



West Valley Demonstration Project

West Valley
Environmental
Services

Environmental Monitoring Program for 2008

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Environmental Monitoring Program

◆ Purpose

“To ensure that public health and safety and the environment continue to be protected with respect to potential releases of radioactive and hazardous substances from current site activities.”

WVDP-098, Environmental Monitoring Plan, Revision 15, January 7, 2008

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Environmental Monitoring Program

- ◆ What is monitored?
 - direct radiation
 - air pathways
 - surface water pathways
 - groundwater
 - food pathways
- ◆ Where?
 - on site (200-acre WVDP site)
 - off site
 - near: up to 10 km
 - far: beyond 10 km



Standard Well Monitoring



Meteorological Tower



Dosimetry



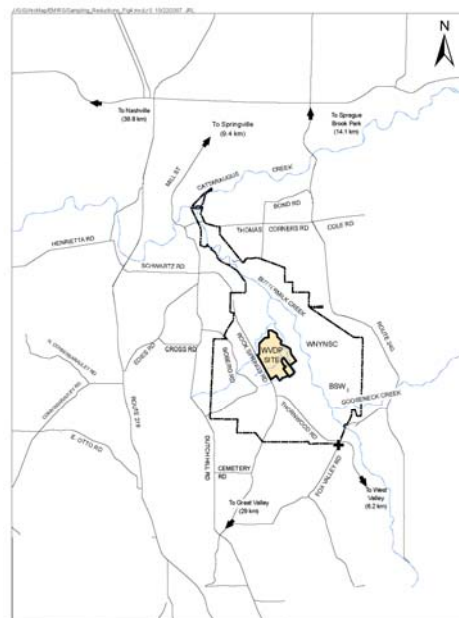
Microwell Monitoring



Seep Monitoring

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Environmental Monitoring Program



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Environmental Monitoring Program

- ◆ DOE sites produce annual site environmental monitoring reports for public release every year that summarize the results of monitoring activities
 - WVDP Annual Site Environmental Reports (ASERs) are typically available in September
 - All reports (1982 – 2006) are available at <http://www.wv.doe.gov/index.html>
 - Historically reported changes in program at time report presented

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Environmental Monitoring Program

- ◆ Why are we sampling?
- ◆ What is sampled?
- ◆ Where are samples taken?
- ◆ How often are samples taken?
- ◆ What are samples analyzed for?
- ◆ What changes are made in the monitoring program?

Basic reasons for changing the monitoring program

1. Environmental data/knowledge
2. Identification of environmental changes
3. Changes in project work activities

. . . Beginning with the 1990 ASER, monitoring changes are:

- summarized in Chapter 1
- specifically listed in Appendix B

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ASER

2006

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1982



Project status

- DOE assumes control of Project site and facilities

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1995



Project status

- Preparing to begin solidification of liquid high-level waste (HLW) in glass liquid
- Completing pretreatment of the liquid HLW

