

**Monticello, Utah, National
Priorities List Sites
Federal Facility Agreement (FFA)
Quarterly Report:
January 1–March 31, 2014**

April 2014



U.S. DEPARTMENT OF
ENERGY

Legacy
Management

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Federal Facility Agreement (FFA) Quarterly Report:
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Abbreviations

DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
FFA	Federal Facility Agreement
gpm	gallons per minute
ICs	institutional controls
LCRS	Leachate Collection and Removal System
LDS	Leak Detection System
LM	Office of Legacy Management
LTS&M Plan	<i>Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites</i>
mg/L	milligrams per liter
MMTS	Monticello Mill Tailings Site
MVP	Monticello Vicinity Properties
NPL	National Priorities List
OU	Operable Unit
TSF	Temporary Storage Facility
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation

1.0 Introduction

This quarterly report appraises the U.S. Environmental Protection Agency (EPA) and the Utah Department of Environmental Quality (UDEQ) of near-term status, schedule, and reporting requirements and activities for the Monticello Vicinity Properties (MVP) and the Monticello Mill Tailings Site (MMTS) for the period of January through March 2014. Quarterly reports are submitted to EPA and UDEQ in January (for the October through December quarter), April (for the January through March quarter), July (for the April through June quarter), and October (for the July through September quarter).

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) assesses the status of the MVP and MMTS remedies through (1) routine inspections (monthly, quarterly, and annually) of site infrastructure and operations that are conducted in accordance with the *Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites* (LTS&M Plan), (2) routine (semiannual) monitoring of groundwater and surface water quality and hydrologic conditions that is conducted in accordance with the *Record of Decision for the Monticello Mill Tailings (USDOE) Site Operable Unit III, Surface and Ground Water, Monticello, Utah, June 2004*, and (3) monthly water quality monitoring associated with operation of the Operable Unit (OU) III ex situ groundwater treatment system.

The schedule and reporting requirements are determined in consultation with EPA and UDEQ and are also documented in the *Monticello Site Management Plan* (updated annually). Comprehensive data evaluation for the OU III remedy is presented in annual groundwater reports.

1.1 Quarterly Site Status

- Routine surveillance noted no anomalous conditions for the MVP.
- Routine surveillance noted no anomalous conditions for the MMTS.
- Routine surveillance noted no anomalous operating conditions for the repository leachate collection system, for the leak detection system at Pond 4, and for surface features of the disposal cell and Pond 4.
- The ex situ groundwater treatment system operated continuously at full capacity with only minor maintenance.
- EPA and UDEQ reviewed the *Draft Groundwater Contingency Remedy Optimization Remedial Design/Remedial Action Work Plan* to optimize the OU III remedy. Review comments were received on March 31, 2014.
- City maintenance workers improved drainage along the access road on the former mill site near Seep 6, and installed some bike paths in supplemental standards area properties on City-owned property south of the former mill site. No anomalous conditions or instructional control violations were noted.

2.0 Monticello Vicinity Properties

Long-term surveillance and maintenance for the MVP consists of providing radiological control at municipal and commercial excavations in Monticello street and utility corridors, in Utah Department of Transportation (UDOT) rights-of-way, and at property MS-00176-VL (privately owned supplemental standards property). Surveillance observations for this quarter are:

- LM representatives continued to coordinate with City of Monticello officials regarding planned and ongoing construction and excavation activities, including those by the City, UDOT, and utility companies, at roadway and utility corridors through daily briefings and planning meetings.
- There were no planned or unplanned excavations in City of Monticello street or utility corridors that required radiological control by LM.
- Neither excessive erosion nor unauthorized excavations were observed at the Highway 191 embankment at Montezuma Creek (supplemental standards property).
- Surveillance of supplemental standards property MS-00176-VL identified no excessive erosion or violation of the land-use restriction.

3.0 Monticello Mill Tailings Site

Long-term surveillance and maintenance for the MMTS consists of (1) operating the onsite disposal cell, (2) maintaining groundwater and land-use institutional controls (ICs) on the former mill site and peripheral properties, and (3) operating and monitoring the groundwater and surface water remedy.

3.1 Operable Unit I

OU I consists of the property of the former Monticello mill (mill site) and the waste disposal facility (repository). Solid wastes were removed from the mill site and peripheral properties (OU II) and encapsulated at the repository as a remedial action that was completed in 1999. LM owns and manages the repository; the City of Monticello owns and manages the former mill site as a public park.

3.1.1 Repository

Monthly, quarterly, and annual inspections of the repository ensure that remedy controls remain intact and that the waste remains isolated from the environment. Inspection observations and maintenance activities for the reporting period are:

- No anomalous conditions were observed at the repository with respect to the surveillance items included in the LTS&M repository area surveillance checklists (attached for this quarter as Appendix A).
- Water accumulation in Pond 4 remains minimal: a maximum of approximately 1 foot of water is currently present in the northeast and southwest quadrants of Pond 4.

