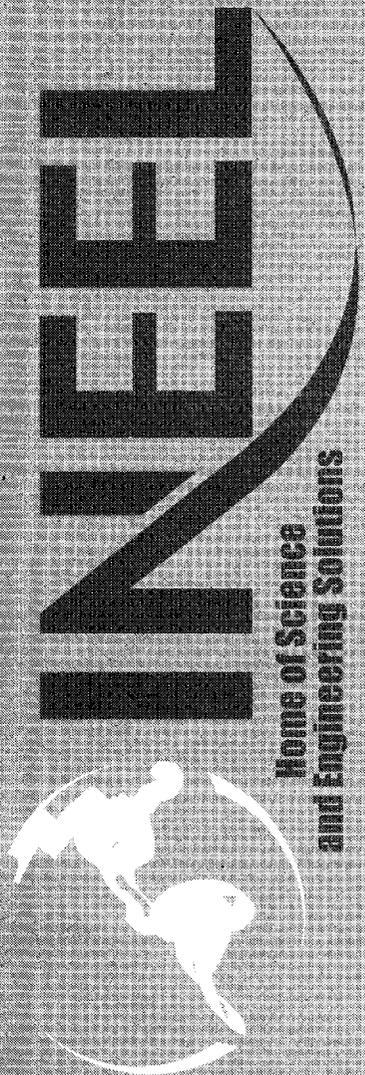


***FY 2001 Institutional Control
Inspection Report for the Test
Reactor Area, Operable
Unit 2-13***

September 2001



*Idaho National Engineering and Environmental Laboratory
Bechtel BWXT Idaho, LLC*

FY 2001 Institutional Control Inspection Report for the Test Reactor Area, Operable Unit 2-13

September 2001

**Idaho National Engineering and Environmental Laboratory
Environmental Restoration Program
Idaho Falls, Idaho 83415**

**Prepared for the
U.S. Department of Energy
Assistant Secretary for Environmental Management
Under DOE Idaho Operations Office
Contract DE-AC07-99ID13727**

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Approved by



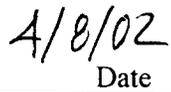
Douglas H. Preussner
WAG 2 Project Engineer



Date



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Date

ABSTRACT

This Institutional Control Inspection Report provides and documents the inspection of the Record of Decision-mandated institutional controls for sites that comprise Waste Area Group 2, Operable Unit 2-13 at the Idaho National Engineering and Environmental Laboratory. The Test Reactor Area is designated as Waste Area Group 2. Inspection of Institutional Controls is required by the United States Environmental Protection Agency Region 10 and the State of Idaho Department of Environmental Quality to be conducted and reported within six months of approval of the Explanation of Significant Differences and annually thereafter. As required by the Explanation of Significant Differences, this report fulfills the annual inspection requirement.

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ACRONYMS

ATR	Advanced Test Reactor
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFLUP	Comprehensive Facility and Land Use Plan
CFR	Code of Federal Regulations
DOE-ID	Department of Energy Idaho Operations Office
EPA	Environmental Protection Agency
ESD	Explanation of Significant Differences
ETR	Engineering Test Reactor
FRG	final remediation goal
FY	fiscal year
GPRS	global positioning radiometric scanner
IDEQ	Idaho Department of Environmental Quality
INEEL	Idaho National Engineering and Environmental Laboratory
MCL	maximum contaminant level
MTR	Materials Test Reactor
O&M	operations and maintenance
OU	operable unit
PCB	polychlorinated biphenyl
PPM	parts per million
RI/FS	remedial investigation/feasibility study
ROD	Record of Decision
SLP	Sewage Leach Pond
TLD	thermoluminescent dosimeter
TRA	Test Reactor Area
WAG	Waste Area Group
WWP	Warm Waste Pond

FY 2001 Institutional Controls Annual Monitoring Report for the Test Reactor Area, Operable Unit 2-13

1. INTRODUCTION

The purpose of this Institutional Controls Monitoring Report is to document the fiscal year (FY) 2001 annual institutional controls inspection conducted for the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) sites in Waste Area Group (WAG) 2, Operable Unit (OU) 2-13 at the Idaho National Engineering and Environmental Laboratory (INEEL).

During a conference call between the Department of Energy Idaho Operations Office (DOE-ID), Environmental Protection Agency (EPA), and Idaho Department of Environmental Quality (IDEQ) on September 19, 2000, a consensus was reached that Operable Unit 2-13 does not require the preparation and submittal of an Operations and Maintenance (O&M) Report due to the nature of the remedial action taken at the Test Reactor Area (TRA) and per the interpretation of the *Remedial Design and Remedial Action Guidance for the Idaho National Engineering Laboratory* (DOE-ID 1993). Instead of the O&M report, an institutional controls monitoring report will be submitted annually for five years. This report will contain all the elements listed in the *Operations and Maintenance Plan for the Final Selected Remedies and Institutional Controls at Test Reactor Area, Operable Unit 2-13* (DOE-ID 2000a) (O&M Plan, Section 7). During the five-year review, the schedule for preparation and submittal of future institutional controls monitoring reports will be determined and documented (DOE-ID 2000a, Appendix F).

