Attachment 3 Inspection Checklists

BROOKHAVEN NATIONAL LABORATORY CURRENT LANDFILL AREA SITE INSPECTION FORM

Name of Inspector(s):	E. Kramer, W. Dorsch V. Racaniello,				
	T. Kneitel, R. Howe				
Date of Inspection:	April 4, 2005				
Purpose of Inspection:	X Routine Heavy Rainfall	Reported Incident			
Time on Site: 1310 h	ours				
Fime off Site: 1350 hours					
Weather Conditions:	Cool, sunny				

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap					
	Vegetation	Х				Х
	Cap		Х		Х	
	Gas Vents	Х				X
2.0	Drainage Structures:					
	Toe Drain		Х		Х	
	Drainage Channels		Х		Х	
	French Drains/Outfalls	Х				X
	Subsurface Drainage Pipes/Outfalls	Х				Х
	Manholes	Х				Х
	Recharge Areas	Х				X
3.0	Monitoring System:					
	Soil Gas Wells	X				X
	Groundwater Wells	Х				X
4.0	Site Access					
	Asphalt Access Road	X				Х
	Crushed-Concrete Access Road	Х				Х

B. Description of Further Action Requirements:

1. Location:

Observed Conditions: 1) Weeds in drainage channels, 2) animal burrowing holes along south and east slopes, 3) netting on north and east slopes showing through in some areas, 4) BNL contacts on green emergency placard out of date, 5) lock missing from Brookhaven Ave gate, and south gate is broken (can't latch).

BROOKHAVEN NATIONAL LABORATORY FORMER LANDFILL AREA SITE INSPECTION FORM

Name of Inspector(s):	E. Kramer, W. Dorsch V. Racaniello,	
	R. Howe	
Date of Inspection:	April 4, 2005	
Purpose of Inspection:	X Routine Heavy Rainfall	Reported Incident
Time on Site: <u>1355</u>	hours	
Time off Site: 1420	nours	
Weather Conditions:	Cool, sunny	

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	Landfill Cap					
	Vegetation	Х				Х
	Cap	Х				Х
	Gas Vents	Х				X
2.0	Drainage Structures:					
	Toe Drain	Х				Х
	Drainage Channels	Х				Х
	French Drains/Outfalls	Х				Х
	Subsurface Drainage Pipes/Outfalls	Х				Х
	Manholes	Х				Х
	Recharge Areas	Х				X
3.0	Monitoring System:]	
	Soil Gas Wells	Х				X
	Groundwater Wells	Х				Х
4.0	Site Access]	
 0	Asphalt Access Dood	v				v
	Crushed-Concrete Access Road				-	
	Crushed Concrete Access Road	Λ				Λ

B. Description of Further Action Requirements:

2. Location:

Observed Conditions: Conditions normal

Recommendations: <u>None</u>

BNL Five-Year Review Site Inspection Checklist

I. SITE INF	ORMATION
Site name: Brookhaven National Laboratory	Date(s) of inspection: 3/10/05 through 6/9/05
Location and Region: Upton, NY, EPA Region 2	EPA ID: NY7890008975
Agency, office, or company leading the five-year review: Brookhaven Science Associates (BSA) for the U.S. Department of Energy (DOE)	Weather/temperature: NA
Remedy Includes: (Check all that apply) \[\begin{aligned} Landfill cover/containment \[\begin{aligned} M & Access controls \[D & Access \[D & Access controls \[D & Access contro	Monitored natural attenuation Groundwater containment Vertical barrier walls
Attachments: Inspection team roster attached	Site map attached
II. INTERVIEWS	(Check all that apply)
1. O&M site manager _ Name Interviewed ⊠ at site ⊠ at office □ by phone Ph Problems, suggestions; □ Report attached _Work with	LTRA ManagerNA Title Date one no344-5186 th on a daily basis and discuss issues weekly
2. O&M staff Vinnie Racaniello, Eric Kramer, Chris Og Names Interviewed ⊠ at site ⊠ at office □ by phone Ph Problems, suggestions; □ Report attached Work wit	geka Project Manager and Field Engineers NA Titles Date one no. 344-5436, 8226, 2363 h on a daily basis and discuss issues weekly
 Local regulatory authorities and response ag office, police department, office of public health deeds, or other city and county offices, etc.) Fil AgencyEPA, DEC, SCDHS, DOEContactName Problems; suggestions; ⊠ Report attached See 	encies (i.e., State and Tribal offices, emergency response n or environmental health, zoning office, recorder of l in all that apply.
Agency Contact Problems; suggestions; Report attached	Title Date Phone no.
4. Other interviews (optional)	d. ORDS VERIFIED (Check all that apply)

1.	O&M Documents ○ O&M manual ○ Readily available ○ Up to date ○ N/A ○ As-built drawings ○ Readily available ○ Up to date ○ N/A ○ Maintenance logs ○ Readily available ○ Up to date ○ N/A Remarks: The OU I/RA V, Industrial Park, and the Sr-90 Chemical Holes O&M Manuals are in the process of being updated. The as-built drawings are available through Plant Engineering's database.
2.	Site-Specific Health and Safety Plan Image: Readily available Image: Up to date Image: N/A Image: Contingency plan/emergency response plan Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: Up to date Image: N/A Image: Readily available Image: N/A Image: N/A Image: Readily avai
3.	O&M and OSHA Training Records Readily available Up to date X N/A Remarks
4.	Permits and Service Agreements Air discharge permit Readily available Up to date N/A Effluent discharge Readily available Up to date N/A Waste disposal, POTW Readily available Up to date N/A Other permits: Peconic, FHWMF Readily available Up to date N/A Remarks: DEC air and SPDES equivalency permits in place for all treatment systems, as appropriate. Peconic Phase 1 and Off-site equivalency permits in place.
5.	Gas Generation Records Readily available Up to date N/A Remarks
6.	Groundwater Monitoring Records Readily available Up to date N/A Remarks: Groundwater monitoring data is made available via the Quarterly System Operations Reports, as well as the Annual Groundwater Status Report.
7.	Discharge Compliance Records
8.	Daily Access/Security Logs Readily available Up to date N/A Remarks_Daily operating data sheets for the groundwater systems are available at the treatment building and the Project files.
9.	Comments

