ENERGY AND ENVIRONMENT CABINET

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Department for Environmental Protection
Division of Waste Management
Maxey Flats Project
2597 Maxey Flat Rd.
Hillsboro, KY 41049
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August 20, 2012

Ms. Pam Scully
Region IV, USEPA
Sam Nunn Federal Center
61 Forsyth Street, SW
Atlanta, GA 30303-8960
Subject: Maxey Flats Project 2012 Semi-Annual Report

Dear Ms. Scully:

The Commonwealth of Kentucky hereby submits the Semi-Annual Report for 2012 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
Environmental Control Supervisor
Maxey Flats Project

Enclosure

c: Derek Matory, USEPA
Jon Richards, USEPA
Vijendra Kothari, USDOE
Michelle Miller, Stoller, Corp.
Bennie Underwood, de maximis, inc.
Nicole Barkasi, de maximis, inc.
Tim Hubbard, EEC, Division of Waste Management
Shawn Cecil, EEC, Superfund Branch

MAXEY FLATS PROJECT

2012 SEMI-ANNUAL REPORT

August 20, 2012

Kentucky Division of Waste Management
Superfund Branch
Maxey Flats Project

Maxey Flats Project (MFP) Semi-annual Report
Reporting Period: January 2012 – June 2012

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 2012 through June 2012 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 1,414 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 2012. Table 2 contains a summary of the data for 2011 and the first half of 2012.

Perimeter Wells

Two quarterly level measurements of 15 Perimeter Wells and one round of sampling of five Perimeter Wells were completed by Maxey Flats staff in January and April 2012. 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 2011 through April 2012. Table 4 summarizes the tritium results for the same period.

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 2011 and April 2012. 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 72% 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 exceeding pre-pump level by 0.17ft.

Both Sumps 46-1 and 46-2 have exceeded 10% loss of freeboard but appear to be holding steady at 16.9% and 12.1% respectively. Both sumps remain several feet below pre-pump level.

Subsidence Monitoring (PSVP 2.2)

Mitch Estes Land Surveying, Morehead, KY completed the 2012 subsidence survey on June 1st and it was completed on June 4th. Comparing the 2012 control point elevation measurements to 2004 baseline measurements indicates variation ranges from 0.08″ to -0.48″. 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 -0.02″ to -0.11″. Table 6 contains subsidence monitoring results. The IMP Work Plan does not prescribe Action Levels for subsidence monitoring.

Erosion Monitoring (PSVP 2.1)

As detailed in the PSVP, Section 2.0 – Monitoring of Physical Conditions, erosion monitoring of the East Drain is required semi-annually. To accomplish this task the MFP has been using the USGS Erosion Monitoring methodology and monuments as described in PSVP, Appendix E PSVP-03 since Certification of Completion. To improve erosion monitoring coverage in 2010 the MFP begin collecting erosion data as described in PSVP, Appendix E PSVP-04 (a.k.a. Shaw Methodology) in addition to the USGS Methodology. Table 7 contains data obtained from both surveys performed in the East Drainage Channel.

The only cross section identified to have significant erosion impact during the Spring 2012 monitoring is USGS X-Section 6.0. X-Section 6 as first observed in the Fall of 2011 continues to receive slumping from the south hill side. This slumping has shortened the cross section measurement length by a total of 1.65 feet since the spring of 2011. An inspection of the slump indicates that it is not occurring as a result of IRP cap runoff but is likely the result of natural erosion forces on a steep shale slope. No other acute erosion was observed or measured in the East Drain.

Inspections, Maintenance and Repair Activities Relative to the IRP

Inspections

Inspections were conducted in accordance with the Operations and Maintenance Requirements Summary (O&M) and are contained in electronic format within Appendix B. This includes: (26) Weekly/Daily Inspections, (12) Twice-a-Month Inspections, (6) Monthly Inspections, (2) Quarterly Inspections, (1) Semi-annual Inspection and (1) 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 11 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

Based on the visual inspection and air lance evaluation from the annual inspection, a total of 57 repairs were made to the geomembrane liner during this reporting period. 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 1,615 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 2012

