

# Monticello, Utah, National Priorities List Sites Federal Facility Agreement Quarterly Report: January 1–March 31, 2012

## 1.0 Introduction

This report summarizes the status of the Monticello Vicinity Properties (MVP) and the Monticello Mill Tailings Site (MMTS), located in and near Monticello, Utah, for the period of January 1, 2012, through March 2012. The report also includes a summary of projected near-term activity and reporting requirements.

The MMTS and MVP were placed on the U.S. Environmental Protection Agency (EPA) National Priorities List (NPL) in 1989 and 1986, respectively. The U.S. Department of Energy (DOE) implemented remedial actions at the MVP in 1986 and at the MMTS in 1989, to conform to requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act.

MMTS and MVP remedial actions were completed by September 1999, except for the remediation of contaminated groundwater (Operable Unit III [OU III] of the MMTS), which is an ongoing process. As of December 2003, the MMTS and MVP are administered as the Monticello Disposal and Processing Site by the DOE Office of Legacy Management (LM).

## 2.0 MMTS

### 2.1 Operable Unit I

#### 2.1.1 Monticello LM Repository (DOE-Owned)

The Monticello LM repository is the site of a waste disposal cell that contains radioactively contaminated soil, sediment, and debris removed from the former uranium and vanadium ore processing mill and surrounding private and municipal properties. The repository also includes support infrastructure that is maintained to ensure that the wastes remain isolated from the environment.

As directed by Section 3.2 of the LM *Long-Term Surveillance and Maintenance Plan for the Monticello NPL Sites* (LTSM plan), monthly and quarterly inspections of the repository are conducted to assess conditions that may affect the integrity of the repository in protecting human health and the environment.

Inspection findings for the reporting period, with reference to the applicable section of the LTSM plan, include the following:

- Condition of disposal site facilities (Section 3.2.2): Monthly and quarterly inspections identified no anomalous conditions at the repository site (see attached Repository Area Surveillance Checklists).
- Meteorological monitoring and storm events (Sections 3.2.2.2, 3.2.2.3, and 4.3.1): No significant storm events occurred during this quarter (see attached meteorological summaries) that required non-routine surveillance of affected properties (those designated as supplemental standards cleanup properties).
- Pond 4 surveillance (Section 3.2.3): Monthly inspections identified no anomalous conditions at Pond 4 (see attached Monthly Pond 4 Surveillance Checklists).
- Disposal Cell and Pond 4 LCRS and LDS Operation (Section 3.3):
  - Disposal cell leachate collection in the upper sumps (i.e., the Leachate Collection and Recovery System [LCRS]) was normal for the quarter. 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 or less for each of the two sumps (LCRS 1 and 2; see attached graph).
  - Operation of the LCRS at the leachate collection pond (Pond 4) was normal (i.e., no water was collected during the quarter; see attached graph).
  - Disposal cell and Pond 4 leachate collection in the lower sumps (Leak Detection System [LDS]) remains at zero (see attached graphs).
  - All disposal cell and Pond 4 leachate management equipment (pumps, pump controls, monitoring devices, and data transmission devices) are functional.
- Temporary Storage Facility Operation and Maintenance (Section 3.4):
  - The inventory of contaminated material in the Temporary Storage Facility (TSF) is approximately 6 cubic yards (see attached TSF Record Book Inspection Reports). In accordance with Section 3.4 of the LTSM plan, DOE initiates transfer of material from the TSF to the LM Grand Junction Disposal Site (GJDS) in Grand Junction, Colorado, when contents of the TSF approach 75 cubic yards (TSF capacity is about 100 cubic yards). The most recent transfer of material from the TSF to GJDS occurred in June 2010 (documented in the July 1–September 31, 2010, quarterly report).
  - The GJDS is scheduled for repairs (access road and decontamination facility) during July through October 2012. The site will not receive radioactive material for disposal during that time.

### **2.1.2 Former Mill Site (City-Owned)**

Surveillance of the former mill site is conducted to ensure compliance with institutional controls implemented to preserve the OU I remedy for soil and groundwater. Findings for this quarter are:

- Routine surveillance of the former mill site (LTSM plan Section 4.2.2): no evidence of non-conformance with groundwater use restrictions or land use restrictions was observed.

## **2.2 Operable Unit II (Peripheral Properties, Private and City-Owned)**

Surveillance of the Peripheral Properties is conducted to ensure compliance with institutional controls implemented to preserve the OU II remedy for soil and groundwater. Findings for this quarter are:

- Routine surveillance of the Montezuma Creek Restrictive Easement Area (Section 4.2.6): No evidence of non-conformance with land use restrictions, groundwater use restrictions, or other institutional controls was observed.
- Routine surveillance of supplemental standards property MP-00176-VL (Section 4.2.6): No evidence of non-conformance with the land use restriction on building construction or evidence of excessive erosion was observed.
- The U.S. General Services Administration, in cooperation with DOE, disposed of property MP-01081-VL, located east of the repository site, to non-DOE ownership. The transaction was completed in August 2011. A very small segment of the property is within the Groundwater Management Area (see below). The property is not affected by any other MMTS institutional control.