2. BACKGROUND

2.1 INEEL/TRA Background

The INEEL is a government-owned/contractor-operated facility managed by the DOE-ID that is located 51 km (32 mi) west of Idaho Falls, Idaho (see Figure 2-1). The INEEL encompasses portions of five Idaho counties: (1) Butte, (2) Jefferson, (3) Bonneville, (4) Clark, and (5) Bingham, occupying 2,305 km² (890 mi²) of the northeastern portion of the Eastern Snake River Plain (see Figure 2-1).

The TRA was established in the early 1950s in the southwestern portion of what was then the National Reactor Testing Station (now the INEEL) for studying radiation effects on materials, fuels, and equipment. Three major reactors have been built at the TRA, including the Materials Test Reactor, the Engineering Test Reactor, and the Advanced Test Reactor. The Advanced Test Reactor is currently the only major operating reactor at the INEEL.

Based upon the OU 2-13 Record of Decision (ROD), remedies for 55 sites were evaluated under the Comprehensive Remedial Investigation/Feasibility Study (RI/FS). Of these 55 sites, the ROD provided information to support remedial actions for eight sites where contamination presented an unacceptable risk to human health and the environment. Remedial action was performed at four of these sites in FY 1999. The *Remedial Action Report for the Test Reactor Area Operable Unit 2-13* (DOE-ID 2000b) contains the details of the remedial action work performed. An engineered or native cover was placed over three of the four sites: (1) the Warm Waste Pond Cells (TRA-03), (2) the Chemical Waste Pond (TRA-06), (3) and the Sewage Leach Pond (TRA-13). Follow-on institutional controls are required on these covers. In addition, the remediated Cold Waste Pond (TRA-08) required institutional controls to preserve the underlying RI/FS assumption of industrial land use only for 100 years, since there is contamination remaining that would not allow for current free and unlimited use, but would allow for unlimited residential use in 100 years. A limited action remedy was selected for the soil surrounding the hot waste tanks at Building TRA-613 (TRA-15) and for the Sewage Leach Pond soil contamination area. Limited action with implementation of a contingent excavation and disposal option was selected as the remedy for the soil surrounding Tanks 1 and 2 at Building TRA-630 (TRA-19) and the Brass Cap Area. Some additional institutional controls for contamination at depths greater than 3 m (10 ft) are also required for TRA-15. The retained OU 2-13 CERCLA sites that required institutional controls are shown in Figure 2-2.

The ROD identified the remaining 47 no action sites as not posing unacceptable risks. In the case of seven of those sites, that determination was based on the assumptions regarding land use or exposure routes in the risk scenarios evaluated. The ROD stated that for those sites where no action would be taken, based on land use assumptions, those assumptions would be reviewed as part of the five-year review. Therefore, seven sites also require institutional controls to preserve the underlying assumptions of the RI/FS and ROD. Those sites are polychlorinated biphenyl (PCB) spills at TRA-619, -626, and -653; the TRA Warm Waste Retention Basin (TRA-712) to control sediments below 3 m (10 ft); the TRA North Storage Area; the Hot Tree site; and the Snake River Plain Aquifer/Perched Water System.

An Explanation of Significant Differences (ESD) to the Record of Decision for the Test Reactor Area Operable Unit 2-13 was approved in May 2000, to document significant differences to the selected remedies in the ROD. The ROD lacked details on the site-specific institutional controls including the geographic locations where institutional controls were required, the object of the control or restriction, and a description of the types of restrictions. The ROD did not discuss how these institutional controls would be implemented, maintained, and monitored, both while the DOE had control of the property as

