ENERGY AND ENVIRONMENT CABINET

Steven L. Beshear
Governor

Leonard K. Peters
Secretary

Department for Environmental Protection
Division of Waste Management
Maxey Flats Project
2597 Maxey Flat Rd.
Hillsboro, KY 41049
606-783-8680

August 19, 2011

Ms. Pam Scully
SRPM, Kentucky/Tennessee Section
North Site Management Branch
Waste Management Division
USEPA-Region IV
Sam Nunn Atlanta Federal Center Tower
61 Forsyth Street, SW
Atlanta, GA 30303-8960

Subject: Maxey Flats Project 2011 Semi-Annual Report

Dear Ms. Scully:

The Commonwealth of Kentucky hereby submits the Semi-Annual Report for 2011 to fulfill the requirements of Section 4.0 of the Performance Standard Verification Plan (PSVP). Copies are being distributed, under this cover, as indicated below.

If you have any questions, please contact me at (606)783-8680.

Sincerely,

Scott Wilburn

Scott Wilburn
Environmental Control Supervisor
Maxey Flats Project

c: Derek Matory, USEPA
Jon Richards, USEPA
Vijendra Kothari, USDOE
Michelle Miller, Stoller, Corp.
Bennie Underwood, de maximis, inc.
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MAXEY FLATS PROJECT

2011 SEMI-ANNUAL REPORT

August 19, 2011

Kentucky Division of Waste Management
Superfund Branch
Maxey Flats Project

Maxey Flats Project (MFP) Semi-annual Report
Reporting Period: January 2011 – June 2011

Pursuant to the Consent Decree, this semi-annual report is submitted to the US EPA from the Commonwealth in accordance to requirements of the Statement of Work. Included in this report are narrations of monitoring results, inspections, repair and maintenance activities, along with inspection forms and any other documentation relevant to the IRP O&M Requirement Summary.

Monitoring Results

This section covers surface water, ground water and subsidence monitoring tasks performed during the January 2011 through June 2011 reporting period necessary to comply with the Interim Maintenance Period Work Plan (IMP) and appendices.

Surface Water (PSVP 3.1.2)

Surface water sampling for locations 102D, 103E, 106, C107, 122A, 122C, 143 and 144 is performed using automatic sequential samplers that collect a daily composite sample. The sampler located at the East Detention Basin (EDB) collects samples based on a 15 minute rain event with the intensity to produce a total rainfall in excess of 2.8 inches during a twenty-four period.

A total of 1,364 surface water samples have been collected and analyzed for tritium during this period with no anomalous data reported. Table 1 contains a summary of the data obtained during this reporting period.

Alluvial Wells (PSVP 3.1.2.2)

Alluvial well sampling includes annual samples from AW-6, 10 and 12 and quarterly sampling of AW-1A and 7. For this reporting period two rounds of quarterly sampling were collected from AW-1A and 7 with no location exceeding a tritium result of 6 pCi/ml. Alluvial well sampling is compared to the drinking water standard of 20 pCi/ml. Alluvial wells 6, 10 and 12 are scheduled for sampling in the last quarter of 2011. Table 2 contains a summary of the data for 2010 and the first half of 2011.

Monitoring Wells

Two quarterly level measurements of 15 U-wells and one round of sampling of four U-wells were completed by Maxey Flats staff in February and April 2011. Sampling is not required by the IMP; it is a requirement of the MFP Radioactive Material License. Table 3 contains a summary of the measurement data for July 2010 through June 2011. Table 4 summarizes the tritium results for the U-well sampling.

Trench Leachate Management (PSVP 2.3)

Trench sump liquid levels are obtained semi annually in accordance with the PSVP, Section 2.3, Sump Measurements, Tech Change III, and the Second Five Year Review. First semiannual measurements were obtained in April to satisfy the collection period requirement. Table 5 contains the liquid level measurements from October 2010 and April 2011. The data indicates the levels overall are stable with only three sumps exceeding 10% freeboard: sump 7-4, sump 46-1 and sump 46-2.

