

US EPA ARCHIVE DOCUMENT

APPENDIX K

Doe Run WET Violations

No.

1

Brushy Creek Mine/Mill - MSOP MO0001848

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
001		8/31/2005	Acute	F	P	
001		9/14/2005	Acute	F	P	
001		10/12/2005	Acute	F	P	
001	Jul-06	7/26/2006	Acute	F	P	
001		8/21/2006	Acute	F	P	Sampling event during EPA inspection of August 2006
001		9/20/2006	Acute	F	P	
001		10/4/2006	Acute	F	P	Test Procedure Violation: should have been multiple dilution test
001		11/1/2006	Acute	F	P	
001	Jul-07	8/29/2007	Acute	F	P	
001		9/19/2007	Acute	F	P	
001		10/3/2007	Acute	F	P	
001		10/17/2007	Acute	F	P	
001	Jul-08	7/30/2008	Acute	F	P	
001		8/20/2008	Acute	F	P	
001		9/3/2008	Acute	F	P	
001		9/17/2008	Acute	F	P	
001		10/1/2008	Acute	F	P	
001		10/15/2008	Acute	F	P	
001		11/12/2008	Acute	F	P	
001		12/3/2008	Acute	F	P	
001		12/17/2008	Acute	F	P	
001		1/7/2009	Acute	F	none	
001		1/21/2009	Acute	F	none	
001		2/4/2009	Acute	F	none	
001		2/18/2009	Acute	F	P	
001		3/4/2009	Acute	F	P	
001		3/18/2009	Acute	F	P	
001		3/18/2009	Acute	F	F	MDNR split sample analysis
001		4/1/2009	Acute	F	P	
001		4/15/2009	Acute	F	P	
001		4/29/2009	Acute	F	P	
001		5/12/2009	Acute	F	P	
001		5/20/2009	Acute	F	P	
001		6/3/2009	Acute	F	P	
001		6/17/2009	Acute	F	P	
001		6/30/2009	Acute	F	P	
001		7/14/2009	Acute	F	F	MDNR split sample analysis
001		7/28/2009	Acute	F	P	MDNR split sample analysis
001		8/11/2009	Acute	F	P	
001	Mar-10	3/23/2010	Chronic	F	P	
001	Apr-10	4/19/2010	Chronic	F	P	
001		5/17/2010	Chronic	F	P	
001		6/1/2010	Chronic	F	P	
001		8/10/2010	Chronic	F	P	
001		9/13/2010	Chronic	F	P	Accelerated testing

PERMIT CONDITIONS

TIME FRAME

10/2004 - 2/25/2010
2/26/2010 - present

TESTING SCHEDULE

July
March, April, August, October

TYPE OF TEST

Acute / Grab
Chronic / Composite

9/28/2010

Doe Run WET Violations

No.
2

BUICK MINE / MILL - MSOP MO002003

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>D. magna</i>	<i>P. promelas</i>	
002	4th Q 2004					No record of testing
002	1st Q 2005					No record of testing

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
002	Oct-09		Chronic			No test was completed in October 2009
002		12/17/2009	Chronic	Fail	Pass	Failure to take composite sample
002		1/25/2010	Chronic	Fail	Pass	Failure to take composite sample
002		2/9/2010	Chronic	Fail	Pass	Failure to take composite sample
002		2/23/2010	Chronic	Fail	Pass	Failure to take composite sample
002	Mar-10		Chronic			No test was completed in March 2010
002	Apr-10		Chronic			No test was completed in April 2010
002		8/16/2010	Chronic	Fail	Pass	

PERMIT CONDITIONS

<u>TIME FRAME</u>	<u>TESTING SCHEDULE</u>	<u>SAMPLE TYPE</u>	<u>TEST SPECIES</u>
10/2004 - 9/24/2009	Quarterly	Grab	<i>D. magna</i> & <i>P. promelas</i>
9/25/2009 - present	March, April, August, October	Composite	<i>C. dubia</i> & <i>P. promelas</i>

8/27/2010

Doe Run WET Violations

No.
3

Buick Resource Recycling - MSOP MO0000337

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
001	Nov-04	11/11/2004	Acute	F	P	Accelerated test should be multiple dilution
001	Nov-04	11/30/2004	Acute	F	P	Second failure during accelerated testing; tests should be multiple dilution
001		1/13/2005	Acute	F	F	Test Procedure Violation: grab sample & single dilution
001	Feb-05	2/17/2005	Acute	F	P	No record of accelerated testing after failure
001		11/17/2005	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		11/29/2005	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		12/20/2005	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		9/14/2006	Acute	P	P	Test Procedure Violation: should have been a multiple dilution test
001		5/23/2007	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		6/5/2007	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		6/18/2007	Acute	none	P	Test Procedure Violation: should have sampled both species.
001		1/8/2008	Acute	F	F	Second failure during accelerated testing
001	Nov-08	11/18/2008	Acute	P	P	Test Procedure Violation: grab sample, should have been a composite
001	Feb-09	2/26/2009	Acute	P	P	Test Procedure Violation: holding time exceeded & grab sample
001		6/18/2009	Acute	P	P	Accelerated test should be multiple dilution
001		7/2/2009	Acute	F	F	Accelerated test should be multiple dilution
001		7/20/2009	Acute	F	F	Second failure during accelerated testing; should have been multiple dilution
001		9/14/2009	Acute	F	F	Second failure during accelerated testing
001		9/29/2009	Acute	F	F	Third failure during accelerated testing
001		10/19/2009	Acute	F	F	Fourth failure during accelerated testing
001		12/17/2009	Acute	F	F	Second failure during accelerated testing
001		3/23/2010	Acute	F	P	Second failure during accelerated testing
001		4/6/2010	Acute	F	P	Third failure during accelerated testing

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
002	Nov-04	11/30/2004	Acute	F	F	Accelerated test should be multiple dilution
002		1/13/2005	Acute	F	F	Second failure during accelerated testing; should be multiple dilution
002	Feb-08	2/18/2008	Acute	F	P	No record of follow-up testing
002		9/6/2008	Acute	F	F	Test Procedure Violation: holding time exceeded
002		9/14/2008	Acute	F	F	Accelerated test should be multiple dilution
002		6/19/2009	Acute	F	F	
002		10/29/2009	Acute	F	P	
002	Nov-09					No record of testing

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
003	Nov-04	11/11/2004	Acute	F	F	Accelerated test should be multiple dilution
003	Nov-04	11/30/2004	Acute	F	F	Second failure during accelerated test; should be multiple dilution
003		1/5/2005	Acute	F	F	Third failure during accelerated testing; test should be multiple dilution
003		1/13/2005	Acute	F	P	Fourth failure during accelerated testing; test should be multiple dilution
003	Nov-05					No record of testing
003	Nov-06	11/16/2006	Acute	F	F	Scheduled test; no record of accelerated testing
003		2/18/2008	Acute	P	P	Test Procedure Violation: holding time exceeded
003		9/6/2008	Acute	P	P	Test Procedure Violation: holding time exceeded
003		4/13/2009	Acute	F	F	Accelerated test should be multiple dilution
003		4/19/2009	Acute	F	F	Accelerated test should be multiple dilution
003	Nov-09					No record of testing

PERMIT CONDITIONS

TIME FRAME

10/2004 - present

TESTING SCHEDULE

February, May, August, November

9/28/2010

Doe Run WET Violations

No.
4

Fletcher Mine - MSOP MO0001856

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
001	Aug-06	10/11/2006	Acute	Pass	Pass	Testing not conducted in August as required by permit
001		8/16/2010	Acute	Fail	Pass	
001		9/13/2010	Acute	Fail	Pass	Accelerated testing

PERMIT CONDITIONS

TIME FRAME

10/2004 - 11/12/2009

11/13/2009 - present

TESTING SCHEDULE

August

August

9/28/2010

Doe Run WET Violations

No.
5

Glover Smelter - MSOP MO0001121

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
003	Oct-05	11/9/2005	Acute	Pass	Pass	Test Procedure Violation: 20 degrees C, not 25
003	Jun-07					No Record of Testing
003	Nov-07					No test completed in November 2007
003	Mar-08	4/16/2008	Acute	Pass	Pass	Permit requires testing in March
003		9/12/2008	Acute	--	Pass	Did not complete testing for <i>C. dubia</i>
003		9/26/2008	Acute	--	Pass	Did not complete testing for <i>C. dubia</i>
003		10/10/2008	Acute	--	Pass	Did not complete testing for <i>C. dubia</i>
003		9/30/2009	Acute	Pass	Fail	Second failure during retesting period
003	Nov-09	12/2/2009	Acute	Pass	Pass	Permit requires testing in November
003	Mar-10	4/28/2010	Acute	Fail	Pass	No discharge in March; sampled in April
003	Jun-10	6/9/2010	Acute	Pass	Fail	
003		8/25/2010	Acute	Fail	Fail	