## **2.3 Operable Unit III (Contaminated Groundwater and Surface Water)**

### **2.3.1 Groundwater Management Area**

Surveillance of properties where residual groundwater contamination is present is conducted to ensure compliance with groundwater use restrictions (institutional controls to prevent exposure to contaminated groundwater). The affected properties comprise the Monticello Groundwater Restricted Area, as defined by the State of Utah Division of Water Rights. Surveillance findings for this quarter are:

- Routine surveillance of the Monticello Groundwater Restricted Area (Section 4.2.7 and Appendix I): No evidence of non-conformance with groundwater use restrictions was observed.

### **2.3.2 Groundwater Remediation**

Contaminated alluvial groundwater is extracted and treated on private property at a location approximately 600 feet east of the former mill site. The contaminated groundwater is treated using zero-valent iron in two ex situ treatment vessels. The effluent is discharged to Montezuma Creek or returned to the aquifer by way of an infiltration trench. OU III remedy performance is evaluated and reported annually (LTSM plan Section 5.4). Groundwater treatment by this system began in June 2005. The following summarizes treatment system performance from January 1 through March 2012.

- The system operated nearly continuously during the quarter. Several temporary shutdowns were required that included winterizing the system and repair/calibration of the outfall tipping bucket flow meter.
- Approximately 1.1 million gallons of water were treated and approximately 2.4 pounds of uranium were removed from the aquifer during the quarter as a result of groundwater treatment. These treatment rates are consistent with those of normal operating conditions.

- Iron concentration and pH for the quarter are within the discharge allowances (see Table 1).
- Effluent discharge to Montezuma Creek did not exceed the allowed rate (10 gallons per minute [gpm]).
- The reactive media was last exchanged during October 10 to 12, 2011. Spent media was transported to the LM GJDS, Grand Junction, Colorado, for permanent disposition. Each treatment cell treated approximately 2.1 million gallons since the previous exchange in October 2010.
- Each treatment cell treated between about 3 and 3.5 million gallons of contaminated groundwater prior to media exchanges in March 2009 and October 2010. Bypass flow causing TC1 to be temporarily shut down and the approaching winter season were the primary reasons for the latest media exchange in October 2011.
- Treatment of 2 to 3 million gallons of groundwater per cell at influent uranium concentrations of 300 to 350 micrograms per liter and flow rate of 10 gpm is an approximate target volume for future media exchange.
- Discharge to the infiltration trench diminished from 1 gpm during July and August to zero in September 2011. Iron-oxide fouling of the discharge pipe was identified as a possible cause of reduced flow to the trench. Water-jetting, performed November 16, 2011, to cleanse the infiltration pipe of possible iron residue was not effective in restoring flow to the infiltration trench. Iron build-up in plumbing connection upstream of the infiltration pipe is now suspected as the cause of reduced capacity of the infiltration system to transmit water.

*Table 1. Treatment System Compliance Summary*

<b>Treatment System Effluent to Montezuma Creek</b>	<b>January 2012</b>	<b>February 2012</b>	<b>March 2012</b>
pH <sup>a</sup>	7.26	7.21	7.31
Iron (total, micrograms per liter) <sup>b</sup>	25	22	21

<sup>a</sup> Discharge allowance range = 6.5–9.0 standard units

<sup>b</sup> Discharge limit = 45.4 milligrams per liter at outfall to creek

*Table 2. Treatment System Performance Summary*

<b>Treatment Parameter</b>	<b>January 2012</b>	<b>February 2012</b>	<b>March 2012<sup>a</sup></b>
Gallons treated	382,500	381,900	321,000
Average treatment rate, gpm	8.6	9.5	8.5
Uranium influent, micrograms per liter	300	330	326
Uranium outfall, micrograms per liter	44	60	69
Uranium mass removed, pounds	0.82	0.86	0.69
Cumulative uranium mass removed, pounds	51.0	51.9	52.5
Cumulative volume treated, gallons	21,649,200	22,031,100	22,352,100

<sup>a</sup> Cut-off date is March 26, 2012

### 2.3.3 Biomonitoring

Biomonitoring has been conducted since 2004 to evaluate the potential risk to ecological receptors from exposure to selenium in OU III (Section 5.5 of the LTSM plan).

- Proposed scope of biomonitoring for 2012 is presented in a draft Sampling and Analysis Plan transmitted in electronic format to EPA and the Utah Department of Environmental Quality (UDEQ) for review and comment on February 16, 2016. EPA and UDEQ review comments were received by DOE on March 8, 2012. Comment resolution is in progress.

