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MEETING MINUTES

Subject: Expedited Response Action Weekly Interface

TO: Distribution BUILDING: 740 Stevens Building

FROM: W. L. Johnson CHAIRMAN: G. C. Henckel

Dept-Operation-Component	Area	Shift	Meeting Dates	Number Attending
Environmental Engineering	3000	Day	March 8, 1993	9

Distribution

State of Washington Department of Ecology
J. Donnelly
L. Goldstein
D. Goswami*
R. L. Hibbard
J. Phillips*
D. D. Teel
N. Uziemblo
J. Yokel
T. Wooley

U.S. Army Corps of Engineers
J. T. Stewart A5-20

U.S. Department of Energy, Richland Field Office
H. L. Chapman A5-19
J. K. Erickson A5-19
E. D. Goller A5-19
R. G. McLeod A5-19
P. M. Pak A5-19
R. K. Stewart* A5-19

U.S. Environmental Protection Agency
P. R. Beaver* B5-01
D. R. Einan
D. A. Faulk*
L. E. Gadbois
P. S. Innis*
D. R. Sherwood*

Westinghouse Hanford Company
L. D. Arnold B2-35
M. V. Berriochoa B3-30
H. D. Downey H6-27
W. F. Heine* B2-35
G. C. Henckel* H6-04
W. L. Johnson H6-04
J. K. Patterson H6-27
D. L. Sickle H6-27
T. M. Wintczak H6-27
EDMC H6-08
ERAG Route H6-04
GCH File/LB

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*Attendees

The weekly interface meetings on the expedited response actions (ERAs) was held to status the ERAs for the U.S. Department of Energy, Richland Field Office and the regulators. The meeting was conducted in accordance with the attached agenda. Actions were formally reviewed and the attached action item list was updated. The weekly report is also attached.

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All seven ERAs were discussed and their status summarized. RL provided a copy of a no action ROD and information on statistical sampling to close the HQ action item. EPA provided copies of the data obtained during the Riverland sampling.

Attachments:
1. Agenda
2. Action Item List
3. Decisions, Agreements & Commitments for Sodium Dichromate Sampling Plan
4. Expedited Response Action Weekly Report, week ending 03/07/93
5. Statistical Sampling
6. No Action ROD
7. Data Transmittal Letter

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MAR 1993

EXPEDITED RESPONSE ACTION INTERFACE MEETING

-DECISIONS, AGREEMENTS, & COMMITMENTS-
March 8, 1993

DECISIONS:

AGREEMENTS:

No Significant items

COMMITMENTS:

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DOE Representative

EPA Representative

ECOLOGY Representative

WHC Representative

WEEKLY ERA INTERFACE AGENDA

SUBJECT: STATUS OF THE EXPEDITED RESPONSE ACTIONS

DATE: March 8, 1993

- GENERAL ISSUES
  - ERA Interface Action Item review
- INDIVIDUAL PROJECT STATUS
  - North Slope
    - o Sampling completed
  - Sodium Dichromate
    - o Action Memorandum?
    - o Waste plan
  - N-Springs
    - o Preparation of EE/CA continues
  - Pickling Acid Crib
    - o Rad data tentative for week of 3/1/93
  - Riverland
    - o Preparation of revised EE/CA
  - 618-11
  - 200-W Carbon Tetrachloride
    - o 24-hour operation ongoing 3000# to date
    - o GAC release letter being revised
    - o On schedule for 3/31/93 3000 cfm operation
  - 316-5 & 618-9
    - o Status of closure reports
- OTHER ISSUE
- SUMMARY OF ACTION ITEMS
- SIGN-OFF ON ANY DECISIONS, AGREEMENTS, OR COMMITMENTS

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-ACTION ITEMS-
March 8, 1993

ORGANIZATION	ACTION ITEM
WHC	WHC will provide RL, EPA, and Ecology copies of the GPR reports for the Riverland ERA site when it becomes available. (open) North Slope, Sodium Dichromate, and Pickling Acid reports have been provided. (open)
EPA/Ecology	Develop procedure for inclusion in TPA handbook for transmittal of field information and sample data obtained by regulators during split sampling activities. (open)
DOE-HQ	DOE-HQ will provide information regarding sanitary landfill Record of Decisions and risk assessment screening related to federal activities. (open)
RL	RL will contact EPA to status the 618-9 closure report.

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EXPEDITED RESPONSE ACTION INTERFACE MEETING

-DECISIONS, AGREEMENTS, & COMMITMENTS-
March 10, 1993

DECISIONS:

AGREEMENTS: WHC-SD-EN-AP-123, Revision 0, "Sodium Dichromate ERA Cleanup Sampling & Analysis Plan," is approved, work can be initiated.

COMMITMENTS:

Jeff Phillips
~~ECOLOGY~~ ~~DOE~~ Representative

Paul A. Beaver
EPA Representative

John C. Eck
DOE ~~ECOLOGY~~ Representative

WHC Representative

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Enclosure 1

Statistical Sampling

Statistical Procedures applied to sampling at the Sodium Dichromate Barrel Landfill (SDBL) was based on Environmental Protection Agency (EPA) guidance: Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media (February 1989), and EPA Fact Sheet, A Guide: Methods for Evaluating the Attainment of Cleanup Standards for Soils and Solid Media (July 1991). In accordance with EPA, these documents were used as technical references and are not viewed as policy. Accuracy of the statistical sampling calculations, provided below, are based on the SDBL background information.

Statistical sampling of the Sodium Dichromate Barrel Landfill is based on statistical methods. Statistical methods utilize mathematical formulas to represent a sampling study. The use of statistical methods is needed because the number of samples that can be economically and practically acquired for the SDBL is limited. Statistical methods are applied to the SDBL to determine how many samples are representative of the entire landfill.

Lastly, the statistical sampling calculations assumed the following: (1) the SDBL is homogenous; (2) the distribution of the data is normal; and (3) the sampling locations were selected using a simple random sampling procedure.

Determining sample size

The following equation can be used to determine the minimum sample size representative of the SDBL:

$$Number of samples = \sigma^2 \left(\frac{Z(1-\alpha)+Z(1-\beta)}{C_s-\mu_1} \right)^2$$

where:

σ^2 = variance of the data (the standard deviation of the underlying contamination levels)

Variance is usually not known at the time that the sample size is being calculated but can be approximated using the formula:

σ^2(estimated variance) = Range/6

Range is the expected spread between the smallest and largest values

C_s = cleanup standard, ppm

μ_1 = alternative clean decision level

$Z_{(1-\alpha)}$ and $Z_{1-\beta)}$ = the false positive and false negative normal deviates (See Table 1 for values of Z based on α and β).

$Z_{(1-\alpha)}$ is the normal deviate point associated with the error of saying the site attains C_s when in fact it does not.

$Z_{(1-\beta)}$ is the normal deviate point associated with the error of saying the site does not attain C_s when in fact is does.

The SDBL cleanup target (C_s) is 100 ppm, the alternative clean decision level (μ_1) is 99ppm, the expected variance (σ_2) of the data is 5 (the difference between the smallest and largest sample values is 28), and the false positive rate = .05 at a risk of 20% (false negative rate = .20). The appropriate number of samples can be determined from this information.

$$5\left(\frac{1.945+.842}{100-99}\right)^2=24.87=25 samples$$

Table 1
Z Values for Selected Alpha and Beta

β α	$Z_{1-\beta}$ $Z_{1-\alpha}$
0.450	0.124
0.400	0.253
0.350	0.385
0.300	0.524
0.250	0.674
0.200	0.842
0.100	1.282
0.050	1.646
0.025	1.960
0.010	2.326
0.0050	2.576
0.0025	2.807
0.0010	3.090

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Enclosure 2

General Comments

1. Environmental Restoration and Waste Management (EM) Five Year Plan Activity Data Sheet (ADS), RL-3120-0, for fiscal year (FY) 1994 - 1998 states in the budget narrative that there are no activities planned for 100-IU-4 operable unit in FY 1993. The Sodium Dichromate Barrel Landfill is located in 100-IU-4 operable unit. There is $13,972,000 allocated for FY 93 for ADS RL-3120-0. It is estimated that the Expedited Response Action (ERA) for the landfill will cost about two million dollars.

2. The foremost perceived benefit for executing an ERA at Hanford's Sodium Dichromate Barrel Landfill is to reduce the potential for chromium to migrate (leach) into the Columbia River. Sodium dichromate is, however, a deliquescent crystal, and the leaching potential is limited due to the waste being buried, which inhibits the crystals capability to absorb atmospheric moisture.

3. It is assumed that at burial, the crushed barrels contained 1% residual sodium dichromate based on the Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford (PNL 1988). Keeping in mind that the drums contained only 1% residual sodium dichromate and were crushed, the drums could have been, by current RCRA regulatory standards (40 CFR 261.7), empty.

4. Due to the lack of operational disposal records or consummate characterization of the landfill, estimated volumes of contaminated wastes have not been determined. In addition to sodium dichromate, a greater portion of the wastes may be non-hazardous construction debris.

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ABSTRACTS FOR HEXAVALENT CHROMIUM
Order number 930222-091251-ROD -001-001
page 1 set 7 with 10 of 10 items

Item 1

REGION :3
SITE NAME :MATTHEWS ELECTROPLATING
LOCATION :ROANOKE, VA
NTIS REPORT #:EPA/ROD/R03-83/007
ROD DATE :830602
ABSTRACT :
THE 1.7 ACRE MATTHEWS ELECTROPLATING SITE IS LOCATED IN ROANOKE COUNTY, VIRGINIA, APPROXIMATELY TWO MILES WEST OF SALEM. BETWEEN 1972 AND 1976, TWO BUILDINGS ON THE SITE HOUSED AN AUTOMOBILE BUMPER ELECTROPLATING OPERATION. GROUNDWATER SAMPLING HAS CONFIRMED THAT A WELL AT THE PLANT WAS HEAVILY CONTAMINATED WITH HEXAVALENT CHROMIUM. THE OFF-SITE GROUND WATER INVESTIGATION REVEALED THAT 10 LOCAL RESIDENTIAL WELLS ALSO HAD CHROMIUM CONTAMINATION.
THE COST-EFFECTIVE REMEDY SELECTED FOR THIS SITE IS TO PROVIDE MUNICIPAL WATER SERVICE TO THE AFFECTED NEIGHBORHOOD. THE CAPITAL COST OF THIS ALTERNATIVE IS ESTIMATED TO BE $662,000 AND THE PRESENT WORTH OF OPERATING AND MAINTENANCE COSTS FOR THIRTY YEARS WAS ESTIMATED AT $292,000.
REMEDY :
THE COST-EFFECTIVE REMEDY SELECTED FOR THIS SITE IS TO PROVIDE MUNICIPAL WATER SERVICE TO THE AFFECTED NEIGHBORHOOD. THE CAPITAL COST OF THIS ALTERNATIVE IS ESTIMATED TO BE $662,000 AND THE PRESENT WORTH OF OPERATING AND MAINTENANCE COSTS FOR THIRTY YEARS WAS ESTIMATED AT $292,000.

