ARKEMA

January 11, 2006

Mr. Matt McClincy
Oregon Department of Environmental Quality
Northwest Region
2020 S.W. Fourth Avenue
Suite 400
Portland, Oregon 97201-4987

Subject: Monthly Progress Report for December 2005, Hexavalent Chromium Reduction Interim Remedial Measure (IRM), Arkema Inc., Portland Facility

Dear Mr. McClincy:

The Hexavalent Chromium Reduction IRM Work Plan, dated June 1, 2005 (Work Plan) requires submittal of monthly progress reports summarizing the status of implementation of the IRM. The following progress report summarizes activities completed in December 2005.

Actions Completed in December 2005

Groundwater Performance Monitoring

During this reporting period, ERM completed the first monthly performance-monitoring event following the second phase of injections. Field measurements of groundwater parameters are presented in Table 1. Laboratory analytical results are presented in Table 2.

Changes to Work Plan Scope

No changes to the scope of work were proposed or authorized during this reporting period.

Actions Scheduled for January 2006

The second monthly performance monitoring of Phase 2 will commence on or about January 4, 2006. No other activities are planned for January 2006.

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Groundwater Potentiometric Surface

Groundwater elevations were measured during the December 2005 performance-monitoring event. At the time of this report, groundwater elevation contour maps had not been drafted. Groundwater elevation contour maps for the 1st monthly performance-monitoring event of Phase II will be provided in the January 2006 Progress Report.

Groundwater Laboratory Parameters

Groundwater laboratory parameters for the baseline, 1st, 2nd, and 3rd monthly performance-monitoring events of Phase I, and the 1st monthly performance-monitoring event of Phase II are presented in Table 1.

Groundwater Field Parameters

Groundwater field parameters for the baseline, 1st, 2nd, and 3rd monthly performance-monitoring events of Phase I, and the 1st monthly performance-monitoring event of Phase II are presented in Table 2.

If you have any questions or require additional information, please feel free to contact me at (503) 225-7210.

Sincerely.

Arkema Inc.

Larry D. Patterson, P.E.
Environmental Manager

Attachment

cc: Todd Slater, Arkema, Inc.
William Park, ERM
Sean Sheldrake, EPA

Table 1
Field Parameters Measured in Groundwater
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	pH	Temp. (deg. C)	EC (mS/cm)	ORP (mV)	DO (mg O_2/L)	Turbidity (NTU)	H_2S[1] (mg/L)	Observations of Purge Water
Shallow Zone										
MWA-6r	MWA-6r-050505	5/5/2005	8.18	16.93	11.84	-22.7	0.25	9.5	NA	Dark red brown
	MWA-6r-071205	7/12/2005	8.67	17.73	12.78	-65.4	0.30	18.8	<0.05	Dark red brown
	MWA-6r-081505	8/15/2005	8.12	18.87	15.03	-145.1	0.44	18.2	0.0	Dark red brown
	MWA-6r-090905	9/9/2005	8.02	16.79	14.29	-97.0	3.51	5.6	NA	Dark orange brown
	MWA-6r-120705	12/7/2005	7.71	14.56	14.11	-122.8	0.35	0.6	NA	Yellow brown
MWA-18	MWA-18-050505	5/5/2005	6.81	16.93	2.53	-61.0	0.21	72.9	NA	Black
	MWA-18-071405	7/14/2005	6.74	16.71	3.93	14.1	1.52	91.1	0.0	Dark red brown, brown precipitate
	MWA-18-081605	8/16/2005	6.56	19.16	2.63	-33.0	6.84	31.5	0.0	Yellow brown with brown precipitate
	MWA-18-091205	9/12/2005	6.78	17.78	2.26	-25.0	5.95	104.3	NA	Black
	MWA-18-120805	12/8/2005	6.86	14.65	3.12	-148.6	0.46	19.0	0.0	Light brown, very cloudy
MWA-19	MWA-19-050605	5/6/2005	7.00	17.23	6.61	20.0	0.79	98.4	NA	Dark brown, precipitate
	MWA-19-071305	7/13/2005	7.17	17.99	7.72	135.6	0.60	55.8	NA	Dark brown/black, opaque
	MWA-19-081705	8/17/2005	6.98	17.79	6.55	-37.2	4.18	74.7	0.0	Dark orange brown
	MWA-19-091305	9/13/2005	7.00	16.50	5.84	116.4	8.83	170.3	NA	Dark brown, precipitate
	MWA-19-120805	12/8/2005	6.91	15.72	4.80	5.0	1.30	215.2	NA	Very dark brown
MWA-20	MWA-20-050905	5/9/2005	9.64	15.45	5.69	80.7	0.73	16.8	NA	Dark red brown
	MWA-20-071305	7/13/2005	9.53	17.56	4.01	23.5	0.48	49.0	NA	Dark yellow brown
	MWA-20-081505	8/15/2005	9.59	21.77	3.87	-151.0	1.38	30.5	NA	Dark orange brown
	MWA-20-090705	9/7/2005	9.72	22.53	3.27	27.1	0.69	35.9	NA	Dark orange brown
	MWA-20-121205	12/12/2005	9.71	15.50	4.65	-121.1	1.45	21.5	NA	Dark brown
MWA-23	MWA-23-050405	5/4/2005	6.98	16.79	0.50	-91.5	1.18	50.3	NA	Brown, precipitate
	MWA-23-071205	7/12/2005	7.34	16.29	0.48	-57.0	0.27	3.2	NA	Clear
	MWA-23-081005	8/10/2005	6.96	16.46	0.55	-114.2	0.84	5.2	NA	Clear
	MWA-23-090605	9/6/2005	6.98	17.95	0.55	-118.1	0.52	3.8	NA	Clear
	MWA-23-120705	12/7/2005	6.79	15.72	0.64	-139.2	0.45	1.6	NA	Clear
MWA-24	MWA-24-050505	5/5/2005	11.73	15.81	8.43	-382.8	0.08	3.9	NA	Black
	MWA-24-071205	7/12/2005	12.23	16.91	8.35	-243.7	0.08	2.4	NA	Black, opaque
	MWA-24-081105	8/11/2005	11.56	17.38	9.73	-485.2	0.07	2.8	NA	Black
	MWA-24-090705	9/7/2005	11.52	17.01	8.93	-488.0	0.23	2.8	NA	Black
	MWA-24-120705	12/7/2005	11.39	14.00	8.27	-470.4	0.12	1.4	NA	Very dark brown
MWA-25	MWA-25-051005	5/10/2005	7.27	16.55	19.80	197.0	0.97	3.3	NA	Olive brown, clear
	MWA-25-071905	7/19/2005	7.40	19.55	20.55	130.3	2.20	6.1	NA	Orange brown
	MWA-25-081105	8/11/2005	9.38	19.72	22.14	-121.3	0.43	4.5	NA	Light orange brown
	MWA-25-090805	9/8/2005	8.74	18.88	20.39	146.0	0.75	5.4	NA	Orange
	MWA-25-121405	12/14/2005	8.99	17.76	71.86	-86.3	0.13	7.8	NA	Clear
MWA-26	MWA-26-050905	5/9/2005	6.89	15.90	2.05	-63.7	1.54	10.4	NA	Light brown, clear
	MWA-26-071505	7/15/2005	7.14	17.43	2.62	61.0	3.49	5.2	NA	Olive brown, clear
	MWA-26-081205	8/12/2005	6.91	16.39	2.39	-33.9	0.66	4.6	NA	Light olive brown, clear
	MWA-26-090705	9/7/2005	6.86	17.30	2.21	-63.7	0.51	15.0	NA	Slight orange brown tint
	MWA-26-120805	12/8/2005	6.96	15.01	1.74	5.0	0.68	5.6	NA	Light yellow brown