PERMIT CONDITIONS

TIME FRAME

10/2004 - 3/22/2007
3/23/2007 - present

TESTING SCHEDULE

October
March, June, August, November

8/27/2010

Doe Run WET Violations

No.
6

Herculaneum Smelter - MSOP MO0000281

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
001		3/5/2008	Acute	Fail	Fail	
001		10/14/2009	Acute	Fail	Pass	
001		11/18/2009	Acute	Fail	Pass	

PERMIT CONDITIONS

TIME FRAME

10/2004 - present

TESTING SCHEDULE

January, August

9/28/2010

Doe Run WET Violations

No.
7

Viburnum 28 & 29 - MSOP MO0000086

US EPA ARCHIVE DOCUMENT

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>D. magna</i>	<i>P. promelas</i>	
002	4th Q 2004					No Record of Testing
002	1st Q 2005					No Record of Testing
002	2nd Q 2005					No record of testing in 2nd Q 2005
Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
002	Jan-10					Permit requires testing in January; not tested until March
002		3/10/2010	Chronic	Fail	Fail	Test species changed with new permit
002	Apr-10					Permit requires testing in April
002		5/25/2010	Chronic	Fail	Fail	Accelerated testing not initiated within 14 days of 3/10/2010 test failure
002		6/7/2010	Chronic	Fail	Fail	
002	Jun-10	6/22/2010	Chronic	Pass	Fail	

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>D. magna</i>	<i>P. promelas</i>	
004	4th Q 2004					No Record of Testing
004	1st Q 2005					No Record of Testing
Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
004	Jan-10					Permit requires testing in January; not tested until March
004	Jan-10	3/10/2010	Chronic	Fail	Pass	
004	Apr-10					Permit requires testing in April
004		5/24/2010	Chronic	Fail	Pass	Accelerated testing not initiated within 14 days of 3/10/2010 test failure
004		6/7/2010	Chronic	Fail	Pass	
004	Jun-10	6/22/2010	Chronic	Fail	Pass	
004		8/23/2010	Chronic	Fail	Pass	
004		9/20/2010	Chronic	Fail	Pass	Accelerated testing

PERMIT CONDITIONS

TIME FRAME

10/2004 - 12/3/2009
12/4/2009 - present

TESTING SCHEDULE

Quarterly
January, April, July, October

TEST SPECIES

D. magna & *P. promelas*
C. dubia & *P. promelas*

9/28/2010

Doe Run WET Violations

No.
8

Viburnum No. 35 (Casteel) - MSOP MO0100226

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment (EPA)
				<i>C. dubia</i>	<i>P. promelas</i>	
001	Jul-06	7/6/2005	Acute	Fail	Pass	Bi-weekly testing required after failure
001	Jul-07	8/29/2007	Acute	Pass	Pass	Test Procedure Violation: collected in August, not July as required
001	Apr-10		Chronic			No test was completed in April 2010
001		8/3/2010	Chronic	Fail	Pass	
001		9/15/2010	Chronic	Fail	Pass	Accelerated testing

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
003	Jul-07	8/29/2007	Acute	Pass	Pass	Test Procedure Violation: collected in August, not July as required
003	Jul-08	7/30/2008	Acute	Fail	Pass	
003		9/3/2008	Acute	Pass	Pass	Accelerated tests should commence within 14 days after violation
003		9/17/2008	Acute	Fail	Pass	
003	Apr-10		Chronic			No test was completed in April 2010
003		8/3/2010	Chronic	Fail	Pass	
003		9/15/2010	Chronic	Fail	Pass	Accelerated testing

PERMIT CONDITIONS

TIME FRAME

10/2004 - 3/18/2010
3/19/2010 - present

TESTING SCHEDULE

July
March, April, August, October

8/19/2010

Doe Run WET Violations

No.
9

West Fork Mine / Mill - MSOP MO0100218

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
001		11/28/2007	Acute	Fail	Pass	Follow-up testing should be biweekly
001		12/12/2007	Acute	Fail	Pass	
001		8/20/2008	Acute	Fail	Pass	
001		9/3/2008	Acute	Fail	Pass	
001		9/17/2008	Acute	Fail	Pass	
001	Oct-08	10/1/2008	Acute	Fail	Pass	
001		10/15/2008	Acute	Fail	Pass	
001		11/12/2008	Acute	Fail	Pass	
001		12/3/2008	Acute	Fail	Pass	
001		12/17/2008	Acute	Fail	Pass	
001		1/7/2009	Acute	Invalid		Toxicity in control invalidated <i>C. dubia</i> results
001		1/21/2009	Acute	Fail	--	
001		2/4/2009	Acute	Fail	--	
001		2/18/2009	Acute	Fail	Pass	
001		3/4/2009	Acute	Fail	Pass	
001		3/18/2009	Acute	Fail	Pass	
001		4/1/2009	Acute	Fail	Pass	
001		4/15/2009	Acute	Fail	Pass	
001		4/29/2009	Acute	Fail	Pass	
001		5/13/2009	Acute	Fail	Pass	
001		5/20/2009	Acute	Fail	Pass	
001		6/3/2009	Acute	Fail	Pass	
001		6/17/2009	Acute	Fail	Pass	
001		7/15/2009	Acute	Fail	Pass	
001		7/29/2009	Acute	Fail	Pass	
001		8/12/2009	Acute	Fail	Pass	
001	Apr-10	4/19/2010	Chronic	Fail	Pass	
001		7/20/2010	Chronic	pending	pending	Accelerated testing should have been initiated within 30 days of 4/19/10 failure

Outfall	Scheduled Tests	Actual Dates	Test Type (Acute/Chronic)	Results		Comment
				<i>C. dubia</i>	<i>P. promelas</i>	
003	2005					No WET test conducted
003	2006					No WET test conducted
003	2008					No WET test conducted
003	2009					No WET test conducted

PERMIT CONDITIONS

TIME FRAME

10/2004 - 3/11/2010
3/12/2010 - present

TESTING SCHEDULE

October
March, April, August, October

NPDES Permit Violation History from DMRs
Brushy Creek Mine/Mill - MO0001848 - Outfall 001 & 004

Issued: 09/05/2003

Reissued: 02/26/2010

Revised: 07/28/2010

Outfall: 001- Settling basin containing mine water and stormwater runoff

Date	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH DM 6 - 9 SU once/mo	Copper, dis. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, dis. DM / MA 0.295 / 0.181 mg/L once/mo	Zinc, dis. DM / MA 1.621 / 0.99 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, dis. DM / MA 0.094 / 0.057 mg/L once/mo	Mercury, t.r. DM / MA 0.0024 / 0.0012 mg/L once/yr	Whole Effluent Toxicity once/yr in July *
March 2005							0.814 ma			
April 2005			9.3 dm							
Oct 2005							0.785 ma			
Aug 2006							0.838 ma**			
Nov 2006							0.8360 ma			
May 2008							0.862 ma			
June 2008							0.796 ma			
Sept 2008							0.878 ma			
Nov 2008							0.758 ma			
Dec 2008							0.866 ma			
Feb 2009							0.785 ma			

NPDES Permit Violation History from DMRs

Brushy Creek Mine/Mill - MO0001848 - Outfall 001 & 004

Date	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH DM 6 - 9 SU once/mo	Copper, dis. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, dis. DM / MA 0.295 / 0.181 mg/L once/mo	Zinc, dis. DM / MA 1.621 / 0.99 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, dis. DM / MA 0.094 / 0.057 mg/L once/mo	Mercury, t.r. DM / MA 0.0024 / 0.0012 mg/L once/yr	Whole Effluent Toxicity once/yr in July *
Feb 2010							0.859 ma			

* WET results not addressed in this table.