- Leachate production from the repository to Pond 4 was normal. Leachate production has decreased from approximately 30,000 gallons per week following final waste encapsulation in 1999 to current values of about 1,000 gallons per week for each of the two repository Leachate Collection and Removal System (LCRS) sumps LCRS 1 and LCRS 2 (for a total of about 2,000 gallons per week). See Appendix B for a graphical depiction of leachate production history.
- The Pond 4 LCRS received no leachate during the quarter. This is the normal condition. The performance history for the Pond 4 LCRS is summarized as a graph in Appendix B.
- The lower sumps (leak detection system [LDS]) for the repository and Pond 4 received no leachate during the quarter. This is the normal condition. Graphs showing the performance history for the repository LDS and the Pond 4 LDS are included in Appendix B.
- Leachate collection and leak detection systems remained functional during the quarter.

3.1.2 Temporary Storage Facility

Routine surveillance of the Temporary Storage Facility (TSF) ensures that maintenance and radiological controls that govern access to, and placement, storage, and transfer of, contaminated material in the TSF are current and effective. No anomalous conditions were observed for the TSF with respect to the surveillance items included in the LTS&M TSF area surveillance checklist (attached for this quarter as Appendix A).

No material was placed in the TSF during the quarter. The inventory of contaminated material in the TSF remains at approximately 25 cubic yards. Approximately 4 cubic yards of the contaminated material derives from street and utility excavations from previous quarters. Radiologically contaminated material from supplemental standards properties has not been placed in the TSF since 2011. Approximately 21 cubic yards of the material in the TSF derives from maintenance and repairs to Pond 4 in August 2013.

LM initiates the transfer of TSF materials for permanent disposal at the LM Grand Junction, Colorado, Disposal Site when the contents reach 75 cubic yards. The most recent transfer of TSF materials to the Grand Junction disposal site occurred in June 2010.

3.1.3 Former Mill Site

Surveillance of the former mill site (properties MP-00181-VL and MS-00893-VI) is conducted to ensure compliance with ICs that were implemented to preserve the OU I remedy for soil and groundwater. The ICs applicable to the former mill site are: no installation of domestic-use wells in the alluvial aquifer, no construction of habitable structures, no camping, and preserving the properties as a public park for day-use recreation. Observations for this quarter are:

- No nonconformance with water- and land-use restrictions was observed.
- City maintenance workers improved drainage along the access road on the former mill site near Seep 6. Excavation spoils (approximately 1 to 2 cubic yards) were placed on City-owned property (MP-00211-VL) adjacent to the northwest corner of the former mill site. LM reminded City officials of the wetlands status at Seep 6 prior to the maintenance work. The maintenance work did not violate an institutional control.

3.2 Operable Unit II

OU II consists of private and City-owned properties peripheral to the former mill site. Surveillance of OU II properties is conducted to ensure compliance with ICs that were implemented to preserve the OU II remedy for soil and groundwater. Observations for this quarter are:

- Montezuma Creek Restrictive Easement Area (supplemental standards properties, both City-owned and privately owned): No evidence of nonconformance with land-use restrictions (no soil removal or construction of habitable structures in supplemental standards areas) was observed.
- Groundwater-use restrictions (no installation of domestic-use wells in the alluvial aquifer) were applied to several OU II properties under the 2004 covenant by which DOE transferred selected properties to the City of Monticello. No instance of nonconformance with this restriction was observed during the quarter.
- Property MS-00211-VL (City-owned): No evidence of nonconformance with the land-use restriction on building construction was observed.
- Pinyon-juniper supplemental standards properties (City-owned): No evidence of nonconformance with land- and groundwater-use restrictions was observed. New city bike path construction and maintenance activities on this property, this quarter, conformed with institutional controls.
- No storm events (exceeding 2.8 inches of rain in a 24-hour period) required nonroutine surveillance of supplemental standards cleanup properties. Climatological data are included in Appendix C.

3.3 Operable Unit III

OU III consists of groundwater and surface water that were contaminated as a result of operation of the former Monticello mill. The contaminated groundwater lies within the shallow alluvial aquifer beneath the valley of Montezuma Creek; contaminated surface water is present within Montezuma Creek.

3.3.1 Groundwater Restricted Area

Surveillance of properties where residual groundwater contamination is present is conducted in spring and fall yearly to ensure compliance with the groundwater-use restriction (no installation of domestic-use wells in the alluvial aquifer). The affected OU III properties constitute the Monticello Groundwater Restricted Area, as defined and administered by the State of Utah Division of Water Rights. Surveillance observations are:

- No evidence of nonconformance with the groundwater-use restriction since its implementation in May 1999.

3.3.2 Ex Situ Groundwater Treatment System

In accordance with the OU III contingency remedy implemented under the January 2009 Explanation of Significant Difference, contaminated alluvial groundwater is extracted from a

single groundwater well and is treated using zero-valent iron in two ex situ treatment vessels. This treatment system, located on private property, is approximately 600 feet east of the former mill site.

