

### **Halliburton Energy Services, Inc. DIM Former Mine Site Effluent Discharge from Water Treatment System** 2003 - 2012

=		TDS	Chloride	Sulfate
Date <sup>1</sup>	Report <sup>2</sup>	mg/L	mg/L	mg/L
06/18/2003	K306528	1,923	65.5	1,290
07/23/2003	K307457	2,200	62.3	1,320
09/17/2003	K309382	2,300	61.8	1,340
10/22/2003	K310555	2,200	67.6	1,380
11/12/2003	K311277	2,200	63.3	1,370
12/10/2003	K312262	2,300	67.8	1,390
03/17/2004	K403645	2,184	67.7	1,290
04/21/2004	K404332	2,048	70.8	1,370
05/20/2004	K405512	2,240	61.5	1,340
06/16/2004	K406409	2,200	60.6	1,300
08/18/2004	K408444	2,200	63.9	1,350
12/15/2004	K412449	2,000	16.9	1,270
03/23/2005	K503521	2,200	63.9	1,390
05/04/2005	K505064	2,100	52.0	1,180
06/08/2005	K506195	2,100	59.5	1,210
07/19/2005	K507514	2,100	48.1	1,070
08/16/2005	K508657	2,200	59.7	1,330
10/11/2005	K510351	2,200	58.7	1,360
12/13/2005	K512328	2,100	50.6	1,360
12/05/2007	0712047	2,100	60.7	1,330
02/19/2009	0902204	1,900	49.8	1,190
04/15/2009	0904155	1,900	47.6	1,090
06/04/2009	0906060	1,700	40.3	1,010
10/15/2009	0910232	1,700	39.2	938
04/15/2010	1005183	1,800	35.1	841
06/17/2010	1006222	1,800	39.1	899
01/13/2011	1101097	1,900	43.9	1,130
02/15/2011	1102150	1,900	53.4	1,120
04/14/2011	1104155	1,900	42.7	936
06/16/2011	1106213	1,800	45.7	1,200
12/07/2011	1112100	1,600	38.1	1,050
02/08/2012	1202080	1,800	43.5	874
04/12/2012	1204137	1,800	38.4	953
06/14/2012	1206194	1,800	40.4	740

95th Percentile: 2,261 67.735 1,384			
	95th Percentile:	2,261	1,384

Date of concurrent toxicity and chemistry sample collection.
 Arkansas Analytical report number (attached).

Description: Two water samples received 6/19/03

#### **ANALYTICAL RESULTS**

Lab Number: Sample ID: Field Number: Date/Time Collected:		K306528 Facility Discharge FD0618COM P 6/18/03,Comp	K306529 Cove Creek CC06180940 6/18/03,0940	Date/Time Analyzed
TDS	mg/L	1923	66	6/26/03,1600
<b>Anions</b> Sulfate Chloride	mg/L mg/L	1290 65.5	32.8 2.05	6/30/03,1446 6/30/03,1446

# QUALITY CONTROL RESULTS

			Percent	Percent	
		Percent	Recovery	Recovery	Method
		Variance	Matrix	Control	of
	Blank	Duplicates	Spike	Spike	Analysis
	mg/L				
TDS	< 1	2.04	NA	93.2	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.00	102	103	EPA 300.0
Chloride	< 0.5	1.56	94.6	96.0	EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

Instrument calibration and quality control samples performed at or above frequence.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

TDS analyzed by: _	
_	T eresa Canfield
Anions analyzed by:	
_	Mark Wilson

Description: Two water samples received 7/23/03

ANALT HEAL RESULTS			
Lab Number:		K307457	
Sample ID:		Facility Discharge	
Field Number:		FD0723COMP	Date/Time
Date/Time Collected:		7/23/03,1100	Analyzed
Bate/Time Gonecieu.		1723/03,1100	Analyzed
TDS	mg/L	2200	7/24/03,1615
Anions			
Sulfate	mg/L	1320	7/24/03,0900
Chloride	mg/L	62.3	7/24/03,0900
Lab Number:		K307458	
Sample ID:		Cove Creek	
			Date/Time
Sample ID:		Cove Creek	Date/Time Analyzed
Sample ID: Field Number: Date/Time Collected:	ma/l	Cove Creek CC07230745 7/23/03,1445	Analyzed
Sample ID: Field Number:	mg/L	Cove Creek CC07230745	
Sample ID: Field Number: Date/Time Collected:	mg/L	Cove Creek CC07230745 7/23/03,1445	Analyzed
Sample ID: Field Number: Date/Time Collected:  TDS  Anions	-	Cove Creek CC07230745 7/23/03,1445	<b>Analyzed</b> 7/24/03,1615
Sample ID: Field Number: Date/Time Collected:	mg/L mg/L mg/L	Cove Creek CC07230745 7/23/03,1445	Analyzed

Description: Two water samples received 7/23/03

#### **QUALITY CONTROL RESULTS**

57 (E11 1 0 0 1 1 1 1 1 0 0 E 1 1 E					
	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
TDS	<b>mg/L</b> < 1	1.27	NA	78.7	EPA 160.1
<b>Anions</b> Sulfate Chloride	<b>mg/L</b> < 0.5 < 0.5	0.294 0.404	102 96.5	102 99.0	EPA 300.0 EPA 300.0

TDS analyzed by:	
	Teresa Canfield
Anions analyzed by:	
•	Mark Wilson

Description: Two water samples received 9/17/03

Lab Noveleau		1/200200	
Lab Number:		K309382	
Sample ID:		Facility Discharge	
Field Number:		FD0917COMP	Date/Time
Date/Time Collected:		9/17/03,0930	Analyzed
TDS	mg/L	2300	9/22/03,1145
Anions			
Sulfate	mg/L	1340	9/26/03,0241
Chloride	mg/L	61.8	9/26/03,0241
Lab Number:		K309383	
Lab Number: Sample ID:		K309383 Cove Creek	
			Date/Time
Sample ID:		Cove Creek	Date/Time Analyzed
Sample ID: Field Number: Date/Time Collected:	ma/l	Cove Creek CC09170700 9/17/03,0700	Analyzed
Sample ID: Field Number:	mg/L	Cove Creek CC09170700	
Sample ID: Field Number: Date/Time Collected:	mg/L	Cove Creek CC09170700 9/17/03,0700	Analyzed
Sample ID: Field Number: Date/Time Collected:  TDS  Anions		Cove Creek CC09170700 9/17/03,0700	<b>Analyzed</b> 9/22/03,1145
Sample ID: Field Number: Date/Time Collected:	mg/L mg/L mg/L	Cove Creek CC09170700 9/17/03,0700	Analyzed

Description: Two water samples received 9/17/03

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
TDS	<b>mg/L</b> < 1	0.971	NA	103	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.102	102	97.8	EPA 300.0
Chloride	< 0.5	0.213	95.0	93.9	EPA 300.0

TDS analyzed by:	
	Teresa Canfield
Anions analyzed by:	
•	Mark Wilson

Description: Two water samples received 10/22/03

ANALTTICAL RESULTS			
Lab Number:		K310555	
Sample ID:		Facility Discharge	
Field Number:		FD1022Comp	Date/Time
Date/Time Collected:		10/22/03,0930	Analyzed
TDS	mg/L	2200	10/24/03,1345
Anions			
Sulfate	mg/L	1380	10/23/03,1056
Chloride	mg/L	67.6	10/23/03,1113
Lab Number:		K310556	
Sample ID:		Cove Creek	
Field Number:		CC10220830	Date/Time
Date/Time Collected:		10/22/03,0830	Analyzed
TDC	m a /l	700	10/24/02 1245
TDS	mg/L	700	10/24/03,1345
Anions			
	/1	202	10/22/02 1022
Sulfate	mg/L	392	10/23/03,1023
Sulfate Chloride	mg/L mg/L	21.0	10/23/03,1023

Description: Two water samples received 10/22/03

#### **QUALITY CONTROL RESULTS**

IT I CONTINUE RESOLTS	TT CONTROL RESULTS						
	<del>-</del>	-	Percent	Percent	<del></del>		
		Percent	Recovery	Recovery	Method		
		Variance	Matrix	Control	of		
	Blank	Duplicates	Spike	Spike	Analysis		
	mg/L						
TDS	< 1.0	0.00	NA	98.2	EPA 160.1		
Anions	mg/L						
Sulfate	< 0.5	0.402	102	99.6	EPA 300.0		
Chloride	< 0.5	0.096	103	104	EPA 300.0		

TDS analyzed by:		
	Teresa Canfield	
Anions analyzed by:		
	Tracy Bounds, Mark Wilson	

Description: Two water samples received 11/12/03

ANALYTICAL RESULTS			
Lab Number: Sample ID: Field Number: Date/Time Collected:		K311277 Facility Discharge FD1112Comp 11/12/03,0915	Date/Time Analyzed
			-
TDS	mg/L	2200	11/12/03,1600
Anions			
Sulfate	mg/L	1370	11/14/03,1104
Chloride	mg/L	63.3	11/13/03,1437
Lab Number:		K311278	
Sample ID:		Cove Creek	
Field Number:		CC11120800	Date/Time
Date/Time Collected:		11/12/03,0800	Analyzed
TDS	mg/L	900	11/12/03,1600
Anions			
Sulfate	mg/L	584	11/13/03,1422
Canato	•		

Description: Two water samples received 11/12/03

# **QUALITY CONTROL RESULTS**

DALIT I CONTINUE RESOLTS					
			Percent	Percent	
		Percent	Recovery	Recovery	Method
		Variance	Matrix	Control	of
	Blank	Duplicates	Spike	Spike	Analysis
	mg/L				
TDS	< 1.0	5.68	NA	96.8	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.204	99.0	97.9	EPA 300.0
Chloride	< 0.5	0.104	98.6	95.8	EPA 300.0

TDS analyzed by:	
	Teresa Canfield
Anions analyzed by:	
	Mark Wilson

Description: Two water samples received 12/10/03

ANALYTICAL RESULTS			
Lab Number:		K312262	
Sample ID:		Facility Discharge	
Field Number:		FD1210Comp	Date/Time
Date/Time Collected:		12/10/03,0915	Analyzed
TDS	mg/L	2300	12/10/03,1645
Anions			
Sulfate	mg/L	1390	12/11/03,2053
Chloride	mg/L	67.8	12/11/03,2039
Lab Number:		K312263	
Sample ID:		Cove Creek	Data /Time
Field Number:		CC12100730	Date/Time
Date/Time Collected:		12/10/03,0730	Analyzed
TDS	mg/L	630	12/10/03,1645
TDS <b>Anions</b>	mg/L	630	12/10/03,1645
	mg/L mg/L	630 382	12/10/03,1645 12/11/03,2123

Description: Two water samples received 12/10/03

# **QUALITY CONTROL RESULTS**

QOALIT TOTTINGE REGOLT					
	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
TDS	<b>mg/L</b> < 1.0	4.25	NA	89.4	EPA 160.1
<b>Anions</b> Sulfate Chloride	<b>mg/L</b> < 0.5 < 0.5	0.203 0.514	95.5 97.1	98.7 97.4	EPA 300.0 EPA 300.0

TDS analyzed by:		
	Teresa Canfield	
Anions analyzed by:		
	Tracy Bounds, Mark Wilson	

Description: Two water samples received 3/17/04

ANALYTICAL RESULTS			
Lab Number: Sample ID: Field Number:		K403645 Facility Discharge FD0317COMP	Date/Time
Date/Time Collected:		3/17/04,1100	Analyzed
Wet Chemistry	m a /I	2494	2/22/04 4500
TDS	mg/L	2184	3/22/04,1500
Anions			
Sulfate	mg/L	1290	3/19/04,0018
Chloride	mg/L	67.7	3/19/04,0002
Lab Number:		K403646	
Sample ID:		Cove Creek	
Field Number:		CC03170800	Date/Time
Date/Time Collected:		3/17/04,0800	Analyzed
Wet Chemistry			
TDS	mg/L	351	3/22/04,1500
Anions			
Sulfate	mg/L	160	3/19/04,0049
	J.		
Chloride	mg/L	10.3	3/19/04,0033

Description: Two water samples received 3/17/04

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	3.31	NA	87.7	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.415	93.0	96.3	EPA 300.0
Chloride	< 0.5	0.00	90.6	101	EPA 300.0

TDS analyzed by:		
	Am y Daniel	
Anions analyzed by:		
	Tracy Bounds, Mark Wilson	

Description: Two water samples received 4/21/04

ANALYTICAL RESULTS			
Lab Number:	_	K404332	_
Sample ID:		Facility Discharge	
Field Number:		FD0421COMP	Date/Time
Date/Time Collected:		4/21/04,1015	Analyzed
Wet Chemistry			
TDS	mg/L	2048	4/23/04,1600
Anions			
Sulfate	mg/L	1370	4/21/04,1825
Chloride	mg/L	70.8	4/21/04,1810
Lab Number:		K404333	
Sample ID:		Cove Creek	
Field Number:		CC04210730	Date/Time
Date/Time Collected:		4/21/04,0730	Analyzed
Wet Chemistry			
TDS	mg/L	448	4/23/04,1600
Anions			
Sulfate	mg/L	300	4/21/04,1904
Odifate	1119/ =	000	., = ., 0 ., . 0 .

