4. WAG 3, IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER

WAG 3 is subject to the *Final Record of Decision–Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13* (DOE-ID 1999). Currently, no CERCLA O&M activities are defined at WAG 3. Tank farm inspections are required but are currently reported in a separate report. As remedial activities evolve at WAG 3, O&M requirements will be reevaluated.

5. WAG 4, CENTRAL FACILITIES AREA

On August 17, 2005, O&M sites at WAG 4 were inspected: CFA-01, CFA-02, CFA-03, and CFA-08. These sites are inspected annually for erosion, animal intrusion, subsidence, and the condition of the soil covers and vegetative cover. Additionally, CFA-08 is inspected for the condition of the monuments, and the three landfill sites are inspected for the condition of monitoring equipment and rock armor as applicable. The 2005 O&M inspection showed no evidence of subsidence, erosion, or intrusion. Vegetation is in good condition on the Central Facilities Area (CFA) landfills, and the subsidence area reported in 2004 at CFA Landfill III has been repaired.

Refer to Figure 11 for the 2005 O&M inspection log for WAG 4. Refer to Figures 12 through 15 for photographs of the CFA landfill area. Refer to Figures 16 and 17 for photographs of the subsidence area before and after it was repaired.

WAG 4 O&M Inspection Form

INSPECTION ACTIVITY AT LANDFILLS	CFA-01	CFA-02	CFA-03	COMMENTS
VEGETATIVE COVER				
1. Inspect for non-growth/sparse growth/weeds.	none	none	none	
SOIL COVER				
1. Inspect for erosion areas/animal intrusion.	none	none	none	
2. Inspect for subsidence areas or slope movement.	none	none	none	
3. Conduct topographical survey.	none	none	none	Visual except during 5-year review.
TIME DOMAIN REFLECTOMETER (TDR)				
1. Inspect cabinet interior for unusual dirt or debris.	N/A	done	done	
2. Inspect exterior and interior of cabinet for deterioration and presence of moisture or water.	N/A	done	done	
3. Inspect solar collector barrel for condition/function.	N/A	done	done	
4. Inspect and verify presence of guard post and/or impingement posts.	N/A	present	present	
SOIL GAS WELLS and NEUTRON PROBE ACCESS TUBES (NPATs)				
1. Inspect for integrity/cleanliness.	N/A	goof	goof	
3. Inspect, rust on cover, well casing damage.	N/A	none	none	
4. Inspect guard posts around well cover.	N/A	present	present	
ROCK ARMOR				
1. Inspect to verify no more than 12 inches of subsidence of rock armor.	N/A	none	N/A	
2. Conduct topographical survey.	N/A	N/A	N/A	During 5-year review.

Figure 11. The 2005 O&M inspection log for WAG 4.

Figure 12. CFA Landfill I. (P-2660-14.JPG)

Figure 13. CFA Landfill II. (P-2660-13.JPG)

Figure 14. Riprap at CFA Landfill II. (P-2660-18.JPG)

Figure 15. CFA Landfill III. (P-2660-15.JPG)

Figure 16. Subsidence in CFA Landfill III.
(P-1216-06.JPG)

Figure 17. CFA Landfill III repair. (P-2660-16.JPG)

6. WAG 5, AUXILIARY REACTOR AREA/POWER BURST FACILITY/STATIONARY LOW-POWER REACTOR NO. 1

The annual WAG 5 O&M inspection was conducted on August 17, 2005. No deficiencies were observed. Growth of the recently planted vegetation on the areas remediated in 2004 was good. The radiological survey indicated conditions have not changed from 2004.

Refer to Figure 18 for the site inspection log. Refer to Figure 19 for the 2005 radiological survey report for the Stationary Low-Power Reactor No. 1 (SL-1), i.e., the ARA-06 site. Refer to Figures 20 and 21 for photographs of WAG 5 and the SL-1 burial ground.

WAG 5 O&M Inspection Form

ARA	ARA-23	ARA-25	COMMENTS
1. Inspect for intrusion.	none	none	
2. Inspect for subsidence areas or slope movement.	none	none	
3. Inspect for erosion.	none	none	
4. Inspect vegetative cover when applicable.	good	good	Recent vegetation is growing well due to spring rains.