Treated groundwater is discharged to Montezuma Creek. The maximum allowed rate of discharge to Montezuma Creek is 10 gallons per minute [gpm]. The effluent is required to comply with discharge limits for pH and total iron. Although an infiltration trench is available to receive treated water for local discharge to the aquifer, its use was discontinued in 2009 because of limited capacity to receive and transmit water.

Performance of the treatment system, cumulatively and during January through March 2014, is summarized as follows:

- Continuous operation during the quarter at approximately 9.5 gpm. Major maintenance or repairs to the system were not required.
- Effluent discharge to Montezuma Creek did not exceed the allowed rate of 10 gpm.
- Effluent iron concentrations and pH met discharge allowances (Table 1).
- Approximately 1.2 million gallons of groundwater were treated during the quarter (Table 2).
- Approximately 3 pounds of uranium were removed from the aquifer during the quarter (Table 2).
- No treated water was transferred to the infiltration trench.

The reactive media is exchanged when the effluent concentration of uranium exceeds about 150 micrograms per liter (about one-half of the influent concentration) or if flow through the treatment vessels is reduced to approximately 5 gpm or less. Media exchange occurs about once per year under current operating conditions. The reactive media was last exchanged during September 2013. Flow rates and uranium treatment efficiency for the quarter indicate effective treatment capacity and no imminent need to exchange the treatment media.

Table 1. Treatment System Compliance Summary

Treatment System Effluent to Montezuma Creek	January 2014	February 2014	March 2014
pH ^a	7.18	7.20	7.12
Iron (total, mg/L) ^b	14	12	11

^a pH discharge allowance range = 6.5–9.0 standard units

^b Iron discharge limit = 45.4 milligrams per liter (mg/L) at outfall to Montezuma Creek

Table 2. Treatment System Performance Summary

Treatment Parameter	January 2014	February 2014	March 2014^a
Gallons treated	422,000	381,600	416,100
Average treatment rate, gpm	9.5	9.5	9.3
Uranium influent, micrograms per liter	270	300	350
Uranium effluent, micrograms per liter	3.2	6.6	9.2
Uranium mass removed, pounds	0.94	0.93	1.2
Cumulative uranium mass removed, pounds	67.3	68.2	69.4
Cumulative volume treated (million gallons)	29,348,000	29,729,200	30,145,300

^a Through March 31, 2014

4.0 Schedule of Activities and Deliverables

Table 3 summarizes the completion of recent activities and deliverables and the pending near-term activities and reporting requirements for the Monticello National Priorities List (NPL) sites.

Table 3. Recent and Near-Term Activities and Deliverables

Activity/Deliverable	Schedule
Recent	
Monthly ex situ groundwater treatment system monitoring.	Completed for January, February, and March 2014 (results summarized in Tables 1 and 2).
Monthly MMTS OU III technical meeting.	Last meeting held February 26, 2014.
DOE remedy optimization plan presented to City of Monticello officials.	Conducted at City offices, February 20, 2014. EPA and UDEQ declined participation.
<i>Draft Groundwater Contingency Remedy Optimization Remedial Design/Remedial Action Work Plan.</i>	Submitted to EPA and UDEQ February 24, 2014. Comments were received from EPA March 27, 2014, and from UDEQ March 31, 2014.
90-percent construction plans, statement of work, and specifications for the main OU III remedy optimization project infrastructure were submitted to EPA and UDEQ for review on March 24, 2014.	EPA and UDEQ comments were requested by April 25, 2014.
Water Right No. 09-2347 Application for Permanent Change of Water (points of divergence change).	Submitted to Utah Division of Water Rights on February 27, 2014. Approval needed before extraction wells are installed in May 2014.
Near-Term	
Semiannual OU III monitoring.	Scheduled for week of April 21, 2014.
Monthly technical meeting.	Next meeting tentatively scheduled for May 15, 2014.
Semiannual FFA meeting.	Next meeting tentatively scheduled for May 15, 2014.
Monthly ex situ groundwater treatment system monitoring.	On schedule for April, May, and June 2014.
<i>Draft Final Groundwater Contingency Remedy Optimization Remedial Design/Remedial Action Work Plan.</i>	DOE revisions to be submitted to EPA/UDEQ by April 30, 2014.
Field construction of OU III remedy optimization.	Scheduled during second, third, and fourth quarter 2014.

Appendix A

Monthly and Quarterly Surveillance Checklists

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Repository Area Surveillance Checklist

- Monthly surveillance Quarterly surveillance: February May August November
 Storm event triggered surveillance due to 0.1 inches of rainfall over the past 24 hours.

Inspection Item	Acceptable		Comments and Recommendation
	Yes	No	
Condition of:			
Fences, gates, and locks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Roads ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>either voles or ground squirrels have dug holes</i>
Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>in the new roads. Not many places exist will</i>
Site monuments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>not cause problems.</i>
Drainage ditches ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Manholes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of erosion of:			
Top of disposal cell ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Disposal cell sideslopes ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ditches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Surrounding area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of:			
Vandalism	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by livestock	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Burrowing animal damage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by humans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Accumulation of trash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional Quarterly Surveillance Requirements

Note: All transects, shown in Figure 3-1, must be walked during this inspection.