				IV. O&M COSTS	
1.	O&M O State PRP Feder Other and Was	Prganization in-house in-house ral Facility in-h r: Responsibility te Management	ouse y for mana Services	☐ Contractor for State ☐ Contractor for PRP ☑ Contractor for Federal aging BNL's Long Term Re Division (EWMSD).	Facility sponse Actions lies with the Environmental
2.	O&M C ∑ Read ∑ Fund Original	ost Records ily available ing mechanism O&M cost estin Tot	Up /agreemen mate al annual	to date t in place G Break cost by year for review peri	cdown attached od if available
	_				
	From From	<u>10/00</u> To Date <u>10/01</u> To	<u>9/01</u> Date <u>9/02</u>	<u>Avg. Annual of \$200K</u> Total cost <u>Avg. Annual of \$210K</u>	⊠ Breakdown attached ⊠ Breakdown attached
	From	Date <u>10/02</u> To Date	Date <u>9/03</u> Date	Total cost <u>Avg. Annual of \$185K</u> Total cost	Breakdown attached
	From	<u>10/03</u> To Date	<u>9/04</u> Date	<u>Avg. Annual of \$140K</u> Total cost	Breakdown attached
3.	Unantic Describe operation will be id	ipated or Unus costs and reason for the five tre dentified for the	eually Hig ons: No un catment sy second F	h O&M Costs During Rev nusually high O&M costs ic stems beyond the BNL prop ive-Year Review.	view Period dentified. FY05 will be the first full year of perty. The annual costs for these systems
		V. ACCESS A	ND INST	ITUTIONAL CONTROL	S 🛛 Applicable 🗌 N/A
A. Fe	ncing				
1.	Fencing Remarks	damaged : See Current I	Loc Landfill in	ation shown on site map spection forms for needed r	Gates secured N/A epair to gate
B. Ot	her Access	Restrictions			
1.	Signs and other security measures Location shown on site map N/A Remarks: Identification signs are in place for all of the on-site groundwater treatment systems and landfills, as well as most of the off-site systems (the remaining signs are being made by BNL). DOE notification signs are in place for all treatment facilities located beyond BNL's property boundary. There are BNL security personnel at the site 24 hours per day. For the systems located beyond the BNL boundaries, security cameras are present that communicate with BNL's security personnel.				
C. Ins	stitutional	Controls (ICs)			

1.	Implementation and enforcement
	Site conditions imply ICs not properly implemented \Box Yes \boxtimes No \Box N/A
	Site conditions imply ICs not being fully enforced \Box Yes \boxtimes No \Box N/A
	Type of monitoring (<i>e.g.</i> , self-reporting, drive by): Routine inspections of landfills and groundwater treatment systems
	Frequency: Varies from almost daily for treatment systems to monthly for landfills.
	Responsible party/agency: BSA under contract with DOE.
	Contact: William Dorsch BSA LTRA Manager 3/21/05 (631) 344-5186
	Gail Penny DOE Project Manager 3/21/05 (631) 344-4363
	Name Title Date Phone no.
	Reporting is up-to-dateImage: YesNoN/AReports are verified by the lead agencyImage: YesNoN/A
	Specific requirements in deed or decision documents have been met Yes No N/A Violations have been reported Yes No N/A
	Other problems or suggestions: G Report attached Remerkey. There are seven access agreements in place among PSA/DOE and various property owners to
	allow for BNL's remediation of groundwater contamination that has migrated beyond the BNL property.
	Each agreement has terms and conditions that must be adhered to.
2.	AdequacyICs are adequateICs are inadequateN/ARemarks: The Land Use Controls Management Plan and institutional controls website and fact sheets are currently being updated to reflect the most recent IC's for each project.N/A
D.	General
1.	Vandalism/trespassing 🔲 Location shown on site map 🛛 No vandalism evident
	Remarks_There has been some vandalism in the past at some of the treatment systems located beyond
	the BNL property. However, additional precautions have been implemented such as security cameras,
2.	Land use changes on site 🖾 N/A Remarks: None
3.	Land use changes off site 🖂 N/A Remarks: None
	VI. GENERAL SITE CONDITIONS
Α.	Roads \square Applicable \square N/A
1.	Roads damaged I Location shown on site map I Roads adequate N/A
	Remarks
B.	Other Site Conditions
	Remarks:

	VII. SOIL CLEANUP REMEDIES 🖾 Applicable 🗌 N/A
A.	Project OU I AOC 2F Ash Pit 3/29/05
1.	Soil Excavation Complete 🛛 Yes 🗌 No Remarks
2.	S&M Documents ∑ S&M Plan ☐ Readily available ☐ Up to date ☐ N/A ☐ Completion/Closeout Report ☐ Readily available ☐ Up to date ☐ N/A ☐ Maintenance logs ☐ Readily available ☐ Up to date ☐ N/A ☐ Maintenance logs ☐ Readily available ☐ Up to date ☐ N/A Remarks: Final Closeout Report for the Ash Pit OU I AOC 2F, dated 2/5/04. Section 4.0 of the Closeout Report identifies LTRA requirements (i.e., annual inspection) and references WP 179 for details.
3.	Settlement (Low spots) Image: Location shown on site map Image: Settlement not evident Areal extent Depth Depth Remarks: Some minor settlement of 10'x20' area in center of pit. See attached photo. Depth
4.	Erosion Image: Location shown on site map Erosion not evident Areal extent Depth Depth Remarks: Some erosion identified on a small area on the slope of the soil cover (near south side of road). See attached photo.
5.	Vegetative Cover Image: Grass Image: Cover properly established Image: No signs of stress Image: Trees/Shrubs (indicate size and locations on a diagram) Remarks: Trees surround the pit area. Native grasses dormant at this time Image: Cover properly established Image: Coverp
6.	Wet Areas/Water Damage G Wet areas/water damage not evident Wet areas Location shown on site map Areal extent
7.	Monitoring Wells (within the excavated area) Properly secured/locked Functioning Routinely sampled Good condition Evidence of leakage at penetration Needs Maintenance N/A Remarks
8.	Other Site Conditions
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, T. Doyle, R. Howe. Heavy rains day before inspection. Recommendations: Provide cover for eroded area.

