



STATE OF
COLORADO

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Bowie No. 2 Mine, C-1996-083, 2015 AHR Review Letter

1 message

Musick - DNR, Jason <jason.musick@state.co.us>

Tue, Oct 18, 2016 at 10:07 AM

To: Bill Bear <BBear@bowieresources.com>

Cc: Jim Stover <jestover@bresnan.net>, Tamme Bishop <tamme.jestover@bresnan.net>

Good morning Bill,

Attached is the Division's review of the 2015 Annual Hydrology and 2015 Mine Inflow Reports.

Please let me know if you have any questions or comments.

Thanks,
Jason

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Environmental Protection Specialist III
Coal Regulatory Program



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2015AHR_Review.pdf

690K



COLORADO

**Division of Reclamation,
Mining and Safety**

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

October 18, 2015

William A. Bear
Bowie Resources, LLC
P.O. Box 483
Paonia, CO 81428

**RE: Bowie No. 2 Mine (Permit No. C-1996-083)
 2015 Annual Hydrology and Mine Inflow Report Review**

Dear Mr. Bear,

The Division has completed its review of the above referenced reports received on 31 May 2016 via email.

Annual Hydrology Report

The Division finds the 2015 Annual Hydrology Report in compliance of the requirements identified in the attached memo. The report fulfills the 2015 requirement to file an annual hydrology report. It is noted that through the Division's approval of Technical Revision No. 103, a number of monitoring stations have been either permanently or temporarily suspended. The Division has the following comments:

Please give further attention to the following items identified in red in Table 1

Annual Mine Inflow Report

The report included all of the information required by Rules 4.05.13(1) and (4) and the approved monitoring plan. Inflows were consistent with predictions in the approved permit application package; the Division has no questions or comments at this time



Review of Annual Hydrology Report

Mine: Bowie No. 2 Mine
 Permit No: C-1996-083

Date Reviewed: 10/18/2015
 Reviewed By: Jason Musick

Report Year: 2015
 Submitted By: Bowie Resources, LLC
 Date Received: May 31, 2016

TABLE 1

Requirement	Requirement citation	Comment
1. Filing frequency of hydrology report	CDRMS regulation 4.05.13(4)(c)	The Annual hydrology Report is required to be submitted yearly
2. Timely filing of hydrology report	CDRMS Regulation 4.05.13(4)(c) Page 2.05-136 of CDRMS mining permit C-1996-083	The Annual hydrology Report is required to be submitted on or before April 30 and was received by the Division on May 31. Bowie Resources requested and was granted an extension of the AHR submittal date.
3. Filing frequency of NPDES Discharge Monitoring Reports	CDPS permit CO-0044776	The Division received copies of all discharge monitoring reports for the 2015 calendar year. Reports are required monthly. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
4. Timely filing of Discharge Monitoring Reports	CDPS permits CO-0044776	The Division received copies of all discharge monitoring reports for the 2015 calendar year in the appropriate timeframe. Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
5. Sampling frequency of NPDES outfalls	CDPS permits CO-0044776	Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water

		Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
6. Parameters to be sampled for NPDES reporting	CDPS permits CO-0044776	Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.
7. CDPS discharge limitations	CDPS permits CO-0044776	<p>The Bowie No. 2 Mine Reported the following exceedances to the CWQCD in discharge monitoring reports:</p> <p>April 2015 - TSS 30 day average and the daily max was exceeded at Outfall 004.</p> <p>Based on a Memorandum of Understanding between the Division of Reclamation, Mining and Safety and the Water Quality Control Division (WQCD), the WQCD will be responsible for enforcing CDPS permit conditions.</p>
8. Sampling frequency at surface water sites	Table 1 of 2015 AHR	<p>All frequencies were met with the exceptions of the following discrepancies for the 2015 Water Year:</p> <p>SW-05: Lab parameters are to be measured semi-annually, only one set of lab parameters were collected</p>
9. Parameters to be sampled at surface water sites	Table 2 of 2015 AHR	<p>All parameters were met with the exceptions of the discrepancies identified in Item No. 8 above for the 2015 Water Year.</p> <p>D34-14: no data was reported for the following List 1 parameters: Nitrate-Nitrite, Oil and Grease, Residue Filterable-TDS, and Iron(dissolved)</p> <p>Deer-up: As noted in the AHR, no List 2 lab parameters were collected for August; however List 2 parameters were collected on September 9. The 2011, 2012, 2013, and 2014 AHR reviews noted that no Surface List #2 parameters were collected.</p> <p>HUB-low: no semi-annual lab parameter data for the following List 1 parameters was reported: Oil and Grease</p> <p>HUB-up: no semi-annual lab parameter data for the following List 1 parameters was reported: Oil and Grease</p>

		<p>NFG-low: no data was reported for the following List 1 lab parameters for June: Chloride.</p> <p>No List 2 lab parameters were collected for August; however List 2 parameters were collected on September 9. No data was reported for the following List 2 lab parameters: Nitrate</p> <p>NFG-up: no semi-annual lab parameter data for the following List 1 parameters was reported: Aluminum</p> <p>No List 2 lab parameters were collected for August; however List 2 parameters were collected on September 9. No data was reported for the following List 2 lab parameters: Nitrate</p> <p>SW-12: no semi-annual lab parameter data for the following List 1 parameters was reported: Iron (dissolved) (6/29/2015)</p>
10. Sampling frequency of ground water monitoring wells	Table 1 of 2015 AHR	<p>All frequencies were met with the exceptions of the following discrepancies for the 2015 Water Year:</p> <p>Site DH-39: Field parameters to be conducted quarterly and lab parameters to be conducted semi-annually. Only 3 quarters of field parameters and one set of lab parameters were measured.</p> <p>Site DH-49: Field parameters to be conducted quarterly and lab parameters to be conducted semi-annually. Only 3 quarters of field parameters and one set of lab parameters were measured.</p> <p>It is noted that the following sites only included one set of lab parameters due to inaccessibility during the 4th quarter. Sites AW-1, AW-2, AW-3, AW-4, AW-5, AW-6, AW-7, AW-9, AW-11, AW-12, AW-14, and AW-17.</p>
11. Basic Standards (Interim Narrative Standard) for Ground Water	CWQCC regulation 41.5.C.6	A groundwater point of compliance was not established for the Bowie No. 2 Mine based on existing groundwater quality and use and a prediction in the Probable Hydrologic Consequences section of C-1996-083 that mining will not likely have a negative effect on groundwater.
12. Parameters to be analyzed in ground water samples	Table 2 of 2014 AHR	All parameters were met with the exceptions of the discrepancies identified in Item No. 10 above for the 2015 Water Year.