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2007

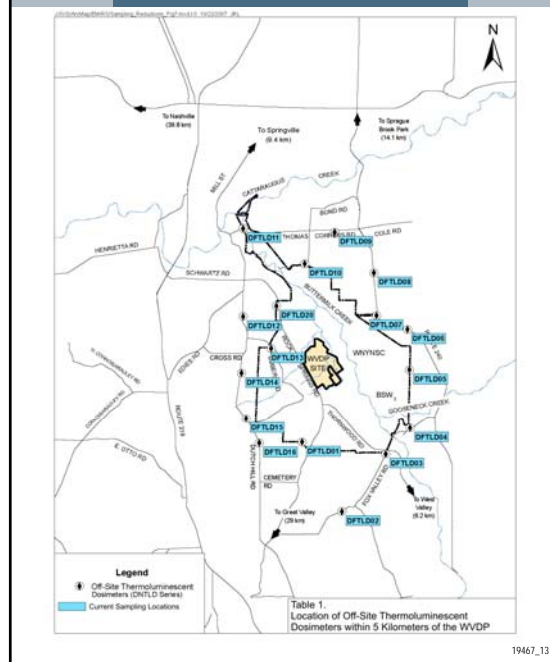


Project status

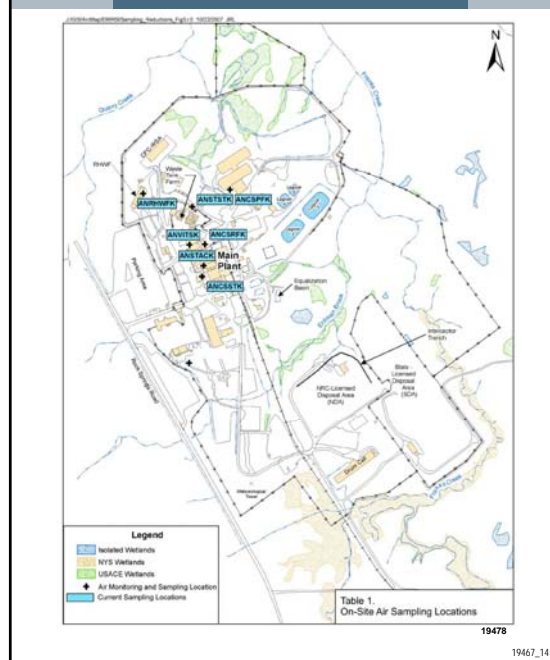
- HLW processing complete; 98 percent of radioactivity removed from tanks
- Drum Cell empty, Lag Storage facilities being emptied
- Main Plant decontamination continuing with significant amount of hardware removed

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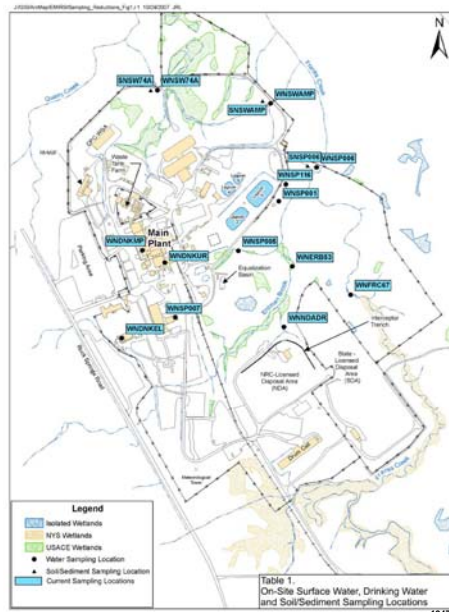
Off-Site Direct Radiation Monitoring



On-Site Air Sampling



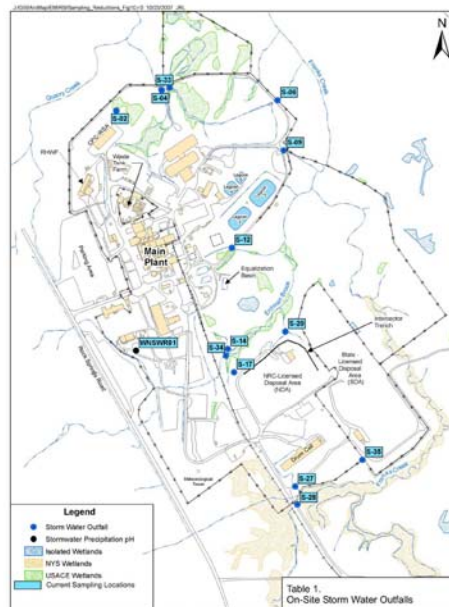
On-Site Surface/Drinking Water, Soil/Sediment Sampling