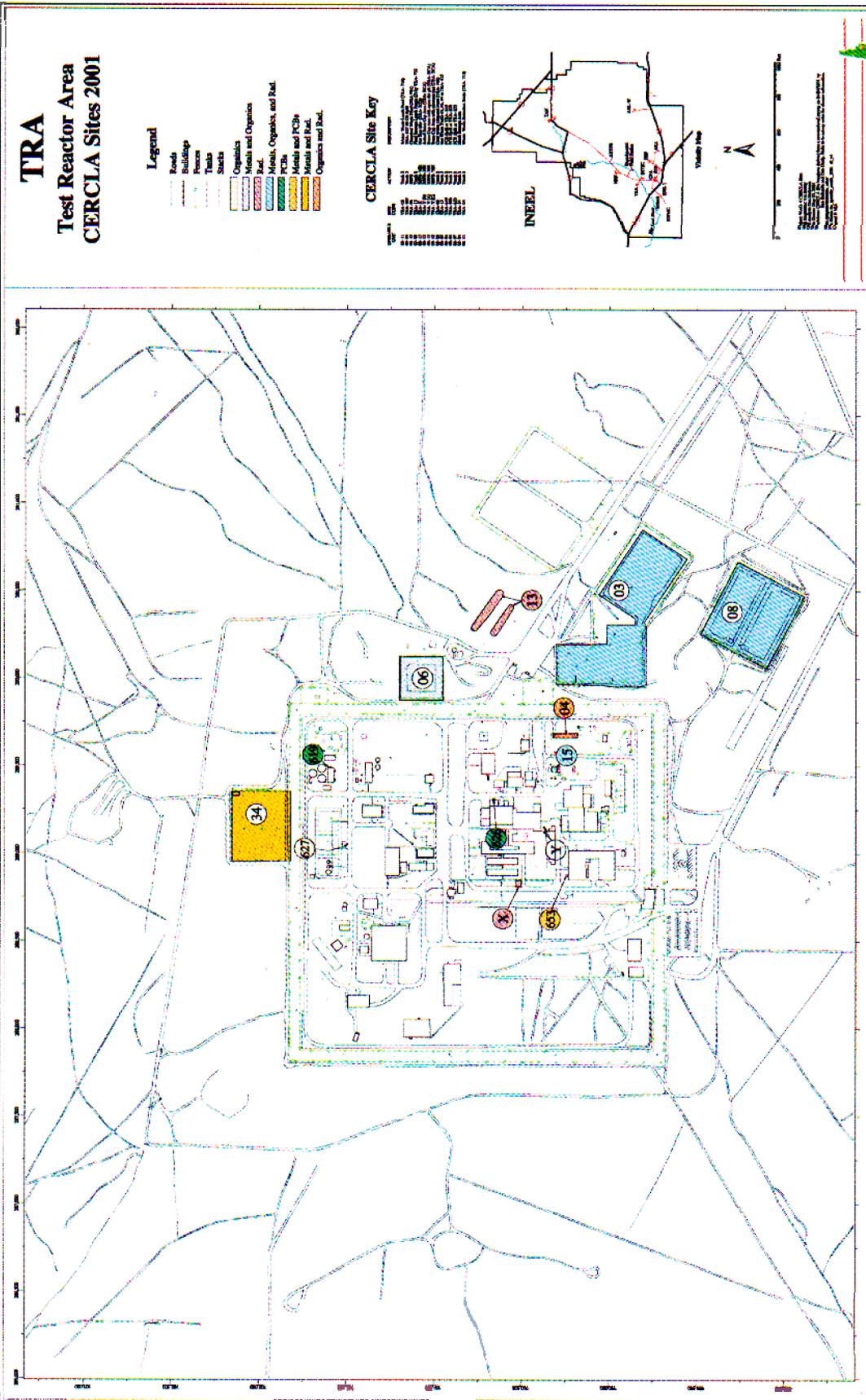


Figure 2-2. Retained OU 2-13 CERCLA sites that require institutional controls.

well as if and when the property was transferred to other federal ownership or private ownership. The ESD clarified the institutional control requirements for individual sites and established the requirement for how the DOE would implement, maintain, and monitor these site-specific institutional controls.

Also included for institutional controls are five new sites identified since the Record of Decision and subsequent Explanation of Significant Differences were signed. These sites are TRA-56, Acid Transfer Line from TRA-631 to TRA-645; TRA-57, Abandoned Buried Diesel Fuel Line from TRA-727 and TRA-775 to ETR; TRA-58, Abandoned Buried Fuel Oil Lines (4) from TRA-727 to TRA-609; TRA-59, Abandoned Buried Acid Line from TRA-631 to TRA-671; and TRA-60, Fenced Area North of TRA-608.

Inclusion of institutional controls for these sites is consistent with the *EPA Region 10 Policy on the Use of Institutional Controls at Federal Facilities* (EPA 1999) and with the requirement under CERCLA that, when waste is left in place above levels that allow for unlimited use, appropriate controls must be in place to limit exposure and achieve acceptable levels of risk.

2.2 INEEL Comprehensive Facility and Land Use Plan

The *INEEL Comprehensive Facility and Land Use Plan* (DOE-ID 1997a) (CFLUP) documents and displays current and anticipated future land use and facility use at the INEEL. It provides guidance on facility and land use at the INEEL through the 100-year scenario, which will be explained below. The CFLUP is updated, as needed, when information, such as land use, changes and includes specific land use information about the TRA facility.

Land use projections in the INEEL CFLUP incorporate the assumption that the INEEL will remain under government management and control for at least the next 100 years. A mix of land uses across the INEEL is anticipated to include unrestricted industrial uses, government-controlled industrial uses, unrestricted areas, controlled areas for wildlife management and conservation, and waste management areas. No residential development will be allowed within INEEL boundaries, and no new major private developments (residential or nonresidential) on public lands are expected in areas adjacent to the Site. Grazing will be allowed to continue in the buffer area.