Sump 7-4 has exceeded 70% of freeboard. A revised leachate management engineering evaluation was submitted to EPA May 24, 2011. The revised leachate management engineering evaluation provided additional and updated trench data but still recommends monitoring Sump 7-4 on a quarterly basis to determine if it stabilizes near pre-pump level. Sump 7-4 is currently within 0.15 feet of its pre-pump level.

Both Sumps 46-1 and 46-2 have exceeded 10% loss of freeboard but appear to be holding steady at 17% and 11% respectively. Both sumps remain several feet below pre-pump level.

Subsidence Monitoring (PSVP 2.2)

Mitch Estes Land Surveying, Morehead, KY completed the 2011 subsidence survey on June 8th and 9th. Comparing the 2011 control point elevation measurements to 2004 baseline measurements indicates variation ranges from -0.02″ to -0.41″. Six additional subsidence monitoring locations (29-34) were added in 2008 at the discretion of MFP to ensure monitoring of suspect areas. These points range in variation since 2008 from -0.07″ to -0.12″. Table 6 contains subsidence monitoring results. The IMP Work Plan does not prescribe Action Levels for subsidence monitoring.

Erosion Monitoring (PSVP 2.1)

Table 7 contains data obtained from surveys performed in the East Drainage Channel. The monitoring continues to indicate no acute or significant erosion. It shall be noted that: x-section 3.5 was incorrectly monitored during the fall of 2010. The fall 2010 measurement would have established the new baseline for the cross section necessary from reconstruction of the lower east drainage channel. During the spring monitoring period it was discovered that x-section 3.5 had been incorrectly monitored. Therefore, the spring 2011 measurement will serve as the new baseline.

Although erosion measurements of the East Drain did not indicate any significant erosion a routine visual inspection conducted on May 15, 2011 indicated extensive erosion had occurred since the last visual inspection in October 2010. The erosion includes a hill side land slump that has entered the drain and fallen timbers obstructing access. During a routine audit on May 24, 2011, US EPA inspected the erosion within the East Drain and determined repairs were necessary to assure flow does not become constricted. The IMP Work Plan stipulates that erosion repairs/maintenance will be completed within 14 days but due to the extensive nature of the damage, US EPA has extended this time requirement. It is estimated it will require 250-300 man hours to complete repairs to the east drain. The MFP has selected a contractor to complete repairs to the drain and is awaiting budgetary approval to begin work.

Further visual erosion inspection of the South Drain also indicated the presence of extensive erosion in the form of land slump and fallen timber. As required by the IMP work plan, an engineering evaluation of the drain will be performed to determine the necessary actions. This evaluation will be submitted to US EPA by September 2011.

Inspections, Maintenance and Repair Activities Relative to the IRP

Inspections

Inspections were conducted in accordance with the Operations and Maintenance Requirements Summary (O&M), Appendix B. This includes: (26) Weekly/Daily Inspections, (12) Twice-a-Month Inspections, (6) Monthly Inspections, (2) Quarterly Inspections and (1) Semi-annual Inspection.

Maintenance

This section covers the maintenance of the geomembrane liner, headwalls, drainage channels, diversion berms, interior anchor trenches, perimeter, anchor trenches, articulating block system, emergency spillway at the northeast corner, east detention basin, southeast cap, and general site components.

The only items requiring attention, excluding defect repairs (discussed below) and 21 occurrences of water found during the annual inspection, were leaf removal from headwall inlets and weed control within the AB-mats. The defects and water occurrences will be addressed within the scope of the annual inspection.

Repairs

A total of six repairs were made to the geomembrane liner during this reporting period with 31 pending from the annual inspection. A quality control check was performed on each of the repaired sections.

Reporting

All validated sampling data acquired on site has been forwarded to United States Environmental Protection Agency (USEPA), Project Coordinator for the Steering Committee, United States Department of Energy (USDOE), and the Commonwealth.