** Value includes one Doe Run sample and three EPA samples

NPDES Permit Violation History from DMRs

Brushy Creek Mine/Mill - MO0001848 - Outfall 001 & 004

Outfall: 001- Settling basin containing mine water and stormwater runoff (Reissued: 02/26/2010)

Date	TSS DM / MA 30 / 20 mg/L once/mo	pH DM 6.5 - 9 SU once/mo	Copper, t.r. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, t.r. DM / MA 0.295 / 0.181 mg/L once/mo	Zinc, t.r. DM / MA 1.0 / 0.5 mg/L once/mo	Cadmium, t.r. DM / MA 0.094 / 0.05 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/yr	Whole Effluent Toxicity once/quart er in Mar, Apr, Aug, Oct. *
Mar 2010				0.185 ma	1.22 dm 1.025 ma			
Apr 2010					0.659 ma			
May 2010					1.011 dm 0.762 ma			

* WET results not addressed in this table.

NPDES Permit Violation History from DMRs

Brushy Creek Mine/Mill - MO0001848 - Outfall 001 & 004

Outfall: 001- Settling basin containing mine water and stormwater runoff (Revised: 07/13/2010)

Date	TSS DM / MA 30 / 20 mg/L once/mo	pH DM 6.5 - 9 SU once/mo	Copper, t.r. DM / MA 0.088 / 0.053 mg/L once/mo	Lead, t.r. DM / MA 0.417 / 0.256 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t.r. DM / MA 0.100 / 0.05 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/yr	Whole Effluent Toxicity once/quart er in Mar, Apr, Aug, Oct. *
July 2010					0.936 ma			

* WET results not addressed in this table.

Outfall: 004- Instream monitoring

Date	pH DM 6.5 - 9 SU once/mo	Copper, dis. DM / MA 0.047 / 0.029 mg/L once/mo	Lead, dis. DM / MA 0.417 /0.255 mg/L once/mo	Zinc, dis. DM / MA 0.557 / 0.340 mg/L once/mo	Cadmium, dis. DM / MA 0.019 / 0.012 mg/L once/mo
April 28, 2005	9.23 dm				

NPDES Permit Violation History from DMRs
Buick Mine/Mill - MO0002003 - Outfall 001, 002 & 003

Issued: 03/09/1990

Reissued: 09/25/2009

Revised: 07/13/2010

Outfall: 001- Domestic waste discharged to tailings basin

Date	pH DM Above 6 annual	BOD WA / MA 65 / 45 mg/L annual	TSS WA / MA 120 / 80 mg/L annual
Dec 8, 2006			121.7 (dm & ma)
Feb 2007		49 ma	86.67 ma
Mar 22, 2007		84.24 (dm & ma)	230 (dm & ma)

Outfall: 002- Mine, Mill, Stormwater and water from 001

Date	TSS DM / MA 30 / 20 mg/L once/mo	Copper, t.r. DM / MA 300 / 150 ug/l once/mo	Zinc, t.r. DM / MA 860 / 430 ug/l once/mo	Lead, t.r. DM / MA 526 / 263 ug/l once/mo	Cadmium DM / MA 100 / 50 ug/l once/mo	Mercury, t.r. DM / MA 2 / 1 ug/l once/yr in July	Oil & Grease DM / MA 15 / 10 mg/L once/mo
Jan 26, 2005			433 ma				
March 2005				280 ma			
July 2006							10.9 ma
Jan 25, 2007			437 ma				

NPDES Permit Violation History from DMRs
Buick Mine/Mill - MO0002003 - Outfall 001, 002 & 003

Date	TSS DM / MA 30 / 20 mg/L once/mo	Copper, t.r. DM / MA 300 / 150 ug/l once/mo	Zinc, t.r. DM / MA 860 / 430 ug/l once/mo	Lead, t.r. DM / MA 526 / 263 ug/l once/mo	Cadmium DM / MA 100 / 50 ug/l once/mo	Mercury, t.r. DM / MA 2 / 1 ug/l once/yr in July	Oil & Grease DM / MA 15 / 10 mg/L once/mo
March 2008			495 ma				
Jan 30, 2009			613 ma				
Feb 25, 2009			546 ma				
Mar 26, 2009			490 ma				
Jun 26, 2009							219 dm, 112 ma

NPDES Permit Violation History from DMRs
Buick Mine/Mill - MO0002003 - Outfall 001, 002 & 003

Outfall: 002- Mine, Mill, Stormwater and water from 001 (Reissued: 09/25/2010)

Date	TSS DM / MA 30 / 20 mg/L once/mo	Copper, t.r. DM / MA 300 / 150 ug/l once/mo	Zinc, t.r. DM / MA 860 / 430 ug/l once/mo	Lead, t.r. DM / MA 526 / 263 ug/l once/mo	Cadmium DM / MA 100 / 50 ug/l once/mo	Mercury, t.r. DM / MA 2 / 1 ug/l once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Chlorides plus Sulfates monitoring only once/mo
Dec 2009			782 ma					
Jan 2010			616 ma					
Feb 2010			721 ma					
Mar 2010			676 ma					
Jun 2010								No analysis conducted

Outfall 003 – in stream monitoring point

Date	Copper, t.r. DM / MA 54 / 37 ug/l once/mo	Zinc, t.r. DM / MA 490/ 440 ug/l once/mo	Lead, t.r. DM / MA 190 / 29 ug/l once/mo
March 4, 2009		479 ma	30 ma

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Issued: 08/23/2002

Modified: 02/23/2007

Reissued: (pending)

Outfall: 001 (with 002 & 003, when discharging) - Treatment of stormwater, wash water, granulation water, laboratory, sanitary, non-contact cooling water

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
11/11/04								5.74** dm	0.389 dm							
11/30/04								11.15** dm								
12/01/04								11.15** dm								
01/05/05								5.51** dm								
01/13/05		837.6** dm	6.41** dm	2.08** dm				61.80** dm		24.08** dm						

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
05/03/05													17 dm			
11/15/05		297.5** dm						12.59** dm								
3/12/06								10.86** dm								
10/31/06									0.21 dm							
11/15/06	4.78 (003)				0.22 dm			10.55** dm								
1/15/07								16.35** dm								
02/07/07														58.32 dm 37.66 ma		

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
2/13/07	10.2 (003)							6.31** dm								
2/19/07	6.2 (003)															
2/6/08								8.58** dm								
2/15/08	Failed to sample outfall 003 discharge event															
2/17/08								57.61** dm								
03/18/08		9771.6** dm	27.75** dm					126.04** dm 2.222 ma	0.48 dm			45.40** dm				
3/19/08	7.0 (002)															

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
4/1/08	6.96 (002)							9.78** dm								
4/2/08	7.48 (002)															
4/4/08	6.8 (003)															
04/09/08									0.28 dm							
04/10/08	6.1 (002)	7889** dm	12.89** dm	6.52** dm		39.51** dm		1326.6** dm	0.27 dm			48.28** dm				
4/15/08	7.0 (003)															
9/4/08		1207.3** dm	5.24** dm	2.78** dm		4.56** dm		70.41** dm		19.38** dm						
9/14/08			3.66** dm					9.40** dm								

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
12/28/08	6.6 (002)							7.98** dm								
02/11/09								4.07** dm						72 dm, ma		
03/12/09							0.099 dm									
04/03/09							0.095 dm									
4/13/09								6.34** dm								
4/19/09	6.7 (003)							2.81** dm								
05/13/09														74.8 dm, ma		

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
06/03/09		932.5** dm	6.88** dm					27.21** dm	0.307 dm							
6/15/09	6.5 (002)		3.39** dm					31.38** dm								
08/2009														130.05 dm, ma		
10/29/09		3125** dm	15.84** dm			5.04** dm		216.4** dm		9.89** dm						
11/1/09		1156** dm						70.87** dm								
11/16/09			3.94** dm					9.736** dm								
Nov 2009			2.048 ma											128.85 dm, ma		

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
Feb 2010														49.9 dm, ma		
Apr 2010									0.236 dm							
5/6/2010														60.5 dm, ma		
6/15/2010														140.33 dm, ma		
07/19/10		754.05** dm	6.95** dm			3.49** dm		50.07** dm				9.19** dm				

* WET results not addressed in this table.

**A discharge event at Outfall 002 and/or Outfall 003 occurred and the value represents the combined load from all outfalls discharging.