The survey data for the OU 2-13 CERCLA sites have been recorded and submitted for incorporation into the CFLUP.

3. INSPECTION

An initial annual inspection was performed as specified in the O&M Plan. The Project Task Lead and a member of the project support staff performed the inspection on July 17–18, 2001, visiting all sites listed in Table 3-1 and Table 3-2; the results are found in Section 4.0.

Eight remediated sites required institutional controls as specified in the ESD. These sites and the basis for these institutional controls are listed in Table 3-1. In addition, seven no action sites required institutional controls to preserve the underlying assumptions of the RI/FS and ROD in which the no action determination was made. These sites and the basis for these institutional controls are listed in Table 3-2. The O&M Plan requires these institutional controls to be inspected and reported on an annual basis.

Although not included in the O&M Plan, the five new sites listed previously also required similar institutional controls and were inspected to verify that these were in place.

All inspections required by the O&M Plan were performed and no deficiencies were found.

The institutional controls monitoring report questionnaire (Appendix A) was completed. The required inspection report form for each of the sites under institutional controls (Appendix D) was also completed.

3.1 FY 2001 Maintenance Activities

Maintenance activities at the CERCLA sites for FY 2001 consisted of changing the telephone numbers of the point of contact on each of the institutional control signs.

3.2 FY 2002 Maintenance Activities

It was noted during the inspection that the Chemical Waste Pond and the Sewage Leach Pond/Sewage Contamination Area needs to be reseeded. A Scope of Work has been written to seed/reseed several native covers at the INEEL, which includes OU 2-13. It is anticipated that this work will be completed early in FY 2002.

3.3 Assessment of Engineered Cover

A visual perimeter walk-around inspection of the Warm Waste Pond's engineered cover to look for subsidence in the engineered cover and animal intrusions was required by the O&M Plan. The O&M Plan also required visual signs or barriers that restrict personnel access to the site.

The visual perimeter walk-around was performed at the Warm Waste Pond during the initial inspection. There were no visible signs of either subsidence in the engineered cover or animal intrusions. The required signs and barriers are in place and detailed in Section 4.0.

Table 3-1. Sites with remedies requiring institutional controls.^a

Site Code	Site Name	ROD Selected Remedy	Basis for Institutional Controls ^b	Institutional Controls ^c
TRA-03	TRA Warm Waste Pond (Sediments)	Containment with an engineered soil cover and institutional controls	Containment barrier has been put in place. Current occupational risk is 2E-02. 100-year future residential risk is >1E-04.	Restrict site to occupational access for more than 30 years and restrict to industrial land use only until residential risk is <1E-04 based on the results of a five-year review.
TRA-06	TRA Chemical Waste Pond (TRA-701)	Containment with a native soil cover and institutional controls	Native soil cover is in place. Hazard quotient is greater than 1 for mercury via homegrown produce ingestion and soil ingestion at a depth of 14 feet.	Industrial land use is unrestricted. Restrict residential land use to depths less than 14 feet.
TRA-08	TRA Cold Waste Disposal Pond (TRA-702)	Excavation and disposal	Soil excavated and disposed of to 1E-04 future residential risk cleanup levels.	Restrict site to industrial land use for less than 100 years until residential risk is <1E-04 based on the results of a five-year review.
TRA-13	TRA Sewage Leach Ponds (2) by TRA-732	Containment with a native soil cover and institutional controls	Containment barrier has been put in place. Current occupational risk is 1E-03 for Cs-137 and Ag-108. 100-year residential risk is 5E-04 at a depth of 14 feet. The hazard quotient is greater than 1 for mercury and zinc via homegrown produce ingestion.	Restrict site to occupational access for more than 30 years and restrict to industrial land use only until residential risk is <1E-04 based on the results of a five-year review.
TRA-15	TRA Hot Waste Tanks 2, 3, and 4 at TRA-613 (TRA 713-B, 713-C, and 713-D)	Limited action	Tanks are still in use. Current occupational risk is 3E-04. 100-year future residential risk is 1E-04. Additional contaminated soils are greater than 13 feet deep to basalt at 37 feet. Risk assessment is not done at this depth.	Restrict occupational access for less than 100 years until risk is <1E-04 based on a five-year review. After the above restriction is removed, restrict land use at depths greater than 10 feet until otherwise evaluated.
TRA-19	TRA Rad Tanks 1 and 4 at TRA-630, replaced by Tanks 1, 2, 3, and 4 (TRA 730-1, 730-2, 730-3, and 730-4)	Limited action with implementation of a contingent excavation and disposal option	New tanks are still in use. Current occupational risk is 2E-01 for Cs-137. 100-year residential risk is 8E-02.	Restrict occupational access and prohibit residential development until soil is removed or status is changed in a five-year review.

Table 3-1. (continued).

