

Waste Information Data System

General Summary Report

10/7/1999

Site Code: UPR-200-E-34	Site Classification: Accepted	Page 1
Site Names:	UPR-200-E-34, Liquid Release to B-Pond and Gable Pond, UN-200-E-34	
Site Type:	Unplanned Release	Start Date: 1964
Status:	Inactive	End Date: 1964
Operable Unit:	200-CW-1	Coordinates:
Hanford Area:	200E	(E) 576418.75
		(N) 136813.969
		Washington State Plane
Site Description:	The site is an unplanned release. There is no visual evidence of this release. The release ran into 216-B-3 Pond, 216-A-25 Pond and 216-A-29 Ditch. The 216-B-3 Pond, 216-A-25 Pond, and 216-A-29 Ditch have all been surface stabilized and are posted as Underground Radioactive Material Areas. This site has been consolidated with the 216-B-3 Pond.	
Location Description:	The unplanned release was a liquid release from PUREX that terminated in 216-B-3 Pond located east of 200 East area, outside the east perimeter fence and to 216-A-25 (Gable) Pond, located north of 200 East Area via ditches and an underground pipeline.	
Associated Structures:	The release is associated with the PUREX facility, 216-A-25, 216-A-29 and 216-B-3.	
Site Comment:	<p>Approximately 10,000 curies of fission products were released. Radiation surveys done following the F-15 Tank coil leak on June 12, 1964 found up to 22 rads/hour at 5 centimeters (2 inches) over the inlet, and 500 millirem per hour at 5 centimeters (2 inches) along the shoreline.</p> <p>Water samples ranged from 48,000 picocuries per cubic centimeter (collected in June 1964) to 12 picocuries per centimeter (collected in October 1964).</p> <p>A task force was formed consisting of operations management personnel, process engineers, a chemist, a geologist/hydrologist, a biologist, a health physicist and a waste disposal engineer. A follow up report written in 1965 (Radiation Control of Accidentally Contaminated Seepage Ponds -RL-SA-15) determined that of the 10,000 curies of fission products released, the highest percentage of significant contaminants was niobium-95, zirconium, yttrium-91, strontium-89, cerium-144 and praseodymium-144. Waterfowl were periodically harvested following the incident to determine the amount of external and internal contamination. External contamination on waterfowl collected at Gable Pond ranged from 100 millirem per hour (collected on June 22, 1964) to 500 counts per minute (collected on November 3, 1964). The internal strontium and cesium concentration ranged from 180,000 picocuries per gram of cesium-137 and 370 picocuries per gram of strontium (analyzed in June 1964) to 1 picocurie per gram of cesium-137 and less than detectable strontium (analyzed in November 1964).</p> <p>Copper sulfate was added on two occasions to Gable Pond to eliminate algae and invertebrates following the 1964 incident in order to eliminate waterfowl food sources. Three parts per billion of copper sulfate was the concentration used.</p> <p>Most of the contamination was absorbed into the pond bottom sediments. An effort was made to coat the pond bottom with bentonite clay to reduce the percolation rate and raise the liquid level of the pond one foot. Applying a uniform layer of clay was a problem. After adding 5.9 metric tons (6.5 tons) of clay non-uniformly by various methods, other solutions were sought.</p> <p>Ground water samples in the vicinity (north/northeast) of Gable Pond were sampled. The contaminants were mostly ruthenium-103, ruthenium-106 and zirconium/niobium-95. Analysis ranged from 49 picocuries per cubic centimeter in August 1964 to 11 picocuries per gram in October 1964. Down gradient wells were at background levels. It was determined that groundwater contamination was not a significant problem.</p>	
Cleanup Activities:	Action was taken to kill the algae, precipitate the fission products and to cover the inlet ditches. The 216-B-3 Pond, 216-A-25 Pond and 216-A-29 ditch have all been surface stabilized.	
Release Description:	On June 12, 1964, a coil leak in the F-15 Plutonium Uranium Extraction (PUREX) Tank contaminated 216-B-3 (B Pond) and 216-A-25 (Gable Mountain Pond). Approximately one fourth of the release was discharged to 216-B-3 Pond and the remaining three fourths of the contamination was released to 216-A-25 (Gable) Pond.	
Environmental Monitoring Description:	Wells 699-53-47, 699-55-50C and 699-52-52 monitor the site.	

Description:

References: 1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10/88, Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford, PNL-6456 Vol 1,2,3.
2. D.H. Deford, R.W. Carpenter, 5/15/95, B-Plant Aggregate Area Management Study Technical Baseline Report, BHI-00179.

Regulatory Information:**Programmatic Responsibility**

DOE Program: EM-40 **Confirmed By Program:** Yes
DOE Division: RPD - Restoration Projects Division
Responsible Contractor/Subcontractor: BHI - Bechtel Hanford, Inc.

Site Evaluation

Solid Waste Management Unit: No
TPA Waste Management Unit Type: Unplanned Release Unit

This Site Was Consolidated With:

216-B-3, B Pond, B-3 Pond, B Swamp, 216-B-3 Swamp, B Plant Swamp

Reason: Within Boundary Of Larger Site

Permitting

RCRA Part A Permit: No	216/218 Permit: No
RCRA Part B Permit: No	NPDES: No
Closure Plan: No	State Waste Discharge Permit: No
TSD Number:	Septic Permit: No
Air Operating Permit: No	Inert Landfill: No

Air Operating Permit Number(s):

Tri-Party Agreement

Lead Regulatory Agency: Ecology
Unit Category: RCRA Past Practice (RPP)
TPA Appendix: C

Remediation and Closure

Decision Document:
Decision Document Status:
Remediation Design Group:
Closure Document:
Closure Type:
Post Closure Requirements:

Residual Waste:

Waste Information:

Type: Process Effluent
Category: Mixed

Physical State: Liquid**Description:** The site was contaminated with mixed fission products measuring 10,000 curies.**References:** 1. R. D. Stenner, K. H. Cramer, D. A. Lamar, 10/88, Hazard Ranking System Evaluation of CERCLA Inactive Waste Sites at Hanford, PNL-6456 Vol 1,2,3.**Field Work:****Type:** Site Walkdown**Begin Date:** 07/30/1999**Field Crew:** CR Webb**End Date:** 07/30/1999**Purpose:** verification**Comment:** Stabilized with the pond. It is not separately marked or posted.**References:** 1. C. R. Webb, Field Logbook assigned to Christine Webb, EL-1255 and EL-1255-1.**Images:****Date Taken:** 2/4/98**Pathname:** \\bhi002\esd-img\200E\1344\1344_01.JPG**Description:** Photo shows stabilized 216-B-3 Pond**Date Taken:** 2/4/98**Pathname:** \\bhi002\esd-img\200E\1344\1344_02.JPG**Description:** Photo shows stabilized 216-B-3 pond