

Project File Number WAG 5

Project/Task WAG 5 Comprehensive RI/FS Operable Unit 5-12

Subtask OU 5-02: PBF-26 SPERT-IV Lake

Title: Results of the PBF-26 Sampling using Field Immunoassay Kits for PCBs

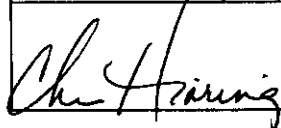

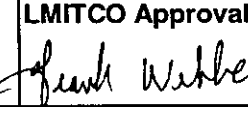
Summary: The PBF-26 site is a surface impoundment located near the PBF MWSF (SPERT-IV). The site was designated for Track 1 evaluation in the 1991 Federal Facility Agreement and Consent Order negotiated by the Department of Energy, the Environmental Protection Agency, and the Idaho Department of Health and Welfare.

The PBF-26 site is a surface impoundment constructed in 1960 by erecting a dike composed of soil and rock, to close off an irregularly shaped natural depression. The dike formed a containment area with an approximate volume of 6 million gallons. From 1961 to 1970, the lake received uncontaminated cooling water from the secondary loop of the SPERT-IV reactor and was inactive until 1985. From 1985 to 1992, the only discharges to the lake were uncontaminated effluent from Three Mile Island studies and discharges generated by periodic testing of emergency eye wash and shower stations. With the removal of the pipeline to the lake in 1992, all discharges to the lake ended. Historical sampling yielded a single high detection of 13 mg/kg of Aroclor-1254, and the Track 1 identified potential risks from Cs-137, uranium, and chromium. But the source of the contamination is unknown. Low concentrations of PCBs also were detected in the pipeline between the lake and the MWSF. A time-critical removal action was recommended for the site.

In 1995, before the removal action, field immunoassay kits for PCBs were used to determine the vertical and horizontal extent of contamination. Using the immunoassay kits, only one location was detected with a concentration greater than the 10-mg/kg. The duplicate confirmation sample sent to an off-Site lab yielded a PCB concentration of 4.4 mg/kg. Cesium-137 was detected in five samples with concentrations ranging from 0.70 to 4.7 pCi/g. This EDF documents the results of this sampling.

Distribution (complete package):

Distribution (summary package only):

| Author | Dept. | Reviewed | Date | Approved | Date |
|---|-------|---|-------------|--|-------------|
| C. M. Hiaring | 3130 | K. J. Holdren | 5/15/98 | F. L. Webber | 5/15/98 |
| | | LMITCO Review | Date | LMITCO Approval | Date |
|  | |  | 5/18/98 |  | 5/15/98 |

**POWER BURST FACILITY (PBF) -26,
SPECIAL POWER EXCURSION REACTOR TEST (SPERT) -IV LAKE,
CHARACTERIZATION AND REMOVAL ACTION ACTIVITIES**

PURPOSE

The purpose of this summary is to discuss the results of the PCB field screening that occurred in July, 1995, and review the results of the verification samples that were sent to an offsite laboratory. Evaluation of the Removal Action sampling data revealed that the Removal Action is not warranted. It is recommended that the PBF-26 retain its Track 1 status, the removal action be canceled and the site roll into the OU5-12 Comprehensive RI/FS with the anticipation that PBF-26 will become a No Further Action site.

BACKGROUND

PBF-26 is the site of the SPERT-IV Lake. This site is located at SPERT IV, southwest of building PBF-613. The PBF-26 lake was created in 1960 by constructing a 300 ft long and 6 ft high soil and rock berm across a natural surface depression. PBF-26 received uncontaminated cooling water from the secondary loop of the SPERT-IV reactor from 1961 to 1970. The reactor was placed on standby status in 1970 and the reactor building (PBF-613) was Decommissioned and Decontaminated (D&D) from 1978 to 1979. The facility began storing mixed radioactive wastes in 1985 and eventually became known as the Idaho National Engineering Laboratory (INEL) Radioactive Mixed Waste Storage Facility (RMWSF). Typically wastes include solid and liquid radioactive wastes mixed with corrosives, flammables, metals, volatile organics, and PCBs. Since 1985, the only recorded discharges to the SPERT-IV Lake resulted from periodic testing of emergency eye wash and shower stations. These discharges were discontinued in 1992 when the pipeline to the lake was removed by D&D activities.

