB-A2004-I, Section 8.0 demonstrates that DOE does report planned construction and modification during the year.	Sat.
43	Does DOE demonstrate that advanced notification was not needed for construction and modification if the radiation dose caused by all the emissions from the new construction or modification is less than 1% of the Subpart A dose limits?	EPA 402-R-97-001 Section 4.3, Page 16 and page 17.	Section 5.0 of COB-A2004-A documents that DOE's plans to report results yearly.	Sat.

Documents Reviewed and Copies Received **191.03 Subpart A Inspection - June 2004** **DOE Documents**

#	Document Title	Subject Matter	Source and Location
1	CCA, Appendix EMP; Waste Isolation Pilot Plant Environmental Monitoring Program. DOE/WIPP 96-2194. In particular pages 4-1, 5-1, 5-3, 5-4, 5-6.	Discussed DOE environmental monitoring plans at the WIPP site. COB-A2004-1	DOE, CCA, Appendix EMP
2	Implementation Plan for 40 CFR 191, Subpart A DOE/WIPP 00-3121, Revision 2, June 2001	Outlines program at WIPP to show compliance with 40 CFR 191, Subpart A. COB-A2004-A	DOE/WTS
3	Periodic Confirmatory Measurement Protocol for the Waste Isolation Pilot Plant DOE/WIPP 97-2238, Revision 7, January 2004	Used to explain the protocol to used preform periodic confirmatory measurements. COB-A2004-B	DOE/WTS
4	Waste Isolation Pilot Plant Site Environmental Report, Calender Year 2002, DOE/WIPP 02-2225, Rev 1, Sept. 2003	Example of the results of the environmental monitoring program, in particular radiological measurements. COB-A2004-C	DOE/WTS
5	Airborne Radioactivity - Technical Procedure WP 12-HP3500, Revision 12, 04/06/04	Procedure provides instructions for analyzing, reporting, and trending results of air samples. COB-A2004-D	DOE/WTS
6	WTS Quality Assurance Program Description WP 13-1, Revision 23, 10/15/02	WTS minimum quality requirements for WIPP. COB-A2004-E	DOE/WTS
7	Quality Assurance Program Plan for Sampling Emissions of Radionuclides to the Ambient Air at the Waste Isolation Pilot Plant WP 12-RC.01, Revision 7, 03/01/04	QA program for sampling air emissions at WIPP. COB-A2004-F	DOE/WTS
8	WIPP CH SAR Pages 5.2-11, Chapter 5 of DOE/WIPP-95-2065 Rev. 5.	This selection verifies that the air pathway is the only pathway of concern at the WIPP. COB-A2004-G	DOE/WTS.
9	Instructions for Periodic Confirmatory Sampling Compliance Reporting WP 12-HP3125, Revision 7, 06/15/01 Replaced By - Periodic Confirmatory Sampling, Reporting, and Compliance Activities WP 12-RE3004, Rev 1, 02/09/04	This procedure provides instructions for Radiological Engineers of the Radiological Controls Department to fulfill the requirements of NESHAPs. COB-A2004-H	DOE/WTS

Documents Reviewed and Copies Received **191.03 Subpart A Inspection - June 2004** **DOE Documents**

#	Document Title	Subject Matter	Source and Location
10	Annual Periodic Confirmatory Measurement Compliance Report for the DOE WIPP and CAP88-PC Version 2.00 Output File for CY-2003 WIPP Annual NESHAP Report	Documents annual results. COB-A2004-I	DOE/WTS
11	Emergency Radiological Control Responses, Emergency and Alarm Response Procedure, WP 12-HP4000, Revision 4, 08/21/03	Section 3.0 documents actions to be taken in the event of and "ON-SITE AIRBORNE RADIOACTIVITY EVENT". COB-A2004-J	DOE/WTS
12	Fixed Air Monitoring Equipment - Technical Procedure WP 12-HP1305, 12/30/02	Instructions for the operation of fixed air monitoring equipment. COB-A2004-K	DOE/WTS
13	Portable Canberra Air Monitor - Technical Procedure WP 12-HP1306, 01/15/02	Instructions for operating the Canberra continuous air monitor equipment. COB-A2004-L	DOE/WTS
14	Portable Instrument and Portal Monitor Operability Checks - Technical Procedure WP 12-HP1307, 11/25/02	Instructions for operational checks of portable contamination instruments. COB-A2004-M	DOE/WTS
15	Portable Alpha-6 Continuous Air Monitors - Technical Procedure WP 12-HP1308, 04/07/03	Instructions for operation of Portable Alpha-6 continuous air monitor. COB-A2004-N	DOE/WTS
16	Radiological Event Response, Emergency Response Procedure, WP 12-ER4903, Revision 5, 01/18/01	Procedure documents actions taken if a potential or actual radioactive release takes place. COB-A2004-O	DOE/WTS
17	WIPP Air Monitoring Status First Quarter 2004, May 2004	Procedure documents reporting of radiological events. COB-A2004-P	DOE/WTS
18	Radiological Event Reporting - Management Control Procedure WP 12-HP3700, Revision 2, 12/26/01	Documents the 'first' estimate of a possible release. COB-A2004-Q	DOE/WTS
19	Calibration of Effluent Monitoring Skids A#, B1 and B2 Maintenance Procedure - Continuous Use IC041072, Revision 5	Instructions for calibration of FAS skids A3, B1 and B2 flow instrumentation. COB-A2004-R	DOE/WTS
20	Calibration of Effluent Monitoring Station C CAM Skid - Maintenance Procedure IC041097, Revision 1	Instructions for calibration of Station C flow instrumentation. COB-A2004-S	DOE/WTS
21	U/G Exhaust Mass Flow Measurement system for Fans 700A, B & C - Maintenance Procedure IC041098, Revision 4	Documents calibration verification test and alignment of U/G exhaust. COB-A2004-T	DOE/WTS

Documents Reviewed and Copies Received **191.03 Subpart A Inspection - June 2004** **DOE Documents**

#	Document Title	Subject Matter	Source and Location
22	Station B Mass Flow Measurement System, Loop 41A001W2001 - Maintenance Procedure IC413000, Revision 4	Documents calibration of Station B mass flow measurement system. COB-A2004-U	DOE/WTS
23	Inspection and Cleaning of Station "A" Sample Probes Bldg. 364 - Maintenance Procedure PM364005, Revision 8	Documents steps to inspect and clean Station A probes. COB-A2004-V	DOE/WTS
24	WIPP ALARA Program Manual WP 12-2, Revision 9, 09/24/02	Describes organization and responsibilities of ALARA committee and coordinator. COB-A2004-W	DOE/WTS
25	Consequence Assessment Dose Projection - Technical Procedure WP 12-ER4916, Revision 4, 04/21/03	Documents procedure for estimating the potential dose consequence from a release or suspected release of radioactive material. COB-A2004-X	DOE/WTS
26	Radiological Engineering Off-site Air Sampling - Technical Procedure WP 12-RE3002, Revision 0, 12/18/02	Instructions for collecting and documenting Low-Volume filter retrieval in response to a potential release. COB-A2004-Y	DOE/WTS
27	Various CEMRC reports related to the small unplanned Pu release in 2003. 02/23/04, 03/19/04	COB-A2004-S1	CEMRC
28	DOE news release related to 2003 unplanned release, 04/25/04	COB-A2004-S2	DOE/WTS
29	EEG fact sheet about unplanned release in 2003, 03/19/04	COB-A2004-S3	EEG
30	Various WIPP radiochemistry laboratory documents that show the effectness of the laboratory program. D-1-3 alhpa collection data, NESHAPS 2004-210, N04-0048 data package(s), NIST report of results of WIPP lab traceability measurements, QAP 0403 Inastant Results for WIPP lab, alpha and bata background activity results for 2003, alhpa and beta efficiency for 2003.	COB-A2004-S4	DOE/WTS
31	Sample of WP 12-HP1305 NESHAP Particulate Air Filter Sample Form(s)	COB-A2004-S5	DOE/WTS

DOCKET NO: A-98-49
Item: II-B3-71

Monitoring Inspection Report

INSPECTION No. EPA-WIPP-6.04-28c
OF THE
WASTE ISOLATION PILOT PLANT
June 28 to July 1, 2004

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Radiation and Indoor Air
Center for Federal Regulation
1200 Pennsylvania Avenue, NW
Washington, DC 20460

August 2004

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Attachment A Inspection Plan and Checklist

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1.0 Executive Summary

The U.S. Environmental Protection Agency (EPA) conducted an inspection of the Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP) on June 28 to July 1, 2004, as part of our continuing WIPP oversight program. The purpose of this inspection was to verify that DOE is adequately monitoring the ten parameters listed in the Compliance Certification Application (CCA), Volume 1, Section 7.0, in particular Table 7-7 (See Table 1). Attachment A contains the checklist and the inspection plan used by the inspectors, and Attachment B lists documents reviewed by the inspectors.

The inspection examined the implementation of monitoring for geomechanical, hydrological, waste activity, drilling related, and subsidence parameters. The inspectors toured locations where measurements are taken, reviewed parameter databases, and reviewed documents and procedures directing these monitoring activities.

The inspectors found that DOE, through its contractor Washington TRU Solutions (WTS), effectively implemented the monitoring programs at WIPP for all areas. EPA did not have any findings or concerns. The inspection team also confirmed that the results of DOE monitoring programs are reported annually.

2.0 Scope

The WIPP Compliance Criteria (40 CFR Part 194.42(a)) require DOE to "conduct an analysis of the effects of disposal system parameters on the containment of waste in the disposal system." The results of these analyses were included in the 1998 CCA and were used to develop pre-closure and post-closure monitoring requirements.

Volume 1, Section 7.0, of the CCA documented DOE's analysis of monitoring. Table 7-7 of the CCA lists the ten parameters that DOE determined may affect the disposal system. These parameters are grouped into major categories and listed in Table 1.

Table 1 - Monitored Parameters	
Geomechanical Parameters- -Creep closure, -Extent of deformation, -Initiation of brittle deformation, and -Displacement of deformation features.	**Waste Activity Parameter-** -Waste Activity **Subsidence Parameter-** -Subsidence measurements
Hydrological Parameters- -Culebra groundwater composition and -Change in Culebra groundwater flow direction.	**Drilling Related Parameters-** -Drilling rate and -The probability of encountering a Castile brine reservoir.

We accepted these ten monitoring parameters in the certification issued on May 18, 1998. This inspection was performed under authority of 40 CFR 194.21 to verify the continued effectiveness of the parameter monitoring program at WIPP. Inspection activities included an examination of monitoring and sampling equipment both on and off site, and in the underground. We also reviewed sampling procedures and measurement techniques and verified implementation of an effective quality assurance program.

3.0 Inspection Team, Observers, and Participants

The inspection team consisted of three EPA staff.

Inspection Team Member	Position	Affiliation
Chuck Byrum	Inspection Team Leader	EPA
Nick Stone	Inspector	EPA
Tom Peake	Inspector	EPA

Numerous DOE staff and contractors participated in the inspection; below is a partial list.

DOE/Contractor Participates	Affiliation/Organization
Stan Patchet	WTS
Joel Siegel	WTS
Rey Carrasco	WTS
Richard Farrell	DOE
Steve Casey	DOE
Dave Kump	WTS
Dave Speed	WTS
Dave Hughes	WTS

The inspection began on Monday, June 28, 2004, at 1100 with a review of the subsidence monitoring program, at 1300 with a review of the geomechanical monitoring program, and at 1400 with a meeting with presentations by DOE/CBFO and WTS that covered an overview of the status of elements of the monitoring program.

The inspection team reviewed various activities to verify effective implementation of the plans and procedures. Inspectors observed a demonstration of the WIPP Waste Information System (WWIS), which is used to track the waste shipped from TRU waste sites. Inspectors also

reviewed the Delaware Basin Drilling Surveillance Program, Groundwater Monitoring Program, and the Geomechanical Monitoring Program.

4.0 Performance of the Inspection

EPA inspectors reviewed three fundamental areas to verify continued implementation of the DOE monitoring program during the pre-closure phase: 1) written plans and procedures, 2) quality assurance procedures and records, and 3) results of the monitoring program in the form of raw data, intermediate reports, and final annual reports, if appropriate. The inspection checklist in Attachment A provides details of inspection activities.

4.1 Monitoring of Geomechanical Parameters

DOE committed to measure four geomechanical parameters in the CCA: creep closure, extent of deformation, initiation of brittle deformation, and displacement of deformation features. WIPP has four programs that supply information for these four parameters: the geomechanical monitoring program, the geosciences program, the ground control program, and the rock mechanics program. These programs are documented in the WIPP Geotechnical Engineering Program Plan, WP 07-01. The results of the Geotechnical Engineering Program are documented in the Geotechnical Analysis Report for July 2002 - June 2004, DOE/WIPP-00-3177, Volumes 1 and 2.

Inspectors toured and reviewed underground instrumentation, the computer database, and field data sheets used to record raw measurement data. They also examined output convergence, roof-to-floor measurements, checkprints to verify implement of the measurement plan.

4.2 Monitoring of Hydrological Parameters

DOE committed to measure two hydrological parameters in the CCA: Culebra groundwater composition and changes in the Culebra groundwater flow direction. Related parameters are measured and documented in the WIPP environmental monitoring program. These programs are documented in the WIPP Groundwater Monitoring Program Plan, WP 02-1. Results of this program are documented in the Waste Isolation Pilot Plant Site Environmental Report, Calender Year 2002, DOE/WIPP 03-2225. This document describes the groundwater monitoring program and presents results for the previous year.

During the 2004 inspection inspectors requested information about changes in the program since last year. Joel Siegel discussed the two wells reconfigured to monitor the Bell Canyon, wells reconfigured and drilled to monitor Culebra water levels, and a pump test done to evaluate the characteristics of the Culebra. He also described a test program to evaluate the effectiveness of collecting water levels by satellite. Mr. Siegel also led a tour of the newly drilled SNL monitor wells to verify completion and sampling techniques.

4.3 Monitoring of Waste Activity Parameters

DOE committed to monitor the activity of waste emplaced into the CCA. This parameter is part of the extensive database collected for each container shipped to WIPP and is stored in the WIPP Waste Information System (WWIS). The WWIS is a software system that screens waste container data and provides reports on the transuranic (TRU) waste sent to WIPP. The requirements for the WWIS are discussed in the WIPP Waste Information Program and System Data Management Plan, WP 08-NT.01.

Dave Speed demonstrated that the WWIS can receive data and that the WWIS can generate needed reports. CBFO has committed to annual waste activity reports. Dave Speed showed the inspection team how the WWIS records waste activity information provided by the generator sites and how the computer database produces waste activity reports. The inspection team obtained copies of the Nuclide Report.

4.4 Monitoring of Drilling Related Parameters

DOE committed to measure two drilling related parameters in the CCA: the drilling rate and the probability of encountering a Castile brine reservoir. These parameters are measured as part of the Delaware Basin Drilling Surveillance Plan, WP 02-PC.02. This surveillance program measures and records many parameters related to drilling activities around the WIPP site. The results of the surveillance program are documented annually in the Delaware Basin Annual Report, DOE/WIPP 99-2308.

Inspectors reviewed the drilling surveillance database, examined drilling rate changes, and permitted and active injection wells while interviewing Dave Hughes. Inspectors received a map of recent activity near WIPP.

4.5 Monitoring of Subsidence Parameters

DOE committed to measure subsidence at the WIPP site. This parameter is documented as part of the of the WIPP Underground and Surface Surveying Program, WP 09-ES.01. DOE performs subsidence surveys at the site annually during pre-closure operations. The results of this program are reported annually in the WIPP Subsidence Monument Leveling Survey - 2003, DOE/WIPP 04-2293.

This year Ben Zimmerly showed inspectors how DOE staff or contractors take raw field survey data and calculate final surface elevations.

5.0 Summary of finding, observation, concerns, and recommendations.

Based on program documents, interviews, and field demonstrations during the inspection, we concluded that the monitoring program covers the ten monitor parameters required in the

certification decision; that the monitoring, sample collection, and sample/data analysis procedures reviewed were complete and appropriate; that staff were adequately trained and implemented the procedures adequately; and that appropriate quality assurance measures are applied. For these reasons, we find that DOE has adequately maintained an adequate parameter monitoring during the past year and has the procedures and requirements in place to sustain thier program into the next year. We have no findings or concerns.

Attachment A: Inspection Plan and Checklist

Attachment B: Documents Reviewed

40 CFR 194.42 for year 2004 - DOE WIPP Monitoring Commitments Checklist

	Pre-closure Monitoring Commitments		
#	Question	Comment (Objective Evidence)	Result
	Geomechanical Parameters		
1	Does DOE demonstrate that they have implemented plans/programs/procedures to measure - a) Creep Closure; b) Extent of Deformation; c) Initiation of Brittle Deformation and d) Displacement of Deformation Features during the pre-closure phase of operations as specified in the CCA part of the geomechanical monitoring system? (CCA, Volume 1, Table 7-7; App MON, Table MON-1) 40 CFR 194.42 (c) and (e)	WIPP Geotechnical Engineering Program Plan, WP 07-01, documents the program planned to measure, document, report, and QA these four activities. Section 3.0 of WP 07-01 documents the Geomechanical Monitoring Program and records the activities associated with this program, the methods used, and reporting plans. Section 4.0 of WP 07-01 documents the quality assurance requirements of these activities. During this inspection Rey Carrasco demonstrated the adequacy of the program and that the program produces satisfactory results. He showed samples of convergence measurements, how Panel 2 was impacted by the mining of Panel 3. And how Panel 3 measurements indicated the present of anhydrite stringers near the roof. WTS has enhance roof control to mitigate the impact of these stringers. The inspector toured and reviewed the computer system and databases used to collect and process recorded data.	SAT
2	Does DOE demonstrate that they have implemented an effective quality assurance program for item 1 above? 40 CFR 194.22	During this inspection the EPA inspector evaluated the quality assurance program and found it to be adequate.	SAT
3	Does DOE demonstrate that the results of the geotechnical investigations are reported annually? (CCA, App. MON, Page MON-10)	WP 07-01, page 6, Section 3.2 requires that analysis be performed annually and results are published in the geotechnical analysis report.	SAT

40 CFR 194.42 for year 2004 - DOE WIPP Monitoring Commitments Checklist

	Pre-closure Monitoring Commitments		
#	Question	Comment (Objective Evidence)	Result
	Hydrological Parameters		
1	Does DOE demonstrate that they have implemented plans/programs/procedures to measure - a) Culebra Groundwater Composition; b) Change in Culebra Groundwater Flow Direction during the pre-closure phase of operations as specified in the CCA part of WIPP's groundwater monitoring plan? (CCA, Volume 1, Table 7-7; App MON, Table MON-1) 40 CFR 194.42 (c) and (e)	WIPP Groundwater Monitoring Program Plan, WP 02-1 documents the program planned to measure, document, report, and QA these two activities. WP 02-1 documents the Groundwater Surveillance Program Plan and records the activities associated with this program, methods used, and reporting plans. Section 11.0 of WP 02-1documents quality assurance requirements. Joel Siegel discussed changes to the program over the past year. He also lead a tour of new monitor wells drilled during the year.	SAT
2	Does DOE demonstrate that they have implemented an effective quality assurance program for item 1 above? (CCA, App MON, Page MON-22) 40 CFR 194.22	During this inspection the EPA inspector evaluated the quality assurance program and found it to be adequate.	SAT
3	Does DOE demonstrate that the results of the groundwater monitoring program are reported annually? (CCA, App. MON, Page MON-22)	WP 07-01, page 6, Section 3.2 requires that analysis be performed annually and results are published in the geotechnical analysis report.	SAT