## **3.0 MVP**

### **3.1 City Streets and Utilities, Utah Department of Transportation (UDOT) Rights-of-Way, and Property MS-00176-VL**

Surveillance findings for the reporting period, with reference to the applicable section of the LTSM plan, include the following:

- Routine surveillance of city street and utility corridors and UDOT rights-of-way (supplemental standards properties; Section 4.2.3):
  - Onsite LM personnel continued to coordinate with the City of Monticello, UDOT, and utility company officials regarding radiological control at roadway and utility excavations.
  - No erosion or unauthorized excavations occurred on the Highway 191 embankment at Montezuma Creek.
  - Upgrades to City, State, and private utility infrastructure continued during the reporting period. No radiologically contaminated material was encountered at the excavations. Approximately 6 cubic yards of radiologically contaminated material remain in the TSF and is managed in accordance with Section 4.2.3.2 of the LTSM plan.
- Routine surveillance of supplemental standards property MS-00176-VL (Section 4.2.5) identified no violation of the land use restriction institutional control.

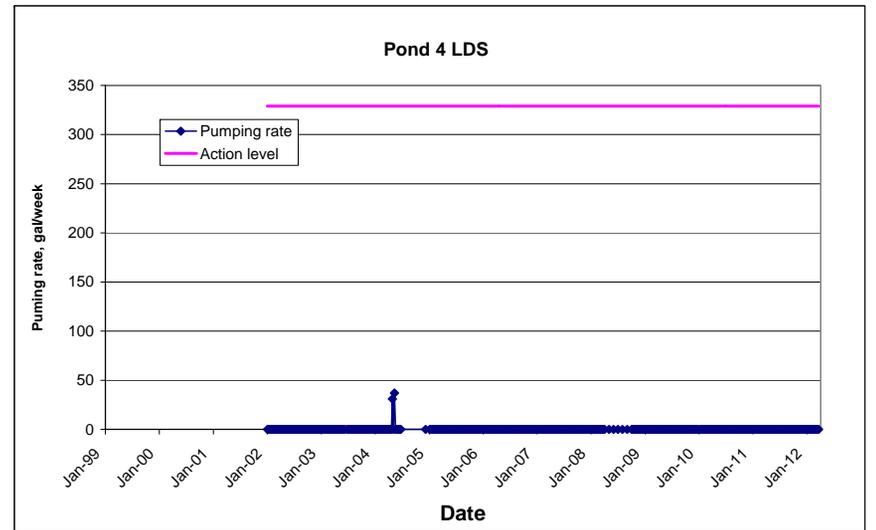
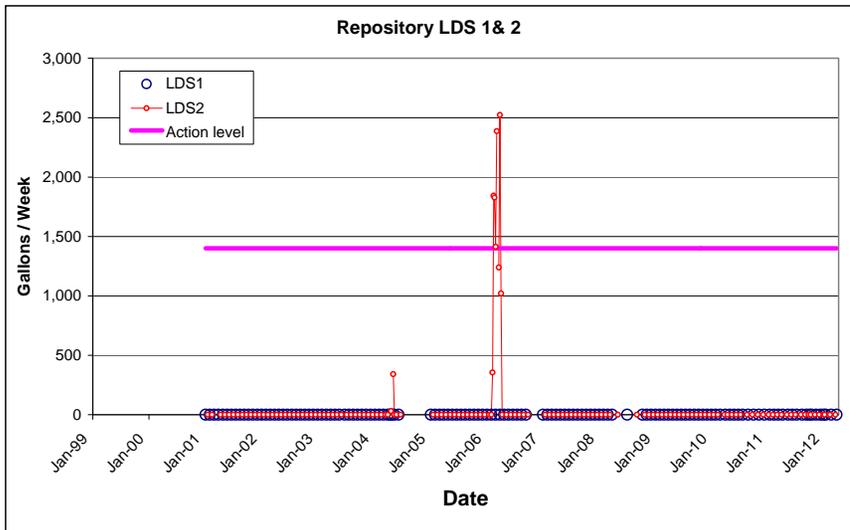
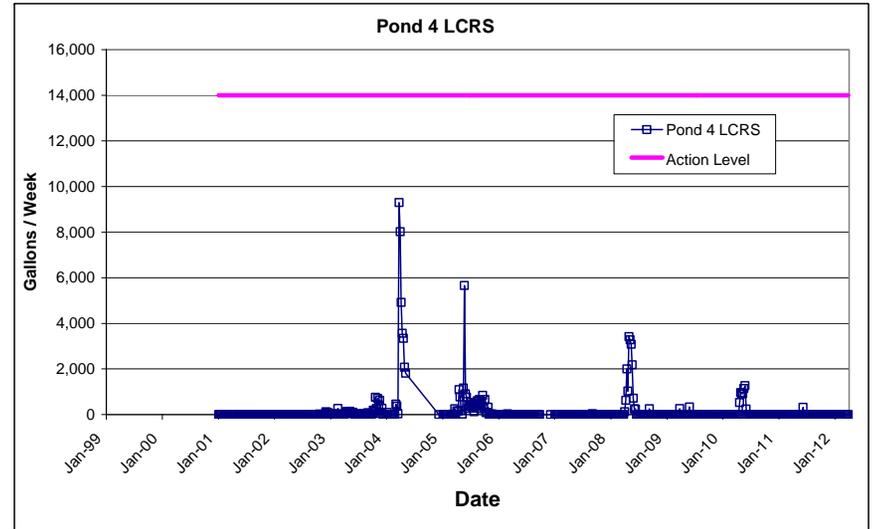
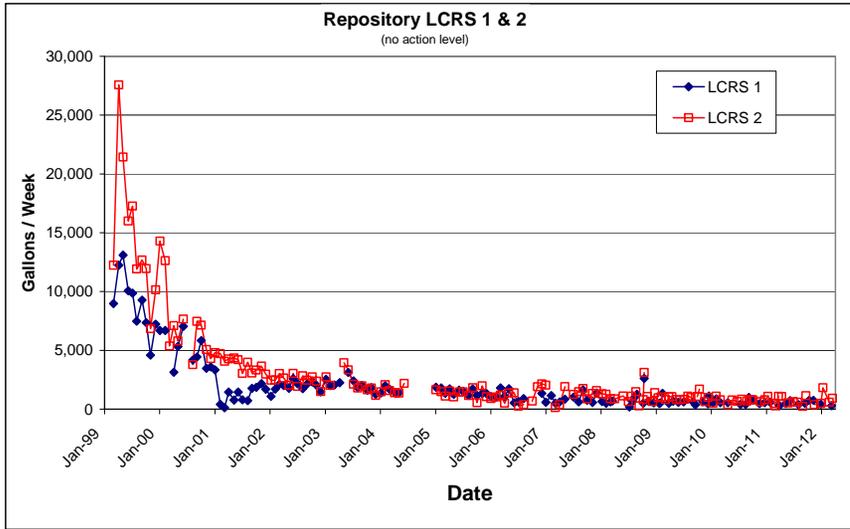
## 4.0 Schedule