Condition of:			
Settlement plate structures	<input type="checkbox"/>	<input type="checkbox"/>	
Manholes ^b	<input type="checkbox"/>	<input type="checkbox"/>	
Sediment ponds	<input type="checkbox"/>	<input type="checkbox"/>	
Evidence of:			
Structural instability	<input type="checkbox"/>	<input type="checkbox"/>	

Additional comments:

Signature: *Edward Smith* Monticello LM Representative Date: 1-27-14

^aInspections required following a significant storm event
^bOpen to inspect quarterly

Repository Area Surveillance Checklist

- Monthly surveillance Quarterly surveillance: February May August November
 Storm event triggered surveillance due to N/A inches of rainfall over the past 24 hours.

Inspection Item	Acceptable		Comments and Recommendation
	Yes	No	
Condition of:			
Fences, gates, and locks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Roads ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Site monuments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Drainage ditches ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Manholes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Vegetation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Evidence of erosion of:			
Top of disposal cell ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Disposal cell sideslopes ^a	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Ditches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Surrounding area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Evidence of:			
Vandalism	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Intrusion by livestock	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Burrowing animal damage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>Have not seen the Prairie Dogs so far.</u>
Intrusion by humans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____
Accumulation of trash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	_____

Additional Quarterly Surveillance Requirements

Note: All transects, shown in Figure 3-1, must be walked during this inspection.

Condition of:			
Settlement plate structures	<input type="checkbox"/>	<input type="checkbox"/>	_____
Manholes ^b	<input type="checkbox"/>	<input type="checkbox"/>	_____
Sediment ponds	<input type="checkbox"/>	<input type="checkbox"/>	_____
Evidence of:			
Structural instability	<input type="checkbox"/>	<input type="checkbox"/>	_____

Additional comments:

Signature: *Fred Smith* Monticello LM Representative Date: 3-25-14

^aInspections required following a significant storm event
^bOpen to inspect quarterly

Monthly Pond 4 Surveillance Checklist

Level of water in Pond 4 ≈ 18" Frozen.

Inspection Item	Acceptable		Comments and Recommendation
	Yes	No	
Condition of:			
Fences, gates, and locks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Visible piping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Visible liner and anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>anchors tubes have been removed.</i>
Rescue equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of erosion of:			
Top of Pond 4 berm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pond 4 sideslopes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ditches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Surrounding area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Seepage from Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Overtopping of Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of:			
Vandalism	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by wildlife	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by humans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Accumulation of trash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional comments:

The anchor tubes were removed in August. We will not comment on them again.

Monticello LM Representative: *Fred Smith* Date: 1-27-14

Monthly Pond 4 Surveillance Checklist

Level of water in Pond 4 ≈ 18 inches

Inspection Item	Acceptable		Comments and Recommendation
	Yes	No	
Condition of:			
Fences, gates, and locks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Visible piping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Ballast tubes have been removed.</i>
Visible liner and anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Rescue equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of erosion of:			
Top of Pond 4 berm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pond 4 sideslopes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Voles have done some digging but</i>
Ditches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>doesn't appear to cause damage.</i>
Surrounding area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Seepage from Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Overtopping of Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of:			
Vandalism	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by wildlife	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by humans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Accumulation of trash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional comments:

The ice is off of the pond. We have lots of water in the pond right now. No damage is evident from the winter so far.

Monticello LM Representative: *Frank Smith*

Date: 2-18-14

Monthly Pond 4 Surveillance Checklist

Level of water in Pond 4 at 16 inches

Inspection Item	Acceptable		Comments and Recommendation
	Yes	No	
Condition of:			
Fences, gates, and locks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Roads	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Signs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>Fading but acceptable.</i>
Visible piping	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Visible liner and anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<i>anchors are gone.</i>
Rescue equipment	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of erosion of:			
Top of Pond 4 berm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Pond 4 sideslopes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Ditches	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Surrounding area	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Seepage from Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Overtopping of Pond 4	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Evidence of:			
Vandalism	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by wildlife	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Intrusion by humans	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Accumulation of trash	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

Additional comments:

NO signs of burrowing animals on the Berm.

Monticello LM Representative: *Frank Smith* Date: *3-25-14*

**Monticello Long-Term Surveillance and Maintenance
Temporary Storage Facility Record Book
Inspection Report**

Acceptable?

Yes / No

YES Was the gate locked upon arrival?

YES Are signs posted in accordance with Section 3.4.4?

YES Are all postings legible?

YES Are enclosures on the concrete bin and stored drum containers tight?

YES Are containers in good physical condition (no rust, no holes, no bulges, etc.)?