Description: Two water samples received 4/21/04

# **QUALITY CONTROL RESULTS**

			Percent	Percent	
		Percent	Recovery	Recovery	Method
		Variance	Matrix	Control	of
	Blank	Duplicates	Spike	Spike	Analysis
Wet Chemistry	mg/L				
TDS	< 1.0	1.06	NA	84.6	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.661	106	99.2	EPA 300.0
Chloride	< 0.5	0.607	99.6	98.9	EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

TDS analyzed by:	
	Am y Daniel
Anions analyzed by:	
•	Mark Wilson

<sup>\*</sup> Does not meet lab acceptability criteria.

Description: Two water samples received 5/20/04

ANALTTICAL RESULTS			
Lab Number:		K405512	
Sample ID:		Facility Discharge	
Field Number:		FD0520COMP	Date/Time
Date/Time Collected:		5/20/04,1030	Analyzed
Wet Chemistry			
TDS	mg/L	2240	5/24/04,1530
Anions			
Sulfate	mg/L	1340	5/22/04,0715
Chloride	mg/L	61.5	5/22/04,0700
Lab Number:		K405513	
Sample ID:		Cove Creek	
Field Number:		CC05200700	Date/Time
Date/Time Collected:		5/20/04,0700	Analyzed
Wet Chemistry			
TDS	mg/L	494	5/24/04,1530
Anions			
Sulfate	mg/L	262	5/22/04,1408
	_		
Chloride	mg/L	13.8	5/22/04,0616

Description: Two water samples received 5/20/04

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	6.25	NA	96.0	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.00	104	100	EPA 300.0
Chloride	< 0.5	0.423	96.3	94.6	EPA 300.0

TDS analyzed by:	
_	Am y Daniel
Anions analyzed by:	
•	Mark Wilson

Description: Two water samples received 6/16/04

ANALYTICAL RESULTS			
Lab Number:		K406409	
Sample ID:		Facility Discharge	
Field Number:		FD0616COMP	Date/Time
Date/Time Collected:		6/16/04,1030	Analyzed
Date/Time Conected.		6/16/04,1030	Allalyzeu
Wet Chemistry			
TDS	mg/L	2200	6/18/04,1030
	J		,
Anions			
Sulfate	mg/L	1300	6/18/04,2106
Chloride	mg/L	60.6	6/18/04,2123
Cilionac	9/ =	33.3	G/ 1-G/ G 1, 2 1.2 G
Lab Number:		K406410	
Sample ID:		Cove Creek	
Field Number:		CC06160730	Date/Time
Date/Time Collected:		6/16/04,0730	Analyzed
Date/Time Conected.		0/10/04,0/30	Analyzeu
Wet Chemistry			
Wet Chemistry	ma/l	420	6/18/04 1030
Wet Chemistry TDS	mg/L	420	6/18/04,1030
	mg/L	420	6/18/04,1030
TDS <b>Anions</b>			·
TDS	mg/L mg/L mg/L	420 265 13.1	6/18/04,1030 6/18/04,2140 6/18/04,2157

Description: Two water samples received 6/16/04

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	1.96	NA	102	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	1.29	100	96.9	EPA 300.0
Chloride	< 0.5	0.995	100	100	EPA 300.0

TDS analyzed by:	
	Teresa Canfield
Anions analyzed by:	
	Mark Wilson

Description: Two water samples received 8/18/04

ANALYTICAL RESULTS			
Lab Number: Sample ID: Field Number: Date/Time Collected:		K408444 Facility Discharge FD0818COMP 8/18/04,0945	Date/Time Analyzed
Wet Chemistry TDS	mg/L	2200	8/24/04,1645
Anions Sulfate Chloride	mg/L mg/L	1350 63.9	8/20/04,0726 8/20/04,0709
Lab Number: Sample ID: Field Number: Date/Time Collected:		K408445 Cove Creek CC08180830 8/18/04,0830	Date/Time Analyzed
Wet Chemistry TDS	mg/L	660	8/24/04,1645
<b>Anions</b> Sulfate Chloride	mg/L mg/L	402 17.7	8/20/04,0808 8/20/04,0744

Description: Two water samples received 8/18/04

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	0.923	NA	107	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.100	101	102	EPA 300.0
Chloride	< 0.5	0.392	98.8	99.6	EPA 300.0

TDS analyzed by:	
	Teresa Canfield
Anions analyzed by:	
	Mark Wilson

Weston Solutions, Inc. Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104

Attn: Darrel Scott / Kenneth Carter

Description: Two water samples received 12/15/04

Lab Number: Sample ID:		K412449 Facility Discharge	
Field Number:		FD1215COMP	Date/Time
Date/Time Collected:		12/15/04,1000	Analyzed
Wet Chemistry			
TDS	mg/L	2000	12/20/04,0935
Anions			
Sulfate	mg/L	1270	12/15/04,1808
Chloride	mg/L	16.9	12/15/04,1751
Lab Number:		K412450	
Sample ID:		Cove Creek	
Field Number:		CC12210700	Date/Time
Date/Time Collected:		12/21/04,0700	Analyzed
Wet Chemistry			
TDS	mg/L	380	12/20/04,0935
Anions			
Sulfate	mg/L	187	12/15/04,1903
Chloride	mg/L	9.30	12/15/04,1836

Weston Solutions, Inc. Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104

Attn: Darrel Scott / Kenneth Carter

Description: Two water samples received 12/15/04

#### **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	0.820	NA	114	EPA 160.1
<b>Anions</b> Sulfate	<b>mg/L</b> < 0.5	2.87	88.0	95.9	EPA 300.0
Chloride	< 0.5	1.30	90.4	92.6	EPA 300.0

TDS analyzed by:		
	Teresa Canfield	
Anions analyzed by:		
	Tracy Bounds, Joel Ledbetter	

Description: Two water samples received 3/23/05

ANALTTICAL RESULTS			
Lab Number: Sample ID: Field Number: Date/Time Collected:		K503521 Facility Discharge FD323COMP 3/23/05,1000	Date/Time Analyzed
Wet Chemistry TDS	mg/L	2200	3/30/05,1000
Anions Sulfate Chloride	mg/L mg/L	1390 63.9	3/24/05,1026 3/24/05,1011
Lab Number: Sample ID: Field Number: Date/Time Collected:		K503522 Cove Creek CC3230700 3/23/05,0700	Date/Time Analyzed
Wet Chemistry TDS	mg/L	150	3/30/05,1000
Anions Sulfate Chloride	mg/L mg/L	85.0 4.62	3/24/05,1055 3/24/05,1040

Description: Two water samples received 3/23/05

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	0.496	NA	103	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.398	95.1	94.5	EPA 300.0
Chloride	< 0.5	0.216	95.0	92.8	EPA 300.0

TDS analyzed by:	
	Teresa Thomas
Anions analyzed by:	
•	Joel Ledbetter

Attn: Darrel Scott

Description: Two water samples received 5/4/05

1 1 1 1		1/505004	
Lab Number:		K505064	
Sample ID:		Facility Discharge	
Field Number:		FD54COMP	Date/Time
Date/Time Collected:		5/4/05,0930	Analyzed
Date/Time Conected.		3/4/03,0930	Allalyzeu
Wet Chemistry			
TDS	mg/L	2100	5/4/05,1600
	9/ =		or 1700, 1000
Anions			
Sulfate	mg/L	1180	5/3/05,1531
Chloride	mg/L	52.0	5/3/05,1515
o mondo	g/ =	02.0	0,0,00,1010
Lab Number:		K505065	
Sample ID:		Cove Creek	
Field Number:		CC540700	Date/Time
Date/Time Collected:		5/4/05,0700	Analyzed
Date/Time Conceted.		3/4/03,0700	Allalyzou
Wet Chemistry			
TDS	mg/L	730	5/4/05,1600
120	1119/ =	, 00	3, 1,00,1000
Anions			
	/1	407	E/2/0E 1602
Sulfate	ma/i	4//	2/3/U2 10U/
Sulfate Chloride	mg/L mg/L	427 19.7	5/3/05,1602 5/3/05,1546

Attn: Darrel Scott

Description: Two water samples received 5/4/05

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	1.78	NA	102	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.534	93.8	93.6	EPA 300.0
Chloride	< 0.5	7.76	90.7	95.4	EPA 300.0

TDS analyzed by: _	
_	Trip Tennison
Anions analyzed by:	
•	Tracy Bounds, Joel Ledbetter

Attn: Darrel Scott

Description: Two water samples received 6/8/05

		1/200102	
Lab Number:		K506195	
Sample ID:	Sample ID:		
Field Number:		Facility Discharge FD68COMP	Date/Time
Date/Time Collected:		6/8/05,0930	Analyzed
Date/Time Conected.		6/8/05,0930	Allalyzeu
Wet Chemistry			
TDS	mg/L	2100	6/10/05,1600
	J		,
Anions			
Sulfate	mg/L	1210	6/9/05,1627
Chloride	mg/L	59.5	6/9/05,1612
	··· <b>·y</b> =		5. 5. 5 5, 1 5 1 =
Lab Number:		K506196	
Sample ID:		Cove Creek	
Field Number:		CC680700	Date/Time
Date/Time Collected:		6/8/05,0700	Analyzed
Date, Time Solicoted.			
		5,5,50,60	7 y = 0 u
Wet Chemistry		3.3.33,33	7a.y <b>20</b> a
Wet Chemistry	ma/l		•
Wet Chemistry TDS	mg/L	250	6/10/05,1600
TDS	mg/L		•
TDS <b>Anions</b>	-	250	6/10/05,1600
TDS	mg/L mg/L mg/L		•

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104 Attn: Darrel Scott

Description: Two water samples received 6/8/05

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	1.28	NA	103	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	1.46	95.1	103	EPA 300.0
Chloride	< 0.5	0.391	97.8	102	EPA 300.0

TDS analyzed by: _	
_	Trip Tennison
Anions analyzed by:	
•	Joel Ledbetter

Attn: Darrel Scott

Description: Two water samples received 7/19/05

Lab Number: Sample ID:		K507514 Facility Discharge	
Field Number:		FD719COMP	Date/Time
Date/Time Collected:		7/19/05,0930	Analyzed
Wet Chemistry			
TDS	mg/L	2100	7/25/05,0800
Anions			
Sulfate	mg/L	1070	7/28/05,2232
Chloride	mg/L	48.1	7/28/05,2217
Lab Number:		K507515	
Sample ID:		Cove Creek	
Field Number:		CC7190700	Date/Time
Date/Time Collected:		7/19/05,0700	Analyzed
Wet Chemistry			
TDS	mg/L	590	7/25/05,0800
Anions			
Sulfate	mg/L	334	7/28/05,2201
Chloride	mg/L	11.4	7/28/05,2131

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104 Attn: Darrel Scott

Description: Two water samples received 7/19/05

#### **QUALITY CONTROL RESULTS**

ONTINOL REGULTO					
	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	1.05	NA	83.5	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	1.11	90.0	95.6	EPA 300.0
Chloride	< 0.5	0.440	98.4	91.0	EPA 300.0

TDS analyzed by:	
	Trip Tennison
Anions analyzed by:	
	Tracy Bounds, Joel Ledbetter

Attn: Darrel Scott

Description: Two water samples received 8/16/05

Lab Number: Sample ID:		K508657 Facility Discharge	Date/Time
Field Number:		FD816COMP	
Date/Time Collected:			Analyzed
Wet Chemistry			
TDS	mg/L	2200	8/16/05,1100
Anions			
Sulfate	mg/L	1330	8/18/05,1033
Chloride	mg/L	59.7	8/18/05,1013
Lab Number:		K508658	
Sample ID:		Cove Creek	
Field Number:	nber: CC8160700		Date/Time
Date/Time Collected:		8/16/05,0700	Analyzed
Wet Chemistry			
TDS	mg/L	650	8/16/05,1100
Anions			
Sulfate	mg/L	366	8/18/05,1113
Chloride	mg/L	17.5	8/18/05,1053

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104 Attn: Darrel Scott

Description: Two water samples received 8/16/05

# **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	3.19	NA	99.8	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	2.56	107	100	EPA 300.0
Chloride	< 0.5	0.781	102	105	EPA 300.0