40 CFR 194.42 for year 2004 - DOE WIPP Monitoring Commitments Checklist

	Pre-closure Monitoring Commitments		
#	Question	Comment (Objective Evidence)	Result
	Waste Activity Parameters		
1	Does DOE demonstrate that they have implemented plans/programs/procedures to measure - a) Waste Activity? (CCA, Volume 1, Table 7-7; App MON, Table MON-1) 40 CFR 194.42 (c) and (e)	WIPP Waste Information System Program and Data Management Plan, WP 08-NT.01 describes how the WWIS is used to measure and store waste activity among other things. Dave Speed demonstrated the use of the WWIS and generated numerous reports. Such as the Nuclide Report which summaries isotopes emplaced at WIPP.	SAT
2	Does DOE demonstrate that they have implemented an effective quality assurance program for item 1? (CCA, App WAP, page C-30) 40 CFR 194.22	During this inspection the EPA inspector evaluated the quality assurance program and found it to be adequate.	SAT
3	Does DOE demonstrate that the results of the waste activity parameters are reported annually? (CCA Volume, Section 7.2.4 Reporting)	WP 08-NT.01 Section 6, page 11 "Regulatory Reporting" documents that results are reported annually.	SAT

40 CFR 194.42 for year 2004 - DOE WIPP Monitoring Commitments Checklist

	Pre-closure and Post Closure Monitoring Commitments		
#	Question	Comment (Objective Evidence)	Result
	Drilling Related Parameters		
1	Does DOE demonstrate that they have implemented plans/programs/procedures to measure - a) Drilling Rate; and b) Probability of Encountering a Castile Brine Reservoir? (CCA, Volume 1, Table 7-7; App MON, Table MON-1) 40 CFR 194.42 (c) and (e)	The Delaware Basin Drilling Surveillance Plan, WP 02-PC.02, documents the program planned to measure document, report, and QA these two activities. Section 6.0 of WP 02-PC.02 documents quality assurance requirements. Dave Hughes discussed changes during the past year. He reported on brine encounters, drilling rate calculations, and provided a map of drilling activities near WIPP.	SAT
2	Does DOE demonstrate that they have implemented an effective quality assurance program for item 1 above? (CCA, App DMP, page DMP-9) 40 CFR 194.22	During this inspection the EPA inspector evaluated the quality assurance program and found it to be adequate.	SAT
3	Does DOE demonstrate that the results of the drilling related parameters are reported annually? (CCA Volume, Section 7.2.4 Reporting; App DMP, page DMP-9)	WP 02-PC.02 documents that results are reported annually.	SAT

40 CFR 194.42 for year 2004 - DOE WIPP Monitoring Commitments Checklist

	Pre-closure and Post Closure Monitoring Commitments		
#	**Question**	**Comment (Objective Evidence)**	**Result**
	Subsidence Measurements		
1	Does DOE demonstrate that they have implemented plans/programs/procedures to measure - a) Subsidence measurements? (CCA, Volume 1, Table 7-7; App MON, Table MON-1) 40 CFR 194.42 (c) and (e)	WIPP Underground and Surface Surveying Program, WP 09-ES.01, documents the program used to measure, documents, report, and QA these activities. Ben Zimmerly showed raw field data and how annual results are calculated.	SAT
2	Does DOE demonstrate that they have implemented an effective quality assurance program for item 1? 40 CFR 194.22	During this inspection the EPA inspector evaluated the quality assurance program and found it to be adequate.	SAT
3	Does DOE demonstrate that the results of the subsidence measurements are reported annually? (CCA Volume, Section 7.2.4 Reporting)	WP 09-ES.01 documents that results are reported annually	SAT

#	Documents Reviewed and Copies Received Document Title	194.42 Monitoring Inspection June 2004 Subject Matter	DOE Documents Source
1	Table 7-7 from Chapter 7 of the CCA; Pre-closure and Post-closure Monitored Parameters.	Parameters committed by DOE to be measured. COB-M2004-1	DOE, CCA, Chapter 7, Table 7-7. Attachment D.6
2	CCA, Appendix MON and Attachment MONPAR. In particular Table MON-1, pages MON-10, MON-29	Both documents discuss the pre- and post-closure parameters selected to be monitored at the WIPP site. COB-M2004-2	DOE, CCA documentation.
3	Geotechnical Analysis Report for July 2002 - June 2004, DOE/WIPP-04-3177, Volumes One and Two, March 2004	This report is an example of the results of the geomechanical monitoring program. COB-M2004-A and A2	DOE/WTS
4	Subsidence Monitoring: WIPP Underground and Surface Surveying Program WP 09-ES.01 Revision 4, 07/16/03	Demonstrates DOE's implementation of subsidence monitoring. COB-M2004-B	DOE/WTS
5	Hydrological Monitoring: WIPP Groundwater Monitoring Program Plan WP 02-1 Revision 6, 3/6/03	Demonstrates DOE's implementation of hydrological monitoring. COB-M2004-C	DOE/WTS
6	Strategic Plan for Groundwater Monitoring at the Waste Isolation Pilot Plant DOE/WIPP-03-3230, February 2004	Describes the objectives and goals of the groundwater monitoring program. COB-M2004-Q	DOE/WTS
7	Geomechanical Monitoring: WIPP Geotechnical Engineering Program Plan WP 07-01, Revision 3, 12/17/02	Demonstrates DOE's implementation of geomechanical monitoring. COB-M2004-D	DOE/WTS
8	WIPP Subsidence Monument Leveling Survey - 2003 DOE/WIPP 04-2293, October 2003	This report is an example of the results of the subsidence monitoring program. COB-M2004-E	DOE/WTS
9	Delaware Basin Drilling Surveillance Plan WP 02-PC.02, Revision 0, 03/27/97	Documents DOE's drilling monitoring plan. COB-M2004-F	DOE/WTS
10	WIPP Waste Information System Program and Data Management Plan WP 08-NT.01, Revision 10, 12/12/03	Demonstrates DOE's implementation of waste activity monitoring. COB-M2004-G1	DOE/WTS
11	Delaware Basin Drilling Database Upgrade Process - Management Control Procedure WP 02-EC3002, Revision 1, 06/14/00	Documents how state and commercial well ata is entered. COB-M2004-R	DOE/WTS
12	Electric Submersible Pump Monitoring System Installation and Operation - Technical Procedure WP 02-EM1002, Revision 1, 09/30/99	Installation and operation instructions for submersible pump. COB-M2004-S	DOE/WTS
13	Final Sample and Serial Sample Collection - Technical Procedure WP 02-EM1006, Revision 4, 06/11/03	Describes water sample collection. COB-M2004-T	DOE/WTS

#	Documents Reviewed and Copies Received Document Title	194.42 Monitoring Inspection June 2004 Subject Matter	DOE Documents Source
14	Groundwater Serial Sample Analysis - Technical Procedure WP 02-EM1005, Revision 4, 06/11/03	Instruction for taking serial samples. COB-M2004-W	DOE/WTS
15	WID Quality Assurance Program Description WP 13-1 Revision 24, 08/08/03	Demonstrates DOE's implementation of quality assurance program. COB-M2004-M	DOE/WTS
16	Delaware Basin Monitoring Annual Report DOE/WIPP 99-2308 Revision 4, Sept 30, 2003	Demonstrates DOE's implementation of drilling surveillance program. COB-M2004-N	DOE/WTS
17	Waste Isolation Pilot Plant Site Environmental Report, Calender Year 2002, DOE/WIPP 03-2225, Rev. 1, Sept. 2004	Example of the results of the environmental monitoring program, in particular hydrological parameters. COB-M2004-O	DOE/WTS
18	Subsidence Survey Data Acquisition Report, Technical Procedure WP 09-ES4001, Revision 0 06/13/02	Procedure documents methods used for acquiring data, creating database, and generating report on subsidence monuments COB-M2004-P	DOE/WTS
19	Drilling Related Parameters: Presentation by Joel Siegel on the hydrology program	Update of activities during the past year. COB-M2004-S1	DOE/WTS
20	Waste Activity: Summary of Waste Emplacement Inventory form the 2002 Annual Change Report	Demonstrates the DOE tracks waste activity annually COB-M2004-S2	DOE/WTS
21	Waste Activity: WIPP Waste Information System Repository Report, RP0530, Version 1.2, 06/30/04, 13 pages	Documents the number of containers emplaced at WIPP from the WWIS. COB-M2004-S3	DOE/WTS
22	Waste Activity: WIPP WWIS Administration Status Display	Summary report documenting the total number of containers emplaced at WIPP. COB-M2004-S4	DOE/WTS
23	Waste Activity: WIPP WWIS Nuclide Report, RP0380, Version 1.4, 06/30/04, 10 pages	Detailed report of isotopes presently emplaced in WIPP COB-M2004-S5	DOE/WTS
24	Subsidence Monitoring: Sample of field data, .raw, and processed data, .lev. For northern loop L0224603 from 2003 survery. Includes results of final calculations.	Demonstrates results of subsidence measurements and calculation of results. COB-M2004-S6	DOE/WTS
25	Geomechanical Monitoring: Sample of convergence measurements at S2520 Drift-E920 intersection in panel two and E920 Drift -S2916 Room4 in Panel 3	Demonstrates example of results of geomechanical program. COB-M2004-S7	DOE/WTS
26	Drilling Related Parameters: Location maps that show locations of new monitor wells, SNL-1, SNL-3, SNL-5, SNL-2, SNL-9, SNL-12	COB-M2004-S8	DOE/WTS

#	Documents Reviewed and Copies Received Document Title	194.42 Monitoring Inspection Subject Matter	June 2004	DOE Documents Source
27	Drilling Related Parameters: Table of monitor water level measurements for June 2004	COB-M2004-S9		DOE/WTS
28	Completion and monitoring configuration of new monitor wells, SNL-1, SNL-2, SNL-3, SNL-9, SNL-12	Sample of implementation of drilling related monitoring requirements. COB-M2004-S10		DOE/WTS
29	Drilling Related Parameters: Map of Hydrocarbon Wells Within The Nine Township Area Surrounding The WIPP Site, DBM-46, June 2004	COB-M2004-S11		DOE/WTS

DOCKET NO: [A-98-49]
Item: II-B3-71

Emplacement Inspection Report

EPA INSPECTION No. EPA-WIPP-6.04-28b
OF THE
WASTE ISOLATION PILOT PLANT
June 28-July 1, 2004

U. S. ENVIRONMENTAL PROTECTION AGENCY
Office of Radiation and Indoor Air
Center for the Waste Isolation Pilot Plant
401 M. Street, S. W.
Washington, DC 20460

August 2004

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Attachment B Waste Emplacement Report For Eight TRU Waste Containers
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1.0 EXECUTIVE SUMMARY

In accordance with 40 CFR 194.21, the U.S. Environmental Protection Agency (EPA or the Agency) conducted an inspection of the U.S. Department of Energy's (DOE) Waste Isolation Pilot Plant (WIPP) near Carlsbad, New Mexico, from June 28 to July 1, 2004. The WIPP is a disposal system for defense-related transuranic (TRU) waste as defined by the WIPP Land Withdrawal Act.[1] EPA certified that the WIPP complies with the Agency's radioactive waste disposal regulations (Subparts B and C of 40 CFR Part 191) on May 18, 1998.

The WIPP has received waste from approved waste streams originating from seven DOE generator sites. These sites are: Argonne National Laboratory- East (ANL-E) in Illinois, Los Alamos National Laboratory (LANL) in New Mexico, Idaho National Engineering and Environmental Laboratory (INEEL), Hanford Site in Washington, Rocky Flats Environmental Technology Site (RFETS) in Colorado, Savannah River Site (SRS) in Georgia, and the Nevada Test Site (NTS) in Nevada. The first shipment was received by the facility in March 1999.

EPA inspected the WIPP to verify that waste is being emplaced in the underground facility in the manner specified in DOE's Compliance Certification Application (CCA) for the WIPP (EPA Air Docket A-93-02, Item II-G-01, and associated documents). The inspection also verified the proper emplacement of backfill material (magnesium oxide) with the waste packages. EPA determined a concern regarding the tracking of MgO emplacement.

2.0 INSPECTION PURPOSE AND SCOPE

The purpose of this inspection was to determine whether wastes sent to the WIPP have been emplaced in the underground facility in the manner specified in DOE's Compliance Certification Application for the WIPP. EPA performed the inspection under authority of 40 CFR 194.21, which authorizes the Agency to inspect the WIPP during its operational period to verify continued compliance with EPA's WIPP Compliance Criteria and the certification decision of May 18, 1998. Emplacement of waste, and backfill in particular, are relevant to compliance because the emplacement method supports models that DOE used in the WIPP performance assessment to understand the potential for transport of radionuclides out of the mined rooms. The WIPP site is operated by Washington TRU Solutions (WTS) under contract to DOE. The majority of waste-related activities on-site are described by or controlled through WTS procedures. A list of all WTS procedures examined for this inspection is provided in Table A.

[1]WIPP Land Withdrawal Act, Public Law 102-579, Section 2(18), as amended by the 1996 WIPP LWA Amendments, Public Law 104-201.

Table A
Listing of WTS Procedures Examined During Inspection

- *WTS Quality Assurance Program Description*, Waste Isolation Pilot Plant Procedure WP 13-1, Revision 24; Effective Date August 8, 2003
- *Specification for Repackaged MgO Backfill*, Waste Isolation Pilot Plant Procedure D-0101, Revision 5, ECO Number 10874; Effective Date October 31, 2003
- *CH Waste Processing*, Technical Procedure WP 05-WH1011, Revision 20; Effective Date January 26, 2004
- *WIPP Waste Information System Program*, Waste Isolation Pilot Plant Procedure WP-08-NT.01, Revision 10; Effective Date December 12, 2003
- *TRU Waste Receipt*, Management Control Procedure WP-08-NT3020, Revision 9; Effective Date October 15, 2003
- *Waste Stream Profile Form Review and Approval Program*, Waste Isolation Pilot Plant Procedure WP-08-NT.03, Revision 5; Effective Date March 18, 2004

The activities within the scope of this inspection included:

- demonstration of the site's ability to receive, process, and emplace TRU wastes within the repository,
- the use of magnesium oxide (MgO) backfill in appropriate amounts to fulfill CCA commitments, and
- maintenance of relevant waste packaging records, including the electronic WIPP Waste Information System (WWIS).

The inspectors observed waste that had been emplaced in the repository and reviewed records documenting that waste emplacement was conducted in accordance with procedures. To date, the waste received at the repository are contact-handled (CH) transuranic wastes from ANL-E, LANL, RFETS, INEEL, SRS, NTS, and Hanford. These wastes are in one of three configurations: Standard Waste Boxes (SWBs), 55-gallon (208 liter) drums assembled in groups of seven called a Seven Pack, and Ten Drum Overpacks (TDOP). Both the SWB and Seven Pack have the same "footprint" —that is, they occupy equivalent floor space—and can be stacked in vertical columns as described in this report. The TDOPs have a different footprint and must be placed at the bottom of a column. A list of wastes emplaced in the repository as of the date of this inspection is provided in Attachment A.

3.0 PERFORMANCE OF THE INSPECTION

The EPA inspectors were Nick Stone, the WIPP Project Officer for Region 6, and Tom Peake, Office of Radiation and Indoor Air. Richard Farrel, the acting CBFO Waste Operations Program Manager, was the chief DOE contact for the inspection. A list of all inspection participants is provided in Table B.

Table B
Inspection Participants

INSPECTION TEAM MEMBER	POSITION	AFFILIATION
Nick Stone	Inspector	EPA Region 6
Tom Peake	Inspector	EPA ORIA
CBFO / WTS PERSONNEL	**POSITION**	**AFFILIATION**
Ernest Preciado	Waste Operations Program Manager	DOE/CBFO
Randy Briton	Waste Operations Program Manager	WTS
Hardy Bellows	Waste Operations Program Manager	WTS
Dave Speed	WWIS Data Administrator Team Leader	WTS

The inspection took place on June 28 - July 1, 2004, at the WIPP facility, which is located approximately 30 miles south east of Carlsbad, New Mexico. The opening meeting with CBFO and WTS personnel was held on June 28, 2004. The Inspectors interviewed WTS personnel about current shipments and emplacement in the underground.

The EPA Inspectors then accompanied CBFO and WTS personnel into the underground repository on June 29, in order to view waste packages that had been emplaced. The inspectors selected six containers and noted their numbers; the records for these containers were examined later. The WTS personnel explained how waste packages are handled and emplaced and answered questions from the EPA inspectors. The inspection continued the next day with an examination of records and interviews of WTS personnel in charge of the WIPP Waste Information System (WWIS), which took place at the Carlsbad Field Office in Carlsbad.

3.1 WASTE EMPLACEMENT/WWIS

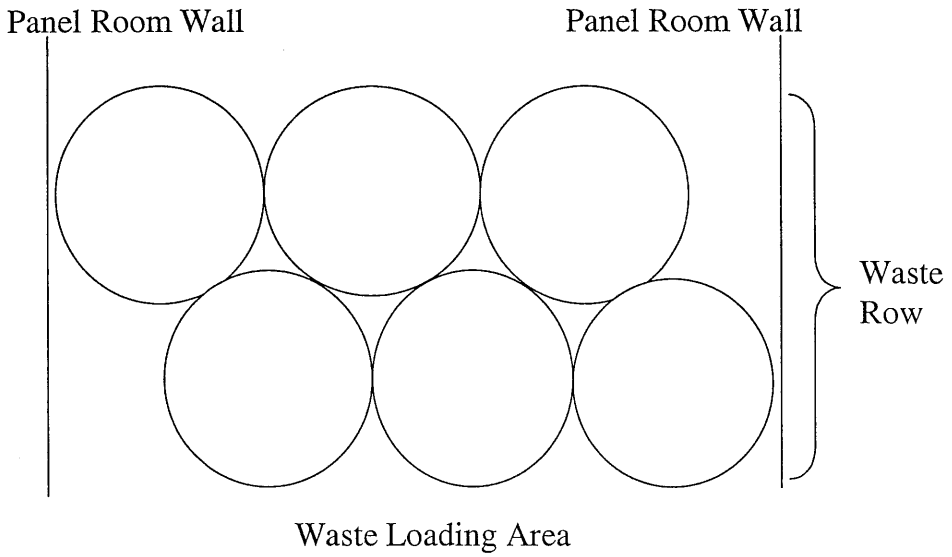
The repository is subdivided into panels, each panel consisting of seven (7) rooms. Waste is currently emplaced in Room 4 of Panel 2. Panel 1 is in process for closure with Rooms 7, 3, 2, and 1 filled. Rooms 6, 5, and 4 were only partially filled due to creep closure in those rooms. Panel 1 contains 39,414 containers. These containers consist of 38,138 drums, 1239 standard

waste boxes, 35 ten-drum overpacks, and two 85 gallon drums.[2] At the time of inspection, the facility was emplacing waste in the end of Room 4 in Panel 2.

