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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 SWIFT BOULEVARD, SUITE 5
RICHLAND, WASHINGTON 99352

December 10, 1997

Owen Robertson
Senior Project Manager
U.S. Department of Energy
Richland Operations Office
P.O. Box 550, MS H0-12
Richland, WA 99352



Re: Environmental Restoration Disposal Facility Inspection Report

Dear Mr. Robertson:

On November 10, 12, and 14, 1997 the U.S. Environmental Protection Agency (EPA) performed an inspection of the Environmental Restoration Disposal Facility (ERDF). The inspection focused on compliance with ARAR and the approved facility operations plan. The attached report documents the results of the inspection and any corrections that are necessary.

EPA will issue a follow-up letter regarding the continued operation of the leachate tank at the ERDF.

It should be recognized that full cooperation by both Bechtel Hanford (BHI) and Waste Management Federal Services (WMFS) was given to EPA during the inspection. Records for each checklist item were organized and readily available.

If you have any questions or concerns regarding the results of the inspection, please contact me at (509) 376-4919.

Sincerely,

Pamela S. Innis
EPA ERDF Project Manager

Enclosure

cc: Jack Donnelly, Ecology
Glenn Van Sickle, BHI
Administrative Record, ERDF (200-DF-1 Post ROD)

**ENVIRONMENTAL RESTORATION DISPOSAL FACILITY
OPERATIONS CHECKLIST**

Site Contact(s): Glenn Van Sickle - BHI
Mike Madison - WMFS
Jeff Biaginni - WMFS
Garth Stowe - WMFS
Daniel Saucedo - WMFS

Inspection Date(s): 11/10/97, 11/12/97, 11/14/97

Inspection Performed By:

Agency: U.S. Environmental Protection Agency
Lead Contact: Pamela S. Innis - EPA ERDF Project Manager
Other Representatives: N/A

Introduction

On November 10, 12, and 14, 1997 EPA performed an inspection of the Hanford Environmental Restoration Disposal Facility. The inspection focused on compliance with ARAR and the approved operations plan for the facility.

Full cooperation by both Bechtel Hanford (BHI) and Waste Management Federal Services (WMFS) was given to EPA during the inspection. Records for each checklist item were organized and readily available. Specific findings requiring action by DOE/BHI/WMFS are listed below.

It was noted during the inspection that several sections of the Operations Plan for the ERDF had been revised. Under CERCLA, the Operations Plan serves the function of the Remedial Action Work Plan. EPA must be kept informed of changes to the plan following Section 9.3 of the Tri-Party Agreement. EPA had not been copied on the revisions and BHI and WMFS were informed that all revisions to date must be submitted to EPA and the Administrative Record. EPA will examine these revisions to determine if formal agreements on the changes must be made.

During the inspection, Tank 1 of the leachate management tanks was noted as having a leak above the 40" level on the tank. The tank, when filled above 40", leaks an average of 3 gallons per day. Currently, the tank is below that level (at approximately the 10" level on the inspection date). Both tanks were found to leak in January 1997. Repairs were initiated in May of 1997 and both tanks were recertified 7/21/97. EPA was notified of a potential leak in Tank 1 in early September. Records indicate that the tank has been leaking since 09/05/97 and that a plan of action would be implemented. No plan of action had been formulated until November 6, 1997 when the construction contractor for the facility was requested to submit a schedule for the repair. The tank remained in operation until November 14, when all leachate was removed from both tanks for shipment to ETF. Repairs on Tank 1 were subsequently completed by 11/26/97.

It was also noted during the inspection that a change to the approved leachate management plan is necessary. The current plan specifies that the limit for leachate application is 4,444 gallons per day. This number was determined using the data from the water balance study completed by BHI which specified 0.5 gal/sq yd for trafficked areas. Recycled leachate application exceeded this limit on one occasion. It appears that this number was developed for dust suppression activities and did not take waste compaction requirements into account. This discrepancy needs to be resolved and the leachate management plan revised accordingly.