TDS analyzed by:		
	Trip Tennison	
Anions analyzed by:		
	Tracy Bounds, Joel Ledbetter	

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104 Attn: Darrel Scott

Description: Two water samples received 10/11/05

ANALYTICAL RESULTS			
Lab Number:	_	K510351	_
Sample ID:		Facility Discharge	
Field Number:		FD1011Comp	Date/Time
Date/Time Collected:		10/11/05,0930	Analyzed
Mat Ob assistant			
Wet Chemistry	,,		
TDS	mg/L	2200	10/17/05,1645
Anions			
Sulfate	mg/L	1360	10/11/05,1438
Chloride	mg/L	58.7	10/11/05,1420
Chloride	IIIg/L	30.7	10/11/03,1420
Lab Number:		K510352	
Sample ID:		Cove Creek	
Field Number:		CC10110600	Date/Time
Date/Time Collected:		10/11/05,0600	Analyzed
Wet Chemistry			
TDS	mg/L	230	10/17/05,1645
Anions			
Sulfate	mg/L	100	10/11/05,1402
Chloride	mg/L	5.19	10/11/05,1344

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104

Attn: Darrel Scott

Description: Two water samples received 10/11/05

## **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	6.33	NA	95.6	EPA 160.1
Anions	mg/L				
Sulfate	< 0.5	0.382	98.4	96.5	EPA 300.0
Chloride	< 0.5	0.324	103	96.6	EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

TDS analyzed by: _	
_	Teresa Thomas
Anions analyzed by:	
_	Tracy Bounds, Joel Ledbetter

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104

Attn: Darrel Scott

Description: Two water samples received 12/13/05

### **ANALYTICAL RESULTS**

Lab Number: Sample ID:		K512328 Facility Discharge	
Field Number:		FD1213Comp	Date/Time
Date/Time Collected:		12/13/05,0930	Analyzed
Wet Chemistry			
TDS	mg/L	2100	12/14/05,1615
Anions			
Sulfate	mg/L	1360	12/16/05,1240
Chloride	mg/L	50.6	12/16/05,1240
Lab Number:		K512329	
Sample ID:		Cove Creek	
Field Number:		CC12130630	Date/Time
Date/Time Collected:		12/13/05,0630	Analyzed
Wet Chemistry			
TDS	mg/L	750	12/14/05,1615
Anions			
Sulfate	mg/L	473	12/16/05,1258
Chloride	mg/L	18.0	12/16/05,1258

EEMA O & M Services Group Macgobar Mine Site 2000 Darby Lane Malvern, AR 72104

Attn: Darrel Scott

Description: Two water samples received 12/13/05

### **QUALITY CONTROL RESULTS**

	Blank	Percent Variance Duplicates	Percent Recovery Matrix Spike	Percent Recovery Control Spike	Method of Analysis
Wet Chemistry TDS	<b>mg/L</b> < 1.0	2.28	NA	98.8	EPA 160.1
Anions Sulfate Chloride	<b>mg/L</b> < 0.5 < 0.5	0.125 0.039	100 102	98.1 101	EPA 300.0 EPA 300.0

NA means not analyzed.

Methods are from EPA 600/4-79-020, Revised March, 1983.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

TDS analyzed by:	
	Teresa Thomas
Anions analyzed by:	
	Tracy Bounds, Joel Ledbetter



07 December 2007

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site SDG Number: 0712047

Enclosed are the results of analyses for samples received by the laboratory on 05-Dec-07 15:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 05-Dec-07 15:45



### **ANALYTICAL RESULTS**

Lab Number: 0712047-01

Sample Name: FD Comp; Facility Discharge

Date/Time Collected: 12/5/07 7:28

Sample Matrix: Water

**Anions** <u>Units</u> Result Date/Time Analyzed Batch Method Chloride 60.7 A712040 300.0/9056 mg/L 12/5/07 16:27 Sulfate as SO4 1330 300.0/9056 mg/L 12/5/07 16:48 A712040

 Wet Chemistry
 Units
 Result
 Date/Time Analyzed
 Batch
 Method

 TDS
 mg/L
 2100
 12/6/07 8:30
 A712035
 2540 C

### **ANALYTICAL RESULTS**

Lab Number: 0712047-02
Sample Name: CC; Cove Creek
Date/Time Collected: 12/5/07 10:25

Sample Matrix: Water

Anions Units Result Date/Time Analyzed Batch Method Chloride 2.53 12/5/07 17:09 A712040 300.0/9056 mg/L Sulfate as SO4 mg/L 17.5 12/5/07 17:30 A712040 300.0/9056

 Wet Chemistry
 Units
 Result
 Date/Time Analyzed
 Batch
 Method

 TDS
 mg/L
 91
 12/6/07 8:30
 A712035
 2540 C

### **QUALITY CONTROL RESULTS**

### Wet Chemistry

### Batch: A712035 (Water); Prepared: 05-Dec-07 09:39

Blank LCS LCSD/RPD

TDS < 1.0 mg/L 108 % 103 % / 4.74

### Anions

### Batch: A712040 (Water); Prepared: 05-Dec-07 11:00

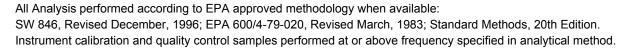
 Blank
 LCS
 MS
 MSD/RPD

 Chloride
 < 0.500 mg/L</td>
 95.6 %
 94.0 %
 93.0 % / 1.06

 Sulfate as SO4
 < 0.500 mg/L</td>
 97.5 %
 94.2 %
 95.2 % / 1.01

**Project: Magcobar Mine Site** 

Date Received: 05-Dec-07 15:45



Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 05-Dec-07 15:45 IN OF CUSTODY FORM(S)





11701 Interstate 30, Bldg. 1, Ste. 115

Malvern, AR 72104   Telephone: \$91487-8897   Routine (5 Day)	CLIENT INFORMATION EEMA O & M Services Group Magcobar Mine Site	EEMA O & M Services Group	Project Description  Magcobar Mine Site  Reporting Information	ion 48 Hour	1. Cost, 4 Degrees Cestigrade 2. Sulfuric Acid (H.SO.) oH < 2
SAMPLE COLLECTION  Sampler(s) Printed  Sampler Sampler(s) Printed  Sampler Sam	Malvern, AR 72104	Malvem, AK 72104	FAX: 501-467-8365	72 Hour Routine (5 Day)	3. Nitric Acid (HNO <sub>3</sub> ), pH < 2
SAMPLE COLLECTION  Sampler(s) Printed  SAMPLE COLLECTION  Datais  Timeis  Time	Attn: BILL MCALLISTER		Bill to/P.O. #:	Preservative Code	8
Sampler(s) Printed  Sampler COLLECTION  Sampler(s) Printed  Suppler Su	and the first terms of the contract of the con			Bottle Type	8
Sampler(s) Printed   SAMPLE COLLECTION   Comp   Sampler   SAMPLE COLLECTION   Comp   Sampler   SAMPLE COLLECTION   Comp   Sampler   SAMPLE   SAMP	Six Mc Rla	£4	Bill me Alister		
SAMPLE COLLECTION   Comp   Sample   IDENTIFICATII	Sampler(s) Signature	Sample	(s) Printed		
Number         Date/s         Time/s         Comp         LOENTIFICATII           Comp         12/5/2007         7/28         X         1         W         Composite Facility Dis 12/5/2007           12/5/2007         10/25 AM         X         1         W         Cove Creek           1         W         Cove Creek         1         W         Cove Creek         1           1         W         Cove Creek         1         W         Cove Creek         1           1         W         Cove Creek         1         W         Cove Creek         1           1         W         Cove Creek         1         W         Cove	Field SAMPLE			WIPLE	
Comp   12/5/2007   7/28   X   1   W   Composite Facility Dis   12/5/2007   10/25 AM   X   1   W   Cove Creek		Grab	of Sample Bottles Matrix	ON/ DESCRIPTION	_
Date/Time  Date/Time  A. Received by lab: (Signature)  3. CO  3. CO  3. CO  3. RECEIVED BY LAB. (Signature)  4. PRI  5. TEI	Comp	7:28	<u>م</u>		-
Date/Time  Date/Time  2. Received by: (Signature)  1. CU  4. Received by lab: (Signature)  3. CO  3. CO  3. CO  4. PRI		10:25 AM	1 W Cove Creek	scharge	-
Date/Time  2. Received by: (Signature)  1. CU  1. S'.415  2. CO  3. CO  3. Received by lab: (Signature)  5. REC  1. TEI				scharge	
Date/Time   2. Received by: (Signature)   1. CUI   1.				scharge	
12:5-07 1, CU 15:45 2.00 3.00 3.00 3.00 5.RE	Relinquished by: (Signature)			scharge	
Date/Time  4. Received by lab: (Signature)  Supply  Su	Bis malache	أعدد بش	Received by: (Signature)	SCHARGE SAMPLE CONDITION UPON	2
1	3. Relinquished by. (Signature)			SCHARGE SCHARELS CORRECT: CLABELS AGREE:	



24 February 2009

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site SDG Number: 0902204

Enclosed are the results of analyses for samples received by the laboratory on 19-Feb-09 14:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 19-Feb-09 14:57



### **ANALYTICAL RESULTS**

Lab Number: 0902204-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 2/19/09 12:10

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	49.8	2/23/09 11:38	A902216	300.0/9056
Sulfate as SO4	mg/L	1190	2/23/09 12:00	A902216	300.0/9056
M-4 Ob		<b>5</b>	D ( =	5	
Wet Chemistry	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
TDS	mg/L	1900	2/20/09 11:45	A902191	2540C

### **ANALYTICAL RESULTS**

Lab Number: 0902204-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 2/19/09 8:30

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	7.23	2/23/09 12:22	A902216	300.0/9056
Sulfate as SO4	mg/L	147	2/23/09 12:44	A902216	300.0/9056
Wet Chemistry	Units	Result	Date/Time Analyzed	Batch	Method
vvet enermeny	Office	resuit	Date/Time Analyzed	Daton	ivietriou
TDS	mg/L	230	2/20/09 11:45	A902191	2540C

### **QUALITY CONTROL RESULTS**

Wet Chemistry -- Batch: A902191 (Water)

Prepared: 19-Feb-09 12:52 By: AP -- Analyzed: 20-Feb-09 10:59 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1.0 mg/L	97.0% / 99.5%	NA / NA		2.54%	

Anions -- Batch: A902216 (Water)

Prepared: 23-Feb-09 10:22 By: MG -- Analyzed: 23-Feb-09 16:05 By: MELIS

	•	<u> </u>	<u> </u>		
Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	95.9% / NA	94.2% / 96.3%		2.10%
Sulfate as SO4	<0.500 mg/L	93.6% / NA	95.1% / 96.2%		1.03%

**Project: Magcobar Mine Site** 

Date Received: 19-Feb-09 14:57

All Analysis performed according to EPA approved methodology when available: SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

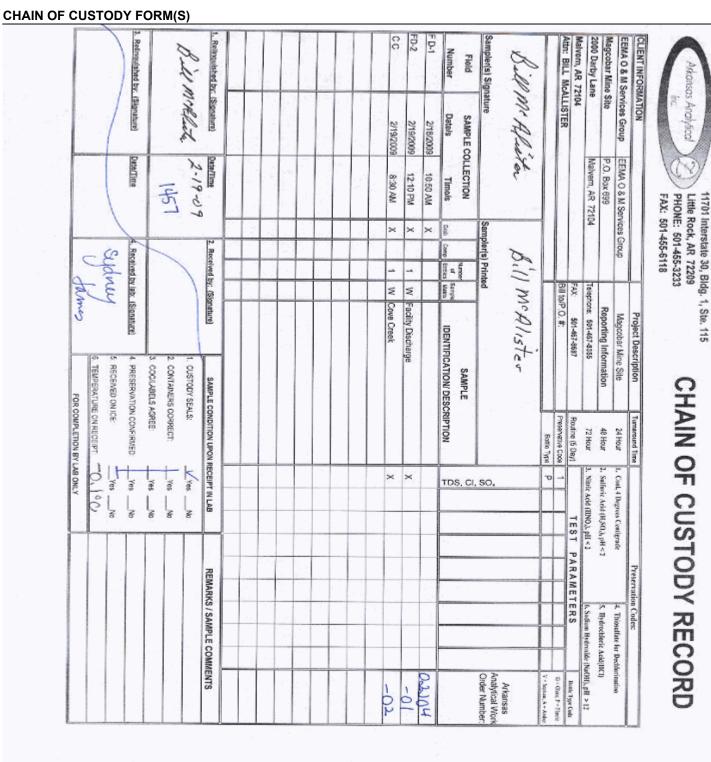
24 February 2009

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

**Project: Magcobar Mine Site** 

Date Received: 19-Feb-09 14:57







22 April 2009

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site SDG Number: 0904155

Enclosed are the results of analyses for samples received by the laboratory on 15-Apr-09 14:46. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Norma James President