Item 2

REGION :5
SITE NAME :NOVACO
LOCATION :TEMPERANCE, MI
NTIS REPORT #:EPA/ROD/R05-86/032
ROD DATE :860627
ABSTRACT :
NOVACO INDUSTRIES IS A ONE-BUILDING FACILITY THAT OCCUPIES A 2.6-ACRE RECTANGULAR PARCEL OF LAND, LOCATED AT 9411 SUMMERFIELD ROAD, AT THE INTERSECTION OF SUMMERFIELD AND PIEHL, TEMPERANCE, MICHIGAN. THE SITE LIES 50 MILES SOUTH OF DETROIT AND 5 MILES NORTH OF TOLEDO, OHIO. THE NOVACO INDUSTRIES STUDY AREA CONSISTS OF NOVACO INDUSTRIES, VETERANS OF FOREIGN WARS (VFW) POST 9656 AND THE MOYER RESIDENTIAL PROPERTY. A BELOW-GROUND PLATING TANK LOCATED WITHIN THE NOVACO INDUSTRIES BUILDING LEAKED AN UNKNOWN QUANTITY OF CHROMIC ACID INTO THE GROUND WATER ON OR BEFORE JUNE 13, 1979. WITHIN 24 DAYS FOLLOWING NOVACO INDUSTRIES' DETECTION OF THE LEAK, CHROMIUM WAS DISCOVERED IN NOVACO'S 20-FOOT WELL, AS WELL AS THE VFW POST'S WELL WHICH WAS SCREENED IN BOTH THE SHALLOW AND DEEP AQUIFER. A YEAR LATER, CHROMIUM WAS

ABSTRACTS FOR HEXAVALENT CHROMIUM
Order number 930222-091251-ROD -001-001
page 2 set 7 with 10 of 10 items

DETECTED IN A RESIDENTIAL WELL WEST OF THE VFW POST.
AN EXTRACTION WELLFIELD, A TREATMENT PLANT CONSISTING OF ELECTROCHEMICAL REDUCTION, PRECIPITATION, FILTRATION, AND ION EXCHANGE POLISHING UNITS, AND A PIPELINE TO CONVEY TREATED GROUND WATER TO INDIAN CREEK WILL BE CONSTRUCTED ONSITE AND ON THE ADJOINING PROPERTIES IN ORDER TO IMPLEMENT THE SELECTED REMEDIAL ALTERNATIVE. APPROXIMATELY 36 MILLION GALLONS OF CONTAMINATED GROUND WATER WILL BE EXTRACTED FROM THE SAND/GRAVEL AQUIFER OVER A 4-YEAR PERIOD. THE EXTRACTED GROUND WATER WILL BE TREATED ONSITE TO REMOVE TRIVALENT AND HEXAVALENT CHROMIUM AND WILL THEN BE DISCHARGED TO INDIAN CREEK, APPLYING THE MILESTONE APPROACH. TOTAL CAPITAL COST FOR THE SELECTED REMEDIAL ACTION IS ESTIMATED TO BE $560,000 WITH TOTAL O&M COSTS APPROXIMATELY $419,000 FOR A 6-YEAR PERIOD.
REMEDY :
- GROUNDWATER EXTRACTION
- ONSITE TREATMENT OF GROUNDWATER AND DISCHARGE
- OPERATION AND MAINTENANCE
  ONSITE TREATMENT
  GROUNDWATER EXTRACTION
  GROUNDWATER MONITORING
  ABANDON MONITORING WELLS

Item 3

REGION :5
SITE NAME :NORTHERNAIRE
LOCATION :CADILLAC, MI
NTIS REPORT #:EPA/ROD/R05-85/022
ROD DATE :850911
ABSTRACT :
NORTHERNAIRE PLATING IS THE SITE OF A FORMER ELECTROPLATING FACILITY LOCATED AT 1002 SIXTH STREET IN CADILLAC, WEXFORD COUNTY, MICHIGAN. ELECTROPLATING OPERATIONS WERE CONDUCTED AT THE 12.75 ACRE SITE FROM 1971 TO 1981. WASTE CONTAMINANTS FROM ELECTROPLATING COMMONLY INCLUDE COPPER, NICKEL, CHROMIUM, ZINC, LEAD, TIN AND CADMIUM, AS WELL AS METAL COMPLEXING AGENTS. IN 1978, TWO DOMESTIC WELLS WERE FOUND TO BE CONTAMINATED WITH HEXAVALENT CHROMIUM. IN ADDITION, PROCESS WASTE WATERS CONTAINING CADMIUM AND CHROMIUM WERE DISCHARGED INTO THE MUNICIPAL SEWER SYSTEM. A PRIVATE SEWER LINE PERMITTED EXFILTRATION OF THESE WASTE WATERS THROUGH POORLY SEALED JOINTS. A DRYWELL IN THE SEWER LINE AT THE FACILITY ALLOWED PLANT EFFLUENT TO BE DISCHARGED DIRECTLY TO THE HIGHLY PERMEABLE UNSATURATED SOIL.
THIS ROD IS A SOURCE CONTROL REMEDIAL ACTION THAT INCLUDES: EXCAVATION OF SOILS AND SEWER LINE SEDIMENTS TO MEET RESPONSE OBJECTIVES OF 50 MG/KG CHROMIUM AND 10 MG/KG CADMIUM, AND DISPOSAL OFFSITE AT A RCRA FACILITY; CLEANING THE FLOOR OF THE FACILITY OF DUST AND RESIDUE; BREAKING-UP A 30 FT. X 10 FT. AREA OF CONCRETE FLOOR AND THE DRYWELL IN THE BUILDING, SAMPLING THE SOIL FOR CADMIUM AND CHROMIUM, AND EXCAVATION AND DISPOSAL OFFSITE AT A RCRA FACILITY, IF NECESSARY; AND BACKFILLING WITH UNCONTAMINATED SOIL. ANY ADDITIONAL REMEDIAL ACTIONS

WILL BE ADDRESSED IN A SEPARATE RECORD OF DECISION UPON COMPLETION OF THE RI/FS. TOTAL CAPITAL COST FOR THE SELECTED REMEDIAL ACTION IS ESTIMATED TO BE $75,000.

REMEDY :

- EXCAVATE SOILS AND SEWER LINE SEDIMENTS CONTAMINATED WITH CADMIUM AND CHROMIUM TO RESPONSE OBJECTIVES OF 50 MG/KG CHROMIUM AND 10 MG/KG CADMIUM, AND TRANSPORT THEM TO A PRIVATELY OWNED OFF-SITE RCRA SUBTITLE C DISPOSAL FACILITY.
- CLEAN THE FLOOR OF THE BUILDING OF DUST AND RESIDUE WHICH MAY CONTAIN HAZARDOUS SUBSTANCES.
- BREAK-UP A 30 FT. X 10 FT. AREA OF THE CONCRETE FLOOR AND THE DRYWELL IN THE BUILDING, SAMPLE THE SOIL AND IF CONTAMINATED, EXCAVATE WITH A BACKHOE AND DISPOSE OF AS ABOVE.
- BACKFILL THE EXCAVATED AREAS WITH UNCONTAMINATED SOIL.
- COST OF THE PROPOSED ALTERNATIVE IS APPROXIMATELY $75,000.

Item 4

REGION :7
SITE NAME :MIDWEST MANUFACTURING/NORTH FARM
LOCATION :KELLOGG, IA
NTIS REPORT #:EPA/ROD/R07-88/019
ROD DATE :880930
ABSTRACT :

THE NORTH FARM OPERABLE UNIT IS ONE OF TWO SUBSITES OF THE MIDWEST MANUFACTURING SITE AND IS LOCATED IN A RURAL AREA APPROXIMATELY TWO MILES NORTH AND ONE-HALF MILE EAST OF KELLOGG, JASPER COUNTY, IOWA. APPROXIMATELY 600 PEOPLE LIVE IN KELLOGG. LAND USE NEAR THE SITE IS MAINLY AGRICULTURAL, WITH PASTURE LAND ON AND AROUND THE SITE. THE CLOSEST RESIDENCE TO THE NORTH FARM SUBSITE IS WITHIN ONE MILE. THE SUBSITE CONSISTS OF AN UNLINED DISPOSAL CELL CONTAINING APPROXIMATELY 200 YD3 OF SOIL CONTAMINATED WITH ELECTROPLATING WASTES. THE DISPOSAL CELL IS LOCATED ON THE LOWER SLOPE OF A ROLLING HILL ADJECENT TO THE VALLEY OF BEAR CREEK, WHICH IS AN INTERMITTENT STREAM LOCATED 500 FEET EAST AND 50 FEET LOWER THAN THE SITE. RECORDS INDICATE THAT ELECTROPLATING ACTIVITIES TOOK PLACE AT THIS SITE UNTIL JUNE 1981, WHEN THE FACILITY CEASED OPERATIONS. THE START DATE FOR ACTIVITIES AT THE SITE IS UNKNOWN. ACTIVITIES INVOLVED THE USE OF VARIOUS HEAVY MEATALS, INCLUDING CADMIUM, NICKEL, AND ZINIC, AS WELL AS CYANIDE. IN 1977, A WASTEWATER TREATMENT PLANT WAS INSTALLED AT THE FACILITY TO TREAT THE PLANT EFFLUENT BEFORE IT WAS DISCHARGED INTO THE LOCAL RIVER. SOLIDS GENERATED AT THE TREATMENT PLANT WERE TEMPORIRALY STORED IN A TANK ONSITE AND PERIODICALLY TRANSFERRED TO THE DISPOSAL CELL. THE DISPOSAL CELL WAS UNLINED AND HAD NO SOIL CAP, LEACHATE COLLECTION SYSTEM OF RUN-ON AND RUN-OFF CONTROLS. SOIL SAMPLING WAS CONDUCTED ONSITE AND DOWNSLOPE OF THE SITE IN 1982 AND 1983 TO EVALUATE THE POTENTIAL FOR OFFSITE CONTAMINANT MIGRATION DUE TO PREVIOUS WASTE DISPOSAL PRACTICES. AHALYSIS OF THE SAMPLES REVELED THAT SOIL CONTAMINATION HAD OCCURRED VIA SURFACE RUN-OFF. THE PRIMARY CONTAMINANTS OF CONCERN AFFECTING THE SOIL ARE CADMIUM AND