Security Plan (40 CFR 264.14)	Pass	Fail
Entry Points locked when not in use	√	
Responsible person: <u>Bob Bloom, Daniel Saucedo - WMFS</u>		
Visitor/Entry log maintained	√	
Key control cabinet maintained	√	
Key control log maintained	√	
Master key list	√	
Key Custodian/Security Administrator: <u>Barbara Dougherty</u>		
Emergency phone numbers posted		
Hanford Site	√	
Rust/BHI Personnel	√	
Fence in good repair	√	
Comments: <u>No Comments</u>		
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<u>QA Plan</u>	Pass	Fail
QAPjP reviewed by project manager (annual)	√	
QA Coordinator assigned <u>Mike Madison - WMFS</u>	√	
Document review		
Comments/Responses on file	√	
Personnel Training Records (40CFR264.16)		
Hanford General	√	
Specific: Compaction Testing	√	
Sampling	√	
Emergency Planning	√	
Environmental Monitoring	√	
Personnel qualification records	√	
Software verification records	√	
Data collection program current		
Air	√	
Leachate	√	
Washwater	√	
Document control system in place	√	
Inspections (40CFR264.15)		
Inspection schedule established	√	
Documentation available	√	
Test Control		
Compaction Testing		
Performed every 1000yd ³	√	
Test Results - min of 90%of modified Proctor	√	
Test Reports Maintained	√	
Environmental Testing (Leachate, Washwater, Air)		
Test reports maintained	√	
Calibration records available (see QAI, Table 2, pg 55)	√	
Sample Handling (Leachate, Washwater, Air)		
Sampling log maintained	√	
Chain of custody maintained (documented)	√	
QA Records stored in safe condition	√	
Comments: <u>No Comments.</u>		

<u>Waste Minimization Plan</u>	Pass	Fail
Waste minimization efforts		
Recycling	√	
Material substitution	√	
Goals displayed	√	
Quarterly report maintained	√	
Equipment maintenance materials		
Waste Management Federal Services (WMFS) -	n/a ¹	
Type: <u>N/A</u>		
Hazardous material tracking		
Storage compliant		
Disposal to date: _____		
RCI -		
Type:		
<u>(general) Antifreeze, gasoline, grease, vinyl cement,</u>		
<u>degreaser, enamels, solvents, starter fluid.</u>		
Hazardous material tracking	√	
Storage compliant	√	
Disposal to date: <u>No hazardous material disposal to date,</u>		
<u>used materials recycled by distributor.</u>		
Decontamination waste		
WMFS- Generated to date: <u>None generated.</u>	√	
RCI - Generated to date: <u>None generated.</u>	√	
Dust control w/in trench		
Water use records _____		
Dust fixative records <u>Field logs indicate daily application.</u>		√ ²
Leachate use records <u>42,000 gal</u>		
Total volume of liquid applied within 4,444 gallon per day limit		
specified in water balance study and LMP.		√ ³
Comments: ¹ <u>None generated.</u> ² <u>No water use records are available since</u>		
<u>on flow meter has been installed on the water line.</u> ³ <u>The Water Balance</u>		
<u>Study prepared by BHI was used to determine the application rate of</u>		
<u>water (0.50 gal/sq yd) and is referenced in the Leachate Management</u>		
<u>Plan. This deals with water used for dust suppression and may not take</u>		
<u>into account water needed for compaction. This study should be revisited</u>		
<u>to determine an allowable range of water use for both dust suppression</u>		
<u>and compaction.</u>		

<u>Waste Acceptance Plan</u>	Pass	Fail
Waste Profile records		
Log of those reviewed	√	
Log of those approved/rejected	√	
Onsite Waste Tracking Form records		
Load number records	√	
Log of those reviewed	√	
Log of those approved/rejected	√	
Daily Inventory Records	√	
Total allowable inventory exceeded: <u> N/A </u>		
Daily Waste Receipt Report maintained	√	
Onsite Waste Tracking Forms maintained	√	
Disposal locations identified	√	
Comments: <u>No comment.</u>		