~25yd³ How much radiologically contaminated material is in the concrete bin? Note: the material should be shipped when the volume in storage approaches 75 percent of the storage capacity.

YES Is the surface area of the TSF in good physical condition (no erosion, no flood damage, no excessive vegetation growth, etc.)?

YES Has radiological monitoring been conducted in accordance with Section 3.4.5?

YES Is the security fence in good condition?

Comments: MOST OF THE SNOW COVER HAS MELTED OFF.

EVERYTHING LOOKS GOOD.

David Dille
Signature of Monticello LM Representative

2/24/14
Date of Inspection

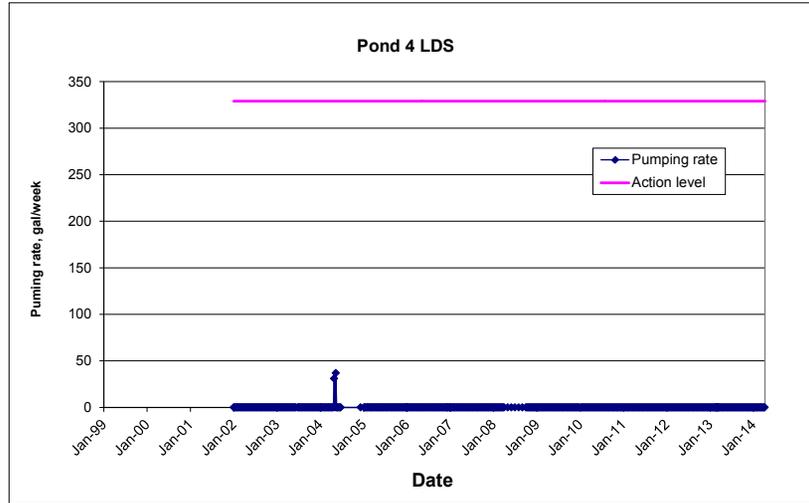
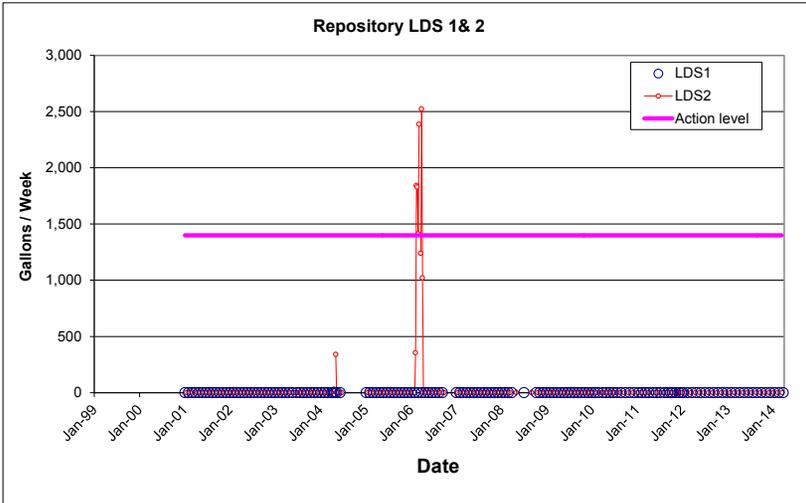
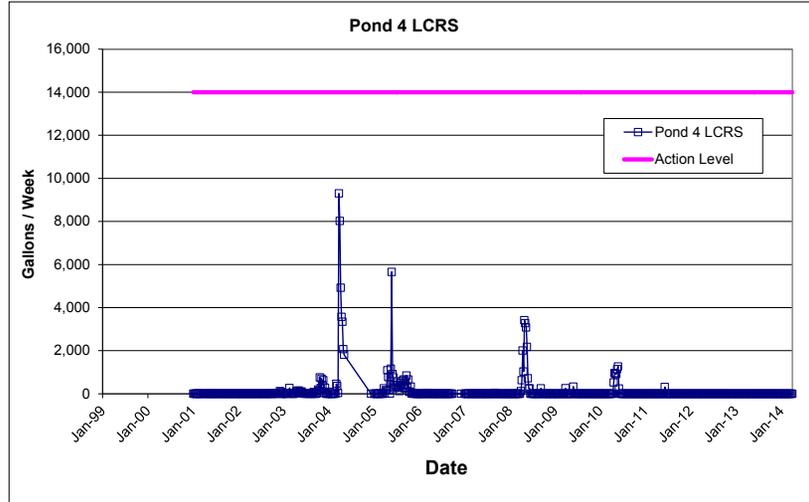
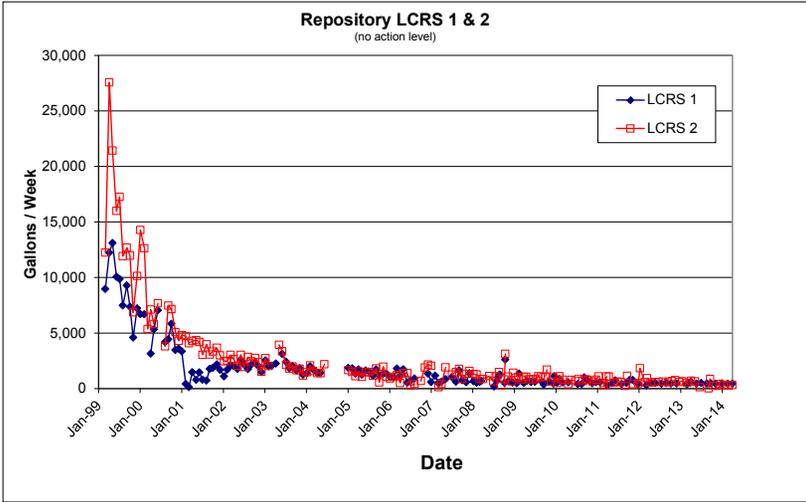
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Appendix B