Waste containers are stacked in columns (also called waste stacks) combining SWBs, Seven Packs, and TDOPs. TDOPs are always placed on the floor of the room, using the bottom and middle position of a waste column. SWBs and Seven Packs are emplaced in no particular order with most wastes emplaced as received. A series of three columns spans the distance of the disposal room from left to right. Space between the repository wall and the waste column is left open at alternating ends, as represented in Table C below. A second row of three columns is emplaced parallel to the first, with each column placed between two columns from the previous row to minimize unusable space. These two left-to-right rows of three columns each are designated a row as shown in Table in C below, and numbered. This results in each Seven Pack, TDOP, or SWB having a unique identifier that indicates its location underground according to the row, the column and the position within the column (see Attachment B). MgO is placed above each column in 4,000 pound super sacks.

[2] Procedure WP 05-WH1011 identifies the order of waste emplacement in the repository.

Table C
Schematic of Waste Emplacement in Columns



The EPA inspectors randomly selected two Seven Packs, two Standard Waste Boxes, and two Ten Drum Overpacks emplaced in the repository. The inspectors read the shipment identification numbers directly off the containers. The containers selected are identified in Table D below.

Table D
Randomly Selected Waste Containers Examined During Inspection

Site of Origin	Waste Container Identifier	Container Type
RFETS	RF040288	Seven Drum Pack
RFETS	RF040270	Seven Drum Pack
RFETS	RF040286	Standard Waste Box
RFETS	RF040285	Standard Waste Box
SRS	SR040135	Ten Drum Overpack
SRS	SR040134	Ten Drum Overpack

Some records were paper, while others were electronic, such as fields in the WIPP Waste Information System (WWIS) database. The WWIS is an on-line database system used to record, track, and document the range of activities required for shipping TRU wastes to WIPP. The WTS personnel stated that the reliance on electronic approvals instead of paper was deliberate and was designed to minimize the use of paper. The EPA inspectors examined the following modules:

- Characterization Module, linked to the Waste Container Data Report
- Certification Module, linked to the Acceptance Report or Rejection Report
- Shipping Module, linked to the Shipment Summary Report
- Inventory Module, linked to the Nuclide Report and Waste Emplacement Report.

Dave Speed produced either paper or electronic records of all modules requested, included in Attachment C. All records were found to contain the required information.

3.2 MAGNESIUM OXIDE BACKFILL

Magnesium oxide (MgO) is used in the repository as backfill, as specified in DOE's Compliance Application (CCA). WTS Procedure D-0101, *Specification for Prepackaged MgO Backfill*, contains specifications for the amount and specific placement of prepackaged MgO for four waste configurations: 85 gallon Over Packs, Ten Drum OverPacks, Seven Packs, and Standard Waste Boxes. WTS Technical Procedure WP 05-WH1011, *CH Waste Processing*, details a procedure for MgO placement and the means to document that MgO placement has been accomplished correctly (CH Waste Processing Data Sheet). The EPA inspectors observed that MgO had been placed properly in each row that was visible. The MgO is placed on top of each column in supersacks. Records examined for the six waste containers discussed earlier in this report indicated that MgO had been placed in compliance with Technical Procedure WP 05-WH1011.

EPA inspected the capabilities of DOE to track the total amount of MgO placed in the WIPP as waste is emplaced. We determined that DOE does not have a system to track and calculate the actual MgO placed with WIPP waste at disposal. While we did not find any evidence to suggest that there are errors in the MgO placement, we have a concern that the total

amount of MgO co-located with WIPP waste cannot be verified. This is important because a certain amount of MgO is necessary to act as an engineered barrier. If too little MgO is placed in the repository, then its pH buffering and carbon dioxide sequestration capabilities could be comprised, and actinides could dissolve more readily than predicted. Tracking the amount of MgO will become even more important in the future when DOE may ship waste with greater amounts of cellulosic, plastic and rubber materials (CPR). With higher amounts of CPR, DOE will have to contemporaneously place and track the appropriate amounts of MgO so that EPA can verify the MgO safety factor.

4.0 SUMMARY OF RESULTS

The inspectors reviewed the emplacement operation and the associated documentation for selected shipments. It was determined that DOE is adequately emplacing waste in the repository as specified in the CCA dated May 18, 1998. The inspectors identified one concern listed below regarding the tracking of MgO emplacement.

CONCERN:

The Carlsbad Field Office has not demonstrated that the amount of MgO emplaced with the waste is properly tracked nor is it recorded in the WWIS. As we required in our March 26 approval of the supercompacted Advanced Mixed Waste Treatment Facility wastes, DOE is developing an MgO emplacement plan. EPA will review the plan to determine if it satisfies this concern.

Attachment A
Listing of TRU Wastes Emplaced at WIPP As of June 11, 2003

Site	Drums	Pipe Overpack	SWB	TDOP	85 Gal Overpack	Dunnage Drums	Total
ANL-E	273			11			284
Hanford	1,916	1,232				72	3,220
INEEL	15,014		158			1,609	16,781
LANL	1,360	2	166			80	1,608
NTS	294						294
RFETS	10,084	20,195	2,714			150	33,143
SRS	2,268		98	979			3,345
WIPP	2				2	154	158
Total	31,211	21,429	3,136	990	2	2,065	58,833

NOTE: The drums listed for WIPP consist of two drums of site generated waste, two drums from RFETS that were overpacked on site, and 154 salt-filled dunnage drums added to certain TDOP assembles.

Argonne National Laboratory - East (ANL-E)
Hanford Site (Hanford)
Idaho National Engineering and Environmental Laboratory (INEEL)
Los Alamos National Laboratory (LANL)
Rocky Flats Environmental Technology Site (RFETS)
Nevada Test Site (NTS)
Savannah River Site (SRS)
Waste Isolation Pilot Plant (WIPP)

Drums = 55 gallon (208 liter) steel drums
Pipe Overpack = 55 gallon drum pipe overpack
SWB = Standard Waste Box
TDOP = ten drum overpack
Dunnage = inert drums used to complete waste assemblies

Attachment B
Waste Emplacement Report Data For Six (6) TRU Waste Containers

TRUPACT No.	166	130	136	183	168	180
Shipment No.	RF040288	RF040270	RF040286	RF040285	SR040135	SR040134
Type	Seven Pack	Seven Pack	SWB	SWB	TDOP	TDOP
Row Number	143	131	142	141	141	142
Height	Middle	Top	Bottom	Middle	Bottom	Bottom
Column	2	1	3	6	4	1
Disposal Cell	Access Drift	Main Room	Access Drift	Access Drift	Access Drift	Access Drift
Disposal Room	4	4	4	4	4	4
Disposal Panel	2	2	2	2	2	2
Disposal Date	6/29/04	6/22/04	6/26/04	6/26/04	6/26/04	6/26/04

Attachment C

- Inspector's Checklist
- Shipment Summary Reports
- Waste Emplacement Report
- Waste Container Data Reports
- Attachments 1 and 4 from WP 05-WH1011

Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

JUN 29 2004

Mr. Carl Edlund, P.E.,
Director of Multi Media and Planning Division, 6PD
U.S. Environmental Protection Agency, Region VI
1445 Ross Avenue
Dallas, Texas 75202

Dear Mr. Edlund:

Enclosed is the annual report on air emissions from the Waste Isolation Pilot Plant (WIPP). This report is being submitted in accordance with the provisions of 40 CFR § 61.94 and the May 16, 1995 *Memorandum of Understanding between EPA and DOE concerning the Clean Air Act Emission Standards for Radionuclides, 40 CFR Part 61 including Subparts H, I, Q, and T.*

Using our procedurally controlled data collection, data analysis and reporting process which uses monthly composite samples, the calculated effective dose equivalent (EDE) from normal operations at the WIPP for calendar year 2003 is less than 5.43×10^{-6} millirem (mrem) per year to the maximally exposed individual. This calculated EDE is below the 10 mrem per year limit and the 0.1 mrem per year limit for periodic confirmatory sampling. The WIPP EDE remains significantly below the regulatory limits.

For comparison purposes, quarterly composite isotopic analyses of the WIPP Station A backup samples are performed routinely. The analysis for the 2nd quarter of 2003 identified a small amount of radioactivity (2.79×10^{-2} pCi) near the lowest level of measurement detection. The attached report uses the value obtained from procedurally controlled monthly analyses. The procedurally controlled monthly analysis is conservative (i.e., resulting in a higher EDE) when compared with the EDE value of less than 5.14×10^{-6} mrem per year calculated from the aforementioned quarterly composite. It is important to understand that the quarterly composite isotopic analysis where the positive measurement was identified is significantly below the regulatory limits and was identified because the sampling systems at WIPP have the capability to measure extremely low levels of radioactivity. It is uncertain whether the detection is the result of WIPP operations or weapons testing or other activities unrelated to WIPP. The quarterly composite isotopic analysis where the small concentration of radioactivity was measured will be discussed with your staff during the week of June 28, 2004.

If you have any questions about this submittal, please contact Mr. G. T. Basabilvazo at (505) 234-7488.

Sincerely,

R. Paul Detwiler
Acting Manager

Enclosure

CBFO:OSO:RF:JGW:04-0124:UFC:5480

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P. Bubar, DOE-HQ
C. Byrum, EPA-ORIA
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PAPER

Sequential Isotopic Determination of Strontium, Thorium, Plutonium, Uranium, and Americium in Environmental Samples

Steven N. Bakhtiar, Chuan-Fu Wu, Yun Ko Lee*, and Kenneth G. W. Inn**
Westinghouse Electric Corp.
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**National Institute of Standards and Technology

Environmental samples, such as water, soil, air, and vegetation, are frequently collected and analyzed for both emergency and routine effluent and environmental monitoring. Analytical results of environmental samples enable the health physicists to estimate the amount of radioactive material present in the environment, calculating its burden for the radiological workers and the general public. In the attached document, a procedure is presented to provide sequential determination of isotopic strontium, thorium, plutonium, uranium, and americium in a single environmental sample. This technique conserves labor and monetary resources. The method begins with digestion and/or dissolution of the sample with the addition of tracers and/or carriers as chemical yield monitors. Strontium is first separated from the actinides by precipitation as nitrates, and then purified. Strontium-90 is then measured by gas proportional counting. Actinides are separated by ion-exchange chromatography, and then quantified by alpha-particle spectrometry. This procedure enables the determination of the radioisotopes of strontium, thorium, plutonium, americium, and uranium, with typical chemical recovery ranging from 40 percent to 100 percent. Broad radiometric and/or gravimetric yields are quite typical, and very acceptable for radiochemical analyses of actinides. Fluctuation of the yields is due to the nature and the amount of any interference presented in the various sample matrices. Interfering substances, especially those present in soil and vegetation samples, may affect the effectiveness of actinide separation and purification by the ion-exchange chromatographic resin.

Introduction

A major part of the environmental inventory of anthropogenic radionuclides is derived from the global fallout of nuclear weapons. In addition, the growth of nuclear power industries leads to increased releases of man-made nuclides and their distribution in the environment.[1,2] Environmental samples, such as water, soil, air, and vegetation, are frequently collected and analyzed for emergency or routine effluent monitoring and environmental monitoring.

Jiang, et al.,[3] and several other investigators have reported on the method of individual analysis for isotopes of strontium, plutonium, americium, and uranium in atmospheric samples. These radioisotopes are found in the environment at extremely low concentrations. Sill and Sill[4] have reported a method for simultaneous determination of the actinides using potassium fluoride and pyrosulfate fusion in small environmental samples. The method involves total fusion and dissolution of the samples to allow equilibration of the natural isotopes with added isotope yield monitors, followed by separation and purification. Purified fractions of these radionuclides are then prepared for counting.

$HBO_3 + HCl \rightarrow BCl_3$

Neptunium (IV), Th(IV), and Pu(IV) ions have quite large distribution coefficients, while U, Po, and Pa ions have much smaller distribution coefficients on the anion exchanger-8N HNO_3 system. Iron (III), Ca(II), and Am(III) ions cannot be absorbed in this system. However, U(VI), Pu(IV), Pa(V), Po, and Fe(III) ions are all absorbed on the anion exchanger-HCl system, while Th(IV), Sr(II), and Am(III) are not absorbed. A combination of chromatographic-elution techniques and the use of cation-exchange resin provides a powerful and sophisticated tool for separating and purifying actinides from one another and from the lanthanides.

An emerging need in our laboratory, as well as other laboratories, is to develop improved methods to provide rapid analytical results, with reduced analysis costs and fast turnaround time for emergency customer needs. It is also desirable that the method does not generate any appreciable amount of mixed or hazardous wastes. To meet these challenges, a procedure is presented to provide sequential determination of isotopic strontium, plutonium, uranium, and americium in a single environmental sample. By analyzing a single sample, we can avoid extra, unnecessary dissolution steps which are the most time consuming and costly. Lower MDA is achieved by analyzing the whole sample, rather than dividing it into smaller sub-samples for individual analysis.

Experimental

Apparatus and material

The anionic exchange resin used was Analytical Grade 1 x 4, chloride form, 50-100 mesh, and was obtained from Bio-Rad Laboratories. The cationic-exchange resin used was Analytical Grade 50w x 8, hydrogen form, 100-200 mesh, and was obtained from Bio-Rad Laboratories. Reagent-grade chemicals and deionized water were used throughout this work. Tracer and standard solutions were all obtained from National Institute of Standards and Technology Standard Reference Materials.

Radioactivity measurements of actinides were carried out by the use of a passivated, implanted planar silicon (PIPS) detector with typical resolution of 35 keV full-width-half-maximum (FWHM) at the 5.486-MeV ^{241}Am peak for a sample prepared by coprecipitation with NdF_3, followed by filtering on a membrane filter. The detectors were connected to a multichannel analyzer with biasing electronics. Strontium activity was measured by beta-particle counting of the purified sample using a low background gas proportional counter, which is calibrated using Sr/Y standards, prepared with standard solutions obtained from NIST Standard Reference Materials.

General sample preparation

Tracer and carrier are added to the sample before digestion and dissolution.

A. A water sample is acidified with concentrated nitric acid, and then concentrated by evaporation.

B. A soil sample is dry ashed overnight, in an oven set at approximately 425 °C. The sample is cooled to room temperature, transferred to a Teflon beaker, and treated subsequently with hydrofluoric acid, and a mixture of hydrofluoric and concentrated nitric acids. Boric acid is added to destroy any excess hydrofluoric acid and fluorides. Concentrated hydrochloric acid is added to destroy any excess boric acid. Finally the digested sample is dissolved in 8N HNO_3. If the soil sample is not totally dissolved, then it is filtered through Whatman 41 filter paper.

C. An air filter sample is placed in a glass beaker and dry ashed in an oven at 425 °C. It is then cooled and transferred to a Teflon beaker. A few drops of 49-50% hydrofluoric acid is added to completely dissolve the filter. The sample is evaporated to dryness, and treated with concentrated nitric acid and hydrofluoric acid mixture. The sample is then treated with concentrated nitric acid and boric acid, followed by concentrated hydrochloric acid. It is evaporated to dryness and redissolved in 8N HNO_3.

D. A vegetation sample is placed in a wide glass beaker, and heated in an oven at about 200 °C, for 3 to 4 hours. The charred sample is removed from the oven, and stirred with a glass rod to let in oxygen before putting the sample back in the oven at 425 °C, for about 4 hours. The sample is removed from the oven again and allowed to cool. A glass rod is used to break up the charred "cake." The sample is stirred thoroughly with the glass rod to introduce oxygen into the sample before the sample is returned to the 425 °C oven to burn off the carbon. The burning and cooling step is repeated until the sample is no longer black. The sample is then removed from the oven and cooled to room temperature. The sample is treated with concentrated nitric acid, and heated to dryness. It is then wet ashed with concentrated nitric acid and hydrogen peroxide. The sample is evaporated to dryness, treated with mixture of concentrated nitric acid and hydrochloric acid, and evaporated to dryness again. The sample is dissolved in 8N HNO_3.

Strontium separation and purification

The strontium fraction is separated from the actinides by strontium nitrate precipitation using fuming nitric acid. As nitrate precipitate, the strontium fraction must be redissolve in water (or very diluted nitric acid) before iron hydroxic precipitation. The majority of actinides remain in th supernatant during the fuming nitric acid precipitation strontium, calcium, barium, and radium; iron hydroxi precipitation is an extra step performed to assure that a actinides, that might be carried over to the strontiu fraction, will be recovered (Figure 1). Barium and radium removed by precipitation as chromates (Figure 2). Strontiu is concentrated by precipitation as oxalate, and then separa from yttrium as strontium nitrate. Finally strontium

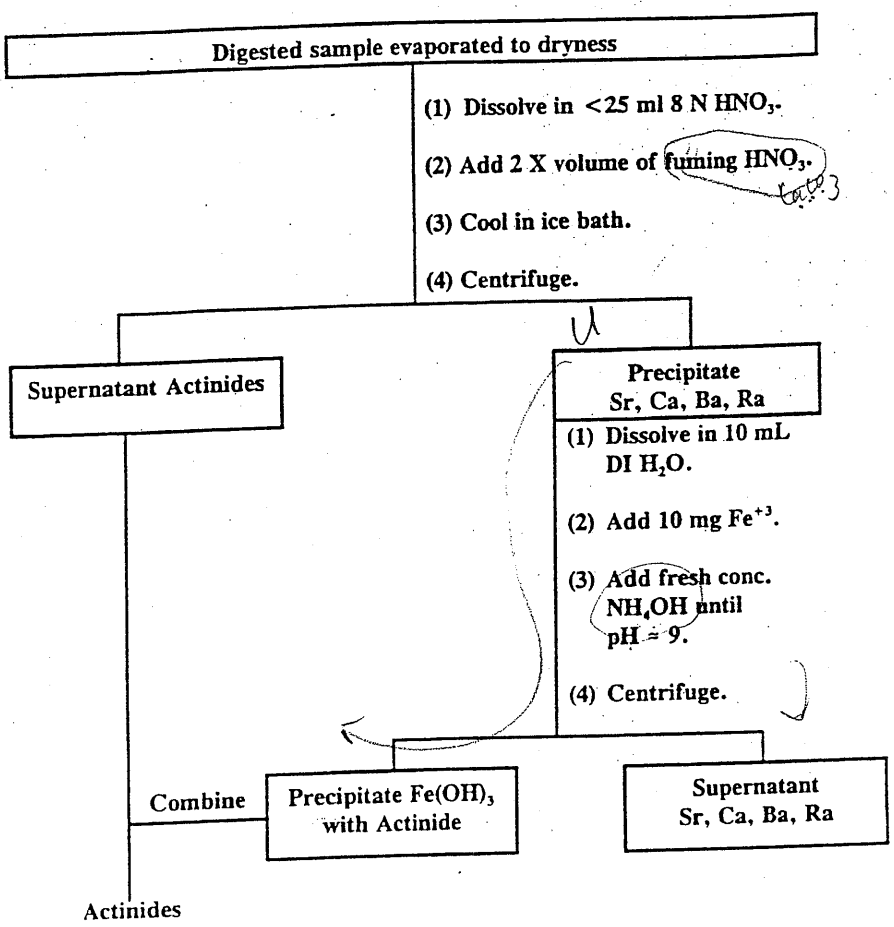

Figure 1 Flow chart for radiochemical separation scheme of actinides from strontium and other Group II elements.