<u>Environmental Monitoring</u>	Pass	Fail
(Leachate and Washwater - separate check sheet)		
Records of periodic radiological control surveys of landfill perimeter and inactive landfill cells maintained	√	
Transportation equipment check	√	
- Strong, tight containers	√	
- Covers on securely during transport	√	
Airborne emissions		
- Records of periodic surveys of contaminated areas for radiological/ chemical constituents	√	
- Radiological areas adequately marked	√	
- TLDs posted (3) at air monitoring stations	√	
- Collected quarterly	√	
- Custody maintained	√	
- Analyses recorded and submitted to PHMC/PNNL	√	
- Annual downwind soil samples	√	
- Custody maintained	√	
- Analyses recorded and compared to baseline	√	
- High volume air samplers available	√	
- ERDF Air monitors (3)	√	
- Operational	√	
- Sampled every two weeks for gross alpha/beta	√	
- Analyzed every six months	√	
- Personnel trained	√	
- Custody maintained	√	
- Results from Hanford Environmental Monitoring Stations (4) recorded and compared to baseline	√	
- Operational Monitoring		
- Sampled weekly and screened for gross alpha/beta	√	
- Analyses recorded on air sample evaluation data sheet and airborne concentration trending forms and compared to baseline	√	
Monitoring data packages maintained	√	
Comments: <u>Survey records available for landfill perimeter, Troxler, change trailer, equipment, ludlums, PPE, and loadout areas. Operational monitoring done on dump face and dozer(s). Environmental monitoring taken over by FDH June 1997. Annual soil sample to be taken by 11/30/97. All results are recorded and compared within the Hanford Environmental Report.</u>		

<u>Groundwater Monitoring Program</u>	Pass	Fail
<p>Groundwater sampling (4 wells) Responsibility: <u>PNNL, R.M. Smith - Project Manager</u> Personnel trained Log of sampling events maintained Log indicates sampling procedures followed Custody maintained Analyses recorded and compared to baseline</p> <p><u>Comments: A letter of instruction was issued to PNNL by BHI on Dec 31, 1996 giving them direction to coordinate all groundwater sampling and analyses during FY97. All results are presented in an annual report developed by BHI.</u></p>	 √ √ √ √ √	

<u>Administrative Procedures</u> No Checklist Required		
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Waste Materials Management Plan	Pass	Fail
Fill sequence consistent with plan or change documented	√	
3-D grid of waste placement current	√	
Locations recorded on On-Site Waste Tracking Form	√	
Waste compaction record available	√	
DOC spread to thickness of less than 2'	√	
Consistently >90% of Modified Proctor	√	
Debris placed toward bottom of lift	√	
% soft debris placed (<5%V in lifts)	√	
Unloading and disposal plans for high dose rate waste	√ ²	
(>100mrem/hr at 12") - maintained as controlled document	√	
Asbestos containing material		
Plan for handling/disposal in place	√ ⁴	
Placement compliant with NESHAPS	√	
Stabilization activities		
Void fill plan for piping, etc.	√ ²	
Compaction Testing		
Waste compaction test every 1000 yd ³	√ ³	
Sand cone done weekly	√	
Sand cone comparable with nuclear test	√	
Nuclear gauge calibration <u>7/15/96 by Troxler Electronics -</u>	√	
<u>recommended every two years.</u>	√	
Gauge correction factors available	√	
Consistently >90% of Modified Proctor	√	
Moisture Content Testing	√	
Nuclear gauge calibration (see above)	√ ³	
Test completed every 1000 yd ³		
Daily Active Surface Area	N/A ¹	
< 19824 ft ²		
Area marked off		
Comments: <u>¹Fill sequence change and Daily Active Surface Area change documented in rev 3 of Operations Plan. ²As documented in waste shipping and receiving plans. ³Test for compacts and moisture run daily using Troxler in two places and coinciding with waste placement grid. Weekly reports show average waste disposal at 2700 T/day yielding approximately 1420 cubic yards per day. ⁴Plans are in place for handling asbestos wrapped pipe, asbestos contaminated soils (drummed), and bagged asbestos.</u>		