Conclusion

There was no anomalous data reported during this period from 1,432 analyzed samples. The data supports the conclusion that the Maxey Flats Project, at present, is causing a minimal impact to human health and the environment.

Table 1
Maxey Flats Project
Surface Water Data Summary
January – June 2011

Location	Minimum Activity (pCi/ml)	Date	Maximum Activity (pCi/ml)	Date	Average Activity (pCi/ml)	Sampling Period
ISCO 122A	-0.24	4/15/11	5.71	1/3/11	0.08	1/1-6/30/11
ISCO 106	1.33	1/29/11	10.85	3/26/11	3.53	1/1-6/30/11
ISCO 122C	0.17	4/4/11	4.60	3/10/11	0.96	1/1-6/30/11
ISCO 102D	-0.10	5/31/11	1.69	4/1/11	0.63	1/1-6/30/11
ISCO 103E	-0.01	4/28/11	1.50	5/16/11	0.45	1/1-6/30/11
ISCO EDB	-0.01	4/24/11	2.05	3/15/11	0.35	1/1-6/30/11
ISCO 143	-0.54	1/26/11	0.29	2/15/11	0.02	1/1-6/30/11
ISCO 144	2.17	6/21/11	128.70	1/6/11	49.23	1/1-6/30/11
ISCO C107	2.35	2/2/11	25.22	5/15/11	9.55	1/1-6/30/11

Table 2
Maxey Flats Project
Alluvial Monitoring Well Data
March 2010 – April 2011

Well ID	Date	Tritium Activity (pCi/ml)	Error +/-	Specific Conductivity (μmho)	pH	Temperature [C]
AW-1	03/25/10	6.41	0.19	293	6.50	55.9
AW-1	05/25/10	5.57	0.18	272	6.20	58.1
AW-1	8/30/10	2.29	0.14	307	6.70	59.8
AW-1	11/29/10	1.40	0.12	295	6.60	59.9
AW-1	2/17/11	2.10	0.14	301	7.00	57.7
AW-1	4/20/11	4.16	0.17	275	6.60	56.5
AW-6	11/29/10	0.13	0.10	352	5.90	60.7
AW-7	03/25/10	5.19	0.17	166	5.30	55.5
AW-7	05/25/10	4.75	0.17	172	5.30	60.2
AW-7	8/30/10	5.09	0.17	162	6.20	60.5
AW-7	11/29/10	5.93	0.18	138	5.90	59.9
AW-7	2/17/11	5.12	0.18	148	5.96	56.1
AW-7	4/20/11	5.02	0.18	187	6.00	54.8
AW-10	11/29/10	-0.06	0.10	97	6.10	60.5
AW-12	11/29/10	0.13	0.10	445	6.10	60.0

Table 3
Maxey Flats Project
Perimeter Monitoring Well Elevation Data
July 2010 - April 2011

Monitoring Well	LS Elevation* (ft)	Water Elev 7/30/10 (ft)	Water Elev 10/29/10 (ft)	Water Elev 2/23/11 (ft)	Water Elev 4/27/11 (ft)
ESI-1	**1050.70**	1034.01	1033.68	1036.58	1037.45
ESI-2	**1047.50**	1032.47	1032.89	1031.81	1032.98
ESI-4	**1048.00**	1033.37	1033.80	1032.71	1033.96
ESI-5	**1045.10**	1029.66	1029.64	1029.45	1029.40
ESI-12	**1049.60**	1026.94	1027.70	1027.62	1027.96
ESI-19	**1050.00**	1033.39	1033.07	1032.84	1033.81
N2B	**1044.50**	1032.4	1032.30	1032.14	1032.83
UE-2	**1050.20**	1033.22	1032.95	1032.69	1033.46
UE-11	**1051.30**	1033.97	1034.07	1033.58	1033.91
UF-1	**1050.10**	1033.12	1032.83	1033.57	1034.00
UF-2	**1046.00**	1032.78	1032.49	1032.17	1033.05
UF-5	**1048.90**	- -	1034.42	1042.53	1041.82
UF-10a	**1057.74**	1029.29	1020.97	1029.45	1029.47
UF-37	**1048.20**	1032.42	1033.55	1032.00	1031.66
UF-45	**1054.20**	1037.18	1036.59	1036.23	1036.74
UK-1	**1046.10**	1032.62	1032.35	1032.10	1033.00