CYANIDE.
THE SELECTED REMEDIAL ACTION FOR THIS OPERABLE UNIT INCLUDES: EXCAVATION OF THE CONTAMINATED SOIL WITHIN AND AROUND THE DISPOSAL CELL AND EITHER ONSITE OR OFFSITE TREATMENT USING STABILIZATION, WITH OFFSITE DISPOSAL OF THE TREATED SOIL AT A PERMITTED RCRA SUBTITLE C DISPOSAL FACILITY; AND BACKFILLING AND GRADING OF THE EXCAVATED AREA WITH CLEAN SOIL TO SUPPORT A VEGETATIVE COVER. THE ESTIMATED TOTAL PRESENT WORTH COST FOR THIS REMEDIATION IS $140,000 - $170,000. THE REMEDIAL ACTION FOR THE MIDWEST MANUFACTURING OPERABLE UNIT OF THIS SITE WILL BE ADDRESSED IN A SUBSEQUENT ROD.
REMEDY :
THE NORTH FARM OPERABLE UNIT IS ONE OF TWO SUBSITES WITHIN THE MIDWEST MANUFACTURING/NORTH FARM SUPERFUND SITE. THIS SITE HAS BEEN DIVIDED INTO TWO OPERABLE UNITS; THE NORTH FARM SITE AND THE MIDWEST PLANT SITE. THIS DECISION DOCUMENT ADDRESSES THE CONTAMINANTS LOCATED AT THE NORTH FARM OPERABLE UNIT. A SEPARATE DECISION DOCUMENT WILL ADDRESS THE CONTAMINANTS AT THE MIDWEST PLANT SITE.
THE SELECTED REMEDY PROVIDES FOR THE EXCAVATION OF THE CONTAMINATED SOIL WITHIN AND AROUND THE DISPOSAL CELL WHICH CONTAINS CADMIUM CONCENTRATION LEVELS EXCEEDING THE HEALTH-BASED ACTION LEVEL OF 13 MILLIGRAMS/KILOGRAM (MG/KG). THE CONTAMINATED SOIL WILL BE TREATED USING STABILIZATION TECHNOLOGY TO ACHIEVE LEVELS IN ACCORDANCE WITH THE BEST DEMONSTRATED AVAILABLE TECHNOLOGIES. THE TREATED SOILS WILL BE DISPOSED IN A RCRA SUBTITLE C DISPOSAL FACILITY. THE EXCAVATED AREA WILL BE BACKFILLED AND GRADED WITH CLEAN SOIL TO SUPPORT A VEGETATIVE COVER.

Item 5

REGION :5
SITE NAME :NORTHERNAIRE PLATING
LOCATION :CADILLAC, MI
NTIS REPORT #:EPA/ROD/R05-89/114
ROD DATE :890929
ABSTRACT :
THE NORTHERNAIRE PLATING FACILITY IS A FORMER ELECTROPLATING FACILITY IN THE CADILLAC INDUSTRIAL PARK IN THE CITY OF CADILLAC, WEXFORD COUNTY, MICHIGAN. APPROXIMATELY 40 INDUSTRIES OPERATE IN THE 1-SQUARE MILE INDUSTRIAL PARK INCLUDING KYSOR INDUSTRIAL, ANOTHER SUPERFUND SITE. THE KYSOR INDUSTRIAL SITE WILL BE ADDRESSED BY THIS ACTION AS WELL. THERE ARE SEVERAL PRIVATE RESIDENCES INCLUDING A TRAILER PARK WITHIN THE INDUSTRIAL PARK, AND ANOTHER RESIDENTIAL NEIGHBORHOOD LIES ADJACENT TO THE NORTHERN BOUNDARY OF THE PARK. THE CITY OF CADILLAC WATER SUPPLY WELL FIELD IS LOCATED NEAR THE CENTER OF THE PARK, AND GROUND WATER BENEATH THE SITE GENERALLY FLOWS TOWARDS THE CITY WELLS. THE CLAM RIVER FLOWS THROUGH THE SOUTHEAST PORTION OF THE SITE DRAINING RUNOFF FROM THE SITE. THE NORTHERNAIRE PLATING FACILITY PROVIDED CUSTOM CHROMIUM AND NICKEL PLATING FINISHES TO AUTOMOBILE AND OTHER METAL PARTS. IMPROPER WASTE HANDLING AND FAULTY SEWER SYSTEMS ARE BELIEVED TO BE RESPONSIBLE FOR RELEASING TOXIC COMPOUNDS (INCLUDING

HEXAVALENT CHROMIUM, CHROMIUM, AND CYANIDE) TO THE SOIL WHICH HAVE SUBSEQUENTLY LEACHED FROM THE SOIL TO THE GROUND WATER. A 1985 RECORD OF DECISION ADDRESSED THE SOIL CONTAMINATION AND INCLUDED EXCAVATION AND OFFSITE DISPOSAL OF CONTAMINATED SOIL AND SEWER SEDIMENT. GROUND WATER CONTAMINATION HAS SINCE BEEN DETECTED THROUGHOUT THE SHALLOW AND INTERMEDIATE AQUIFERS UNDERLYING THE PARK. AT PRESENT THE DEEP AQUIFER (IN WHICH THE CADILLAC CITY WELL FIELD IS LOCATED) IS NOT AFFECTED BY THIS CONTAMINATION. THE PRIMARY CONTAMINANTS OF CONCERN AFFECTING THE GROUND WATER ARE VOCS INCLUDING TOLUENE, TCE, PCE, AND XYLENE; AND METALS INCLUDING CHROMIUM.

THE SELECTED REMEDIAL ACTION FOR THIS SITE INCLUDES A TWO-STAGE GROUND WATER PUMPING AND TREATMENT SYSTEM USING CARBON ADSORPTION FOR THE REMOVAL OF CHROMIUM AND AIR STRIPPING WITH VAPOR-PHASE CARBON ADSORPTION FOR THE REMOVAL OF VOCS AND DISCHARGE TO THE CLAM RIVER; GROUND WATER MONITORING; AND INSTITUTIONAL CONTROLS INCLUDING SITE ACCESS AND GROUND WATER AND LAND USE RESTRICTIONS. THE ESTIMATED PRESENT WORTH COST FOR THIS REMEDIAL ACTION IS $16,000,000, WHICH INCLUDES PRESENT WORTH O&M COSTS OF $5,000,000 OVER 60 YEARS.

REMEDY :

THIS REMEDY IS THE FINAL REMEDIAL ACTION FOR THE NORTHERNAIRE PLATING COMPANY SITE. THE GROUNDWATER EXTRACTION AND TREATMENT ALTERNATIVE FOR THE NORTHERNAIRE SITE CHOSEN IN THE ATTACHED RECORD OF DECISION CONSTITUTES THE FINAL AND OVERALL REMEDY FOR THE SITE. THE PRIMARY GOALS OF THE REMEDIAL ACTIONS AT THE NORTHERNAIRE SITE ARE:

* TO ELIMINATE ANY HUMAN EXPOSURE TO RESIDUAL HAZARDOUS WASTE DISPOSED OF OR CONTAMINATED MATERIALS AT THE SITE, AND;
* TO ADDRESS ALL POTENTIAL RISKS TO HUMAN HEALTH AND/OR IMPACTS TO THE ENVIRONMENT.

THE CADILLAC AREA GROUNDWATER REMEDIAL INVESTIGATION WHICH INCLUDED THE NORTHERNAIRE PLATING COMPANY SITE IDENTIFIED AREAS OF CONCERN THAT INCLUDE AREAS OF CONTAMINATED GROUNDWATER.

THE POTENTIAL RISKS ASSOCIATED WITH THE SITE ARE POSED BY HUMAN CONSUMPTION OF CONTAMINATED ON-SITE GROUNDWATER. THE SELECTED REMEDY ADDRESSES THESE SITE CONCERNS BY A COMBINATION OF TREATMENT, AND SITE USE RESTRICTIONS. A GROUNDWATER EXTRACTION AND TREATMENT SYSTEM WILL BE INSTALLED TO ELIMINATE GROUNDWATER CONTAMINATION. ADDITIONALLY, THE SELECTED REMEDY WILL PROVIDE FOR LONG-TERM MONITORING OF THE GROUNDWATER. CORRECTIVE ACTION MEASURES WILL ALSO BE TAKEN SHOULD THIS MONITORING INDICATE A FAILURE OF ANY COMPONENT OF THE REMEDY. SITE USE AND ACCESS RESTRICTIONS WILL BE PLACED ON THE PROPERTY TO ENSURE THE INTEGRITY AND PERFORMANCE OF THE REMEDY.

THE MAJOR COMPONENTS OF THE SELECTED REMEDY CONSIST OF THE FOLLOWING:

* INSTALL GROUNDWATER EXTRACTION AND TREATMENT SYSTEM TO REMOVE GROUNDWATER CONTAMINATION FROM THE AREA SURROUNDING THE SITE.
* CONDUCT GROUNDWATER MONITORING TO ASSESS QUALITY OF AREA GROUNDWATER.
* IMPOSE ACCESS AND USE RESTRICTIONS.
* ESTIMATED TOTAL COST; $ 16,000,000.00
* ESTIMATED TIME TO COMPLETE; 64 YEARS

ABSTRACTS FOR HEXAVALENT CHROMIUM
Order number 930222-091251-ROD -001-001
page 6 set 7 with 10 of 10 items

Item 6

REGION :4
SITE NAME :NEWSOM BROTHERS OLD REICHOLD
LOCATION :COLUMBIA, MS
NTIS REPORT #:EPA/ROD/R04-89/050
ROD DATE :890918
ABSTRACT :
THE 81-ACRE NEWSOM BROTHERS/OLD REICHHOLD SITE IS IN MARION COUNTY, COLUMBIA, MISSISSIPPI. THE SITE IS IN A PREDOMINANTLY RESIDENTIAL AREA AND WAS USED AS A WOOD PROCESSING FACILITY UNDER SEVERAL OWNERS FROM 1936 UNTIL 1977, WHEN A FIRE AND EXPLOSION DESTROYED THE FACILITY. SITE ACTIVITIES INCLUDED PRODUCING TALL OILS, TURPENTINE, CALCIUM AND ZINC RESINATES, AND POLYMERIZED AND RUBBER RESINS. FURTHERMORE, PCP WAS APPARENTLY MIXED WITH DIESEL OIL AND SOLD, AND XYLENES WERE USED IN A NUMBER OF PROCESSES. A STATE INVESTIGATION IN 1976 REVEALED THAT WASTEWATER CONTAINING PHENOLS, OIL, AND GREASE WAS DISCHARGING TO A SMALL CREEK. FURTHER INVESTIGATIONS RESULTED IN EPA PERFORMING AN IMMEDIATE REMOVAL ACTION IN 1984, WHICH INCLUDED THE REMOVAL OF OVER 600 SURFACE DRUMS FROM THE SITE AND EXCAVATING AND DRAINING TWO PONDS, ONE OF WHICH WAS SUBSEQUENTLY FILLED WITH CLEAN FILL. ONSITE BURIED DRUM AREAS WERE THE TARGET OF ANOTHER EPA REMOVAL ACTION CONDUCTED IN 1987-89. APPROXIMATELY 3,900 DRUMS WERE EXCAVATED AND SHREDDED, DRUM CONTENTS WERE DISPOSED OF OFFSITE, AND 1,920 TONS OF SOIL WERE REMOVED. IN ADDITION THERE IS AN EXTENSIVE SYSTEM OF CONCRETE DRAINS THAT SERVED TO COLLECT AND DRAIN SPILLED WASTES AND RAINWATER THAT HAS AN AREA OF RUNOFF OF APPROXIMATELY 300,000 SQUARE FEET. THERE IS AN ESTIMATED 650 CUBIC YARDS OF BULK HAZARDOUS SUBSTANCES REMAINING ONSITE CONSISTING OF BLACK TAR-LIKE WASTE MATERIAL AND A RESIN MATERIAL IN THREE EXCAVATIONS AND IN THE DRAINAGE SYSTEM. THE PRIMARY CONTAMINANTS OF CONCERN IN THE SOIL, SEDIMENT, AND BULKED WASTES ARE ORGANICS INCLUDING PAHS, PCBS, AND PCP; AND METALS.