Table 1
Field Parameters Measured in Groundwater
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	pH	Temp. (deg. C)	EC (mS/cm)	ORP (mV)	DO (mg O_2/L)	Turbidity (NTU)	H_2S[1] (mg/L)	Observations of Purge Water
MWA-27	MWA-27-050905	5/9/2005	9.22	15.99	8.61	53.5	0.65	18.4	NA	Dark orange
	MWA-27-071505	7/15/2005	9.35	17.15	15.48	65.3	2.21	16.7	NA	Orange brown, cloudy
	MWA-27-081605	8/16/2005	9.32	17.73	6.41	-95.1	1.20	12.0	NA	Dark orange brown
	MWA-27-090905	9/9/2005	9.25	17.39	7.34	82.3	1.08	18.0	NA	Orange
	MWA-27-121205	12/12/2005	8.41	15.40	18.65	52.2	0.22	5.4	NA	Yellowish / clear
MWA-29	MWA-29-050905	5/9/2005	6.82	15.81	23.47	210.4	0.22	21.6	NA	Light brown, cloudy
	MWA-29-071805	7/18/2005	6.97	16.97	30.50	169.7	1.22	7.4	0.0	Light brown, clear
	MWA-29-081205	8/12/2005	6.48	18.94	40.55	21.4	0.84	14.2	0.0	Greenish grey
	MWA-29-091205	9/12/2005	6.53	16.51	35.23	207.1	7.54	10.9	0.0	yellow grey to clear
	MWA-29-120805	12/8/2005	5.80	15.45	30.88	-13.5	0.54	32.9	0.053	Cloudy
MWA-30	MWA-30-050605	5/6/2005	6.42	17.34	162.00	-27.2	0.26	10.7	NA	Clear
	MWA-30-071805	7/18/2005	6.51	17.80	168.80	42.5	0.19	0.7	0.0	Clear
	MWA-30-081705	8/17/2005	6.51	NA	168.60	0.6	1.86	1000.0	NA	Light brown turbid - slight sheen
	NA[(2)]	NA	NA	NA	NA	NA	NA	NA	NA	NA
MWA-33	MWA-33-050505	5/6/2005	11.31	15.05	2.89	-50.1	0.54	14.8	NA	Dark brown/coffee
	MWA-33-071405	7/14/2005	11.75	15.83	3.08	51.0	1.00	7.4	NA	Orange brown, clear
	MWA-33-081105	8/11/2005	11.04	16.39	3.53	-194.8	0.27	8.1	NA	Orange brown
	MWA-33-090705	9/7/2005	11.12	15.91	3.51	-75.1	2.03	4.8	NA	Coffee to light orange brown
	MWA-33-120805	12/8/2005	10.86	13.49	3.54	-64.6	0.21	4.0	NA	Very dark brown
MWA-35	MWA-35-051005	5/10/2005	10.20	17.37	7.28	8.3	1.15	23.0	NA	Black
	MWA-35-071505	7/15/2005	9.74	18.70	9.35	-251.7	1.79	295.3	NA	Dark orange brown, clear
	MWA-35-081105	8/11/2005	10.07	19.13	4.48	-282.6	0.11	69.4	NA	Very dark orange brown
	MWA-35-090805	9/8/2005	10.09	19.27	5.33	48.0	0.48	58.6	NA	Black
	MWA-35-121405	12/14/2005	9.98	17.06	6.47	-76.2	0.50	3.7	NA	Dark brown / cloudy
MWA-36	MWA-36-051005	5/10/2005	8.35	17.00	8.04	152.0	0.43	10.8	NA	Olive brown, clear
	MWA-36-071505	7/15/2005	8.75	18.13	7.90	-5.1	2.46	6.8	NA	Orange brown
	MWA-36-081205	8/12/2005	9.27	20.07	9.27	-20.5	0.50	11.6	NA	-
	MWA-36-090705	9/7/2005	9.37	21.60	10.17	84.8	0.48	2.4	NA	Slightly yellow
	MWA-36-121405	12/14/2005	6.39	13.79	7.74	82.7	0.24	24.0	NA	Brown / clear
MWA-37	MWA-37-051005	5/10/2005	9.81	17.59	12.56	-67.6	0.92	6.4	NA	Dark red brown
	MWA-37-071505	7/15/2005	10.12	19.54	12.94	125.2	0.73	9.6	NA	Orange brown
	MWA-37-081105	8/11/2005	9.73	21.04	13.77	-43.3	0.50	9.5	NA	Dark orange brown
	MWA-37-090805	9/8/2005	9.76	21.23	13.77	33.6	1.20	4.3	NA	Dark orange brown
	MWA-37-121405	12/14/2005	8.89	17.46	14.94	28.6	0.11	43.2	NA	Coudy / brown
MWA-38	MWA-38-050905	5/9/2005	9.79	15.26	7.03	22.8	0.52	4.4	NA	Dark orange, clear
	MWA-38-071405	7/14/2005	10.65	19.41	3.83	116.0	0.56	6.2	NA	Orange, clear
	MWA-38-081205	8/12/2005	10.06	21.94	4.35	-46.0	0.52	4.8	NA	Orange brown
	MWA-38-090705	9/7/2005	9.73	22.63	5.49	46.8	0.41	7.5	NA	Orange brown
	MWA-38-121205	12/12/2005	9.73	14.29	6.77	-50.3	0.63	0.8	NA	Brown / clear

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Well Number	Sample Number	Date	pH	Temp. (deg. C)	EC (mS/cm)	ORP (mV)	DO (mg O_2/L)	Turbidity (NTU)	H_2S[1] (mg/L)	Observations of Purge Water
MWA-39	MWA-39-050505	5/5/2005	10.34	15.17	1.36	-136.5	0.69	24.0	NA	Olive brown
	MWA-39-071205	7/12/2005	10.74	16.33	1.25	-135.2	0.11	38.9	NA	Grey brown
	MWA-39-081105	8/11/2005	10.15	16.48	1.46	-303.3	0.30	30.0	NA	Dark yellow brown
	MWA-39-090605	9/6/2005	10.15	16.99	1.42	-139.0	0.25	22.7	NA	Dark green cloudy
	MWA-39-120705	12/7/2005	9.95	14.68	1.45	-204.8	0.15	9.0	NA	-
MWA-40	MWA-40-050505	5/5/2005	10.06	16.16	1.36	-72.2	2.35	35.9	NA	-
	MWA-40-071205	7/12/2005	9.75	17.24	1.04	-30.2	0.22	4.6	NA	Light orange brown
	MWA-40-081105	8/11/2005	9.41	17.24	1.27	-292.3	0.33	2.6	NA	Dark orange brown
	MWA-40-090705	9/7/2005	9.55	17.45	1.25	-158.9	1.20	2.2	NA	Orange
	MWA-40-120705	12/7/2005	9.41	15.22	1.31	-222.6	0.13	1.2	NA	Very dark brown
MWA-41	MWA-41-050905	5/9/2005	6.68	14.67	0.39	205.2	0.83	9.2	NA	Grey, cloudy
	MWA-41-071505	7/15/2005	6.57	16.57	0.47	260.3	1.98	0.5	NA	Clear
	MWA-41-081205	8/12/2005	6.42	16.10	0.50	63.5	1.41	0.8	NA	Clear
	MWA-41-090705	9/7/2005	6.41	18.59	0.53	149.1	1.19	-0.5	NA	Clear
	MWA-41-120805	12/8/2005	6.47	15.99	0.44	-29.5	1.03	0.9	NA	Clear
MWA-42	MWA-42-050505	5/5/2005	10.01	16.11	3.57	-60.6	1.54	136.0	NA	Black
	MWA-42-071205	7/12/2005	9.80	16.82	2.45	-94.1	3.65	23.9	NA	Dark yellow brown
	MWA-42-081505	8/15/2005	9.56	18.52	4.23	-308.7	0.83	15.7	NA	Dark brown opaque
	MWA-42-090805	9/8/2005	9.82	19.78	6.26	-417.9	1.76	13.6	NA	Black
	MWA-42-120805	12/8/2005	9.61	14.34	10.52	-468.2	0.12	5.1	NA	Very dark brown
MWA-43	MWA-43-050905	5/9/2005	6.31	15.41	9.32	211.6	0.99	54.6	NA	Light brown, cloudy
	MWA-43-071805	7/18/2005	6.58	18.22	10.65	188.7	4.97	4.8	NA	Light brown, clear
	MWA-43-081205	8/12/2005	6.18	18.51	19.96	60.5	0.99	1.5	NA	Clear
	MWA-43-090705	9/7/2005	6.20	19.96	11.51	145.4	1.30	8.4	NA	Clear
	MWA-43-120805	12/8/2005	6.50	14.97	7.02	66.50	0.98	5.6	NA	Light yellow / brown
MWA-44	MWA-44-050605	5/6/2005	10.02	17.85	8.40	26.3	1.94	637.8	NA	Brown, turbid
	MWA-44-071305	7/13/2005	8.81	18.09	8.11	136.7	0.56	305.6	0.0	Dark yellow brown
	MWA-44-081605	8/16/2005	9.63	17.96	9.47	-92.5	1.11	125.3	0.0	Dark orange brown
	MWA-44-090905	9/9/2005	9.53	17.52	8.79	33.7	1.11	178.9	NA	Dark orange brown
	MWA-44-120905	12/9/2005	9.18	15.88	8.01	20.8	0.28	72.9	NA	Very dark brown
MWA-45	MWA-45-051005	5/10/2005	9.63	16.17	4.49	136.0	0.70	154.5	NA	Red brown, cloudy
	MWA-45-071305	7/13/2005	9.74	18.08	7.05	85.7	0.34	162.7	0.0	Dark yellow brown, slightly turbid
	MWA-45-081605	8/16/2005	9.78	17.76	7.87	-88.1	1.01	99.0	0.1	Orange brown
	MWA-45-090905	9/9/2005	9.73	17.49	6.14	-15.9	1.13	104.2	NA	dark orange brown
	MWA-45-121205	12/12/2005	9.17	16.41	5.85	-347.7	0.99	65.2	NA	Very dark brown / tinge of green