Site Code	Site Name	ROD Selected Remedy	Basis for Institutional Controls ^b	Institutional Controls ^c
None	Sewage Leach Pond Soil Contamination Area	Limited action	2E-04 is the current occupational risk; 30-year occupational risk and 100-year residential risk are < 1E-04.	Restrict occupational access until risk is <1E-04 based on the results of a five-year review.
None	Brass Cap Area	Limited action with implementation of a contingent excavation and disposal option	3E-01 is the current occupational risk and 8E-02 is the 30-year future occupational risk. 8E-02 is the 100-year future residential risk.	Restrict occupational access and prohibit residential development until removed or status is changed in a five-year review.

a. Source of information is DOE-ID 2000c.

b. With the exception of TRA-08, all risks are prerediation risks developed in the baseline risk assessment (DOE-ID 1997b).

c. Timeframes are approximate. Duration of controls will be based on acceptable levels or risk.

Table 3-2. No action sites requiring institutional controls^a.

Site Code	Site Name	ROD Selected Remedy	Basis for Institutional Controls ^a	Institutional Controls
None	TRA PCB spill at TRA-619	“No action”	22 parts per million (PPM) PCBs in soil under pad, which is below the 25 PPM for restricted industrial areas and greater than the 10 PPM for general nonrestricted use (40 CFR 761.125[c][4]). 2.9E-05 residential risk. Track 2 No Further Action.	Restrict this site to industrial land use only to preserve industrial only land use assumption.
None	TRA PCB spill at TRA-626	“No action”	24 PPM PCBs in soil >4 feet deep, which is below the 25 PPM for restricted industrial areas and greater than the 10 PPM for general nonrestricted use (40 CFR 761.125[c][4]). 3.6E-05 residential risk. Track 2 No Further Action.	Restrict this site to industrial land use only to preserve industrial only land use assumption.
None	TRA PCB spill at TRA-653	“No action”	PCBs ≤25ppm in soil, which is below the 25 PPM for restricted industrial areas and greater than the 10 PPM for general nonrestricted use (40 CFR 761.125[c][4]). 1.3E-05 residential risk. Track 2 No Further Action.	Restrict this site to industrial land use only to preserve industrial only land use assumption.
TRA-04	TRA Warm Waste Retention Basin, surficial sediments (TRA-712)	“No action”	5E-04 current residential risk for 10 ft and less. Risk evaluation not done for contamination at 40-ft depth.	Restrict site to industrial use only for less than 10 feet deep. Restrict land use for deeper contamination until otherwise evaluated.
TRA-34	TRA North Storage Area	“No action”	3.5E-05 100-year residential risk. 1.2E-04 current residential risk for Ag-108m, Cs-137, and Eu-152.	Restrict land use to industrial until risk is less than E-04 based on a 5-year review.

Table 3-2. (continued).

Site Code	Site Name	ROD Selected Remedy	Basis for Institutional Controls ^a	Institutional Controls
None	Hot Tree Site	“No action”	2E-04 current residential risk from Cs-137. 2E-05 risk after 100 years.	Restrict site to industrial land use only for approximately 30 years until residential risk is less than E-04 based on the results of a 5-year review.
None	Perched Water and Snake River Plain Aquifer Groundwater	“No action with monitoring”	Cr and tritium concentrations are greater than maximum contaminant levels (MCLs) and are predicted to decrease below MCLs within 20 years.	Restrict drilling of wells for drinking water usage until contaminants are below MCLs based on the results of a 5-year review.

a. Source of information is DOE-ID 2000c.

CFR = Code of Federal Regulations.

3.4 Assessment of Native Covers

The native covers on the Chemical Waste Pond, the Sewage Leach Pond, and Sewage Leach Pond Contamination areas were inspected on July 18, 2001, and the regrowth of native vegetation on each of the covers was sparse. However, the covers showed no signs of surface erosion due to the relatively high growth of weeds. Originally, all three areas were scheduled to be reseeded with native vegetation. A Science Action Team was commissioned to evaluate if native vegetation would recover if the existing weeds were mowed down. Funding for the team was terminated before the follow-up evaluation could be conducted. However, observations during the annual inspection this year indicated no differences in the mowed versus unmowed areas.

3.5 Radiological Monitoring

Maps of the survey results are presented in Appendix B. The intent of the global positioning radiometric scanner method of monitoring is to provide an annual snapshot of radiological activity at the two remediated ponds. The data in Appendix B simply reflect total counts per second measured by the sensor; the actual sources of this activity are a combination of radionuclides present in the remediated ponds, natural background, and possibly background from TRA. The data gathered in the first year will serve as a baseline, and data from subsequent years will be evaluated for any evidence of contaminant migration or increases in gamma activity. The O&M Plan details what steps should be taken in the event that increased gamma activity is noted in future years.