NPDES Permit Violation History from DMRs
Fletcher Mine/Mill - MO0001856 - Outfall 001 & 004

Issued: 07/30/2002

Reissued: 11/13/2009

Revised: 07/28/2010

Outfall: 001- Mine water and Stormwater Runoff

Date	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH 6 - 9 SU once/mo	Copper, dis. DM / MA 0.043 / 0.021 mg/L once/mo	Lead, dis. DM / MA 0.270 / 0.130 mg/L once/mo	Zinc, dis. DM / MA 0.371 / 0.184 mg/L once/mo	Cadmium, dis. DM / MA 0.049 / 0.024 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/mo	Whole Effluent Toxicity once/yr in Aug *
01/25/05			5.9						
01/23/07					0.1330 ma				

* WET results not addressed in this table.

Outfall: 001- Mine water and Stormwater Runoff (Reissued: 11/13/2009)

Date	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH 6 - 9 SU once/mo	Copper, t.r. DM / MA 0.043 / 0.021 mg/L once/mo	Lead, t.r. DM / MA 0.270 / 0.130 mg/L once/mo	Zinc, t.r. DM / MA 0.371 / 0.184 mg/L once/mo	Cadmium, t.r. DM / MA 0.049 / 0.024 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/mo	Whole Effluent Toxicity once/yr in Aug *
Nov 2009					0.179 ma				
Dec 2009				0.051 ma	0.140 ma	0.259 ma			

10/07/2010

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NPDES Permit Violation History from DMRs
Fletcher Mine/Mill - MO0001856 - Outfall 001 & 004

Date	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH 6 - 9 SU once/mo	Copper, t.r. DM / MA 0.043 / 0.021 mg/L once/mo	Lead, t.r. DM / MA 0.270 / 0.130 mg/L once/mo	Zinc, t.r. DM / MA 0.371 / 0.184 mg/L once/mo	Cadmium, t.r. DM / MA 0.049 / 0.024 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/mo	Whole Effluent Toxicity once/yr in Aug *
				0.092 dm		0.372 dm			
Jan 2010					0.163 ma				
Mar 2010					0.194 ma	0.209 ma			
Apr 2010					0.159 ma				
May 2010					0.169 ma				
July 2010					0.187 ma				

* WET results not addressed in this table.

Outfall: 001- Mine water and Stormwater Runoff (Revised: 7/28/2010)

Date	TSS DM / MA 30 / 20 mg/L once/mo	pH 6.5 - 9 SU once/mo	Copper, t.r. DM / MA 0.045 / 0.022 mg/L once/yr	Lead, t.r. DM / MA 0.398 / 0.192 mg/L once/mo	Zinc, t.r. DM / MA 0.379 / 0.188 mg/L once/mo	Cadmium, t.r. DM / MA 0.054 / 0.026 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/yr	Whole Effluent Toxicity once/yr in Aug *
Aug 2010				0.220 ma				
Sept 2010				0.318 ma				
9/23/2010				0.169 ma				

NPDES Permit Violation History from DMRs
Fletcher Mine/Mill - MO0001856 - Outfall 001 & 004

Outfall: 004- Instream Compliance

Date	Copper, dis. DM / MA 0.043 / 0.021 mg/L once/mo	Lead, dis. DM / MA 0.017 / 0.008 mg/L once/mo	Zinc, dis. DM / MA 0.371 / 0.184 mg/L once/mo	Cadmium, dis. DM / MA 0.016 / 0.008 mg/L once/mo
02/26/2007		<0.010 ma		<0.010 ma
08/13/2007				<0.010 ma
10/09/2007		0.010 ma		
11/05/2007		0.013 ma		
12/05/2007		0.015 ma		
01/07/2008		0.014 ma		
Dec 2008		0.014 ma		
Feb 2009		0.014 ma		
Sep 2009		0.011 ma		

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Issued: 11/06/1998

Reissued: 03/23/2007

Outfall: 001- Sanitary wastewater

(Reissued: 03/23/2007)

Date	Chlorine DM & MA 0.019 mg/l once/mo	TSS DM / MA 1.467 / 0.930 lbs/d once/mo	TSS WA / MA 45 / 30 mg/l once/mo	Lead, t.r. DM / MA 0.0046 0.0019 lbs/d once/mo	Lead, t.r. DM / MA 80 / 60 ug/l once/mo	Zinc, t.r. DM / MA 0.0169 0.00578 lbs/d once/mo	Zinc, t.r. DM & MA 1,180 ug/l once/mo	Cadmium, t.r. DM / MA 0.0033 0.0013 lbs/d once/mo	Cadmium, t.r. DM & MA 46 ug/l once/mo	BOD5 WA / MA 45 / 30 mg/l once/ quarter	pH DM 6 - 10 SU once/ quarter	Fecal Coliform DM / MA 1000 / 400 # /100 ml	Copper, t.r. DM & MA 46 ug/l once/ quarter	Thallium, t.r. DM & MA 58 ug/l once/ quarter
Sep 2007										61.7 wa 61.7 ma				
Dec 2007										32.7 ma				
Jun 2009												440 ma		

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Outfall: 003- Stormwater and process water

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/wk	Lead, t.r. DM / MA 0.673/0.264 lbs/d once/wk	Lead, t.r. DM / MA flow >8cft 0.080/0.080 flow<8cfs 0.027/0.027 once/wk	Zinc, t.r. DM / MA 2.452/0.745 lbs/d once/wk	Zinc, t.r. DM & MA flow >8cft 2.05/1.4 flow<8cfs 0.34/0.34 once/wk	Cadmium, t.r. DM / MA 0.481/0.192 lbs/d once/wk	Cadmium, t.r. DM & MA flow >8cft 0.046/0.046 flow<8cfs 0.013/0.013 once/wk	Thallium, t.r.mg/l DM & MA flow >8cft 0.176/0.176 flow<8cfs 0.011/0.011 once/wk	WET 1/year in October *
10/20/04								0.024 dm	
05/03/05								49.00 dm	
05/09/05				47.112 dm 23.556 ma	11.00 dm 5.5 ma			32.00 dm 40.5 ma	
07/19/05			0.325 dm, ma	1.882 ma	3.58 dm, ma		0.33 dm, ma		
08/16/05			0.091 dm, ma						
09/08/05			.061dm		0.451 dm		0.028 dm	0.020 dm	
09/23/05								0.012 dm	
12/27/05		0.038 dm, ma							
06/05/06								0.014 dm	
06/26/06								0.017 dm	
08/01/06								0.013 dm	

*WET results not addressed in this table.

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Outfall: 003- Stormwater and process water (Reissued: 03/23/2007)

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/mo	Lead, t.r. DM / MA 0.673/0.264 lbs/d once/mo	Lead, t.r. DM / MA flow >8cft 0.080/0.080 flow<8cfs 0.027/0.027 once/mo	Zinc, t.r. DM / MA 2.452/0.745 lbs/d once/mo	Zinc, t.r. DM & MA flow >8cft 2.05/1.4 flow<8cfs 0.34/0.34 once/mo	Cadmium, t.r. DM / MA 0.481/0.192 lbs/d once/mo	Cadmium, t.r. DM & MA flow >8cft 0.046/0.046 flow<8cfs 0.013/0.013 once/mo	Thallium, t.r.mg/l DM & MA flow >8cft 0.176/0.176 flow<8cfs 0.011/0.011 once/mo	WET 4/year *
10/01/07								0.018 dm, ma	
Aug 2008								0.031 dm, ma	
Sept 2008								0.036 dm, ma	
Oct 2008								0.035 dm & ma	
July 2009								0.022 dm, ma	
Sep 2009								0.023 dm, ma	

*WET results not addressed in this table.

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Outfall: 003- Stormwater and process water (final effluent limits effective 03/23/2010)

Date	TSS DM / MA 36.056 / 24.036 lbs/d WA / MA 45 / 30 mg/L once/mo	Lead, t.r. DM 0.012 lbs/d DM / MA 6.0 / 2.9 µg/L once/mo	Zinc, t.r. DM 0.512 lbs/d MD / MA 218 /189 µg/L once/mo	Cadmium, t.r. DM 0.001 lbs/d DM / MA 0.52 / 0.26 µg/L once/mo	Thallium, t.r. DM / MA 10.3 / 5.1 µg/L once/mo	Copper, t.r. DM / MA 11.8 / 5.9 µg/L once/mo	Selenium, t.r. DM / MA 8.1 / 4.0 µg/L once/mo	pH, SU DM / MA 7.5 – 9.0 once/mo	WET 4/year *
Apr 2010					5.9 ma 11.8 dm				
July 2010				0.30 ma	5.68 ma				

*WET results not addressed in this table.