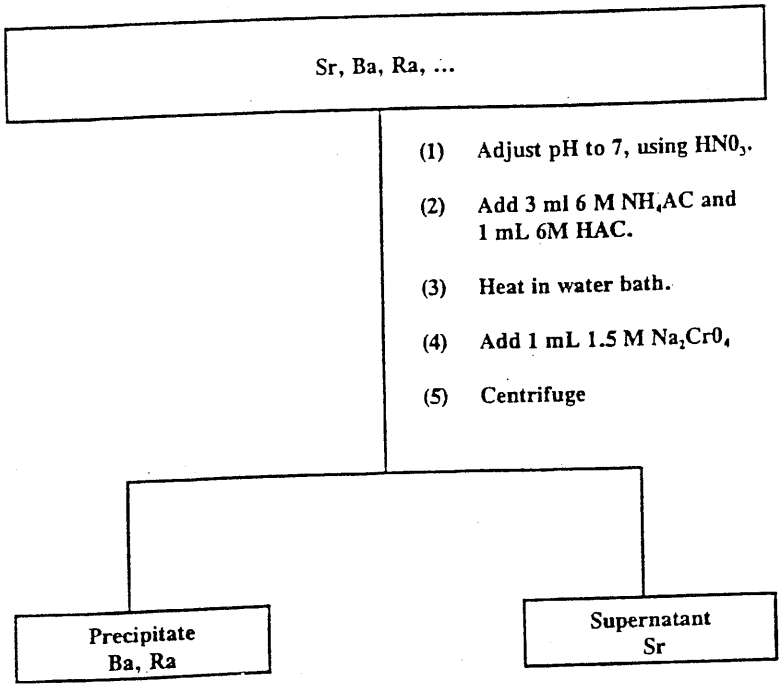

Figure 2 Flow chart radiochemical separation scheme of barium and radium from strontium fraction.

precipitated as carbonate for both gravimetric yield determination and beta-particle counting.

Actinide separation and purification

The actinide fraction in nitric acid is evaporated to dryness and then dissolved in 9N HCl. Hydroxylamine hydrochloride (NH_2OHHCl) is added and the sample is heated to reduce plutonium to the oxidation state of +3. The sample is loaded onto an anionic-exchange resin column which is preconditioned with 9N HCl. The eluate and wash are collected for americium, plutonium, and thorium. The column is washed with $HI/HCl/H_2O$ solution and then 9N HCl to remove any iron present. Uranium is then eluted and collected with 1N HCl.

The americium/plutonium/thorium fraction is evaporated to near dryness, and dissolved in diluted HNO_3. Iron carrier, and then NH_4OH are added to scavenge the actinides by coprecipitation with iron and other hydroxides (Figure 3). The hydroxide(s) with scavenged actinides is separated by centrifugation and dissolved in 8N HNO_3. Sodium nitrite is added to maintain plutonium at the oxidation state of +4. The sample is loaded onto an anionic-exchange resin column which is preconditioned with 8N HNO_3. Americium is collected from the loading solution and subsequent 8N HNO_3 wash. Thorium is separated from the resin column and collected by eluting with 9N HCl. Plutonium is then eluted and collected with ammonium iodide/hydrochloric acid solution, followed by 2% hydrogen peroxide in 1.2N HCl. Americium is separated from calcium, rare earth elements, and any other Group I and II metal ions by means of a cation exchange column.[5]

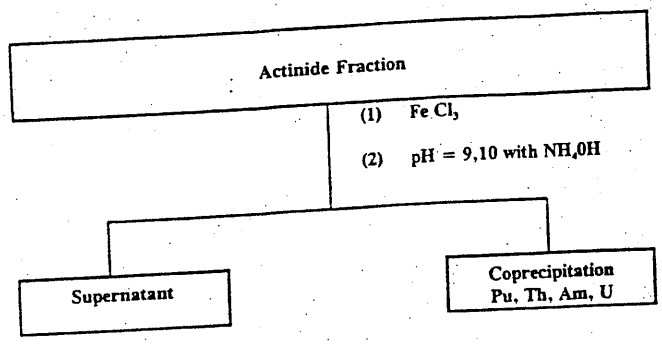

Figure 3 Flow chart for ferric hydroxide coprecipitation and separation of plutonium, thorium, americium and uranium.

Sample preparation for alpha-particle counting

Samples for counting are prepared either by electrodeposition[6] or coprecipitation with NdF_3 followed by filtering on a membrane filter.[7]

Results and Discussion

Blank and laboratory control water spike samples were prepared in our laboratory using water matrix to test out the present procedure before it was adopted for routine analysis. The gravimetric and radiometric yields of a set of reagent blank and laboratory control samples, as well as the spike activity recovery of the laboratory control samples, are shown in Table 1. The results of a typical set of performance evaluation samples analyzed using the present method are tabulated in Table 2. The results show that the average radiometric and gravimetric yields attained from this procedure are acceptable and very comparable to other methods, such as those published by EPA, EML, etc.

It is quite well known that, due to alpha-particle recoil, any appreciable amount of thorium activity in a sample may cause potential detector cross contamination during counting. Because of this, during method validation of the present procedure on environmental samples, isotopic thorium measurements were not conducted. However, this same procedure was applied for bioassay samples, including thorium analysis, and we have observed the same range of recoveries for thorium measurements.

Since strontium and actinide radionuclei are analyzed sequentially by using the total sample, there is no need to divide the sample for each analysis required. Table 3 gives some minimum detectable activity (MDA) values obtained at the present study, assuming 1000 minutes for alpha-particle counts and 100 minutes for beta-particle counts. The MDA values were calculated using the formula.[8]

$$MDA = \frac{(4.65\ S_b + 2.7)}{(T \times E \times R \times S \times F)}$$

where:

S_b = Standard deviation in the total number of counts of the blank in the total counting time interval.
T = Sample counting time.
E = Counting efficiency.
R = Tracer/Gravimetric yield.
S = Sample size.
F = Unit conversion factor.

The normal probability plots for all results indicate the normal distribution of data points for all the reported values for different matrices. Based on a limited number of eight or less measurements for the spike recovery, as shown in Table 1, a negative bias is indicated. However, the bias in all cases is less than the total error. Another possibility for the spike activity recovery bias may be an error in the known value, or spiked activity.

Conclusions

It should be noted that a combination of different radiochemical processes is possible. In fact, most analytical laboratories utilize a combination of several radiochemical processes to perform actinide separations. Significant advantages are obtained in this way, as each method supplements another. For example, a method which gives good decontamination results with fission products can be combined with a method that is effective in separating specific actinide elements from others elements.

In the procedures previously used for actinide separation, very frequently uranium is lost whenever the actinides are scavenged by coprecipitation with iron hydroxide. In order to prevent the loss of uranium, the procedure is modified in the present study so that uranium is separated from the rest of actinides before the step of coprecipitation of actinides with iron hydroxide is performed.

Sequential radionuclide analysis of a single sample avoids the cumbersome task of dividing the sample into subsamples for each analysis required. The advantage of using a single sample for all required analyses, instead of a number of analyses of subsamples, is that sample preparation and dissolution, and wastes generated from the laboratory, are minimized. The total sample analysis turnaround time, as well as the amount of laboratory waste generated, are reduced significantly, because it is necessary to perform sample concentration and/or digestion/dissolution only once for all requested analyses. Another advantage is that, by using a larger sample size for each radionuclide analysis, will result in much lower minimum detectable activity measurements. And finally, the isotopic ratio of radionuclides provides a very powerful means of quality control and data validation.

Radiometric and Gravimetric Yields

	Sample ID	Plutonium	Americium	Uranium	Strontium
Blanks	G2145_0	79±12%	63±9%	69±12%	78±4%
	G2146_0	90±9%	76±6%	N/A	63±3%
	G2151_0	73±12%	68±10%	76±12%	43±2%
	G2148_0	80±8%	59±5%	92±8%	74±4%
	G3320_0	40±5%	72±6%	93±8%	76±4%
	G3321_0	54±6%	86±7%	N/A	73±4%
	G3323_0	72±8%	75±6%	90±8%	72±4%
Lab control samples	G2145_1	80±13%	57±8%	82±12%	84±4%
	G2146_1	99±10%	68±6%	N/A	95±4%
	G2151_1	64±11%	67±9%	51±9%	41±2%
	G2148_1	75±8%	69±6%	93±9%	68±3%
	G3320_1	64±7%	67±7%	93±8%	76±4%
	G3321_1	82±9%	95±7%	N/A	75±4%
	G3323_1	69±7%	73±6%	83±8%	75±4%
	G3325_1	62±7%	81±6%	93±8%	75±4%

Spike Activity Recovery

Sample ID	^{239}Pu	^{241}Am	^{238}U	^{90}Sr
G2145_1	96±23%	96±21%	95±26%	93±12%
G2146_1	90±11%	98±11%	N/A	82±11%
G2151_1	102±25%	85±17%	103±35%	129±13%
G2148_1	93±12%	95±10%	92±15%	84±13%
G3320_1	79±12%	91±12%	98±15%	101±15%
G3321_1	97±13%	83±8%	N/A	92±12%
G3323_1	93±13%	98±12%	97±15%	104±15%
G3325_1	73±12%	101±13%	107±16%	93±13%

(1) N/A = Not analyzed because analysis was not requested
(2) Precision is expressed as two standard deviations

Table 1 Example radiometric/gravimetric yield and spike activity recovery of some blank and laboratory control samples.

Radiometric and Gravimetric Yields

Sample type	Sample ID	Plutonium	Americium	Uranium	Strontium
Air filter	G2134_0_18370	90±14%	93±12%	95±13%	53±3%
	G3316_0_18500	77±8%	92±6%	73±7%	71±4%
Vegetation	G2136_0_18372	65±7%	82±6%	N/A	85±4%
	G2136_0_18421	39±6%	47±5%	N/A	93±5%
	G2136_0_18422	67±7%	90±7%	N/A	84±4%
	G3313_0_18481	46±6%	65±6%	N/A	79±4%
	G3313_1_18483	50±6%	59±6%	N/A	76±4%
Soil	G2139_0_18390	68±12%	82±11%	55±10%	49±2%
	G2139_0_18440	55±11%	66±10%	55±10%	46±2%
	G2139_0_18441	57±11%	89±11%	59±11%	48±2%
	G3312_1_18474	74±8%	59±5%	73±7%	72±4%
	G3312_2_18478	95±10%	55±5%	75±7%	70±4%
Water	G2142_0_18438	98±9%	82±7%	80±8%	100±5%
	G2142_0_18439	93±9%	83±7%	89±8%	79±4%
	G3315_0_18488	55±7%	102±8%	99±9%	80±4%
	G3315_1_18492	65±7%	92±7%	88±8%	66±3%
	G3315_2_18496	72±8%	103±8%	94±10%	83±4%

(1) N/A = Not analyzed because analysis was not requested
(2) Precision is expressed as two standard deviation

Table 2 Radiometric/gravimetric yield of a set of performance evaluation samples.

Minimum Detectable Activity

Sample type	Sample size	Plutonium	Americium	Uranium	Strontium	Unit
Air filter	1 Filter	5E-04	7E-04	7E-04	2E-02	Bq/F
Vegetation	22.5 gm	3E-02	4E-02	N/A	5E-01	Bq/Kg
Soil	10.0 gm	6E-02	1E-01	9E-02	1E+00	Bq/Kg
Water	1.00 L	5E-04	5E-04	6E-04	2E-02	Bq/L

Table 3 Typical minimum detectable activities attained from the present study.

Note

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Biographies

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Kenneth G.W. Inn

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MAR - JUN in back Rm 7
Feb is when we saw a lot

TLD 458

~~Get TLD's from WIP~~

Dave Speed Cell
505 706 3224

Ernest (887 6578
361 3993

EPA Annual WIPP Inspection – Agenda
[as of 9:30am, June 28, 2004]

June 28

11 AM	Interview Subsidence Staff
12 Noon	Lunch and other stuff
1 PM	Interview Geomechanical Staff } Viewed Transcom & the CMR
2 PM	Opening meeting
2:30 PM	Monitoring, Emplacement, Subpart A Discussions • Include presentation on June 2003 "release", • Update monitoring parameters, new wells, changes in procedures, etc., • Station A update, filter change history, probe cleanings, etc.
5 PM	End-of-day close-out

Mon

June 29

700 AM ~~8 AM~~	Opening meeting
8:30 AM	Waste Emplacement, Subpart A, Monitoring (Underground) • See emplaced waste, • CAMs, etc., ongoing experiment • Monitor locations.
12:30	Waste Emplacement Inspection (WWIS) Subpart A Inspection Visit lab, [walk through select procedures, examine how they are implemented, and view resulting documentation produced.]
5 PM	End-of-day close-out

Tue

June 30

8 AM	Opening meeting
8:30 AM	194.42 Monitoring - groundwater, geotechnical, subsidence, and Delaware Basin surveillance → Wells • See new groundwater monitor wells
5 PM	Final Close-out session

Wed

7pm Chili's

Times and locations subject to change at the discretion of the EPA inspection team

Carlsbad labs!

Thurs

WIPP Waste Information System

Nuclide Report

Report	*RP0380*
Version	*1.4*
Instance	*PRD01*
Run by	*SPEEDD*
Report Date	*06/30/2004 11:13*
Total Pages	*10*

Selection Criteria -

Site id :	%
Nuclide :	%
Start Date :	*01-JAN-99*
End Date:	*30-JUN-04*
Panel Number :	%
Room Number :	%
Handling Code :	%
Show Uncertainty :	*YES*
TRU Nuclides Only :	%
EPA Tracked Nuclides Only:	%

Panel Number : 1 **Room Number : 1**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	3.5603E-05	1.2770E-05	4.8563E-07	1.7410E-07
AM-241 - AMERICIUM 241	1.4221E+03	1.3384E+02	4.0983E+02	3.8606E+01
AM-243 - AMERICIUM 243	4.0731E-03	8.5852E-04	2.0177E-02	4.2464E-03
CO-60 - COBALT 60	1.2000E-07	3.6500E-08	1.0500E-10	3.2000E-11
CS-137 - CESIUM 137	1.1416E-04	5.1556E-05	1.2965E-06	5.9370E-07
K-40 - POTASSIUM-40	4.0020E-06	1.5182E-06	7.0870E-01	2.6860E-01
NP-237 - NEPTUNIUM 237	1.1148E-02	1.0492E-03	1.5630E+01	1.4733E+00
PA-231 - PROTACTINIUM 231	3.5894E-04	5.3671E-05	5.1332E-03	7.6515E-04
PU-238 - PLUTONIUM 238	3.9920E+02	7.4076E+01	2.3082E+01	4.2835E+00
PU-239 - PLUTONIUM 239	1.0160E+04	2.3352E+03	1.6153E+05	3.7723E+04
PU-240 - PLUTONIUM 240	2.3276E+03	2.1569E+02	1.0120E+04	9.3847E+02
PU-241 - PLUTONIUM 241	3.1961E+04	3.1243E+03	3.0732E+02	3.0060E+01
PU-242 - PLUTONIUM 242	2.7681E-01	6.8629E-02	6.9600E+01	1.7426E+01
SR-90 - STRONTIUM 90	3.0551E-05	7.1393E-06	2.2057E-07	5.1745E-08
TH-232 - THORIUM 232	1.0414E-05	1.3868E-06	9.3892E+01	3.0802E+00
U-233 - URANIUM 233	1.0491E-01	6.0210E-01	1.0747E+01	6.2849E+01
U-234 - URANIUM 234	1.4419E-01	1.0856E-01	2.2805E+01	1.7498E+01
U-235 - URANIUM 235	1.2328E-03	1.5665E-04	5.6291E+02	7.1820E+01
U-238 - URANIUM 238	1.3341E-02	8.8097E-03	3.9237E+04	2.6269E+04
Totals:	4.6271E+04	5.8840E+03	2.1240E+05	6.5178E+04

Panel Number : 1 **Room Number : 2**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	2.6645E-04	8.9398E-05	3.6387E-06	1.2237E-06
AM-241 - AMERICIUM 241	1.0595E+04	3.3315E+03	3.0533E+03	9.6010E+02
AM-243 - AMERICIUM 243	5.2166E-03	1.1820E-03	2.3745E-02	5.8604E-03
CS-137 - CESIUM 137	1.3352E-04	1.3452E-04	1.5164E-06	1.5383E-06
K-40 - POTASSIUM-40	8.4940E-06	3.0839E-06	1.5047E+00	5.4570E-01
NP-237 - NEPTUNIUM 237	1.8661E-02	2.3631E-03	2.6172E+01	3.3148E+00
PA-231 - PROTACTINIUM 231	3.2967E-04	1.1195E-04	6.9096E-03	2.3461E-03
PU-238 - PLUTONIUM 238	6.5195E+02	1.7247E+02	3.7685E+01	9.9687E+00
PU-239 - PLUTONIUM 239	1.8462E+04	1.8009E+03	2.9352E+05	2.3864E+04
PU-240 - PLUTONIUM 240	4.2071E+03	5.1080E+02	1.8292E+04	2.2211E+03
PU-241 - PLUTONIUM 241	6.3311E+04	9.5952E+03	6.0876E+02	9.2266E+01
PU-242 - PLUTONIUM 242	4.0269E-01	1.7440E-01	1.0143E+02	4.4205E+01
SR-90 - STRONTIUM 90	7.5449E-06	1.6707E-06	5.4674E-08	1.2161E-08

Panel Number : 1 **Room Number : 2** **Continuec**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
TH-230 - THORIUM	5.0960E-04	1.1357E-03	2.5010E-02	5.5741E-02
TH-232 - THORIUM 232	1.4340E-06	4.9102E-07	1.3007E+01	4.4437E+00
U-233 - URANIUM 233	1.3676E-01	1.4256E-01	1.4012E+01	1.4737E+01
U-234 - URANIUM 234	6.3201E-01	4.4440E-01	9.9974E+01	7.0647E+01
U-235 - URANIUM 235	5.2187E-02	2.1376E-02	2.3830E+04	9.7611E+03
U-238 - URANIUM 238	3.8752E+00	1.6282E+00	1.1397E+07	4.7892E+06
Totals:	9.7232E+04	1.5413E+04	1.1737E+07	4.8262E+06

Panel Number : 1 **Room Number : 3**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AM-241 - AMERICIUM 241	4.8984E+04	1.4155E+04	1.4116E+04	4.0793E+03
CS-137 - CESIUM 137	1.2539E-05	1.3388E-05	1.4248E-07	1.5214E-07
NP-237 - NEPTUNIUM 237	1.5878E-01	2.1109E-02	2.2269E+02	2.9605E+01
PU-238 - PLUTONIUM 238	2.1564E+03	1.2800E+03	1.2465E+02	7.3989E+01
PU-239 - PLUTONIUM 239	5.5875E+04	6.7717E+03	8.8832E+05	1.0766E+05
PU-240 - PLUTONIUM 240	1.2569E+04	3.6312E+03	5.4648E+04	1.5788E+04
PU-241 - PLUTONIUM 241	1.7815E+05	4.3684E+04	1.7129E+03	4.2004E+02
PU-242 - PLUTONIUM 242	1.1899E+00	7.4620E-01	2.9973E+02	1.8796E+02
RA-226 - RADIUM 226	7.8785E-06	1.8573E-06	7.8785E-06	1.8573E-06
SR-90 - STRONTIUM 90	.0000E+00	.0000E+00	.0000E+00	.0000E+00
U-233 - URANIUM 233	2.8513E-02	3.1929E-02	2.9214E+00	3.2715E+00
U-234 - URANIUM 234	4.3515E-01	3.6176E-01	6.8854E+01	5.7241E+01
U-235 - URANIUM 235	4.7486E-02	3.6127E-02	2.1683E+04	1.6496E+04
U-238 - URANIUM 238	2.3434E+00	1.9868E+00	6.8923E+06	5.8434E+06
Totals:	2.9774E+05	6.9526E+04	7.8735E+06	5.9882E+06