The global positioning radiometric scanner (GPRS) monitoring satisfies the radiological monitoring requirements of the O&M Plan, Section 4.3. It does not attempt to identify the remaining quantity of radiological contaminants of concern, nor does it attempt to identify human occupational exposure rates. Final remediation goals (FRGs) were identified in the OU 2-13 ROD (DOE-ID 1997c); for radionuclides, these FRGs are expressed in units of pCi/g for each contaminant of concern. The data in Appendix B cannot be directly converted into these units. The OU 2-13 Remedial Design/Remedial Action Work Plan (DOE-ID 1998) established a remedial design that was intended to meet these FRGs, and the Remedial Action Report (DOE-ID 2000b) certified that the remedies were operational and functional. There is no previous GPRS data with which to compare the current data, but since no erosion, subsidence, or other degradation of the pond covers were noted (see Sections 3.3 and 3.4 above), there is no reason to suspect that radiological contamination is above FRGs.

Surface radiological monitoring of the Warm Waste Pond, the Sewage Leach Pond, and the Sewage Leach Pond Soil Contaminated Area is required by the O&M Plan to identify potential contaminant migration and to verify the existing institutional controls at the Sewage Leach Pond Soil Contaminated Area are protective of current workers by maintaining the risk from exposure to radionuclide contaminants at or below acceptable risk levels (DOE-ID 2000a). The initial radiological survey was performed in August 2000 with the INEEL GPRS using a scanner mounted on the front of a four-wheel drive vehicle. The vehicle performed the survey by driving around the perimeter of the two remediated ponds. This survey was to serve as the baseline for subsequent surveys; however, the results of the survey showed elevated levels of radiation along the western border of the Warm Waste Pond and apparent hot spots in the southern-most corner of the Sewage Leach Pond as shown in Figures B-1 and B-2 of Appendix B, respectively.

The potential sources identified for the elevated radiation readings at the Warm Waste Pond were:

- Shine from the TRA facility
- Residual radioactivity remaining from the remedial action
- Radiological contamination that had leaked from the capped material.

Similarly, the potential sources identified for the radiation readings at the Sewage Leach Pond were:

- Residual radioactivity remaining from the remedial action
- Radiological contamination that had leaked from the capped material.

As a result of elevated levels observed in the initial survey, a second radiological survey was performed in April and May of 2001. This follow-up survey utilized both the GPRS and the ORTEC ISO-CART (portable, in situ germanium spectrometer), in accordance with the O&M Plan. The radiological survey focused on the radioactivity along the western border of the Warm Waste Pond and the apparent hot spots in the Sewage Leach Pond. The GPRS was used to provide a rapid screening of the areas of interest; additionally, locations were selected for measurements with the ISO-CART to identify and quantify specific gamma-emitting radionuclides. The results of the 2001 GPRS survey are provided in Figure B-3 of Appendix B. As can be seen from this map, the elevated radioactivity near the Warm Waste Pond appears to be emanating from the TRA facility, and the hot spots in the Sewage Leach Pond appear to be consistent with background levels of radiation in areas adjacent to Sewage Leach Pond. These observations were confirmed with the ISO-CART measurements that were taken at selected locations also shown in Figure B-3. The ISO-CART measurements provided several advantages for this investigation in that specific radionuclides could be identified, and the detection system was equipped with a collimator to minimize the effects of radiation shine from extraneous sources. The ISO-CART measurements along the western border of the Warm Waste Pond (WWP) (points WWP1 through WWP16) show an average Cs-137 concentration of 0.4 pCi/g, with a standard deviation of 0.3 pCi/g. The average Cs-137 concentration of the points measured at the Sewage Leach Pond (SLP) (points SLP1 through SLP2) was 0.8 pCi/g with a standard deviation of 0.8 pCi/g. These values are consistent with the 95% upper tolerance limit for Cs-137 of 0.82 pCi/g as identified by Rood, Harris, and White (1996). A detailed description of the 2001 annual radiological survey for OU 2-13 is described in an engineering design file entitled *Radiation Characterization and Profile Estimation at the Waste Area Group 2, Test Reactor Area, Warm Waste Pond and Sewage Leach Pond Boundary Area, OU 2-13, at the Idaho National Engineering and Environmental Laboratory* (INEEL 2001).

Further investigations of the source of elevated radioactivity near the Warm Waste Pond revealed that there is an active hot waste storage area that is used by TRA and Advanced Test Reactor (ATR) operations. Containers with high levels of radioactivity are frequently staged in the area designated as the TRA Box Yard, Figure B-3 of Appendix B, prior to shipment outside of TRA (Bright 2001). Additionally, the INEEL Environmental Monitoring Program maintains several environmental thermoluminescent dosimeters (TLDs) around the various INEEL facilities. Figure B-4 of Appendix B shows the locations of the TLDs near TRA, and Table 3-3 lists the annual total exposures as measured by the TLDs at the various locations.

Table 3-3. Environmental TLD data for the TRA facility.