Table 3 summarizes the schedule of recent and near-term activities for the Monticello NPL Sites and DOE reporting requirements.

*Table 3. Schedule of Near-Term Deliverables and Activities*

<b>Activity</b>	<b>Schedule</b>
FFA quarterly report: April–June 2012.	Submit to EPA and UDEQ by July 10, 2012.
FFA semiannual meeting, spring 2012.	Scheduled for week of April 9, 2012, in Monticello, Utah.
OU III biomonitoring.	Sampling and Analysis Plan for 2012 biomonitoring under review and comment resolution. Field reconnaissance with BTAG representatives scheduled for week of April 9, 2012.
Annual OU III water quality report.	Annual report for 2012 to be submitted to EPA and UDEQ in September 2012.
Site Management Plan, Section 5 annual update (penalty milestone).	Draft -final submittal to EPA and UDEQ September 30 annually as a penalty milestone.
Annual site inspection and inspection report (penalty milestone).	2012 site inspection scheduled for second week of September 2012. Site inspection report (draft; penalty milestone) is due to EPA and UDEQ by December 31, 2012.
Fourth CERCLA five-year reviews (MVP and MMTS).	Draft reports transmitted to EPA and UDEQ in electronic format by email on February 27, 2012, for review and comment. Final signed reviews are due by June 30, 2012.

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



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**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.)?
- 6 yds 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: \_\_\_\_\_  
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Jedd Mason  
Signature of Monticello LM Representative

01-05-2012  
Date of Inspection

**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.)?
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- 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: \_\_\_\_\_  
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Judd Moran  
Signature of Monticello LM Representative

02-02-12  
Date of Inspection

**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.)?
- yes 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: \_\_\_\_\_  
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Judd Mann  
Signature of Monticello LM Representative

03-01-12  
Date of Inspection

**Repository Area Surveillance Checklist**

Monthly Surveillance  Quarterly Surveillance (Feb., May, Aug., Nov.)

Storm Event Triggered Surveillance due to  inches of rainfall over the past 24 hours.

