

J. E. STOVER & ASSOCIATES, INC.

2352 NORTH 7TH STREET, UNIT B
GRAND JUNCTION, COLORADO 81501
PHONE: (970) 245-4101, FAX: (970) 242-7908

MINE ENGINEERING
MINE RECLAMATION

CIVIL ENGINEERING
CONST. MANAGEMENT

Submitted Electronically

July 25, 2017

Clayton Wein
Division of Reclamation, Mining & Safety
1313 Sherman St., Room 215
Denver, CO 80203

Re: Bowie Resources, LLC, Bowie No. 1 Mine
2016 AHR Adequacy Response
Permit C-1981-038

Dear Mr. Wein:

DRMS' letter dated July 20, 2017 transmitted its 2016 annual hydrologic review. On behalf of Bowie Resources, LLC (BRL), following are its responses to the DRMS' comments and concerns.

1. **DRMS:** Parameters Acidity, Sulfate, Calcium (dissolved), Iron (dissolved), Iron (total), Magnesium (dissolved) and Manganese (total) were missing for SW-05. **Please provide the reasoning why these parameters were not included or taken.**

BRL: Please see the revised second quarter laboratory data for SW-05.

2. **DRMS:** Monitoring location SW-06 did not include lab results for the parameters to be tested. Please provide this information or an explanation of why samples were not taken quarterly as outlined in Table 1 of the 2016 AHR.

BRL: Laboratory data was erroneously not included for SW-06. Please see revised laboratory data for SW-06. (Note: There was no laboratory data for Dissolved Iron for the second quarter, and it is unknown why the laboratory did not test for it).

Please feel free to contact me if you have any questions.

Sincerely,



Tamme Bishop, P.E.
Project Engineer

Cc: Basil Bear

SW05
Steven's Gulch
Elevation - 6600

Initiated	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983
Activated	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986
Date	10/17/2016	9/16/2016	8/12/2016	7/18/2016	6/21/2016	4/12/2016	2/24/2016

		Summary Information										
Field Parameters	UNITS	Baseline			Operation							
		Min	Ave	Max	Min	Ave	Max					
Flow	CFS	0	3.1	16.9	0.00	1.36	30.13				1.87500	5.00000
Water Level in Flume	Feet				0.00	0.08	1.06				0	0
Temperature	Celsius	-0.5	10.8	23.7	0.0	10.2	23.6				19.5	6
Conductivity	umhos/cm	170	746	1605	40	526	2000				860	202
pH	su	7.3	8.5	9.9	6.9	8.3	9.0				8.7	8.39
Field Comments								Dry	Dry	Dry	Dry	
Lab Parameters		UNITS										
Bicarbonate	mg/L	89	302	456	83	212	456				364	
Carbonate	mg/L	<MDL	1	7	<MDL	3.54	12.65				10.7	
Chloride	mg/L	2	16	31	<MDL	13.97	43.00				16.1	
Conductivity	umhos/cm	170	734	1290	149	573	1560				800	
Hardness	mg/L	72	312	534	35.6	238.5	625.7				380	
Acidity	mg/L				-330.0	-61.1	24.0				-330	
pH	su	6.8	8.1	8.7	7.2	8.0	8.6				8.45	
ResidueFilterable-TDS	mg/L	120	488	794	19	388	1130				555	
ResidueNonFilterable-TSS	mg/L	2	77	438	<MDL	37	408				5.1	
SAR		0.56	1.14	1.60	0.23	1.06	2.06				1.21	
Sulfate	mg/L	14	131.5	338.0	<MDL	99.83	450.00				123	
Calcium (Dissolved)	mg/L	19	71.8	110.0	6.8	54.1	132.0				86.3	
Iron (Dissolved)	mg/L	6	32.1	66.0	<MDL	0.08	0.61				<MDL	
Iron (Total)	mg/L	11.00	47.82	85.00	0.02	0.34	1.01				0.681	
Magnesium (Dissolved)	mg/L	6.0	32.1	66.0	4.5	26.7	86.2				42.3	
Sodium (Dissolved)	mg/L	11.0	47.8	85.0	0.0	40.7	115.0				51	
Manganese (Total)	mg/L				<MDL	2.78	35.60				0.152	

The Stevens Gulch stream gauge, SW05, is located near Bowie No. 1 mine's timber storage area in the NE1/4NW1/4, Sec 25, T13S, R92W, of the 6th P.M. A 36" Parshall flume was installed at this location.

SW06
East Roatcap Creek - Downstream
Elevation - 6740

Initiated	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983	1/1/1983
Activated	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986	12/21/1986
Date	10/17/2016	9/19/2016	8/12/2016	7/18/2016	6/27/2016	5/5/2016	4/12/2016	2/25/2016

		Summary Information														
Field		Baseline			Operation											
Parameters	UNITS	Min	Ave	Max	Min	Ave	Max									
Flow	CFS	0.00	4.65	45.75	0.00	1.16	16.38	0.000	1.430	0.750	0.680	1.634	4.053	5.748	0.008	
Water Level in Flume	Feet				0.00	0.21	1.22		0	0	0.16	0.28	0.5	0.625	0.0092	
Temperature	Celsius	0.5	10.0	21.1	0.03	9.55	25.50		7.1	12.3	0.5	0.5	8.2	4.6	4.8	
Conductivity	umhos/cm	60	277	691	30	588	1650		719	464	181.4	308	170	166.3	315	
pH	su	6.5	8.3	9.2	6.7	8.3	9.0		8.5	8.62	8.52	8.39	8.46	8.6	8.6	
Field Comments								Damp								
Lab																
Parameters	UNITS	*														
Bicarbonate	mg/L	60	155	289	61	235	440		318			130			111	
Carbonate	mg/L	<MDL	1	7.1	<MDL	6.40	52.00		<MDL			<MDL			<MDL	
Chloride	mg/L	1	5	10	<MDL	14.97	68.00		5.6			1.5			2.1	
Conductivity	umhos/cm	110	275	670	124.0	614.6	1430.0		627			231			194	
Hardness	mg/L	58	158	291	54.00	275.83	697.00		315			131			98.1	
Acidity	mg/L				-330	-48	62		-330			-130			-110	
pH	su	6.8	7.9	8.4	6.50	8.07	8.60		8.26			8.21			8.35	
ResidueFilterable-TDS	mg/L	40	180	380	50	422	1130		409			200			176	
ResidueNonFilterable-TSS	mg/L	18	104	524	<MDL	20	138		12.5			55.5			<MDL	
SAR		0.11	0.46	0.72	0.28	1.01	5.93		0.734			0.367			0.403	
Sulfate	mg/L	10	32	80	4.83	93.71	410.00		52.3			7.7			5.8	
Calcium (Dissolved)	mg/L	15	37	69	10.5	55.3	125.0		76.9			32.2			24.1	
Iron (Dissolved)	mg/L				0.01	0.09	0.45		0.0218						0.174	
Iron (Total)	mg/L				0.07	0.75	2.78		0.131			2.78			1.19	
Magnesium (Dissolved)	mg/L	4	14	29	4.7	33.5	99.2		29.8			12.2			9.2	
Manganese (Total)	mg/L				<MDL	0.055	0.157		0.0467			0.157			0.0218	
Sodium (Dissolved)	mg/L	2	14	28	5.00	41.74	196.00		27.4			9.85			8.63	

SW06 is located on East Roatcap Creek in the NE1/4SW1/4 Sec 23, T13S, R92W of the 6th P.M. A 36" Parshall flume was also installed at this location.

* Sample taken on 3/28/16