THE SELECTED REMEDIAL ACTION FOR THIS SITE INCLUDES EXCAVATION AND OFFSITE DISPOSAL OF 30,300 CUBIC YARDS OF CONTAMINATED SOIL AND 7,300 CUBIC YARDS OF CONTAMINATED POND AND CREEK SEDIMENT; EXCAVATION AND OFFSITE INCINERATION OF 650 CUBIC YARDS OF TAR-LIKE WASTE MATERIAL AND ANY SOIL/SEDIMENT CONTAINING RCRA HAZARDOUS WASTES, FOLLOWED BY OFFSITE DISPOSAL; DRAINING, FILLING, AND CAPPING ONSITE PONDS; RECONTOURING THE SITE; AND GROUND WATER MONITORING FOR FIVE YEARS. THE ESTIMATED PRESENT WORTH COST FOR THIS REMEDIAL ACTION IS $14,180,000, WHICH INCLUDES AN ESTIMATED PRESENT WORTH O&M COST OF $520,225.
REMEDY :
THIS REMEDY IS THE FINAL REMEDIAL ACTION FOR THE SITE. THE FUNCTION OF THIS REMEDY IS TO REDUCE THE RISKS ASSOCIATED WITH EXPOSURE TO CONTAMINATED ON-SITE SOILS, SEDIMENTS AND WASTE MATERIALS.
THE MAJOR COMPONENTS OF THE SELECTED REMEDY INCLUDE:

- NO REMEDIAL ACTION IS PLANNED FOR GROUNDWATER; MONITORING WILL BE CONTINUED ON-AND OFF-SITE FOR FIVE YEARS.
- BLACK TAR-LIKE WASTE MATERIAL WILL BE REMOVED FROM THE SITE AND

3/8/93 Provided to EPA/Ecol at ERA weekly mtg

U.S. DEPARTMENT OF ENERGY

NORTHWESTERN AREA PROGRAMS (EM-44)

OFFICE OF ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT

FAX: (301) 903-8137
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9312890952

DATE: March 2, 1993

TO: Bob Stewart

FROM: LISA TREICHEL, DOE HQ (EM442)

FAX NUMBER DESTINATION: 04

VERIFICATION NUMBER:

NUMBER OF PAGES (INCLUDING COVER SHEET): 27

NOTES: Idaho No Action ROD

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Department of Energy
Field Office, Idaho
785 DOE Place
Idaho Falls, Idaho 83401-1562

December 18, 1992

Mr. Wayne Pierre, Chief
Federal Facility Section
U. S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Mr. Dean Nygard, Federal Facilities Supervisor
Idaho Department of Health and Welfare
Division of Environmental Quality
Community Programs
1410 North Hilton
Boise, Idaho 83706

SUBJECT: Transmittal of Draft Final Record of Decision (ROD) for Operable Unit (OU) 4-11, Motor Pool Pond at the Central Facilities Area (CFA) at the Idaho National Engineering Laboratory (INEL) - AM/ERWM-RPO-282-92

Dear Mr. Pierre and Mr. Nygard:

Enclosed are copies of the Draft Final ROD for the CFA Motor Pool Pond, OU 4-11, under the INEL Federal Facility Agreement and Consent Order. This Draft Final version of the ROD represents discussions among the WAG 4 Managers from DOE-ID, the EPA, and IDHW which occurred in lieu of exchanging written comments.

If you have any questions, please call me at (208) 526-1148 or Nolan Jensen at (208) 526-0436.

Sincerely,

Jerry Lyle, Deputy Assistant Manager
Environmental Restoration
and Waste Management

Enclosure

cc w/enc: S. Rosenberger, IDHW-IF
D. Frederick, IDHW-IF
H. Blood, EPA
G. Ellis, DOE-HQ, EM-441

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DECLARATION OF THE RECORD OF DECISION
SITE NAME AND LOCATION

Central Facilities Area Motor Pool Pond
Operable Unit 4-11
Waste Area Group 4
Idaho National Engineering Laboratory
Idaho Falls, Idaho

STATEMENT OF BASIS AND PURPOSE

This decision document presents the remedial action selected for the Central Facilities Area Motor Pool Pond at the Idaho National Engineering Laboratory (INEL), Operable Unit 4-11. This alternative was selected in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act, and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The decision is based on the information in the site Administrative Record, which is located in the INEL Technical Library, Idaho Falls, Idaho.

The lead agency in this decision is the U.S. Department of Energy (DOE). The U.S. Environmental Protection Agency (EPA) and the Idaho Department of Health and Welfare (IDHW) have participated in the scoping of the site investigations and the evaluation of remedial investigation data. The IDHW concurs with the selected remedy.

DESCRIPTION OF THE SELECTED REMEDY

The DOE has determined that no further remedial action is necessary at the CFA Motor Pool Pond to ensure protection of human health and the environment. This decision is based on the results of the human health and ecological risk assessments, which indicate that conditions at the site pose no unacceptable risk to human health or the environment. The EPA has approved the DOE decision; the IDHW concurs.

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DECLARATION

The selected remedy is protective of human health and the environment. Because this remedy does not result in hazardous substances remaining on-site above health-based levels, a statutory five-year review will not be required. Any impacts from past releases to the pond that may affect the subsurface (vadose zone) or groundwater will be evaluated in operable unit 4-13, the WAG 4 Comprehensive RI/FS.

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Signature sheet for the foregoing Record of Decision for Operable Unit 4-11 at the Idaho National Engineering Laboratory by the United States Department of Energy and approved by the United States Environmental Protection Agency, with concurrence by the Idaho Department of Health and Welfare. The Operable Unit consists of the Central Facilities Area Motor Pool Pond at the Idaho National Engineering Laboratory.

Augustine A. Pitrolo
Manager
Department of Energy Idaho Field Office

Date

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Signature sheet for the foregoing Record of Decision for Operable Unit 4-11 at the Idaho National Engineering Laboratory by the United States Department of Energy and approved by the United States Environmental Protection Agency, with concurrence by the Idaho Department of Health and Welfare. The Operable Unit consists of the Central Facilities Area Motor Pool Pond at the Idaho National Engineering Laboratory.

Dana Rasmussen
Regional Administrator, Region 10
Environmental Protection Agency

Date

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12/18/92

Signature sheet for the foregoing Record of Decision for Operable Unit 4-11 at the Idaho National Engineering Laboratory by the United States Department of Energy and approved by the United States Environmental Protection Agency, with concurrence by the Idaho Department of Health and Welfare. The Operable Unit consists of the Central Facilities Area Motor Pool Pond at the Idaho National Engineering Laboratory.

Richard Donovan
Director
Idaho Department of Health and Welfare

Date

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ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFA	Central Facilities Area
COCA	Consent Order and Compliance Agreement
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ESRP	Eastern Snake River Plain
FFA/CO	Federal Facility Agreement/Consent Order
FR	Federal Register
IDHW	Idaho Department of Health and Welfare
INEL	Idaho National Engineering Laboratory
mg/kg	Milligrams per kilogram
μg/kg	Micrograms per kilogram
NCP	National Oil and Hazardous Substances Pollution Contingency Plan (National Contingency Plan)
NPL	National Priorities List
OU	Operable Unit
PCB	Polychlorinated biphenyl
pCi/g	Picocuries per gram
pCi/L	Picocuries per liter
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RfD	Reference dose
ROD	Record of Decision
UCL	Upper confidence limit
VOC	Volatile Organic Compound
WAG	Waste Area Group

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DECISION SUMMARY

I. SITE NAME, LOCATION, AND DESCRIPTION

The Idaho National Engineering Laboratory (INEL) is a U.S. Department of Energy facility that encompasses approximately 2,305 square kilometers (890 square miles) in southeastern Idaho (see Figure 1). The population centers closest to the INEL Central Facilities Area (CFA) include Atomic City (11 mi southeast), Arco (18 mi west), Howe (15 mi north), Mud Lake (32 mi northeast), and Terreton (34 mi northeast). The nearest large population center is Idaho Falls (population 46,000), located approximately 48 km (32 mi) to the east. The INEL is currently classified for industrial and mixed use by the Bureau of Land Management, and has been designated as a National Environmental Research Park.

The INEL is located in the northeastern portion of the Eastern Snake River Plain (ESRP) in southeastern Idaho. The ESRP is a volcanic plateau consisting of a series of basaltic lava flows with sedimentary interbeds. The topography of the INEL is generally flat to gently rolling, with elevations ranging from 1,585 m (5,200 ft) in the northeast to 1,450 m (4,750 ft) in the southwest. In the vicinity of CFA, the topography is flat, with the Big Lost River floodplain lying to the west and north and gently rolling basalt plains to the south and east. Elevations range from 1,500 m (4,920 ft) to 1,510 m (4,960 ft). Soils in the vicinity of CFA are thin and poorly developed, overlying alluvial deposits of sand, silt, and gravel.

The Snake River Plain Aquifer underlies the INEL and has been designated as a sole source aquifer pursuant to the Safe Drinking Water Act. The depth to the aquifer varies from 61 m (200 ft) in the northern portion of the INEL to 270 m (900 ft) in the southern portion; the depth to the aquifer in the CFA area is approximately 146 m (480 ft). Groundwater in this aquifer generally flows to the southwest.