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**Project: Magcobar Mine Site** 

Date Received: 15-Apr-09 14:46



### **ANALYTICAL RESULTS**

Lab Number: 0904155-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 4/15/09 11:42

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Date/Time Analyzed	<u>Batch</u>	Method
Chloride	mg/L	47.6	4/20/09 16:42	A904180	300.0/9056
Sulfate as SO4	mg/L	1090	4/20/09 17:04	A904180	300.0/9056
\\/_t \O		<b>5</b> "	5.5	D	

 Wet Chemistry
 Units
 Result
 Date/Time Analyzed
 Batch
 Method

 TDS
 mg/L
 1900
 4/20/09 15:20
 A904181
 2540C

### **ANALYTICAL RESULTS**

Lab Number: 0904155-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 4/15/09 11:00

Sample Matrix: Water

Anions Units Result Date/Time Analyzed Batch Method 2.63 Chloride mg/L 4/20/09 17:26 A904180 300.0/9056 Sulfate as SO4 42.0 4/20/09 17:48 A904180 mg/L 300.0/9056 Wet Chemistry

 Wet Chemistry
 Units
 Result
 Date/Time Analyzed
 Batch
 Method

 TDS
 mg/L
 100
 4/20/09 15:20
 A904181
 2540C

### **QUALITY CONTROL RESULTS**

Anions -- Batch: A904180 (Water)

Prepared: 20-Apr-09 10:00 By: MG -- Analyzed: 20-Apr-09 20:04 By: MEL

Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	92.0% / NA	93.6% / 93.1%		0.499%
Sulfate as SO4	<0.500 mg/L	98.8% / NA	103% / 101%		2.02%

Wet Chemistry -- Batch: A904181 (Water)

Prepared: 20-Apr-09 15:20 By: AP -- Analyzed: 20-Apr-09 15:20 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
TDS	<1.0 mg/L	96.0% / 96.0%	NA / NA		0.00%	

Waivern, AR 72104

**Project: Magcobar Mine Site** 

Date Received: 15-Apr-09 14:46

All Analysis performed according to EPA approved methodology when available: SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 15-Apr-09 14:46 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

	AB ONLY	FOR COMPLETION BY LAB ONLY		1				
				(				
	4.0	NRECEPT		Mary				
	Yes No	ONFIRMED	lun.	4. Received by lab: (Signature)		Date/Time		8. Relinguished by: (Signature)
	765	SAGREE	3. COCILABELS AGREE	1	L			
	Yes No	CONTAINERS CORRECT:	2 CONTAINE	\		44	,	in bord
	V YesNo	SEALS	1. CUSTODY SEALS		_	n-12-6	R. Marchell	400.8
REMARKS / SAMPLE COMMENTS	ECEIPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB		2. Received by: (Signature)		Date/Time		Relinguished b
					t			
					İ			
02	×		Cove Creek	1 W	×	11:00 AM	4/15/2009	00
0	×		W Facility Discharge	1 W	×	11:42 AM	4/15/2009	FD-1
					×	5:37 PM	4/14/2009	FD-2
070455	тс	SCRIPTION	IDENTIFICATION/ DESCRIPTION	Comp Better Many	Out.	Time/s	Date/s	Number
	os. C		SAMPLE	Number 1		DLLECTION	SAMPLE COLLECTION	Field
Order Numb	i. sc			Sampler(s) Printed	Samp		nature	Sampler(s) Signature
Arkansas Analytical Work	).		Bill McAlister	Sill Me	~	olic	Bill Mc Abutu	Bill
V = Septent, A = Ambre		Botte Type			1			
G - Claric P - Plantic		Preservative Code	Bil to/P.O. #:	Bill 10			ALLISTER	Attn: BILL McALLISTER
TEST PARAMETERS Bestertype Code	TEST PA	Routine (5 Day)	501-467-8687	3A-9			104	Malvern, AR 72104
6, Sodium Hydroxide (NaOH), pH > 12	<ol> <li>Nitric Acid (HNO<sub>3</sub>), pH &lt; 2</li> </ol>	72 Hour 3	Telephone 501-467-8355	Telepi	2	Malvern, AR 72104	0	2000 Darby Lane
S. Hydrochloric Acid(HCl)	<ol> <li>Sulfirle Add (B,SO<sub>A</sub>) pB &lt; 2.</li> </ol>	48 Hour 2	Reporting Information			P.O. Box 699	Site	Magcobar Mine Site
4. Thinsulfate for Dechlorination	<ol> <li>Cool, 4 Degress Centigrade</li> </ol>	24 Hour	Magcobar Mine Site	dno	rvices G	EEMA O & M Services Group	rvices Group	EEMA O & M Services Group
		-	,					Personal particular pa



11 June 2009

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site

SDG Number: 0906060

Enclosed are the results of analyses for samples received by the laboratory on 04-Jun-09 13:44. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	
Received On Ice	
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

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**Project: Magcobar Mine Site** 

Date Received: 04-Jun-09 13:44



A906129

2540C

### **ANALYTICAL RESULTS**

Lab Number: 0906060-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 6/4/09 10:10

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	Method
Chloride	mg/L	40.3	6/5/09 11:36	A906075	300.0/9056
Sulfate as SO4	mg/L	1010	6/5/09 11:59	A906075	300.0/9056
Wet Chemistry	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	Method

6/9/09 15:49

### **ANALYTICAL RESULTS**

Lab Number: 0906060-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 6/4/09 11:05

mg/L

**TDS** 

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	8.87	6/5/09 12:21	A906075	300.0/9056
Sulfate as SO4	mg/L	242	6/5/09 12:44	A906075	300.0/9056
Wet Chemistry	Units	Result	Date/Time Analyzed	Batch	Method
vvet enemietry	Office	<u>IXESUIL</u>	Date/ Hille Allalyzed	Daton	ivietriou
TDS	mg/L	370	6/9/09 15:49	A906129	2540C

### **QUALITY CONTROL RESULTS**

Anions -- Batch: A906075 (Water)
Prepared: 05-Jun-09 10:00 By: MG -- Analyzed: 05-Jun-09 16:07 By: MEL

1700

<u>Analyte</u>	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	97.7% / NA	94.4% / 95.8%		1.50%
Sulfate as SO4	<0.500 mg/L	97.9% / NA	96.0% / 97.4%		1.27%

Wet Chemistry -- Batch: A906129 (Water)
Prepared: 09-Jun-09 15:49 By: AP -- Analyzed: 09-Jun-09 15:49 By: SB

Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD	Qualifiers
TDS	<1.0 mg/L	92.0% / 93.0%	NA / NA		1.08%	

**Project: Magcobar Mine Site** 

Date Received: 04-Jun-09 13:44

All Analysis performed according to EPA approved methodology when available: SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 04-Jun-09 13:44 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bidg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

	AB ONLY	FOR COMPLETION BY LAB ONLY	-	Г	1	hhe!		
	7.h	TEMPERATURE ON RECEIPT	Pana B TEMPERA	V	,	3		1
	Yes No	PRESERVATION CONFIRMED RECEIVED ON ICE	4. Received by Jab. (Shangarre) 4. PRESERVATION C	4. Received	2	10. 4.09		3. Relinguished by: (Signature)
	YesNo	LS AGREE	3. COCKABELS AGREE	Ī				
	Yes No	CONTAINERS CORRECT	2 CONTAINE	1			-	2
	No No	SEALS	1 CUSTODY SEALS		4	6-4-09	Rumalet	Run
REMARKS / SAMPLE COMMENTS	ECEPTINIAS	SAMPLE CONDITION UPON RECEIPT IN LAB	2. Received by: (Signature) SAMPL	2. Received l		Date(Time		1. Relinquished by: (Signature)
					H			
					+			
					$\forall$			
02	×		W Cove Creek		×	11.05 AM	6/4/2009	CC
0	×		W Facility Discharge	-	×	10:10 AM	6,4/2009	FD-2
					×	10:25 AM	6/3/2009	F D-1
0906060	TD	SCRIPTION	Many IDENTIFICATION/ DESCRIPTION	Comp Station	0	Time/s	Date/s	Number
	s, ci		SAMPLE	None Park		LLECTION	SAMPLE COLLECTION	Field
Order Number	. 80			Sampler(s) Printed	Sam		ature	Sampler(s) Signature
Arkansas Analyticas Wood			Bill Mc Alister	Ž.		12	Sill Mc Denter	Bill
Vic Squar, A - Anho	P	Butle Type			1			
C+Class, E-Elaste	· ·	Preservative Code:	SII TOP O. #.				LUSTER	Attn: BILL McALLISTER
TEST PARAMETERS Seek Type Code	TEST P	Routine (5 Day)	FAX 501-467-9687				104	Malvern, AR 72104
6. Sodium Bydroxide (NaOII), pH > 12	3. Nink And (IENO), plil < 2	72 Hour 0	Telephone 501-467-8355		8	Malvern, AR 72104		2000 Darby Lane
5. Hydrochloric Azid(HCt)	2. Sulfaric Acid (RLSO), pR < 2	48 Hour 2	Reporting Information			P O. Box 699		Magcobar Mine Site
4. Thissaffate for Dechlorination	L. Cool, 4 Degree Cestigrade	24 Hour	Magoobar Mine Site	dnoug	rvices (	EEMA O & M Services Group		EEMA O & M Services Group
Preservation Codes:		Turnanuand Tene	Project Description		l		MICH	CLIENT INFORMATION
P. C. C. C. L.			A CONTRACTOR OF THE PARTY OF TH		ı			TOTAL STREET



22 October 2009

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site

SDG Number: 0910232

Enclosed are the results of analyses for samples received by the laboratory on 15-Oct-09 13:27. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	
Received On Ice	
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

**Project: Magcobar Mine Site** 

Date Received: 15-Oct-09 13:27





### **ANALYTICAL RESULTS**

0910232-01 Lab Number:

Facility Discharge 1 & 2 (Comp) Sample Name:

10/15/09 11:15 **Date/Time Collected:** 

> Water Sample Matrix:

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	39.2	10/19/09 16:43	A910268	300.0/9056A
Sulfate as SO4	mg/L	938	10/19/09 17:05	A910268	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
TDS	mg/L	1700	10/20/09 21:29	A910291	2540C

### **ANALYTICAL RESULTS**

0910232-02 Lab Number: Cove Creek (Grab) Sample Name: 10/15/09 9:24 **Date/Time Collected:** 

Water Sample Matrix:

mg/L

**TDS** 

<u>Anions</u>	<u>Units</u>	Result	Date/Time Analyzed	<u>Batch</u>	Method
Chloride	mg/L	1.76	10/19/09 17:28	A910268	300.0/9056A
Sulfate as SO4	mg/L	25.8	10/19/09 17:50	A910268	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Date/Time Analyzed	<u>Batch</u>	Method

10/20/09 21:29

A910291

2540C

### **QUALITY CONTROL RESULTS**

Anions Batch: A910268 (Water)
Prepared: 19-Oct-09 13:47 By: MG Analyzed: 20-Oct-09 14:09 By: MG

89

<u>Analyte</u>	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	97.0% / NA	85.3% / 85.4%		0.0938%
Sulfate as SO4	<0.500 mg/L	105% / NA	102% / 103%		0.901%

Wet Chemistry Batch: A910291 (Water)
Prepared: 20-Oct-09 21:29 By: AP Analyzed: 20-Oct-09 21:29 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
TDS	<1.0 mg/L	110% / 110%	NA / NA		0.00%

**Project: Magcobar Mine Site** 

Date Received: 15-Oct-09 13:27

All Analysis performed according to EPA approved methodology when available: SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 15-Oct-09 13:27 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