Outfall: 006- Emergency overflow (Reissued: 03/23/2007)

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/discharge /day	Lead, t.r. DM 0.012 lbs/d once/ discharge/ day	Lead, t.r. DM / MA 6.0 / 2.90 micrograms/l once/discharge /day	Zinc, t.r. DM 0.512 lbs/d once/ discharge/ day	Zinc, t.r. DM & MA 218 / 109 micrograms/l once/discharge/ day	Cadmium, t.r. DM / MA 0.001 / 00.192 lbs/d once/discharge /day	Cadmium, t.r. DM & MA 0.52 / 0.260 micrograms/l once/ discharge/ day	Thallium, t.r DM & MA 10.3 / 5.1 micrograms/l once/ discharge/ day	Selenium, t.r DM/MA 8.1 / 4.0 micrograms/l once/ discharge/ day
09/08/07		1.002 dm	834 dm, ma	4.135 dm	3440 dm, ma	0.401 dm, ma	334 dm, ma	58 dm, ma	

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/discharge /day	Lead, t.r. DM 0.012 lbs/d once/ discharge/ day	Lead, t.r. DM / MA 6.0 / 2.90 micrograms/l once/discharge /day	Zinc, t.r. DM 0.512 lbs/d once/ discharge/ day	Zinc, t.r. DM & MA 218 / 109 micrograms/l once/discharge/ day	Cadmium, t.r. DM / MA 0.001 / 00.192 lbs/d once/discharge /day	Cadmium, t.r. DM & MA 0.52 / 0.260 micrograms/l once/ discharge/ day	Thallium, t.r DM & MA 10.3 / 5.1 micrograms/l once/ discharge/ day	Selenium, t.r DM/MA 8.1 / 4.0 micrograms/l once/ discharge/ day
03/18/08	45 dm	10 dm	1300 dm	130 dm	17400 dm	4 dm	482 dm	31 dm	
03/19/08	204 dm	26 dm	1270 dm	360 dm	17600 dm	10 dm	475 dm	30 dm	
March 2008	124.7 ma		1285 ma		17500 ma	7 ma	479 ma	31 ma	
04/03/08		2.877 dm	861 dm	87.545 dm	26200 dm	2.102 dm	629 dm	32 dm	
04/10/08	66.88 dm	4.177 dm	1250 dm	192.464 dm	57600 dm	1.621 dm	485 dm	28 dm	
April 2008	33.4 ma		1056 ma		41900 ma	1.862 ma	557 ma	30 ma	
06/15/09		0.914 dm	175 dm	9.196 dm	1760 dm	0.606 dm	116 dm	33 dm	
06/16/09		0.920 dm	176 dm	9.196 dm	1760 dm			118 dm	33 dm
June 2009			175.5 ma		1760 ma	0.303 ma	58 ma	75.5 ma	16.5 ma
10/29/09	113.8 dm	15.0 dm	1190 dm	175.6 dm	13900 dm	4.274 dm	338 dm	22 dm	

NPDES Permit Violation History from DMRs
Glover Smelter - MO0001121 - Outfall 001, 003 & 006

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/discharge /day	Lead, t.r. DM 0.012 lbs/d once/ discharge/ day	Lead, t.r. DM / MA 6.0 / 2.90 micrograms/l once/discharge /day	Zinc, t.r. DM 0.512 lbs/d once/ discharge/ day	Zinc, t.r. DM & MA 218 / 109 micrograms/l once/discharge/ day	Cadmium, t.r. DM / MA 0.001 / 00.192 lbs/d once/discharge /day	Cadmium, t.r. DM & MA 0.52 / 0.260 micrograms/l once/ discharge/ day	Thallium, t.r DM & MA 10.3 / 5.1 micrograms/l once/ discharge/ day	Selenium, t.r DM/MA 8.1 / 4.0 micrograms/l once/ discharge/ day
10/30/09	176.9 dm	32.1 dm	1270 dm	353.96 dm	14000 dm	8.217 dm	325 dm	21 dm	
Oct 2009	145.4 ma		1230 ma		13950 ma	6.246 ma	332 ma	22 ma	

NPDES Permit Violation History from DMRs
Herculaneum Smelting Division - MO0000281 - Outfall 001 & 003

Issued: 02/28/2003

Reissued: (pending)

Outfall: 001 – Process water- lead smelting and acid plant

Date	pH DM 7.5-10.0 SU once/W	TSS DM / MA 350.15/ 193.1 lbs/d once/W	Arsenic, t.r. DM / MA 12.861 / 5.216 lbs/d once/W	Cadmium, t.r. DM / MA 1.964 / 0.785 lbs/d once/W	Cadmium, t.r. DM 0.720 mg/L once/W	Copper, t.r. DM / MA 11.839 / 4.750 lbs/d once/W	Copper, t.r. DM 0.580 mg/L once/W	Lead, t.r. DM / MA 2.749 / 1.127 lbs/d once/W	Lead, t.r. DM 1.500 mg/L once/W	Zinc, t.r. DM / MA 10.016 / 3.307 lbs/d once/W	Zinc, t.r. DM 4.900 mg/L once/W	Silver, t.r. YA 0.130 mg/L once/yr in Sep.	Whole Effluent Toxicity % Survival Twice/yr in Jan.&Aug. *	Chemical Oxygen Demand 120 DM / 90 MA mg/L once/W
11/8/2004				3.580 dm	2.43 dm									
Jan 2005								1.28 ma		3.63 ma				
01/07/2005								4.345 dm						
Feb 2005														102 ma
02/11/2005														142 dm
06/05/2005	No Samples Taken for the Week													
Feb 2006			No Data											
May 2006			No Data											
10/10/2006														127 dm
02/1/2007	7.35 dm													
Mar 2007				1.62 ma						4.52 ma				105 ma
03/14/07				2.147 dm										

NPDES Permit Violation History from DMRs

Herculaneum Smelting Division - MO0000281 - Outfall 001 & 003

Date	pH DM 7.5-10.0 SU once/W	TSS DM / MA 350.15/ 193.1 lbs/d once/W	Arsenic, t.r. DM / MA 12.861 / 5.216 lbs/d once/W	Cadmium, t.r. DM / MA 1.964 / 0.785 lbs/d once/W	Cadmium, t.r. DM 0.720 mg/L once/W	Copper, t.r. DM / MA 11.839 / 4.750 lbs/d once/W	Copper, t.r. DM 0.580 mg/L once/W	Lead, t.r. DM / MA 2.749 / 1.127 lbs/d once/W	Lead, t.r. DM 1.500 mg/L once/W	Zinc, t.r. DM / MA 10.016 / 3.307 lbs/d once/W	Zinc, t.r. DM 4.900 mg/L once/W	Silver, t.r. YA 0.130 mg/L once/yr in Sep.	Whole Effluent Toxicity % Survival Twice/yr in Jan.&Aug. *	Chemical Oxygen Demand 120 DM / 90 MA mg/L once/W
03/20/2007				2.794 dm										149 dm
03/21/2007				2 977 dm										131 dm
03/22/2007				2.212 dm										
03/23/2007				1.971dm										
4/5/2007				2.888 dm										
4/27/2007				3.337 dm	1.18 dm									
May 2007				1.18 ma										
5/4/2007				4.014 dm	0.80 dm			4.716 dm						
5/7/2007				3.962 dm	1.28 dm									
July 2007														95 ma
Sep 2007														102 ma
Oct 2007														95 ma
Nov 2007														102 ma
Feb 2008								1.20 ma		3.37 ma				
06/18/2008	7.12 dm													
07/8/2008	7.26 dm													

NPDES Permit Violation History from DMRs
Herculaneum Smelting Division - MO0000281 - Outfall 001 & 003