Health and Safety Plan (40CFR300.150 & 29CFR1910.120)	Pass	Fail
Task and waste stream specific activity hazard analyses and exposure assessment plans completed	√	
RWP current	√	
Hazard communication training documented	√	
Safety meeting documentation	√	
PPE appropriate for work conditions	√	
Employee H&S Training records on file	√	
Documented site specific H&S visitor briefing	√	
Employee Radiological Training records on file	√	
Hearing conservation program in place	N/A ¹	
Respiratory protection program in place	N/A ²	
Personnel monitoring devices provided for employees		
TLDs	√	
pencil dosimeters	√	
Medical monitoring program in place	√	
Industrial hygiene monitoring records available	√	
Radiological zones appropriately identified/posted	√	
Decontamination methods implemented for equipment & employees	√ ³	
Emergency Action Plan posted	√	
Employees training of Emergency Action Plan documented	√	
Evacuation routes and staging areas established and posted	√	
Confined space program established	√	
Employee training on Spill Response documented	√	
Spill Response incidents documented	√	
Comments: ¹ Hearing conservation program not required - monitoring indicates exposure below 90Db. ² Respiratory protection program not needed based on environmental monitoring. ³ BHI Decontamination procedures used for WMFS employees.		

<u>Equipment Maintenance Plan</u>	Pass	Fail
Records of monthly fence and gate walkdowns maintained	√	
Sanitary sewer maintenance records kept	√	
Pesticide application records maintained	N/A	
Air monitor checks daily	√ ¹	
Run-on/Run-off controls maintained	√	
Leachate pumps tested monthly	√	
Leachate flowmeter and manifold system tested and operable	√	
Sump pump control instrumentation tested (annual) <u>5/97</u>	√	
Leachate tanks inspected daily	√	
Leak detection panel readouts monitored daily	√	
Leak detection system functionally tested (annual)	√	
Pump Control Instrumentation functionally tested (annual)	√	
Wash pad inspected weekly	√	
Wash pad settling basin inspected (biannual)	N/A	
Wash pad solids removed and disposed <u>None generated</u>	N/A	
Maintenance records and checklists maintained	√	
Comments: <u>Power failure during inspection. ¹Since environmental monitoring was transferred to the PHMC, Waste Management NW is responsible for checking air monitors. This is done every two weeks as per the sitewide agreement with Washington Department of Health.</u>		

<u>Automation Plan</u>	Pass	Fail
System in place and functional	√	
Profiles	√	
Manifests		
Values	√	
Coordinates	√	
Tare weight	√	
Total inventory available	√	
Comments: <u>No comment.</u>		

<u>Training</u>		
No Checklist Necessary (covered in other checklists)		

<u>Leachate Management Plan</u>	Pass	Fail
Action Leakage Rate		
SLCS flowrate results (weekly)	√	
ALR exceeded	√ ¹	
Periodic inspections per maintenance plan	√	
Leachate log maintained		
Removed from landfill	√	
Level in leachate tanks	√	
Current leachate tank levels		
Tank 1: <u>10"</u>		
Tank 2: <u>13"</u>		
Current washwater tank level: <u>0</u>		
Tank integrity assured		
Leaks present <u>Records indicate that tank 1 has been leaking since 09/05/97 at a rate of approximately 3 gallons per day recovery in the secondary liner. The leak appears to be at a level above 40" in the tank.</u>	√	√
Leachate and washwater sample data maintained		
Leachate & Washwater QA samples taken		
Documentation specifying change over of leachate piping for cell		
2 from inactive to active		
Date waste disposed of in cell 2: <u>08/05/97</u>		
Date leachate piping change over occurred: <u>07/30/97</u>		
Total quantity of leachate produced: <u>Cell 1: 1,870,464 gal</u>		
<u>Cell 2: 35,875 gal</u>		
Total quantity of leachate shipped to ETF: <u>FY97: 1,345,000</u>		
<u>FY98: 360,000</u>		
Total quantity of leachate used in trench: <u>42,000 gal</u>		
Comments: <u>Tanks currently labeled F001. ¹Maximum value occurred on 2/6/97 at 110 gpd which is less than the ALR of 175 gpd.</u>		