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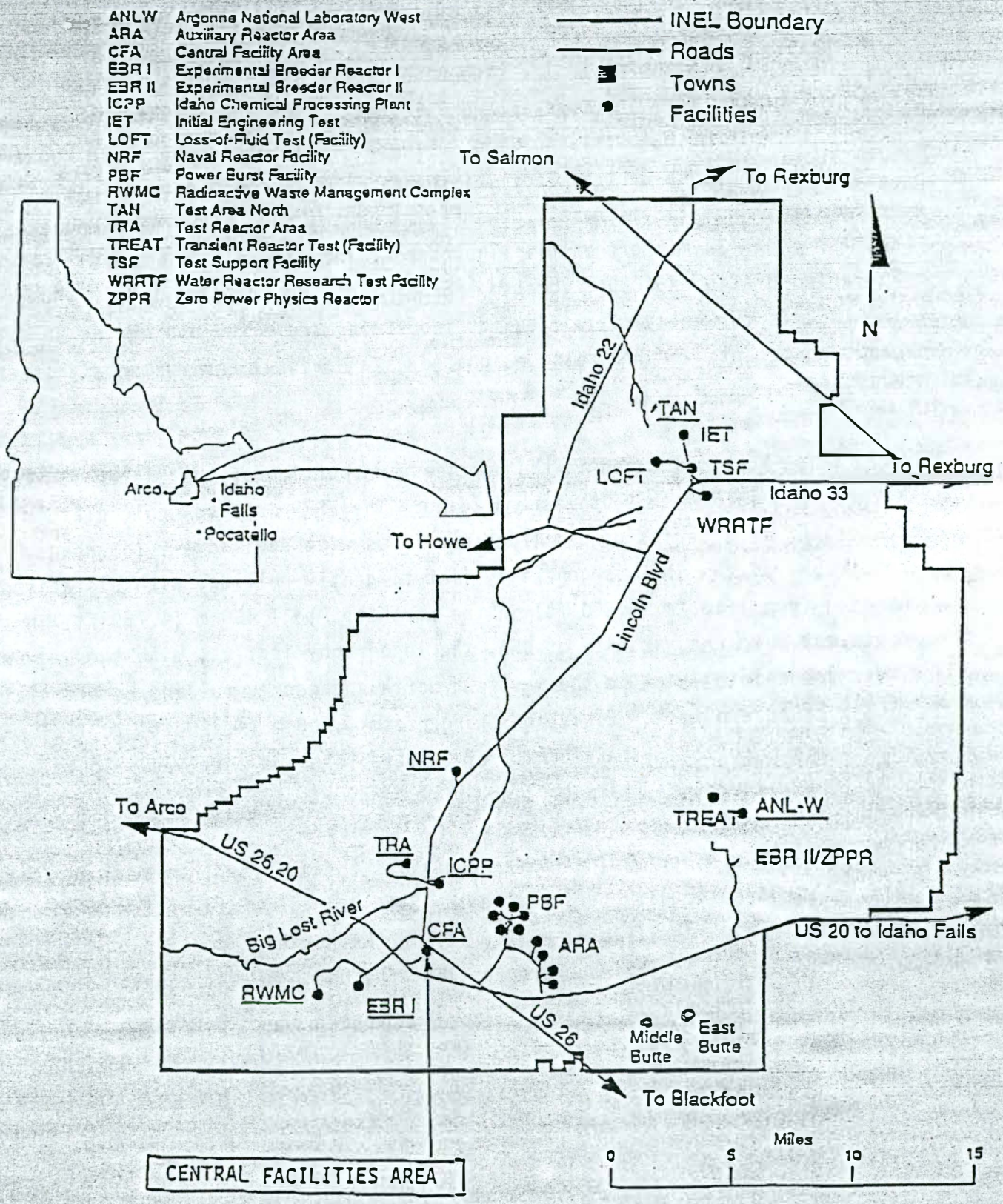
Figure 1. Location of the Central Facilities Area at the INEL.



The Central Facilities Area is located in the south central portion of the INEL near the intersection of U.S. Highways 20 and 26. The CFA is an administrative and support area that includes security facilities, environmental chemistry laboratories, a motor pool and maintenance shop, a general warehouse, and other support facilities.

The CFA Motor Pool Pond is located in an abandoned gravel pit approximately 366 m (1,200 ft) east of the CFA Equipment Yard (Figure 2). A small pond, approximately 36 by 18 m (120 by 60 ft), formed in the low spot when wastes were being discharged. Currently, the pond is typically dry; however, runoff may temporarily accumulate in the pond after storm events and during spring thaws. Waste water discharged to the pond originated at the CFA Service Station (Building CF-664). A 20-cm (8-in.) diameter concrete pipe extends southeast from the Service Station approximately 322 m (1,056 ft) and discharges to a ditch. The ditch extends approximately 68 m (225 ft) to an abandoned gravel pit and then continues for an additional 99 m (325 ft) to a low spot along the south side of the pit. The ditch ranges from 1 m (3 ft)

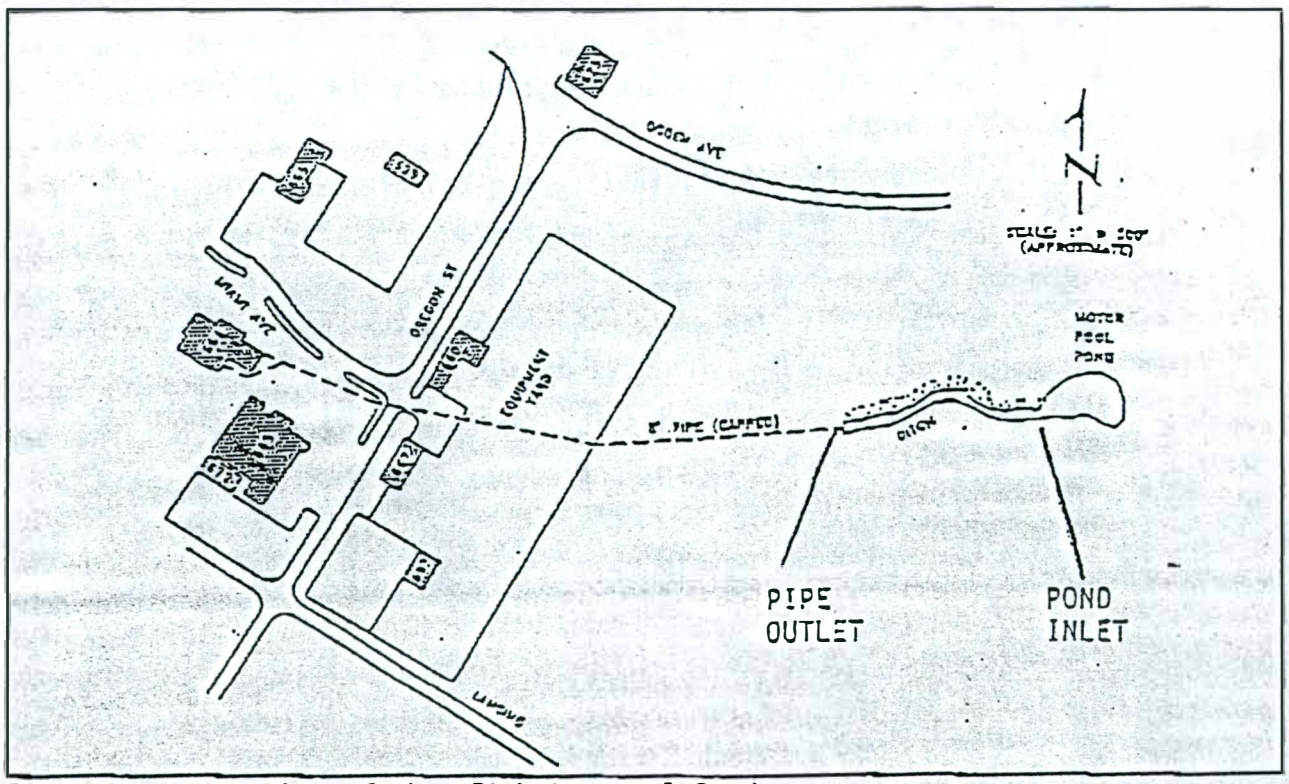


Figure 2. Location of the CFA Motor Pool Pond.

deep at the pipe outlet to approximately 2 m (6 ft) deep near the pond inlet. The bottom of the ditch is 1 to 2 m (3 to 6 ft) wide. Sediments excavated from the ditch were placed along the north side of the ditch. This material was apparently removed to improve the flow of wastewater through the ditch. The remedial investigation (RI) focused on the characterization of soils and surficial sediments within this unlined pond and drainage ditch.

2. SITE HISTORY AND ENFORCEMENT ACTIVITIES

2.1 Enforcement Activities

Under the INEL Consent Order and Compliance Agreement (COCA) signed by the DOE, U.S. Environmental Protection Agency (EPA), and U.S. Geological Survey in July 1987, the Motor Pool Pond was classified as a Land Disposal Unit and was listed as COCA Unit CFA-05. The release of contaminants to the CFA Motor Pool Pond was first identified and evaluated during investigations conducted in accordance with the COCA.

On July 14, 1989, the INEL was proposed for inclusion on the National Priorities List (NPL) in 54 *Federal Register* (*FR*) 29820. The listing was proposed by the EPA under the authority granted by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986. The final rule that placed the INEL on the NPL was published in November 1989 in 54 *FR* 44184.

In December 1991, the DOE, EPA, and IDHW signed the Federal Facilities Agreement/Consent Order (FFA/CO). The FFA/CO supersedes the COCA and provides enforceable schedules and strategies for implementation of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) at the INEL.

2.2 Site History and Investigations

From 1951 until 1985, the CFA Motor Pool Pond received wastes from two sumps located at the CFA Service Station (CFA 664 - See Figure 2). One of the sumps is located in the Bus Wash Bay and collected wastes from bus washes and

floor drains in the adjacent Service Bay. The Service Bay was used to perform routine servicing of fleet vehicles. The second sump is located outside the station and collected wastes from the Steam Cleaning Bay and water from roof downspouts. In late 1985, the wastes were diverted through an oil/water separator to a sanitary sewer line connected to the Sewage Treatment Plant and discharge to the Motor Pool Pond ceased.

During the 35-year service life of the Motor Pool Pond, the waste stream mainly consisted of wastewater from washing vehicles. According to service station personnel, the waste volumes were highest between 1978 and 1985, when automatic washing systems were in place at the service station. The automatic systems enabled washing of up to 30 buses and 10 cars and trucks per day. These washes are estimated to have generated up to 15,900 L (4,200 gal) of wastewater per day that were discharged to the pond.

The wastes from vehicle washes can be assumed to have contained metals and organic compounds associated with road dust, oil, and grease. Although the Service Station was not used to decontaminate radioactively contaminated vehicles, some residual radioactive contamination may have been removed during routine washes. This may have occurred because this residual contamination was not detected by hand-held instruments that are used to check vehicles leaving radioactively contaminated areas.

The CFA Motor Pool Pond was sampled as part of an INEL-wide preliminary assessment of waste streams conducted in 1982 and 1983. One surface water sample and one surface soil/sediment sample were collected from the CFA Motor Pool Pond and analyzed for metals and organic compounds. The pond was sampled again in 1988 as part of a DOE Environmental Survey, designed to rank environmental risks at DOE facilities. Nine sediment samples were collected in the Motor Pool Pond. Samples were analyzed for volatile organics using the methodology given in the Contract Laboratory Program Statement of Work dated July 1987 and Appendix D of the DOE Environmental Survey Manual.

Radiation surveys of the CFA Motor Pool Pond were conducted during periods when the pond contained water and when the pond was dry. The most recent survey at the CFA Motor Pool Pond, which was performed on September 4,

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1991, indicated only background levels of radiation. No water was in the pond during the 1991 survey. The survey was conducted using portable Geiger-Muller detectors, capable of detecting gamma and high energy beta radiation.

In 1989, samples were collected from soils and sediments in and around the CFA Motor Pool Pond to support RCRA closure activities under the COCA. These samples were evaluated for the CERCLA site characterization. These samples were collected at the surface, at intermediate depths, and from sediments just above bedrock, which varies from 0.6 to 5.5 m (2 to 18 ft) below the surface. Sample locations included the discharge pipe outlet, the ditch, sediment excavated from the ditch, pond sediments, and the northern perimeter of the pond. In addition, ten biased soil samples were collected in an area that was not affected by CFA activities to calculate background metal concentrations.