Graphs Showing Performance History for Repository and Pond 4 Leachate Collection and Recovery Systems and Leak Detection Systems

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Graphs Showing Performance History for Repository and Pond 4 Leachate Collection and Recovery System (LCRS) and Leak Detection System (LDS)



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Appendix C
Climatological Summaries

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MONTHLY CLIMATOLOGICAL SUMMARY for JAN. 2014

NAME: Monticello Office CITY: STATE:
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	31.7	36.5	2:30p	22.0	6:30a	33.3	0.0	0.00	6.6	28.0	7:30a	SSE
2	31.5	41.8	1:00p	20.7	4:30a	33.5	0.0	0.00	1.6	10.0	12:30a	E
3	28.7	37.6	3:00p	21.6	7:00a	36.3	0.0	0.00	2.8	18.0	11:30a	NW
4	22.4	35.9	9:30a	11.6	11:30p	42.6	0.0	0.00	9.0	34.0	1:30p	SSE
5	14.1	19.6	4:30p	8.3	7:30p	50.9	0.0	0.00	9.0	28.0	1:30p	SSE
6	18.7	28.7	2:00p	3.5	2:30a	46.3	0.0	0.00	5.1	19.0	12:30p	NNE
7	22.9	30.2	3:00p	15.2	8:00a	42.1	0.0	0.00	1.7	14.0	12:30p	NW
8	30.2	37.2	12:30p	19.8	2:30a	34.8	0.0	0.00	2.8	21.0	9:30p	SE
9	27.6	34.0	2:00p	19.2	7:30a	37.4	0.0	0.00	5.2	26.0	2:30p	NE
10	31.4	38.9	2:00p	20.2	3:30a	33.6	0.0	0.01	9.1	37.0	9:00a	SE
11	35.3	40.4	1:30p	24.9	8:00a	29.7	0.0	0.00	7.3	31.0	5:00a	NW
12	29.5	41.9	5:30a	17.1	9:30p	35.5	0.0	0.08	14.3	43.0	12:30p	SE
13	26.7	37.0	1:30p	16.0	8:00a	38.3	0.0	0.00	6.9	26.0	1:00a	SE
14	31.8	36.3	3:00p	24.6	1:30a	33.2	0.0	0.00	10.8	28.0	6:30a	SSE
15	34.7	42.5	2:30p	22.2	5:00a	30.3	0.0	0.00	10.1	30.0	11:30a	NNW
16	35.0	40.6	2:00p	26.6	4:30a	30.0	0.0	0.00	11.4	29.0	2:30p	SE
17	35.0	41.4	4:00p	23.9	7:00a	30.0	0.0	0.00	4.9	16.0	4:00p	SE
18	35.9	42.5	3:00p	23.7	4:00a	29.1	0.0	0.00	6.0	16.0	1:00a	SE
19	34.6	49.2	5:00p	25.1	6:30a	30.4	0.0	0.00	2.8	12.0	11:30a	WNW
20	34.9	43.2	4:00p	25.6	4:30a	30.2	0.0	0.00	5.6	18.0	6:30a	NNW
21	32.2	44.7	2:30p	22.9	8:00a	32.8	0.0	0.00	1.7	8.0	5:00a	S
22	30.8	41.5	1:30p	21.7	4:30a	34.2	0.0	0.00	1.3	17.0	11:30p	WNW
23	27.6	32.8	3:30p	21.6	11:30p	37.4	0.0	0.00	7.1	28.0	8:30a	SE
24	28.7	38.5	3:00p	16.7	7:00a	36.3	0.0	0.00	4.4	13.0	2:30p	NNE
25	33.0	42.0	1:00p	24.2	7:00a	32.0	0.0	0.00	1.9	13.0	12:30a	SE
26	35.9	46.4	2:00p	25.0	3:00a	29.1	0.0	0.00	4.4	25.0	2:30p	SE
27	35.9	45.5	1:00p	26.4	7:30a	29.1	0.0	0.00	6.0	29.0	9:00p	NNW
28	27.7	33.7	4:00p	21.8	7:30a	37.3	0.0	0.00	7.5	22.0	2:00p	SSE
29	34.4	49.3	12:00m	23.9	8:00a	30.6	0.0	0.00	5.6	30.0	11:00p	SSE
30	40.9	49.7	2:30a	30.8	5:30a	24.1	0.0	0.12	11.8	46.0	3:00a	SW
31	28.4	35.6	12:30p	23.1	11:00p	36.6	0.0	0.03	5.0	21.0	5:30p	SE