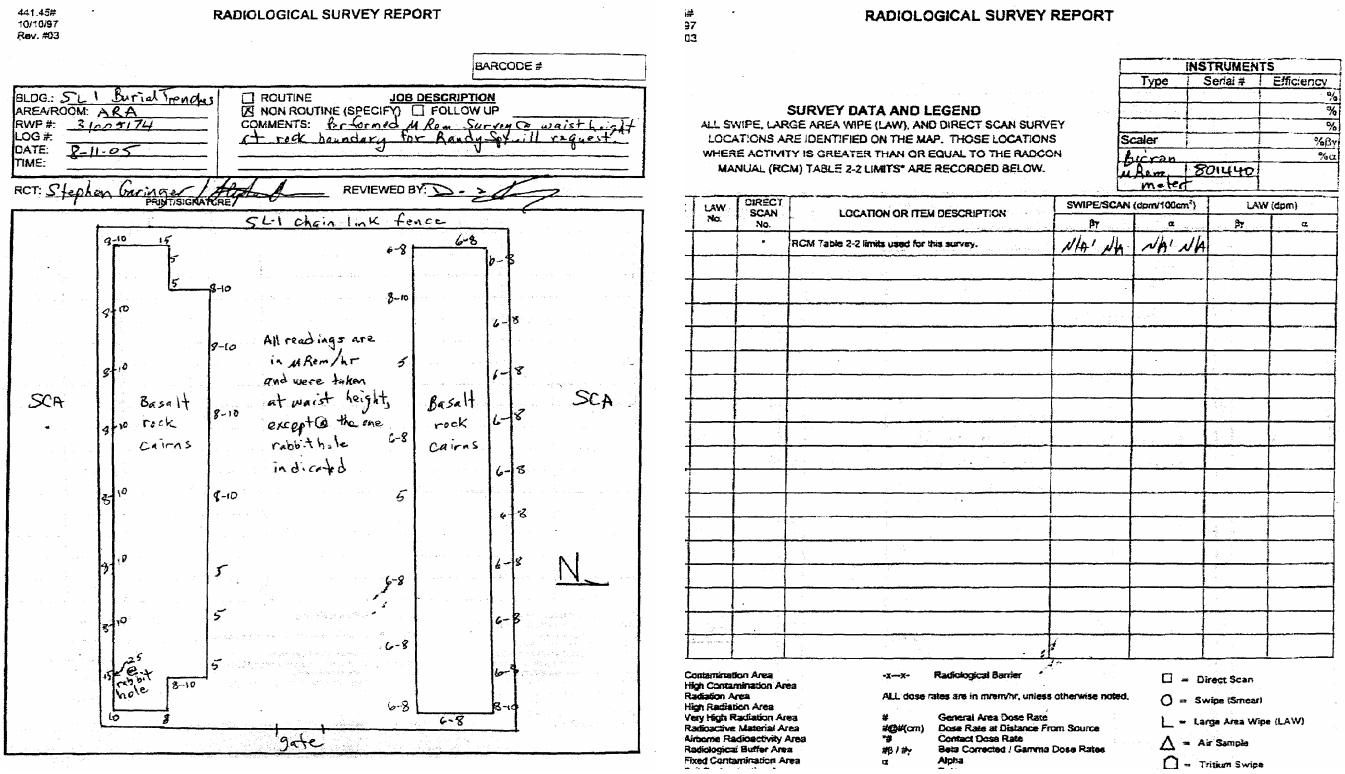
SL-1 Burial Ground	ARA-06	COMMENTS
BIOTIC BARRIER		
1. Inspect for erosion and intrusion	none	
2. Inspect cover for settling and erosion.	none	
RIP RAP BARRIER		
1. Inspect for erosion and intrusion	none	
2. Inspect cover for settling and erosion.	none	
PERIMETER OF RADIOLOGICAL SURVEY		
1. Perform perimeter radiological survey.	done	Performed on August 11, 2005

Comment or notes

There are no O&M inspection activities at PBF. ARA-01, ARA-02, ARA-12 and ARA-16 not longer require inspection.
Results of perimeter radiological survey are consistent with previous years.

Inspector (s) Renee Fitch and Richard Wells Date June 14, 2005

Figure 18. The 2005 O&M inspection log for WAG 5.



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10/10/97
Rev. #03

RADIOLOGICAL SURVEY REPORT

BARCODE #

BLDG.: SL 1 Burial Trenches
AREA/ROOM: ARA
RWP #: 3100174
LOG #:
DATE: 8-11-05
TIME:

☐ ROUTINE
☒ NON ROUTINE (SPECIFY) ☐ FOLLOW UP
JOB DESCRIPTION
COMMENTS: Performed μRem Survey @ waist height at rock boundary for Randy Spill request.