The PBF-26 site was originally identified in September 22, 1986 as a potential hazardous waste release site. It was included in the INEL Consent Order and Compliance Agreement (COCA) in 1987 with the Department of Energy - Idaho Operations Office (DOE-ID), Environmental Protection Agency - Region 10 (EPA), the Idaho Department of Health and Welfare (IDHW) and the United States Geological Survey (USGS). The site was later included in the INEL Federal Facility Agreement and Consent Order (FFA/CO), which superseded the COCA. PBF-26 was considered a Track 1 site in the FFA/CO, indicating that insufficient information was available to make a recommendation for the site. A Track 1 Decision Document Package was completed May 1993 and signed in December 1993 recommending further action. This recommendation was made based on historical soil sampling from 1985 and 1989. The results of the historical sampling are listed in Table 1. This historical sampling effort, detected Cesium (Cs) -137, Chromium (Cr), Uranium (U), and PCBs at concentrations that exceeded the 10^{-6} risk based levels.

The PCB concentration in the historical sampling events, was detected at 13,000 ppm in one of eight samples, which is several orders of magnitude above the 10^{-6} risk based level.

The elevated concentration of Cs-137 in the historical sampling event, was above background and above the 10^{-6} risk level, but below the site cleanup levels of 17 pCi/g for Cs. This clean up level was developed in the OU 10-06 RI/FS Action Memorandum, and reviewed by the agencies.

The U-235 concentration was equal to background, but 1 order of magnitude above the 10^{-6} risk based level at 10^{-5} . The Cr concentration was above background for hexavalent Cr, but studies have indicated that hexavalent Cr cannot remain stable in an oxidizing atmosphere such as at the INEL, instead it oxidizes into the less hazardous trivalent Cr. The Cr concentrations were below the risk based level for trivalent Chromium. Therefore, these contaminants (Cs, U, and Cr), were not considered to be risk drivers.

In March, 1995, the PBF-26 site was recommended for a Time Critical Removal Action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) to reduce the risk of PCBs at the site (Attachment 1). In order to define the extent of PCB contamination and the scope of the removal action, it was determined that this site should be re-sampled using immunoassay field sampling test kits and confirmation sampling from an offsite laboratory. This additional analytical data would help determine the appropriateness of the Time Critical PCB Removal Action, and guide the removal action activities.

PRE-REMOVAL ACTION CHARACTERIZATION SAMPLING

The main objective of the field sampling activities was to define the extent of PCB contamination and verify that a removal action was appropriate (Attachment 2). The additional analytical data gathered would determine the scope of the removal action activities.

The scope of this work was to collect soil samples from the suspected area of contamination for field screening and send confirmation soil samples to an offsite laboratory to support the field screening results. Field screening, using PCB immunoassay test kits, was employed to define the extent of PCB contamination in the soil. The detection limit of the immunoassay kits was >10 ppm, which correlates to a 10^{-5} risk level.

A grid pattern was established in to order to define the extent of PCB contamination. The spacing was established on 10 ft centers and biased such that the area encompassing the effluent pipe discharge and the known PCB contaminated spot was included. 24 soil samples were collected from the center of the grids and around the known area of PCB contamination using a sampling spoon (Attachment 3). These soil samples were then analyzed for PCBs using the immunoassay test kits the results are listed in Table 2. One sample was greater than the action level of 10 ppm. Sample # 14, according to the immunoassay test kits, was greater than 10 ppm and also greater than 25 ppm. As grid sampling was continued outward the field screening results continued to be negative.

Five confirmation soil samples were collected from the areas of the highest field screening PCB concentrations (Attachments 4, 5, and 6). The confirmation soil samples were sent for Radiological Materials Laboratory (RML) gamma-ray analysis listed in Table 3. The

confirmation samples were then sent to the Contract Laboratory Program (CLP) for PCB analysis to quantify the risk posed by the site (Table 4). The analytical lab results of sample # 14 was 4.4 ppm, which was below the pre-determined action level for this site.