TLD Number	Total Annual Exposure, mR (1999)	Total Annual Exposure, mR (2000)
TRA 1	130	(TLD lost in fire)
TRA 2	254	466
TRA 3	468	692
TRA 4	215	282
TRA 5	144	202
TRA 6	125	156
TRA 7	143	181
TRA 8	158	215
TRA 9	124	174
TRA 10	131	184
TRA 11	127	185
TRA 12	124	168
TRA 13	129	178
Average	175	256
Standard Deviation	97	161

Table 3-3 shows that TLDs TRA 2 and TRA 3 are consistently higher than the other TLDs near TRA.

Based on the radiological survey data, personal conversations with TRA operations personnel, and the environmental monitoring TLD data, it is conclusive that the elevated radiation levels near the Warm Waste Pond are attributed to shine from the TRA facility, and the apparent hot spots in the Sewage Leach Pond are simply locations where the background is elevated.

Following the recommendations in the radiological characterization engineering design file (INEEL 2001), select measurement points along the west boundary of the Warm Waste Pond were preserved and identified with permanent markers to facilitate future surveys, ensuring that measurements will be taken in the exact same locations. The measurement points are listed in Table 3-4.

Table 3-4. Locations of permanent markers for radiation survey measurements at the WWP.

Measurement Point	Northing	Easting	Elevation
WWP2	700270.60	289963.59	4920.41
WWP3	700218.70	289962.82	4920.55
WWP4	700163.56	289963.15	4920.45
WWP5	700110.56	289963.06	4920.22
WWP6	700058.47	289951.15	4920.09
WWP7	700004.38	289951.49	4920.19
WWP8	699951.84	289950.24	4920.28
WWP9	699897.94	289949.73	4920.62
WWP10	699846.59	289949.99	4921.60
WWP11	699795.17	289950.68	4921.69

Data are NAD-27 State Plane and NGVD 1929 Vertical.

4. INSTITUTIONAL CONTROLS

Access to the INEEL and specifically to TRA is controlled through the main security gate and TRA. Security personnel at the INEEL require physical observation of badges to access the area. At TRA, security personnel inspect badges and training cards to determine if access is allowed or whether escorts are required.

The Warm Waste Pond, Chemical Waste Pond, Cold Waste Disposal Pond, and the Sewage Leach Pond/Sewage Leach Pond Soil Contamination Area are located outside the TRA security fence; however, they are within the main INEEL area. The remaining sites are all located within the TRA security fence.

The required individual institutional controls were observed at each of the following sites:

- TRA-03—TRA Warm Waste Pond
 - Brass corner markers
 - 18 Aluminum signs 0.5 by 0.6 m (1.5 by 2 ft) with “INEEL OU 2-13 WAG 2, Warm Waste Pond, KEEP OUT”
 - Four granite markers 0.9 by 1.2 by 3 m (3 by 4 by 10 ft) with pictures indicating (1) no walking, (2) poison, and (3) radioactivity, and (4) imbedded brass corner marker on the top
 - Caution RAD area signs posted in multiple locations
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”
- TRA-06—TRA Chemical Waste Pond
 - 8 Aluminum signs 0.5 by 0.6 m (1.5 by 2 ft) with “INEEL OU 2-13 WAG 2, Chemical Waste Pond, KEEP OUT”
 - Brass corner markers
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-08—TRA Cold Waste Disposal Pond
 - Fenced with access gate
 - Warning sign at gate with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-13—TRA Sewage Leach Ponds—Sewage Leach Pond Soil Contamination Area
 - 12 Aluminum signs 0.5 by 0.6 m (1.5 by 2 ft) with “INEEL OU 2-13 WAG 2, Sewage Leach Pond, KEEP OUT”
 - Brass corner markers
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”
 - “Caution Underground Radioactive Materials” signs at multiple locations

- TRA-15—TRA Hot Waste Tanks 2, 3, and 4 at TRA-613
 - Caution RAD sign posted at multiple locations
 - Area is fenced
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-19—TRA Rad Tanks 1 and 4 at TRA-630
 - Tanks under a Locked Controlled Building
 - Caution RAD sign posted at multiple locations
 - Warning sign with the following is located inside of TRA-630 building:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- Brass Cap Area
 - Area is roped off
 - Caution RAD soil signs posted at multiple locations
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA PCB Spill at TRA-619
 - Area is roped off
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA PCB Spill at TRA-626
 - Area is roped off
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA PCB Spill at TRA-653
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-04—TRA Warm Waste Retention Basin, Surficial sediments
 - Caution RAD sign
 - Locked Building entrance
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-34—TRA North Storage Area
 - Area roped off
 - Caution RAD Soil Contamination Area signs
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- Hot Tree Site
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- Perched Water and Snake River Plain Aquifer Groundwater.

This site does not have signs because it underlies the entire TRA area. Groundwater monitoring is done semiannually and annually, and this site does have a restriction for drilling wells for drinking water.