	VII. SOIL CLEANUP REMEDIES Applicable N/A
A.	Project OU I AOC 8 Meadow Marsh 3/29/05
1.	Soil Excavation Complete 🛛 Yes 🗌 No Remarks
2.	S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: Final Closeout Report for the Meadow Marsh OU I AOC 8, dated 2/6/04. Section 4.0 of the Closeout Report identifies LTRA requirements (i.e., ecological monitoring and inspection for Tiger Salamanders. Institutional controls are also identified in the Report.
3.	Settlement (Low spots) Image: Location shown on site map Image: Settlement not evident Areal extent Depth Depth Depth Remarks Depth Depth Depth Depth
4.	Erosion □ Location shown on site map ⊠ Erosion not evident Areal extent Depth Remarks
5.	Vegetative Cover Grass Cover properly established No signs of stress G Trees/Shrubs (indicate size and locations on a diagram) Remarks: Native grasses planted adjacent to the pond.
6.	Wet Areas/Water Damage G Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks: The remediated area is a pond for the Tiger Salamanders. See attached photo.
7.	Monitoring Wells (within the excavated area) Properly secured/locked Functioning Routinely sampled Good condition Evidence of leakage at penetration Needs Maintenance N/A Remarks
8.	Other Site Conditions
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, T. Doyle, R. Howe. Heavy rains day before inspection. Recommendations: Properly dispose of drill auger lying near road.

	VII. SOIL CLEANUP REMEDIES Applicable N/A
A.	Project OU I AOC 6 Bldg. 650 Sump Outfall 3/29/05
1.	Soil Excavation Complete 🛛 Yes 🗌 No Remarks
2.	S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: Draft Final Closeout Report for AOC 6 Bldg. 650 Sump and Sump Outfall, dated 1/02. No specific LTRA monitoring was identified, however, there are some lessons learned presented.
3.	Settlement (Low spots) Image: Construction line Image: Construle Image: Constructine
4.	Erosion □ Location shown on site map □ Erosion not evident Areal extent Depth Remarks: See above.
5.	Vegetative Cover Image: Grass Image: Cover properly established Image: No signs of stress Image: Some trees surround the sump. Native grass cover dormant at this time. Image: Some trees surround the sump.
6.	Wet Areas/Water Damage G Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks: See above Location shown on site map Areal extent
7.	Monitoring Wells (within the excavated area) Properly secured/locked Functioning Routinely sampled Good condition Evidence of leakage at penetration N/A Remarks: Three monitoring wells were abandoned within the ponded areas during the excavation work. Stick-up casings and concrete lying along fence need to be properly disposed of. (Former wells 066-6, 066-10, and 066-18).
8.	Other Site Conditions
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, T. Doyle, T. Kneitel, R. Howe. Heavy rains day before inspection. Recommendations: Properly dispose of well covers/concrete and pallets lying near road. A few signs are posted identifying subsurface radiological contaminated soils. Fence partially surrounds the former sump outfall (no restrictions for entering area).

		VII. SOIL CLEANUP REMEDIES 🖾 Applicable 🗌 N/A
A.	Pro	oject OU I AOC 16S Landscape Soil Area (at Brookhaven Center front lawn) 3/29/05
1.		Soil Excavation Complete 🛛 Yes 🗌 No Remarks
2.		S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: Final Closeout Report for AOC 16 Landscape Soils, dated 4/10/01. No specific LTRA monitoring was identified, however, there are some lessons learned present
3.		Settlement (Low spots) Image: Location shown on site map image: Depth Areal extent Depth Remarks Image: Depth
4.		Erosion □ Location shown on site map ⊠ Erosion not evident Areal extent Depth Remarks
5.		Vegetative Cover Image: Grass Image: Cover properly established Image: No signs of stress G Trees/Shrubs (indicate size and locations on a diagram) Remarks
6.		Wet Areas/Water Damage Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks
7.		Monitoring Wells (within the excavated area) Properly secured/locked Functioning Evidence of leakage at penetration Needs Maintenance Remarks
	8.	Other Site Conditions
		Remarks: Inspection attendees include W. Dorsch, V. Racaniello, T. Doyle, T. Kneitel, R. Howe. No recommendations.

	VII. SOIL CLEANUP REMEDIES Applicable N/A						
A.	• Project AOC 9 BGRR Soil and Canal Excavation 4/18/05						
1.	Soil Excavation Complete Yes No Remarks: The duct service building will come down following removal of the pile.						
2.	S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: S&M Plan will need to be developed.						
3.	Settlement (Low spots) Image: Location shown on site map Settlement not evident Areal extent Depth Remarks: In May 2005, a temporary asphalt cap will be installed at former hot spot soil excavation areas. A final engineered cap will be installed following completion of the pile removal.						
4.	Erosion □ Location shown on site map ⊠ Erosion not evident Areal extent Depth Remarks						
5.	Vegetative Cover Grass Cover properly established No signs of stress G Trees/Shrubs (indicate size and locations on a diagram) Remarks						
6.	Wet Areas/Water Damage Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks						
7.	Monitoring Wells (within the excavated area) Properly secured/locked Functioning Evidence of leakage at penetration Needs Maintenance N/A						
8.	Other Site Conditions						
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, E. Kramer, M. Parsons, F. Petschauer, V. Peterson (DOE), R. Howe. Toured outside soil excavation areas (including canal), canal inside building, reactor area. Once S&M is transferred to LTRA in a few years, inspections will include areas of potential water intrusion. We should tour the below ground ducts next week. No recommendations.						