RECOMMENDATION

Only one field screened sample of the 24 taken, indicated PCBs greater than the 10 ppm action limit (#14). The confirmation sample taken at the same location was 4.4 ppm, which was less than the action limit. All other field screening samples and confirmation samples were less than 10 ppm.

Evaluation of sampling data for PBF-26 indicates that PCBs do not pose an unacceptable risk at this site. It is recommended that PBF-26 retain its Track 1 status, the removal action be canceled and the site rolled into the OU5-12 Comprehensive RI/FS with the anticipation that PBF-26 will be closed out as a No Further Action site.

REFERENCES

C. B. Hansen, *Final Report for the Decontamination and Decommissioning of the SPERT IV Holdup Tank Ancillaries*. EGG-ER-11000, September 1993

R. A. Suckel, *SPERT IV Facility Ancillaries Characterization*, WM-PD-86-002, February 1986, Revision 1, May 1989.

EG&G Idaho, 1993, *Track 1 Decision Document Package for PBF-26 SPERT IV Lake, OU5-02*, May 11, 1993

DOE-ID, 1994, *Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL*, DOE/ID-10389, Revision 6, January 1994.

Table 1. Results of historical sampling of PBF-26 for contaminants of potential concern.

| Analyte | Lake Sample Number ^a | | | |
|---------------|---------------------------------|----|--------------------------|---------------|
| | SPERT-IV Lake Soil No. 1 | | SPERT-IV Lake Soil No. 2 | |
| Cs-137 | NA ^b | NA | NA | 3.4 ± 0.3 |
| U-238 | | | | |
| U-235 | | | | |
| U-234 | | | | |
| Total uranium | NA | NA | NA | 8.0 ± 3.0 E-1 |

| Analyte | Lake Sample Number ^c | | | |
|-----------------------------|---------------------------------|----|----|----|
| | L1 | L2 | L3 | L4 |
| Aroclor (1254) ^c | 13.000 | — | — | — |
| Arsenic | — | — | — | — |
| Chromium | 64 | 17 | 8 | 7 |
| Lead | 43 | 10 | 13 | 10 |

| Analyte | Lake Sample Number ^d | | | |
|----------|---------------------------------|-----------------------------|-----------------------------|-----------------------------|
| | 88SPT4L5 (1.0 to 1.7 ft) | 88SPT4L6 (1.0 to 1.2 ft) | 88SPT4L7 (3.5 to 3.9 ft) | 88SPT4L8 (5.2 to 5.6 ft) |
| Arsenic | 7.5N | 7.3N | 7.3N | 7.9N |
| Chromium | 20 | 20 | 22 | 28 |
| Lead | 20 | 23 | 24 | 24 |

a. Suckel, R. A., May 1989, *SPERT IV Facility Ancillaries Characterization*, EWM-PD-86-002, Rev. 1.

b. The sample was not analyzed for radioisotopes.

c. Hansen, C. B., September 1993, *Final Report for the Decontamination and Decommissioning of the SPERT IV Holdup Tank Ancillaries*, EGG-ER-11000, EG&G Idaho, Inc.

d. Hansen, C. B., September 1993, *Final Report for the Decontamination and Decommissioning of the SPERT IV Holdup Tank Ancillaries*, EGG-ER-11000, EG&G Idaho, Inc.

Table 2. PCB Immunoassay Kit, Field Screening Results.

| Sample Identification | PCB Concentrations (mg/kg) | Sample Identification | PCB Concentrations (mg/kg) |
|-----------------------|----------------------------|-----------------------|----------------------------|
| PCB #1 | > 1 ppm | PCB # 13 | >1 <10 ppm |
| PCB # 2 | < 1 ppm | PCB # 14 | >1 >10 >25 ppm |
| PCB #3 | >1 <10 ppm | PCB # 15 | < 1 ppm |
| PCB #4 | < 1ppm | PCB # 16 | >1 <10 ppm |
| PCB # 5 | >1 <10 ppm | PCB # 17 | < 1 ppm |
| PCB #6 | < 1 ppm | PCB # 18 | < 1 ppm |
| PCB # 7 | < 1 ppm | PCB # 19 | < 1 ppm |
| PCB # 8 | < 1 ppm | PCB # 20 | >1<10 ppm |
| PCB # 9 | < 1 ppm | PCB # 21 | >1 <10 ppm |
| PCB # 10 | < 1 ppm | PCB # 22 | < 1 ppm |
| PCB # 11 | < 1 ppm | PCB # 23 | < 1 ppm |
| PCB # 12 | < 1 ppm | PCB # 24 | >1 <10 ppm |