- TRA-56—Abandoned Acid Line from TRA-631 to TRA-645
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

- TRA-57—Abandoned Buried Diesel Fuel Line from TRA-727 and TRA-775 to ETR
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”
- TRA-58—Abandoned Buried Fuel Oil Lines (4) from TRA-727 to TRA-609
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”
- TRA-59—Abandoned Buried Acid Line from TRA-631 to TRA-671
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”
- TRA-60—Fenced Area North of TRA-608
 - Area is fenced
 - Warning sign with the following:
 - Waste Site Number
 - Point of Contact with phone number
 - “Do not Disturb”

Appendix C contains photographs for the sites listed above.

4.1 Signs at Sites Requiring No Institutional Controls

On September 19, 2000, during a conference call with DOE-ID, EPA and IDEQ, institutional control signs at the “No Action” sites (Table 4-1) at OU 2-13 were discussed (DOE-ID 2000a, Appendix F). A consensus was reached that signs not specifically required by the ROD or an institutional control plan may be removed from the no action sites located at the OU 2-13 TRA area, since there is no need for marking a site that poses no hazard to the public.

The no action sites that did not require institutional control as specified in the ESD to the OU 2-13 ROD were surveyed and photographed and included in the *Institutional Controls Annual Monitoring Report for the Test Reactor Area, Operable Unit 2-13* (INEEL 2000). The signs were removed from all no action sites at TRA.

Table 4-1. List of WAG 2 No Action sites requiring no institutional controls.

Operable Unit	Site Number	Site Name
None	TRA-10	TRA MTR Construction Excavation Pile
	TRA-23	TRA ETR Excavation Site Rubble Pile
	TRA-24	TRA Guardhouse Construction Rubble Pile
	TRA-25	TRA Sewer Plant Settling Pond Rubble Pile
	TRA-26	TRA Rubble Site by U.S. Geological Survey Observation Well
	TRA-27	TRA North Storage Area Rubble Pile
	TRA-28	TRA North (Landfill) Rubble Site
	TRA-29	TRA ATR Construction Rubble
	TRA-32	TRA West Road Rubble Pile
	TRA-33	TRA West Staging Area/Drainage Ditch Rubble Site
OU 2-01	TRA-02	TRA Paint Shop Ditch (TRA-606)
OU 2-02	TRA-14	TRA Inactive Gasoline Tank at TRA-605
	TRA-17	TRA Inactive Gasoline Tank at TRA-616
	TRA-18	TRA Inactive Gasoline Tank at TRA-619
	TRA-21	TRA Inactive Tank, North Side of MTR-643
	TRA-22	TRA Inactive Diesel Fuel Tank at ETR-648
OU 2-03	None	TRA-614 Oil Storage North (under building TRA-628)
	TRA-01	TRA Acid Spill Disposal Pit
	TRA-11	TRA French Drain at TRA-645
	TRA-12	TRA Fuel Oil Tank Spill (TRA-727B)
	TRA-20	TRA Brine Tank (TRA-731) at TRA-631
	TRA-40	TRA Tunnel French Drain (TRA-731)
OU 2-04	None	TRA-627 No. 5 Oil Spill
	None	TRA-670 Petroleum Product Spill
	None	TRA PW 13 Diesel Fuel Contamination
	TRA-09	TRA Spills at TRA Loading Dock (TRA-722)
OU 2-05	None	TRA-603/605 Tank
	TRA-16	TRA Inactive Radioactive Contaminated Tank at TRA-614
OU 2-06	TRA-30	TRA Beta Building Rubble Site
	TRA-31	TRA West Rubble Site
	TRA-35	TRA Rubble Site East of West Road near Beta Building Rubble Pile
OU 2-07	None	TRA-653 Chromium-Contaminated Soil
	TRA-36	TRA ETR Cooling Tower Basin (TRA-751)
	TRA-38	TRA ATR Cooling Tower (TRA-771)
	TRA-39	TRA MTR Cooling Tower North of TRA-607
OU 2-08	TRA-37	TRA MTR Canal in basement of TRA-603
OU 2-09	TRA-07	TRA Sewage Treatment Plant (TRA-624) and Sludge Pit (TRA-07)
OU 2-11	TRA-05	TRA Waste Disposal Well, Sampling Pit (764) and Sump (703)
OU 2-13	TRA-41	French Drain Site
	TRA-42	Diesel Unloading Pit
	None	ETR Stack Area

ATR = Advanced Test Reactor
 ETR = Engineering Test Reactor
 MTR = Materials Test Reactor

5. CONCLUSION

All inspections required by the O&M Plan were performed and documented. No deficiencies were noted.

The native covers on the Chemical Waste Pond, the Sewage Leach Pond, and Sewage Leach Pond Contamination area were considered to be sparse and have been scheduled to be reseeded in FY 2001/2002.

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