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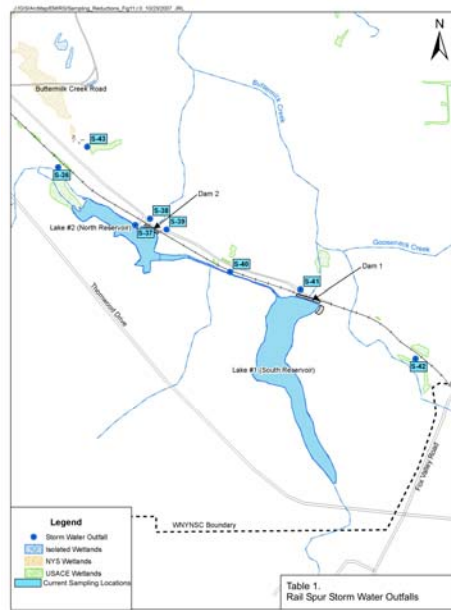
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On-Site Storm Water Outfalls



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Rail Spur Storm Water Outfalls



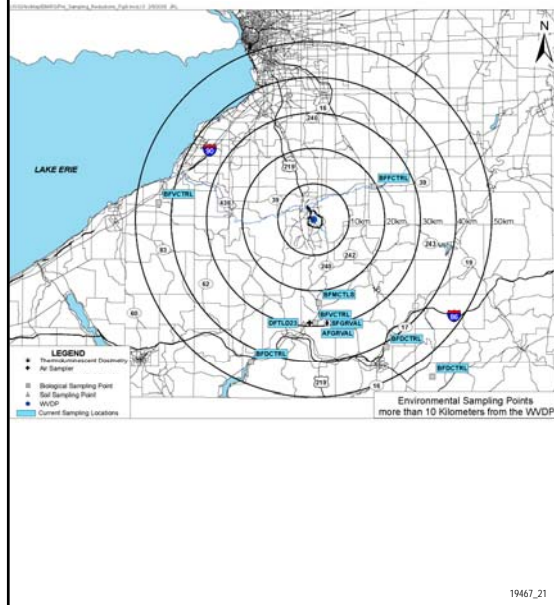
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Groundwater: Radiological Indicators



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Background



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Summary of 07 to 08 Changes

Direct Radiation (TLD)	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	15	8	Reduce	Reduction/redistribution of material
Off-site (within 5 km)	17	17	Reduce	
Off-site (between 5 – 10 km)	2	0		Historical data – background
Background (greater than 10 km)	1	1	Reduce	

Air	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	9	7	Reduce	Low dose potential
Off-site (between 5 – 10 km)	5	0		Historical data – background
Background (greater than 10 km)	1	1	No Change	

Surface Water	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	13	10	Reduce frequency at 9 locations	Changes in site activities
Off-site (between 5 – 10 km)	5	3	Reduce	Historical data - background

Drinking Water	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	3	3	Reduce	
Off-site (between 5 – 10 km)	10*	0		Historical data – background
Background (greater than 10 km)	1	1	Reduce	

*Biannual samples last taken in Fall 2006.

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Summary of 07 to 08 Changes

Storm Water Outfalls	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	22	22	No Change	
On-Site Groundwater	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
Groundwater Monitoring Program	60	60	Reduce frequency at 9 locations	
Pilot Permeable Treatment Wall	25	13	Reduce frequency at 2 locations	Evaluation of PTW complete
Strontium-90 Plume	51	41	Reduce frequency at 3 locations	Additional data at these locations not needed
Biological	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
Off-site (between 5 – 10 km)	9	9	Reduce	
Background (greater than 10 km)	7	7	Reduce	
Soil / Sediments	Sampling Locations		Sampling Frequency	Rationale for Discontinuing
	2007	2008		
On-site	3	3	Reduce	
Off-site (within 5 km)	3	3		
Off-site (between 5 – 10 km)*	2	0	Reduce	Historical data – background
Background (greater than 10 km)	1	1	Reduce	

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Map Key

WVDP Sampling Location Code

First Letter (medium)

Air
Water
Soil/Sediment
Biological
Direct Measurement

Second Letter (on or off site)

oN-site
oF-site

Remaining Letters (location)

GReat **VAL**ley

Example **AFGRVAL**

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