* Elevations from IMP Workplan, As-Built Table AB-12

Table 4
Maxey Flats Project
USGS Monitoring Well Tritium Data
April 2010 - April 2011

Well ID	Tritium Activity 4/27/10		Tritium Activity 10/29/10		Tritium Activity 4/28/11	
	Activity (pCi/ml)	Error +/-	Activity (pCi/ml)	Error +/-	Activity (pCi/ml)	Error +/-
N2B	9,864	6	146,064	25	229	1
UE-2	191,719	28	175,583	27	231,214	32
UF-2	137,663	24	154,670	25	125,279	23
UF-10a	*measurement only*		27,191	11	27,484	11
UK-1	181,926	27	204,824	29	88,388	20

* From IMP Workplan, As-Built Table AB-12

Table 5
Maxey Flats Project
Trench Sump Leachate Measurements
October 2010 and April 2011

Trench Sump ID	Baseline ToC-ToL	Oct 2010 ToC-ToL	Apr 2011 ToC-ToL
1-2	20.80	19.85	19.94
2-6	21.45	20.08	20.10
3-2	23.00	23.07	23.16
3-4	15.63	16.07	16.17
7-4	15.28	6.02	5.52
7-5	18.43	20.09	20.17
7-7	19.33	21.16	21.27
10-7	27.83	27.26	27.24
10-8	27.51	27.68	27.63
10-9	26.06	24.30	24.23
11-5	20.92	20.98	21.10
11-6	24.03	24.68	24.68
15-4	26.68	26.61	26.61
15-5	24.14	23.66	23.41
15-6	28.88	28.01	27.97
15-8	22.21	22.61	22.64
18-6	30.41	30.10	30.08
18-9	22.00	*21.96*	21.88
19-5	28.85	28.72	28.68
19-6	23.50	22.97	22.99
19-7	30.80	29.57	29.54
20W	26.50	28.20	28.20
20-7	29.85	29.72	29.73
20-9	30.06	29.97	29.96
20-11	24.21	23.97	23.98
23-5	31.20	30.68	30.66
23-6	31.17	30.35	30.31
23-9	24.55	*24.24*	*24.23*
24-5	23.37	23.29	23.30
24-6	26.45	26.38	26.39
25-5	22.91	23.49	23.40
25-7	25.05	24.65	24.64
25-9	22.59	22.45	22.51
26-2	28.11	27.24	27.21
26-3	26.90	26.23	26.18
26-4	21.70	22.05	22.07
27-9	28.08	26.23	26.19
27-11	25.8	*25.56*	*25.56*
28W	26.00	26.03	26.04
28-6	27.50	*27.00*	*27.00*
28-11	27.00	*26.90*	*26.91*