	VII. SOIL CLEANUP REMEDIES Applicable N/A
A.	Project OU I AOC 1 Hazardous Waste Management Facility (HWMF) 5/23/05
1.	Soil Excavation Complete 🗌 Yes 🖾 No
OR	Remarks: About 75% complete with excavation, expected to be done by mid June 2005. Following ISE confirmatory sampling, then backfill, grade, and seed.
2.	S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: The Draft OU I Soils and OU V Long-Term Monitoring and Maintenance Plan, dated 5/13/05, is undergoing internal review. The Closeout Report has not yet been prepared.
3.	Settlement (Low spots) Image: Location shown on site map Settlement not evident Areal extent Depth Depth Remarks: There are many low spots in the area since the excavation is in progress. It will be mitigated once backfilling is complete. Image: Settlement not evident
4.	Erosion Location shown on site map Erosion not evident Areal extent Depth Remarks: There is evidence of erosion throughout the area from the excavation. It will be mitigated once backfilling is complete
5.	Vegetative Cover Grass Cover properly established No signs of stress Trees/Shrubs (indicate size and locations on a diagram) Remarks: Trees still present in the middle of the yard. Some may still be removed during the remaining excavation. Rest of the area is bare due to excavation not yet complete. Will be seeded once complete.
6.	Wet Areas/Water Damage Wet areas/water damage not evident Wet areas Location shown on site map Areal extent
7.	Monitoring Wells (within the excavated area) Properly secured/locked Functioning Routinely sampled Good condition Evidence of leakage at penetration Remarks: Could not see the monitoring wells within the fenced area sine the tour was on the perimeter. There is a good chance that some of the wells may need to be abandoned or removed if they are within the planned excavation area. Wells just outside the excavation area are secure and locked.
8.	Other Site Conditions
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, J. Burke, M. Pizzulli (PW Grosser), T. Kneitel, J. Coaxum (DOE FR), R. Howe. The soil cleanup goal is 67 pCi/g for Cs-137 (industrial land use). Additional work remains in the main excavation area, as well as restoration of the wetlands, and completion of the leaching field excavation to the west of the FHWMF. There is a buried 5,000 gal. UST to the west of the FHWMF. It is a previously used water tank for fire protection per M. Clancy. J. Remien wants someone to pull it since it's not used anymore (it's a SCDHS registered tank). Four, fifty-five gallon drums need to be labeled near the main gate (3 empty, and 1 contains sand for excavator). The drums were subsequently labeled accordingly.

	VII. SOIL CLEANUP REMEDIES Applicable N/A					
А.	A. Project OU V AOC 30 Peconic River 5/24/05					
1.	Soil Excavation Complete 🛛 Yes 🗌 No					
dug	Remarks: All excavation and revegetation is complete. However, ~ 1km of haul roads still need to be up (fabric and stone mix).					
2.	S&M Documents S&M Plan ☐ Readily available ☐ Up to date ☐ N/A Completion/Closeout Report ☐ Readily available ☐ Up to date ☐ N/A Maintenance logs ☐ Readily available ☐ Up to date ☐ N/A Remarks: The OU I and V Long Term Monitoring and Maintenance Plan dated 5/13/05, is undergoing internal review. Sediment and surface water sampling locations must be identified on a map and coordinates provided . EM procurement is in progress for the vegetation monitoring contract (bids due 5/27/05). The contract requires annual sampling in Aug/Sept 05 and 06 (see permit), and replanting if necessary. Skip will provide us with a separate contractor experienced with control of invasive species via wand application (phragmaties?). A Completion Report (for Phase I) was submitted to the regulators in Sept 2004. A Closeout Report (documenting Phase I and II) was submitted to DOE for review week of 5/16/05. The format of this report also serves as the basis for deletion of the AOC or OU.					
3.	Settlement (Low spots) I Location shown on site map Settlement not evident Areal extent Depth Remarks: Low spots are natural for the River/wetland areas					
4.	Erosion □ Location shown on site map ⊠ Erosion not evident Areal extent Depth Remarks					
5.	Vegetative CoverImage: GrassImage: Cover properly establishedImage: No signs of stressImage: Trees/Shrubs (indicate size and locations on a diagram)Remarks: This is the first growing season for the revegetated plants. The regrowth areas look good and the plants appear to be taking root well (see pictures). The vegetation monitoring contract will determine the success rate over the next couple of years. The goal is 85% success.					
6.	Wet Areas/Water Damage G Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks: This is all indicitative of the River and wetland environment.					
7.	Monitoring Wells (within the excavated area)					
8.	Other Site Conditions					
	Remarks: Inspection attendees include T. Green, J. Burke, V. Racaniello, W. Medeiros, G. Goode, R. Lagattolla, R. Howe, G. Penny, L. Nelson. Three State equivalency permits need to be closed out with the State (probably when we delete the OU or AOC). Access to River is via Z-Path to either BNL or County property. One private landowner off River Road also allows us access to the River through his driveway. Local DEC contact is Rob Marsh, and F&W is Charles Guthrie.					