Inspection Item	Acceptable (Yes/No)	Comments and Recommendations
<b>Condition of:</b>		
Fences and gates	yes	_____
Roads <sup>a</sup>	yes	_____
Signs	yes	_____
Site monuments	yes	_____
Drainage ditches <sup>a</sup>	yes	_____
Manholes	yes	_____
Vegetation	yes	_____
<b>Evidence of erosion of:</b>		
Top of disposal cell <sup>a</sup>	NO	_____
Disposal cell sideslopes <sup>a</sup>	NO	_____
Ditches	NO	_____
Surrounding area	NO	_____
<b>Evidence of:</b>		
Vandalism	NO	_____
Intrusion by livestock	NO	_____
Burrowing animal damage	NO	_____
Intrusion by humans	NO	_____
Accumulation of trash	NO	_____

**Additional Quarterly Surveillance Requirements**

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

<b>Condition of:</b>		
Settlement plate structures	_____	_____
Manholes <sup>b</sup>	_____	_____
Sediment Ponds	_____	_____
<b>Evidence of:</b>		
Structural Instability	_____	_____

**Additional Comments** \_\_\_\_\_  
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Signature Judd Moon  
 Monticello LM Representative

Date 07-05-2012

<sup>a</sup>Inspections required following a significant storm event  
<sup>b</sup>Open to inspect quarterly

**Repository Area Surveillance Checklist**

\_\_\_\_ Monthly Surveillance \_\_\_\_ Quarterly Surveillance (Feb., May, Aug., Nov.)

\_\_\_\_ Storm Event Triggered Surveillance due to \_\_\_\_ inches of rainfall over the past 24 hours.

Inspection Item	Acceptable (Yes/No)	Comments and Recommendations
<b>Condition of:</b>		
Fences and gates	YES	_____
Roads <sup>a</sup>	YES	_____
Signs	YES	_____
Site monuments	YES	_____
Drainage ditches <sup>a</sup>	YES	_____
Manholes	YES	_____
Vegetation	YES	_____
<b>Evidence of erosion of:</b>		
Top of disposal cell <sup>a</sup>	ND	_____
Disposal cell sideslopes <sup>a</sup>	ND	_____
Ditches	ND	_____
Surrounding area	ND	_____
<b>Evidence of:</b>		
Vandalism	ND	_____
Intrusion by livestock	ND	_____
Burrowing animal damage	ND	_____
Intrusion by humans	ND	_____
Accumulation of trash	ND	_____

**Additional Quarterly Surveillance Requirements**

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

<b>Condition of:</b>		
Settlement plate structures	OK	_____
Manholes <sup>b</sup>	OK	_____
Sediment Ponds	OK	_____
<b>Evidence of:</b>		
Structural Instability	ND	_____

**Additional Comments** \_\_\_\_\_  
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Signature Jedd Moon  
 Monticello LM Representative

Date 07-02-12

<sup>a</sup>Inspections required following a significant storm event  
<sup>b</sup>Open to inspect quarterly

**Repository Area Surveillance Checklist**

Monthly Surveillance \_\_\_\_\_ Quarterly Surveillance (Feb., May, Aug., Nov.)

\_\_\_\_\_ Storm Event Triggered Surveillance due to \_\_\_\_\_ inches of rainfall over the past 24 hours.

Inspection Item	Acceptable (Yes/No)	Comments and Recommendations
<b>Condition of:</b>		
Fences and gates	Yes	_____
Roads <sup>a</sup>	Yes	_____
Signs	Yes	_____
Site monuments	Yes	_____
Drainage ditches <sup>a</sup>	Yes	_____
Manholes	Yes	_____
Vegetation	Yes	_____
<b>Evidence of erosion of:</b>		
Top of disposal cell <sup>a</sup>	NO	_____
Disposal cell sideslopes <sup>a</sup>	NO	_____
Ditches	NO	_____
Surrounding area	NO	_____
<b>Evidence of:</b>		
Vandalism	NO	_____
Intrusion by livestock	NO	_____
Burrowing animal damage	NO	_____
Intrusion by humans	NO	_____
Accumulation of trash	NO	_____

**Additional Quarterly Surveillance Requirements**

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

<b>Condition of:</b>		
Settlement plate structures	_____	_____
Manholes <sup>b</sup>	_____	_____
Sediment Ponds	_____	_____
<b>Evidence of:</b>		
Structural Instability	_____	_____

**Additional Comments** \_\_\_\_\_  
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Signature Judd Moon  
 Monticello LM Representative

Date 03-01-12

<sup>a</sup>Inspections required following a significant storm event  
<sup>b</sup>Open to inspect quarterly

**Monthly Pond 4 Surveillance Checklist**

Level of Water in Pond 4 2.1

<b>Inspection Item</b>	<b>Acceptable (Yes/No)</b>	<b>Comments &amp; Recommendation</b>
<b>Condition of:</b>		
Fences, gates, and locks	<u>yes</u>	_____
Roads	<u>yes</u>	_____
Signs	<u>yes</u>	_____
Visible piping	<u>yes</u>	_____
Visible liner and anchors	<u>yes</u>	_____
Rescue equipment	<u>yes</u>	_____
 <b>Evidence of erosion of:</b>		
Top of Pond 4 berm	<u>NO</u>	_____
Pond 4 sideslopes	<u>NO</u>	_____
Ditches	<u>NO</u>	_____
Surrounding area	<u>NO</u>	_____
Seepage from Pond 4	<u>NO</u>	_____
Overtopping of Pond 4	<u>NO</u>	_____
 <b>Evidence of:</b>		
Vandalism	<u>NO</u>	_____
Intrusion by wildlife	<u>NO</u>	_____
Intrusion by humans	<u>NO</u>	_____
Accumulation of trash	<u>NO</u>	_____