	30.6	49.7	30	3.5	6	1067.0	0.0	0.24	6.1	46.0	30	SE

Max >= 90.0: 0
 Max <= 32.0: 3
 Min <= 32.0: 31
 Min <= 0.0: 0
 Max Rain: 0.12 ON 01/30/14
 Days of Rain: 3 (>.01 in) 1 (>.1 in) 0 (>1 in)
 Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for FEB. 2014

NAME: Monticello Office CITY: STATE:
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	21.2	25.7	12:30a	15.4	10:00p	43.8	0.0	0.00	9.0	23.0	7:00a	SSE
2	19.5	26.9	2:30p	6.4	6:00a	45.5	0.0	0.00	5.1	22.0	3:30p	WNW
3	23.0	28.9	12:30p	17.5	10:30p	42.0	0.0	0.00	3.2	20.0	12:30p	NNE
4	19.9	28.3	11:00a	12.8	7:30a	45.1	0.0	0.08	5.0	24.0	2:30p	SE
5	18.3	26.6	4:00p	6.4	7:00a	46.7	0.0	0.00	5.1	21.0	12:30p	NW
6	24.6	31.7	3:30p	14.5	7:00a	40.4	0.0	0.00	8.4	24.0	3:00p	S
7	29.5	35.6	4:00p	25.9	8:00p	35.5	0.0	0.00	11.6	33.0	11:00p	SSW
8	33.2	40.3	3:30p	26.7	7:30a	31.8	0.0	0.00	13.8	32.0	4:00a	S
9	37.6	50.1	4:30p	27.5	7:30a	27.4	0.0	0.00	5.9	26.0	2:00a	NW
10	37.6	43.9	6:30a	30.5	11:00p	27.4	0.0	0.00	9.1	30.0	10:30a	SSE
11	32.6	40.4	3:00p	26.2	8:00a	32.4	0.0	0.00	5.2	18.0	5:00p	SE
12	33.7	41.9	3:30p	26.1	7:30a	31.3	0.0	0.00	4.4	17.0	4:30a	NW
13	42.3	53.6	4:00p	31.4	1:30a	22.7	0.0	0.00	4.7	27.0	12:00m	NW
14	44.3	52.8	2:00p	33.6	6:00a	20.7	0.0	0.00	5.0	25.0	1:00a	SSW
15	45.9	55.3	7:00a	39.4	11:30p	19.1	0.0	0.00	6.4	24.0	7:00a	S
16	45.5	56.0	3:00p	35.0	12:00m	19.5	0.0	0.00	10.9	32.0	8:30p	SSE
17	40.5	50.9	3:00p	29.2	3:30a	24.5	0.0	0.00	5.5	22.0	12:00p	SSE
18	43.8	53.3	2:00p	31.6	6:00a	21.2	0.0	0.00	5.0	20.0	1:30p	SW
19	37.8	52.1	12:30p	21.6	12:00m	27.2	0.0	0.00	10.7	43.0	5:30p	NNW
20	24.3	36.6	4:30p	16.6	6:00a	40.7	0.0	0.00	9.9	49.0	1:00a	NNW
21	31.2	43.3	3:30p	19.4	5:00a	33.8	0.0	0.00	3.5	18.0	1:00p	S
22	37.0	46.7	2:00p	28.7	6:00a	28.0	0.0	0.00	4.1	22.0	2:30p	SE
23	39.8	50.8	4:00p	28.8	1:30a	25.2	0.0	0.00	4.5	22.0	5:00p	E
24	42.2	55.2	4:00p	30.4	7:00a	22.8	0.0	0.00	4.8	20.0	3:30p	S
25	43.3	56.1	3:30p	32.9	7:00a	21.7	0.0	0.00	4.5	22.0	1:00p	W
26	44.5	54.3	2:30p	36.0	12:30a	20.5	0.0	0.00	6.7	30.0	1:00p	NNW
27	38.0	45.7	3:30p	33.6	9:30p	27.0	0.0	0.10	5.9	26.0	11:30a	SW
28	35.1	43.2	3:30p	30.0	5:30a	29.9	0.0	0.01	8.0	35.0	10:00p	NE

	34.5	56.1	25	6.4	2	853.8	0.0	0.19	6.6	49.0	20	S

Max >= 90.0: 0
 Max <= 32.0: 6
 Min <= 32.0: 22
 Min <= 0.0: 0
 Max Rain: 0.10 ON 02/27/14
 Days of Rain: 2 (>.01 in) 0 (>.1 in) 0 (>1 in)
 Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2014