	VII. SOIL CLEANUP REMEDIES Applicable N/A					
A. P	A. Project OU I AOC 10 Building 811 UST and Soils 6/9/05					
1.	1. Soil Excavation Complete 🖾 Yes 🗌 No					
final g	Remarks: Excavation complete, confirmatory data received. Remaining activities includes backfilling, rading, seeding, and repair of fence.					
2.	S&M Documents S&M Plan Readily available Up to date N/A Completion/Closeout Report Readily available Up to date N/A Maintenance logs Readily available Up to date N/A Remarks: The Closeout Report is undergoing DOE review and is scheduled for submittal to the regulators in June 2005.					
3.	Settlement (Low spots) Image: Location shown on site map Settlement not evident Areal extent Depth Remarks: Excavation is complete. Backfilling is still needed to bring up to grade.					
4.	Erosion □ Location shown on site map □ Erosion not evident Areal extent Depth Remarks: Backfilling is still needed					
5.	Vegetative Cover Grass Cover properly established No signs of stress G Trees/Shrubs (indicate size and locations on a diagram) Remarks: Seeding of area is still needed. Stress					
6.	Wet Areas/Water Damage Wet areas/water damage not evident Wet areas Location shown on site map Areal extent Ponding Location shown on site map Areal extent Seeps Location shown on site map Areal extent Soft subgrade Location shown on site map Areal extent Remarks					
7.	 7. Monitoring Wells (within the excavated area) Properly secured/locked ∑ Functioning ∑ Routinely sampled ☐ Good condition Evidence of leakage at penetration ∑ Needs Maintenance ☐ N/A Remarks: All of the BNL monitoring wells are secured and locked. Two wells immediately south of the old "D" tanks are bent from the excavation. EWMSD will evaluate for possible repair. Two older USGS monitoring wells were identified at the southwest corner of the facility between Bldg. 811 and Bldg. 923. The tops of the wells are open to the environment and need a top at a minimum. EWMSD Groundwater Compliance Group will be informed. 					
8.	Other Site Conditions					
	Remarks: Inspection attendees include W. Dorsch, V. Racaniello, T. Daniels, T. Doyle, G. Penny, and R. Howe. The Closeout Report will identify that radiological contaminatiopn at depth remains at some locations. The area was excavated to residential soil cleanup levels. `The area near the former "D" tanks is now clean The excavation at the vault area went ~14 fbg, but had top stop due to structural integrity of surrounding structures. There are two facility use agreements at this area, Bldg. 811, and the miscellaneous soils FUA.					

VII. SOIL CLEANUP REMEDIES Applicable N/A

Location (AOC):	OU III AOC 26B Building 96
Date of Inspection:	10/27/05
Name of Inspector(s):	R. Howe, K. Conkling, R. Travis, P. Sullivan, R. Lee, K. Klaus
Purpose of Inspection:	Routine (Scheduled Freq of) Heavy Rainfall Reported Incident

A. Inspection Checklist

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					1011	1 41 4101 11001011	<u>y</u> u
		Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1.	Landfill Cap/Soil						
	Covers/ Wetlands:						
	Vegetation (e.g. grass)		Х			Check grass growth in	
	Soil (Cap/Cover/Fill)		Х			spring, possible reseed	
	Other:					Some minor erosion	
						near culvert	
2.	Drainage Structures:						
	Standing Water				Х		Х
	Toe Drain				Х		Х
	Drainage Channels	Х					X
	French Drains/Outfalls				X		X
	Subsurface Drainage				X		X
	Pipes/Outfalls				X		X
	Manholes				X		X
	Berms				Х		X
	Roof Drains				X		X
	Recharge Areas		Х			Remove once grass is	
	Other: Silt Fence	I				established	
	ould: <u>bitt reliee</u>						
3	Monitoring System:						
5.	Soil Gas Wells				X		X
	Groundwater Wells	x					X
	Gas Vents				x		X
	Other:						
	Other:			1			
4	Sita A agoss:						
4.	Asphalt Access Doad				x		X
	Crushed congrate Access Road		v		Λ		x
	Erusieu-colletete Access Road		Λ		V		v
	Felice Catagliaghta				A		
	Datiological Destings						
	Radiological Postings				X		X

If yes, describe evidence:

B. Description of Other Observations

Observed Conditions/Recommendations: Weeds need to be cut, including the Jimson Weed just west of drainage channel. As a best management practice, add sign at the entrance that LUICs in place, and for further info to contact LTRA at x2828. Check contents of the Zebra connex. Is KMnO4 being stored and is the oxidizer sign adequate? Check the Chemical Management System inventory (Bob Petricek or Divine Adika). Modify OU I Soils and OU V LongTerm Monitoring Plan to reflect additional inspections during significant rain events.

VII. SOIL CLEANUP REMEDIES Applicable N/A

Location (AOC):	OU I AOC 2B Former Chemical Holes (includes Animal Pits and Glass Holes)
Date of Inspection:	11/9/05
Name of Inspector(s):	R. Howe, K. Conkling, R. Travis, P. Sullivan
Purpose of Inspection:	Routine (Scheduled Freq of) Heavy Rainfall Reported Incident

A. Inspection Checklist

	Component	Observed C	ondition	Further Action R	eq'd
		Excell. Fair I	Poor Not Applic.	Yes (describe)	No
1.	Landfill Cap/Soil Covers/Wetla	nds:			
	Vegetation (e.g. grass)		X	Seed in spring '06	
	Soil (Cap/Cover/Fill) Other:	X		Spread fill fall '06	
2.	Drainage Structures:				
	Standing Water		X		Х
	Toe Drain		X		X
	Drainage Channels		X		X
	French Drains/Outfalls		X		X
	Subsurface Drainage		X		X
	Pipes/Outfalls		X		
	Manholes		X		
	Berms				
	Roof Drains		Λ		Λ
	Recharge Areas				
3.	Monitoring System:				
	Soil Gas Wells		Х		Х
	Groundwater Wells	Х			Х
	Gas Vents		Х		Х
	Other:				
4.	Site Access:				
	Asphalt Access Road		Х		Х
	Crushed-concrete Access Road	X			Х
	Fence		Х		Х
	Gates/locks	X		Remove south gate	
	Radiological Postings		Х		Х
	0 0				

5. Evidence of unauthorized work activities and/or unauthorized access has occurred? Yes No If yes, describe evidence:

B. Description of Other Observations

Observed Conditions/Recommendations: Jersey Barriers are still needed to protect the drop off at the end of the rail car loading ramp (this is an action item for EM from the ERE final walkdown. Note: there are several barriers available at the STP old settling basins). Remove the existing signs (danger and keep out), and the gate at the south entrance to the Chemical Holes area. LUIC Fact Sheet Notes: Under Current Conditions, add the Cesium-137 and mercury residual levels. The map of the area needs to be revised to reflect the former Glass Holes as a soil remediation complete area.

VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05					
A. System OU III LIPA/Airport. Inspection attendees include V. Racaniello, K. Klaus, E. Kramer, K. Conkling, C. Ogeka R. Howe.					
1. Construction Complete/System Operating Xes INo					
Remarks: Construction is complete, system operating.					
B. Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A					
1. Pumps, Wellhead Plumbing, and Electrical □ Good condition □ All required wells properly operating ⊠ Needs Maintenance □ N/A Remarks: AP treatment wells RTW 4A and RTW 5A are off-line and currently being redeveloped. Remove concrete rubble adjacent to LIPA vault.					
2. Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances □ Good condition □ Needs Maintenance Remarks					
3. Spare Parts and Equipment □ Readily available ⊠ Good condition □ Requires upgrade □ Needs to be provided Remarks					
C. Treatment System					
1. Treatment Train (Check components that apply) Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Filters					
□ Others □ Good condition □ Needs Maintenance □ Sampling ports properly marked and functional □ Sampling/maintenance log displayed and up to date □ Equipment properly identified □ Quantity of groundwater treated annually □ Quantity of surface water treated annually Remarks					
2. Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks: Needs Maintenance					
3. Tanks, Vaults, Storage Vessels □ N/A ⊠ Good condition □ Proper secondary containment □ Needs Maintenance Remarks: Fence needs to be installed around LIPA vault, and area paved.					
4. Discharge Structure and Appurtenances □ N/A ☑ Good condition Remarks					

5.	Treatment Building(s) Image: Second start of the second star
6.	Monitoring Wells (pump and treatment remedy) Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs Maintenance N/A Remarks
D. Mo	nitoring Data
1.	Monitoring Data Is routinely submitted on time Is of acceptable quality
2.	Monitoring data suggests: Groundwater plume is effectively contained Contaminant concentrations are declining Remarks: VOC concentrations at Airport a very low, will begin pulse pumping in late summer 2005.

	VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05				
A. Kra	System OU III North Street/North Street East. Inspection attendees include V. Racaniello, K. Klaus, E. amer, K. Conkling, C. Ogeka R. Howe.				
1.	Construction Complete/System Operating 🛛 Yes 🗌 No				
	Remarks: Construction is complete, system operating.				
B.	Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A				
1.	Pumps, Wellhead Plumbing, and Electrical Image: Second condition Image: Second condition Image: Second condition Image: Second condition				
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Remarks				
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks				
C.	Treatment System Applicable N/A				
1.	Treatment Train (Check components that apply) Bioremediation Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Bioremediation Filters				
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks: Needs Maintenance				
3.	Tanks, Vaults, Storage Vessels Proper secondary containment Needs Maintenance N/A Good condition Proper secondary containment Needs Maintenance Remarks				
4.	Discharge Structure and Appurtenances N/A Good condition Remarks				

5.	Treatment Building(s) N/A Good condition (esp. roof Chemicals and equipment properly stored Remarks:	and doorways)
6.	Monitoring Wells (pump and treatment remed	y) ning 🛛 Routinely sampled 🛛 Good condition Maintenance 🗌 N/A
D. Mo	nitoring Data	
3.	Monitoring Data Is routinely submitted on time	Is of acceptable quality
4.	Monitoring data suggests:	Contaminant concentrations are declining

	VIII. GROUNDW	VATER REMEDIES Applicable N/A 4/7/05
A. Conk	System OU VI AOC 28 EDB. kling, C. Ogeka R. Howe.	Inspection attendees include V. Racaniello, K. Klaus, E. Kramer, K.
1.	Construction Complete/Sys	stem Operating 🖾 Yes 🗌 No
	Remarks: Construction is cor	mplete, system operating.
B. G	Groundwater Extraction Wells,	Pumps, and Pipelines Applicable N/A
1.	Pumps, Wellhead Plumbing	ig, and Electrical ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A
2.	Extraction System Pipeline	es, Valves, Valve Boxes, and Other Appurtenances
3.	Spare Parts and Equipmen Readily available Remarks	nt
С. Т	Treatment System	Applicable 🗌 N/A
1.	Treatment Train (Check co Metals removal Air stripping Filters Additive (e.g., chelation a Others Good condition Sampling ports properly r Sampling/maintenance lo Equipment properly ident Quantity of groundwater Quantity of surface water Remarks	omponents that apply) Oil/water separation Carbon adsorbers agent, flocculent): Needs Maintenance marked and functional og displayed and up to date attified treated annually r treated annually
2.	Electrical Enclosures and P N/A Good c Remarks:	Panels (properly rated and functional) condition I Needs Maintenance
3.	Tanks, Vaults, Storage Ves N/A Good c Remarks	ssels condition Proper secondary containment Image: Source of the secondary containment Needs Maintenance
4.	Discharge Structure and A N/A Good c Remarks	ppurtenances condition I Needs Maintenance

5.	Treatment Building(s) N/A Good condition (esp. roof Chemicals and equipment properly stored Remarks: The walls and ceiling need to be clear during summer), then repainted. Two air condit dehumidifier) provide a significant reduction in	and doorways) ned of residual mold (fro ioners were installed in the humidity.	Needs repair mexcessive moisture in building August (and along with the
6.	Monitoring Wells (pump and treatment remedy	7) ning 🛛 Routinely sam faintenance	npled 🛛 Good condition
D. Mor	nitoring Data		
5.	Monitoring Data S routinely submitted on time	Is of acceptable qu	ality
6.	Monitoring data suggests:	Contaminant conce	entrations are declining

	VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05		
A. Con	A. System OU III Industrial Park East. Inspection attendees include V. Racaniello, K. Klaus, E. Kramer, K. Conkling, C. Ogeka R. Howe.		
1.	Construction Complete/System Operating Xes No Remarks: Construction is complete, system operating.		
B. (Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A		
1.	Pumps, Wellhead Plumbing, and Electrical Image: Second condition Image: Second condition Image: Second condition Image: Second condition		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks		
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks		
C. 7	Treatment System Applicable N/A		
1.	Treatment Train (Check components that apply) Bioremediation Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Bioremediation Filters Additive (e.g., chelation agent, flocculent): Others Others Others Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually		
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks:		
3.	Tanks, Vaults, Storage Vessels Proper secondary containment Needs Maintenance N/A Good condition Proper secondary containment Needs Maintenance Remarks		
4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks		