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MWA-46	MWA-46-050605	5/6/2005	7.29	17.20	7.13	45.0	0.81	124.6	NA	Black
	MWA-46-071405	7/14/2005	7.47	17.62	6.02	138.6	3.57	36.2	0.0	Dark red brown
	MWA-46-081605	8/16/2005	7.25	18.75	5.85	-9.3	3.99	48.1	0.0	Dark orange brown
	MWA-46-091305	9/13/2005	7.43	18.94	5.51	188.4	3.55	89.9	NA	Black
	MWA-46-120905	12/9/2005	6.97	15.71	6.83	85.4	1.09	27.4	NA	Very dark brown
MWA-47	MWA-47-050605	5/6/2005	6.94	16.97	29.29	119.7	0.27	10.4	NA	Light orange, clear
	MWA-47-071905	7/19/2005	7.30	16.78	27.36	207.8	1.39	7.9	0.0	Olive grey, clear
	MWA-47-081705	8/17/2005	6.85	17.46	31.10	9.3	1.60	8.9	0.0	Light olive
	MWA-47-090905	9/9/2005	6.89	18.69	30.98	153.8	3.38	15.1	YES	Light yellow
	MWA-47-121205	12/12/2005	6.72	14.67	30.92	168.5	0.28	9.9	0.0	Cloudy
Intermediate Zone										
MWA-16i	MWA-16i-050505	5/5/2005	6.99	16.95	7.22	-119.4	0.36	20.2	NA	Black
	MWA-16i-071305	7/13/2005	7.20	17.40	10.24	-11.5	0.38	17.9	0.0	Dark brown
	MWA-16i-081505	8/15/2005	6.97	20.10	10.95	-117.0	0.50	19.1	NA	Black
	MWA-16i-090905	9/9/2005	6.97	16.33	10.09	-104.2	2.84	20.9	NA	Black
	MWA-16i-120705	12/7/2005	6.50	14.17	10.16	-83.2	0.43	12.1	NA	Yellow brown
MWA-32i	MWA-32i-050605	5/6/2005	7.07	16.99	42.49	143.7	0.21	5.8	NA	Light brown, clear
	MWA-32i-071805	7/18/2005	7.60	17.92	37.37	262.6	0.82	5.8	0.0	Dark orange brown
	MWA-32i-081705	8/17/2005	7.36	18.65	41.62	-32.6	1.14	10.5	0.0	Yellow brown
	MWA-32i-091405	9/14/2005	7.46	16.62	42.17	163.4	3.55	13.1	NA	Yellow brown
	MWA-32i-120905	12/9/2005	8.85	16.36	102.40	-412.9	0.04	420.5	0.0	Cloudy bright yellow
MWA-34i	MWA-34i-050605	5/6/2005	10.97	17.49	16.71	-29.7	0.35	7.9	NA	Black
	MWA-34i-071805	7/18/2005	10.96	18.76	12.66	90.4	1.59	4.3	0.0	Dark red brown
	MWA-34i-081705	8/17/2005	10.09	17.83	14.51	-120.4	1.18	2.2	0.1	Very dark brown
	MWA-34i-091305	9/13/2005	10.40	17.33	18.03	67.9	3.64	3.5	NA	Black, dark brown
	MWA-34i-120905	12/9/2005	9.96	15.29	11.71	38.9	-0.60	2.1	NA	Very dark brown
MWA-48i	MWA-48i-051005	5/10/2005	5.75	17.38	46.05	210.8	0.93	30.3	NA	Light yellow brown, slightly cloudy
	MWA-48i-071505	7/15/2005	5.71	19.35	47.33	160.7	0.30	21.4	NA	
	MWA-48i-081105	8/11/2005	5.54	20.66	59.56	117.0	0.73	26.4	NA	Olive grey, slightly cloudy
	MWA-48i-090805	9/8/2005	5.63	19.95	55.00	192.7	1.81	14.2	NA	Cloudy, to more clear
	MWA-48i-121405	12/14/2005	5.71	17.14	39.26	154.3	0.31	2.6	NA	Clear, slight yellow
MWA-49i	MWA-49i-050605	5/6/2005	6.20	17.13	30.91	190.2	5.43	39.5	NA	Light brown, clear
	MWA-49i-071405	7/14/2005	6.32	18.12	31.48	199.6	2.87	16.4	0.0	Olive grey , clear
	MWA-49i-081605	8/16/2005	6.04	18.38	36.59	72.3	1.43	32.3	0.0	Light olive brown, clear
	MWA-49i-091305	9/13/2005	6.09	18.29	36.73	265.1	1.14	27.9	0.0	Yellowish brown
	MWA-49i-120905	12/9/2005	5.97	15.78	36.60	142.9	1.25	3.7	0.0	Cloudy yellow
MWA-50i	MWA-50i-050605	5/6/2005	6.80	17.74	24.12	139.0	0.62	21.2	NA	Light brown, cloudy
	MWA-50i-071905	7/19/2005	6.84	17.60	32.26	198.7	1.57	3.3	NA	Clear
	MWA-50i-081705	8/17/2005	6.43	20.08	41.81	30.8	1.38	10.2	0.0	Light olive grey
	MWA-50i-091205	9/12/2005	6.55	17.36	33.83	244.8	6.45	2.2	0.0	Slightly yellow
	MWA-50i-121205	12/12/2005	6.47	13.15	29.30	160.0	0.30	1.1	0.0	Slightly cloudy

Table 1
Field Parameters Measured in Groundwater
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	pH	Temp. (deg. C)	EC (mS/cm)	ORP (mV)	DO (mg O_2/L)	Turbidity (NTU)	H_2S[1] (mg/L)	Observations of Purge Water
MWA-51i	MWA-51i-050505	5/5/2005	9.30	17.47	21.68	19.9	0.26	42.1	NA	Black
	MWA-51i-071405	7/14/2005	9.06	17.55	26.54	-36.5	0.55	5.9	0.0	Black, opaque
	MWA-51i-081605	8/16/2005	9.17	18.56	30.05	-90.4	0.67	5.2	0.1	Black
	MWA-51i-091305	9/13/2005	9.58	19.01	28.71	81.3	1.13	5.0	NA	Black
	MWA-51i-120805	12/8/2005	8.84	16.00	27.87	14.9	0.35	5.9	NA	Very dark brown
MWA-52i	MWA-52i-050905	5/9/2005	6.78	15.81	12.69	92.9	0.66	43.5	NA	Light brown
	MWA-52i-071905	7/19/2005	6.76	17.03	17.42	132.0	3.10	17.5	NA	-
	MWA-52i-081605	8/16/2005	6.38	17.34	14.83	-13.0	2.33	18.3	NA	Light brown
	MWA-52i-090905	9/9/2005	6.35	18.33	13.87	75.6	3.55	23.1	NA	Yellow
	MWA-52i-121205	12/12/2005	6.33	15.00	15.12	63.9	0.93	4.0	NA	-
MWA-53i	MWA-53i-050905	5/9/2005	6.59	15.57	24.32	216.4	0.36	41.8	NA	Light brown
	MWA-53i-071805	7/18/2005	6.71	17.14	30.10	251.8	1.17	43.4	0.0	Light brown
	MWA-53i-081205	8/12/2005	6.37	17.80	40.50	60.7	0.43	12.6	0.3	Olive grey, cloudy
	MWA-53i-091205	9/12/2005	6.29	16.67	40.86	208.0	9.65	4.9	0.5	Yellowish grey
	MWA-53i-120805	12/8/2005	6.07	14.94	43.49	-96.8	0.32	3.4	0.3	Clear
MWA-54i	MWA-54i-050505	5/5/2005	9.57	16.63	9.55	-131.4	0.05	20.3	NA	Black
	MWA-54i-071205	7/12/2005	9.98	17.05	18.25	-393.9	0.02	22.5	NA	Yellow, sulfur odor
	MWA-54i-081505	8/15/2005	8.43	17.68	19.28	-434.6	-0.34	649.5	NA	Yellow, turbid
	MWA-54i-090805	9/8/2005	7.95	18.70	19.49	-403.5	5.90	90.9	NA	Yellow, sulfur odor
	MWA-54i-120705	12/7/2005	6.72	14.95	15.98	-303.9	0.14	21.2	NA	Yellow brown
MWA-55i	MWA-55i-050905	5/9/2005	9.17	17.37	36.26	-28.6	0.19	13.6	NA	Orange, clear
	MWA-55i-071305	7/13/2005	10.38	18.43	38.39	34.8	0.54	4.3	NA	Dark yellow brown
	MWA-55i-081505	8/15/2005	9.75	20.16	42.38	-132.7	0.23	1.1	NA	Orange brown
	MWA-55i-091205	9/12/2005	9.95	18.20	43.56	78.7	0.90	1.2	NA	Dark brown
	MWA-55i-121205	12/12/2005	9.84	16.68	40.19	-408.2	0.15	30.7	NA	Yellow brown
Deep Zone										
MWA-28i(d)	MWA-28i-051005	5/10/2005	7.03	17.31	0.52	-96.4	4.49	12.2	NA	Grey, slightly cloudy
	MWA-28i-071505	7/15/2005	7.29	18.81	0.53	-50.3	0.74	6.4	NA	Clear
	MWA-28i-081105	8/11/2005	6.85	20.28	0.63	-125.6	0.58	10.6	NA	Clear
	MWA-28i-090805	9/8/2005	6.90	19.22	0.61	-124.8	0.55	26.9	NA	Cloudy
	MWA-28i-121405	12/14/2005	6.82	16.08	0.52	14.1	0.31	10.0	NA	Clear
MWA-31i(d)	MWA-31i-050605	5/6/2005	6.21	17.20	116.40	123.9	0.36	34.3	NA	Orange, cloudy
	MWA-31i-071805	7/18/2005	6.37	18.85	120.90	246.2	0.18	35.1	0.0	Grey, clear
	MWA-31i-081705	8/17/2005	6.12	17.62	138.00	15.0	0.35	42.2	0.0	Light brown , slightly cloudy
	MWA-31i-091405	9/14/2005	6.19	17.52	130.80	187.6	0.68	114.5	0.0	Coudy, yellow/grey to clear
	MWA-31i-120905	12/9/2005	6.20	14.93	131.90	-133.3	0.59	31.2	0.0	Initially green brown, cleared twice until clear in tubing
MWA-56d	MWA-56d-050605	5/6/2005	6.13	16.88	72.13	-16.4	0.32	17.9	NA	Grey, cloudy
	MWA-56d-071405	7/14/2005	6.35	17.80	72.89	164.9	0.38	14.5	NA	Grey, slightly turbid
	MWA-56d-081605	8/16/2005	6.04	20.49	84.07	51.7	0.56	11.1	0.0	Clear
	MWA-56d-091305	9/13/2005	6.10	19.56	82.03	252.0	1.20	13.8	NA	Grey,cloudy to clear
	MWA-56d-120905	12/9/2005	6.03	15.31	83.96	138.4	0.54	20.3	0.0	Slight cloudiness