> Greater than
< Less than

Table 3. RML Gamma-Ray Analysis Results

| Sample Identification Number | Manmade Radionuclides Found In Sample | Activity |
|------------------------------|---------------------------------------|----------------|
| P26001 (PCB # 14) | Cs-137 | 2.0 E-03 nCi/g |
| P26002 (PCB # 17) | Cs-137 | 1.2 E-03 nCi/g |
| P26003 (PCB # 4) | Cs-137 | 7.0 E-04 nCi/g |
| P26004 (PCB # 13) | Cs-137 | 4.7 E-03 nCi/g |
| P26005 (PCB # 24) | Cs-137 | 8.0 E-04 nCi/g |

Table 4. PCB Results From the CLP Laboratory

| Lab Sample Identification | Field Screening Sample Identification | PCB Compound Found | Track 1 10 ⁻⁶ Risk Level (ppm) | PCB Soil concentration data (ppm) |
|---------------------------|---------------------------------------|--------------------|---|-----------------------------------|
| 95003400 | P26001 (PCB # 14) | Aroclor 1254 | PCB | 4.40 ppm |
| 95003401 | P26002 (PCB # 17) | None | Aroclor 1254 | Below detection limit |
| 95003402 | P26003 (PCB # 4) | None | 0.08 R-SI * | Below detection limit |
| 95003403 | P26004 (PCB # 13) | Aroclor 1254 | 0.7 O-SI * | .44 ppm |
| 95003404 | P26005 (PCB # 24) | None | 2.09 R-GW * | Below detection limit |

* R-SI, Residential Soil Ingestion
 O-SI, Occupational Soil Ingestion
 R-GW, Residential Ground Water

Project File Number WAG 5

Project/Task WAG 5 Comprehensive RI/FS Operable Unit 5-12

Subtask PBF-25 SPERT-IV Septic Tank and Leach Pit

| | |
|-----------------|--|
| Title: | Results of the PBF-25 Assessment |
| Summary: | <p>The PBF-25 site is a septic tank and leach pit located at the PBF MWSF (SPERT-IV). The site was previously investigated under the COCA and transferred under the FFA/CO as a No Action site without assignment to an OU.</p> <p>The PBF-25 sanitary system includes a 1,000-gal septic tank and leach pit located southeast of the MWSF. The system receives sanitary waste from the Mixed Waste Storage Facility (MWSF), was constructed in 1962, and is still in use. The initial assessment of the site found no evidence of contamination.</p> <p>In 1994, the site was proposed for reevaluation on the basis of anecdotal information, which indicated that the system may have received waste from a temporary photographic laboratory.</p> <p>This EDF documents the investigation that found that the concern was unwarranted. Sample results from 1993 indicated that no contaminant levels of metals were above normal levels for a septic system. Furthermore, a review of construction drawings indicated that the closet that once held the temporary darkroom did not drain to the septic system, but rather to the sump in the lower levels of the reactor pit that collected contaminated waste.</p> |

Distribution (complete package):

Distribution (summary package only):

| Author | Dept. | Reviewed | Date | Approved | Date |
|---------------------|-------|----------------------|----------------|------------------------|-------------|
| C. M. Haring | 3130 | K. J. Holdren | 5/15/98 | F. L. Webber | 5/15/98 |
| <i>C. M. Haring</i> | | LMITCO Review | Date | LMITCO Approval | Date |
| | | <i>K. J. Holdren</i> | <i>5/18/98</i> | <i>F. L. Webber</i> | <i>5/15</i> |