5.	Treatment Building(s) □ N/A ☑ Good condition (esp. roof and doorways) □ Needs repair □ Chemicals and equipment properly stored Remarks: Install air conditioner to reduce the excessive humidity in building during summer.	
6.	Monitoring Wells (pump and treatment remedy) Properly secured/locked Functioning Routinely sampled Good condition All required wells located Needs Maintenance N/A Remarks	
D. Mo	nitoring Data	
7.	Monitoring Data Is routinely submitted on time	⊠ Is of acceptable quality
8.	Monitoring data suggests: M Groundwater plume is effectively contained	Contaminant concentrations are declining

	VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05	
A. System OU III Industrial Park. Inspection attendees include V. Racaniello, K. Klaus, E. Kramer, K. Conkling, C. Ogeka R. Howe.		
1.	Construction Complete/System Operating 🛛 Yes 🗌 No	
	Remarks: Construction is complete, system operating.	
B. Gr	roundwater Extraction Wells, Pumps, and Pipelines	
1.	Pumps, Wellhead Plumbing, and Electrical ☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A Remarks: Treatment wells UVB-1 and UVB-5 are off-line and currently being repaired.	
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks —	
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks	
C. Tr	reatment System 🖂 Applicable 🗌 N/A	
1.	Treatment Train (Check components that apply) Bioremediation Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers (vapor phase) Filters	
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks:	
3.	Tanks, Vaults, Storage Vessels N/A Good condition Proper secondary containment Needs Maintenance Remarks	
4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks	

5.	Treatment Building(s) N/A Good condition (esp. roof and the condition (esp. roof and the condition) Chemicals and equipment properly stored Remarks:	and doorways)
6.	Monitoring Wells (pump and treatment remedy)	
D. Mor	nitoring Data	
9.	Monitoring Data Is routinely submitted on time	Is of acceptable quality
10.	Monitoring data suggests: Groundwater plume is effectively contained	Contaminant concentrations are declining

	VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05		
A. Sy G. Pen	A. System OU III AOC 29 HFBR Tritium Pump and Recharge. Inspection attendees include V. Racaniello, G. Penny, T. Burke, K. Klaus, E. Kramer, P. Sullivan, K. Conkling, C. Ogeka R. Howe.		
1.	Construction Complete/System Operating 🖾 Yes 🖾 No		
	Remarks: Construction is complete, but the system has been on standby since 9/00		
B. Gr	oundwater Extraction Wells, Pumps, and Pipelines Applicable		
1.	Pumps, Wellhead Plumbing, and Electrical ☐ Good condition ☐ All required wells properly operating ☐ Needs Maintenance ☐ N/A Remarks: Well pumps were recently tested and work ok.		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks		
3.	Spare Parts and Equipment Readily available Good condition Remarks		
C. Tro	eatment System 🖂 Applicable 🗌 N/A		
1.	Treatment Train (Check components that apply) Metals removal Oil/water separation Air stripping Carbon adsorbers Filters		
	$\square \text{ Additive } (e.g., \text{ chelation agent, flocculent}):$		
	Good condition Inveds Maintenance Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date		
	Sumpling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually Quantity of surface water treated annually Remarks		
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks: The three well pump electrical panels need to be locked-out. Also need to replace pressure switches and bulbs on the panel		
3.	Tanks, Vaults, Storage Vessels Proper secondary containment Needs Maintenance N/A Good condition Proper secondary containment Needs Maintenance Remarks		

4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks	
5.	Treatment Building(s) N/A Good condition (esp. roof and doorways) Chemicals and equipment properly stored Remarks:	
6.	Monitoring Wells (pump and treatment remedy) Properly secured/locked Functioning Good condition All required wells located Needs Maintenance N/A Remarks	
D. Monitoring Data		
11.	Monitoring Data Is routinely submitted on time Is of acceptable quality	
12.	Monitoring data suggests:	

VIII. GROUNDWATER REMEDIES Applicable N/A 4/7/05			
A. Sy K. Klau	A. System OU I South Boundary (Bldg. 598) Inspection attendees include V. Racaniello, G. Penny, T. Burke, K. Klaus, E. Kramer, P. Sullivan, K. Conkling, C. Ogeka R. Howe		
1.	Construction Complete/System Operating Xes No		
	Remarks: Construction is complete but the system is currently off-line due to pump maintenance work		
B. Gro	oundwater Extraction Wells, Pumps, and Pipelines		
1.	Pumps, Wellhead Plumbing, and Electrical Good condition All required wells properly operating Needs Maintenance N/A Remarks: Extraction well pump is being repaired.		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Inseeds Maintenance Remarks		
3.	Spare Parts and Equipment Readily available Good condition Requires upgrade Needs to be provided Remarks		
C. Tre	eatment System Applicable N/A		
1.	Treatment Train (Check components that apply) Bioremediation Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Bioremediation Filters		
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks		
3.	Tanks, Vaults, Storage Vessels N/A Good condition Proper secondary containment Needs Maintenance Remarks_Former hypochlorite tank will be removed, as well as the polyphosphate once empty.		
4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks		

5.	Treatment Building(s) N/A Good condition (esp. roof and doorways) Needs repair Chemicals and equipment properly stored Remarks: The sodium polyphosphate tank will be emptied since it is not needed (it will be slowly bled into the system)	
6.	Monitoring Wells (pump and treatment remedy)	
D. Mo	nitoring Data	
13.	Monitoring Data ⊠ Is routinely submitted on time ⊠ Is of acceptable quality	
14.	Monitoring data suggests: Groundwater plume is effectively contained Contaminant concentrations are declining	