**Additional Comments** \_\_\_\_\_  
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Monticello LM Representative Jedd Moran Date 01-05-2012

**Monthly Pond 4 Surveillance Checklist**

Level of Water in Pond 4 2.4

<b>Inspection Item</b>	<b>Acceptable (Yes/No)</b>	<b>Comments &amp; Recommendation</b>
<b>Condition of:</b>		
Fences, gates, and locks	<u>Yes</u>	_____
Roads	<u>Yes</u>	_____
Signs	<u>Yes</u>	_____
Visible piping	<u>Yes</u>	_____
Visible liner and anchors	<u>Yes</u>	_____
Rescue equipment	<u>Yes</u>	_____
 <b>Evidence of erosion of:</b>		
Top of Pond 4 berm	<u>NO</u>	_____
Pond 4 sideslopes	<u>NO</u>	_____
Ditches	<u>NO</u>	_____
Surrounding area	<u>NO</u>	_____
Seepage from Pond 4	<u>NO</u>	_____
Overtopping of Pond 4	<u>NO</u>	_____
 <b>Evidence of:</b>		
Vandalism	<u>NO</u>	_____
Intrusion by wildlife	<u>NO</u>	_____
Intrusion by humans	<u>NO</u>	_____
Accumulation of trash	<u>NO</u>	_____

**Additional Comments** \_\_\_\_\_  
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Monticello LM Representative Jedd Wilson Date 02-02-12

Monthly Pond 4 Surveillance Checklist

Level of Water in Pond 4 2.9

Inspection Item	Acceptable (Yes/No)	Comments & Recommendation
<b>Condition of:</b>		
Fences, gates, and locks	<u>Yes</u>	
Roads	<u>Yes</u>	
Signs	<u>Yes</u>	
Visible piping	<u>Yes</u>	
Visible liner and anchors	<u>Yes</u>	
Rescue equipment	<u>Yes</u>	

<b>Evidence of erosion of:</b>		
Top of Pond 4 berm	<u>NO</u>	
Pond 4 sideslopes	<u>NO</u>	
Ditches	<u>NO</u>	
Surrounding area	<u>NO</u>	
Seepage from Pond 4	<u>NO</u>	
Overtopping of Pond 4	<u>NO</u>	

<b>Evidence of:</b>		
Vandalism	<u>NO</u>	
Intrusion by wildlife	<u>NO</u>	
Intrusion by humans	<u>NO</u>	
Accumulation of trash	<u>NO</u>	

**Additional Comments** \_\_\_\_\_  
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Monticello LM Representative Judd Moran Date 03-01-12

MONTHLY CLIMATOLOGICAL SUMMARY for JAN. 2012

NAME: Monticello CITY: STATE:  
 ELEV: 7000 ft LAT: 37° 36' 00" N LONG: 122° 06' 00" W