		Site DH-49: no semi-annual lab parameter data was reported: Iron (dissolved) (6/29/2015), Manganese (dissolved)(6/15/2015)
13. Prevention of material damage to the hydrologic balance outside the permit area	CDRMS regulation 4.05.1(1)	Based on the information presented in the 2015 AHR the disturbance to the hydrologic balance within and adjacent to the permit area caused by mining and reclamation at the Bowie No. 2 Mine is the minimum that can be expected from an underground mining operation at this location. Use of best management practices indicates minimization of disturbance to the hydrologic balance.
14. Agreement of observed hydrologic impacts with "probable hydrologic consequences" (PHC) projected in mining	CDRMS regulation 2.05.6(3) and requirement to keep current, CDRMS regulation 2.03.3(1)	<p>Surface water – Monitoring data reported for springs and ponds was consistent with baseline data and the predicted impacts identified in the PHC section on page 2.05-115 of C-1996-083. Conductivity was above average at the majority of the sites when compared to baseline data.</p> <p>The water quality reported for a majority of surface water sites fell within the baseline ranges. Higher than average parameters were identified both at sites affected by mining and those not affected by mining. See Table 3 below.</p> <p>Ground water – No material damage has occurred, as discussed in item 13, above. In addition, based on a review of the historical water monitoring data TR-103 was approved to temporally or permanently suspend water monitoring at sites within the monitoring program.</p> <p>The PHC predicts that leachate from the coal stockpiles and refuse areas could impact water quality on the North Fork of the Gunnison River, and notes that water quality degradation is to be expected in the alluvial wells installed along the river, but that the impact on the North Fork of the Gunnison should be minimal. Based on the information in the 2015 AHR, data for the alluvial wells does indicate a general degradation in water quality based on comparisons with baseline averages. See Table 2 below</p>
15. Adequacy of ground water monitoring program	CDRMS regulation 4.05.13(1)	The current ground water monitoring program continues to adequately address the protection of the hydrologic balance.

16. Adequacy of surface water monitoring program	CDRMS regulation 4.05.13(2)	The current surface water monitoring program continues to adequately address the protection of the hydrologic balance.
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TABLE 2


Alluvial Wells with 2015 Monitoring Parameters in Excess of Baseline Averages								
	Coal Stockpile		Gob Pile No. 1			Loadout		Gob Pile No. 2
Parameter	AW-1	AW-3	AW-4	AW-5	AW-6	AW-11	AW-12	AW-17
Bicarbonate	X			X	X		X	X
Chloride	X	X	X	X	X	X		X
Conductivity		X			X		X	X
Hardness		X			X			X
Nitrate-Nitrite						X	X	
Ammonia								
Phosphate		X	X	X	X		X	X
TDS		X			X	X	X	X
Sulfate		X			X	X	X	X
Arsenic	X			X				
Cadmium	X			X				
Calcium		X		X	X	X	X	X
Iron (Dis)	X			X				
Iron (TREC)			X		X			X
Magnesium		X			X		X	X
Manganese (Dis)		X	X		X			
Manganese (TREC)	X	X	X	X				
Mercury				X	X			
Selenium	X	X	X					
Sodium				X		X	X	X
Zinc				X				

TABLE 3

Parameters Reported Higher than Average				
Location	Date	Parameter	Value	Upstream Elevated
HUB-Low	8/4/2015	Bicarbonate	167 mg/L	Y
	10/14/2015	Bicarbonate	214 mg/L	Y
	10/14/2015	Chloride	5.6 mg/L	Y
	10/14/2015	Conductivity	381 umhos/cm	Y
	10/14/2015	Hardness	154 mg/L	Y
	8/4/2015	Phosphate	0.27 mg/L	N
	10/14/2015	TDS	271 mg/L	N
	8/4/2015	TSS	200 mg/L	Y
	10/14/2015	SAR	1.27	N
	10/14/2015	Sulfate	45.8 mg/L	N
	6/4/2015	Aluminum	1.18 mg/L	Y
	10/14/2015	Calcium	39.9 mg/L	Y
	6/4/2015	Iron	1.28 mg/L	Y
	10/14/2015	Magnesium	13.3 mg/L	Y
	10/14/2015	Sodium	36.9 mg/L	N
NFG-Low	12/30/2015	Bicarbonate	106 mg/L	Y
	9/8/2015	Hardness	88.8 mg/L	Y
	12/30/2015	Hardness	93 mg/L	Y
	6/9/2015	TSS	51 mg/L	Y
	6/9/2015	Calcium (TREC)	132 mg/L	Y
	12/30/2015	Calcium (TREC)	28.1 mg/L	Y
	12/30/2015	Iron (diss)	12.9 mg/L	Y

Please feel free to contact me with any questions.

Sincerely,



Jason Musick

Environmental Protection Specialist

Jason.musick@state.co.us