Trench Sump ID	Baseline ToC-ToL	Oct 2010 ToC-ToL	Apr 2011 ToC-ToL
28-12	26.4	*26.32*	*26.34*
29W	24.95	25.55	25.98
29-5	28.1	*27.60*	*27.60*
29-6	25.33	*25.73*	*25.73*
30-4	23.4	*23.28*	*23.30*
30-8	29.10	*29.92*	29.91
30-10	29.2	*29.06*	29.06
31-2	25.05	25.20	25.20
31-5	23.23	23.04	23.03
31-7	24.78	24.65	24.72
31-9	24.95	26.04	26.06
32E	29.13	28.92	28.92
32-9	28.89	28.97	28.95
35-2	27.04	28.15	28.29
35-6	27.65	27.27	27.29
36-3	20.73	20.76	20.79
36-6	24.00	23.98	23.97
36-7	22.70	22.17	22.19
37-3	22.97	22.54	22.54
37-4	23.37	23.35	23.36
38-4	21.80	21.29	21.29
38-5	21.45	20.95	20.95
39-4	19.02	*19.12*	*19.11*
40-15	21.5	*21.34*	21.32
40-17	28.75	28.22	28.16
40-19	30.30	29.58	29.58
40-22	32.53	31.80	31.80
42-11	28.60	28.49	28.50
42-19	27.70	27.91	27.90
42-20	35.35	*34.96*	*34.96*
43-7	35.95	36.50	36.53
43-9	34.15	34.71	34.74
43-13	30.35	30.66	30.69
44-5	41.45	*40.51*	*40.48*
44-14	34.30	34.25	34.24
44-20	38.50	38.36	38.35
44-22	39.90	39.61	39.39
45-1	29.50	29.22	29.21
46-1	25.90	21.82	21.96
46-2	22.15	19.97	19.86
46-3	18.50	18.52	19.87

Note: Italicized measurements represent dry sumps

Table 6
Maxey Flats Project
2011 Remedial Cap Subsidence Monitoring Control Point Survey