Date	pH DM 7.5-10.0 SU once/W	TSS DM / MA 350.15/ 193.1 lbs/d once/W	Arsenic, t.r. DM / MA 12.861 / 5.216 lbs/d once/W	Cadmium, t.r. DM / MA 1.964 / 0.785 lbs/d once/W	Cadmium, t.r. DM 0.720 mg/L once/W	Copper, t.r. DM / MA 11.839 / 4.750 lbs/d once/W	Copper, t.r. DM 0.580 mg/L once/W	Lead, t.r. DM / MA 2.749 / 1.127 lbs/d once/W	Lead, t.r. DM 1.500 mg/L once/W	Zinc, t.r. DM / MA 10.016 / 3.307 lbs/d once/W	Zinc, t.r. DM 4.900 mg/L once/W	Silver, t.r. YA 0.130 mg/L once/yr in Sep.	Whole Effluent Toxicity % Survival Twice/yr in Jan.&Aug. *	Chemical Oxygen Demand 120 DM / 90 MA mg/L once/W
08/5/2008	7.24 dm													
10/10/08														124 dm
10/31/08					1.03 dm									
11/19/08				2.148 dm										
Nov 2008				1.39 ma										
April 2009														97 ma
June 2009				1.14 ma										
07/21/09														127 dm
Aug 2009														94 ma
09/11/09				3.035 dm	1.36 dm			4.909 dm	2.20 dm					
09/22/2009	9.65 dm													
Sept 2009				1.441 ma				2.08 ma						
Dec 2009														91.4 ma
Jan 2010				0.91 ma				1.2 ma						
Feb 2010				2.502 ma				1.904 ma						105.5 ma

NPDES Permit Violation History from DMRs
Herculaneum Smelting Division - MO0000281 - Outfall 001 & 003

Date	pH DM 7.5-10.0 SU once/W	TSS DM / MA 350.15/ 193.1 lbs/d once/W	Arsenic, t.r. DM / MA 12.861 / 5.216 lbs/d once/W	Cadmium, t.r. DM / MA 1.964 / 0.785 lbs/d once/W	Cadmium, t.r. DM 0.720 mg/L once/W	Copper, t.r. DM / MA 11.839 / 4.750 lbs/d once/W	Copper, t.r. DM 0.580 mg/L once/W	Lead, t.r. DM / MA 2.749 / 1.127 lbs/d once/W	Lead, t.r. DM 1.500 mg/L once/W	Zinc, t.r. DM / MA 10.016 / 3.307 lbs/d once/W	Zinc, t.r. DM 4.900 mg/L once/W	Silver, t.r. YA 0.130 mg/L once/yr in Sep.	Whole Effluent Toxicity % Survival Twice/yr in Jan.&Aug. *	Chemical Oxygen Demand 120 DM / 90 MA mg/L once/W
02/5/2010				2.89 dm										
02/10/2010				2.500 dm				4.213 dm						
02/19/2010				2.384 dm										
02/25/2010				2.236 dm										
Apr 2010														131 dm

* WET results not addressed in this table.

Outfall 003 – Primary Lead Smelter

Date	pH DM 6.0-9.0 SU once/W	Oil and Grease DM / MA 15 / 10. mg/L once/W
Jan 2005		No Samples Reported
Week of June 5, 2005		No sample reported
03/9/2006		19.5 dm
Week of April 23, 2007		No sample reported
09/22/2009	9.65 dm	

NPDES Permit Violation History from DMRs
Viburnum Mine 28 & 29 - MO0000086 - Outfall 002, 004 & 007

Issued: 06/30/1989

Reissued: 12/04/2009

Revised: 07/13/2010

Outfalls: 002 & 004

Date	Outfall No.	Mercury, t DM / MA 0.002 / 0.001 mg/l 1/yr	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t DM / MA 0.3 / 0.15 mg/L once/mo	Lead, t DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t DM / MA 0.10 / 0.05 mg/L once/mo
12/11/04	002						2.15 dm & ma	
01/26/05	002						1.45 ma	
02/23/05	002						1.32 ma	
03/30/05	004					0.308 ma		
12/13/05	002						0.798 ma	
03/14/06	002			87.80 dm & ma				
04/18/06	002		38 dm & ma					
07/18/06	004			10.8 ma				
12/13/06	002						1.45 ma	
01/24/07	002						1.33 ma	

NPDES Permit Violation History from DMRs
Viburnum Mine 28 & 29 - MO0000086 - Outfall 002, 004 & 007

Date	Outfall No.	Mercury, t DM / MA 0.002 / 0.001 mg/l 1/yr	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t DM / MA 0.3 / 0.15 mg/L once/mo	Lead, t DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t DM / MA 0.10 / 0.05 mg/L once/mo
02/21/07	002						1.36 ma	
03/13/07	002						0.811 ma	
09/12/07	002			13.3 ma				
09/12/07	004			11.75 ma				
02/20/08	002						1.38 ma	
03/12/08	002						1.268 ma	
04/17/08	002						1.196 ma	
05/06/08	002						1.117 ma	
09/17/08	002			52 dm, ma				
12/04/08	002			62 dm				
12/17/08	002			71 dm				
Dec 2008	002			45 ma				
03/04/09	002						0.793 ma	

NPDES Permit Violation History from DMRs
Viburnum Mine 28 & 29 - MO0000086 - Outfall 002, 004 & 007

Date	Outfall No.	Mercury, t DM / MA 0.002 / 0.001 mg/l 1/yr	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t DM / MA 0.3 / 0.15 mg/L once/mo	Lead, t DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t DM / MA 0.10 / 0.05 mg/L once/mo
04/09/09	002			186 dm				
04/14/09	002			20 dm				
April 2009	002			70 ma				
05/04/09	002			29.7 dm				
May 2009	002			15 ma				
05/04/09	004			526.9 dm				
May 2009	004			264 ma				
06/04/09	002			329 dm				
June 2009	002			168 ma				
July 2009	002			21 dm, ma				
Nov 2009	002						0.829 ma	
Dec 2009	002						0.997 ma	

NPDES Permit Violation History from DMRs
Viburnum Mine 28 & 29 - MO0000086 - Outfall 002, 004 & 007

Outfalls: 002 & 004 (Reissued: 12/04/2009)

Date	all outfalls	Mercury, t.r. DM / MA 0.002 / 0.001 mg/l 1/yr	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t.r. DM / MA 300 / 1500 µg/L once/mo	Lead, t.r. DM / MA 600 / 300 µg/L once/mo	Zinc, t. DM / MA 1000 / 500 ug/l once / mo	Cadmium, t DM / MA 100 / 50 µg/L once/mo
Jan 2010	002						1418 ma 1372 dm 1464 dm	
Feb 2010	002			93 dm, ma			1710 ma 1679 dm 1740 dm	
Mar 2010	002						1546 ma 1683 dm 1495 dm 1515 dm 1490 dm	
Apr 2010	002			23 dm, ma			653 ma 1153 dm	

NPDES Permit Violation History from DMRs
Viburnum Mine 28 & 29 - MO0000086 - Outfall 002, 004 & 007

Outfall: 007

Date	Copper, t DM / MA 58 / 37 ug/l once/mo	Lead, t DM / MA 190 / 29 ug/l once/mo	Zinc, t DM / MA 490 / 440 ug/l once/mo
02/16/2006		31 ma	

NPDES Permit Violation History from DMRs
Viburnam Mine # 35 (Casteel) - MO0100226 - Outfall 001, 002 & 003

Issued: 08/08/2003

Reissued: 03/19/2010

Revised: 07/13/2010

Outfall: 001- Settling basin; mine water and stormwater runoff

Date	pH DM 6 - 9 SU once/mo	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t.r. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, t.r. DM / MA 0.432 / 0.264 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t.r. DM / MA 0.094 / 0.057 mg/L once/mo
Jan 24, 2007					0.596 dm, ma		
February 2007					0.4230 ma		
Sep 2007			11.5 ma				
July 2008			13 ma				

NPDES Permit Violation History from DMRs

Viburnam Mine # 35 (Casteel) - MO0100226 - Outfall 001, 002 & 003

Outfall: 002- Domestic wastewater

Date	Biochemical Oxygen Demand WA / MA 45 / 30 mg/L once/yr	TSS WA / MA 45 / 30 mg/L once/yr	pH DM 6 - 9 SU once/yr
July 2005	43.77 ma		
9/19/2006	57.92 dm, ma	62 dm, ma	
09/30/09		37 ma	