Location	Minimum Activity (pCi/ml)	Date	Maximum Activity (pCi/ml)	Date	Average Activity (pCi/ml)	Sampling Period
ISCO 122A	-0.27	4/24/12	0.28	6/19/12	0.04	1/1-6/30/12
ISCO 106	-0.03	2/27/12	13.35	4/25/12	4.58	1/1-6/30/12
ISCO 122C	0.53	4/28/12	3.00	4/22/12	1.21	1/1-6/30/12
ISCO 102D	0.09	1/24/12	2.10	4/22/12	0.77	1/1-6/30/12
ISCO 103E	-0.04	1/4/12	2.71	4/4/12	0.77	1/1-6/30/12
ISCO EDB	-0.14	4/25/12	2.22	3/15/12	0.72	1/1-6/30/12
ISCO 143	-0.19	5/16/12	0.28	3/12/12	0.07	1/1-6/30/12
ISCO 144	5.65	5/4/12	173.95	6/10/12	79.43	1/1-6/30/12
ISCO C107	6.32	2/29/12	30.55	4/3/12	16.05	1/1-6/30/12

Table 2
Maxey Flats Project
Alluvial Monitoring Well Data
February 2011 – April 2012

Well ID	Date	Tritium Activity (pCi/ml)	Error +/-	Specific Conductivity (μΩ)	pH	Temperature [F]
AW-1	02/17/11	2.10	0.14	301	7.00	57.7
AW-1	04/20/11	4.16	0.17	275	6.60	56.5
AW-1	07/22/11	4.30	0.17	260	6.66	62.4
AW-1	10/17/11	1.59	0.13	261	6.91	58.7
AW-1	01/19/12	4.06	0.17	250	6.75	58.5
AW-1	04/05/12	4.78	0.18	250	6.63	55.3
AW-6	10/17/11	0.14	0.10	296	6.16	62.4
AW-7	02/17/11	5.12	0.18	148	5.96	56.1
AW-7	04/20/11	5.02	0.18	187	6.00	54.8
AW-7	07/22/11	5.69	0.19	155	5.90	59.6
AW-7	10/17/11	5.49	0.18	138	5.90	59.2
AW-7	01/19/12	4.83	0.18	160	6.07	57.3
AW-7	04/05/12	5.26	0.19	160	5.84	55.0
AW-10	10/17/11	0.25	0.10	93	5.66	62.4
AW-12	10/17/11	0.26	0.10	371	6.37	60.8

Note: Measurements conducted by Maxey Flats Project staff

Table 3
Maxey Flats Project
Perimeter Monitoring Well Elevation Data
July 2011 - April 2012

Monitoring Well	LS Elevation* (ft)	Water Elev 7/26/11 (FT)	Water Elev 10/18/11 (ft)	Water Elev 1/10/12 (ft)	Water Elev 4/9/12 (ft)
ESI-1	**1050.70**	1036.84	1036.51	1036.15	1036.47
ESI-2	**1047.50**	1039.00	1039.30	1038.85	1039.05
ESI-4	**1048.00**	1038.42	1038.70	1038.31	1038.45
ESI-5	**1045.10**	1037.46	1037.45	1037.23	1037.53
ESI-12	**1049.60**	1032.10	1031.58	1031.88	1031.75
ESI-19	**1050.00**	1036.66	1037.05	1036.50	1036.74
N2B	**1044.50**	1041.73	1042.11	1041.55	1041.78
UE-2	**1050.20**	1036.52	1036.93	1036.41	1036.62
UE-11	**1051.30**	1036.33	1036.58	1036.32	1036.55
UF-1	**1050.10**	1036.81	1036.83	1037.54	1036.88
UF-2	**1046.00**	1040.51	1040.92	1040.34	1040.63
UF-5	**1048.90**	1040.40	1040.27	1043.98	1044.39
UF-10a	**1057.74**	1021.82	1021.03	1021.90	1022.52
UF-37	**1048.20**	1037.56	1038.98	1036.91	1037.09
UF-45	**1054.20**	1036.53	1040.29	1036.12	1036.42
UK-1	**1046.10**	1040.36	1040.63	1037.11	1040.32

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

Measurements conducted by Maxey Flats Project staff

Table 4
Maxey Flats Project
USGS Monitoring Well Tritium Data
April 2011 - April 2012

Well ID	Tritium Activity 4/28/11		Tritium Activity 10/21/11		Tritium Activity 4/12/12	
	Activity (pCi/ml)	Error +/-	Activity (pCi/ml)	Error +/-	Activity (pCi/ml)	Error +/-
N2B	229	1	115,201	22	3,023	4
UE-2	231,214	32	178,757	28	181,068	29
UF-2	125,279	23	144,550	25	113,963	23
UF-10a	27,484	11	31,715	12	29,946	12
UK-1	88,388	20	210,210	30	102,435	22