## CHAIN OF CUSTODY RECORD

	AB ONLY	FOR COMPLETION BY LAB ONLY	-	ľ			
			Continues income	100.00			\
	40	TEMPERATURE ON RECEIPT:	Ф.	7000	1327		\
	Yes No		5. RECEIVED ON ICE	5	10-18-09		\
	YesNo	PRESERVATION CONFIRMED:	nature) 4.	4. Received by	Date/Time		3. Relinquished by: (Signature)
	Yes No	AGREE	3. COCILABRIS AGREE	T			
	V.			\	1461	***************************************	
	Yes No	CORRECT	2. CONTAINERS CORRECT	\	1001		Dutte
	Yes No	ALS:	1. CUSTODY SEALS		10-15-09	+on-mail &	1
REMARKS / SAMPLE COMMENTS	ECEIPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB		2. Received by: (Signature)	Date/Time		1. Relinguished by: (Signature)
				E			
02	×		W Cove Creek (Grab)		9:24 AM X	10/15/2009	8
01	×		W Facility Discharge 1 & 2 (Comp)	×	11:15 AM	10/15/2009	FD-2
					3:52 PM	10/14/2009	FD-1
0910232-	TD	CRIPTION	IDENTIFICATION/ DESCRIPTION	Comp Bottles	Time/s out	Date/s	Number
	s, c		SAMPLE	Number	LLECTION	SAMPLE COLLECTION	Field
Order Number.	, so.		A CONTRACTOR OF THE PROPERTY O	Sampler(s) Printed	San	nature	Sampler(s) Signature
Arkansas Analytical Work			V 13100	Dilling		Dull 101 Allasker	Dud,
			RIMOR DI. +	D'II Mac		x 500 +	8.8
Y - Separe, A - Author	Р	Bottle Type:	Error deve fredrændjærne actione, brytalder gjærne institur ( blootsodjærne institur				
G = Gasc P = Plant		Preservetive Code	Fax: 501-467-8587		Altn: Amber Rich		Attn: Bill McAlister
PARAMETERS ButteType Code	TEST F	Routine (5 Day)	Telephone: 501-467-8355			2104	Malvern, AR 72104
6. Sodian Hydroxide (NaOH), pH > 12	k. Nitric Acid (HNO.), pH < 2	72 Hour	Reporting Information		Kulpsville, PA 19443	-	P.O. Box 699
<ol> <li>Hydrachleric Acid(HCI)</li> </ol>	2. Sulfuric Acid (H,SO <sub>A)</sub> pH < 2	48 Hour	Weekly Water Samples		P.O. Box 732		Magcobar Mine Site
4. Thissalfate for Dechlorination	<ol> <li>Ceel, 4 Degrees Centigrade</li> </ol>	24 Hour	Magcobar Mine Site	as Group	EEMA O & M Services Group		EEMA O & M Services Group
Preservation Codes:		Turnaround Time	Project Description	NOIT	BILLING INFORMATION		CLIENT INFORMATION
AND DESCRIPTION OF THE PERSON							



22 April 2010

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site SDG Number: 1004183

Enclosed are the results of analyses for samples received by the laboratory on 15-Apr-10 15:21. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	~
Received On Ice	
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

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Malvern, AR 72104

**Project: Magcobar Mine Site** 

Date Received: 15-Apr-10 15:21



1004183-01 Lab Number:

Facility Discharge 1&2 (Comp) Sample Name:

4/15/10 11:34 **Date/Time Collected:** 

Water Sample Matrix:

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	35.1		4/20/10 14:36	A004213	300.0/9056A
Sulfate as SO4	mg/L	841		4/20/10 14:58	A004213	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/L	1800		4/16/10 12:00	A004170	2540C

**ANALYTICAL RESULTS** 

Page 2 of 3

1004183-02 Lab Number: Cove Creek (Grab) Sample Name:

4/15/10 11:00 **Date/Time Collected:** 

> Water Sample Matrix:

Anions	<u>Units</u>	Result	Qualifier(s)	<u>Date/Time Analyzed</u>	Batch	Method
Chloride	mg/L	5.21		4/20/10 15:20	A004213	300.0/9056A
Sulfate as SO4	mg/L	92.5		4/20/10 15:43	A004213	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method

4/16/10 12:00

mg/L

**QUALITY CONTROL RESULTS** 

TDS

Wet Chemistry -- Batch: A004170 (Water)

220

Prepared: 16-Apr-10 12:00 By: AP -- Analyzed: 16-Apr-10 12:00 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
TDS	<1.0 mg/L	114% / 100%	NA / NA		13.5%	

Anions -- Batch: A004213 (Water)

Prepared: 20-Apr-10 12:42 By: MG -- Analyzed: 21-Apr-10 11:11 By: MEL

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	98.4% / NA	92.7% / 91.9%		0.921%
Sulfate as SO4	<0.500 mg/L	101% / NA	93.7% / 93.4%		0.308%

2540C

A004170

**Project: Magcobar Mine Site** 

Date Received: 15-Apr-10 15:21

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 15-Apr-10 15:21 **CHAIN OF CUSTODY FORM(S)** 





11701 interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

## **CHAIN OF CUSTODY RECORD**

	AB ONLY	FOR COMPLETION BY LAB ONLY	0	<	ı	L			
	Ho C	TEMPERATURE ON RECEIPT:	8. TEMPERATU	-2					\
	A Yes No	NICE	5. RECEIVED ON ICE	Ξ,	/				\
	YesNo	PRESERVATION CONFIRMED:	Received by lab: (Signature) 4. PRESERVATI	d by lab	Receive	74	Date/Time	by: (Signature)	3. Relinquished by: (Signature)
	Yes No	AGREE	3. COC/LABELS AGREE			Ļ			
	YesNo	CORRECT:	2. CONTAINERS CORRECT	\		and the first	8		2000
	YesNo	ALS	1. GUSTODY SEALS			-	4-15-10	٠.	A come of
REMARKS / SAMPLE COMMENTS	ECEIPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB		2. Received by: (Signature)	Receive		Date/Time		1. Relinquished by: (Signature)
8					H				
					Н				
				+	+	+			
					+	+			
				+	+	+			
				$\dagger$	+	+			
					$\forall$	H			
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-02	×		Cove Creek (Grab)	8		×	11:00 AM	4/15/2010	22
-01	×		Facility Discharge 1 & 2 (Comp)	8		×	11:34:AM	4/15/2010	FD-2
							1:42 PM	4/14/2010	FD-1
28/10 01/83	то	CRIPTION	IDENTIFICATION/ DESCRIPTION	Sample Matrix	ηρ Bottles	Orab Comp	Timers	Date/s	Number
	is, ci		SAMPLE		Nume	-	SAMPLE COLLECTION	SAMPLE C	Field
Order Number:	I, SO.			ted	(s) Prir	Sampler(s) Printed	co	nature	Sampler(s) Signature
Arkansas Analytical Work			Bill Mc Alister	Mc	20	8		Sill Mc Alader	Bun
Application of Applic	1	воде Туре.	Burtor@sens.inc.com						
G = Gast. P = Plasts	,	Preservative Code:	Fax: 501-467-8687				Attn: Amber Rich	ister	Attn: Bill McAlister
PARAMETERS	TEST	Routine (5 Day)	Telephone: 501-467-8355					2104	Malvern, AR 72104
6. Sodiem Hydreside (NaOH), pH > 12	<ol> <li>Nitrie Acid (HNO<sub>3</sub>), pH &lt; 2</li> </ol>	72 Hour	Reporting Information			చ	Kulpsville, PA 19443		P.O. Box 699
H < 2 S. Hydrochloric Acid(HCI)	2. Salfuric Acid (H,SO,), pH < 2	48 Hour 2	Weekly Water Samples	Г			P.O. Box 732	Site	Magcobar Mine Site
4. Thiosulfate for Dechlorination	L. Cool, 4 Degrees Centigrade	24 Hour	Magcobar Mine Site		dno	ices Gr	EEMA O & M Services Group	ervices Group	EEMA O & M Services Group
Preservation Codes:		Turnaround Time	Project Description	П	П	ATION	BILLING INFORMATION	MATION	CLIENT INFORMATION



21 June 2010

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site SDG Number: 1006222

Enclosed are the results of analyses for samples received by the laboratory on 17-Jun-10 14:00. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	<u> </u>
Received On Ice	
Temperature on Receipt	5.0°C

Sincerely,

Norma James President

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

Project: Magcobar Mine Site

Date Received: 17-Jun-10 14:00

## ANALYTICAL RESULTS

Lab Number: 1006222-01

Sample Name: Facility Discharge 1&2 (Comp)

Date/Time Collected: 6/17/10 12:12

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
Chloride	mg/L	39.1		6/18/10 10:03	A006212	300.0/9056A
Sulfate as SO4	mg/L	899		6/18/10 10:25	A006212	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	Batch	Method
TDS	mg/L	1800		6/18/10 16:46	A006225	2540C

### **ANALYTICAL RESULTS**

Lab Number: 1006222-02 Sample Name: Cove Creek (Grab)

Date/Time Collected: 6/17/10 10:35

Sample Matrix: Water

**Anions Units** Date/Time Analyzed Result Qualifier(s) Batch Method 300.0/9056A Chloride mg/L 7.31 6/18/10 10:48 A006212 Sulfate as SO4 132 6/18/10 11:10 A006212 300.0/9056A mg/L **Wet Chemistry** Units Result Qualifier(s) Date/Time Analyzed Batch Method

<u>Conemistry Units Result Qualifier(s) Date/Time Analyzed Batch Method</u>

TDS mg/L **320** 6/18/10 16:46 A006225 2540C

### **QUALITY CONTROL RESULTS**

Anions -- Batch: A006212 (Water)

Prepared: 17-Jun-10 09:30 By: MG -- Analyzed: 17-Jun-10 11:45 By: MELIS

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	90.2% / NA	86.8% / 85.2%		1.82%
Sulfate as SO4	<0.500 mg/L	94.3% / NA	90.3% / 88.2%		2.32%

Wet Chemistry -- Batch: A006225 (Water)

Prepared: 17-Jun-10 16:49 By: AP -- Analyzed: 17-Jun-10 16:49 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
TDS	<1.0 mg/L	108% / 106%	NA / NA		0.935%

**Project: Magcobar Mine Site** 

Date Received: 17-Jun-10 14:00

All Analysis performed according to EPA approved methodology when available: SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition.

Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

**Project: Magcobar Mine Site** 

Date Received: 17-Jun-10 14:00 CHAIN OF CUSTODY FORM(S)



# CHAIN OF CUSTODY RECORD

11701 Interstate 30, Bidg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118



SA Service Sample Information		
P.O. Box 732   Weekly Water Samp	Magcobar Mine Site 24 Hour 1. Cool, 4 Degrees Centigrade	4. Thiosulfate for Dechlorination
Kulpsville, PA 19443  Rupsville, PA 19443  Altin: Amber Rich  Sampler(s) Printed  Timels  11:40 AM  Timels  10:35 AM  Timels  Date/Time  Date/Time  Date/Time  A. Ricolved by: (Signature)  1. CUS  Date/Time  A. Ricolved by: (Signature)  A. Ricolved by: (Signature)  A. Ricolved by: (Signature)  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  C. COO  Date/Time  A. Ricolved by: (Signature)  C. COO  C. COO  C. COO  Date/Time  C. COO  C. CO	48 Hour	5. Hydrachleric Acid(BCI)
Athr. Amber Rich	72 Hour	6. Sedam Hydroside (NaOH), pH > 12
Attn: Amber Rich   Pear dan Sampler   Sample	Telephone: 501-467-8356 Routine (5 Day) TEST PARAMETERS	ETERS Boste Type Code
E COLLECTION Sampler(s) Printed Timels 11:40 AM 12:12:PM X 1 W Facility Discharge 1 & 10:35 AM X 1 W Cove Creek (Grab)  10:35 AM X 1 P PREPARED TO SECOND STANDARD TO STANDARD TO SECOND STANDARD TO	Preservative Code:	G = Class; P = Plasis:
Sampler(s) Printed  Sampler(s) Printed  Sampler(s) Printed  11:40 AM  12:12:PM  X 1 W Facility Discharge 1 & 12:12:PM  X 1 W Cove Creek (Grab)  Date/Time  C=/7-/O  U 00  Date/Time  4. Received by: (Signature)  1. CUS  C C COS  Date/Time  4. Received by: All AL Signature)  6. PRE  1. CULECTION  10:35 AM  X 1 W Cove Creek (Grab)  1. CUS  2. Received by: (Signature)  4. PRE  1. CUS  2. CUS  1. CUS  2. CUS  1. CUS  2. CUS  3. CUS  5. REG  1. CUS  2. CUS  3. CUS  3. CUS  5. REG  6. REG	Montrodjeens-tecom Bottle Type: P	V = Septime, A = Amber
11:40 AM	Alister	Arkansas
Timels   Grap   Control   Municipal   Sare(s)   Sare(s	'os	Analytical Work Order Number:
11:40 AM	SAMPLE	
11:40 AM	IDENTIFICATION DESCRIPTION	1006333
10:35 AM X 1 W Facility Discharge 1 & 10:35 AM X 1 W Cove Creek (Grab)  Date/Time  C - 7 - 1 Cove Creek (Grab)  1. Customer		
10.35 AM X 11 W Cove Creek (Grab)  Date/Time  C=/7-/0  UU00  Date/Time  4. Received by: (Signature) 3.000  Date/Time  4. Received by lab: (Signature) 3.000  Date/Time  5. Received by lab: (Signature) 6. TEN	Facility Discharge 1 & 2 (Comp)	-Q-
Date/Time 2. Received by. (Signature) 1. CUS 1. (OU Date/Time 4. Received by lab., (Signature) 3. COS 2. COS 2. COS 2. COS 3. CO	Cove Creek (Grab)	8
Date/Time 2. Received by. (Signature) 1. CUS 1. (OUT) 2. COD 2. COD Date/Time 4. Received by lab. (Signature) 4. PRE		
Date/Time 2. Received by: (Signature) 1. CUS (U) (U) (Date/Time 4. Received by lab. (Signature) 3. COS (Date/Time 5. Received by lab. (Signature) 4. PRE (C)		
Date/Time 2. Received by. (Signature) 1. CUS 2. COI Date/Time 4. Received by lab. (Signature) 4. PRE		
Date/Time S. Received by lab. (Signature) 4.	SAMPLE CONDITION UPON RECEIPT IN LAB	REMARKS / SAMPLE COMMENTS
Date/Time 4. Received by lab. (Signapure) 4	Yes	
Date/Time 4. Received by lab. (Signapure) 4.	3 ODCUABELS AGREET Yes No	
	4. PRESERVATION CONFIRMED: Yes	
	+	
JANOT )	MAC 6. TEMPERATURE ON RECEIPT. ST	
TON COMPANY	TON COMPLETION OF DAG ONLY	