NAME: Monticello Office CITY: STATE:
 ELEV: 0 ft LAT: LONG:

TEMPERATURE (°F), RAIN (in), WIND SPEED (mph)

DAY	MEAN TEMP	HIGH	TIME	LOW	TIME	HEAT DEG DAYS	COOL DEG DAYS	RAIN	AVG WIND SPEED	HIGH	TIME	DOM DIR
1	36.2	42.2	1:00p	33.2	11:00p	28.8	0.0	0.64	8.6	29.0	10:30a	NE
2	36.7	45.7	1:30p	30.3	3:30a	28.3	0.0	0.00	4.0	19.0	12:30p	SE
3	37.6	49.3	3:30p	27.6	7:00a	27.4	0.0	0.00	2.4	22.0	1:30p	E
4	38.9	45.2	2:00p	31.7	6:30a	26.1	0.0	0.01	7.7	26.0	7:00p	S
5	39.9	51.9	4:00p	30.2	5:30a	25.1	0.0	0.00	6.0	23.0	1:00a	NNE
6	41.1	50.6	2:00p	29.9	7:00a	23.9	0.0	0.00	5.7	28.0	1:00p	NW
7	36.6	45.7	2:00a	31.7	6:00a	28.4	0.0	0.05	11.8	44.0	12:30p	NNW
8	36.9	46.1	2:30p	28.8	5:30a	28.1	0.0	0.00	11.5	28.0	5:00a	NNW
9	41.4	55.0	5:30p	28.1	7:30a	22.6	0.0	0.00	4.5	13.0	11:30a	S
10	44.8	58.4	5:00p	32.3	5:00a	20.2	0.0	0.00	7.7	32.0	5:30p	S
11	35.6	48.6	12:30a	23.7	12:00m	29.4	0.0	0.00	11.6	31.0	3:30a	N
12	33.6	47.8	5:00p	22.4	6:00a	31.4	0.0	0.00	4.9	21.0	2:30a	SE
13	38.0	48.1	1:00p	28.8	6:00a	27.0	0.0	0.00	4.7	22.0	10:30a	W
14	42.0	52.7	4:00p	32.2	12:30a	23.0	0.0	0.00	5.2	27.0	2:00p	NNE
15	38.0	44.1	4:00p	30.3	12:00m	27.0	0.0	0.00	16.9	45.0	11:00a	N
16	40.6	53.9	3:30p	29.4	6:30a	24.4	0.0	0.00	9.4	24.0	2:00p	N
17	43.7	59.2	4:30p	25.8	12:00m	21.3	0.0	0.00	13.1	43.0	12:00m	SW
18	28.5	37.8	5:30p	21.8	3:00a	36.5	0.0	0.00	10.5	41.0	12:30a	SSE
19	32.9	47.6	5:00p	20.8	6:30a	32.1	0.0	0.00	5.4	23.0	4:00p	SE
20	40.5	52.8	4:00p	24.8	1:30a	24.5	0.0	0.00	8.4	28.0	1:30p	SSW
21	43.5	55.6	3:00p	33.9	6:00a	21.5	0.0	0.00	3.5	31.0	3:00p	NW
22	39.2	46.8	5:30p	31.5	11:00p	25.8	0.0	0.00	5.9	28.0	12:00p	SSE
23	40.0	53.2	4:00p	27.9	5:30a	25.0	0.0	0.00	4.5	27.0	4:00p	SE
24	41.7	52.0	5:00p	29.5	7:30a	23.3	0.0	0.00	6.9	31.0	4:00p	SSE
25	46.0	58.6	5:30p	32.9	4:30a	19.0	0.0	0.00	6.0	24.0	12:00p	WNW
26	42.7	55.1	4:00p	34.2	7:00a	22.3	0.0	0.00	11.9	40.0	12:30p	SW
27	38.8	48.2	5:00p	26.7	7:30a	26.2	0.0	0.00	5.0	30.0	4:30p	NW
28	38.6	49.1	4:00p	26.2	7:00a	26.4	0.0	0.00	8.2	33.0	2:00p	NNW
29	43.5	55.2	4:00p	29.3	3:00a	21.5	0.0	0.00	7.9	27.0	1:30p	SSW
30	43.2	56.2	3:00p	33.8	10:00p	21.8	0.0	0.00	13.1	52.0	3:30p	NE
31	37.3	47.2	5:00p	24.2	7:00a	27.7	0.0	0.00	6.8	31.0	2:30p	NE
	39.3	59.2	17	20.8	19	796.0	0.0	0.70	7.7	52.0	30	NNW

Max >= 90.0: 0
 Max <= 32.0: 0
 Min <= 32.0: 24
 Min <= 0.0: 0
 Max Rain: 0.64 ON 03/01/14
 Days of Rain: 2 (>.01 in) 1 (>.1 in) 0 (>1 in)
 Heat Base: 65.0 Cool Base: 65.0 Method: Integration

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