3. HIGHLIGHTS OF COMMUNITY PARTICIPATION

On June 26, 1992, a document containing Proposed Plans for three INEL sites, including the CFA Motor Pool Pond, was released to the public. The plan was mailed to approximately 6,500 individuals on the INEL mailing list, with a cover letter from the Director of the Environmental Restoration Division, DOE. The public comment period for the Proposed Plan was initially scheduled from July 6 to August 5, 1992. An extension was requested due to errors identified in a table in the Proposed Plan. The public comment period was extended to September 8, 1992. A corrected table was provided to those on the mailing list who received the Proposed Plan. Community participation activities have been conducted as required by Sections 113(k)(2)(B)(i-v) and 117 of CERCLA and part XXIV of the FFA/CO.

The CFA Motor Pool Pond Proposed Plan summarized the results of the human health risk assessment, which was based on modeled exposures to contaminants identified in the pond sediments. The modeling indicated that the contaminants at the site pose no unacceptable risk to human health and the environment. Therefore, the DOE, EPA, and IDHW recommended No Action for the Motor Pool Pond in the Proposed Plan.

The Notice of Availability for the Proposed Plan was published in the following newspapers:

- The Post Register (Idaho Falls) - July 1, 1992
- The Idaho State Journal (Pocatello) - July 2, 1992
- Times News (Twin Falls) - July 1, 1992
- Idaho Statesman (Boise) - July 2, 1992
- Daily News (Moscow-Pullman) - July 11 and 12, 1992
- South Idaho Press (Burley) - July 1, 1992
- The Lewiston Morning Tribune (Lewiston) - July 1, 1992.

Copies of the plan are available in the Administrative Record file in the INEL Technical Library, 1776 Science Center Drive, Idaho Falls. Copies of the file are also available in the INEL Information Repository section of public libraries in Idaho Falls, Pocatello, Twin Falls, and Boise and the University of Idaho Library in Moscow.

Technical briefings on the Proposed Plan were held on July 13 in Twin Falls, on July 14 in Moscow, and on July 15 in Pocatello. The Twin Falls briefing was presented to the Twin Falls City Council and was open to the public; the Moscow and Pocatello briefings were presented to the public.

Articles explaining the Proposed Plan for the CFA Motor Pool were printed in the May and July 1992 issues of the INEL Reporter newsletter, which is distributed to members of the public on the INEL mailing list. Additionally, during the public comment period (from July 6 to September 8), public meetings on the Proposed Plan were held in Idaho Falls on July 20, Burley on July 21, Boise on July 22, and Moscow on July 23. An INEL press release, informing members of the public of the upcoming meeting in their area, was distributed to state-wide media. Personal telephone calls were made by INEL Outreach Offices in Pocatello, Twin Falls, and Boise to inform key representatives from community groups of the opportunity for public comment.

The notices of the times and dates of public meetings were published in the following newspapers:

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- The Post Register (Idaho Falls) - July 17, 1992
- The Idaho State Journal (Pocatello) - July 17, 1992
- Times News (Twin Falls) - July 20, 1992
- Idaho Statesman (Boise) - July 20, 1992
- Daily News (Moscow-Pullman) - July 21, 1992
- South Idaho Press (Burley) - July 20, 1992
- The Lewiston Morning Tribune (Lewiston) - July 21, 1992,

At the meetings, representatives from the DOE, EPA, and IDHW discussed the Proposed Plan, answered questions, and received public comment. Verbatim transcripts of each public meeting were prepared by a court reporter and are available, along with the written comments, in the Administrative Record. Comments received from the public were considered in the final decision and have been summarized and addressed in the Responsiveness Summary attached to this Record of Decision (Appendix A).

4. SCOPE AND ROLE OF OPERABLE UNIT AND RESPONSE ACTION

Under the FFA/CO, the INEL was divided into 10 Waste Area Groups (WAGs) to better manage the investigation of potential waste sites. Each WAG contains several operable units (OUs) which consist of one or more potential waste sites. This strategy allows the DOE, EPA, and IDHW to focus available cleanup resources on those areas that potentially pose an unacceptable risk to human health and the environment. WAG 4 consists of thirteen OUs located at CFA. The CFA Motor Pool Pond is designated as OU 4-11.

OU 4-11 includes the excavated sediments along the ditch and the sediments at the discharge pipe outlet, in the ditch, and in the pond. Data collected for the RI risk assessment indicate that the contaminated sediments within these areas of the CFA Motor Pool Pond do not pose an unacceptable risk to human health and the environment. Therefore, based on the results of the RI and risk management considerations, it was determined that the CFA Motor Pool Pond required no further action to protect human health and the environment. Any impacts from past releases to the pond that may affect the subsurface (vadose zone) or groundwater will be evaluated in OU 4-13, the WAG 4 Comprehensive RI/FS.

5. SITE CHARACTERISTICS

The results of the 1982, 1988, and 1989 site investigations indicate that the CFA Motor Pool Pond sediments are contaminated with metals, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), and radionuclides. The contamination appears to be concentrated in sediments in the ditch and the excavated sediments adjacent to the ditch.

In 1989, 41 samples (excluding replicate samples) of the Motor Pool Pond sediments were collected and analyzed for metals and for VOCs. Thirty-eight of the samples were analyzed for gamma-emitting radionuclides, and three for alpha-emitting radionuclides (See Table 1). Four samples were also collected and analyzed for a broad range of metals and organic compounds (Appendix IX of 40 Code of Federal Regulations 264). In addition, ten soil samples were collected south of the pond and analyzed to establish background concentrations of metals (Figure 3).

Barium, beryllium, cadmium, chromium, lead, mercury, and thallium were found in concentrations exceeding background levels in the Motor Pool Pond area. Beryllium, cadmium, chromium and lead were most frequently detected above background levels. Beryllium concentrations ranged from 0.22 to 1.4 mg/kg (milligrams per kilogram or parts per million), cadmium from 0.53 to 38.8 mg/kg, chromium from 8.2 to 91.3 mg/kg, and lead from 10.6 to 631 mg/kg. The highest metals concentrations were found in the sediments in the ditch from 0 to 2 m (0 to 7 ft) in depth, and in sediments excavated from the ditch.

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Table 1. Summary of analytical results for samples collected at the CFA Motor Pool Pond

Chemical	Frequency of detections[a]	Frequency of detection greater than background[b]	Estimated upper range of background[bc]	Range of detected concentrations	Units
Antimony	41/41	0/41	5.8	1.7 - 5.8	mg/kg
Arsenic	41/41	0/41	22.1	1.4 - 18.4	mg/kg
Barium	41/41	1/41	334.5	92.8 - 434	mg/kg
Beryllium	41/41	13/41	<0.23	0.22 - 1.4	mg/kg
Cadmium	41/41	11/41	1.6	0.53 - 38.8	mg/kg
Chromium	41/41	9/41	30.7	8.2 - 91.3	mg/kg
Lead	41/41	14/41	50.2	10.6 - 631	mg/kg
Mercury	2/4	2/4	<0.09	0.35 - 1.2	mg/kg
Nickel	41/41	0/41	42.8	13.6 - 37.7	mg/kg
Thallium	11/41	2/41	0. 6	0.3 - 1.0	mg/kg
Methylene Chloride	6/41	6/41	(0)	3.0 - 40.0	µg/kg
Acetone	1/41	1/41	(0)	85.0	µg/kg
2-Butanone	1/41	1/41	(0)	90.0	µg/kg
4-Methyl-2-Pentanone	2/41	2/41	(0)	5.0 - 40.0	µg/kg
Tetrachloroethene	2/41	2/41	(0)	4.0 - 76.0	µg/kg
Aroclor-1260	1/2	1/2	(0)	1,470	µg/kg
Cesium-137	21/38	NA	(0)	0.17 - 8.41	pCi/g
Americium-241	3/3	NA	(0)	0.17 - 2.72	pCi/g
Plutonium-239	3/3	3/3	(0)	0.14 - 4.29	pCi/g

a. Replicate samples are not included in the total number of samples.

b. (0) - Background concentrations are assumed to be zero (assumed to be man-made and not naturally occurring).
NA - Background concentrations not available for CFA Motor Pool Pond.

c. Values determined by calculating the 95% upper confidence limit (UCL) of the arithmetic mean.

In addition, four organic compounds (acetone, 2-butanone, 4-methyl 2-pentanone, and methylene chloride) were detected at a depth of 4 m (13 ft) in the pond sediments. The maximum concentrations in the sediments were 85 μg/kg (micrograms per kilogram or parts per billion), 90 μg/kg, 40 μg/kg, and 40 μg/kg, respectively. Methylene chloride and tetrachloroethylene were also detected in two samples collected from excavated sediments, with maximum concentrations of 40 μg/kg and 76 μg/kg, respectively. The PCB Aroclor-1260 was detected in the sample and its replicate collected from the ditch near the pipe outlet. The maximum concentration was 1,470 μg/kg. The radionuclides americium-241, cesium-137, and plutonium-239 were detected in surface sediments in the ditch and pond area. The highest concentrations of each detected radionuclide were 2.72 pCi/g for americium-241, 8.4 pCi/g for cesium-137, and 4.29 pCi/g for plutonium-239.

Metals of potential concern in the sediments are:

- Americium-241, chromium-VI, cesium-137, and plutonium-239, which are classified as Group A human carcinogens
- Cadmium, a Group B1 probable human carcinogen
- Beryllium and lead, Group B2 probable human carcinogens
- Barium and chromium-III, noncarcinogens which may have adverse human health effects.

Another contaminant of concern is the PCB Aroclor-1260, which is classified as a Group B2 probable human carcinogen.