Subsidence Control Point	2004 Elevation	2005 Elevation	2006 Elevation	2007 Elevation	2008 Elevation	2009 Elevation	2010 Elevation	FALL 2010 Elevation	2011 Elevation	Variation From 2004	Variation From 2008	Variation From 2009	Variation From 2010
1	1061.82'	1061.77'	1061.79'	1061.80'	1061.81'	1061.80'	1061.79'	n/a	1061.80'	-0.03'	-0.02'	-0.01'	+0.01'
2	1064.53'	1064.52'	1064.47'	1064.46'	1064.45'	1064.41'	1064.40'	n/a	1064.37'	-0.13'	-0.05'	-0.01'	-0.03'
3	1064.72'	1064.70'	1064.63'	1064.64'	1064.60'	1064.54'	1064.54'	n/a	1064.57'	-0.18'	-0.06'	-0.00'	+0.03'
4	1063.90'	1063.85'	1063.77'	1063.76'	1063.73'	1063.60'	1063.65'	n/a	1063.57'	-0.25'	-0.08'	+0.05'	-0.08'
5	1058.81'	1058.75'	1058.68'	1058.64'	1058.59'	1058.53'	1058.49'	n/a	1058.44'	-0.32'	-0.10'	-0.04'	-0.05'
6	1063.65'	1063.60'	1063.52'	1063.51'	1063.49'	1063.44'	1063.43'	n/a	1063.44'	-0.22'	-0.06'	-0.01'	+0.01'
7	1061.72'	1061.66'	1061.61'	1061.60'	1061.59'	1061.53'	1061.57'	n/a	1061.49'	-0.15'	-0.02'	+0.04'	-0.08'
8	1059.75'	1059.69'	1059.66'	1059.64'	1059.62'	1059.54'	1059.51'	n/a	1059.47'	-0.24'	-0.11'	-0.03'	-0.04'
9	1060.73'	1060.71'	1060.71'	1060.70'	1060.76'	1060.64'	1060.70'	n/a	1060.64'	-0.03'	-0.06'	+0.06'	-0.06'
10	1057.06'	1057.03'	1056.99'	1056.96'	1056.93'	1056.90'	1056.90'	n/a	1057.03'	-0.16'	-0.03'	-0.00'	+0.13'
11	1060.61'	1060.58'	1060.54'	1060.55'	1060.53'	1060.52'	1060.51'	n/a	1060.66'	-0.10'	-0.02'	-0.01'	+0.15'
12	1062.31'	1062.28'	1062.26'	1062.25'	1062.23'	1062.21'	1062.21'	n/a	1062.39'	-0.10'	-0.02'	-0.00'	+0.18'
13	1063.64'	1063.63'	1063.60'	1063.60'	1063.61'	1063.60'	1063.61'	n/a	1063.80'	-0.03'	-0.00'	+0.01'	+0.19'
14	1063.55'	1063.54'	1063.51'	1063.50'	1063.51'	1063.46'	1063.47'	n/a	1063.76'	-0.08'	-0.04'	+0.01'	+0.29'
15	1060.65'	1060.60'	1060.54'	1060.53'	1060.51'	1060.47'	1060.46'	n/a	1060.46'	-0.19'	-0.05'	-0.01'	+0.00'
16	1058.84'	1058.85'	1058.80'	1058.81'	1058.82'	1058.79'	1058.80'	n/a	1058.84'	-0.04'	-0.02'	+0.01'	+0.04'
17	1054.77'	1054.75'	1054.71'	1054.71'	1054.70'	1054.68'	1054.66'	n/a	1054.71'	-0.11'	-0.04'	-0.02'	+0.05'
18	1050.90'	1050.86'	1050.82'	1050.83'	1050.82'	1050.81'	1050.81'	n/a	1050.92'	-0.09'	-0.01'	-0.00'	+0.11'
19	1047.40'	1047.36'	1047.30'	1047.31'	1047.26'	1047.24'	1047.19'	n/a	1047.21'	-0.21'	-0.07'	-0.05'	+0.02'
20	1045.59'	1045.55'	1045.42'	1045.41'	1045.31'	1045.27'	1045.18'	n/a	1045.19'	-0.41'	-0.13'	-0.09'	+0.01'
21	1042.68'	1042.67'	1042.63'	1042.66'	1042.67'	1042.68'	1042.64'	n/a	1042.72'	-0.04'	-0.03'	-0.04'	+0.08'
22	1039.28'	1039.24'	1039.16'	1039.17'	1039.15'	1039.14'	1039.09'	n/a	1039.13'	-0.19'	-0.06'	-0.05'	+0.04'
23	1049.75'	1049.76'	1049.71'	1049.73'	1049.72'	1049.73'	1049.72'	n/a	1049.73'	-0.03'	-0.00'	-0.01'	+0.01'
24	1053.08'	1053.06'	1052.99'	1052.97'	1052.94'	1052.92'	1052.90'	n/a	1052.90'	-0.18'	-0.04'	-0.02'	+0.00'
25	1052.27'	1052.25'	1052.21'	1052.22'	1052.18'	1052.16'	1052.13'	n/a	1052.16'	-0.14'	-0.05'	-0.03'	+0.03'
26	1048.32'	1048.30'	1048.27'	1048.26'	1048.24'	1048.26'	1048.22'	n/a	1048.24'	-0.10'	-0.02'	-0.04'	+0.02'
27	1045.39'	1045.35'	1045.29'	1045.28'	1045.27'	1045.25'	1045.23'	n/a	1045.22'	-0.16'	-0.04'	-0.02'	-0.01'
28	1059.72'	1059.75'	1059.68'	1059.66'	1059.63'	1059.66'	1059.70'	n/a	1059.73'	-0.02'	+0.07'	+0.04'	+0.03'
29					1061.42'	1061.34'	1061.30'	n/a	1061.24'		-0.12'	-0.04'	-0.06'
30					1063.93'	1063.85'	1063.85'	n/a	1063.80'		-0.08'	-0.00'	-0.05'
31					1063.22'	1063.17'	1063.13'	n/a	1063.26'		-0.09'	-0.04'	+0.13'
32					1057.30'	1057.24'	1057.20'	n/a	1057.22'		-0.10'	-0.04'	+0.02'
33					1061.86'	1061.80'	1061.79'	1062.19'	1062.12'		-0.07'	-0.01'	-0.07'
34					1063.05'	1062.98'	1062.96'	n/a	1062.93'		-0.09'	-0.02'	-0.03'

NOTE: POINTS 29-34 WERE ADDED BY THE COMMONWEALTH OF KENTUCKY IN 2008
NOTE: POINT 33 WAS REPAIRED AND REMEASURED IN THE FALL OF 2010