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

Table 5
Maxey Flats Project
Trench Sump Leachate Measurements
October 2011 and April 2012

Trench Sump ID	Baseline ToC - ToL	Oct 2011 Toc-ToL	Apr 2012 Toc-ToL
1-2	20.80	19.99	20.05
2-6	21.45	20.06	20.10
3-2	23.00	23.10	23.14
3-4	15.63	16.12	16.15
7-4	15.28	5.39	5.25
7-5	18.43	20.18	20.29
7-7	19.33	21.30	21.40
10-7	27.83	27.21	27.20
10-8	27.51	27.68	27.66
10-9	26.06	24.15	24.08
11S-5	20.92	21.01	21.10
11S-6	24.03	24.72	24.76
15-4	26.68	26.62	26.62
15-5	24.14	23.11	23.04
15-6	28.88	27.95	27.92
15-8	22.21	22.65	22.69
18-6	30.41	30.08	30.08
18-9	22.00	21.90	21.92
19-5	28.85	28.68	28.64
19-6	23.50	22.95	22.96
19-7	30.80	29.53	29.49
20W	26.50	28.22	28.22
20-7	29.85	29.79	29.84
20-9	30.06	29.96	29.95
20-11	24.21	23.96	23.94
23-5	31.20	30.64	30.64
23-6	31.17	30.29	30.29
23-9	24.55	*24.23*	*24.23*
24-5	23.37	23.30	23.30
24-6	26.45	26.37	26.37
25-5	22.91	23.41	23.50
25-7	25.05	24.64	24.60
25-9	22.59	22.57	22.45
26-2	28.11	27.19	27.16
26-3	26.90	26.18	26.14
26-4	21.70	22.09	22.29
27-9	28.08	26.17	26.12
27-11	25.80	*25.58*	*25.58*
28W	26.00	26.06	26.06
28-6	27.50	*27.00*	*27.00*
28-11	27.00	*26.92*	*26.92*
28-12	26.40	*26.38*	*26.38*
29W	24.95	25.74	25.95
29-5	28.10	*27.63*	*27.63*
29-6	25.33	*25.73*	*25.73*
30-4	23.40	*23.29*	*23.29*
30-8	29.10	*29.91*	*29.91*
30-10	29.20	29.10	29.10
31-2	25.05	25.21	25.21
31-5	23.23	23.06	23.08
31-7	24.78	24.75	24.80
31-9	24.95	26.14	26.15
32-E	29.13	28.92	28.90
32-9	28.89	28.97	28.97
35-2	27.04	28.19	28.26
35-6	27.65	27.29	27.28
36-3	20.73	20.79	20.80
36-6	24.00	23.98	23.97
36-7	22.70	22.19	22.19
37-3	22.97	22.51	22.51
37-4	23.37	23.34	23.33
38-4	21.80	21.25	21.26
38-5	21.45	20.92	20.92
39-4	19.02	*19.11*	*19.11*
40-15	21.50	*21.32*	*21.32*
40-17	28.75	28.13	28.06
40-19	30.30	29.58	29.58
40-22	32.53	31.81	31.81
42-11	28.60	28.50	28.50
42-19	27.70	27.89	27.93
42-20	35.35	*34.96*	*34.96*
43-7	35.95	36.59	36.59
43-9	34.15	34.77	34.78
43-13	30.35	30.69	30.71
44-5	41.45	*40.48*	*40.43*
44-14	34.30	34.24	34.24
44-20	38.50	38.33	38.33
44-22	39.90	39.52	39.66
45-1	29.50	29.20	29.20
46-1	25.90	21.87	21.96
46-2	22.15	19.68	19.78
46-3	18.50	18.79	19.93

Measurements by Maxey Flats Project staff

Italicized numbers denote dry sumps; most recent manual measurement value is reported

Table 6
Maxey Flats Project
2012 Remedial Cap Subsidence Monitoring Control Point Survey