Panel Number : 1 **Room Number : 4**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AM-241 - AMERICIUM 241	5.6147E+03	2.7853E+03	1.6181E+03	8.0267E+02
NP-237 - NEPTUNIUM 237	1.6499E-02	8.2140E-03	2.3141E+01	1.1520E+01
PU-238 - PLUTONIUM 238	7.1070E+02	4.3739E+02	4.1081E+01	2.5283E+01
PU-239 - PLUTONIUM 239	1.5038E+04	2.6532E+03	2.3908E+05	4.2181E+04
PU-240 - PLUTONIUM 240	3.3797E+03	1.4963E+03	1.4694E+04	6.5056E+03

Panel Number : 1 **Room Number : 4** **Continuec**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
PU-241 - PLUTONIUM 241	5.7280E+04	1.8640E+04	5.5077E+02	1.7923E+02
PU-242 - PLUTONIUM 242	3.2172E-01	2.9481E-01	8.1037E+01	7.4261E+01
U-234 - URANIUM 234	1.0038E-01	7.9469E-02	1.5883E+01	1.2574E+01
U-235 - URANIUM 235	9.3989E-03	7.4281E-03	4.2917E+03	3.3918E+03
U-238 - URANIUM 238	4.3477E-01	3.9685E-01	1.2787E+06	1.1672E+06
Totals:	8.2025E+04	2.6013E+04	1.5391E+06	1.2204E+06

Panel Number : 1 **Room Number : 5**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AM-241 - AMERICIUM 241	1.1232E+04	3.4973E+03	3.2369E+03	1.0079E+03
NP-237 - NEPTUNIUM 237	4.1192E-02	5.2657E-03	5.7773E+01	7.3853E+00
PU-238 - PLUTONIUM 238	4.9307E+02	3.3534E+02	2.8501E+01	1.9384E+01
PU-239 - PLUTONIUM 239	1.2341E+04	1.7033E+03	1.9620E+05	2.7079E+04
PU-240 - PLUTONIUM 240	2.7427E+03	9.5501E+02	1.1925E+04	4.1522E+03
PU-241 - PLUTONIUM 241	3.8036E+04	1.0677E+04	3.6573E+02	1.0266E+02
PU-242 - PLUTONIUM 242	2.3423E-01	1.9041E-01	5.9000E+01	4.7963E+01
U-233 - URANIUM 233	5.2969E-03	4.8200E-03	5.4272E-01	4.9385E-01
U-234 - URANIUM 234	6.4339E-02	5.2493E-02	1.0180E+01	8.3059E+00
U-235 - URANIUM 235	8.3825E-03	6.4532E-03	3.8276E+03	2.9467E+03
U-238 - URANIUM 238	2.6287E-01	2.2498E-01	7.7313E+05	6.6171E+05
Totals:	6.4845E+04	1.7168E+04	9.8885E+05	6.9708E+05

Panel Number : 1 **Room Number : 6**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	3.6430E-04	1.3324E-04	4.9741E-06	1.8173E-06
AM-241 - AMERICIUM 241	1.4472E+04	8.6158E+02	4.1705E+03	2.4837E+02
AM-243 - AMERICIUM 243	1.5729E-03	1.4746E-04	7.7878E-03	2.6404E-02
CS-137 - CESIUM 137	7.2349E-06	3.9515E-06	7.6137E-07	7.2411E-07
K-40 - POTASSIUM-40	1.6160E-06	5.7390E-07	2.8610E-01	1.0150E-01
NP-237 - NEPTUNIUM 237	7.5073E-02	4.9081E-03	1.0530E+02	6.8836E+00
PA-231 - PROTACTINIUM 231	4.9790E-04	1.7670E-04	1.0419E-02	3.6983E-03
PU-238 - PLUTONIUM 238	3.3829E+02	1.8202E+02	1.9554E+01	1.0522E+01
PU-239 - PLUTONIUM 239	1.2851E+04	6.4842E+02	2.0432E+05	1.0309E+04

Panel Number : 1 **Room Number : 6** **Continuec**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
PU-240 - PLUTONIUM 240	2.8699E+03	5.5898E+02	1.2478E+04	2.4304E+03
PU-241 - PLUTONIUM 241	2.6727E+04	2.4273E+03	2.5699E+02	2.3340E+01
PU-242 - PLUTONIUM 242	2.1064E-01	1.0939E-01	5.3054E+01	2.7553E+01
TH-230 - THORIUM	2.4100E-05	3.6276E-06	1.1800E-03	1.7806E-04
U-233 - URANIUM 233	4.3707E-03	4.0464E-03	4.4782E-01	4.1459E-01
U-234 - URANIUM 234	2.8120E-02	2.0155E-02	4.4512E+00	3.1886E+00
U-235 - URANIUM 235	2.5512E-03	2.0441E-03	1.1650E+03	9.3338E+02
U-238 - URANIUM 238	1.2067E-01	1.0399E-01	3.5492E+05	3.0585E+05
Totals:	5.7259E+04	4.6786E+03	5.7749E+05	3.1985E+05

Panel Number : 1 **Room Number : 7**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AM-241 - AMERICIUM 241	2.7844E+04	5.7614E+03	8.0252E+03	1.6603E+03
AM-243 - AMERICIUM 243	2.2362E-03	5.1028E-04	1.1140E-02	7.3833E-03
CO-60 - COBALT 60	3.4696E-07	4.9614E-08	3.0400E-10	4.3000E-11
CS-137 - CESIUM 137	2.4119E-04	1.0217E-04	2.7401E-06	1.1607E-06
K-40 - POTASSIUM-40	1.8587E-05	7.7348E-06	3.2901E+00	1.3692E+00
NA-22 - SODIUM 22 (NA-22)	5.3435E-06	1.9794E-07	8.4500E-10	3.1000E-11
NP-237 - NEPTUNIUM 237	9.3755E-02	2.3458E-02	1.3149E+02	3.1981E+01
PA-231 - PROTACTINIUM 231	6.1146E-06	1.1650E-05	1.3003E-05	2.4784E-05
PU-238 - PLUTONIUM 238	1.4362E+03	6.9960E+02	8.3073E+01	4.0455E+01
PU-239 - PLUTONIUM 239	2.7257E+04	3.0028E+03	4.3332E+05	4.7741E+04
PU-240 - PLUTONIUM 240	6.1924E+03	1.4491E+03	2.6925E+04	6.3001E+03
PU-241 - PLUTONIUM 241	8.6568E+04	2.3525E+04	8.3333E+02	7.8263E+03
PU-242 - PLUTONIUM 242	6.8228E-01	2.9826E-01	1.7200E+02	7.3616E+01
TH-232 - THORIUM 232	2.6073E-06	1.9759E-06	2.3646E+01	1.7954E+01
U-233 - URANIUM 233	1.3393E-01	9.4639E-02	1.3722E+01	9.6966E+00
U-234 - URANIUM 234	1.6387E-01	1.0530E-01	2.5948E+01	1.6667E+01
U-235 - URANIUM 235	1.3687E-02	9.9701E-03	6.2499E+03	4.5525E+03
U-238 - URANIUM 238	4.8689E-01	4.1726E-01	1.4312E+06	1.2271E+06
Totals:	1.4930E+05	3.4439E+04	1.9070E+06	1.2954E+06

Nuclide Report

Panel Number : 2

Room Number : 4

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	2.4040E-08	5.0730E-09	3.2834E-10	7.0559E-11
AC-228 - ACTINIUM 228	3.4734E-06	5.7491E-07	8.0387E-13	1.3439E-13
AM-241 - AMERICIUM 241	1.0122E+04	5.3355E+02	2.9419E+03	1.5412E+02
AM-243 - AMERICIUM 243	1.6116E-03	2.4783E-04	8.0019E-03	1.2313E-03
BA-133 - BARIUM - 133	3.7700E-09	8.8000E-10	1.4901E-11	3.5493E-12
BI-214 - BISMUTH 214	3.1542E-05	8.8931E-06	5.9216E-14	1.0691E-14
CF-252 - CALIFORNIUM 252	9.1936E-05	4.6906E-05	1.6900E-07	8.6224E-08
CM-243 - CURIUM 243	1.7490E-05	3.5636E-06	3.3506E-07	6.9661E-08
CO-60 - COBALT 60	1.6597E-06	3.7916E-07	1.4547E-09	3.3997E-10
CS-134 - CESIUM-134	7.9375E-06	1.2260E-06	6.0582E-09	9.5432E-10
CS-137 - CESIUM 137	7.2155E-03	8.7977E-04	8.1995E-05	1.0116E-05
EU-152 - EUROPIUM 152	1.8999E-06	2.9772E-07	1.0680E-08	1.6830E-09
EU-154 - EUROPIUM-154	3.8757E-05	5.4973E-06	1.4515E-07	2.0920E-08
K-40 - POTASSIUM-40	4.5570E-06	9.5470E-07	6.4930E-01	1.5457E-01
NA-22 - SODIUM 22 (NA-22)	5.0354E-03	1.6058E-03	2.0980E-04	3.5259E-05
NP-237 - NEPTUNIUM 237	3.2733E-01	3.6481E-01	4.5932E+02	4.7292E+01
PB-214 - LEAD -214	4.2203E-05	1.0169E-05	3.6027E-13	5.2559E-14
PU-238 - PLUTONIUM 238	2.0107E+03	2.1009E+02	1.1709E+02	1.4720E+01
PU-239 - PLUTONIUM 239	1.7276E+04	1.0988E+03	2.7590E+05	1.6753E+04
PU-240 - PLUTONIUM 240	5.9275E+03	4.3269E+02	2.5931E+04	1.8407E+03
PU-241 - PLUTONIUM 241	1.0025E+05	7.8777E+03	9.6750E+02	8.6466E+03
PU-242 - PLUTONIUM 242	1.5860E+00	2.6987E-01	4.9657E+02	6.6455E+01
SB-125 - ANTIMONY-125	7.1395E-05	1.5973E-05	6.8648E-08	1.5672E-08
SR-90 - STRONTIUM 90	7.0344E-03	8.4609E-04	5.0994E-05	1.5200E+00
TH-232 - THORIUM 232	3.4802E-06	6.0248E-07	3.0899E+01	5.5149E+00
TL-208 - THALLIUM 208	1.5771E-04	2.2471E-05	3.9402E-13	5.5507E-14
U-232 - URANIUM 232	2.1203E-04	4.9736E-05	9.8162E-06	2.3496E-06
U-233 - URANIUM 233	2.3376E-03	1.4627E-03	2.3951E-01	1.5292E-01
U-234 - URANIUM 234	9.1752E-01	7.5700E+05	1.7178E+02	2.9993E+01
U-235 - URANIUM 235	5.5590E-02	5.8049E-03	1.3350E+04	2.5441E+03
U-238 - URANIUM 238	5.4630E-01	6.3354E-02	1.6108E+06	1.8828E+05
Totals:	1.3559E+05	7.6715E+05	1.9312E+06	2.1839E+05

Panel Number : 2

Room Number : 5

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	8.2390E-08	1.6816E-08	1.1260E-09	2.3400E-10
AC-228 - ACTINIUM 228	3.6251E-06	2.4370E-06	.0000E+00	1.0000E-12
AM-241 - AMERICIUM 241	3.5808E+03	7.3407E+02	1.0358E+03	1.2003E+02
AM-243 - AMERICIUM 243	3.0794E-03	1.0006E+00	1.5347E-02	5.0546E+00
BA-133 - BARIUM - 133	3.0163E-06	6.6115E-07	1.1923E-08	2.6660E-09
BI-214 - BISMUTH 214	3.5684E-05	6.3857E-06	1.7700E-10	.0000E+00
CF-252 - CALIFORNIUM 252	.0000E+00	.0000E+00	.0000E+00	.0000E+00
CM-243 - CURIUM 243	9.0447E-04	3.2545E-05	1.7874E-05	6.4215E-07
CM-244 - CURIUM 244	7.4074E+00	2.3105E-01	9.1410E-02	2.7916E-03
CM-245 - CURIUM 245	2.7119E-04	2.2505E-05	1.5759E-03	1.3092E-04
CO-60 - COBALT 60	5.2661E-06	1.1210E-06	4.6170E-09	9.9815E-10
CS-134 - CESIUM-134	1.6927E-05	2.6319E-06	1.2898E-08	2.0510E-09
CS-137 - CESIUM 137	1.1485E-02	1.5310E-03	1.3052E-04	1.7716E-05
EU-152 - EUROPIUM 152	2.0980E-06	2.7684E-07	1.1801E-08	1.5560E-09
EU-154 - EUROPIUM-154	2.4041E-02	2.4956E-05	1.0053E-04	1.7453E-06
K-40 - POTASSIUM-40	1.1044E-05	2.2213E-06	1.7132E+00	3.5604E-01
NA-22 - SODIUM 22 (NA-22)	8.7411E-05	1.7745E-05	1.3782E-08	2.8531E-09
NP-237 - NEPTUNIUM 237	6.2603E-02	1.0024E-02	8.1114E+01	1.4146E+01
PB-214 - LEAD -214	3.8626E-05	7.7346E-06	.0000E+00	.0000E+00
PU-238 - PLUTONIUM 238	7.4854E+02	1.3270E+02	4.3335E+01	7.6611E+00
PU-239 - PLUTONIUM 239	1.0395E+04	9.6988E+02	1.6538E+05	1.5430E+04
PU-240 - PLUTONIUM 240	2.5087E+03	3.0532E+02	1.1560E+04	1.3279E+03
PU-241 - PLUTONIUM 241	4.3511E+04	6.9361E+03	4.1874E+02	6.6807E+01
PU-242 - PLUTONIUM 242	3.5391E-01	4.2543E-01	8.9201E+01	1.5336E+01
SB-125 - ANTIMONY-125	5.3129E-05	2.2523E-05	1.5205E-04	2.7922E-05
SR-90 - STRONTIUM 90	1.1005E-02	1.3987E-03	7.9974E-05	1.0402E-05
TH-232 - THORIUM 232	3.5839E-06	9.5807E-07	3.2265E+01	8.8029E+00
TL-208 - THALLIUM 208	1.1378E-04	2.7383E-05	.0000E+00	.0000E+00
U-232 - URANIUM 232	4.7189E-04	1.5772E-04	2.1847E-05	7.4510E-06
U-233 - URANIUM 233	3.3817E-02	6.2119E-03	3.4649E+00	6.4945E-01
U-234 - URANIUM 234	2.3047E-01	3.3870E-02	3.3657E+01	5.3765E+00
U-235 - URANIUM 235	6.7316E-03	1.1155E-03	3.0789E+03	5.0939E+02
U-238 - URANIUM 238	5.9750E-02	1.0884E-02	1.7579E+05	3.2018E+04
Totals:	6.0752E+04	9.0797E+03	3.5755E+05	4.9530E+04

Panel Number : 2

Room Number : 6

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	1.6407E-03	1.5375E-04	2.2682E-05	2.2078E-06
AC-228 - ACTINIUM 228	5.9939E-03	6.6962E-04	1.3324E+00	2.9724E-10
AG-110M - SILVER 110 METASTABLE	1.3800E-02	1.3300E-02	2.9100E-06	2.7900E-06
AM-241 - AMERICIUM 241	2.7238E+03	3.2515E+02	7.8500E+02	9.3732E+01
AM-243 - AMERICIUM 243	3.4721E-01	5.7080E-01	1.7188E+00	2.8831E+00
BA-133 - BARIUM - 133	1.0753E-08	1.9230E-09	4.4000E-11	7.0000E-12
BI-212 - BISMUTH 212	3.6739E-05	8.7334E-06	2.0000E-12	1.0000E-12
BI-213 - BISMUTH 213	2.1138E-06	5.3531E-07	.0000E+00	.0000E+00
BI-214 - BISMUTH 214	2.5678E-01	1.8266E+00	5.8220E-09	4.2266E-08
CD-109 - CADMIUM-109	3.2200E-02	4.3800E-02	1.2337E-05	1.7124E-05
CF-249 - CALIFORNIUM 249	7.3202E-02	6.4499E-02	1.7688E-02	1.5894E-02
CF-252 - CALIFORNIUM 252	7.5986E-05	5.8582E-05	1.3968E-07	1.0988E-07
CM-243 - CURIUM 243	1.2890E-02	7.6937E-02	2.4817E-04	1.5035E-03
CM-244 - CURIUM 244	1.2200E-02	1.1700E-02	1.4914E-04	1.4595E-04
CM-245 - CURIUM 245	1.9309E-05	2.6258E-06	1.1102E-04	1.5089E-05
CO-60 - COBALT 60	1.8704E-01	1.5157E-01	1.1315E-03	8.9520E-04
CS-134 - CESIUM-134	1.4866E-04	1.3862E-04	1.1411E-07	1.0837E-07
CS-137 - CESIUM 137	4.0833E-02	1.0375E+00	4.6896E-04	1.2027E-02
EU-152 - EUROPIUM 152	2.5734E-03	1.1962E-02	1.4162E-05	6.8125E-05
EU-154 - EUROPIUM-154	2.0647E-04	1.5736E-04	7.7282E-07	5.9930E-07
K-40 - POTASSIUM-40	1.0537E-03	6.1718E-04	1.5127E+02	8.8393E+01
MN-54 - MANGANESE 54	1.5300E-02	1.4600E-02	1.9700E-06	1.8900E-06
NA-22 - SODIUM 22 (NA-22)	1.6626E-02	8.8553E-04	2.7888E-06	1.6880E-07
NP-237 - NEPTUNIUM 237	8.7305E-02	2.8079E-02	1.2230E+02	3.7353E+01
NP-239 - NEPTUNIUM-239	6.1700E-06	4.6700E-06	2.7000E-11	2.1000E-11
PA-231 - PROTACTINIUM 231	3.2266E-03	3.2450E-04	6.6799E-02	6.6740E-03
PB-212 - LEAD 212	2.7138E-05	1.5003E-05	1.9000E-11	1.2000E-11
PB-214 - LEAD -214	4.9560E-02	4.1772E-03	1.5100E-09	1.3000E-10
PU-238 - PLUTONIUM 238	7.6993E+02	1.5383E+02	4.5509E+01	8.8895E+00
PU-239 - PLUTONIUM 239	1.2276E+04	9.8001E+02	1.9518E+05	1.5595E+04
PU-240 - PLUTONIUM 240	2.8469E+03	3.2673E+02	1.2378E+04	1.4209E+03
PU-241 - PLUTONIUM 241	4.2616E+04	6.0099E+03	4.0894E+02	5.7797E+01
PU-242 - PLUTONIUM 242	1.0934E+00	2.7413E-01	2.7537E+02	6.8980E+01
RA-226 - RADIUM 226	6.5862E-05	3.8872E-05	6.5862E-05	3.9665E-05
SB-125 - ANTIMONY-125	4.0500E-07	3.7200E-07	3.8900E-10	3.6500E-10
SR-90 - STRONTIUM 90	4.2601E-02	1.0392E+00	3.0816E-04	7.6781E-03
TH-229 - THORIUM 229	5.3513E-04	4.0413E-04	2.5123E-03	1.9361E-03
TH-232 - THORIUM 232	8.2396E-06	3.5535E-04	7.3999E+01	3.2667E+03
TL-208 - THALLIUM 208	1.0054E-04	7.9198E-05	7.5000E+01	.0000E+00