Table 7
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 3.5

6/22/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
RP S9B	747.98	1.79	747.97	Brass Monument
Reset of 3.5A		1.80	747.97	Lag in Pole
RP S9A				Brass Monument
			747.97	Average

Level Elevation: 749.77
Tag Line Elevation: 747.97

Initial measurement cross section 3.5 since drain rework fall 2010

Measurement Station	Width	Rod Reading	Area	Elevation
0	3.00	0.00	0.00	747.97
6	4.00	0.98	3.92	746.99
8	2.00	1.20	2.40	746.77
10	2.00	1.13	2.26	746.84
12	2.00	1.19	2.38	746.78
14	2.00	1.51	3.02	746.46
16	2.00	1.79	3.58	746.18
18	2.00	2.10	4.20	745.87
20	2.00	2.14	4.28	745.83
22	2.00	2.22	4.44	745.75
24	2.00	1.97	3.94	746.00
26	2.00	1.53	3.06	746.44
28	2.00	1.15	2.30	746.82
30	2.00	1.09	2.18	746.88
32	1.00	1.18	1.18	746.79

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 5.0

5/12/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S7 A	771.61	2.49		Brass
MS A		5.08	769.02	Rebar
MS B		5.05	769.05	Rebar
			769.04	Average

Level Elevation: 774.10
Tag Line Elevation: 769.04

Measurement Station	Width	Rod Reading	Area	Elevation
0	1.00	1.12	1.12	767.92
2	2.00	2.24	4.48	766.80
4	2.50	2.88	7.20	766.16
7	1.75	4.38	7.67	764.66
7.5	0.50	4.64	2.32	764.40
8	1.25	4.96	6.20	764.08
10	2.00	6.38	12.76	762.66
12	2.00	5.96	11.92	763.08
14	2.00	6.06	12.12	762.98
16	2.00	5.84	11.68	763.20
18	2.00	4.26	8.52	764.78
20	2.00	3.82	7.64	765.22
22	2.00	2.78	5.56	766.26
24	2.00	3.16	6.32	765.88
26	2.00	2.26	4.52	766.78
28	1.75	0.90	1.58	768.14
29.5	0.75	0.10	0.08	768.94

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 5.5

5/12/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S7-B	770.71	3.69		Brass
M 5.5 S		2.43	771.97	Rebar
M 5.5 N		2.41	771.99	Rebar
			771.98	Average

Level Elevation: 774.40
Tag Line Elevation: 771.98

Measurement Station	Width	Rod Reading	Area	Elevation
0	1.00	0.90	0.90	771.08
2	2.00	3.10	6.20	768.88
4	3.00	4.50	13.50	767.48
6	3.00	5.78	17.34	766.20
8	3.00	6.67	20.01	765.31
10	3.00	6.90	20.70	765.08
12	2.00	6.72	13.44	765.26
14	2.00	6.92	13.84	765.06
16	2.00	7.14	14.28	764.84
18	2.00	4.68	9.36	767.30
20	1.50	2.94	4.41	769.04
21	1.25	2.69	3.36	769.29
22.5	0.75	2.28	1.71	769.70

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 6.0

5/12/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
RP 6A	782.54	5.96		Brass
M6A S		6.19	782.31	Rebar
M6B N		5.36	783.14	Rebar
			782.73	Average

Level Elevation: 788.50
Tag Line Elevation: 782.73

Measurement Station	Width	Rod Reading	Area	Elevation
0	0.50	1.58	0.79	781.15
1	1.00	1.86	1.86	780.87
2	1.50	2.28	3.42	780.45
3	1.50	2.74	4.11	779.99
4	1.50	3.26	4.89	779.47
5	2.00	5.84	11.68	776.89
6	1.50	8.10	12.15	774.63
8	2.00	8.42	16.84	774.31
10	2.00	8.76	17.52	773.97
12	2.00	8.73	17.46	774.00
14	2.00	6.89	13.78	775.84
16	3.50	7.76	27.16	774.97
21	2.50	0.25	0.63	782.48