The potential for migration of contaminants to groundwater was evaluated by two methods. The first method was the use of conservative assumptions and conventional flow equations to estimate the travel time to the aquifer. The second method was the use of a simplified contaminant transport model,

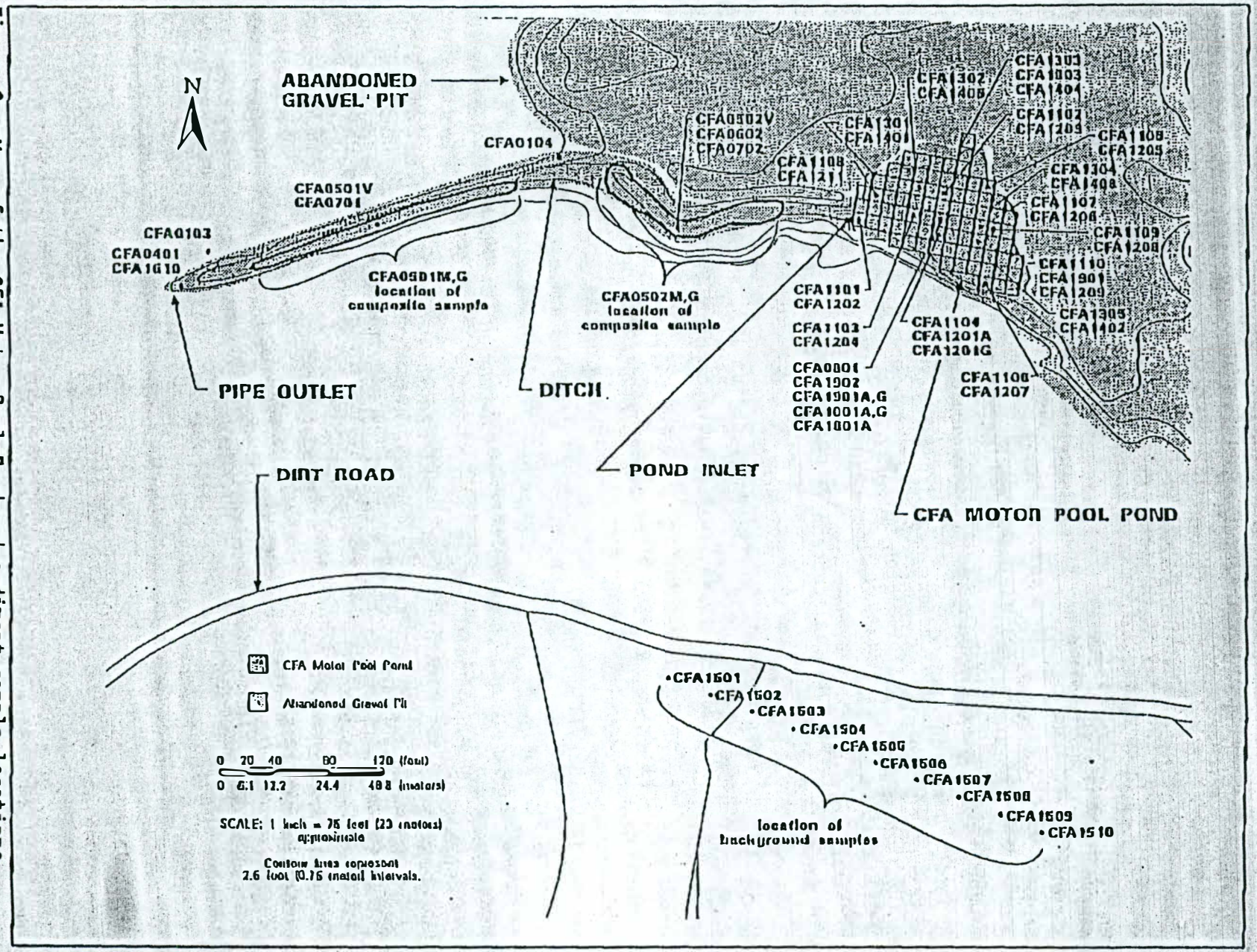

Figure 3. Map of the CFA Motor Pool Pond and sediment sample locations.

GWSCREEN (See Section 5.2 of the RI Report). This evaluation indicates that regulatory standards for groundwater would not be exceeded due to migration of contaminants from the CFA Motor Pool Pond sediments.

The potential pathways for exposure to humans at the CFA Motor Pool Pond and those selected for risk assessment include (1) direct atmospheric transport (inhalation), (2) dermal contact with contaminants, (3) direct ingestion by workers or future residents, and 4) exposure to ionizing radiation emitted by radioactive contaminants in pond sediments.

Potential exposure scenarios for which the pathways were evaluated at the CFA Motor Pool Pond were limited to present occupational and future residential users. The potential for exposure to the public is currently limited due to the restricted access policy at the INEL. However, a residential scenario was evaluated because it is possible a home could be built on the site in the future. For the risk assessment, it was assumed that residential development will not occur for at least 30 years so a thirty-year scenario was evaluated. A 100-year residential scenario was also evaluated. The timing of the residential scenario is considered in the radiological risk assessment because radionuclides decay over time.

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6. SUMMARY OF SITE RISKS

The risk assessment for the CFA Motor Pool Pond considered both human health and ecological risks. The human health risk assessment was conducted in accordance with the EPA *Risk Assessment Guidance for Superfund* as supplemented by the EPA Region 10 risk assessment guidance. A qualitative ecological risk assessment was also conducted. Risk assessment results are summarized in the following sections.

6.1 Human Health Risk

The contaminants found in the CFA Motor Pool Pond were evaluated to identify those that contribute the greatest potential risk. A concentration-toxicity screen was used which involved ranking each contaminant by its

highest detected concentration multiplied by a chemical-specific risk factor developed by EPA. Using this methodology, any contaminant that contributed more than 1% to the total risk was retained for consideration in the baseline risk assessment. The concentration-toxicity screen identified chromium, barium, and lead as the main contributors of noncarcinogenic risk. The main contributors to carcinogenic risk are chromium-VI, cadmium, beryllium, Aroclor-1260, and all detected radionuclides. The contaminant concentrations used in the risk assessment calculations are listed in Table 2.

Table 2. Contaminant concentrations CFA Motor Pool Pond used in the baseline risk assessments.

Contaminant	Occupational (present day)[a,b]	Residential (30-year)[a]	Residential (100-year)[a]
Cesium-137	2.24	1.12	0.22
Americium-241	2.72[c]	2.60	2.34
Plutonium-239	4.29[c]	4.29	4.28
Aroclor-1260	1240[d]	1240	1240
Barium	220	220	220
Beryllium	0.97	0.97	0.97
Cadmium	11.22	11.22	11.22
Chromium-VI	5.6	5.6	5.6
Chromium-III	34.4	34.4	34.4
Lead	176	176	176

a. Units are pCi/g for radionuclides and mg/kg for metals.

b. Values determined by calculating the 95% UCL of the arithmetic mean.

c. Highest detected alpha concentration was used.

d. For Aroclor-1260 an average of the two samples was used and the units used are µg/kg.

A human health risk assessment was performed to evaluate current-use (occupational) and future-use (residential) scenarios. For each scenario, health risks were estimated using EPA default parameters and site-specific parameters. The EPA default exposure parameters are conservative and are used to establish a baseline for comparison. A site-specific risk assessment was then developed that reflects site conditions as they exist today and are likely to exist in the future.

The site-specific assessments used lower exposure frequencies (EF) than the default risk assessment (Table 3). These lower exposure frequencies were based on observations at CFA. The default EF value for the occupational scenario was 250 days per year for all exposure routes. Under the site-specific occupational scenario, the EF was 12.5 days per year for inhalation and 2.5 days per year for the other exposure routes. The 12.5 day figure represents the 5 percent of the time the buildings at CFA are downwind of the Motor Pool Pond. The 2.5 day figure is 1 percent of the default value of 250 days and is based on the fact that CFA workers do not occupy the pond to perform necessary work duties and therefore, are not expected to be exposed more than 2.5 days per year.

The default EF for the future residential scenario was 350 days per year for all exposure routes. Under the site-specific future residential scenario, the EF was 350 days per year for inhalation and 50 days per year for the other exposure routes. The time future residents would spend outdoors is the limiting factor for direct ingestion, dermal contact, and direct ionizing /radiation exposures. The amount of time spent outdoors has been estimated to be at 50 days per year for men and women (Exposure Factors Handbook, Final Report, U.S. EPA, EPA/600/8-89/043, May 1989). Limited data for children suggest the maximum average time spent outdoors during the school year is 14 days per year for boys, ages 12 to 17 years. This average only includes days of the school year; summer vacation time is not included (EPA, U.S. Environmental Protection Agency, Exposure Factors Handbook, EPA/600/8-89/043, March 1990b). The exposure frequency during the 12-week summer vacation was estimated to be three days outdoors per week, for a total of 36 days.

Table 3. Exposure Frequencies (EF)

Exposure Pathway	Occupational Default (days/year)	Occupational Site-specific (days/year)	Future Residential Default (days/year)	Future Residential Site-specific (days/year)
Inhalation	250	12.5	350	350
Ingestion - Child			350	50
Ingestion - Adult	250	2.5	350	50
Dermal Contact	250	2.5	350	50
Direct Radiation	250	2.5	350	50

Contaminant intake rates were calculated for inhalation, ingestion, and dermal contact for metals and radionuclides. The parameters used to calculate intakes were based on EPA methods found in the *Risk Assessment Guidance for Superfund*, Volume I, "Human Health Evaluation Manual, Part A." For noncarcinogens, the calculated contaminant intake rates and absorbed doses for each contaminant and exposure route were compared to reference doses (RfDs) obtained from the EPA Integrated Risk Information System and the Health Effects Assessment Summary Tables or RfDs calculated using regulatory and occupational limits. The hazard quotients, which are the ratio of the calculated intake and the RfD for each contaminant, were summed by exposure route and scenario to obtain hazard indices. The hazard indices were compared to the EPA threshold value of 1 to determine whether non-carcinogenic effects from exposure to the contaminant may occur. No hazard indices greater than 1 were identified for the occupational scenarios, indicating that the contaminants at the CFA Motor Pool Pond do not pose unacceptable noncarcinogenic health effects to CFA workers. The hazard index for the default future residential scenario using EPA default parameters was 1.4; however, using site-specific parameters, the hazard index was 0.7 (Table 4).

Furthermore, the Hazard indices were added across all pathways for all contaminants, which is conservative.

Table 4. Summary of risks at the CFA Motor Pool Pond.

		CARCINOGENIC RISK		HAZARD INDEX	
SCENARIO	CONTAMINANTS	DEFAULT	SITE-SPECIFIC	DEFAULT	SITE-SPECIFIC
OCCUPATIONAL	RADIONUCLIDES	6 in 100,000 (6E-05)	7 in 10,000,000 (7E-07)	NA*	NA
	CHEMICALS	5 in 100,000 (5E-05)	5 in 10,000,000 (5E-07)	0.7	0.02
	TOTAL	1 in 10,000 (1E-04)	1 in 1,000,000 (1E-06)	0.7	0.02
FUTURE 30-YEAR RESIDENTIAL	RADIONUCLIDES	2 in 10,000 (2E-04)	2 in 100,000 (2E-05)	NA	NA
	CHEMICALS	9 in 100,000 (9E-05)	1 in 100,000 (1E-05)	1.4	0.7
	TOTAL	3 in 10,000 (3E-04)	3 in 100,000 (3E-05)	1.4	0.7
FUTURE 100-YEAR RESIDENTIAL	RADIONUCLIDES	4 in 100,000 (4E-05)	7 in 1,000,000 (7E-06)	NA	NA
	CHEMICALS	9 in 100,000 (9E-05)	1 in 100,000 (1E-05)	1.4	0.7
	TOTAL	1 in 10,000 (1E-04)	2 in 100,000 (2E-05)	1.4	0.7

* Hazard Indices are not applicable to radionuclides.

Carcinogenic health effects were evaluated by multiplying the intake rates of each carcinogen by a body absorption factor and the pertinent EPA slope factor. The result is an estimated excess lifetime cancer risk. The excess cancer risks for each carcinogen are then summed to determine the total excess cancer risk for the given scenario. For the occupational scenario, the current total carcinogenic risk to workers near the CFA Motor Pool Pond is 1 in 10,000 (1×10^{-4}) using the default parameters, and 1 in 1,000,000 (1×10^{-6}) using site-specific parameters (see Table 4).