Table 1
Field Parameters Measured in Groundwater
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	pH	Temp. (deg. C)	EC (mS/cm)	ORP (mV)	DO (mg O_2/L)	Turbidity (NTU)	H_2S[1] (mg/L)	Observations of Purge Water
MWA-57d	MWA-57d-050905	5/9/2005	6.47	15.65	41.86	-372.5	0.56	40.3	NA	Grey, slightly cloudy
	MWA-57d-071305	7/13/2005	6.66	18.90	42.28	135.9	1.17	13.7	0.0	Clear, grey solids settled out
	MWA-57d-081505	8/15/2005	6.37	20.58	49.53	-83.3	0.50	12.1	0.0	Clear
	MWA-57d-091205	9/12/2005	6.38	19.31	52.06	166.8	2.35	14.9	0.0	Cloudy
	MWA-57d-121205	12/12/2005	6.43	15.62	61.63	-123.9	0.54	4.5	NA	Initially milky white, then clear
MWA-58d	MWA-58d-050605	5/6/2005	6.19	17.61	121.70	69.0	0.70	12.3	NA	Slightly cloudy
	MWA-58d-071405	7/14/2005	6.23	19.36	126.50	198.7	0.35	9.0	0.0	Grey clear
	MWA-58d-081705	8/17/2005	5.96	17.66	144.30	3.9	0.37	8.1	0.0	Clear
	MWA-58d-091305	9/13/2005	6.01	17.70	141.40	224.3	0.72	6.9	0.0	Grey to clear
	MWA-58d-120905	12/9/2005	5.95	15.60	140.20	129.8	0.58	7.7	0.0	Slight cloudiness
MWA-59d	MWA-59d-050605	5/6/2005	6.29	17.75	114.80	-42.2	0.64	21.4	NA	Grey, slightly cloudy
	MWA-59d-071905	7/19/2005	6.31	17.35	140.30	255.5	0.29	14.2	NA	Clear
	MWA-59d-081705	8/17/2005	6.07	22.50	163.10	52.5	0.37	9.3	0.0	Clear
	MWA-59d-091205	9/12/2005	6.09	18.03	167.3	246.1	0.9	14.9	NA	Cloudy
	MWA-59d-121205	12/12/2005	5.93	11.62	176.5	199.7	0.49	2.2	0.0	Clear

Notes:

NA = Not Applicable
1) H_2S test kit is colorimetric. The kit instructions indicate a detection range from 0.0 to 11.0 mg/L. The sample obtained from MWA 6r was discolored, therefore, a precise determination of color change was not possible.
2) Well not sampled due to insufficient groundwater volume

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
Shallow Zone												
MWA-6r	MWA-6r-050505	05/05/05	0.111	ND (<0.000840)	48.7	0.0200	0.370	0.220	0.0512 J	ND (<0.100)	8200	121
	MWA-6r-071205	07/12/05	0.152	0.00350 J	48.9	0.0120	0.177	0.190	0.0220	119	8240	131
	MWA-6r-081505	08/15/05	0.137	0.00194 J	50.4	0.00670	0.296	0.209	0.112	ND(<0.100)	8550	130
	MWA-6r-090905	09/09/05	0.0640 J	0.00550 J	60.7	0.00700 J	0.351	0.270	0.505	ND (<0.0500)	8170	136
	MWA-6r-120705	12/07/05	0.0217	0.00624	63.0	0.00512	0.402	0.270	0.0171	ND (<0.0200)	7820	140
MWA-18	MWA-18i-050505	05/05/05	3.22	ND (<0.000840)	21.7	0.113	4.09	0.277	0.833	ND (<0.100)	NA	25.4
	MWA-18-071405	07/14/05	2.45	0.00266 J	43.9	0.154	4.24	0.290	0.676 [1]	ND (<0.200)	2460	40
	MWA-18-081605	08/16/05	0.335	0.00290 J	20.7	0.0103	2.05	0.200	0.248	ND(<0.0200)	1490	25.9
	MWA-18-091205	09/12/05	1.10	ND (<0.00900)	13.9	ND (<0.00800)	2.43	0.213	1.18	ND (<0.0500)	1470	23.5
	MWA-18-120805	12/08/05	0.0356	0.0166	360	0.00159 J	6.78	3.90	0.00590 J	ND (<0.0100)	2400	835
MWA-19	MWA-19-050605	05/06/05	2.82	0.0109 J	14.3	0.0469	1.25	0.0754	2.68	ND (<0.100)	4580	86.9
	MWA-19-071305	07/13/05	1.92	0.00665	28.2	0.0275	1.03	0.0733	0.159	ND (<0.0500)	4970	93.5
	MWA-19-081705	08/17/05	0.864	ND(<0.00450)	22.9	0.0124	1.49	0.410	0.407	ND (<0.100)	3880	95.6
	MWA-19-091305	09/13/05	1.30	ND (<0.00900)	18.8	0.00900 J	4.44	0.170	0.824	ND (<0.100)	3660	59.0
	MWA-19-120805	12/08/05	0.226	0.0154	10.3	0.0428	3.52	0.111	0.101	0.0857 J	3000	48.3
MWA-20	MWA-20-050905	05/09/05	0.417	0.211	11.4	0.0137	0.707	0.106	0.436	ND (<0.100)	3980	123
	MWA-20-071305	07/13/05	0.713	0.183	7.33	0.00918	0.510	0.0496	0.0741	ND (<0.100)	2660	37.3
	MWA-20-081505	08/15/05	0.815	0.240	5.94	0.00396	0.740	0.0745	0.676	ND(<0.0500)	2310	24.4
	MWA-20-090705	09/07/05	0.858	0.256	4.33	ND (<0.00400)	0.858	0.0551	0.573	ND (<0.0200)	2050	36.7
	MWA-20-121205	12/12/05	0.0300	0.223	5.31	0.00826	0.781	0.0574	0.00967 J	ND (<0.0500)	2750	93.4
MWA-23	MWA-23-050405	05/04/05	0.000818 J	0.0285	30.8	0.000788 J	6.67	2.52	ND (<0.00455)	ND (<0.0100)	380	47.3
	MWA-23-071205	07/12/05	ND (<0.000720)	0.0271	28.6	ND (0.00360)	5.87	2.30	ND (<0.00455)	ND (<0.0100)	370	50.9
	MWA-23-081105	08/11/05	0.000610 J	0.0240	29.9	0.000370 J	7.12	2.52	ND (<0.00455)	ND (<0.0100)	384	53.6
	MWA-23-090605	09/06/05	0.000390 J	0.0250	31.6	ND (<0.0000800)	7.39	2.65	ND (<0.00455)	ND (<0.0100)	377	59.3
	MWA-23-120705	12/07/05	ND (<0.000605)	0.0288	34.9	ND (<0.000605)	7.48	2.85	ND (<0.00455)	ND (<0.0100)	408	61.2
MWA-24	MWA-24-050505	05/05/05	0.177	2.73	17.7	0.161	3.56	0.154	0.0528 J	4.70	15000	208
	MWA-24-071205	07/12/05	0.185	2.37	16.9	0.167	4.07	0.217	0.0541 J	8.13	15100	105
	MWA-24-081105	08/11/05	0.152	2.26	20.9	0.0649	5.05	0.238	0.0355	14.4	15200	87.6
	MWA-24-090705	09/07/05	0.178	2.23	24.5	0.116	6.78	0.279	0.0203	1.15 J	14400	60.4
	MWA-24-120705	12/07/05	0.137	2.88	19.4	0.140	5.09	0.250	0.0635	8.88	12900	63.9
MWA-25	MWA-25-051005	05/10/05	4.08	0.0675	165	5.13	0.0180 J	3.52	4.95	ND (<0.0200)	18300	472
	MWA-25-071905	07/19/05	0.276	0.0374	132	0.185	0.659 J	2.78	0.146	0.0841 J	17500	748
	MWA-25-081105	08/11/05	0.344	0.0785	89.0	0.134	ND(<0.0480)	1.22	0.111	ND(<0.0100)	18000	685
	MWA-25-090805	09/08/05	0.306	0.0550	114	0.158	ND(<0.0480)	3.02	NA	ND(<0.0100)	15900	563
	MWA-25-092305	9/23/2005 [(2)]	NA	NA	NA	NA	NA	NA	0.222	NA	NA	NA
	MWA-25-121405	12/14/05	0.412	0.144	53.8	0.278	0.0919 J	1.17	0.0684	ND (<0.0200)	17300	1090
MWA-26	MWA-26-050905	05/09/05	0.150	0.0143	4.04	0.355	7.52	0.498	0.152	ND (<0.0100)	2080	76.5
	MWA-26-071505	07/15/05	0.256	0.00661	3.93	0.0850	0.266	0.160	0.143	ND (<0.0100)	2740	89
	MWA-26-081205	08/12/05	0.309	0.0114	3.15	0.132	0.576	0.190	0.0982	ND (<0.0100)	2020	93.4
	MWA-26-090705	09/07/05	0.533	0.0150 J	3.06	0.188	0.661	0.189	0.289	ND (<0.0100)	1830	87.1
	MWA-26-120805	12/08/05	0.00856	0.0296	2.61	0.00266 J	0.463	0.0739	0.00290 J	ND (<0.0100)	1320	141