**POWER BURST FACILITY (PBF)-25,
SPECIAL POWER EXCURSION REACTOR TEST (SPERT) IV SEPTIC
TANK AND LEACH PIT**

PURPOSE

This document presents information about the PBF-25, SPERT IV septic tank and leach pit, that was gathered during the data collection phase of a Track 1. PBF-25 was originally considered a No Action Determination site in the FFA/CO, indicating that sufficient information was available to justify that the site required no further evaluation. In September, 1994, a New Site Identification form was prepared and submitted to the DOE-ID, documenting anecdotal information that the PBF-25 site may have received waste from a temporary photographic laboratory. The recent additional site information indicates the site did not receive any unusual hazardous wastes and that the site likely poses no unacceptable risks.

BACKGROUND

The PBF-25 septic system includes a 1,000 gallon, concrete tank attached to a subsurface line that empties into a loose, concrete block leach pit that allows the waste water to percolate through the soil column. The system is located at the SPERT IV facility southeast of building PBF-613. The still active PBF-25, has been used to treat sanitary waste water discharges from the PBF-613 Reactor Building since 1962.

The PBF-25 site was originally identified in September 22, 1986 as a potential hazardous waste release site. It was included in the INEL Consent Order and Compliance Agreement (COCA) in 1987 with the Department of Energy - Idaho Operations Office (DOE-ID), Environmental Protection Agency (EPA) Region 10, the Idaho Department of Health and Welfare (IDHW) and the United States Geological Survey. The site was later included in the INEL Federal Facility Agreement and Consent Order (FFA/CO), which superseded the COCA. PBF-25 was considered a No Action Determination site in the FFA/CO, indicating that sufficient information was available to justify that the site required no further evaluation. This determination was based on the available information that no hazardous or radioactive substances had been released to the site and that there was no evidence of hazardous or radioactive contamination at the site.

NEW SITE INFORMATION

In September, 1994, a New Site Identification form was prepared and submitted to the DOE-ID (Attachment 1), documenting anecdotal information that the PBF-25 site may have received waste from a temporary photographic laboratory (Attachment 2). It was felt that the lab wastes could include hazardous contaminants. Deliberations between the FFA/CO parties in September, 1994 resulted in the decision to prepare a Track 1 Decision Documentation Package (DDP) to verify the condition of the septic system based on the anecdotal information provided.

In the process of developing the DDP, construction drawings were reviewed to trace the waste line from the former dark room to determine the final disposition of the waste (Attachment 3). The waste line from the dark room was connected to one of the floor

drains in the change room. The drawings also indicated that the floor drains from the dark room do not connect to the PBF-25 septic system, but rather to the sump in the lower levels of the reactor pit that collected contaminated wastes. These wastes were transferred to a Contaminated Waste Holding Tank which subsequently were drained into the SPERT IV leach pond (PBF-22). The PBF-25 septic tank and leach pit received waste from the toilets and sinks only. Site visits and conversations with the facility manager determined that the plans were accurate. The sump has been recently cleaned and relined by facility maintenance. The waste holdup tank and piping were removed by Decontamination and Decommissioning (D&D) in 1993.

Historical sampling results for PBF-25 were also discovered during the development of the DDP (Attachment 4). The septic tank and leach pit were sampled in July 1993, as part of the Environmental Monitoring Program. The four samples were analyzed for metals, Volatile Organics (VOA), semi-VOA, pesticides, herbicides, and ignitability as well as gamma-ray spectrometry analysis (Tables 1, 2 and 3). The primary contaminant of concern from a photographic laboratory is silver. Silver was analyzed, and was not detected in any of the analytical results.