Subsidence Control Point	2004 Elevation (ft)	2005 Elevation (ft)	2006 Elevation (ft)	2007 Elevation (ft)	2008 Elevation (ft)	2009 Elevation (ft)	2010 Elevation (ft)	FALL 2010** Elevation (ft)	2011 Elevation (ft)	2012 Elevation (ft)
1	1061.82'	1061.77'	1061.79'	1061.80'	1061.81'	1061.80'	1061.79'	n/a	1061.80'	1061.87'
2	1064.53'	1064.52'	1064.47'	1064.46'	1064.45'	1064.41'	1064.40'	n/a	1064.37'	1064.48'
3	1064.72'	1064.70'	1064.63'	1064.64'	1064.60'	1064.54'	1064.54'	n/a	1064.57'	1064.63'
4	1063.90'	1063.85'	1063.77'	1063.76'	1063.73'	1063.60'	1063.65'	n/a	1063.57'	1063.73'
5	1058.81'	1058.75'	1058.68'	1058.64'	1058.59'	1058.53'	1058.49'	n/a	1058.44'	1058.55'
6	1063.65'	1063.60'	1063.52'	1063.51'	1063.49'	1063.44'	1063.43'	n/a	1063.44'	1063.53'
7	1061.72'	1061.66'	1061.61'	1061.60'	1061.59'	1061.53'	1061.57'	n/a	1061.49'	1061.65'
8	1059.75'	1059.69'	1059.66'	1059.64'	1059.62'	1059.54'	1059.51'	n/a	1059.47'	1059.59'
9	1060.73'	1060.71'	1060.71'	1060.70'	1060.76'	1060.64'	1060.70'	n/a	1060.64'	1060.81'
10	1057.06'	1057.03'	1056.99'	1056.96'	1056.93'	1056.0'	1056.90'	n/a	1057.03'	1056.91'
11	1060.61'	1060.58'	1060.54'	1060.55'	1060.53'	1060.52'	1060.51'	n/a	1060.66'	1060.48'
12	1062.31'	1062.28'	1062.26'	1062.25'	1062.23'	1062.21'	1062.21'	n/a	1062.39'	1062.22'
13	1063.64'	1063.63'	1063.60'	1063.60'	1063.61'	1063.60'	1063.61'	n/a	1063.80'	1063.58'
14	1063.55'	1063.54'	1063.51'	1063.50'	1063.51'	1063.46'	1063.47'	n/a	1063.76'	1063.56'
15	1060.65'	1060.60'	1060.54'	1060.53'	1060.51'	1060.47'	1060.47'	n/a	1060.46'	1060.38'
16	1058.84'	1058.85'	1058.80'	1058.81'	1058.82'	1058.79'	1058.80'	n/a	1058.84'	1058.70'
17	1054.77'	1054.75'	1054.71'	1054.71'	1054.70'	1054.68'	1054.66'	n/a	1054.71'	1054.67'
18	1050.90'	1050.86'	1050.82'	1050.83'	1050.82'	1050.81'	1050.81'	n/a	1050.92'	1050.85'
19	1047.40'	1047.36'	1047.30'	1047.31'	1047.26'	1047.24'	1047.19'	n/a	1047.21'	1047.13'
20	1045.59'	1045.55'	1045.42'	1045.41'	1045.31'	1045.27'	1045.18'	n/a	1045.19'	1045.11'
21	1042.68'	1042.67'	1042.63'	1042.66'	1042.67'	1042.68'	1042.64'	n/a	1042.72'	1042.57'
22	1039.28'	1039.24'	1039.16'	1039.17'	1039.15'	1039.14'	1039.09'	n/a	1039.13'	1039.03'
23	1049.75'	1049.76'	1049.71'	1049.73'	1049.72'	1049.73'	1049.72'	n/a	1049.73'	1049.70'
24	1053.08'	1053.06'	1052.99'	1052.97'	1052.94'	1052.92'	1052.90'	n/a	1052.90'	1052.81'
25	1052.27'	1052.25'	1052.21'	1052.22'	1052.18'	1052.16'	1052.13'	n/a	1052.16'	1051.97'
26	1048.32'	1048.30'	1048.27'	1048.26'	1048.24'	1048.26'	1048.22'	n/a	1048.24'	1048.21'
27	1045.39'	1045.35'	1045.29'	1045.28'	1045.27'	1045.25'	1045.23'	n/a	1045.22'	1045.21'
28	1059.72'	1059.75'	1059.68'	1059.66'	1059.63'	1059.66'	1059.70'	n/a	1059.73'	1059.61'
29*					1061.42'	1061.34'	1061.30'	n/a	1061.24'	1061.39'
30*					1063.93'	1063.85'	1063.85'	n/a	1063.80'	1063.91'
31*					1063.22'	1063.17'	1063.13'	n/a	1063.26'	1063.17'
32*					1057.30'	1057.24'	1057.20'	n/a	1057.22'	1057.19'
33*					1061.86'	1061.80'	1061.79'	1062.19'	1062.12'	1061.83'
34*					1063.05'	1062.98'	1062.96'	n/a	1062.93'	1063.01'
									AVERAGE	