RCT: Stephen Garinger
PRINT/SIGNATURE
REVIEWED BY:

RADIOLOGICAL SURVEY REPORT

SURVEY DATA AND LEGEND
ALL SWIPE, LARGE AREA WIPE (LAW), AND DIRECT SCAN SURVEY LOCATIONS ARE IDENTIFIED ON THE MAP. THOSE LOCATIONS WHERE ACTIVITY IS GREATER THAN OR EQUAL TO THE RADCON MANUAL (RCM) TABLE 2-2 LIMITS* ARE RECORDED BELOW.

INSTRUMENTS		
Type	Serial #	Efficiency
		%
		%
		%
Scaler		%βγ
Bicron μRem meter	801440	%α

LAW No.	DIRECT SCAN No.	LOCATION OR ITEM DESCRIPTION	SWIPE/SCAN (dpm/100cm²) βγ	SWIPE/SCAN (dpm/100cm²) α	LAW (dpm) βγ	LAW (dpm) α
	*	RCM Table 2-2 limits used for this survey.	N/A	N/A	N/A	N/A

Contamination Area
High Contamination Area
Radiation Area
High Radiation Area
Very High Radiation Area
Radioactive Material Area
Airborne Radioactivity Area
Radiological Buffer Area
Fixed Contamination Area

-x—x- Radiological Barrier

ALL dose rates are in mrem/hr, unless otherwise noted.

General Area Dose Rate
#@#(cm) Dose Rate at Distance From Source
*# Contact Dose Rate
#β / #γ Beta Corrected / Gamma Dose Rates
α Alpha

☐ = Direct Scan
○ = Swipe (Smear)
L = Large Area Wipe (LAW)
△ = Air Sample
⌂ = Tritium Swipe

Figure 19. The 2005 radiological survey results for SL-1.

Figure 20. WAG 5 area. (PD040079-130.jpg)

Figure 21. SL-1 monument. (PD040213-01.jpg)

7. WAG 6/10, BOILING WATER REACTOR EXPERIMENT/SITEWIDE CONCERNS

The Boiling Water Reactor Experiment (BORAX) I burial ground, i.e., the BORAX-02 site, was inspected on June 14, 2005. The perimeter radiological survey was performed at BORAX-02 on August 11, 2005. No subsidence or erosion was noted, and the radiological results were consistent with previous years. Refer to Figure 22 for the 2005 site inspection log. Refer to Figure 23 for the results of the radiological survey. Refer to Figure 24 for a photograph of BORAX-02.

WAG 6 O&M Inspection Form

BORAX Burial Ground	BORAX 02	COMMENTS
RIP RAP BARRIER		
1. Inspect for erosion and intrusion	None	
2. Inspect cover for settling and erosion.	None	
PERIMETER OF RADIOLOGICAL SURVEY		
1. Perform perimeter radiological survey.	Done	

Comment or notes.
RadCon performed the survey at this site on August 11, 2005. All results consistent with previous year.
Condition of the fence and monuments was good. No sign of intrusion.

Inspector (s) Renee Fitch and Richard Wells Date June 14, 2005

Figure 22. The 2005 O&M inspection log for WAG 6.