NPDES Permit Violation History from DMRs
Viburnam Mine # 35 (Casteel) - MO0100226 - Outfall 001, 002 & 003

Outfall: 003- Settling basin; mine water and stormwater runoff

Date	pH DM 6 - 9 SU once/mo	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t.r. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, t.r. DM / MA 0.432 / 0.264 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t.r. DM / MA 0.094 / 0.057 mg/L once/mo
December 2004				0.065 ma			
July 2005					0.290 ma		
12/14/2006	9.03 dm						
Jan 24, 2007					0.80 dm, ma		
September 2007			11.82 ma				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Issued: 08/02/1996

Modified: 09/25/1998

Reissued: 03/12/2010

Revised: 07/13/2010

Outfall: 001- Treatment of mine water

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
11/06/04										2.4 dm, ma				
12/11/04										4.8 dm, ma			0.63 dm, ma	

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
01/25/05										3.308 dm, ma				
02/24/05				0.054 ma						5.407 dm, ma				
03/23/05										4.91 dm, ma				
10/20/05										3.409 dm, ma				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
01/12/06	0.655 dm, ma									2.411 dm, ma				
10/11/06				0.048 ma						2.026 dm, ma				
03/14/07	0.561 dm, ma													
05/10/07												520 ma		

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
07/16/07										4.505 dm, ma				
01/07/08	0.586 dm, ma													
04/14/08	0.822 dm, ma													
05/05/08	0.727 dm, ma													

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
07/02/08							15.1 dm, ma							
8/13/08	0.502 dm, ma												0.62 dm, ma	
03/06/09	0.772 dm, ma													
04/07/09	0.671 dm													
05/13/09					47 dm									

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
05/28/09					344 dm									
May 2009					196 ma									
09/03/09										2.3 dm, ma		418 ma		
10/07/09	0.75 dm													
10/13/09	0.892 dm													

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
Oct 2009	0.821 ma													
Nov 2009 (11/11/09)	0.683 dm, ma													
12/15/09	0.862 dm													

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
12/21/09	0.862 dm													
Dec 2009	0.862 ma													
01/14/10	0.875 dm									2.6 dm				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
01/28/10	0.687 dm													
Jan 2010	0.781 ma									2.6 ma				
02/11/10	0.680 dm									5.1 dm				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, tot. Streamflow >40 cfs 0.64 DM & MA ≥30 to <40 cfs 0.56 DM & MA ≥20 to <30 cfs 0.49 DM & MA <20 cfs 0.442 DM & MA mg/L once/mo	Copper, tot. Streamflow >40 cfs 0.074 DM&MA ≥30 to <40 cfs 0.066 DM & MA ≥20 to <30 cfs 0.057 DM & MA <20 cfs 0.04 DM & MA mg/L once/mo	Cadmium, t Streamflow >40 cfs 0.10 DM 0.05 MA ≥30 to <40 cfs 0.083 DM 0.05 MA <20 cfs 0.045 DM & MA mg/L once/mo	Lead, tot. Streamflow >40 cfs 0.124 DM & MA ≥30 to <40 cfs 0.097 DM & MA ≥20 to <30 cfs 0.069 DM & MA <20 cfs 0.053 DM & MA mg/L once/mo	Oil & Grease 15 DM 10 MA mg/L once/mo	pH 6 - 9 SU once/M	BOD 15 DM 15 MA mg/L once/M	TSS 15 DM & MA mg/L once/M	NH3 as N 5 DM 5 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Color 15 DM 15 MA Pt-Co Units once/M	Fecal Coliform 1000 DM 400 MA #/100ml once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Hydro- gen Sulfide 0.2 DM 0.2 MA mg/L once/M
02/26/10	0.902 dm													
Feb 2010	0.791 ma									5.1 ma				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

OUTFALL 001 - Treatment of Mine Water(Reissued: 03/12/2010)

Date	Zinc, t.r. DM/ MA 442 / 442 ug/l, 1 / m	Copper, t.r. DM/ MA 40 / 40 ug/l, 1 / y	Cadmium, t.r. DM/ MA 45 / 45 ug/l, 1 / m	Lead, t.r. DM/ MA 53 / 45 ug/l, 1 / m	O&G DM / MA 15 / 10 mg / l 1/mo	pH 6.5 - 9 SU once/M	TSS 30 DM 20 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Mercury, t.r. DM/ MA 2 / 1 ug/l, 1 / y
03/03/10	833 dm				401 dm					
03/15/10	800 dm				43 dm					
Mar 2010	817 ma				222 ma					
04/01/10	598 dm				188 dm					
04/07/10	536 dm				221 dm					
04/09/10	598 dm				212 dm					
04/14/10	538 dm									

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, t.r. DM/ MA 442 / 442 ug/l, 1 / m	Copper, t.r. DM/ MA 40 / 40 ug/l, 1 / y	Cadmium, t.r. DM/ MA 45 / 45 ug/l, 1 / m	Lead, t.r. DM/ MA 53 / 45 ug/l, 1 / m	O&G DM / MA 15 / 10 mg / l 1/mo	pH 6.5 - 9 SU once/M	TSS 30 DM 20 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Mercury, t.r. DM/ MA 2 / 1 ug/l, 1 / y
04/19/10					223 dm					
04/20/10					233 dm					
04/21/10					101 dm					
04/23/10					65 dm					
04/26/10					253 dm					
04/30/10					316 dm					
Apr 2010					171 ma					

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	Zinc, t.r. DM/ MA 442 / 442 ug/l, 1 / m	Copper, t.r. DM/ MA 40 / 40 ug/l, 1 / y	Cadmium, t.r. DM/ MA 45 / 45 ug/l, 1 / m	Lead, t.r. DM/ MA 53 / 45 ug/l, 1 / m	O&G DM / MA 15 / 10 mg / l 1/mo	pH 6.5 - 9 SU once/M	TSS 30 DM 20 MA mg/L once/M	Nitrate & Nitrite as N 2 DM 2 MA mg/L once/M	Phos- phorus, tot. 0.5 DM 0.5 MA mg/L once/M	Mercury, t.r. DM/ MA 2 / 1 ug/l, 1 / y
May 2010					Duplicate sample not reported					
06/03/10									0.78 dm, ma	

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Outfall: 003 - Stormwater Runoff

Date	TSS DM / MA 30 / 20 mg/L once/mo	Lead, t.r. DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t.r. DM / MA 1.0 / 0.5 mg/L once/mo	Copper, t.r. DM / MA 0.30 / 0.15 mg/L once/mo	Cadmium, t.r. DM / MA 0.10 DM / 0.05 MA mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH DM 6 - 9 SU once/mo	Mercury, t.r. DM / MA 0.002 DM / 0.001 MA mg/L once/yr	Whole Effluent Toxicity once/yr *
02/24/05			1.24 dm, ma						
06/07/2005			1.44 dm, ma						
10/31/05			1.61 dm, ma						
11/15/2005		0.508 ma	3.46 dm, ma						
03/15/2006			1.56 dm, ma						
June 2006			2005 data submitted						
07/21/2006			3.36 dm, ma						
02/18/08			6.349 dm, ma						
09/04/08	31 dm, ma	2.302 dm, ma	5.66 dm, ma	1.183 dm, ma	0.112 dm, ma				

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	TSS DM / MA 30 / 20 mg/L once/mo	Lead, t.r. DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t.r. DM / MA 1.0 / 0.5 mg/L once/mo	Copper, t.r. DM / MA 0.30 / 0.15 mg/L once/mo	Cadmium, t.r. DM / MA 0.10 DM / 0.05 MA mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH DM 6 - 9 SU once/mo	Mercury, t.r. DM / MA 0.002 DM / 0.001 MA mg/L once/yr	Whole Effluent Toxicity once/yr *
10/16/08			3.6 dm, ma			554.7 dm, ma		no test	
01/08/09			2.856 dm, ma						
05/14/09			1.935 dm, ma						
06/05/09	24 ma	0.354 ma	4.651 dm, ma		0.075 ma				
07/08/09			2.474 dm, ma			14 ma			
09/03/09			1.875 dm, ma						
10/07/09			2.343 dm, ma						
11/11/09			2.618 dm, ma						
12/15/09			2.454 dm, ma						

