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Department of Energy
Richland Operations Office
P.O. Box 550
Richland, Washington 99352

JUL 09 1998

98-EAP-351

Ms. Jeanne J. Wallace
300 Area Project Manager
Nuclear Waste Program
State of Washington
Department of Ecology
1315 West Fourth Avenue
Kennewick, Washington 99336-6018



Dear Ms. Wallace:

CLOSURE OF 3718-F ALKALI METAL TREATMENT AND STORAGE FACILITY

- References: (1) RL ltr. to M. N. Jaraysi, and S. M. Alexander, Ecology, from J. E. Rasmussen, RL, and W. D. Adair, FDH, "Response to Closure Certification Rejection for the 3718-F Alkali Metal Treatment and Storage Facility," dtd. December 12, 1997. 48569
- (2) Ecology ltr. to J. E. Rasmussen, RL, and W. D. Adair, FDH, from J. J. Wallace, "Closure Certification for the 3718-F Alkali Metal Treatment and Storage Facility (AMTSF)," dtd. November 7, 1997. 48405
- (3) RL ltr. to M. N. Jaraysi, Ecology, from J. E. Rasmussen, RL, and W. D. Adair, FDH, "Closure Certification for the 3718-F Alkali Metal Treatment and Storage Facility," dtd. September 22, 1997. ✓

On September 22, 1997, a certification of closure for the 3718-F Alkali Metal Treatment and Storage Facility (AMTSF) was submitted to the State of Washington Department of Ecology (Ecology) for approval. The closure action as defined in the closure plan and sampling and analysis plan was completed and the analytical results for the constituents of concern indicated no presence of contamination (Reference 3). As stated in Reference 2, the closure certification submitted to Ecology on September 22, 1997 (Reference 3), was rejected due to the presence of polychlorinated biphenyl (PCB) contamination. On December 12, 1997 (Reference 1), the U.S. Department of Energy, Richland Operations Office (RL) and Fluor Daniel Hanford, Inc., (FDH) respectfully disagreed with Ecology's decision requesting a stay in the closure decision.

On February 24, 1998, a meeting was held between RL, Ecology, and the U.S. Environmental Protection Agency to discuss this issue. A path forward was defined at that meeting. The path forward consisted of a voluntary action to remove the drainage sump structure and conduct soil sampling in the vicinity of the structure. This path forward is consistent with the proposed action and associated performance objective stated by Ecology (Reference 2).

Ms. Jeanne J. Wallace
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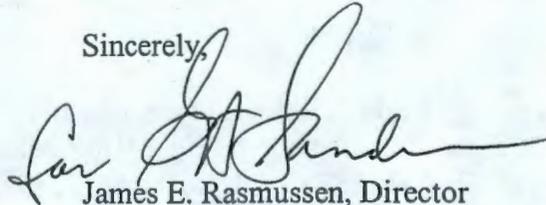
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The sumps have been removed and confirmatory analysis of the soil samples for PCBs and the constituents of concern defined in the 3718-F AMTSF Closure Plan have been completed. The results from this analysis show no concentrations equal to or greater than residential clean-up levels. A description of the actions taken to remove the sump structure, and sampling and analysis is enclosed (Enclosure 1). As discussed at the Project Managers' Meeting held Thursday, June 4, 1998, this description is provided, at this time, as additional information to support the certificate of closure submitted on September 22, 1998 (Enclosure 2).

RL requests that the certification of closure for the 3718-F AMTSF be approved. A postclosure permit application or additional corrective action is not required. Once the approval letter is received from Ecology, the Part A, Form 3, for the 3718-F AMTSF will be revised with "Clean Closure" stamped across the front of the form and submitted to Ecology.

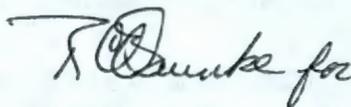
If you have any questions, please contact Ellen M. Mattlin, of my staff, at (509) 376-2385, or Sue M. Price, FDH, at (509) 376-1653.