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	30.8	41.0	1:30p	21.5	7:00a	34.2	0.0	0.00	4.7	12.0	2:30a	NNW
2	35.4	46.9	11:00a	26.8	6:30a	29.6	0.0	0.00	4.8	12.0	9:30p	NNW
3	33.3	42.4	1:00p	23.8	7:30a	31.7	0.0	0.00	3.3	16.0	10:00p	SW
4	36.4	52.7	1:00p	24.6	2:00a	28.6	0.0	0.00	5.3	16.0	9:30a	NNW
5	34.4	43.2	4:30p	25.4	6:30a	30.6	0.0	0.00	3.4	10.0	2:30a	NNW
6	35.7	46.9	3:00p	27.3	7:00a	29.3	0.0	0.00	3.4	17.0	10:00p	WSW
7	31.8	38.1	2:30p	25.8	12:00m	33.2	0.0	0.00	11.9	27.0	9:00p	NNW
8	27.4	31.7	2:30p	23.6	6:30a	37.6	0.0	0.00	16.2	33.0	4:30a	NNW
9	33.2	45.1	2:00p	23.8	11:30p	31.8	0.0	0.00	8.1	29.0	3:30a	N
10	29.4	42.1	3:00p	20.2	7:00a	35.6	0.0	0.00	3.1	11.0	11:00p	S
11	27.6	35.0	4:00a	18.0	12:00m	37.4	0.0	0.00	12.2	41.0	10:30a	NNW
12	22.4	31.7	2:00p	15.8	8:00p	42.6	0.0	0.00	6.9	19.0	2:30p	NNW
13	27.1	37.5	2:30p	17.2	7:00a	37.9	0.0	0.00	4.0	24.0	3:00p	N
14	29.1	38.5	3:30p	19.3	5:00a	35.9	0.0	0.00	7.1	22.0	10:30p	WNW
15	31.1	39.6	3:00p	24.9	7:30a	33.9	0.0	0.00	10.4	28.0	11:30a	S
16	28.3	36.0	3:00p	13.9	12:00m	36.7	0.0	0.01	13.3	35.0	3:30p	SSW
17	20.8	30.3	3:30p	8.2	4:30a	44.2	0.0	0.00	8.1	29.0	8:30p	SSW
18	27.9	34.2	4:30p	22.7	7:30a	37.1	0.0	0.00	11.5	31.0	11:00a	SSW
19	34.0	41.4	1:00p	24.7	12:30a	31.0	0.0	0.00	9.3	28.0	2:30p	S
20	38.2	47.0	2:30p	28.8	7:30a	26.8	0.0	0.00	6.6	23.0	1:30a	SSW
21	31.8	36.1	3:00a	28.3	11:30a	33.2	0.0	0.33	10.7	31.0	6:30p	SSW
22	26.8	33.7	4:00p	20.6	7:30p	38.2	0.0	0.00	7.3	33.0	3:30a	N
23	26.2	30.2	3:00p	20.8	3:00a	38.8	0.0	0.02	10.4	28.0	4:30a	SSW
24	27.7	30.2	3:00p	25.1	11:30p	37.3	0.0	0.02	14.1	32.0	4:00p	NNW
25	32.3	39.1	6:30p	17.4	3:30a	32.7	0.0	0.00	13.6	26.0	8:30a	NNW
26	34.9	40.6	11:00a	22.4	6:00a	30.1	0.0	0.00	6.3	24.0	12:30a	NNE
27	29.4	35.1	12:30a	22.5	12:00m	35.6	0.0	0.00	13.7	34.0	4:30a	NNW
28	26.4	33.3	2:00p	17.3	7:00a	38.6	0.0	0.00	9.0	24.0	8:00p	NW
29	30.7	45.2	2:30p	18.7	3:00a	34.3	0.0	0.00	2.9	11.0	7:30a	NE
30	31.5	41.3	4:30p	22.0	4:30a	33.5	0.0	0.00	6.9	26.0	11:30a	S
31	32.7	40.1	2:00p	24.3	12:00m	32.3	0.0	0.00	3.0	12.0	2:30p	W
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	30.5	52.7	4	8.2	17	1070.3	0.0	0.38	8.1	41.0	11	NNW

Max >= 90.0: 0  
 Max <= 32.0: 5  
 Min <= 32.0: 31  
 Min <= 0.0: 0  
 Max Rain: 0.33 ON 01/21/12  
 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. 2012

NAME: Monticello CITY: STATE:  
 ELEV: 7000 ft LAT: 37° 36' 00" N LONG: 122° 06' 00" W

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	31.0	38.4	12:00p	21.6	5:00a	34.0	0.0	0.00	4.4	17.0	12:30p	SSW
2	29.5	33.1	1:30p	25.1	6:30a	35.5	0.0	0.01	10.5	30.0	5:30p	NNW
3	28.3	32.4	2:30p	24.0	7:30a	36.7	0.0	0.00	9.1	30.0	1:30a	NNW
4	27.6	36.9	4:00p	19.8	8:00a	37.4	0.0	0.03	3.4	11.0	5:00p	NW
5	27.3	30.5	3:30p	24.5	5:00a	37.7	0.0	0.06	2.5	11.0	1:30p	S
6	24.5	28.8	12:00p	19.0	6:00a	40.5	0.0	0.10	5.0	16.0	4:30p	NNW
7	25.2	32.5	3:30p	15.7	7:30a	39.8	0.0	0.00	6.2	16.0	2:00a	NNW
8	33.9	40.2	1:00p	28.5	12:30a	31.1	0.0	0.00	6.9	19.0	12:00m	SSE
9	31.8	37.4	3:00p	26.4	12:00m	33.2	0.0	0.00	13.6	35.0	2:00p	NNW
10	31.8	42.7	2:00p	21.5	5:30a	33.2	0.0	0.00	3.8	20.0	12:30p	NW
11	35.4	44.6	4:00p	26.8	6:00a	29.6	0.0	0.00	4.4	18.0	9:00a	SW
12	31.5	37.7	1:00a	26.1	12:00m	33.5	0.0	0.10	8.9	26.0	6:30a	SW
13	28.2	33.4	1:00p	18.5	6:30a	36.8	0.0	0.02	6.1	24.0	12:00m	S
14	29.3	35.9	3:30p	23.2	9:00p	35.7	0.0	0.03	7.8	23.0	12:30a	S
15	23.9	29.9	2:30p	15.7	5:30a	41.1	0.0	0.00	6.3	22.0	11:00a	S
16	27.6	37.5	4:30p	16.4	4:00a	37.4	0.0	0.00	6.3	19.0	7:30p	NNE
17	29.6	38.2	3:30p	20.5	7:00a	35.4	0.0	0.00	8.9	24.0	5:00p	NW
18	31.4	40.5	4:30p	19.1	6:30a	33.6	0.0	0.00	6.3	22.0	3:30p	NW
19	26.5	32.6	12:30a	17.6	12:00m	38.5	0.0	0.04	12.0	32.0	10:30a	SSW
20	22.4	30.7	1:30p	12.8	7:30a	42.6	0.0	0.00	10.1	43.0	1:00a	NNW
21	28.6	37.5	4:00p	18.1	6:00a	36.4	0.0	0.00	4.3	19.0	12:30a	SSE
22	37.8	42.7	3:00p	31.1	2:00a	27.2	0.0	0.00	6.5	23.0	11:00p	S
23	30.7	42.4	5:00a	18.9	11:00p	34.3	0.0	0.00	15.1	47.0	11:30a	NNW
24	26.0	37.0	5:00p	15.8	5:00a	39.0	0.0	0.00	5.3	17.0	2:30p	NNW
25	34.4	45.3	4:00p	22.2	12:30a	30.6	0.0	0.00	11.2	33.0	9:00a	S
26	25.4	34.7	5:00p	20.2	5:00a	39.6	0.0	0.00	8.3	25.0	4:30a	N
27	36.4	44.1	1:30p	23.4	12:30a	28.6	0.0	0.00	13.9	41.0	6:00p	SSW
28	29.0	34.9	12:30a	24.3	11:00p	36.0	0.0	0.05	13.5	35.0	1:30a	SSW
29	27.0	34.0	4:30p	19.5	4:30a	38.0	0.0	0.00	10.9	28.0	12:00p	SSW
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	29.4	45.3	25	12.8	20	1033.0	0.0	0.44	8.0	47.0	23	NNW