VIII. GROUNDWATER REMEDIES Applicable 🗌 N/A 4/7/05			
A. Sy Burke,	A. System OU III Sr-90 Chemical Holes (Bldg. 670) Inspection attendees include V. Racaniello, G. Penny, T. Burke, K. Klaus, E. Kramer, P. Sullivan, K. Conkling, C. Ogeka, R. Howe		
1.	Construction Complete/System Operating Xes No		
actions	Remarks: Construction is complete but system is currently off-line in order to implement corrective in response to the building flood incident		
B. Gro	oundwater Extraction Wells, Pumps, and Pipelines		
1.	Pumps, Wellhead Plumbing, and Electrical ⊠ Good condition □ All required wells properly operating ⊠ Needs Maintenance □ N/A Remarks: Adding float switch to sump as corrective action to prevent future flooding (it will be tied directly to electric panel)		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Investor Needs Maintenance Remarks		
3.	Spare Parts and Equipment		
C. Tre	eatment System Applicable N/A		
1.	Treatment Train (Check components that apply) Bioremediation Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Sintermediation Filters:_ion exchange Additive (e.g., chelation agent, flocculent) Additive (e.g., chelation agent, flocculent) Others Others Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date Sampling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually Quantity of surface water treated annually Remarks		
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks		
3.	Tanks, Vaults, Storage Vessels N/A Good condition Proper secondary containment Needs Maintenance Remarks: The three remaining spent resin vessels will be moved to Bldg. 865 and then packaged for off-site disposal. State		

4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks	
5.	Treatment Building(s) N/A Good condition (esp. roof and doorways) Chemicals and equipment properly stored Remarks: The floor needs to be cleaned of dirt and empty sample bottles need to be removed to prevent trip hazards	
6.	Monitoring Wells (pump and treatment remedy)	
D. Monitoring Data		
15.	Monitoring Data Is routinely submitted on time Is of acceptable quality	
16.	Monitoring data suggests: Groundwater plume is effectively contained Contaminant concentrations are declining	

VIII. GROUNDWATER REMEDIES 🖾 Applicable 🗌 N/A 4/7/05			
A. System OU III Sr-90 BGRR/WCF (Bldg. 855) Inspection attendees include V. Racaniello, G. Penny, T. Burke, K. Klaus, E. Kramer, K. Conkling, C. Ogeka, R. Howe			
1.	Construction Complete/System Operating Xes Xo		
	Remarks: Construction is complete, in start-up testing phase, will begin normal operations soon.		
B. Groundwater Extraction Wells, Pumps, and Pipelines Applicable N/A			
1.	Pumps, Wellhead Plumbing, and Electrical Sood condition All required wells properly operating Needs Maintenance N/A Remarks		
2.	Extraction System Pipelines, Valves, Valve Boxes, and Other Appurtenances Good condition Needs Maintenance Remarks:		
3.	Spare Parts and Equipment \[
C. Treatment System			
1. Treatment Train (Check components that apply) Metals removal Oil/water separation Bioremediation Air stripping Carbon adsorbers Filters: ion exchange Additive (e.g., chelation agent, flocculent) Others Others Good condition Needs Maintenance Sampling ports properly marked and functional Sampling/maintenance log displayed and up to date Equipment properly identified Quantity of groundwater treated annually Quantity of surface water treated annually Remarks: Need to install sampling port before air stripper			
2.	Electrical Enclosures and Panels (properly rated and functional) N/A Good condition Needs Maintenance Remarks		
3.	Tanks, Vaults, Storage Vessels Image: Storage Vessels Image: N/A Image: Storage Vessels Remarks Image: Storage Vessels		
4.	Discharge Structure and Appurtenances N/A Good condition Needs Maintenance Remarks		

5.	Treatment Building(s) N/A Good condition (esp. roof Chemicals and equipment properly stored Remarks	and doorways)		
6.	Monitoring Wells (pump and treatment remedy ☐ Properly secured/locked ☐ Function ☐ All required wells located ☐ Needs M Remarks	n) ning Routinely sampled Good condition Iaintenance N/A		
D. Monitoring Data				
17.	Monitoring Data Is routinely submitted on time	⊠ Is of acceptable quality		
18.	Monitoring data suggests:	Contaminant concentrations are declining		

E. M	E. Monitored Natural Attenuation			
1.	Monitoring Wells (natural attenuation remedy) ⊠Properly secured/locked ⊠ Functioning Routinely sampled ⊠ Good condition ⊠All required wells located □ Needs Maintenance □ N/A			
	Remarks: A portion of each groundwater remedy relies on some natural attenuation.			
	IX. OTHER REMEDIES			
	If there are remedies applied at the site which are not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.			
	X. OVERALL OBSERVATIONS			
А.	Implementation of the Remedy			
	Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is to accomplish (i.e., to contain contaminant plume, minimize infiltration and gas emission, etc.).			
	With the exception of remaining soil excavation at OU I and the BGRR pile and bioshield removal, all soil, sediment, and groundwater remedies for the seven RODs at the site have been implemented and are functioned as designed. This includes the excavation and off-site disposal of contaminated soils, sediments, tanks, as well as the installation and operations initiated for all groundwater treatment systems. All of the remedies are being implemented in accordance with the RODs and the ESD. The remedies are expected to be protective upon attainment of soil cleanup goals once excavation is complete, and groundwater cleanup goals.			
B.	Adequacy of O&M			
	Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.			
	The VOC treatment systems operated without any significant down time or issues over the last eight years and have consistently met the state equivalency discharge requirements (although there have been a few pH excursions due to the natural groundwater conditions). The systems have been physically inspected typically on a daily basis. However, the frequency of physical inspections will generally be reduced starting in 2005 due to the significant operating history, the increase in the number of systems off of BNL property, and the availability of wireless system monitoring/alarms.			
C.	Early Indicators of Potential Remedy Problems			
	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs, that suggest that the protectiveness of the remedy may be compromised in the future.			
	• See above. See Five Year Review Section 7.0. To reduce the frequency of system downtime for the Chemical Holes Sr-90 system, the process piping is being redesigned to bypass the holding tanks and use only the extraction well pump to process the water.			

D. Opportunities for Optimization

Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Opportunities are routinely identified. See Five Year Review Section 7.0_____