Sincerely,



James E. Rasmussen, Director
Environmental Assurance, Permits,
and Policy Division
DOE Richland Operations Office

EAP:ACM



William D. Adair, Director
Environmental Protection
Responsible Party for
Fluor Daniel Hanford, Inc.

Enclosures:

1. 3718-F Sump Removal
- 2: Closure Certification for the 3718-F
Alkali Metal Treatment and
Storage Facility

cc w/encl:

Administrative Record H6-08
Russell Jim, YIN
Donna L. Powaukee, NPT
S. M. Price, FDH
J. R. Wilkinson, CTUIR

cc w/o encl:

W. D. Adair, FDH
D. R. Sherwood, EPA
E. R. Skinnerland, Ecology

ENCLOSURE 1

3718-F SUMP REMOVAL

3718-F SUMP REMOVAL

At the Inter-Agency Management Integration Team (IAMIT) meeting on February 24, 1998, representatives of the U.S. Department of Energy, Richland Operations Office (RL), the State of Washington, Department of Ecology (Ecology), and the U.S. Environmental Protection Agency (EPA), Region 10, met to determine a path forward for mitigation of the drain sumps at the 3718-F Alkali Metal Treatment and Storage Facility (AMTSF). The result of the meeting was that RL agreed to a voluntary action to remove the drain sumps from the 3718-F AMTSF and sample the soils left in place.

In support of sump removal, soil samples were taken in the vicinity of the 3718-F drain structures on March 17, 1998. The intent was to determine levels of polychlorinated biphenyl (PCB) inside the drain sumps and in the surrounding soils. Samples were taken from seven different sites at varying depths as shown on the following map. A detailed description of each sample location follows:

Sample 1 – Inside North Separator Drain Sump

Sample K0N2X2 was collected from the sediments at the bottom of the separator drain sump.

Sample 2 – Inside drain structure adjacent to the northeast corner of concrete pad

Sample K0N2X3 was collected from sediments inside the drain structure.

Sample 3 – Borehole sample adjacent to drain structure

Sample K0N2X4 was collected with the aid of a trailer mounted auger drill. The drill was used to make a hole 3 feet deep. A split spoon was then used to collect a sample from a depth interval of 3-4 feet.

Sample 4 – Borehole sample north of Separator Drain Sumps

Sample K0N2X5 was collected at a depth interval from 4-5.5 feet with a split spoon sampler.

Samples 5 & 6 – Borehole sample east of Separator Drain Sumps

Samples K0N2X6 AND K0N2X7 were collected from a location between and slightly east of the separator drain sumps. Sample K0N2X6 was collected at an interval of 0-1 feet with a stainless steel thief sampler. A borehole was then drilled to a depth of 3 feet, and sample K0N2X7 was collected at an interval of 3-4 feet with a split spoon sampler. The auger rig was then used to extend the borehole to a depth of 5 feet with the intent of obtaining a third sample at a depth interval of 5-6 feet, however, an obstruction was encountered at the 5 foot depth. The auger rig was moved 1 foot further east, and a 5 foot borehole was drilled, but the obstruction was again encountered at the 5 foot depth. The auger rig was then moved to