19 January 2011

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1101097

Enclosed are the results of analyses for samples received by the laboratory on 13-Jan-11 14:41. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	~
Received On Ice	~
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 13-Jan-11 14:41



1101097-01 Lab Number:

Facility Discharge 1&2 (Comp) Sample Name:

1/13/11 10:50 **Date/Time Collected:** 

Water Sample Matrix:

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	43.9		1/18/11 18:21	A101148	300.0/9056A
Sulfate as SO4	mg/L	1130		1/18/11 18:46	A101148	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/l	1900		1/17/11 13:46	A101117	2540C

Arkansas Analytical

**ANALYTICAL RESULTS** 

1101097-02 Lab Number: Sample Name: Cove Creek (Grab) 1/13/11 8:55 **Date/Time Collected:** 

> Water Sample Matrix: 11-14-

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
Chloride	mg/L	4.31		1/18/11 19:10	A101148	300.0/9056A
Sulfate as SO4	mg/L	53.1		1/18/11 19:34	A101148	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/L	130		1/17/11 13:46	A101117	2540C

**QUALITY CONTROL RESULTS** 

Page 2 of 3

Wet Chemistry -- Batch: A101117 (Water) Prepared: 17-Jan-11 13:46 By: AP -- Analyzed: 17-Jan-11 13:46 By: AP

<u>BLK</u> MS / MSD Dup <u>RPD</u> Qualifiers LCS / LCSD **Analyte TDS** 3.26% <1.0 mg/L 93.5% / 90.5% NA / NA

Anions -- Batch: A101148 (Water)

Prepared: 19-Jan-11 08:08 By: MG -- Analyzed: 19-Jan-11 11:32 By: MEL

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u> <u>RPD</u> <u>Qualifier</u>	<u>'S</u>
Chloride	<0.500 mg/L	92.6% / NA	97.6% / 97.2%	0.178%	
Sulfate as SO4	<0.500 mg/L	90.8% / NA	103% / 103%	0.129%	

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 13-Jan-11 14:41

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 13-Jan-11 14:41 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

CHAIN OF CUSTODY RECORD

	LABONLY	FOR COMPLETION BY LAB ONLY		L					
	4°C	RECEIPT	6. TEMPERATI	W. Salar					
	Yes No		5. RECEIVED ON ICE	1000	_		\		>
	Yes No	PRESERVATION CONFIRMED:	Received by lab: (Signature) 4. PRESERVAT	elved by lai	4. Rec		Data/Time	by: (Signature)	3. Relinquished by: (Signature)
	Yes No		3. COCILABELS AGREE:		Г				
	YesNo		2. CONTAINERS CORRECT:		1			Moreston	Delle
	YesNo		1. CUSTODY SEALS	)		_	1-13-11		D'A
REMARKS / SAMPLE COMMENTS	RECEIPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB		2. Received by: (Signature)	2. Rec		Data/Time	-	1. Relinquished by: [Signature]
				L					
				+					
				+					
				+					
				+					
02	×		Cove Creek (Grab)		1	×	8:55 AM	1/13/2011	00
01	×		Facility Discharge 1 & 2 (Comp)		×		10:50 AM	1/13/2011	FD:1
25019TT							1:45 PM	1/12/2011	FD-2
	TD	CRIPTION	IDENTIFICATION/ DESCRIPTION	Of Sample Bottles Matrix	Comp	Grab	Time/s	Date/s	Number
	s, ci		SAMPLE	umbed	-		OLLECTION	SAMPLE COLLECTION	Field
Order Number:	, so,			Sampler(s) Printed	ler(s)	Samp		nature	Sampler(s) Signature
Arkansas Anakrical Work			Bill Mc Alister	1	8		43,	SUM Alete	BU
V = Soptam, A = Ambor	P	Bottle Type:	(nat. gard.mediae)gemeier.com, oncoronigemeier.com, (nathreigemeier.com)	-	П	1			
G = Glass; P = Flade		Preservative Code:	Fax: 501-467-8687			3	Attn: Amber Rich	ster	Attn: Bill McAlister
PARAMETERS	TEST	Routine (5 Day)	Telephone: 501-467-8355					104	Malvern, AR 72104
6. Sodian Hydraxide (NaOH), pH > 12	3. Nitric Acid (HNO,), pH < 2	72 Hour	Reporting Information			9443	Kulpsville, PA 19443		P.O. Box 699
5. Hydrochloric Acid(HCl)	<ol> <li>Sulfuric Acid (H,SO<sub>4</sub>), pH &lt; 2</li> </ol>	48 Hour	Weekly Water Samples				P.O. Box 732		Magcobar Mine Site
4. This sulface for Dechlorination	1. Cool, 4 Degrees Centigrade	24 Hour	Magcobar Mine Site	H	Group	rvices	EEMA O & M Services Group		EEMA O & M Services Group
Preservation Codes:		Tumaround Time	Project Description	Н	ž	MATIC	BILLING INFORMATION		CLIENT INFORMATION



21 February 2011

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1102150

Enclosed are the results of analyses for samples received by the laboratory on 15-Feb-11 12:26. If you have any questions concerning this report, please feel free to contact me.

### Sample Receipt Information:

Custody Seals	~
Containers Intact	
COC/Labels Agree	
Preservation Confirmed	<u> </u>
Received On Ice	
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

This document is intended only for the use of the person(s) to whom it is expressly addressed. This document may contain information that is confidential and legally privileged. If you are not the intended recipient, you are notified that any disclosure, distribution, or copying of this document is strictly prohibited. If you have received this document in error, please destroy.

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 15-Feb-11 12:26

## **ANALYTICAL RESULTS**

Lab Number: 1102150-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 2/15/11 11:45

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	53.4		2/16/11 12:13	A102163	300.0/9056A
Sulfate as SO4	mg/L	1120		2/16/11 12:37	A102163	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TDS	mg/L	1900		2/17/11 11:15	A102203	2540C

## **ANALYTICAL RESULTS**

Lab Number: 1102150-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 2/15/11 10:12
Sample Matrix: Water

Anions	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
Chloride Sulfate as SO4	mg/L mg/L	5.76 92.7		2/16/11 13:02 2/16/11 13:26	A102163 A102163	300.0/9056A 300.0/9056A
Wet Chemistry TDS	<u>Units</u> ma/L	Result 180	Qualifier(s)	Date/Time Analyzed 2/17/11 11:15	<u>Batch</u> A102203	Method 2540C

## **QUALITY CONTROL RESULTS**

Anions -- Batch: A102163 (Water)

Prepared: 16-Feb-11 10:15 By: MG -- Analyzed: 16-Feb-11 17:51 By: MEL

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
Chloride	<0.500 mg/L	96.1% / NA	90.7% / 91.5%		0.346%	
Sulfate as SO4	<0.500 mg/L	91.6% / NA	91.4% / 89.2%		1.18%	%D1

Wet Chemistry -- Batch: A102203 (Water)

Prepared: 17-Feb-11 11:15 By: AP -- Analyzed: 17-Feb-11 11:15 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD	Qualifiers
TDS	<1.0 mg/l	96.5% / 95.5%	NA / NA		1.04%	

### QUALIFIER(S)

\*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 15-Feb-11 12:26

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 15-Feb-11 12:26 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

		EOD COMPLETION BY LABOR FOR			•				
	4	TEMPERATURE ON RECEIPT:	B. TEMPERATU		5	3	3		/
	Prc		- 3		<u></u>	=	,		
			UT)	-	_	. `			
	Yes No	PRESERVATION CONFIRMED:	4. Received by Jab: (Signature) 4. PRESERVAT	elved by Ja	4. Re		Date/Time	w: (Signature)	Relinguished by: (Signature)
	YesNo	S AGREE:	3. COCHABELS AGREE						
	Yes No	S CORRECT:	2. CONTAINERS CORRECT	\	$\overline{}$			J. Married S.	ma.
	YesNo	EALS:	1. CUSTODY SEALS	\		-	2-15-	D'INCONT.	6.
REMARKS / SAMPLE COMMENTS	RECEIPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB		<ol><li>Received by: (Signature)</li></ol>	2. Rec		Date/Time		1. Relinquished by: (Signature)
						L			
						H			
						$\vdash$			
02	×		Cove Creek (Grab)	1 %		×	10:12 AM	2/15/2011	CC
01	×		Facility Discharge 1 & 2 (Comp)	_1 ∀	×	-	11:45 AM	2/15/2011	FD-2
22							2:00 PM	2/14/2011	FD-1
110075	TI	CRIPTION	DENTIFICATION/ DESCRIPTION	b Comp Bottles Matrix	Comp	02	Time/s	Dateis	Number
100100	os, c		SAMPLE	No.			SAMPLE COLLECTION	SAMPLE C	Field
Order Number:	i, so			Sampler(s) Printed	pler(s)	Sam		nature	Sampler(s) Signature
Arkansas Analytical Work	0,		Bill Me Alister	7	B		at 1	S. U. M. Alesta	Sall
V = Sophani, A = Author		Bottle Type:	Pour log General and Com	-					
G = Class; P = Planic		Preservative Code:	Fax: 501-467-8687	L		Rich	Attn: Amber Rich	istor	Attn: Bill McAlister
PARAMETERS	TEST	Routine (5 Day)	Telephone: 501-467-8355					2104	Malvern, AR 72104
	<ol> <li>Nitrie Acid (HNO<sub>3</sub>), pH &lt; 2</li> </ol>	72 Hour	Reporting Information			A 19443	Kulpsville, PA 19443		P.O. Box 699
< 2 S. Hydrochloric Acid(HCl)	<ol> <li>Sulfuric Acid (H,SO<sub>A</sub>, pH &lt; 2</li> </ol>	48 Hour	Weekly Water Samples			2	P.O. Box 732	Site	Magcobar Mine Site
4. Thiosalfate for Dechlorination	L. Cool, 4 Degrees Centigrade	24 Hour	Magcobar Mine Site		s Group	/ Service	EEMA O & M Services Group	ervices Group	EEMA O & M Services Group
Preservation Codes:		Turnaround Time	Project Description		NO.	FORMAT	BILLING INFORMATION	MATION	CLIENT INFORMATION



26 April 2011

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1104155

Enclosed are the results of analyses for samples received by the laboratory on 14-Apr-11 13:51. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals					
Containers Correct	<u> </u>				
COC/Labels Agree					
Preservation Confirmed	<u> </u>				
Received On Ice	<u> </u>				
Temperature on Receipt	3.0°C				

Sincerely,

Norma James President

P.O. Box 699 Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Apr-11 13:51



Lab Number: 1104155-01

Sample Name: Facility Discharge 2 & 1 (Comp)

Date/Time Collected: 4/14/11 10:30

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	42.7		4/21/11 11:07	A104252	300.0/9056A
Sulfate as SO4	mg/L	936		4/21/11 11:30	A104252	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	mg/L	1900		4/18/11 16:15	A104250	2540C

**ANALYTICAL RESULTS** 

Lab Number: 1104155-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 4/14/11 11:00

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	8.96	E20	4/21/11 11:52	A104252	300.0/9056A
Sulfate as SO4	mg/L	170		4/21/11 12:15	A104252	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/l	340		4/18/11 16:15	Δ104250	2540C

## **QUALITY CONTROL RESULTS**

Wet Chemistry -- Batch: A104250 (Water)
Prepared: 18-Apr-11 16:15 By: AP -- Analyzed: 18-Apr-11 16:15 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
TDS	<1.0 mg/L	102% / 95.0%	NA / NA		7.11%	

Anions -- Batch: A104252 (Water)

Prepared: 21-Apr-11 08:09 By: MG -- Analyzed: 21-Apr-11 14:30 By: MG

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
Chloride	<0.500 mg/L	90.0% / NA	87.4% / 87.8%		0.303%	%D1
Sulfate as SO4	<0.500 mg/L	98.4% / NA	99.1% / 97.5%		0.483%	

### QUALIFIER(S)

\*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

\*E20: Estimated Result Due to Matrix Spike and/or Matrix Spike Duplicate Failure; This sample was used as "parent sample"

in MS/MSD prep.