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
MWA-27	MWA-27-050905	05/09/05	2.08	0.276	4.74	1.49	0.199	0.0637	1.60	ND (<0.100)	6310	215
	MWA-27-071905	07/19/05	0.732	0.124	11.5	0.492	0.0300 J	0.0383	0.123	0.0302 J	10000	224
	MWA-27-081605	08/16/05	1.04	0.733	4.23	0.568	0.155	0.0873	0.611	ND(<0.100)	5340	254
	MWA-27-090905	09/09/05	0.983	0.305	3.34	0.515	0.0963 J	0.0389	0.802	ND (<0.0200)	5840	890
	MWA-27-121205	12/12/05	0.0305	0.0794	11.6	0.0202	0.0361 J	0.0608	0.00495 J	ND (<0.0100)	11700	1760
MWA-29	MWA-29-050905	05/09/05	0.0220	ND (<0.00420)	7.93	ND (<0.00720)	0.0123 J	0.18	0.0141	ND (<0.0100)	16100	148
	MWA-29-071805	07/18/05	0.00560	ND (<0.0208)	12.4	ND (<0.00360)	0.0737 J	0.269	ND (<0.00455)	ND (<0.0100)	21400	147
	MWA-29-081205	08/12/05	0.0569	ND(<0.000450)	17.4	0.00455 J	0.0564 J	0.405	ND (<0.00455)	ND (<0.0100)	23900	342
	MWA-29-091205	09/12/05	0.0940 J	ND (<0.00900)	70.5	0.0110 J	0.103 J	0.478	0.107	ND (<0.0100)	20900	297
	MWA-29-120805	12/08/05	0.00214	0.0116	27.8	0.200	8.69	0.216	0.186	0.156J	17600	1090
MWA-30	MWA-30-050605	05/06/05	2.98	ND (<0.0807)	88.8	0.0539	3.36	0.850	3.04	ND (<0.100)	170000	777
	MWA-30-071805	07/18/05	0.0187	ND (<0.00420)	245	ND (<0.00720)	5.84	1.35	0.0130	ND (<0.0100)	183000	843
	MWA-30-081705	08/17/05	20.5	0.0192 J	121	0.0193 J	0.0626 J	2.10	6.27	1.79 J	164000	734
	NA[3]	09/07/05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MWA-33	MWA-33-050505	05/05/05	0.0476	0.0896	1.32	0.0234	1.47	0.0336	0.0446	ND (<0.0100)	2400	160
	MWA-33-071405	07/14/05	0.0720	0.0767	1.05	0.0514	0.957	0.0663	0.0518	ND (<0.0100)	2460	162
	MWA-33-081105	08/11/05	0.0565	0.0664	0.399	0.0384	0.942	0.0210	0.0362	ND(<0.0500)	2460	164
	MWA-33-090705	09/07/05	0.0325 J	0.0655	0.325	0.0125 J	0.756	0.0214	0.0297	ND (<0.0200)	2410	161
	MWA-33-120805	12/08/05	0.0333	0.0746	0.457	0.0409	1.65	0.0516	0.0175	ND (<0.0200)	2370	148
MWA-35	MWA-35-051005	05/10/05	0.316	0.133	3.82	0.240	1.00	0.155	0.222	ND (<0.100)	5680	143
	MWA-35-071505	07/15/05	0.410	0.0973	2.96	0.147	0.159	0.0477	0.0318	605	12700	82.7
	MWA-35-081105	08/11/05	0.273	0.0823	1.68	0.135	0.378	0.0889	0.0905	ND(<0.0500)	3660	98.6
	MWA-32-090805	09/08/05	0.407	0.102	3.71	0.108	0.536	0.149	NA	ND (<0.100)	3920	143
	MWA-35-092305	9/23/2005[2]	NA	NA	NA	NA	NA	NA	0.303	NA	NA	NA
	MWA-35-121405	12/14/05	0.146	0.108	2.34	0.0911	0.371	0.0532	ND (<0.0455)	ND (<0.0200)	5020	301
MWA-36	MWA-36-051005	05/10/05	6.45	0.0580	112	7.12	0.162	0.456	6.34	ND (<0.0200)	8350	628
	MWA-36-071505	07/15/05	0.175	0.0582	53.0	0.126	0.173	0.199	0.120	0.0643	7970	696
	MWA-36-081205	08/12/05	0.102	0.0274	45.6	0.0360	0.0530 J	0.108	0.0363	ND (<0.0100)	7700	962
	MWA-36-090705	09/07/05	0.0420 J	0.0150 J	32.6	0.0310 J	ND (<0.0480)	0.0630	0.0276	ND (<0.0100)	7840	1490
	MWA-36-121405	12/14/05	0.272	0.0962	25.8	0.180	0.0760 J	0.121	0.0759	0.210 J	8700	436
MWA-37	MWA-37-051005	05/10/05	3.33	0.196	31.2	3.58	0.115	0.284	2.81	ND (<0.100)	12800	325
	MWA-37-071505	07/15/05	2.46	0.172	25.2	3.18	0.0829 J	0.555	0.239	ND (<0.0500)	12900	425
	MWA-37-081105	08/11/05	4.51	0.120	36.1	4.02	0.0521 J	0.424	2.87	ND (<0.0500)	11800	388
	MWA-37-090805	09/08/05	4.93	0.110	25.2	3.88	ND (<0.0480)	0.492	NA	ND (<0.0500)	11500	342
	MWA-37-092205	9/22/2005[2]	NA	NA	NA	NA	NA	NA	1.83	NA	NA	NA
	MWA-37-121405	12/14/05	2.48	0.0765	128	1.66	0.192	0.532	0.319	0.367 J	13700	1830
MWA-38	MWA-38-050905	05/09/05	8.07	0.0997	32.0	9.27	0.106	0.828	9.16	ND (<0.0200)	6620	203
	MWA-38-071405	07/14/05	2.35	0.152	5.53	2.75	0.454	0.0437	2.22	ND (<0.0100)	3420	139
	MWA-38-081205	08/12/05	1.64	0.0806	4.82	1.38	0.252	0.0325	1.17	0.0206 J	3590	118
	MWA-38-090705	09/07/05	2.52	0.0545	6.62	2.19	0.257	0.0344	2.10	ND (<0.0200)	4630	189
	MWA-38-121205	12/12/05	0.470	0.0738	8.48	0.616	0.147	0.0416	0.398	ND (<0.0200)	5100	484