* points 29-34 were added by the Commonwealth of Kentucky in 2008

** point 33 was repaired and re-measured in Fall of 2010

Table 7
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 3.5

3/20/2012

Reference/ Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
RP S9B	747.98	1.78	747.97	Brass Monument
Reset of 3.5A		1.79	747.97	Lag in Pole
S9A		2.43		Brass Monument
			747.97	Average

Level Elev = 749.76

Tag Line Elev = 747.97

X-Section 3.5 only cross section measured from Right to Left looking up drain

Measurement Station	Width	Rod Reading	Area	Elevation
0	3	0.00	0.00	747.97
6	4	0.98	3.92	746.99
8	2	1.08	2.16	746.89
10	2	1.25	2.50	746.72
12	2	1.36	2.72	746.61
14	2	1.64	3.28	746.33
16	2	1.89	3.78	746.08
18	2	2.12	4.24	745.85
20	2	2.22	4.44	745.75
22	2	2.28	4.56	745.69
24	2	2.14	4.28	745.83
26	2	1.70	3.40	746.27
28	2	1.34	2.68	746.63
30	2	1.19	2.38	746.78
32	1	1.10	1.10	746.87
			45.44	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 5.0

3/20/2012

Reference/ Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S7 B	770.71	2.6		Brass
M5 A		4.35	768.96	Rebar
M5 B		4.32	768.99	Rebar
			768.98	Average

Level Elev = 773.31
Tag Line Elev = 768.98

Measurement Station	Width	Rod Reading	Area	Elevation
0	1	1.00	1.00	767.98
2	2.5	2.34	5.85	766.64
5	2	3.08	6.16	765.90
6	1	3.70	3.70	765.28
7	1	4.49	4.49	764.49
8	1.5	6.40	9.60	762.58
10	2	6.79	13.58	762.19
12	2	6.68	13.36	762.30
14	2	6.18	12.36	762.80
16	1.5	6.16	9.24	762.82
17	1	4.76	4.76	764.22
18	1.5	4.34	6.51	764.64
20	3	3.84	11.52	765.14
24	3	3.32	9.96	765.66
26	2	2.23	4.46	766.75
28	1.75	0.86	1.51	768.12
29.5	0.75	1.00	0.75	767.98
			118.81	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 5.5

3/20/2012

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S7 B	770.71	2.6		Brass
M 5.5 S		1.32	771.99	Rebar
M 5.5 N		1.32	771.99	Rebar
			771.99	Average

Level Elev = 773.31
Tag Line Elev = 771.99

Measurement Station	Width	Rod Reading	Area	Elevation
0	1	0.75	0.75	771.24
2	2	3.11	6.22	768.88
4	2	4.50	9.00	767.49
6	2	5.92	11.84	766.07
8	2	6.81	13.62	765.18
10	2	7.04	14.08	764.95
12	2	7.02	14.04	764.97
14	2	7.09	14.18	764.90
16	2	7.30	14.60	764.69
18	2	6.76	13.52	765.23
20	1.5	2.97	4.46	769.02
21	1	2.63	2.63	769.36
22	0.5	0.76	0.38	771.23
			119.32	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 6.0

3/21/2012

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
*S6A	782.14	12.19		Brass
RP6A		11.7	782.63	lag in tree
Yellow		11.69	782.64	Rebar
			782.64	Average
M6A		12.44	781.89	Rebar

* Fall 2011 S6A elevation decreased 0.40' due to South Hillside Slump

Level Elev = 794.33

Tag Line Elev = 782.64

Measurement Station	Width	Rod Reading	Area	Elevation
0	0.5	1.58	0.79	781.06
1	1	1.99	1.99	780.65
2	1	2.44	2.44	780.20
3	1	3.19	3.19	779.45
4	1	7.14	7.14	775.50
5	1	7.78	7.78	774.86
6	1.5	8.46	12.69	774.18
8	2	8.35	16.70	774.29
10	1.75	8.54	14.95	774.10
11.5	1.5	8.43	12.65	774.21
13	1.5	5.93	8.90	776.71
14.5	1.5	4.43	6.65	778.21
16	1.75	2.37	4.15	780.27
18	2.1	0.04	0.08	782.60
18.1	0.06	0.04	0.00	782.60
			100.08	