Panel Number : 2 **Room Number : 6** **Continuec**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
U-232 - URANIUM 232	3.8682E-04	1.1127E-04	1.8581E-05	5.3429E-06
U-233 - URANIUM 233	3.6032E-02	2.7113E-02	3.6929E+00	2.8287E+00
U-234 - URANIUM 234	1.5879E-01	4.1412E-02	2.5122E+01	6.6176E+00
U-235 - URANIUM 235	3.3822E-03	5.4379E-04	1.5886E+03	2.4946E+02
U-238 - URANIUM 238	2.3569E-02	7.1842E-03	6.9323E+04	2.1180E+04
ZN-65 - ZINC 65	5.7300E-03	5.5000E-03	6.9400E-07	6.6600E-07
Totals:	6.1235E+04	7.8009E+03	2.8044E+05	4.2080E+04

Panel Number : 2 **Room Number : 7**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
AC-227 - ACTINIUM	1.5609E-03	3.3663E-04	2.1335E-05	4.6046E-06
AC-228 - ACTINIUM 228	9.7353E-03	5.5002E-03	4.3450E-09	2.5040E-09
AM-241 - AMERICIUM 241	3.0314E+03	4.4176E+02	8.7310E+02	1.2794E+02
AM-243 - AMERICIUM 243	5.7309E-01	4.1075E-01	2.8369E+00	2.0742E+00
BI-212 - BISMUTH 212	2.1911E-04	1.0652E-04	1.5000E-11	7.0000E-12
BI-213 - BISMUTH 213	2.7194E-04	1.3661E-04	1.4000E-11	7.0000E-12
BI-214 - BISMUTH 214	2.7902E+00	1.4182E+00	6.3268E-08	3.2815E-08
CE-144 - CERIUM-144	4.8200E-05	1.6939E-05	1.5000E-08	5.2550E-09
CF-249 - CALIFORNIUM 249	4.3077E-03	2.6656E-02	1.0405E-03	6.5700E-03
CF-252 - CALIFORNIUM 252	1.3620E-04	1.0423E-04	2.5038E-07	1.9550E-07
CM-243 - CURIUM 243	3.2015E-01	1.6744E-01	6.1332E-03	3.2731E-03
CM-244 - CURIUM 244	1.0503E-02	1.0124E-01	1.2839E-04	1.2629E-03
CO-60 - COBALT 60	2.0134E-03	3.0144E-03	1.7662E-06	2.6982E-06
CS-134 - CESIUM-134	1.1591E-03	7.3990E-03	8.8481E-07	5.7634E-06
CS-137 - CESIUM 137	1.1629E+00	2.2237E+00	1.3215E-02	4.9412E-02
EU-152 - EUROPIUM 152	2.6390E-01	1.3342E-01	1.4826E-03	7.6488E-04
EU-154 - EUROPIUM-154	8.2593E-04	3.7983E-03	3.0934E-06	1.4516E-05
FR-221 - FRANCIUM-221	4.9200E-02	4.6840E-02	2.7800E-10	2.7000E-10
K-40 - POTASSIUM-40	8.5319E-05	1.7513E-04	1.3142E+01	2.1914E+01
NA-22 - SODIUM 22 (NA-22)	3.9492E-02	3.4353E-02	6.2488E-06	5.5465E-06
NP-237 - NEPTUNIUM 237	8.3383E-02	3.2930E-02	1.1693E+02	4.7036E+01
PA-231 - PROTACTINIUM 231	5.9541E-03	1.0315E-03	6.0773E-02	1.2471E-02
PB-212 - LEAD 212	7.6934E-05	3.3087E-05	5.3000E-11	2.3000E-11
PB-214 - LEAD -214	2.5200E+00	1.2600E+00	7.6829E-08	3.9199E-08
PU-238 - PLUTONIUM 238	7.5044E+02	1.3654E+02	4.3755E+01	7.9925E+00
PU-239 - PLUTONIUM 239	1.4136E+04	1.0413E+03	2.2460E+05	1.6165E+04

Nuclide Report

Panel Number : 2 **Room Number : 7** **Continuec**

Radionuclide	Activity (Ci)	Activity Uncert (Ci)	Mass(G)	Mass Uncert(G)
PU-240 - PLUTONIUM 240	3.2825E+03	3.6338E+02	1.4262E+04	1.5844E+03
PU-241 - PLUTONIUM 241	5.1400E+04	6.6558E+03	7.2901E+02	6.0544E+01
PU-242 - PLUTONIUM 242	4.1889E-01	1.5675E-01	1.0555E+02	3.6354E+01
RA-226 - RADIUM 226	1.0226E-03	9.5168E-04	1.0226E-03	9.7111E-04
SB-125 - ANTIMONY-125	3.1591E-06	8.1444E-06	3.0380E-09	7.9903E-09
SR-90 - STRONTIUM 90	1.3251E+00	2.4333E+00	9.6022E-03	1.0597E-02
TH-229 - THORIUM 229	5.2069E-03	3.3184E-03	2.4445E-02	1.5897E-02
TH-230 - THORIUM	9.3328E-02	6.8500E-06	4.5714E+00	4.4734E-01
TH-232 - THORIUM 232	3.2133E-05	7.6128E-06	2.8980E+02	6.8550E+01
TL-208 - THALLIUM 208	5.5870E-03	2.5964E-03	1.8000E-11	8.0000E-12
U-233 - URANIUM 233	1.2840E-02	2.0129E+00	1.3156E+00	1.3453E+00
U-234 - URANIUM 234	8.5491E-01	1.1302E+00	1.3533E+02	2.0762E+01
U-235 - URANIUM 235	8.2890E-03	2.2379E-03	3.7849E+03	1.0241E+03
U-238 - URANIUM 238	5.0595E-01	1.1412E+00	1.4868E+06	4.1549E+05
Totals:	7.2611E+04	8.6516E+03	1.7318E+06	4.3466E+05
Grand Totals	1.1249E+06	9.6581E+05	2.9136E+07	1.5157E+07

Tue 6/29

#	Question Waste Emplacement	Comments Objective Evidence	Documentation	Results
1	Is waste being emplaced in the underground facility in the manner specified in DOE's Compliance Certification Application (CCA)?			Yes
2	Are waste containers stacked in columns three high?			Yes
3	Are waste containers emplaced as received?			Yes
4	Are records adequate? Randomly select five waste containers to verify records for waste approval, shipment, and receipt: 7 pallets RF040288 shipment RFDB4869	SR040135 TDOP RF040286 SWB RF040270 7 Pallets RF040285 SWB SR040134 TDOP		
5	Verify documentation for the containers listed in item 4 - waste generator site transmittal of waste to WIPP, WIPP approval, shipment certification for transport to WIPP, shipment initiation documentation, shipment received at WIPP records, waste emplace in the underground, and placement of backfill [MgO].			yes
6	Is DOE properly emplacing backfill material (magnesium oxide [MgO]) with the waste packages?			Yes
7	Are Super Sacks placed on top of waste stacks as described in Volume 1, Section 3.3.3 of the CCA; approximately 4,000 pounds, multi-wall construction with a vapor and moisture barrier?			yes

#	Question Waste Emplacement	Comments Objective Evidence	Documentation	Results
8	Is DOE properly tracking the MgO backfill so that the MgO safety factor can be accurately calculated?	Nothing in WWIS		No!
9	Is DOE maintaining records of waste shipments and emplacement properly?			
10	Do the characterization module, certification module, shipping module, and inventory module adequately record the required information?			
11	Characterization Module - Review a WWIS Waste Container Data Report. Does this report adequately record the Waste Stream Profile Form information?			✓
12	Characterization Module - Does the data administrator verify that DOE/CBFO has granted certification and transportation authority to the generator/shipper site prior to review of generator/shipper characterization data?			yes
13	Certification Module - Examine an Acceptance Report and a Rejection Report. Do these adequately record waste information?	pdf file to Tom		yes
14	Is the generator/shipper denied any further write access to certification information after the data passes the limit and edit check and a review by the WWIS data administrator?			yes

#	Question Waste Emplacement	Comments Objective Evidence	Documentation	Results
15	Shipping Module - Review the Shipment Summary Report. Does the report correctly record the containers shipped?			yes
16	Inventory Module - Review the Container Emplacement Report. Does this report adequately record the date of receipt, disposal locations of containers, and the emplacement of MgO?			yes
17	Does the WWIS adequately document waste shipment and emplacements information for waste containers selected item 4 above?			
18	Can DOE demonstrate that the waste emplacement conforms to the assumed waste loading conditions as specified in 194.24(f)? In the CCA and as of 2003, the waste must be randomly (i.e., homogeneously) emplaced to conform with the performance and compliance assessment assumptions.			

WIPP Waste Information System
Repository Report

Report	*RP0530*
Version	*1.2*
Instance	*PRD01*
Run by	*SPEEDD*
Report Date	*06/30/2004 11:07*
Total Pages	*13*

Repository Report

Containers

Container Type	Description	Emplaced	Total
1	55 GAL DRUM	31211	32066
1	Dunnage: 55 GAL DRUM	975	6338
2	Dunnage: SWB	0	65
2	SWB	2963	3001
3	TEN DRUM OVERPACK (TDOP)	1034	1102
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	21429	21667
9	85 GALLON DRUM - OVERPACK	2	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	173	184
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	0	7180
16	Dunnage: 55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	0	1
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	0	3727
18	55 GAL DRUM TO BE OVERPACKED - SOLID/VITRIFIED - GOOD	0	8
19	55 GAL DRUM TO BE OVERPACKED - SOLID/VITRIFIED - DAMAGED	0	841
		57787	76182

Containers by Site

Site: C1 CCP AT SRS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	1
1	55 GAL DRUM	Emplaced Container	N	1638
3	TEN DRUM OVERPACK (TDOP)	Approved Certification	N	3
3	TEN DRUM OVERPACK (TDOP)	PreSubmit Certification	N	9
3	TEN DRUM OVERPACK (TDOP)	Received Shipment	N	3
3	TEN DRUM OVERPACK (TDOP)	Emplaced Container	N	979
3	TEN DRUM OVERPACK (TDOP)	Approved Shipment	N	12
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	98
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	6854
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Holding for Certification	N	39
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	PreSubmit Characterization	N	23
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	3658
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Holding for Certification	N	49
				13366

Container Status Totals

Container Status	Total Containers
PreSubmit Characterization	23
PreSubmit Certification	9
Holding for Certification	88
Approved Certification	10516
Approved Shipment	12
Received Shipment	3
Emplaced Container	2715
	13366

Containers by Site

Site: C2 CCP AT ANL-E

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	35
1	55 GAL DRUM	Approved Shipment	N	10
1	55 GAL DRUM	Emplaced Container	N	273
1	55 GAL DRUM	Dunnage	Y	18
3	TEN DRUM OVERPACK (TDOP)	Emplaced Container	N	11
3	TEN DRUM OVERPACK (TDOP)	PreSubmit Certification	N	1
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	107
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	10
				465

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	1
Approved Certification	152
Approved Shipment	10
Emplaced Container	284
Dunnage	18
	465

Containers by Site

Site: C3 CCP AT NTS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	1
1	55 GAL DRUM	Emplaced Container	N	294
1	55 GAL DRUM	Holding for Certification	N	1
				296

Container Status Totals

Container Status	Total Containers
Holding for Certification	1
Approved Certification	1
Emplaced Container	294
	296

Containers by Site

Site: IN IDAHO NATIONAL ENGINEERING LAB

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	232
1	55 GAL DRUM	Emplaced Container	N	15014
1	55 GAL DRUM	PreSubmit Certification	N	1
1	55 GAL DRUM	Received Shipment	N	2
1	55 GAL DRUM	Dunnage	Y	1609
1	55 GAL DRUM	Dunnage - Emplaced	Y	519
2	SWB	Emplaced Container	N	152
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	6
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	5
18	55 GAL DRUM TO BE OVERPACKED - SOLID/VITRIFIED - GOOD	Approved Certification	N	8
				17548

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	1
Approved Certification	245
Received Shipment	2
Emplaced Container	15172
Dunnage	1609
Dunnage - Emplaced	519
	17548

Containers by Site

Site: LA LOS ALAMOS NATIONAL LABORATORY

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	7
1	55 GAL DRUM	Emplaced Container	N	1360
1	55 GAL DRUM	PreSubmit Certification	N	170
1	55 GAL DRUM	Dunnage	Y	262
1	55 GAL DRUM	Dunnage - Emplaced	Y	80
2	SWB	Emplaced Container	N	148
2	SWB	Dunnage	Y	2
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	18
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	PreSubmit Certification	N	7
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	52
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	PreSubmit Certification	N	43
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Dunnage	Y	1
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	7
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	PreSubmit Certification	N	1
				2160

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	221
Approved Certification	66
Emplaced Container	1528
Dunnage	265
Dunnage - Emplaced	80
	2160

Containers by Site

Site: RF ROCKY FLATS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	193
1	55 GAL DRUM	Approved Characterization	N	115
1	55 GAL DRUM	Emplaced Container	N	10084
1	55 GAL DRUM	Pending Characterization	N	14
1	55 GAL DRUM	Received Shipment	N	21
1	55 GAL DRUM	Dunnage	Y	3095
1	55 GAL DRUM	Dunnage - Emplaced	Y	150
2	SWB	Approved Certification	N	19
2	SWB	Received Shipment	N	12
2	SWB	Dunnage	Y	63
2	SWB	Emplaced Container	N	2663
2	SWB	Approved Shipment	N	7
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Certification	N	104
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Characterization	N	1
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Shipment	N	28
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	20195
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Approved Certification	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Approved Shipment	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	51
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	57
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	2
				36878

Containers by Site

Site: RF ROCKY FLATS

Container Status Totals

Container Status	Total Containers
Pending Characterization	14
Approved Characterization	116
Approved Certification	377
Approved Shipment	37
Received Shipment	33
Emplaced Container	32993
Dunnage	3158
Dunnage - Emplaced	150
	36878

Containers by Site

Site: RL RICHLAND (HANFORD) SITE

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	6
1	55 GAL DRUM	Emplaced Container	N	1916
1	55 GAL DRUM	PreSubmit Certification	N	46
1	55 GAL DRUM	Dunnage	Y	375
1	55 GAL DRUM	Dunnage - Emplaced	Y	72
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	1232
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Pending Characterization	N	30
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	PreSubmit Certification	N	75
				3752

Container Status Totals

Container Status	Total Containers
Pending Characterization	30
PreSubmit Certification	121
Approved Certification	6
Emplaced Container	3148
Dunnage	375
Dunnage - Emplaced	72
	3752

Containers by Site

Site: SR SAVANNAH RIVER SITE

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Emplaced Container	N	630
				630

Container Status Totals

Container Status	Total Containers
Emplaced Container	630
	630

Containers by Site

Site: WI WASTE ISOLATION PILOT PLANT

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Emplaced Container	N	2
1	55 GAL DRUM	Dunnage - Emplaced	Y	154
9	85 GALLON DRUM - OVERPACK	Emplaced Container	N	2
				158

Container Status Totals

Container Status	Total Containers
Emplaced Container	4
Dunnage - Emplaced	154
	158

Material Parameter Totals

Material Parameter	Description	Weight(Kg)
6	CELLULOSICS	924411.39
7	RUBBER	59986.13
8	PLASTICS	508225.22

PRD01 - [WWIS Status Display]

Options

06/30/2004

Refresh 197

WIPP Waste Information System

Administration Status Display

10:35 AM

Close

Waste Container Status	LANL	INEEL	RFETS	HANF	SRS	(ccp) SRS	(ccp) ANLE	(ccp) NTS	BNFL	Other	Totals
Data Transfer In Progress:											
Pending Charz Data Submittal:						23					23
Pending Charz Data Approval:			14	30					30		74
On Hold For Charz Data Approval:											
Charz Data Approved:			116						1		117
Pending Cert Data Submittal:	221	1		122		9	1		49		403
Pending Cert Data Approval:											
On Hold For Cert Data Approval:						88		1	14		103
Cert Data Approved:	7	232	318	6		64	35	1	48		711
Pending Shipment Data Approval:											
Shipment Data Approved:			37			12	10		10		69
Shipment Received:			33			3			2		38
Emplaced Underground:	1,528	15,172	32,993	3,148	630	2,715	284	294	44	4	56,812
Waste Container Totals:	1,756	15,405	33,511	3,306	630	2,914	330	296	198	4	69,773

Shipment Status	LANL	INEEL	RFETS	HANF	SRS	(ccp) SRS	(ccp) ANLE	(ccp) NTS	BNFL	Other	Totals
Pending Submittal:			8								8
Pending Approval:											
Approved:						2			5		7
Complete (Ready To Ship):			3			2	1				6
Received:	71	595	1,533	102	15	383	11	7	23		2,740
Shipment Totals:	71	595	1,544	102	15	387	12	7	28		2,761

Record 1/1 <DSC>

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 196	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 156	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 196	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso		6/22/04	
T Moffatt	T Moffatt	6-23-04	TM
K. Miller	K. Miller	6-23-04	KM
S. Jennings		6/23/04	SJ
B Schroeck	B Schroeck	6-23-04	BS
J. Iles	J Iles	6-23-04	JI
G Walton		6-23-04	

REMARKS: DID SWIP THE SPLIT OF THE SWB. K.M. 6-23-04

REVIEW/VALIDATION: Joseph Beller, 062304
WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 196

Container Number	RFSO 3619	RFS03782
Row Number	141	140
Column (Left to Right)	1 (2) 3 4 5 6	1 2 3 4 (5) 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso (Printed Name) [signature] (Signature) 6/26/04 (Date)

Reviewer: JS Neatherlin (Printed Name) [signature] (Signature) 6/26/04 (Date)

WHE Validation: P Sasso (Printed Name) [signature] (Signature) 6/26/04 (Date)

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

SEQ NO	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 198	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: #198	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: #198	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sisso		6/23/04	
D Doughty		6-23-04	
W. Terry		6.23.04	
BSschrock		6-23-04	
Adrian Munoz		6-24-04	
D. McAvoy		6-24-04	
F. Acosta		6-24-04	

REMARKS: Swips Taken during SWB split

REVIEW/VALIDATION: F. Acosta (WHE (Print Name)), (Signature), 6-24-04 (Date)

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 198

Container Number	RFS03563	RFS0 ~~38~~ 3586 6/26/04
Row Number	140	140
Column (Left to Right)	(1) 2 3 4 5 6	1 2 (3) 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Reviewer: JS Neatherlin / JS Neatherlin / 6/26/04
Printed Name / Signature / Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 183	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 183	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 183	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT JJ
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT JJ
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT JJ
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT JJ
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT JJ
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A JJ
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A JJ
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH CB
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A CB
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso		6/23/04	
A Alanzo	A Alanzo	6-23-04	AA
J. Garza		06.23.04	JG
B Schnack	B Schnack	6-23-04	BS
S. Jennings	Stay Jennings	6/23/04	SJ
J. Niles		6-23-04	JN
G Walton		6-23-04	