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
MWA-39	MWA-39-050505	05/05/05	0.00506	0.0115	0.53	0.00147	0.116	0.0141	ND (<0.00455)	1.40	1020	49.5
	MWA-39-071205	07/12/05	0.00376	0.00912	0.396	ND (<0.00360)	0.0858 J	0.0147	ND (<0.00455)	0.306	908	58.7
	MWA-39-081105	08/11/05	0.00381	0.00660	0.452	0.00102 J	0.0672 J	0.00960 J	ND (<0.00455)	0.248	915	65.2
	MWA-39-090605	09/06/05	0.00213	0.00609	0.438	0.000580 J	0.102 J	0.0127	ND (<0.00455)	1.19	893	73.2
	MWA-39-120705	12/07/05	0.00107 J	0.00898	0.400	ND (<0.000605)	0.0904 J	0.0105	ND (<0.00455)	0.945	876	79.7
MWA-40	MWA-40-050505	05/05/05	0.0085	0.0601	3.42	0.00364	0.387	0.0521	ND (<0.00455)	0.244	1180	26.2
	MWA-40-071205	07/12/05	0.00540	0.0293	2.93	ND (<0.00360)	0.173	0.0509	ND (<0.00455)	1.10	835	12.4
	MWA-40-081105	08/11/05	0.00477	0.0212	4.29	0.00250	0.163	0.0513	ND (<0.00455)	1.09	865	11.0
	MWA-40-090705	09/07/05	ND (<0.00750)	0.0260 J	3.96	ND (<0.00400)	0.208	0.0498	0.00476 J	1.27	893	11.0
	MWA-40-120705	12/07/05	0.00256 J	0.0254	3.94	0.00132 J	0.154	0.0411	ND (<0.00455)	2.00	894	9.28
MWA-41	MWA-41-050905	05/09/05	ND (<0.00720)	ND (<0.00420)	35.7	ND (<0.00720)	0.0144 J	1.19	ND (<0.00455)	ND (<0.0100)	240	15.5
	MWA-41-071505	07/15/05	ND (<0.00360)	ND (<0.00210)	48.3	ND (<0.00360)	0.00759 J	0.835	ND (<0.00455)	ND (<0.0100)	320	38.6
	MWA-41-081205	08/12/05	ND(<0.00150)	0.000260 J	39.2	ND(<0.0000800)	ND(<0.0480)	1.15	ND (<0.00455)	ND (<0.0100)	310	18.2
	MWA-41-090705	09/07/05	ND (<0.00750)	ND (<0.00450)	44.2	ND (<0.00400)	ND(<0.0480)	1.32	ND (<0.00455)	ND (<0.0100)	319	19.6
	MWA-41-120805	12/08/05	ND (<0.000121)	ND (<0.000664)	30.7	ND (<0.000605)	0.00460 J	0.509	0.000600 J	ND (<0.0100)	260	16.9
MWA-42	MWA-42-050505	05/05/05	0.104	0.811	24.5	0.0902	7.23	0.668	0.0562	ND (<0.100)	6170	321
	MWA-42-071205	07/12/05	0.00872	0.113	33.2	0.00453	0.200 J	0.0479	ND (<0.00455)	0.0114 J	1740	83.5
	MWA-42-081505	08/15/05	0.0250	0.123	39.2	0.00312	0.929	0.139	0.0119	2.34	2790	195
	MWA-42-090805	09/08/05	0.0515	0.0160 J	27.5	0.0165 J	4.56	0.201	NA	4.41	4600	383
	MWA-42-092305	9/23/2005[(2)]	NA	NA	NA	NA	NA	NA	0.0467	NA	NA	NA
	MWA-42-120705	12/07/05	0.0726	1.15	32.5	0.0628	4.59	0.364	0.0277	86.7	9360	809
MWA-43	MWA-43-050905	05/09/05	ND (<0.00720)	ND (<0.00420)	2.51	ND (<0.00720)	0.0130 J	0.132	ND (<0.00455)	0.0102	5850	109
	MWA-43-071805	07/18/05	ND (<0.00360)	ND (<0.00210)	3.65	ND (<0.00360)	0.0576 J	0.262	ND (<0.00455)	ND (<0.0100)	7040	113
	MWA-43-081205	08/12/05	0.00230 J	ND(<0.00450)	7.58	0.00102 J	ND(<0.0480)	0.557	ND (<0.00455)	ND (<0.0100)	10800	181
	MWA-43-090705	09/07/05	ND (<0.00750)	ND (<0.00450)	3.46	0.00400 J	ND(<0.0480)	0.233	ND (<0.00455)	0.0599 J	6230	168
	MWA-43-120805	12/08/05	0.000930 J	0.00434	0.971	ND (<0.000605)	0.0449 J	0.0547	0.00100 J	ND (<0.0100)	3530	210
MWA-44	MWA-44-050605	05/06/05	0.0956	0.210	3.93	0.0709	14.5	0.161	0.0885 J	ND (<0.100)	6950	270
	MWA-44-071305	07/13/05	0.0628	0.0524	3.46	0.0189	1.46	0.0425	0.0223	0.149 J	5730	176
	MWA-44-081605	08/16/05	0.0718	0.155	2.99	0.0190	0.930	0.0207	0.0333	ND(<0.100)	5840	263
	MWA-44-090905	09/09/05	0.0570 J	0.197	2.95	0.0150 J	0.833	0.0210	0.0425	ND (<0.0500)	5500	271
	MWA-44-120905	12/09/05	0.0280	0.122	1.96	0.0144	0.691	0.0244	0.0209	ND (<0.0500)	5070	424
MWA-45	MWA-45-051005	05/10/05	0.0412	0.123	1.35	0.0183	0.555	0.0237	0.0771 J	ND (<0.0500)	3310	62.1
	MWA-45-071305	07/13/05	0.0964	0.0820	1.43	0.0430	0.394	0.0320	0.0228	ND (<0.0500)	4740	104
	MWA-45-081605	08/16/05	0.0511	0.0814	1.27	0.0162	0.731	0.112	0.0244	ND(<0.100)	4780	240
	MWA-45-090905	09/09/05	0.0510 J	0.0785	1.07	0.0135 J	1.62	0.0601	0.0403	ND (<0.0500)	3920	271
	MWA-45-121205	12/12/05	0.0952	0.0574	5.96	0.0622	4.72	0.185	0.0168	0.194 J	4060	856
MWA-46	MWA-46-050605	05/06/05	0.0683	0.0451 J	6.19	0.0562	4.62	0.443	0.0495 J	ND (<0.100)	5120	63.0
	MWA-46-071405	07/14/05	0.0720	0.0381	4.28	0.0449	3.61	0.269	0.0411	ND (<0.0500)	4090	51.1
	MWA-46-081605	08/16/05	0.0652	0.0480	5.01	0.0168	3.78	0.349	0.0203	ND(<0.100)	3570	46.1
	MWA-46-091305	09/13/05	0.0580 J	0.0600 J	3.34	ND (<0.00800)	3.42	0.280	0.0433	ND (<0.100)	3260	42.1
	MWA-46-120905	12/09/05	0.0252	0.0419	2.24	0.0126	1.29	0.154	0.0165	ND (<0.100)	3760	141