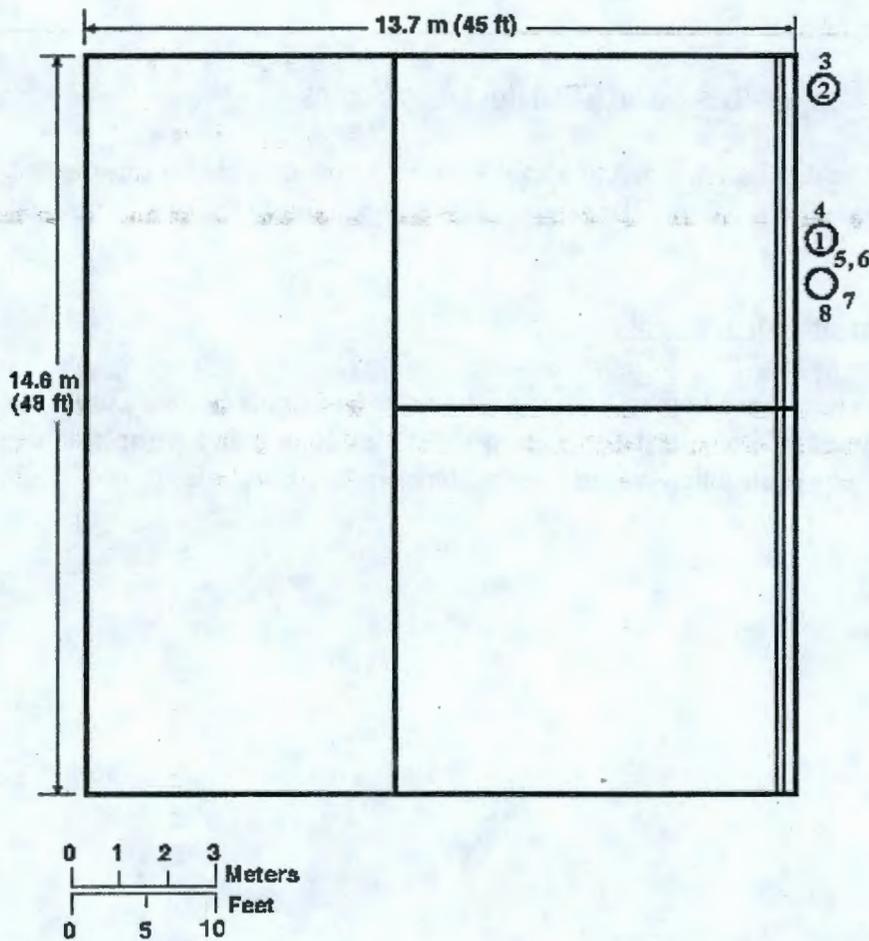
a location approximately 1.5 feet further south and another borehole was drilled. This borehole is described in the next section.

Sample 7 – Borehole sample east and slightly south of Separator Drain Sumps

The borehole was drilled to a depth of 4 feet, and a split spoon was used to obtain sample K0N2X8 from a depth interval of 4-5 feet. The sampler again encountered the obstruction at a depth of 5 feet.

Sample 8 – Borehole south of Separator Drain Sumps

Sample K0N2X9 was collected from a borehole south of the separator drain sumps. The borehole was drilled to a depth of 4 feet, and a split spoon was used to collect a sample at a depth interval of 4-6 feet. The obstruction was not encountered in this borehole.



Results of samples are given below. Aroclor 1254 was the only PCB constituent found in detectable concentrations in any of the samples.

Sample Location	Sample Number	Aroclor 1254 results ($\mu\text{g/g}$)
1	K0N2X2	2.7
2	K0N2X3	4.0
3	K0N2X4	0.04
4	K0N2X5	0.0
5	K0N2X6	0.50
6	K0N2X7	0.038
7	K0N2X8	0.035
8	K0N2X9	0.0

On Friday, May 1, 1998, fieldwork was initiated to remove the three drain structures at 3718-F. Fieldwork was completed on May 6, 1998.

The drain structure at the northeast corner of the concrete pad was removed without difficulty, and the line connecting to the 300 Area process sewer was plugged. Since the process sewer piping was clay rather than metal, an expandable rubber plug was used. The sediments were retained inside the drain structure, which was wrapped in plastic and placed in a wooden box for shipment offsite as non-regulated waste.

The two drain structures used for the scrubber drain were also removed. It was discovered during excavation that metal braces connected the structures, so they were removed as a single unit. It was also noted that the south drain structure was not closed on the bottom as previously thought, but was open to the soil. The drain structures were resting on a 38-inch diameter aluminum plate, which was the obstruction encountered during the auger sampling and the sampling of the interior of the drain sump.