REMARKS: SURFACE OF ~~LOWER~~ UPPER SWB SMEARED WHEN INSERTING SLIPSHEET. JG 06-23-04

REVIEW/VALIDATION: F. Acosta | F. Acosta | 6-23-04

WHE (Print Name) | Signature | Date

INFORMATION ONLY

Working Copy

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 183

Container Number	RF50 3508	RF50 1296
Row Number	141	141
Column (Left to Right)	1 2 3 4 5 (6)	1 2 3 4 5 (6)
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso [signature] 6/26/04
Printed Name Signature Date

Reviewer: JS Neatherlin [signature] 6/26/04
Printed Name Signature Date

WHE Validation: P Sasso [signature] 6/26/04
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040286 OCA Body Serial No.: 126	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 126	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 126	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH CB
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A CB
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Rasso		6/29/04	
F. Acosta	F. A	6-29-04	FA
J. Jiron	J. J	6-29-04	JJ
D Carrera		6-29-04	DCC
G Walton		6-29-04	GW
F. Beekman	F. Beek	6-29-04	FB

REMARKS:

REVIEW/VALIDATION: P. Rasso (WHE (Print Name)) | (Signature) | 6/29/04 (Date)

INFORMATION ONLY

Containers by Site

Site: C1 CCP AT SRS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	1
1	55 GAL DRUM	Emplaced Container	N	1638
3	TEN DRUM OVERPACK (TDOP)	Approved Certification	N	3
3	TEN DRUM OVERPACK (TDOP)	PreSubmit Certification	N	9
3	TEN DRUM OVERPACK (TDOP)	Received Shipment	N	3
3	TEN DRUM OVERPACK (TDOP)	Emplaced Container	N	979
3	TEN DRUM OVERPACK (TDOP)	Approved Shipment	N	12
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	98
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	6854
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Holding for Certification	N	39
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	PreSubmit Characterization	N	23
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	3658
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Holding for Certification	N	49
				13366

Container Status Totals

Container Status	Total Containers
PreSubmit Characterization	23
PreSubmit Certification	9
Holding for Certification	88
Approved Certification	10516
Approved Shipment	12
Received Shipment	3
Emplaced Container	2715
	13366

Containers by Site

Site: C2 CCP AT ANL-E

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	35
1	55 GAL DRUM	Approved Shipment	N	10
1	55 GAL DRUM	Emplaced Container	N	273
1	55 GAL DRUM	Dunnage	Y	18
3	TEN DRUM OVERPACK (TDOP)	Emplaced Container	N	11
3	TEN DRUM OVERPACK (TDOP)	PreSubmit Certification	N	1
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	107
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	10
				465

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	1
Approved Certification	152
Approved Shipment	10
Emplaced Container	284
Dunnage	18
	465

Containers by Site

Site: C3 CCP AT NTS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	1
1	55 GAL DRUM	Emplaced Container	N	294
1	55 GAL DRUM	Holding for Certification	N	1
				296

Container Status Totals

Container Status	Total Containers
Holding for Certification	1
Approved Certification	1
Emplaced Container	294
	296

Containers by Site

Site: IN IDAHO NATIONAL ENGINEERING LAB

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	232
1	55 GAL DRUM	Emplaced Container	N	15014
1	55 GAL DRUM	PreSubmit Certification	N	1
1	55 GAL DRUM	Received Shipment	N	2
1	55 GAL DRUM	Dunnage	Y	1609
1	55 GAL DRUM	Dunnage - Emplaced	Y	519
2	SWB	Emplaced Container	N	152
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	6
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	5
18	55 GAL DRUM TO BE OVERPACKED - SOLID/VITRIFIED - GOOD	Approved Certification	N	8
				17548

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	1
Approved Certification	245
Received Shipment	2
Emplaced Container	15172
Dunnage	1609
Dunnage - Emplaced	519
	17548

Containers by Site

Site: LA LOS ALAMOS NATIONAL LABORATORY

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	7
1	55 GAL DRUM	Emplaced Container	N	1360
1	55 GAL DRUM	PreSubmit Certification	N	170
1	55 GAL DRUM	Dunnage	Y	262
1	55 GAL DRUM	Dunnage - Emplaced	Y	80
2	SWB	Emplaced Container	N	148
2	SWB	Dunnage	Y	2
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	18
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	PreSubmit Certification	N	7
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	52
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	PreSubmit Certification	N	43
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Dunnage	Y	1
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	7
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	PreSubmit Certification	N	1
				2160

Container Status Totals

Container Status	Total Containers
PreSubmit Certification	221
Approved Certification	66
Emplaced Container	1528
Dunnage	265
Dunnage - Emplaced	80
	2160

Containers by Site

Site: RF ROCKY FLATS

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	193
1	55 GAL DRUM	Approved Characterization	N	115
1	55 GAL DRUM	Emplaced Container	N	10084
1	55 GAL DRUM	Pending Characterization	N	14
1	55 GAL DRUM	Received Shipment	N	21
1	55 GAL DRUM	Dunnage	Y	3095
1	55 GAL DRUM	Dunnage - Emplaced	Y	150
2	SWB	Approved Certification	N	19
2	SWB	Received Shipment	N	12
2	SWB	Dunnage	Y	63
2	SWB	Emplaced Container	N	2663
2	SWB	Approved Shipment	N	7
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Certification	N	104
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Characterization	N	1
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Approved Shipment	N	28
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	20195
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Approved Certification	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Approved Shipment	N	2
14	SWB - USED TO OVERPACK 4 - 55 GAL. DRUMS	Emplaced Container	N	51
16	55 GAL DRUM TO BE OVERPACKED - GOOD CONDITION	Approved Certification	N	57
17	55 GAL DRUM TO BE OVERPACKED - DAMAGED CONDITION	Approved Certification	N	2
				36878

Containers by Site

Site: RF ROCKY FLATS

Container Status Totals

Container Status	Total Containers
Pending Characterization	14
Approved Characterization	116
Approved Certification	377
Approved Shipment	37
Received Shipment	33
Emplaced Container	32993
Dunnage	3158
Dunnage - Emplaced	150
	36878

Containers by Site

Site: RL RICHLAND (HANFORD) SITE

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Approved Certification	N	6
1	55 GAL DRUM	Emplaced Container	N	1916
1	55 GAL DRUM	PreSubmit Certification	N	46
1	55 GAL DRUM	Dunnage	Y	375
1	55 GAL DRUM	Dunnage - Emplaced	Y	72
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Emplaced Container	N	1232
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	Pending Characterization	N	30
5	55 GALLON PIPE OVERPACK - 12 INCH PIPE OVERPACK	PreSubmit Certification	N	75
				3752

Container Status Totals

Container Status	Total Containers
Pending Characterization	30
PreSubmit Certification	121
Approved Certification	6
Emplaced Container	3148
Dunnage	375
Dunnage - Emplaced	72
	3752

Containers by Site

Site: SR SAVANNAH RIVER SITE

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Emplaced Container	N	630
				630

Container Status Totals

Container Status	Total Containers
Emplaced Container	630
	630

Containers by Site

Site: WI WASTE ISOLATION PILOT PLANT

Specific Container Information by Container Type

Container Type	Description	Container Status	Dunnage	Total Containers
1	55 GAL DRUM	Emplaced Container	N	2
1	55 GAL DRUM	Dunnage - Emplaced	Y	154
9	85 GALLON DRUM - OVERPACK	Emplaced Container	N	2
				158

Container Status Totals

Container Status	Total Containers
Emplaced Container	4
Dunnage - Emplaced	154
	158

Material Parameter Totals

Material Parameter	Description	Weight(Kg)
6	CELLULOSICS	924411.39
7	RUBBER	59986.13
8	PLASTICS	508225.22

PRD01 - [WWIS Status Display]

Options

06/30/2004

Refresh 197

WIPP Waste Information System

Administration Status Display

10:35 AM

Close

Waste Container Status	LANL	INEEL	RFETS	HANF	SRS	(ccp) SRS	(ccp) ANLE	(ccp) NTS	BNFL	Other	Totals
Data Transfer In Progress:											
Pending Charz Data Submittal:						23					23
Pending Charz Data Approval:			14	30					30		74
On Hold For Charz Data Approval:											
Charz Data Approved:			116						1		117
Pending Cert Data Submittal:	221	1		122		9	1		49		403
Pending Cert Data Approval:											
On Hold For Cert Data Approval:						88		1	14		103
Cert Data Approved:	7	232	318	6		64	35	1	48		711
Pending Shipment Data Approval:											
Shipment Data Approved:			37			12	10		10		69
Shipment Received:			33			3			2		38
Emplaced Underground:	1,528	15,172	32,993	3,148	630	2,715	284	294	44	4	56,812
Waste Container Totals:	1,756	15,405	33,511	3,306	630	2,914	330	296	198	4	69,773

Shipment Status	LANL	INEEL	RFETS	HANF	SRS	(ccp) SRS	(ccp) ANLE	(ccp) NTS	BNFL	Other	Totals
Pending Submittal:			8								8
Pending Approval:											
Approved:						2			5		7
Complete (Ready To Ship):			3			2	1				6
Received:	71	595	1,533	102	15	383	11	7	23		2,740
Shipment Totals:	71	595	1,544	102	15	387	12	7	28		2,761

Record 1/1 <DSL>

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 196	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 196	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 196	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso	[signature]	6/23/04	[initials]
T. Moffatt	[signature]	6-23-04	TM
K. Miller	[signature]	6-23-04	KM
S. Jennings	[signature]	6/23/04	SJ
B. Schrock	[signature]	6-23-04	BSS
J. Iles	[signature]	6-23-04	JI
G. Walton	[signature]	6-23-04	[initials]

REMARKS: DID SWIP THE SPLIT OF THE SWB. K.M. 6-23-04

REVIEW/VALIDATION: Joseph Beallen [signature] 062304

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 196

Container Number	RFSO 3619	RFS03782
Row Number	141	140
Column (Left to Right)	1 (2) 3 4 5 6	1 2 3 4 (5) 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso (Printed Name) _____ (Signature) 6/26/04 (Date)

Reviewer: JS Neatherlin (Printed Name) _____ (Signature) 6/26/04 (Date)

WHE Validation: P Sasso (Printed Name) _____ (Signature) 6/26/04 (Date)

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 198	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PROCEDURE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: #198	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: #198	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso	[signature]	6/23/04	[initials]
D Doughty	[signature]	6-23-04	[initials]
W. Terry	[signature]	6.23.04	[initials]
BSSchrock	BSSchrock	6-23-04	BSS
Adrian Munoz	[signature]	6-24-04	[initials]
D. M'Avoy	[signature]	6-24-04	[initials]
F. Acosta	F. A[signature]	6-24-04	FA

REMARKS: Swips Taken during SWB split

REVIEW/VALIDATION: F. Acosta / F. A[signature] / 6-24-04

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 198

Container Number	RFS03563	RFS0 ~~38~~ 3586 6/26/04
Row Number	140	140
Column (Left to Right)	(1) 2 3 4 5 6	1 2 (3) 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Reviewer: JS Heathcoln / [signature] / 6/26/04
Printed Name / Signature / Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040285 OCA Body Serial No.: 183	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 183	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 183	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT JJ
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT JJ
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT JJ
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT JJ
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT JJ
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A JJ
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A JJ
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH CB
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A CB
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Lasso		6/23/04	
A. Alanzo		6-23-04	AA
J. Garza		06.23.04	JG
B. Schnock	B. Schnock	6-23-04	BS
S. Jennings		6/23/04	SJ
J. Niles		6-23-04	JN
G. Walton		6-23-04	

REMARKS: SURFACE OF ~~LOWER~~ UPPER SWB SMEARED WHEN INSERTING SLIPSHEET. JG 06-23-04 06-23-04.

REVIEW/VALIDATION: F. Acosta | | 6-23-04

WHE (Print Name) | Signature | Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 183

Container Number	RF503508	RF501296
Row Number	141	141
Column (Left to Right)	1 2 3 4 5 (6)	1 2 3 4 5 (6)
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso [signature] 6/26/04
Printed Name Signature Date

Reviewer: JS Neatherlin [signature] 6/26/04
Printed Name Signature Date

WHE Validation: P Sasso [signature] 6/26/04
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040286 OCA Body Serial No.: 126	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 126	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 126	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH CB
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A CB
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso		6/29/04	
F. Acosta	F. A	6-29-04	FA
J. Jiron	J. J	6-29-04	JJ
D Carrera		6-29-04	DC
G Walton		6-29-04	GW
F. Beekman	F. Beek	6-29-04	FB

REMARKS:

REVIEW/VALIDATION: P. Sasso / [signature] / 6/29/04
WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 126

INFORMATION ONLY

Container Number	RFS03768	RFS03816
Row Number	142	142
Column (Left to Right)	1 2 3 4 (5) 6	1 2 3 4 (5) 6
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso [signature] 6/26/04
Printed Name Signature Date

Reviewer: D Dwight [signature] 6-26-04
Printed Name Signature Date

WHE Validation: P Sasso [signature] 6/26/04
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040286 OCA Body Serial No.: 136	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: #136	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: #136	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH CB
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A CB
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso	[signature]	6/29/04	[initials]
F. Acosta	F. Acosta	6-29-04	FA
RM Vasnuzuk	RM Vasnuzuk	6-29-04	RM
Danny Wilkins	[signature]	6-29-04	DW
F. Beekman	F. Beekman	6-29-04	FB

REMARKS:

REVIEW/VALIDATION: P. Sasso [signature] 6/29/04

WHE (Print Name) Signature Date

INFORMATION ONLY

Working Copy

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 136

Container Number	RFS03774	RFS03952
Row Number	142	142
Column (Left to Right)	1 2 (3) 4 5 6	1 2 (3) 4 5 6
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso / [signature] / 6/26/04
Printed Name Signature Date

Reviewer: JS Neatherlin / JS Neatherlin / 6/26/04
Printed Name Signature Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040286 OCA Body Serial No.: 190	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 190	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 190	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
P. Sasso		6/29/04	
F. Acosta	F. Acosta	6-29-04	FA
D. DOUGHTY	K. Doughty	6-29-04	KAD
SLACK	Slack	6-29-04	
F. Beckman	F. Beckman	6-29-04	FB
G. Wa Hon		6-29-04	

REMARKS:

REVIEW/VALIDATION: P. Sasso (WHE (Print Name)) | Signature | 6/29/04 (Date)

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 190

INFORMATION ONLY

Container Number	RF503832	RF503827
Row Number	141	142
Column (Left to Right)	1 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle Bottom	Top Middle Bottom
Disposal Room	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Reviewer: JS Neatherlin / [signature] / 6/26/04
Printed Name / Signature / Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: 5R040134 OCA Body Serial No.: 207	WHE
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 207	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 207	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH BSS
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH BSS

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Acosta	6-26-04	FA
K. Miller	[signature]	6-26-04	[initials]
M. Ingram	[signature]	6-26-04	[initials]
G. Walton	[signature]	6/26/04	[initials]
F. Beckman	[signature]	6-26-04	FB
P. Sasso	[signature]	6/26/04	[initials]
J. Jiron	[signature]	6-26-04	[initials]

REMARKS:

REVIEW/VALIDATION: F. Acosta / F. Acosta / 6-26-04

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 207

Container Number	SRTP000976	
Row Number	138	
Column (Left to Right)	(1) 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top (Middle) Bottom TDOP	Top Middle Bottom N/A
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6-25-04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: BSSchrock (Printed Name) BSSchrock (Signature) 6-25-04 (Date)

Reviewer: R Garner (Printed Name) [signature] (Signature) 6/25/04 (Date)

WHE Validation: BSSchrock (Printed Name) BSSchrock (Signature) 6-25-04 (Date)

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: SR040134 OCA Body Serial No.: 201	WHE
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH A.A.
2.2	WHB is configured for waste handling mode.	WH A.A.
2.3.1	OCA lid serial number: 201	WH A.A.
2.3.2	OCA lid and body serial numbers match.	WH A.A.
2.4.1	ICV lid serial number: 201	WH AA
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH AA
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT ALC
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT ALC
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A AA
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT ALC
2.5.14	Payload inspected for damage.	WH AA
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH AA
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A AA
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT ALC
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT ALC
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A ALC AA ALC before
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A AA
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	ALC before RCT or N/A BS
2.5.40	Shipment arrival date entered into WWIS.	WHE
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH BSS
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH BSS

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Acosta	6-24-04	FA
Kyle Darrah	Kyle Darrah	6-26-04	KD
Jacob Jiran	[illegible]	6-26-04	JJ
G Walton	[illegible]	6-26-04	[illegible]
F. Beckman	F. Beckman	6-26-04	FB
P Sasso	[illegible]	6/26/04	[illegible]

REMARKS:

REVIEW/VALIDATION: F. Acosta, F. Acosta, 6-26-04

WHE (Print Name) Signature Date

INFORMATION ONLY

Working Copy

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 201

Container Number	SRTP000975	
Row Number	138	
Column (Left to Right)	1 2 (3) 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top TOP Middle Bottom	Top N/A Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6-25-04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: BSSchrock (Printed Name) BSSchrock (Signature) 6-25-04 (Date)

Reviewer: R. Garner (Printed Name) [signature] (Signature) 6/25/04 (Date)

WHE Validation: BSSchrock (Printed Name) BSSchrock (Signature) 6-25-04 (Date)

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: SR040134 OCA Body Serial No.: 180	WHE
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 180	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 180	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT KB
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT KB
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT KB
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT KB
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT KB
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A KB
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A KB
2.5.40	Shipment arrival date entered into WWIS.	WHE 06-26-04
3.1	WHB and U/G are configured for waste handling mode.	WH TK
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	TA WH or N/A 06-26-04
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Acosta	6-26-04	FA
R Groves	R. Groves	6-26-04	RG
T. Holler	T. Holler	6-26-04	TH
P Sarso	[illegible]	6/26/04	[illegible]
Jason Williams	Jason Williams	6-26-04	JW

REMARKS:

REVIEW/VALIDATION: [illegible] / [illegible] / 6/26/04

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 180

Container Number	SRTP00974	
Row Number	142	
Column (Left to Right)	(1) 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle TDOP (Bottom)	Top Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/26/04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso | [signature] | 6/26/04
Printed Name | Signature | Date

Reviewer: D. Seifts | [signature] | 6-26-04
Printed Name | Signature | Date

WHE Validation: P Sasso | [signature] | 6/26/04
Printed Name | Signature | Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: SR040135 OCA Body Serial No.: 160	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 160	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 160	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
M. BRYANT	[illegible]	06-25-04	[illegible]
M. Ingram	[illegible]	06-25-04	[illegible]
K. Bidenstaff	K. [illegible]	6-25-04	KB
T. LORD	Todd Lord	6-25-04	T.L.
C Bowden	[illegible]	6-26-04	CB
F. Beckman	F. Beckman	6-26-04	FB
D. Seifts	D. Seifts	6-26-04	DS
F. Acosta	F. [illegible]	6-26-04	FA

REMARKS:

REVIEW/VALIDATION: P. Sasso / [illegible] / 6/29/04

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 160

Container Number	SRTP00977	
Row Number	140	
Column (Left to Right)	(1) 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle TDOP (Bottom)	Top Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/26/04	6/26/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A due TO TDOP.