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
MWA-47	MWA-47-050605	05/06/05	ND (<0.00720)	ND (<0.00420)	9.86	0.0125	0.0131 J	0.171	ND (<0.00455)	ND (<0.0100)	20500	200
	MWA-47-071905	07/19/05	0.00492 J	ND (<0.0259)	12.0	0.00797 J	0.0170 J	0.139	ND (<0.0400)	ND (<0.0100)	18700	211
	MWA-47-081705	08/17/05	ND(<0.0150)	ND(<0.00450)	8.94	0.00935	ND(<0.0480)	0.142	0.00463 J	ND (<0.0100)	18700	301
	MWA-47-090905	09/09/05	ND (<0.0150)	ND (<0.00450)	14.4	0.0255 J	ND (<0.0480)	0.00460 J	ND (<0.00455)	ND (<0.0100)	18700	328
	MWA-47-121205	12/12/05	0.0144	0.0121	8.17	0.00830	0.0143 J	0.120	ND (<0.00455)	ND (<0.0100)	17700	728
Intermediate Zone												
MWA-16i	MWA-16i-050505	05/05/05	1.38	0.00433	26.2	0.0421	10.4	1.27	0.662	ND (<0.100)	5150	309
	MWA-16i-071305	07/13/05	1.02	0.0164	31.7	0.0468	5.70	1.23	0.395	ND (<0.100)	6910	189
	MWA-16i-081505	08/15/05	0.921	0.00482	31.9	0.0101	5.58	1.23	0.378	ND (<0.100)	6570	197
	MWA-16i-090905	09/09/05	0.552	0.00550 J	38.6	0.0150 J	12.9	1.67	0.591	ND (<0.100)	6860	178
	MWA-16i-120705	12/07/05	0.0579	0.0138	53.3	0.0278	16.9	3.23	0.0337	ND (<0.0500)	6770	2050
MWA-32i	MWA-32i-050605	05/06/05	0.247	ND (<0.00840)	11.7	0.0888	0.203	0.166	0.176	ND (<0.0200)	34000	292
	MWA-32i-071805	07/18/05	0.349	ND (<0.0228)	12.1	0.0963	0.0894 J	0.0884	0.119	ND (<0.0100)	29100	360
	MWA-32i-081705	08/17/05	0.250	ND(<0.00450)	11.9	0.0728	0.0646 J	0.108	0.555	ND (<0.0100)	28000	412
	MWA-32i-091405	09/14/05	0.421	0.0300 J	14.7	0.0810 J	ND (<0.240)	0.148	0.386	ND (<0.0100)	28100	443
	MWA-32i-120905	12/09/05	0.0586	0.0912	408	0.0166	ND (<0.0337)	0.0218 J	0.0144	63.3	68600	960
MWA-34i	MWA-34i-050605	05/06/05	0.0567	0.504	1.18	0.0490	1.26	0.00894 J	0.0358	ND (<0.100)	11600	387
	MWA-34i-071805	07/18/05	0.101	0.524	1.15	0.0664	1.58	0.00687 J	0.0148	ND (<0.0500)	13400	337
	MWA-34i-081705	08/17/05	0.0250 J	0.534	4.69	0.0123	0.616	0.173	0.192	ND(<0.100)	8290	294
	MWA-34i-091305	09/13/05	0.0420 J	0.417	2.58	0.0210 J	0.660 J	ND (<0.0100)	0.0269	ND (<0.100)	10400	406
	MWA-34i-120905	12/09/05	0.0328	0.706	1.87	0.0318	1.34	0.0189	0.0302	ND (<0.100)	6890	250
MWA-48i	MWA-48i-051005	05/10/05	0.0222	ND (<0.0423)	254	0.0174	0.0323 J	16.1	0.0102	0.0206 J	39200	1240
	MWA-48i-071505	07/15/05	0.0183	ND (<0.0224)	490	0.0173	0.0791 J	17.8	0.00789 J	ND (<0.0100)	37700	2350
	MWA-48I-081105	08/11/05	0.0235	ND(<0.00450)	728	0.830	ND(<0.0480)	9.58	0.00502 J	0.115 J	7780	1770
	MWA-48i-090805	09/08/05	0.0135 J	ND (<0.00450)	415	0.0415 J	ND(<0.0480)	6.93	NA	ND (<0.0100)	38200	1690
	MWA-48i-092205	9/22/2005[(2)]	NA	NA	NA	NA	NA	NA	0.0151	NA	NA	NA
	MWA-48i-121405	12/14/05	0.0463	ND (<0.00664)	315	0.0323	0.0966 J	14.8	0.00457 J	ND (<0.0100)	31100	1420
MWA-49i	MWA-49i-050605	05/06/05	ND (<0.00720)	ND (<0.00840)	87.3	0.00977 J	0.0247 J	2.29	ND (<0.00455)	0.0252 J	26600	203
	MWA-49i-071405	07/14/05	0.00775	ND (<0.0271)	78.1	0.00624	0.0237 J	1.92	ND (<0.00455)	ND (<0.0100)	25300	204
	MWA-49i-081605	08/16/05	0.00855	ND(<0.00450)	78.2	0.0116	0.0674 J	2.05	ND (<0.00455)	ND (<0.0100)	26200	202
	MWA-49i-091305	09/13/05	ND (<0.0150)	ND (<0.00900)	92.9	0.0150 J	ND (<0.240)	2.36	ND (<0.00455)	ND (<0.0100)	25700	197
	MWA-49i-120905	12/09/05	0.00471 J	0.0122	87.3	ND (<0.000605)	ND (<0.337)	2.31	ND (<0.00455)	ND (<0.0100)	24400	193
MWA-50i	MWA-50i-050605	05/06/05	ND (<0.00720)	ND (<0.00420)	6.55	0.00199	0.0144 J	0.0560	ND (<0.00455)	ND (<0.100)	17000	140
	MWA-50i-071905	07/19/05	ND (<0.00720)	ND (<0.0235)	16.1	ND (<0.00720)	0.0171 J	0.112	ND (<0.0200)	ND (<0.0100)	22000	153
	MWA-50i-081705	08/17/05	ND(<0.00750)	ND(<0.00450)	16.7	0.00300 J	ND(<0.0480)	0.171	ND(<0.00455)	ND (<0.0100)	24700	173
	MWA-50i-091205	09/12/05	ND (<0.0150)	ND (<0.00900)	10.8	0.0110 J	ND (<0.0480)	0.114	ND (<0.00455)	ND (<0.0100)	19800	210
	MWA-50i-121205	12/12/05	0.000828 J	0.00948	7.62	ND (<0.000605)	0.0126 J	0.0744	ND (<0.00455)	ND (<0.0100)	16600	398
MWA-51i	MWA-51i-050505	05/05/05	0.105	1.33	10.6	0.0832	5.02	0.195	0.0485	ND (<0.100)	15700	190
	MWA-51i-071405	07/14/05	0.110	1.21	13.2	0.0872	4.78	0.359	0.0631	ND (<0.0100)	18400	223
	MWA-51i-081605	08/16/05	0.0890	1.05	8.66	0.0186	4.16	0.219	0.0243	ND(<0.100)	18200	272
	MWA-51i-091305	09/13/05	0.0510 J	1.36	7.38	0.0110 J	3.35	0.168	0.0468	ND (<0.100)	17400	315
	MWA-51i-120805	12/08/05	0.0816	1.31	5.72	0.0690	4.71	0.167	0.0220	ND (<0.100)	16900	323