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	TSS DM / MA 30 / 20 mg/L once/mo	Lead, t.r. DM / MA 0.6 / 0.3 mg/L once/mo	Zinc, t.r. DM / MA 1.0 / 0.5 mg/L once/mo	Copper, t.r. DM / MA 0.30 / 0.15 mg/L once/mo	Cadmium, t.r. DM / MA 0.10 DM / 0.05 MA mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	pH DM 6 - 9 SU once/mo	Mercury, t.r. DM / MA 0.002 DM / 0.001 MA mg/L once/yr	Whole Effluent Toxicity once/yr *
01/14/10			1.975 dm, ma						

* WET results not addressed in this table

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

OUTFALL 003 - Stormwater Runoff (Reissued: 03/12/2010)

Date	TSS DM / MA 30 / 20 mg/L 1/ day disch	Lead, t.r. DM / MA 170 / 84.6 ug/L 1/ day disch	Zinc t.r. DM / MA 195 / 97 ug/l 1/ day disch	Copper, t.r. DM / MA 23.9 / 11.9 ug/L 1/ day disch	Cadmium, t.r. DM / MA 9.0 / 4.5 ug/L 1/ day disch	pH DM > 6 SU 1/ day disch	Mercury, t.r. DM / MA 2.0 / 1.0 ug/L 1/ day disch
04/22/10			1904 dm				
04/23/10			1832 dm				
Apr 2010			1868 ma				
06/03/10			1639 dm				
06/04/10			1809 dm				
06/11/10			1561 dm				
June 2010		94 ma	1670 ma		5.1 ma		
07/08/10		853 dm	1843 dm	.			

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

Date	TSS DM / MA 30 / 20 mg/L 1/ day disch	Lead, t.r. DM / MA 170 / 84.6 ug/L 1/ day disch	Zinc t.r. DM / MA 195 / 97 ug/l 1/ day disch	Copper, t.r. DM / MA 23.9 / 11.9 ug/L 1/ day disch	Cadmium, t.r. DM / MA 9.0 / 4.5 ug/L 1/ day disch	pH DM > 6 SU 1/ day disch	Mercury, t.r. DM / MA 2.0 / 1.0 ug/L 1/ day disch
07/10/10		977 dm	4069 dm	25 dm	40 dm		
07/14/10		234 dm	1955 dm				
07/15/10		405 dm	2139 dm		11 dm		
July 2010		617 ma	2502 ma	15 ma	17 ma		

NPDES Permit Violation History from DMRs
West Fork - MO0100218 - Outfalls 001, 003, & 002

OUTFALL 002 – Sanitary Waste (Reissued: 03/12/2010)

Date	BOD WA / MA 45 / 30 mg/L once/quarter	TSS WA / MA 45 / 30 mg/L once/quarter	pH DM 6 – 9 SU once/quarter	Fecal Coliform DM / MA 1000 / 400 #/100ml once/quarter
04/14/10				TNTC* dm
04/23/10				TNTC* dm
April 2010				TNTC* ma
9/02/10				TNTC* dm, ma

*Too numerous to count

NPDES Permit Violation History from DMRs

Brushy Creek Mine/Mill - MO0001848 - Outfall 001

Issued: 09/05/2003

Reissued: 02/26/2010

Revised: 07/28/2010

Outfall: 001- Settling basin containing mine water and stormwater runoff (Revised: 07/13/2010)

Date	TSS DM / MA 30 / 20 mg/L once/mo	pH DM 6.5 - 9 SU once/mo	Copper, t.r. DM / MA 0.088 / 0.053 mg/L once/mo	Lead, t.r. DM / MA 0.417 / 0.256 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t.r. DM / MA 0.100 / 0.05 mg/L once/mo	Mercury, t.r. DM / MA 0.002 / 0.001 mg/L once/yr	Whole Effluent Toxicity once/quarter in Mar, Apr, Aug, Oct. *
Aug 2010					0.932 ma			
9/17/2010	41 dm							
Sept 2010					1.067 ma			

* WET results not addressed in this table.

NPDES Permit Violation History from DMRs

Buick Resource Recycling - MO0000337 - Outfall 001 (with 002 & 003, when discharging)

Issued: 08/23/2002

Modified: 02/23/2007

Reissued: (pending)

Outfall: 001 (with 002 & 003, when discharging) - Treatment of stormwater, wash water, granulation water, laboratory, sanitary, non-contact cooling water

Date	pH DM & MA 7.5- 10.0 SU once/M	TSS DM / MA 283 / 162 lbs/d once/M	Arsenic, t.r. DM / MA 3.34 / 1.70 lbs/d once/M	Cadmium , t.r. DM / MA 1.84 / 0.74 lbs/d once/M	Cadmium , t.r. DM 0.100 mg/L once/M	Copper, t.r. DM / MA 2.420 / 1.550 lbs/d once/M	Copper, t.r. DM 0.088 mg/L once/M	Lead, t.r. DM / MA 2.58 / 1.05 lbs/d once/M	Lead, t.r. DM 0.190 mg/L once/M	Zinc, t.r. DM / MA 9.38 / 3.07 lbs/d once/M	Zinc, t.r. DM 2.12 mg/L once/ M	Antimony, t. DM/MA 6.900 / 4.600 lbs/d once/M	Ammonia DM 16.1 mg/l once/Q	BOD WA / MA 45 / 30 mg/l once/Q	Silver, t.r. DM 0.013 mg/l once/Q	Whole Effluent Toxicity % Survival once/Q *
Aug 2010														118 dm, ma		
9/10/2010		384.69** dm	4.66** dm					14.22** dm	0.864 dm							
9/16/2010		545.58** dm	3.49** dm					24.05** dm	0.248 dm							
Sept 2010								3.25 ma								

* WET results not addressed in this table.

**A discharge event at Outfall 002 and/or Outfall 003 occurred and the value represents the combined load from all outfalls discharging.

NPDES Permit Violation History from DMRs

Glover Smelter - MO0001121 - Outfall 006

Issued: 11/06/1998

Reissued: 03/23/2007

Outfall: 006- Emergency overflow (Reissued: 03/23/2007)

Date	TSS DM / MA 36.056 / 24.036 lbs/d once/discharge /day	Lead, t.r. DM 0.012 lbs/d once/ discharge/ day	Lead, t.r. DM / MA 6.0 / 2.90 micrograms/l once/discharge /day	Zinc, t.r. DM 0.512 lbs/d once/ discharge/ day	Zinc, t.r. DM & MA 218 / 109 micrograms/l once/discharge/ day	Cadmium, t.r. DM / MA 0.001 / 0.192 lbs/d once/discharge /day	Cadmium, t.r. DM & MA 0.52 / 0.260 micrograms/l once/ discharge/ day	Thallium, t.r DM & MA 10.3 / 5.1 micrograms/l once/ discharge/ day	Selenium, t.r DM/MA 8.1 / 4.0 micrograms/l once/ discharge/ day
9/16/2010		0.085 dm, ma	767 dm, ma	0.674 dm, ma	6050 dm, ma	0.023 dm	210 dm, ma	74.8 dm, ma	

NPDES Permit Violation History from DMRs

Viburnam Mine # 35 (Casteel) - MO0100226 - Outfall 002 & 003

Issued: 08/08/2003

Reissued: 03/19/2010

Revised: 07/13/2010

Outfall: 002- Domestic wastewater

Date	Biochemical Oxygen Demand WA / MA 45 / 30 mg/L once/yr	TSS WA / MA 45 / 30 mg/L once/yr	pH DM 6 - 9 SU once/yr
07/13/10		50 dm	
08/27/10	75 dm	128 dm	
Third quarter 2010	50 ma	89 ma	

Outfall: 003- Settling basin; mine water and stormwater runoff

Date	pH DM 6 - 9 SU once/mo	TSS DM / MA 30 / 20 mg/L once/mo	Oil & Grease DM / MA 15 / 10 mg/L once/mo	Copper, t.r. DM / MA 0.084 / 0.051 mg/L once/mo	Lead, t.r. DM / MA 0.432 / 0.264 mg/L once/mo	Zinc, t.r. DM / MA 1.5 / 0.75 mg/L once/mo	Cadmium, t.r. DM / MA 0.094 / 0.057 mg/L once/mo
7/13/2010					0.295 ma		
8/04/2010		106 dm, 32 ma					