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Apr-11 13:51

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Apr-11 13:51 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bidg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

3. Relinquished by: (Signature)  Date/Time  4. Received by late: (Signature)  Support	1. Relinquished by: (Signature)  Describe  1. Relinquished by: (Signature)	11:00 AM X 1 W	FD-1 4/13/2011 1:30 PM X 1 W Facility Dischar	SAMPLE COLLECTION  Sample Corp toring Martice  Corp toring Martice  Sample Corp toring Martine  Sample Corp toring	Sampler(s) Signature  Sampler(s) Printed	AMIL MILLORI MOMISSEE AMIL MILLORI NICH ERE EINSCHROSSEE AMIL MILLORI MOMENTALERE	Te Te	Kulpsville, PA 19443	P.O. Box 732 V	EEMA O & M Services Group EEMA O & M Services Group Magcobar Mine Site	
4. PRESERVATION CONFIRMED: Yes 5. RECEIVED ON ICE: Yes 6. TEMPERATURE ON RECEIPT: 3°C FOR COMPLETION BY LAB ONLY	SAMPLE CONDITION UPON RECEIPT IN LAB  1. CUSTODY SEALS:  2. CONTAINERS CORRECT:  3. COCCLABELS AGREE:  4 Yes N		Grab)	Fadiliy Discharge 2 & 1 (Comp)	SAMPLE IDENTIFICATION DESCRIPTION	j j	167-8687 Preservative Code.	L	iformation 72 Hour		Mine Site 24 Hour
7 Yes No	RECEIPT IN LAB REMARKS / SAN		×	×	TDS, CI	, so,		TEST PARAMETERS	3. Nitrie Acid (HNO <sub>3</sub> ), pH < 2	2. Sulfuric Acid (H,SO,A pH < 2	L. Cook 4 Degrees Centigrade 4. Thiosa
	KS / SAMPLE COMMENTS		02	0	110465-	Arkansas Analytical Work Order Number:	G = Class; P = Plassis V = Septime; A = Author		6. Sodiem Hydroside (NaOH), pH > 12	S. Hydrschleric Acid(HCI)	4. Thiosalfate for Dechlorination



23 June 2011

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1106213

Enclosed are the results of analyses for samples received by the laboratory on 16-Jun-11 12:57. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals					
Containers Correct					
COC/Labels Agree					
Preservation Confirmed					
Received On Ice	~				
Temperature on Receipt	4.0°C				

Sincerely,

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 16-Jun-11 12:57

## **ANALYTICAL RESULTS**

Lab Number: 1106213-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 6/16/11 11:05

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	45.7		6/22/11 10:10	A106255	300.0/9056A
Sulfate as SO4	mg/L	1200		6/22/11 10:32	A106255	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	mg/L	1800		6/21/11 10:30	A106238	2540C

# **ANALYTICAL RESULTS**

Lab Number: 1106213-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 6/16/11 10:20

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	8.09		6/22/11 10:55	A106255	300.0/9056A
Sulfate as SO4	mg/L	190		6/22/11 11:18	A106255	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
TDS	ma/l	340		6/21/11 10:30	A106238	2540C

## **QUALITY CONTROL RESULTS**

Wet Chemistry -- Batch: A106238 (Water)
Prepared: 21-Jun-11 10:30 By: AP -- Analyzed: 21-Jun-11 10:30 By: AP

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1.0 mg/l	97.0% / 96.5%	NA / NA		0.517%	

Anions -- Batch: A106255 (Water)

Prepared: 22-Jun-11 09:58 By: MG -- Analyzed: 22-Jun-11 12:48 By: MG

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u> <u>RPD</u>	<u>Qualifiers</u>
Chloride	<0.500 mg/L	94.0% / NA	90.8% / 92.7%	1.92%	
Sulfate as SO4	<0.500 mg/L	95.8% / NA	92.4% / 93.1%	0.343%	



Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 16-Jun-11 12:57

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 16-Jun-11 12:57 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

		$\bigg)$	<ol> <li>Relinquished by: [Signature]</li> </ol>		Date of the same o	K. 16 World Land		<ol> <li>Relinguished by: (Signature)</li> </ol>						CC 6/16/2011	FD-2 6/16/2011	FD-1 6/15/2011	Number Date/s	Field SAMPLE C	Sampler(s) Signature	Bill Me Alacter			Attn: Bill McAlister	Malvern, AR 72104	P.O. Box 699	Magcobar Mine Site	EEMA O & M Services Group	CLIENT INFORMATION
			Date/Time		257		1-16-11	Date/Time						10:20 AM	11:05 AM	12:05 PM	Time/s	SAMPLE COLLECTION	100	* .			Altn: Amber Rich		Kulpsville, PA 19443	P.O. Box 732	EEMA O & M Services Group	BILLING INFORMATION
H	_ (	5	4. Rg	h	/		_	2. Re						×	×		Comb		Sampler(s) Printed	Ø					43		vices Grou	MATION
1	- }	₹.	elwed b		A	\		2. Received by: (Signature)						_	-		8 miles 04	Number	Printe	€,	L						ō	Ш
Z	- 3		y lab: (%			1		y: (Sign	L				Ш	8	≶		Sample Watth		å	Ž		Draft day						П
1	8. TEMPERATURE ON RECEIPT	5. RECEIVED ON ICE	Received by liab: (Signature) 4. PRESERVATION CONFIRMED	3. COCILABELS AGREE	2. CONTAINERS CORRECT	CUSTODY SEALS		Г						Cove Creek (Grab)	Facility Discharge 1 & 2 (Comp)		IDENTIFICATION/ DESCRIPTION	SAMPLE		Bill Me Alister	Bortos Brena and core	Enail desa Medissa Bernahitzzon; brzadzie Bernahitzzon;	Fax: 501-467-8687	Telephone: 601-467-8365	Reporting Information	Weekly Water Samples	Magcobar Mine Site	Project Description
FOR COMPLETION BY LAB ONLY	l	ē	N CONFIRMED:	GREE:	ORRECT:	- 25		SAMPLE CONDITION UPON RECEIPT IN LAB									RIPTION				oute spec	Dodfa Tuna	Preservative Code:	Routine (5 Day)	72 Hour	48 Hour		Tumaround Time
ABONL	S.	<b> </b> ă	1 de	Ĭ,	Yes.	- Yes		ECEIPT						×	×		TD	s, cı	so.		ŀ	0	_		3. Nitrie	2. Sulfur	l Cool	
×		8	YesNo	No	8	YesNo																		TEST PARAMETERS	Nitrie Aeid (IENO <sub>A), p.H &lt; 2</sub>	Sulfuric Acid (H <sub>2</sub> SO <sub>A</sub> ) pH < 2	<ol> <li>Cool, 4 Degrees Centigrade</li> </ol>	Preservation Codes:
								REMARKS / SAMPLE COMMENTS													ļ	1		TERS	6. Sodian	5. Hydro	4 Thiosa	on Codes:
								PLE COM	H												+	+	4		Hydroside	5. Hydrochleric Acid(IICI)	4. Thiosalfate for Dechlorination	
								MENTS						02	0	#	1106213-		Order Number:	Arkansas	a spend of make		G=Gasc?=Plank	Bottle Type Code	6. Sodism Hydroide (NsOH), pH > 12	(IICI)	chierination	



12 December 2011

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1112100

Enclosed are the results of analyses for samples received by the laboratory on 07-Dec-11 14:04. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals	•
Containers Correct	<u> </u>
COC/Labels Agree	~
Preservation Confirmed	<u> </u>
Received On Ice	<u> </u>
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 07-Dec-11 14:04

## **ANALYTICAL RESULTS**

Lab Number: 1112100-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 12/7/11 11:05

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	38.1		12/7/11 16:43	A112071	300.0/9056A
Sulfate as SO4	mg/L	1050		12/7/11 16:43	A112071	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	mg/L	1600		12/8/11 10:25	A112113	2540C

**ANALYTICAL RESULTS** 

Lab Number: 1112100-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 12/7/11 9:12

Sample Matrix: Water

**Anions** <u>Units</u> Result Qualifier(s) Date/Time Analyzed Batch Method Chloride 3.18 12/7/11 17:28 A112071 300.0/9056A mg/L 300.0/9056A Sulfate as SO4 mg/L 54.4 12/7/11 17:51 A112071 Wet Chemistry <u>Units</u> Result Qualifier(s) Date/Time Analyzed <u>Batch</u> Method **TDS** 88 12/8/11 10:25 A112113 2540C mg/L

## **QUALITY CONTROL RESULTS**

Anions -- Batch: A112071 (Water)
Prepared: 07-Dec-11 10:40 By: MG -- Analyzed: 07-Dec-11 15:58 By: Mel

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
Chloride	<0.500 mg/L	101% / NA	97.3% / 98.5%		0.662%	
Sulfate as SO4	<0.500 mg/L	108% / NA	119% / 120%		0.655%	%D1

Wet Chemistry -- Batch: A112113 (Water)

Prepared: 07-Dec-11 10:30 By: AP -- Analyzed: 07-Dec-11 10:30 By: AP

<u>Analyte</u>	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1.0 mg/l	95.5% / 94.0%	NA / NA		1.58%	

### QUALIFIER(S)

\*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 07-Dec-11 14:04

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 07-Dec-11 14:04 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

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			Yes   No	GREE:	3. COCILABELS AGREE:		$\vdash$	L			
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					T. CUSTODY SEALS					1. W. W.	w. 6
MPLE COMMENTS	REMARKS / SAME	REP	SPT IN LAB	SAMPLE CONDITION UPON RECEIPT IN LAB	Γ	by: (SI	2. Received by: (Signature)	io	Date(Time	y: (Signature)	<ol> <li>Relinquished by: (Signature)</li> </ol>
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02			×		Cove Creek (Grab)	٤	+	×	9:12 AM	12/7/2011	8
9			×		Facility Discharge 1 & 2 (Comp)	8	×	+	11:05 AM	12/7/2011	F0-1
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11/2/00-			TD	RIPTION	IDENTIFICATION/ DESCRIPTION	Bottles Watris	Comp Bottle	68 G	Time/s	Date/s	Number
			S, CI		SAMPLE	Q.	Numb		OLLECTION	SAMPLE COLLECTION	Field
Order Number:			SO.			ē	Sampler(s) Printed	ample	10	nature	Sampler(s) Signature
Arkansas					Bill Mc Whater		$\mathcal{Z}$		6	8.4 M. Allete	B.il
V = Septem. A = Amber	ļ	ļ		Bottle Type:	oborton@www.elcc.com		l	ı			
G = Glanc P = Martic				T.	Fax: 501-487-4887				Attn: Amber Rich	ister	Attn: Bill McAlister
Both Type Code	PARAMETERS		11	Routine (5 Day)	Telephone: 501-467-8355					2104	Malvern, AR 72104
6. Sodium Hydroxide (NaOH), pH > 12	6. Sodium	), pH <2	<ol> <li>Nitrie Acid (HNO<sub>3</sub>), pH &lt; 2</li> </ol>	72 Hour 3.	Reporting Information	П		43	Kulpsville, PA 19443		P.O. Box 699
S. Hydrochloric Acid(HCI)	5. Hydrod	λ0 <sub>λ</sub> , pH < 2	<ol> <li>Sulfuric Acid (H,SO<sub>A</sub>, pH &lt; 2</li> </ol>		Weekly Water Samples	Г			P.O. Box 732	Site	Magcobar Mine Site
4. Thiosalfate for Dechlorination	4. Thiosal		<ol> <li>Cool, 4 Degrees Centigrade</li> </ol>			П	quo	rices G	EEMA O & M Services Group	ervices Group	EEMA O & M Services Group
	Preservation Codes:	Prese		Tumaround Time	Project Description	П		MATION	BILLING INFORMATION	MATION	CLIENT INFORMATION