Polychlorinated Biphenyl's were detected in the septic tank liquids (11 ppb) above Maximum Contaminant Levels (0.5 ppb) and above the EPA Cheat Sheet 10-6 concentration (0.01 ppb) for liquids. Since the liquid is contained in the tank and no release (i.e., spills or leaks) are suspected, the presence of PCBs in the tank is a disposal concern only. The discharge of the liquid to the leach pit soil column is not considered to pose an unacceptable risk because large volumes of the liquid would be required to concentrate the PCBs in the soil (Attachment 5) and the bottom of the leach pit is greater than 10 feet deep. Using a conservative estimate of 500 gallons per day discharge from the sinks and toilets 261 working days a year, over 35 years, a total of 5,000,000 gallons could have been discharged to the leach pit. Assuming that all this liquid contained 0.11 ppb of PCBs, only 19 ppm of PCBs would have accumulated in the leach pit soils. The Toxic Substance Control Act (TSCA) PCB Spill Policy recommends for residential use 1 ppm PCBs in surface soil to 10 inches and 10 ppm at depths below 10 inches and for industrial and other restricted site use up to 25 ppm PCBs. In the case for remediating for residential use at Comprehensive Environmental Response, Control, and Recovery Act (CERCLA) sites, EPA has recommended 1 ppm at the site surface. For remediation at industrial or other restricted use sites, the CERCLA range is 10 to 25 ppm PCBs at the site surface, as published by EPA in the Federal Register, Vol. 59, No 233, dated Tuesday, December 6, 1994, as a proposed rule change to 40 CFR Part 761.

The laboratory analytical results (Tables 1, 2 and 3) indicate that the samples do not contain any other contaminants of concern that would warrant the material in the tank to be classified as hazardous waste, as directed in the EPA limits set in 40 CFR 261, or as a radioactive waste.

RECOMMENDATION

Evaluation of additional historical data for PBF-25 indicates that the PBF-25 site poses no unacceptable risks. Therefore, the recommendation is to return this site to its original No Action designation as it was approved under terms of the COCA.

REFERENCES

As-built construction drawings, 1008-PER/IV-613-P-7, SPERT IV Area Plumbing Layout, Piping Plan - Basement, Piping Plan - Operating Floor.

As-built construction drawings, 1008-PER/IV-101-U-4, SPERT IV Area Plot Plan, - Support Facilities.

Personal Interview, J. Lord, LITCO, Photographic development dark room wastes.

Personal Interview, S. Rose, LITCO, Photographic development dark room wastes.

Personal Interview, J. Crandall, LITCO, Photographic development dark room wastes.

Interoffice Correspondence from R. S. Rice to S. R. Parkinson, Closure Report for the Sampling of Dark Room Wash Waste at MWSF; EMS-065-94 - RSR-37-94, October 17, 1994.

Interoffice Correspondence from J. A. Johnson to A. P. Wilson, Closure Report for the Sampling of SPERT IV Septic Tank; EMS-044-94 - JAJ-49-93, October 1, 1993.

C. B. Hansen, *Final Report for the Decontamination and Decommissioning of the SPERT IV Holdup Tank Ancillaries*. EGG-ER-11000, September 1993

DOE-ID, 1994, *Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL*, DOE/ID-10389, Revision 6, January 1994.

Table 1. Summary of gamma-ray analyses that were performed on the samples collected from PBF-25 Septic Tank on July 21, 1993.

| MATRIX | ISOTOPE | WASTE RESULTS | INEL Background WAG 5 (Track 2 Guidance Document) |
|--------|---------------|-------------------|---|
| Liquid | Strontium 89 | < 0.72 pCi/l | 0.22 - 0.41 pCi/l |
| | Strontium 90 | < 1.04 pCi/l | 0.22 - 0.41 pCi/l |
| | Tritium | < 736.1 pCi/l | no values |
| | Americium 241 | 0.09 ± 0.04 pCi/l | 0.003 - 0.008 pCi/l |
| | Plutonium 238 | < 0.04 pCi/l | 0.003 - 0.001 pCi/l |
| | Plutonium 239 | 0.02 ± 0.02 pCi/l | 0.18 - 0.49 pCi/l |
| | Thorium 228 | 9.44 ± 1.21 pCi/l | no values |
| | Thorium 230 | 0.08 ± 0.02 pCi/l | no values |
| | Thorium 232 | < 0.01 pCi/l | no values |
| | Uranium 234 | 0.26 ± 0.06 pCi/l | 0.94 - 1.69 pCi/l |
| | Uranium 235 | 0.04 ± 0.02 pCi/l | 0.94 - 1.69 pCi/l |
| Solid | Strontium 89 | < 0.41 pCi/l | 0.22 - 0.41 pCi/l |
| | Strontium 90 | < 0.28 pCi/l | 0.22 - 0.41 pCi/l |
| | Tritium | < 0.606 pCi/l | no values |
| | Americium 241 | < 0.08 pCi/l | 0.003 - 0.008 pCi/l |
| | Plutonium 238 | < 0.22 pCi/l | 0.003 - 0.001 pCi/l |
| | Plutonium 239 | < 0.05 pCi/l | 0.18 - 0.49 pCi/l |
| | Thorium 228 | 5.48 ± 0.75 pCi/l | no values |
| | Thorium 230 | 0.69 ± 0.12 pCi/l | no values |
| | Thorium 232 | 0.76 ± 0.13 pCi/l | no values |
| | Uranium 234 | 2.65 ± 0.37 pCi/l | 0.94 - 1.69 pCi/l |
| | Uranium 235 | 0.15 ± 0.04 pCi/l | 0.94 - 1.69 pCi/l |
| | Uranium 238 | 1.52 ± 0.23 pCi/l | 0.86 - 1.79 pCi/l |