Performer: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Reviewer: JJ Neatherlin / [signature] / 6/26/04
Printed Name / Signature / Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIALS
	PREREQUISITE ACTIONS	
1.0	Shipment No.: SR040135 OCA Body Serial No.: 163	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH KD
2.2	WHB is configured for waste handling mode.	WH KD
2.3.1	OCA lid serial number: 163	WH KD
2.3.2	OCA lid and body serial numbers match.	WH KD
2.4.1	ICV lid serial number: 163	WH KD
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH KD
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT JJ
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT JJ
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A KD
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT JJ
2.5.14	Payload inspected for damage.	WH KD
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH KD
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A KD
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT JJ
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT JJ
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A JJ
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A KD
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A JJ
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH [illegible]
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A [illegible]
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH [illegible]
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A 7B
5.2	Completed columns have necessary backfill emplaced.	WH [illegible]

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
M. BRYANT	[illegible]	06-25-04	[illegible]
A. ALANZO	[illegible]	06-25-04	AA
A. Cooper	[illegible]	6-25-04	[illegible]
BSSchrock	BSSchrock	6-25-04	BSS
C. Juarez	C. Juarez	6-25-04	[illegible]

REMARKS:

REVIEW/VALIDATION: BSSchrock BSSchrock 6-25-04
WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 163

Container Number	SRTP00978	
Row Number	141	
Column (Left to Right)	1 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle TDOP Bottom	Top Middle Bottom N/A
Disposal Room	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/26/04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A due to TDOP

Performer: P Sasso / [signature] / 6/26/04
Printed Name Signature Date

Reviewer: DDOUGHT4 / [signature] / 6-26-04
Printed Name Signature Date

WHE Validation: P Sasso / [signature] / 6/26/04
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: SR040135 OCA Body Serial No.: 168	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 168	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 168	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
M. BRYANT	[illegible]	06-25-04	[illegible]
A RODRIGUEZ	[illegible]	6-25-04	[illegible]
W. Terry	[illegible]	6-25-04	[illegible]
BSSchrock	BSSchrock	6-25-04	BSS
C Juarez	C. Juarez	6-25-04	[illegible]

REMARKS:

REVIEW/VALIDATION: BSSchrock, BSSchrock, 6-25-04
WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 168

Container Number	SRTP00979	
Row Number	121	
Column (Left to Right)	1 2 3 (4) 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle TDOP (Bottom)	Top Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/26/09	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A due to TDOP

Performer: P Sasso | 6/26/09
Printed Name Signature Date

Reviewer: D DOUGHTY | 6-26-09
Printed Name Signature Date

WHE Validation: P Sasso | 6/26/09
Printed Name Signature Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040288 OCA Body Serial No.: 175	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH [illegible]
2.2	WHB is configured for waste handling mode.	WH [illegible]
2.3.1	OCA lid serial number: 175	WH [illegible]
2.3.2	OCA lid and body serial numbers match.	WH [illegible]
2.4.1	ICV lid serial number: 175	WH [illegible]
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH [illegible]
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT [illegible]
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT [illegible]
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A [illegible]
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT [illegible]
2.5.14	Payload inspected for damage.	WH [illegible]
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH [illegible]
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A [illegible]
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT [illegible]
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT [illegible]
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A [illegible]
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A [illegible]
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A [illegible]
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH [illegible]
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A [illegible]
5.2	Completed columns have necessary backfill emplaced.	WH [illegible]

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Ac[illegible]	6-26-04	FA
J. Holler	[illegible]	6-26-04	[illegible]
R Groves	[illegible]	6-26-04	[illegible]
F. Beckmer	[illegible]	6-26-04	FB
P Sasso	[illegible]	6/26/04	[illegible]

REMARKS: Swipes were taken between SUB's on newly exposed Area. PG

REVIEW/VALIDATION: P Sasso | [illegible] | 6/26/04

WHE (Print Name) | Signature | Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 175

INFORMATION ONLY

Container Number	RFDC5796	RFD96412
Row Number	143	143
Column (Left to Right)	1 2 3 (4) 5 6	1 2 3 4 5 (6)
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6-29-04	6-29-04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: G Walton | [signature] | 6-29-04
Printed Name | Signature | Date

Reviewer: P Sasso | [signature] | 6/29/04
Printed Name | Signature | Date

WHE Validation: P Sasso | [signature] | 6/29/04
Printed Name | Signature | Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040288 OCA Body Serial No.: 204	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH RZ
2.2	WHB is configured for waste handling mode.	WH RZ
2.3.1	OCA lid serial number: 204	WH RZ
2.3.2	OCA lid and body serial numbers match.	WH RZ
2.4.1	ICV lid serial number: 204	WH RZ
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH RZ
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT DU
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT DU
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A RZ
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT DU
2.5.14	Payload inspected for damage.	WH RZ
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH RZ
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A RZ
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT DU
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT DU
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A DU
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A RZ
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A DU
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH [illegible]
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A FB
5.2	Completed columns have necessary backfill emplaced.	WH [illegible]

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Act	6-26-04	FA
Doug Pierce	Doug Pierce	06/26/04	DP
SLACY	Slacy	6-26-04	[illegible]
C Bowden	C Bowden	6-26-04	CB
F. Beckner	F Beck	6-26-04	FB
P Sasso	[illegible]	6/26/04	[illegible]

REMARKS:

REVIEW/VALIDATION: P Sasso | [illegible] | 6/26/04

WHE (Print Name) | Signature | Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 6/29/04 ~~465~~ 204

Container Number	RFD 22138	
Row Number	142	
Column (Left to Right)	1 2 3 4 (5) 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	Top Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6/29/04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso | [signature] | 6/29/04
Printed Name | Signature | Date

Reviewer: G Walton | [signature] | 6/29/04
Printed Name | Signature | Date

WHE Validation: P Sasso | [signature] | 6/29/04
Printed Name | Signature | Date

Attachment 1 - CH Waste Processing Data Sheet INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040288 OCA Body Serial No.: 166	WHE 7A
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE 7A
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A 7A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A 7A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH DW
2.2	WHB is configured for waste handling mode.	WH DW
2.3.1	OCA lid serial number: 166	WH DW
2.3.2	OCA lid and body serial numbers match.	WH DW
2.4.1	ICV lid serial number: 166	WH DW
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH DW
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT JJ
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT JJ
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A X
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT JJ
2.5.14	Payload inspected for damage.	WH DW
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH DW
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A DW
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT JJ
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT JJ
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A JJ
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A DW
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A JJ
2.5.40	Shipment arrival date entered into WWIS.	WHE 7A
3.1	WHB and U/G are configured for waste handling mode.	WH 7A
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A 7A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH DW
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A FB
5.2	Completed columns have necessary backfill emplaced.	WH X

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Ac	6-26-04	FA
M. Ingram	[illegible]	6-26-04	[illegible]
L. Miller	[illegible]	6-26-04	[illegible]
[illegible]	[illegible]	6-26-04	[illegible]
F. Beckner	[illegible]	6-26-04	FB
P. Sasso	[illegible]	6/26/04	[illegible]

REMARKS: TOOK SWIPES ON SWB SPLIT [illegible] 6-26-04

REVIEW/VALIDATION: P. Sasso | [illegible] | 6/27/04
WHE (Print Name) | Signature | Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet 6/29/04

OCA Body Serial Number: ~~204~~ 166 *

INFORMATION ONLY

Container Number	RFDB1345	RFDD5624
Row Number	143	143
Column (Left to Right)	1 (2) 3 4 5 6	1 (2) 3 4 5 6
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6/29/04	6/29/04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: P Sasso / [signature] / 6/29/04
Printed Name / Signature / Date

Reviewer: G Walton / [signature] / 6/29/04
Printed Name / Signature / Date

WHE Validation: P Sasso / [signature] / 6/29/04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040276 OCA Body Serial No.: 194	WHE
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH AA
2.2	WHB is configured for waste handling mode.	WH AA
2.3.1	OCA lid serial number: 194	WH AA
2.3.2	OCA lid and body serial numbers match.	WH AA
2.4.1	ICV lid serial number: 194	WH AA
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH AA
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT JA
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT JA
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A AA
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT JA
2.5.14	Payload inspected for damage.	WH AA
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH AA
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A AA
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT JA
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT JA
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A JA
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A AA
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A JA
2.5.40	Shipment arrival date entered into WWIS.	WHE SS
3.1	WHB and U/G are configured for waste handling mode.	WH SS
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A SS
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Ac	6-26-04	FA
J. Dixon	[illegible]	6-26-04	JJ
W. Terry	W. [illegible]	6-26-04	[illegible]
C Bowden	C Bowden	6-26-04	CB
P Sasso	[illegible]	6/26/04	[illegible]
Dan Torres	[illegible]	6-26-04	DT

REMARKS:

REVIEW/VALIDATION: F. Acosta , F. Ac , 6-26-04

WHE (Print Name) Signature Date

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet **INFORMATION ONLY**

OCA Body Serial Number: 194

Container Number	RFS03646	RFS03510
Row Number	134	134
Column (Left to Right)	1 2 3 4 (5) 6	1 2 (3) 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	(Top) Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6-23-04	6-23-04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: G Walton / [signature] / 6-23-04
Printed Name / Signature / Date

Reviewer: Joseph Bealler / [signature] / 062304
Printed Name / Signature / Date

WHE Validation: F. Acosta / [signature] / 6-23-04
Printed Name / Signature / Date

Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040276 OCA Body Serial No.: 137	
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	WHE or N/A
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 137	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 137	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	WH
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	RCT
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	WHE or N/A BSS
2.5.14	Payload inspected for damage.	RCT
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	WH or N/A
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	RCT or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	WH or N/A
2.5.40	Shipment arrival date entered into WWIS.	RCT or N/A
3.1	WHB and U/G are configured for waste handling mode.	WHE BSS
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH or N/A
4.12	Activity on smears of payload pallet is below acceptable limits.	WH 7 A
5.2	Completed columns have necessary backfill emplaced.	RCT or N/A
		WH 7 A

INFORMATION ONLY

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Acosta	6-26-04	FA
Doug Pierce	Doug Pierce	06/26/04	DP
SLACY	Slacy	6-26-04	[illegible]
P. Sasso	[illegible]	6/26/04	[illegible]
Jason Williams	Jason Williams	6-26-04	JW

REMARKS: Swipes taken on Top of Bottom SWB, JW 6-26-04

REVIEW/VALIDATION: P. Sasso / [illegible] / 6/26/04

WHE (Print Name) Signature Date

INFORMATION ONLY

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 137

Container Number	RFS03075	RFS03640
Row Number	136	136
Column (Left to Right)	1 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	Top Middle Bottom	Top Middle Bottom
Disposal Room	1 2 3 4 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	6-24-04	6-24-04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: F. Acosta / I. A / 6-24-04
Printed Name / Signature / Date

Reviewer: S. Jennings / [signature] / 6/28/04
Printed Name / Signature / Date

WHE Validation: F. Acosta / I. A / 6-24-04
Printed Name / Signature / Date

INFORMATION ONLY

Attachment 1 - CH Waste Processing Data Sheet

Step No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040274 OCA Body Serial No.: 127	WHE
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 127	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 127	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

Attachment 1 - CH Waste Processing Data Sheet

Performers, enter printed name, signature, date, and initials:

Printed Name	Signature	Date	Initials
F. Acosta	F. Acosta	6-26-04	FA
M. Ingram	[illegible]	6-26-04	[illegible]
[illegible]	[illegible]	6-26-04	[illegible]
[illegible]	[illegible]	6-26-04	CB
[illegible]	[illegible]	6-26-04	[illegible]
Dan Sowers	[illegible]	6-26-04	DS

REMARKS: SWIPES WERE TAKEN AT THE SPLIT. K.M. 6-26-04

REVIEW/VALIDATION: F. Acosta (WHE (Print Name)) | F. Acosta (Signature) | 6-26-04 (Date)

INFORMATION ONLY

Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 127

Container Number	RF501107	RF501004
Row Number	134	134
Column (Left to Right)	1 2 (3) 4 5 6	1 2 (3) 4 5 6
Place in the Stack (Circle Location)	Top (Middle) Bottom	Top Middle (Bottom)
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 (4) 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 (2) 3 4 5 6 7 8
Disposal Date	6-23-04	6-23-04

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: _____

Performer: G Walton / G Walton / 6-23-04
Printed Name / Signature / Date

Reviewer: Joseph Beaver / [signature] / 062304
Printed Name / Signature / Date

WHE Validation: Joseph Beaver / [signature] / 062304
Printed Name / Signature / Date

FACSIMILE TRANSMITTAL ROUTING SHEET

TELEFAX NUMBER (505) 234-6052

US Department of Energy
Carlsbad Field Office

Date: 7-15-04

Number of pages including cover sheet: 7

To: Nick Stone	From: G. Basabilvazo
Location:	Location: DOE/CBFO/OSO
Phone: 214-665-7226	Phone: 505-234-8103
Fax phone: 214-665-7263	Fax Phone: 505-234-6052
CC:	

REMARKS: ☐ Urgent ☒ For your review ☐ Reply ASAP ☐ Please comment

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Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	Description	Initial
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040270 OCA Body Serial No.: 179	WHE BSS
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE BSS
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A BSS
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A BSS
	SUPERVISOR	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 179	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 179	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE BSS
3.1	WHB and U/G are configured for waste handling mode.	WH BSS
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A BSS
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

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Attachment 4 - Waste Emplacement Report Data Sheet

OCA Body Serial Number: 179

INFORMATION ONLY

Container Number	RFDC 8709	
Row Number	130	
Column (Left to Right)	1 (2) 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	Top Middle Bottom N/A
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	06-19-04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A - Due to Dunnage

Performer: M. BRYANT / [signature] / 06-19-04
Printed Name / Signature / Date

Reviewer: R. Garner / [signature] / 6/19/04
Printed Name / Signature / Date

WHE Validation: M. BRYANT / [signature] / 06-19-04
Printed Name / Signature / Date

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Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

SEQ No.	DESCRIPTION	INITIAL
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040270 OCA Body Serial No.: 152	WHE BSS
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE BSS
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A BSS
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A BSS
	PERFORMANCE	
2.1	Adequate WHO staff available.	WH [illegible]
2.2	WHB is configured for waste handling mode.	WH [illegible]
2.3.1	OCA lid serial number: 152	WH [illegible]
2.3.2	OCA lid and body serial numbers match.	WH [illegible]
2.4.1	ICV lid serial number: 152	WH [illegible]
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH [illegible]
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT [illegible]
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT [illegible]
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A [illegible]
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT [illegible]
2.5.14	Payload inspected for damage.	WH [illegible]
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH [illegible]
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A [illegible]
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT [illegible]
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT [illegible]
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A [illegible]
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A [illegible]
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A [illegible]
2.5.40	Shipment arrival date entered into WWIS.	WHE [illegible]
3.1	WHB and U/G are configured for waste handling mode.	WH [illegible]
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A [illegible]
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH [illegible]
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A [illegible]
5.2	Completed columns have necessary backfill emplaced.	WH [illegible]

Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 152

Container Number	RFDD 8158	
Row Number	130	
Column (Left to Right)	1 2 3 4 5 (6)	1 2 3 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	Top Middle Bottom N/A
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	06-19-04	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A - Due to Dunnage.

Performer: M. BRYANT / [signature] / 06-19-04
Printed Name / Signature / Date

Reviewer: C Northcutt / [signature] / 6-19-04
Printed Name / Signature / Date

WHE Validation: B Schrock / B Schrock / 6-19-04
Printed Name / Signature / Date

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Attachment 1 - CH Waste Processing Data Sheet

INFORMATION ONLY

Step No.	Description	Initials
	PREREQUISITE ACTIONS	
1.0	Shipment No.: RF040270 OCA Body Serial No.: 130	WHE BSS
2.0	Shipping documents validated, CH packages inspected and released for unloading.	WHE BSS
8.0 [A]	Oxygen monitor serial number and due date verified.	WHE or N/A BSS
8.0 [B]	Oxygen monitor daily calibration and sample pump operational check is complete.	WHE or N/A BSS
	SHIPMENT ORIGINATION	
2.1	Adequate WHO staff available.	WH
2.2	WHB is configured for waste handling mode.	WH
2.3.1	OCA lid serial number: 130	WH
2.3.2	OCA lid and body serial numbers match.	WH
2.4.1	ICV lid serial number: 130	WH
2.4.2	ICV lid, OCA lid, and OCA body serial numbers match.	WH
2.4.25	Activity on smears of OCA lid interior, ICV lid exterior, RAF assembly quick connect, and RAF is below acceptable limits.	RCT
2.4.34	Activity on smears of ICV lid interior and top of payload is below acceptable limits.	RCT
2.4.35	Oxygen concentration is > 20 percent in the worker breathing zone.	WHE or N/A
2.5.9	Activity on smears of guide tubes, SWB or TDOP connection devices, and SWB ratchet straps is below acceptable limits.	RCT
2.5.14	Payload inspected for damage.	WH
2.5.24	Payload container numbers concur/do not concur with WWIS activity.	WH
2.5.25	Verified waste shipment container does contain PCBs (warning label applied), or container does not contain PCBs (NA).	WH or N/A
2.5.27	Activity on smears of bottom of payload and ICV interior is below acceptable limits.	RCT
2.5.30	Activity on smears of upper and lower areas of payload assembly is below acceptable limits.	RCT
2.5.32	Activity on smears of newly exposed area of payload is below acceptable limits.	RCT or N/A
2.5.33	Completed Attachment 3. Waste stacked no more than two drums or boxes high on facility pallets.	WH or N/A
2.5.34	Activity on smears of newly exposed area of payload pallet/payload is below acceptable limits.	RCT or N/A
2.5.40	Shipment arrival date entered into WWIS.	WHE
3.1	WHB and U/G are configured for waste handling mode.	WH
3.2	Payload assemblies inspected for damage (if stored > 1 shift).	WH or N/A
4.10	Completed Attachment 4. Waste stacked no more than three drums or boxes high in the disposal area.	WH
4.12	Activity on smears of payload pallet is below acceptable limits.	RCT or N/A
5.2	Completed columns have necessary backfill emplaced.	WH

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Attachment 4 - Waste Emplacement Report Data Sheet

INFORMATION ONLY

OCA Body Serial Number: 130

Container Number	RFD 96404	
Row Number	131	
Column (Left to Right)	(1) 2 3 4 5 6	1 2 3 4 5 6
Place in the Stack (Circle Location)	(Top) Middle Bottom	Top N/A Middle Bottom
Disposal Room	1 2 3 (4) 5 6 7	1 2 3 4 5 6 7
Disposal Panel	1 (2) 3 4 5 6 7 8	1 2 3 4 5 6 7 8
Disposal Date	062204	

NOTE: Criticality Safety Administrative Control: Waste is stacked no greater than three drums or boxes high in the disposal area.

Remarks: N/A Due to Damage

Performer: Joseph Beallor / [signature] / 062204
Printed Name / Signature / Date

Reviewer: J. Hollen / [signature] / 6-22-04
Printed Name / Signature / Date

WHE Validation: Joseph Beallor / [signature] / 062204
Printed Name / Signature / Date