13 February 2012

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1202080

Enclosed are the results of analyses for samples received by the laboratory on 08-Feb-12 15:07. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals	~
Containers Correct	
COC/Labels Agree	
Preservation Confirmed	
Received On Ice	
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 08-Feb-12 15:07



Lab Number: 1202080-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 2/8/12 10:55

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	43.5		2/8/12 19:03	A202104	300.0/9056A
Sulfate as SO4	mg/L	874		2/8/12 19:29	A202104	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/L	1800		2/8/12 17:15	A202105	2540C

**ANALYTICAL RESULTS** 

Lab Number: 1202080-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 2/8/12 8:45

Sample Matrix: Water

**Anions** <u>Units</u> Result Qualifier(s) Date/Time Analyzed **Batch** Method Chloride mg/L 3.13 2/8/12 19:54 A202104 300.0/9056A 300.0/9056A Sulfate as SO4 mg/L 44.4 2/8/12 20:20 A202104 Wet Chemistry <u>Units</u> Result Qualifier(s) Date/Time Analyzed <u>Batch</u> Method **TDS** 120 2/8/12 17:15 A202105 2540C mg/L

QUALITY CONTROL RESULTS

Anions -- Batch: A202104 (Water)

Prepared: 08-Feb-12 16:50 By: MG -- Analyzed: 08-Feb-12 18:38 By: MG

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	RPD Qualifiers
Chloride	<0.500 mg/L	94.4% / NA	90.6% / 90.4%		0.0931%
Sulfate as SO4	<0.500 mg/L	109% / NA	107% / 108%		0.743%

Wet Chemistry -- Batch: A202105 (Water)

Prepared: 07-Feb-12 17:30 By: AP -- Analyzed: 07-Feb-12 17:30 By: AP

<u>Analyte</u>	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1 0 mg/l	92.5% / 90.0%	ΝΔ / ΝΔ		2 74%	

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 08-Feb-12 15:07

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

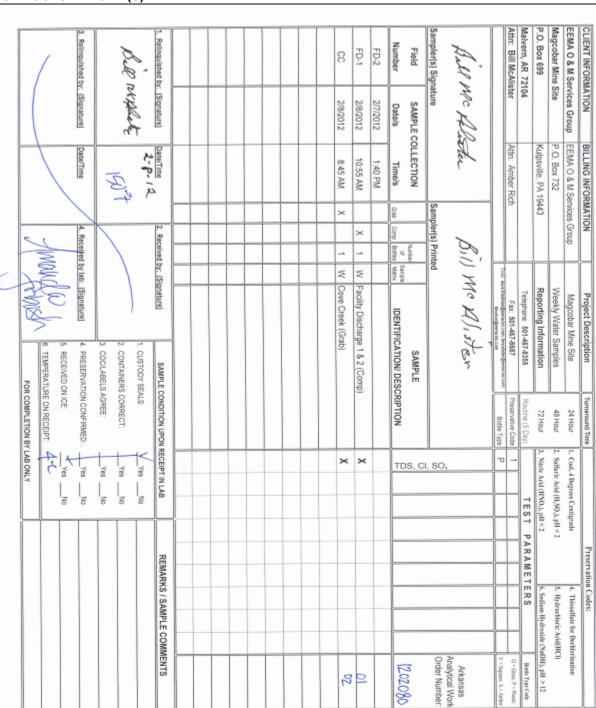
Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 08-Feb-12 15:07 **CHAIN OF CUSTODY FORM(S)** 





PHONE: 501-455-3233 Little Rock, AR 72209

FAX: 501-455-6118

11701 Interstate 30, Bldg. 1, Ste. 115



19 April 2012

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1204137

Enclosed are the results of analyses for samples received by the laboratory on 12-Apr-12 13:33. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals	~
Containers Correct	
COC/Labels Agree	
Preservation Confirmed	
Received On Ice	~
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

19 April 2012

**Bill McAlister EEMA O & M Services Group** P.O. Box 699

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 12-Apr-12 13:33

# **CASE NARRATIVE**

SAMPLE DELIVERY GROUP - 1204137

Qualifed Analytical and Quality Control Results Discussed Below:

### Anions:

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Sulfate failed to recover within acceptance criteria in the MS/MSD sample. The recovery was qualified by "%D1" in the quality control section of the final report. Sulfate was qualified as "estimated" (E20) in the parent sample, 1204137-02 (Cove Creek).



Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 12-Apr-12 13:33



Lab Number: 1204137-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 4/12/12 9:40

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	38.4		4/16/12 15:57	A204193	300.0/9056A
Sulfate as SO4	mg/L	953		4/16/12 16:23	A204193	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	mg/L	1800		4/17/12 15:35	A204215	2540C

**ANALYTICAL RESULTS** 

Lab Number: 1204137-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 4/12/12 10:40

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	8.06		4/16/12 18:05	A204193	300.0/9056A
Sulfate as SO4	mg/L	207	E20	4/17/12 8:11	A204193	300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	ma/l	450		4/17/12 15:35	A204215	2540C

**QUALITY CONTROL RESULTS** 

Anions -- Batch: A204193 (Water)
Prepared: 16-Apr-12 12:50 By: MG -- Analyzed: 16-Apr-12 19:47 By: Mel

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
Chloride	<0.500 mg/L	90.4% / NA	97.6% / 98.8%		1.08%	
Sulfate as SO4	<0.500 mg/L	91.3% / NA	154% / 153%		0.207%	%D1

Wet Chemistry -- Batch: A204215 (Water)

Prepared: 17-Apr-12 15:35 By: AP -- Analyzed: 17-Apr-12 15:35 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1.0 mg/l	88.0% / 85.5%	ΝΔ / ΝΔ		2 88%	

QUALIFIER(S)

\*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

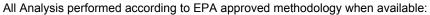
\*E20: Estimated Result Due to Matrix Spike and/or Matrix Spike Duplicate Failure; This sample was used as the "parent

sample" in MS/MSD prep.

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 12-Apr-12 13:33



SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 12-Apr-12 13:33 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

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	YesNo	ORRECT:	2. CONTAINERS CORRECT			_	13338		3
	Yes No	نغ	1. CUSTODY SEALS		/	_	124H	1	Ridonic Alexander
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02	>		Cove Creek (Grab)	8	+-	×	10:40 AM	4/12/2012	8
3,0	>		Faciny Discharge 1 & 2 (Comp)		-		WW OBS	7107/7104	2
2	<		The state of the s		+	+	MACI.II	2102/11/16	3
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1 1 12041877-	TDS	RIPTION	IDENTIFICATION/ DESCRIPTION	Sample Matrix	No Georges	Grab Comp	Time/s	Date/s	Number
	S, CI		SAMPLE		No.			SAMPLE COLLECTION	Field
Order Number:	, SO,			ted	(s) Pri	Sampler(s) Printed	S	nature	Sampler(s) Signature
Arkansas			Bill McAliston	7	Ø		73	Sup Mc Alasta	Sul
V - Speak A - Amber		Botte Type	11.8	h					
G - Glax, P - Plasic	-	Preservative Code:	Fax: 501-467-8687	i			Attn: Amber Rich		Attn: Bill McAlister
PARAMETERS Benk Type Code	TEST	Routine (5 Day)	Telephone: 501-467-8355						Malvern, AR 72104
6. Sadium Hydrocide (NaOH), pH > 12	Nitrie Acid (HNO), pH < 2	72 Hour 0.	Reporting Information			2	Kulpsville, PA 19443		P.O. Box 699
5 Hydrochloric Acid(HCl)	<ol> <li>Sulfuric Acid (H,SO<sub>1</sub>), pH &lt; 2</li> </ol>	48 Hour 2:	Weekly Water Samples	Г			P.O. Box 732	Site	Magcobar Mine Site
	l. Ceel, 4 Degrees Centigrade		Magcobar Mine Site		oup	rices Gr	EEMA O & M Services Group		EEMA O & M Services Group
Preservation Codes:		Tumaround Time	Project Description	П	Ш	MOITA	BILLING INFORMATION		CLIENT INFORMATION



19 June 2012

Bill McAlister EEMA O & M Services Group P.O. Box 699 Malvern, AR 72104

RE: Magcobar Mine Site; Weekly Water Samples

SDG Number: 1206194

Enclosed are the results of analyses for samples received by the laboratory on 14-Jun-12 13:47. If you have any questions concerning this report, please feel free to contact me.

# Sample Receipt Information:

Custody Seals	~
Containers Correct	
COC/Labels Agree	
Preservation Confirmed	
Received On Ice	~
Temperature on Receipt	4.0°C

Sincerely,

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Jun-12 13:47



Sample Delivery Group - 1206194

Qualified Analytical and/or Quality Control Results are Discussed Below:

### Anions Analysis:

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Failure: Chloride failed to recover within acceptance criteria in the MS/MSD sample. The recoveries were qualified by "%D1" in the quality control section of the final report. Chloride was qualified as "estimated" in the parent sample which was NOT a member of this sample delivery group.



Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Jun-12 13:47



Lab Number: 1206194-01

Sample Name: Facility Discharge 1 & 2 (Comp)

Date/Time Collected: 6/14/12 11:21

Sample Matrix: Water

<u>Anions</u>	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	<u>Method</u>
Chloride	mg/L	40.4		6/15/12 14:34	A206193	300.0/9056A
Sulfate as SO4	mg/L	740		6/15/12 14:59	A206193	300.0/9056A
Wet Chemistry	<u>Units</u>	<u>Result</u>	Qualifier(s)	Date/Time Analyzed	<u>Batch</u>	Method
TDS	mg/L	1800		6/14/12 18:22	A206203	2540C

**ANALYTICAL RESULTS** 

Lab Number: 1206194-02
Sample Name: Cove Creek (Grab)
Date/Time Collected: 6/14/12 8:35

Sample Matrix: Water

Anions Chloride Sulfate as SO4	<u>Units</u> mg/L mg/L	<u>Result</u> 16.5 275	Qualifier(s)	<u>Date/Time Analyzed</u> 6/15/12 14:08 6/15/12 15:25	Batch A206193 A206193	Method 300.0/9056A 300.0/9056A
Wet Chemistry	<u>Units</u>	Result	Qualifier(s)	Date/Time Analyzed	Batch	Method
TDS	mg/L	<b>750</b>		6/14/12 18:22	A206203	2540C

## **QUALITY CONTROL RESULTS**

Anions -- Batch: A206193 (Water)

Prepared: 15-Jun-12 12:15 By: MG -- Analyzed: 15-Jun-12 13:39 By: Melis

<u>Analyte</u>	<u>BLK</u>	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	<b>Qualifiers</b>
Chloride	<0.500 mg/L	103% / NA	74.2% / 73.0%		0.492%	%D1
Sulfate as SO4	<0.500 mg/L	94.1% / NA	95.2% / 96.4%		1.08%	

Wet Chemistry -- Batch: A206203 (Water)

Prepared: 14-Jun-12 18:22 By: AP -- Analyzed: 14-Jun-12 18:22 By: AP

Analyte	BLK	LCS / LCSD	MS / MSD	<u>Dup</u>	<u>RPD</u>	Qualifiers
TDS	<1.0 mg/l	108% / 98.0%	NA / NA		9 25%	

### QUALIFIER(S)

\*%D1: Matrix Spike and/or Matrix Spike Duplicate Percent Recovery Does Not Meet Laboratory Acceptance Criteria

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Jun-12 13:47

All Analysis performed according to EPA approved methodology when available:

SW 846, Revised December, 1996; EPA 600/4-79-020, Revised March, 1983; Standard Methods, 20th Edition. Instrument calibration and quality control samples performed at or above frequency specified in analytical method.

Reviewed by:

Norma James President

Malvern, AR 72104

**Project: Magcobar Mine Site; Weekly Water Samples** 

Date Received: 14-Jun-12 13:47 **CHAIN OF CUSTODY FORM(S)** 





11701 Interstate 30, Bldg. 1, Ste. 115 Little Rock, AR 72209 PHONE: 501-455-3233 FAX: 501-455-6118

-
6. TEMPERATURE ON RECEIPT: 4°C
4. PRESERVATION CONFIRMED: Yes No
3. COCILABELS AGREE: YesNo
2. CONTAINERS CORRECT: YesNo
YesNo
SAMPLE CONDITION UPON RECEIPT IN LAB
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×
DENTIFICATION DESCRIPTION
s, cı
, so,
Bottle Type: P
Routine (5 Day) TEST
72 Hour 3. Nitric Acid (HNO <sub>A</sub> ) pH < 2
48 Hour 2. Sulfaric Acid (H,SO.), pH < 2
24 Hour L. Cool, 4 Degrees Centigrade
Tumaround Time