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 6.5

5/12/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S6A	782.54	5.96		Brass
M6.5S		4.66	783.84	Rebar
M6.5N		4.68	783.82	Rebar
			783.83	Average

Level Elevation: 788.50
Tag Line Elevation: 783.83

Measurement Station	Width	Rod Reading	Area	Elevation
0	1.00	1.22	1.22	782.61
2	2.00	2.02	4.04	781.81
4	2.00	2.82	5.64	781.01
6	2.00	3.44	6.88	780.39
8	2.00	5.54	11.08	778.29
10	2.00	5.34	10.68	778.49
12	2.00	5.00	10.00	778.83
14	2.00	4.83	9.66	779.00
16	2.00	4.80	9.60	779.03
18	1.25	1.40	1.75	782.43
18.5	0.25	0.98	0.25	782.85

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 6.75

5/12/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
RP	782.54	11.38		Brass
M6.75S		1.14	792.78	Rebar
M6.75N		1.19	792.73	Rebar
			792.76	Average

Level Elevation: 793.92
Tag Line Elevation: 792.76

Measurement Station	Width	Rod Reading	Area	Elevation
0	0.50	0.60	0.30	792.16
1	1.00	1.43	1.43	791.33
2	1.50	2.38	3.57	790.38
4	2.00	2.24	4.48	790.52
6	2.00	4.04	8.08	788.72
8	2.00	3.98	7.96	788.78
10	2.00	3.92	7.84	788.84
12	2.00	3.48	6.96	789.28
14	3.00	2.82	8.46	789.94
18	2.00	1.60	3.20	791.16

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 8.0

5/31/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
MS A		5.08	929.34	Rebar
MS B		5.05	929.22	Rebar
			929.28	Average

Tag Line Elevation: 929.28

Measurement Station	Width	Rod Reading	Area	Elevation
0	1.00	1.80	1.80	927.48
2	2.00	2.76	5.52	926.52
4	2.00	2.36	4.72	926.92
6	2.00	3.04	6.08	926.24
8	2.00	3.06	6.12	926.22
10	2.00	2.24	4.48	927.04
12	2.00	3.62	7.24	925.66
14	2.00	5.98	11.96	923.30
16	2.00	5.54	11.08	923.74
18	2.00	6.86	13.72	922.42
20	2.00	7.56	15.12	921.72
22	2.00	7.74	15.48	921.54
24	2.00	3.42	6.84	925.86
26	2.00	3.95	7.90	925.33
28	1.35	3.05	4.1175	926.23
28.7	0.35	3.35	1.1725	925.93

Measurements by MFP staff

Table 7 (continued)
Maxey Flats Project
Erosion Monitoring – East Drain
2011

Cross Section 12.0

5/11/2011

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S2A	988.82	2.71	929.34	Brass
M12A		3.43	929.22	Rebar
S2B		3.43	929.28	Rebar
			929.25	Average

Level Elevation: 991.53
Tag Line Elevation: 929.25

Measurement Station	Width	Rod Reading	Area	Elevation
0	1.00	1.80	1.80	927.48
2	2.00	2.76	5.52	926.52
4	2.00	2.36	4.72	926.92
6	2.00	3.04	6.08	926.24
8	2.00	3.06	6.12	926.22
10	2.00	2.24	4.48	927.04
12	2.00	3.62	7.24	925.66
14	2.00	5.98	11.96	923.30
16	2.00	5.54	11.08	923.74
18	2.00	6.86	13.72	922.42
20	2.00	7.56	15.12	921.72
22	2.00	7.74	15.48	921.54
24	2.00	3.42	6.84	925.86
26	2.00	3.95	7.90	925.33
28	1.35	3.05	4.12	926.23
28.7	0.35	3.35	1.17	925.93

Measurements by MFP staff