Measurements by Maxey Flats Project staff

Lost 1.65 ft. of total width to continued slumping

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 6.5

3/21/2012

Reference / Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S6A	782.14	12.19		Brass
M6.5S		10.92	783.41	Rebar
M6.5N		11.09	783.24	Rebar Reset
			783.33	Average

Level Elev = 794.33
Tag Line Elev = 783.33

Measurement Station	Width	Rod Reading	Area	Elevation
0	1	1.22	1.22	782.11
2	2	1.92	3.84	781.41
4	2	2.78	5.56	780.55
6	2	4.41	8.82	778.92
8	2	5.22	10.44	778.11
10	2	5.28	10.56	778.05
12	2	5.62	11.24	777.71
14	2	5.80	11.60	777.53
16	2	3.55	7.10	779.78
18	1.25	1.25	1.56	782.08
18.5	0.25	0.58	0.15	782.75
			72.09	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 6.75	Reference/ Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
3/21/2012	RP-S6A	782.14	12.19		Brass
	M6.75S		0.25	794.08	Rebar/reset >1ft
782.54	M6.75N		0.25	794.08	Rebar/reset>1ft
				794.08	Average

Level Elev = 11.39

Tag Line Elev = 794.08

Fall 2011 established new measurement points approximately 0.8' higher and 1.5' further apart. Resulting in a calculated area increase of 15.60 square ft.

Measurement Station	Width	Rod Reading	Area	Elevation
0	1	0.98	0.98	793.10
2	2	2.90	5.80	791.18
4	2	5.21	10.42	788.87
6	2	5.17	10.34	788.91
8	2	5.45	10.90	788.63
10	2	5.12	10.24	788.96
12	2	5.01	10.02	789.07
14	2	4.24	8.48	789.84
16	2	2.38	4.76	791.70
18	1.75	1.28	2.24	792.80
19.5	0.75	0.51	0.38	793.57
			74.56	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 8.0

3/13/2012

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

Level Elev = 0
Tag Line Elev = 929.28

Measurement Station	Width	Rod Reading	Area	Elevation
0	1	3.32	3.32	925.96
2	2	4.25	8.50	925.03
4	2	3.85	7.70	925.43
6	2	7.19	14.38	922.09
8	2	7.35	14.70	921.93
10	2	7.17	14.34	922.11
12	2	5.80	11.60	923.48
14	2	5.85	11.70	923.43
16	2	5.00	10.00	924.28
18	2	2.52	5.04	926.76
20	2	2.74	5.48	926.54
22	2	3.44	6.88	925.84
24	2	2.39	4.78	926.89
26	2	2.48	4.96	926.80
28	1.4	2.71	3.66	926.57
28.7	0.4	2.00	0.70	927.28
			127.74	

Measurements by Maxey Flats Project staff

Table 7 (continued)
Maxey Flats Project
2012 Erosion Monitoring – East Drain

Cross Section 12

3/13/2012

Reference/ Measurement Monument	Reference Monument Elevation	Rod Reading	Measurement Monument Elevation	Description
S2A	988.82	4.74	988.82	Brass
M12A		5.47	988.10	Tree Lag
S2B		5.47	988.10	Brass
			988.10	Average

Level Elev = 993.56
Tag Line Elev = 988.10

Measurement Station	Width	Rod Reading	Area	Elevation
0	3	2.47	7.41	985.63
6	4	3.17	12.68	984.93
8	2	3.19	6.38	984.91
10	2	3.38	6.76	984.72
12	2	3.73	7.46	984.37
14	2	4.15	8.30	983.95
16	2	4.60	9.20	983.50
18	2	6.35	12.70	981.75
20	2	6.51	13.02	981.59
22	2	4.38	8.76	983.72
24	2	4.00	8.00	984.10
26	2	4.64	9.28	983.46
28	2	4.33	8.66	983.77
30	2	5.07	10.14	983.03
32	2	3.65	7.30	984.45
34	2	3.30	6.60	984.80
36	2	2.95	5.90	985.15
38	2	3.29	6.58	984.81
40	2	2.68	5.36	985.42
42	2	2.64	5.28	985.46
44	1.6	1.93	3.09	986.17
45.2	0.6	1.81	1.09	986.29
			169.94	

Measurements by Maxey Flats Project staff