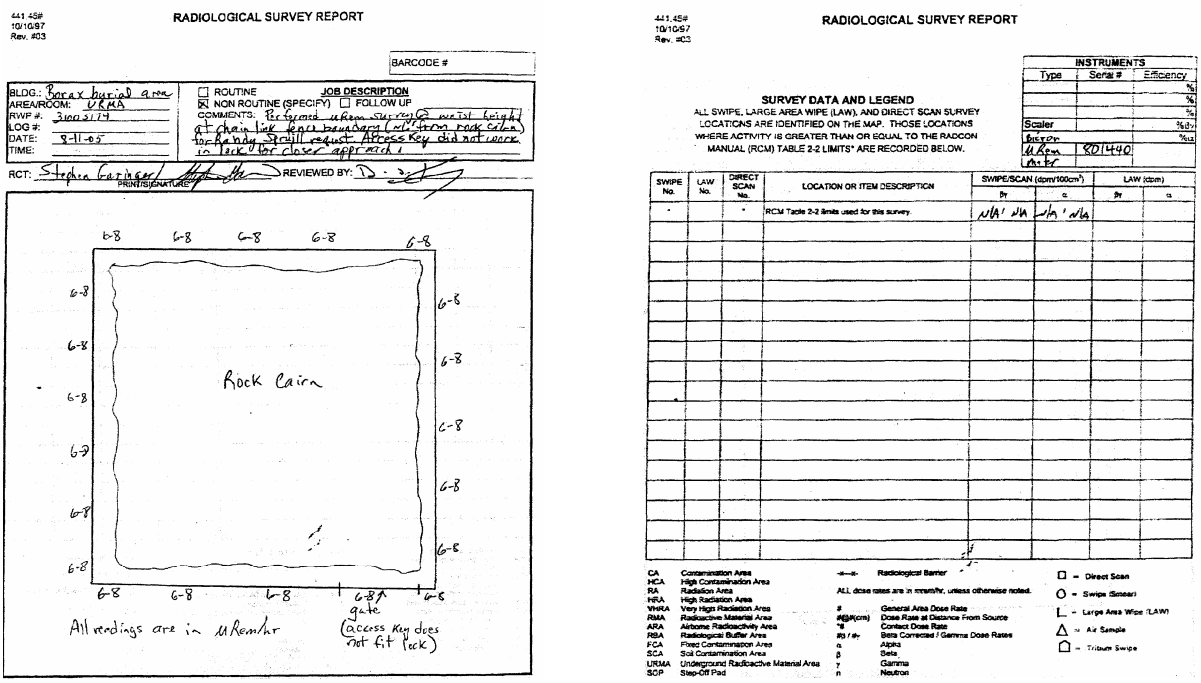

Figure 23. The 2005 radiological survey results for the BORAX-02 burial area.

Figure 24. BORAX-02. P-2612-14.JPG

8. WAG 9, MATERIALS AND FUELS COMPLEX

Currently, two CERCLA sites at the Material and Fuels Complex require O&M reporting. These areas are the industrial waste pond (ANL-01) and the interceptor canal (ANL-09). The ANL-09 site has been further subdivided into the interceptor canal-ditch and the interceptor canal-mound because of the distinct differences in the soil in the ditch and the dredged and stockpiled soil of the mound. These three areas have radiological contamination from Cs-137. The contamination level is below action levels but greater than background levels. All three sites have institutional controls in place; specifically, warning signs are visible around the site perimeters. The interceptor canal-mound and the area above the high-water mark in the industrial waste pond were seeded in the fall of 2004 and are scheduled for

inspection in October 2005. The interceptor canal-canal was not revegetated, because it continues to be used to convey rain and snowmelt from a 14-mi^2 area south of the Materials and Fuels Complex to the industrial waste pond. A report of this inspection will be included in the 2006 O&M report.

Additionally, the sanitary sewage lagoon (ANL-04) is a CERCLA site that presents an ecological risk due to mercury levels in the sludge. The remediation of this site has been transferred to OU 10-08. Final remediation will be conducted after the useful life of the sanitary sewage lagoons, which is anticipated to be 2033. If the OU 10-08 baseline risk assessment shows that the human and ecological risks are acceptable, remediation might not be required. Currently, the risk from the mercury is mitigated by ensuring that the liquid level in the lagoon covers the sludge. This eliminates the exposure pathway to the small burrowing mammals. In 2005, the liquid level was inspected by the Argonne National Laboratory-West environmental monitoring staff during collection of the liquid effluent samples. The liquid level at ANL-04 was found to be protective in 2005.

9. REFERENCES

42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation and Liability Act of 1980," *United States Code*, December 11, 1980.

DOE-ID, 1996, *Idaho National Engineering and Environmental Laboratory Comprehensive Facility and Land Use Plan*, DOE/ID-10514, Rev. 0, U.S. Department of Energy Idaho Operations Office, March 1996. (NOTE: This version contains official use only information. It is available internally at http://meris.inel.gov. An unclassified version, DOE/ID-10514-97, is available at http://cflup.inel.gov for external access.)

DOE-ID, 1999, *Final Record of Decision–Idaho Nuclear Technology and Engineering Center, Operable Unit 3-13*, DOE/ID-10660, Rev. 0, U.S. Department of Energy Idaho Operations Office, October 1999.

DOE-ID, 2004a, *INEEL Sitewide Operations and Maintenance Plan for CERCLA Response Actions*, DOE/NE-ID-11159, Rev. 0, U.S. Department of Energy Idaho Operations Office, September 2004.

DOE-ID, 2004b, *INEEL Sitewide Institutional Controls Plan*, DOE/ID-11042, Rev. 1, U.S. Department of Energy Idaho Operations Office, June 2004.