



COLORADO
Division of Reclamation,
Mining and Safety
Department of Natural Resources

February 22, 2021

Jim Harrington
Colorado Legacy Land, LLC
12150 E Briarwood Ave - Suite 135
Centennial, CO 80112

Re: Schwartzwalder Mine, Permit No. M-1977-300, Review of North Waste Rock Pile Diversion Channel - Record of Construction

Mr. Harrington:

The Division of Reclamation, Mining and Safety (Division) has completed its review of your North Waste Rock Pile Diversion Channel – Record of Construction submitted to our office on December 28, 2020 (for the project approved in Technical Revision No. 28 on March 27, 2020). The Division has identified the following items which require clarification or additional information:

- 1) Please address the review items identified in the enclosed letter from Tim Cazier, P.E..

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us. You may also contact Tim Cazier by telephone at 303-866-3567, ext. 8169 or by email at tim.cazier@state.co.us.

Sincerely,

Amy Eschberger
Environmental Protection Specialist

Encl: Review letter from Tim Cazier, P.E., dated February 19, 2021

EC: Paul Newman, Colorado Legacy Land, LLC
Eric Williams, Colorado Legacy Land, LLC
Elizabeth Busby, Ensero Solutions US, Inc.
Billy Ray, Ensero Solutions US, Inc.
Sam Lowe, Ensero Solutions US, Inc.
Tim Cazier, P.E., DRMS
Michael Cunningham, DRMS





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Date: February 19, 2021

To: Amy Eschberger

From: Tim Cazier, P.E.

RE: Schwartzwalder Mine, DRMS File No. M-1977-300;
TR-28, Review of December 2020 North Waste Rock Pile Diversion Channel,
Record of Construction Report

The Division of Reclamation, Mining and Safety (DRMS) engineering staff has reviewed the December 2020 North Waste Rock Pile Diversion Channel, Record of Construction Report (from Colorado Legacy Land, received December 28, 2020) and nine As-Built drawings (by Ensero Solutions) related to Technical Revision No. 28 (TR-28). The review consisted of comparing the Record of Construction Report with drawings and specifications approved with TR-28. The following discrepancies were noted during the review and need to be clarified or corrected prior to DRMS approval of the report.

As-Built Drawings

1. Sheet 5, As-Built Plan & Profile (Sta 1+00 to 3+50): There is a slight difference in the gradient calculated from the drawing data between the grade breaks at stations 2+58.60 and 2+90.28. It is not clear as to whether the elevation at the 2+79.78 Alignment Pt was factored into the gradient. This difference between 14.5% and 14.6% is likely a rounding error, but when the elevation at the alignment point is included, the slope is 13.2% (see **Attachment A** for DRMS calculations). Please address the gradient discrepancy and provide a corrected As-Built Drawing.
2. Sheet 6, As-Built Plan & Profile (Sta 3+50 to 6+10): There is one percent difference in the gradient calculated from the drawing data between the grade breaks at stations 3+86.41 and 4+75.55. It is not clear as to whether the elevation at the 4+71.10 Alignment Pt was factored into the gradient (see **Attachment A** for DRMS calculations). Please clarify whether this is a math or a typographic error, and provide a corrected As-Built Drawing.
3. Sheet 9, As-Built Dissipation Basin & Roadway Crossing Details: There appear to be 16 errors in as-built elevations. Eleven apparent errors are in the Site Plan Dissipation Basin; three in the Plan View Dissipation Basin; and two in the Section A-A: Profile. With the exception of the left-most elevation in Section A-A, all the elevations appear to be about 100 feet too high. The left-most elevation in Section A-A appears to be about 20 feet too high. Please provide a corrected drawing.



ATTACHMENT A - Slope Check

Permit No.	M-1977-300
Site Name:	Schwartzwalder Mine
Permittee	Colorado Legacy Land, LLC
County:	Jefferson

Revision No.	TR-28
Source	As-Built NWRP Diversion
Specialist:	T. Cazier
Date:	2/19/2021

Drawing No.	Sta.	Drawing Note	Elev. (ft)	Calc. Slope	Align. Pt Clac. Slope	Drawing Slope	Comment
6	5+97.43	Grade Break	6732.24				start point
6	5+55.80	Grade Break	6726.85	12.9%	n/a	12.9%	OK
6	4+75.55	Grade Break	6715.97	13.6%	n/a	13.6%	OK
6	4+71.10	Alignment Pt	6715.21	17.1%	Skip*	Skip*	Align Pt probably not used
6	3+86.41	Grade Break	6699.56	18.5%	18.4%	19.4%	Typo or math error?
6	3+69.77	Grade Break	6697.18	14.3%	n/a	14.3%	OK
5	3+31.86	Grade Break	6690.98	16.4%	n/a	16.4%	OK
5	2+90.28	Grade Break	6685.20	13.9%	n/a	13.9%	OK
5	2+79.78	Alignment Pt	6684.10	10.5%	Skip*	Skip*	Align Pt likely used
5	2+58.60	Grade Break	6681.02	14.5%	13.2%	14.6%	Inclusion of Align Pt changes gradient
5	1+94.94	Grade Break	6670.37	16.7%	n/a	16.7%	OK
5	1+83.21	Alignment Pt	6668.11	19.3%	Skip*	Skip*	Align Pt probably not used
4	1+32.66	Grade Break	6658.53	19.0%	19.0%	19.0%	OK
4	1+27.56	Alignment Pt	6657.59	18.4%	Skip*	Skip*	Align Pt probably not used
4	0+82.59	Grade Break	6650.52	15.7%	16.0%	15.7%	OK
4	0+19.85	Grade Break	6643.14	11.8%	n/a	11.8%	OK
4	0+00.00	Grade Break	6641.81	6.7%	n/a	6.7%	OK

LEGEND:

Skip*	= Slope not provided on drawing between Grade Break and downgradient Alignment Point
14.6%	= Slope calculated from drawing data differs from slope on drawing