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
MWA-52i	MWA-52i-050905	05/09/05	ND (<0.00720)	ND (<0.00420)	9.41	ND (<0.00720)	0.0233 J	0.182	ND (<0.00455)	ND (<0.0100)	8670	200
	MWA-52i-071905	07/19/05	ND (<0.00720)	ND (<0.0275)	18.5	ND (<0.00720)	0.234	0.200	ND (<0.0200)	ND (<0.0100)	11500	342
	MWA-52i-081605	08/16/05	0.00585	0.00235 J	8.50	0.00510	1.43	0.230	ND(<0.00455)	ND (<0.0100)	8490	385
	MWA-52i-090905	09/09/05	ND (<0.0150)	ND (<0.00450)	7.73	0.00800 J	1.09	0.248	0.00557 J	ND (<0.0100)	7970	433
	MWA-52i-121205	12/12/05	0.00146 J	0.00840	10.1	ND (<0.000605)	0.323	0.303	ND (<0.00455)	ND (<0.0100)	8440	441
MWA-53i	MWA-53i-050905	05/09/05	ND (<0.00720)	ND (<0.00420)	11.3	ND (<0.00720)	0.0113 J	0.136	ND (<0.00455)	0.0125 J	16900	219
	MWA-53i-071805	07/18/05	ND (<0.00360)	ND (0.0193)	10.1	ND (<0.00360)	0.0304 J	0.166	ND (<0.00455)	ND (<0.0100)	20000	226
	MWA-53i-081205	08/12/05	0.00350 J	ND(<0.000450)	14.9	0.00320 J	ND(<0.0480)	0.276	ND (<0.00455)	ND (<0.0100)	23400	298
	MWA-53i-091205	09/12/05	ND (<0.0150)	0.0160 J	42.5	0.0230 J	ND (<0.0480)	0.406	ND (<0.00455)	ND (<0.0100)	23900	435
	MWA-53i-120805	12/08/05	0.00135	0.0141	108	ND (<0.00121)	1.35	0.314	0.00110 J	0.654	24900	1080
MWA-54i	MWA-54i-050505	05/05/05	0.0966	0.238	42.5	0.0696	2.96	0.152	0.0548	0.102 J	7060	312
	MWA-54i-071205	07/12/05	ND (<0.00360)	0.326	2620	ND (<0.00360)	0.0105 J	0.00204 J	ND (<0.136)	ND (<0.0200)	14900	31.4
	MWA-54i-081505	08/15/05	0.00760 J	0.0783	922	0.00524	0.0949 J	0.0629	ND (<0.00455)	175	12500	264
	MWA-54i-090805	09/08/05	ND (<0.00750)	0.296	703	0.0110 J	ND (<0.0480)	0.0937	NA	82.4	12100	750
	MWA-54i-092305	9/23/2005[(2)]	NA	NA	NA	NA	NA	NA	0.00634 J	NA	NA	NA
	MWA-54i-120705	12/07/05	0.0182	0.0687	451	0.0138	0.0632 J	0.551	0.00720 J	10.6	9670	1560
MWA-55i	MWA-55i-050905	05/09/05	0.0844	0.106	8.7	0.0673	0.0561 J	0.00751 J	0.0259	ND (<0.0200)	30800	287
	MWA-55i-071305	07/13/05	0.154	0.0796	5.39	0.127	0.0563 J	0.00542 J	0.0345	ND (<0.0100)	27400	153
	MWA-55i-081505	08/15/05	0.117	0.0834	13.0	0.00691	0.0699 J	0.698	0.0234	0.147 J	26900	187
	MWA-55i-091205	09/12/05	0.0890 J	0.0820 J	6.29	0.0770 J	ND (<0.0480)	0.00860 J	0.0325	ND (<0.0200)	28800	250
	MWA-55i-121205	12/12/05	0.164	0.130	46.5	0.127	0.112 J	ND (<0.00640)	0.0293	3.51	27100	670
Deep Zone												
MWA-28i(d)	MWA-28i-051005	05/10/05	ND (<0.00720)	0.454	70.5	ND (<0.00720)	11.7	7.72	0.0103	ND (<0.0100)	453	ND (<0.0570)
	MWA-28i-071505	07/15/05	ND (<0.00360)	0.404	71.3	ND (<0.00360)	11.9	8.18	ND (<0.00455)	ND (<0.0100)	420	ND (<0.0419)
	MWA-28i-081105	08/11/05	0.00231	0.338	70.9	0.000250 J	12.5	8.05	ND (<0.00455)	ND (<0.0100)	430	ND(<0.0419)
	MWA-28i-090805	09/08/05	ND (<0.00750)	0.349	71.7	ND (<0.00400)	12.7	8.17	NA	ND (<0.0100)	413	ND(<0.0419)
	MWA-28i-092305	9/23/2005[(2)]	NA	NA	NA	NA	NA	NA	ND (<0.00455)	NA	NA	NA
	MWA-28i-121405	12/14/05	0.00242	0.439	72.8	ND (<0.00121)	11.9	8.27	ND (<0.00455)	ND (<0.0100)	420	ND (<0.0419)
MWA-31i(d)	MWA-31i-050605	05/06/05	1.06	ND (<0.0822)	1130	0.0265	0.0132 J	89.1	0.726	0.0969 J	106000	301
	MWA-31i-071805	07/18/05	0.588	ND (<0.0420)	1470	ND (<0.00720)	0.106	78.8	0.250	0.0518 J	104000	312
	MWA-31i-081705	08/17/05	1.07	ND(<0.00900)	1080	0.0266	0.484	76.2	0.142	0.0945 J	102000	300
	MWA-31i-091405	09/14/05	1.70	ND (<0.00900)	812	0.0920 J	ND (<0.240)	55.0	1.02	0.0714 J	97600	258
	MWA-31i(d)-120905	12/09/05	0.216	0.0454	1230	0.0423	1.57	98.4	0.0251	0.832	90700	263
MWA-56d	MWA-56d-050605	05/06/05	ND (<0.00720)	ND (<0.00840)	1340	ND (<0.00647)	0.0604 J	88.6	ND (<0.00455)	0.0761 J	64100	166
	MWA-56d-071405	07/14/05	0.00193 J	ND (<0.0203)	1280	ND (<0.00360)	0.0132 J	84.8	0.0223	0.0737 J	57900	174
	MWA-56d-081605	08/16/05	0.00440 J	ND(<0.00900)	1310	0.00520	0.322	89.2	ND (<0.00455)	ND(<0.0200)	60900	165
	MWA-56d-091305	09/13/05	ND (<0.0150)	ND (<0.00900)	1360	0.0330 J	ND (<0.240)	88.0	ND (<0.00455)	0.113 J	57700	180
	MWA-56d-120905	12/09/05	0.00105 J	0.0276	1360	0.000825 J	ND (<0.337)	90.6	ND (<0.00455)	0.103 J	56300	157
MWA-57d	MWA-57d-050905	05/09/05	ND (<0.00720)	ND (<0.0436)	284	ND (<0.00720)	0.821	28.1	ND (<0.00455)	ND (<0.0200)	31200	93.0 J
	MWA-57d-071305	07/13/05	ND (<0.00360)	ND (<0.0282)	296	ND (<0.00360)	0.0722 J	31.6	ND (<0.00455)	ND (<0.0100)	29500	82.9
	MWA-57d-081505	08/15/05	0.00400 J	ND (<0.000450)	303	0.00230 J	0.285	35.9	0.00546 J	ND(<0.0100)	30200	86.5
	MWA-57d-091205	09/12/05	ND (<0.0150)	ND (<0.00900)	378	0.0230 J	ND (<0.0480)	36.1	ND (<0.00455)	ND (<0.0100)	32500	99.0 J
	MWA--57d-121205	12/12/05	0.00121 J	ND (<0.0133)	333	ND (<0.000605)	ND (<0.0337)	37.4	ND (<0.00455)	ND (<0.0100)	37000	99.2

Table 2
Groundwater Analytical Results
Hexavalent Chromium Reduction Interim Remedial Measure
Arkema Inc. Portland Facility

Well Number	Sample Number	Date	Total Chromium (mg/L)	Dissolved Arsenic (mg/L)	Dissolved Calcium (mg/L)	Dissolved Chromium (mg/L)	Dissolved Iron (mg/L)	Dissolved Manganese (mg/L)	Hexavalent Chromium (mg/L)	Sulfide (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)
MWA-58d	MWA-58d-050605	05/06/05	ND (<0.00720)	ND (<0.0760)	874	ND (<0.00815)	0.0483 J	63.9	ND (<0.00455)	ND (<0.0100)	112000	380
	MWA-58d-071405	07/14/05	ND (<0.00360)	ND (<0.0420)	1220	ND (<0.00360)	0.0200 J	72.0	ND (<0.00455)	0.0322 J	108000	405
	MWA-58d-081705	08/17/05	ND(<0.0150)	ND(<0.0450)	1020	0.00655	0.293	68.2	ND (<0.00455)	0.0518 J	106000	365
	MWA-58d-091305	09/13/05	ND (<0.0150)	ND (<0.00900)	1160	0.0850 J	ND (<0.240)	76.8	ND (<0.00455)	0.0194 J	108000	363
	MWA-58d-120905	12/09/05	0.000483 J	0.0322	1270	0.00246 J	0.0831 J	79.0	ND (<0.00455)	ND (<0.0100)	102000	352
MWA-59d	MWA-59d-050605	05/06/05	ND (<0.00720)	ND (<0.0819)	885	0.0142	0.0144 J	86.3	ND (<0.00455)	0.0264 J	105000	293
	MWA-59d-071905	07/19/05	0.00793 J	ND (<0.0420)	1130	0.00869 J	0.0133 J	97.8	ND (<0.0200)	ND (<0.0100)	122000	412
	MWA-59d-081705	08/17/05	ND(<0.0150)	ND(<0.00900)	816	0.00780	0.262	72.9	ND(<0.00455)	ND (<0.0100)	124000	390
	MWA-59d-091205	09/12/05	ND (<0.0150)	ND (<0.00900)	1020	0.0990 J	ND (<0.0480)	96.8	ND (<0.00455)	ND (<0.0100)	132000	413
	MWA-59d-121205	12/12/05	0.00164 J	0.0524	822	ND (<0.000605)	0.0379 J	75.7	ND (<0.00455)	ND (<0.0100)	134000	418

Notes:

J = Estimated Value
ND = Not Detected
NA = Not Applicable / Not Tested
1) Sample MWA-18-071405 was reprepped and reanalyzed due to significant inconsistencey observed between preliminary and baseline hexavalent chromium results. Sample was reanalyzed out of hold time.
2) Wells were resampled after original Hexavalent Chromium samples were analyzed outside of holding times
3) Well not sampled due to insufficient groundwater volume
4) sample analyzed for chloride out of hold time.