For the default 30-year future residential scenario, the total carcinogenic risk from radionuclides and inorganic metals is 3 in 10,000 (3×10^{-4}), and 3 in 100,000 (3×10^{-5}) for the site-specific scenario. For the default 100-year future residential scenario, the total carcinogenic risk is 1 in 10,000 (1×10^{-4}), and 2 in 100,000 (2×10^{-5}) for the site-specific scenario (see Table 4).

Several sources of uncertainty, such as those associated with sampling and analysis and the use of EPA established toxicity values, are common to risk assessments and generally have a low potential for adding uncertainty to the results. Other assumptions specific to the CFA Motor Pool Pond are more important to analysis of uncertainty. For example, exclusion of lead from the carcinogenic toxicity assessment may have resulted in underestimation of the carcinogenic risk. This effect is difficult to evaluate because toxicity values are not available for lead. The use of biased samples collected in the ditch and the pond is expected to overestimate total contaminant concentration in the Motor Pool Pond, making the risk assessment more conservative. Because the potential effects of the assumptions used in the risk assessment are not quantified, it is difficult to measure the effect on total risk in numerical terms. However, on a qualitative basis, it appears there is a greater potential for overestimation of exposures and risks.

6.2 Environmental Risk

A qualitative ecological risk assessment was performed to the extent practicable on a scale as small as the CFA Motor Pool Pond. The assessment included a review of available literature on contaminant toxicity to animal

species. Based on the limited distribution of the contaminants, discontinued use of the pond, sparse vegetation, and limited habitat value, it is unlikely that contaminants will be accumulated in the food chain. For these reasons, the CFA Motor Pool Pond sediments are not expected to have significant disruptive effects on animal or plant populations or the local ecosystem. Ecological effects will be further evaluated in the WAG 4 RI/FS and the WAG 10 comprehensive RI/FS. These studies are broader in scope and will enable a more representative evaluation of varied and mobile populations.

7. DECISION

The DOE has determined that no further remedial action is necessary at the CFA Motor Pool Pond to ensure protection of human health and the environment. This decision is based on the results of the human health and ecological risk assessments, which indicate that conditions at the site pose no unacceptable risk to human health or the environment. The EPA has approved the DOE decision; the IDHW concurs.

8. EXPLANATION OF SIGNIFICANT CHANGES

The Proposed Plan for the CFA Motor Pool Pond sediments was released for public comment on June 26, 1992. The Proposed Plan identified No Action as the alternative preferred by the DOE, EPA, and IDHW. The three agencies have reviewed and considered all written and verbal comments submitted during the public comment period. Upon review of comments concerning the proposed action, it was determined that no significant changes to the preferred alternative as it was presented in the Proposed Plan were necessary.

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STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
7601 W. Clearwater, Suite 102 • Kennewick, Washington 99336 • (509) 546-2990

March 5, 1993

Mr. Dennis Faulk
U. S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, WA 99352

Dear Mr. Faulk:

Enclosed you will find a copy of the data obtained from sampling events in the Riverland Rail Wash Station, Expedited Response Action (ERA). Two samples were obtained from surface soils at the "Homestead Site" and the "Munitions Cache." These two samples were split samples taken with Westinghouse Hanford Company.

These data are also being transmitted to the Administrative Record, as agreed to by Ecology and the Environmental Protection Agency (EPA) on October 26, 1992.

Enclosed with this letter are also a Data Summary Table (Enclosure 1), a Field Log Summary (Enclosure 2), a Data Verification Summary (Enclosure 3), and the Chain-of-custody forms (Enclosure 4). Enclosure 5 is the complete analytical data package. Due to its size, Enclosure 5 will only be transmitted to the Administrative Record and EPA.

If you have any questions, please call me at 736-3008.

Sincerely,

Billie Mauss

Billie Mauss
Chemist
Nuclear and Mixed Waste Management Program

BM:sl
Enclosures

cc: Robert Stewart, DOE
Donna Wanek, DOE
George Hinkle, WHC
Administrative Record, WHC

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Enclosure 1
Samples from Homestead by Riverland Rail Wash Pits

The following data have been verified for completeness.

Contaminant		H92077	Q	H92078	Q
Aldrin	mg/Kg	2.6	P	27*	D
Dieldrin	mg/Kg	--		38*	D
Endrin Ketone	mg/Kg	--		3.5	D
Chloride	mg/Kg	0.2 (at MDL)		0.6	
Fluoride	mg/Kg	0.2 (at MDL)		--	
% Total Solids %		95		93	
Aluminum	mg/Kg	11000		6290	
Arsenic	mg/Kg	11.0	SN	7.2	SN
Barium	mg/Kg	155		101	
Beryllium	mg/Kg	0.60	B	0.34	B
Calcium	mg/Kg	19300		10800	
Chromium	mg/Kg	16.1		9.8	
Cobalt	mg/Kg	11.3		9.0	B
Copper	mg/Kg	24.0		14.0	
Iron	mg/Kg	20700		14100	
Lead	mg/Kg	16.1		15.7	
Magnesium	mg/Kg	8870		4760	
Manganese	mg/Kg	589		381	
Nickel	mg/Kg	13.3		9.6	
Potassium	mg/Kg	2250		1810	
Sodium	mg/Kg	470	B	77.1	B
Thallium	mg/Kg	---		1.6	B
Vanadium	mg/Kg	33.2		25.5	
Zinc	mg/Kg	57.8		38.8	

Analysis did not detect any CLP Volatiles, CLP Semivolatiles, Chlorinated Herbicides, Nitrite, Nitrate, Phosphate, TPH - gas, or TPH - diesel above the method detection levels (MDLs).

* Also detected on Semivolatile Organics Analysis

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ENCLOSURE 2
RIVERLAND ERA ACTIVITY AND SAMPLING SUMMARY

October 28, 1992

Ecology arrived at the Riverland Rail Yard Site within the boundary of the 100-IU-1 Operable Unit as part of the Riverland Expedited Response Action (ERA). The Riverland Site, covering thirteen square miles, is west of Highway 240 and north of Highway 24, in the northwest corner of the Hanford Site. Ecology was present in the capacity as the support agency to observe the sampling events associated with the Riverland ERA.

Sampling was performed by Westinghouse Hanford Company (WHC) on October 28, 1992 to determine the extent or absence of radiological contamination. Radiological contamination was suspected within the four maintenance pits, which discharged into a common drain line. Two of the four maintenance pits were sampled on October 28, 1992 by WHC.

October 29, 1992

WHC completed sampling of the remaining two maintenance pits. In addition to the maintenance pit samples, one soil sample was taken from inside the common drain line prior to connecting to a main sewer line. This was possible due to some minor damage to the drain line, allowing an internal soil sample to be acquired. During all sample events, no radiological contamination was detected using field screening equipment.

After completing activities at the Riverland Rail Yard, WHC and Ecology sampled the remaining two potential waste sites identified as the Munitions Cache and Homestead Site (Pesticide/Herbicide Site). Ecology obtained split soil samples from each location in conjunction with WHC's sampling team with the exception of volatile samples, which were sampled randomly and individually. The following list summarizes the samples obtained by Ecology.

9 3 1 2 3 0 9 8 2

Time	Ecology/WHC Sample ID	Location	Analyses
1253	H92077/B01937	Munitions	Volatiles (VOA)
1303	H92077/B01937	Munitions	Semi-VOA's Pesticides TPH, PCB's (1)
1306	H92077/B01937	Munitions	Semi-VOA's Pesticides TPH, PCB's (1)
1308	H92077/B01937	Munitions	Metals/Anions
1405	H92078/B01939	Homestead	Volatiles (VOA)
1413	H92078/B01939	Homestead	Semi-VOA's Pesticides TPH, PCB's (1)
1415	H92078/B01939	Homestead	Semi-VOA's Pesticides TPH, PCB's (1)
1417	H92078/B01939	Homestead	Metals/Anions

Note 1: TPH (Total Petroleum Hydrocarbons),
PCB (Polychlorinated Biphenyl)

Signature/Position/Title/Date [signature] Unit Manager 3/5/93

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ENCLOSURE 3
DATA VERIFICATION SUMMARY

This report summarizes the data collected from the sampling event at the Riverland Rail Wash Station, Expedited Response Action. Ecology obtained two sample splits from Westinghouse Hanford Company; one at the Homestead Site and one at the Munitions Cache.

The samples were sealed and placed in tamper proof containers pending radiochemical analysis at the 222-S Building Annex. The samples were described as H92077, H92078, and H92089 (trip blank), by Ecology, which correspond to the Westinghouse Hanford identification numbers of BO1937 and BO1939. All samples were analyzed for radioactivity; the total activity for each was less than 50 pCi/G.

The samples were taken on October 29, 1992, and received by Pace Incorporated on November 2, 1992. Washington State Department of Ecology received the data packages on January 25, 1992 and started the verification process on March 1, 1993. The packages were complete with the exception of the raw data and calibrations for anions. A phone request was made on March 2, 1993, for the missing items. These data were received via Federal Express on March 5, 1993 and incorporated into the data package.

Verification was completed on March 5, 1993 with all laboratory data requested duly reported. Appropriate protocol was implemented and the laboratory performance rated satisfactorily.

Jerry Yokel
Jerry Yokel
Chemist

March 5, 1993.
Date

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ENCLOSURE 4

Chain-of-Custody Form

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T.A. # E 5946 > H92077 8 6
E 5945

T.A.# E 5947 > H92078

61410

pace INCORPORATED
THE ASSURANCE OF QUALITY

CHAIN-OF-CUSTODY RECORD
Analytical Request

Client: Wash. Dept. of Ecology
Address: 7601 W. Clearwater #102
Kennewick WA 99336
Phone: 509 546-2990

Report To: Billie Mauss
Bill To:
P.O. # / Billing Reference
Project Name / No.

Pace Client No.
Pace Project Manager
Pace Project No.
*Requested Due Date:

Sampled By (PRINT): Steven L. Arbogast
Sampler Signature:
Date Sampled: 10-29-92

ITEM NO.	SAMPLE DESCRIPTION	TIME	MATRIX	PACE NO.	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	VOA		VOA	Semi-VOA	TAL-Metals	PCB-Pest.	Herb.	TPH	Anions	REMARKS
1	H92077	12:53	Soil		4	X					X	X	X	X	X	X	X	Military Cashe
2	H92089		H_2O		1				X		X							TRIP BLANK
3	H92078	4:05	Soil		4	X					X	X	X	X	X	X	X	Homestead
4																		
5																		
6																		
7																		
8																		

COOLER NOS.	BAILERS	SHIPMENT METHOD OUT	DATE	RETURNED / DATE

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	ACCEPTED BY / AFFILIATION	DATE	TIME
1,2,3	WDOE		10-29-92	14:15
1,2,3		WDOE	10-30-92	12:50
1,3	WDOE			

Additional Comments

SEE REVERSE SIDE FOR INSTRUCTIONS

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