Max >= 90.0: 0  
 Max <= 32.0: 4  
 Min <= 32.0: 29  
 Min <= 0.0: 0

Max Rain: 0.10 ON 02/06/12

Days of Rain: 8 (>.01 in) 0 (>.1 in) 0 (>1 in)

Heat Base: 65.0 Cool Base: 65.0 Method: Integration

MONTHLY CLIMATOLOGICAL SUMMARY for MAR. 2012

NAME: Monticello CITY: STATE:  
 ELEV: 7000 ft LAT: 37° 36' 00" N LONG: 122° 06' 00" W

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	27.0	32.3	10:30a	18.6	10:00p	38.0	0.0	0.00	9.6	30.0	2:30p	SW
2	20.6	26.6	3:30p	13.3	12:00m	44.4	0.0	0.05	16.1	47.0	10:00a	NNW
3	23.4	32.8	5:00p	9.5	1:30a	41.6	0.0	0.00	10.7	30.0	9:00a	N
4	34.3	43.0	3:30p	22.0	6:00a	30.7	0.0	0.00	7.0	29.0	2:00a	N
5	37.9	46.8	4:00p	25.0	7:00a	27.1	0.0	0.00	8.4	24.0	12:30p	SSW
6	42.2	50.4	3:00p	35.1	6:30a	22.8	0.0	0.00	13.9	41.0	1:30p	SSW
7	31.8	38.6	12:30a	28.3	7:30a	33.2	0.0	0.00	9.7	32.0	7:00a	S
8	36.1	42.5	4:00p	29.8	12:30a	28.9	0.0	0.00	13.5	27.0	2:00a	NNW
9	35.8	46.2	4:30p	23.7	6:00a	29.2	0.0	0.00	4.1	13.0	7:30p	NW
10	38.1	49.9	4:00p	27.6	7:00a	26.9	0.0	0.00	5.9	17.0	5:00a	SW
11	41.4	54.0	4:30p	29.3	5:30a	22.6	0.0	0.00	6.8	25.0	3:00p	WNW
12	43.0	52.9	4:00p	35.0	6:30a	22.0	0.0	0.00	9.4	26.0	2:30p	SSW
13	43.5	56.1	5:00p	32.3	5:30a	21.5	0.0	0.00	9.2	28.0	5:00p	S
14	44.2	54.9	6:00p	30.5	7:30a	20.8	0.0	0.00	7.4	24.0	1:00p	SSW
15	41.2	51.2	2:00a	34.5	7:00a	9.4	0.0	0.00	3.2	13.0	1:30a	WNW
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												
26												
27												
28												
29												
30												
31												
-----												
	36.0	56.1	13	9.5	3	419.1	0.0	0.05	9.0	47.0	2	SSW

Max >= 90.0: 0  
 Max <= 32.0: 1  
 Min <= 32.0: 11  
 Min <= 0.0: 0  
 Max Rain: 0.05 ON 03/02/12  
 Days of Rain: 1 (>.01 in) 0 (>.1 in) 0 (>1 in)  
 Heat Base: 65.0 Cool Base: 65.0 Method: Integration