When the aluminum plate was excavated, it was observed that a white encrustation was present on the top and bottom of the plate. A visual inspection indicated that a potential source of the encrustation was oxidation of the aluminum, but there was also a possibility that the crust consisted of sodium carbonate from past waste management operations at the facility. The plate was removed and cut into pieces small enough to fit in a 55-gallon drum. All discolored soil was removed from the bottom of the excavation and placed in a separate 55-gallon drum. Since the drain sump had been open at the bottom, soil samples were obtained from two locations at the bottom of the excavation hole. These were analyzed for PCB's, sodium, potassium and lithium. The collected soil was also sampled for the same constituents. The crust on the aluminum plate was sampled for waste designation purposes, and determined to be aluminum corrosion products. Results of the samples taken from the excavation and from the drummed soil are given in the following table:

		Li (mg/kg)	Na (mg/kg)	K (mg/kg)	Aroclor 1254 (mg/kg)
ACTION LEVELS ¹		37	1390	3090	2.0
SAMPLE #	LOCATION				
K0N321	Drummed soil	23.4	338	831	0.24
K0N322	Drummed soil (duplicate)	24.8	363	930	0.54
K0N323	Under aluminum plate, SW side	7.0	152	663	<0.01
K0N324	Under aluminum plate, SW side (duplicate)	8.14	161	666	<0.01
K0N325	Under aluminum plate, NE side	6.72	658	775	0.072

¹ACTION levels are defined in the sampling and analysis plan (HNF-SD-ENV-AP-004, Rev. 0). The action levels were established in accordance with the residential exposure requirements provided in MTA (WAC 173-340) Methods A or B (see amendment V.13.B.1) or, use of a natural background concentration as specified in WAC 173-340-700(4)(d).

The drain valve inside the south drain sump was cut out and placed in a separate drum. Due to the slight potential for the presence of PCBs in the valve stem packing material, the drum containing the sump drain valve was transported to the 4734B Building, for handling as PCB waste.

All of the remaining components that were removed have been wrapped in plastic, and placed in a wooden box for disposal as non-regulated waste. The wooden box containing the removed structures, the two drums containing removed soils, and the aluminum plate will be disposed of as non-regulated waste based on confirmatory sample results. The clay outlet pipe from the drain sump has been sealed with an expandable plug, and the excavation backfilled. Drawings associated with the 3718-F AMTSF and the 300 Area process sewer have been updated to reflect the removal of the drain structures and plugging of the drain lines.

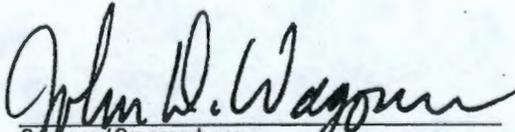
ENCLOSURE 2

CLOSURE CERTIFICATION FOR THE

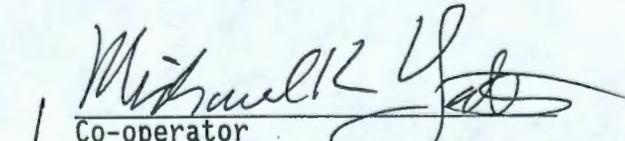
3718-F ALKALI METAL TREATMENT AND STORAGE FACILITY

CLOSURE CERTIFICATION
FOR 3718-F ALKALI METAL TREATMENT AND STORAGE FACILITY
Hanford Site
U.S. Department of Energy, Richland Operations Office

We the undersigned, hereby certify that all 3718-F Alkali Metal Treatment and Storage Facility closure activities were performed in accordance with the specifications of the approved closure plan, soil sampling and analysis plan, as amended by Part V, Chapter 13, of the Hanford Facility Resource Conservation and Recovery Act Permit.


Owner/Operator
John D. Wagoner, Manager
U.S. Department of Energy
DOE Richland Operations Office

9/23/97
Date


Co-operator
H. J. Hatch, President and
Chief Executive Officer
Fluor Daniel Hanford, Inc.

9/18/97
Date