Table 2. Summary of PBF-25 Septic Tank Liquid Analytical Results from the offsite laboratory.

| Method | Analysis | Waste Results | MCLs | EPA Cheat Sheet 10 ⁻⁶ Risk Based (a) Concentrations |
|--------------------|------------------------------------|----------------------------------|-----------|---|
| 1010 | Ignitability | Non-ignitability below 99.8°C | ----- | ----- |
| 8080 | Organic Pesticides Aroclor 1254 | 11 µg/l | 0.5 µg/l | 0.01 µg/l |
| 8150 (Modified) | Phenoxy Acid Herbicides | Not Detected | ----- | ----- |
| | Total Metals | | | |
| | Barium | 0.1 mg/l | 2000 mg/l | NA |
| | Chromium | 0.04 mg/l | 100 mg/l | NA |
| | Lead | 0.021 mg/l | ----- | NA |
| | Mercury | 0.0004 mg/l | 2 mg/l | NA |
| 8240 | Volatile Organics | | | |
| | Methylene Chloride | 1 µg/l B J | ----- | 3 µg/l |
| | Acetone | 2 µg/l J | ----- | NA |
| | Toluene | 98 µg/l | 1000 µg/l | NA |
| 8270 | Semivolatile Organics | | | |
| | 4-Methyl phenol | 840 µg/l | ----- | NA |
| | bis(2-Chloroethoxy)ether | 72 µg/l | ----- | ----- |

NA - Toxicity Value not available, so risk-based concentration cannot be calculated.

----- - Value not available

a - Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL.
 DOE/ID-10389, January 1994, rev 6.

J = Estimated value, analyte found below detection limit.

B = Analyte found in blank, possible lab contamination

Table 3. Summary of PBF-25 Septic Tank Solid Analytical Results from the offsite laboratory.

| Method | Analysis | Waste Results | Hazard Quotient | EPA Cheat Sheet 10 ⁻⁶ Risk Based (a) Concentrations |
|--------|---|-------------------------------|-----------------|--|
| 1010 | Ignitability | Non-ignitability below 99.8°C | ----- | ----- |
| 8080 | TCLP Organochlorine Pesticides | Not Detected | | |
| 8150 | TCLP Phenoxy Acid Herbicides | Not Detected | | |
| | TCLP Metals Cadmium Chromium | 0.008 mg/l 0.02 mg/l | 100 mg/l | NA NA |
| 8240 | Volatile Organics: Methyl Ethyl Ketone | 0.11 mg/l B | 10,000 mg/l | NA |
| 8240 | Volatile Organics | Not Detected | | |
| 8270 | TCLP Semivolatile Organics | Not Detected | | |

NA - Toxicity Value not available, so risk-based concentration cannot be calculated.

----- - Value not available

a - Track 2 Sites: Guidance for Assessing Low Probability Hazard Sites at the INEL. DOE/ID-10389, January 1994, rev 6.

J = Estimated value, analyte found below detection limit.

B = Analyte found in blank, possible lab contamination