



STATE OF  
COLORADO

Simmons - DNR, Leigh <leigh.simmons@state.co.us>

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## C1981022, Elk Creek Mine, May Inspection Report

1 message

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**Simmons - DNR, Leigh** <leigh.simmons@state.co.us>  
To: Doug Smith <Doug.Smith@oxbow.com>

Fri, May 26, 2023 at 10:52 PM

Attached

Leigh Simmons  
Environmental Protection Specialist



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

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**INSP-REPORTC\_C1981022\_LDS\_05262023051234.pdf**  
7715K



**PERMIT INFORMATION**

<b>Permit Number:</b> C-1981-022 <b>Mine Name:</b> Elk Creek Mine <b>Operator:</b> Oxbow Mining, LLC <b>Operator Address:</b> Mr Doug Smith 3737 Hwy 133 P. O. Box 535 Somerset, CO 81434	<b>County:</b> Delta, Gunnison <b>Operation Type:</b> Underground <b>Permit Status:</b> Active <b>Ownership:</b> Private
	<b>Operator Representative Present:</b>  Doug Smith
<b>Operator Representative Signature: (Field Issuance Only)</b>  	

**INSPECTION INFORMATION**

<b>Inspection Start Date:</b> May 16, 2023 <b>Inspection Start Time:</b> 10:00 <b>Inspection End Date:</b> <b>Inspection End Time:</b>	<b>Inspection Type:</b> Coal Partial Inspection <b>Inspection Reason:</b> Normal I&E Program <b>Weather:</b> Clear
<b>Joint Inspection Agency:</b>  None	<b>Joint Inspection Contacts:</b>  
<b>Post Inspection Agency:</b>  None	<b>Post Inspection Contacts:</b>  
<b>Inspector(s):</b>  Leigh Simmons	<b>Inspector's Signature:</b>   <b>Signature Date:</b>  May 26, 2023

**Inspection Topic Summary**

NOTE: Y=Inspected N=Not Inspected R=Comments Noted V=Violation Issued NA=Not Applicable

N - Air Resource Protection	N - Roads
N - Availability of Records	N - Reclamation Success
N - Backfill & Grading	N - Revegetation
N - Excess Spoil and Dev. Waste	N - Subsidence
N - Explosives	R - Slides and Other Damage
N - Fish & Wildlife	N - Support Facilities On-site
R - Hydrologic Balance	N - Signs and Markers
N - Gen. Compliance With Mine Plan	N - Support Facilities Not On-site
N - Other	N - Special Categories Of Mining
N - Processing Waste	N - Topsoil

**COMMENTS**

This was a partial inspection by Leigh Simmons of the Division of Reclamation, Mining and Safety (Division), accompanied throughout by Doug Smith of Oxbow Mining (Oxbow). The weather was clear and dry. The status of the Elk Creek Mine is “active” however no coal is being mined and the only activity since the last inspection was site maintenance.

**HYDROLOGIC BALANCE - Rule 4.05**

Drainage Control 4.05.1, 4.05.2, 4.05.3; Siltation Structures 4.05.5, 4.05.6; Discharge Structures 4.05.7, 4.05.10; Diversions 4.05.4; Effluent Limits 4.05.2; Ground Water Monitoring 4.05.13; Surface Water Monitoring 4.05.13; Drainage – Acid and Toxic Materials 4.05.8; Impoundments 4.05.6, 4.05.9; Stream Buffer Zones 4.05.18:

The area around the Elk Creek Mine had been significantly impacted by the spring run-off of an unusually deep winter snowpack, exacerbated by a wetter than average spring. The Natural Resources Conservation Service (NRCS) of the United States Department of Agriculture maintains an automated system of 730 snowpack sensors across the Western United States called SNOTEL (SNOW TELelemetry). Three SNOTEL stations are situated on the high ground north of the mine (from west to east, Park Reservoir, Overland Reservoir and McClure Pass), shown in Figure 1. The data from each of these stations show that the snow-water equivalent (which is a proxy for snowpack depth) in 2023 peaked close to, or above, the maximum recorded since 1990, and that there was a period of rapid melting around the beginning of May (see Figures 2-4).

Impacts of the in the area include the closure of Highway 133 where it was washed out by Bear Creek, just west of Somerset; flooding in the town of Cedaredge by Surface Creek; and multiple rockslides and mudslides onto the highway in the Crystal River valley and on McClure Pass.

**SLIDES and DAMAGE - Rule 4.12:**

Within the permit area, several impacts of the spring runoff were observed.

A small slump had occurred at the western end of the Phase II released East Yard Waste Pile. Extensive repair is likely not necessary here, although some supplemental seeding and “shovel work” will be needed to stabilize the area so that it does not continue to deteriorate in the future.

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A small slide had occurred just inside the disturbance boundary, west of the outlet of the first section of the Elk Creek culvert. Again, extensive repair would be likely to cause more harm than good, but spreading some seed on the disturbed soil would be beneficial.

The upper section of the reclaimed Elk Creek channel appeared to be in good shape, but the lower section of the channel had been damaged by high flows. It appeared that under flood conditions the stream had breached the sediment ditches, T1 and T2. Water had flowed in the sediment ditches which were not designed to convey such a flow. The ditches had been eroded which had cut the banks behind the large boulders and contributed to the erosion of the stream channel. Repairs will be needed to stabilize the stream channel, but it is likely to be some time before the water level drops sufficiently to allow repair work to be carried out. Since the area has already received Phase II bond release there will be no need to reconstruct the sediment control ditches, which had been expected to fill in over time.

An orthomosaic image of the lower section of the stream channel was created using images collected with a drone during the inspection and is given in Appendix A. The orthomosaic is overlain with contours at 5 ft intervals, generated from a digital surface model generated using the same images.

**DOCUMENTS RECEIVED**

N/A

**OTHER (SPECIFY)**

N/A

**ENFORCEMENT ACTIONS/COMPLIANCE**

No enforcement actions were initiated as a result of this inspection, nor are any pending.

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## PHOTOGRAPHS & OTHER FIGURES

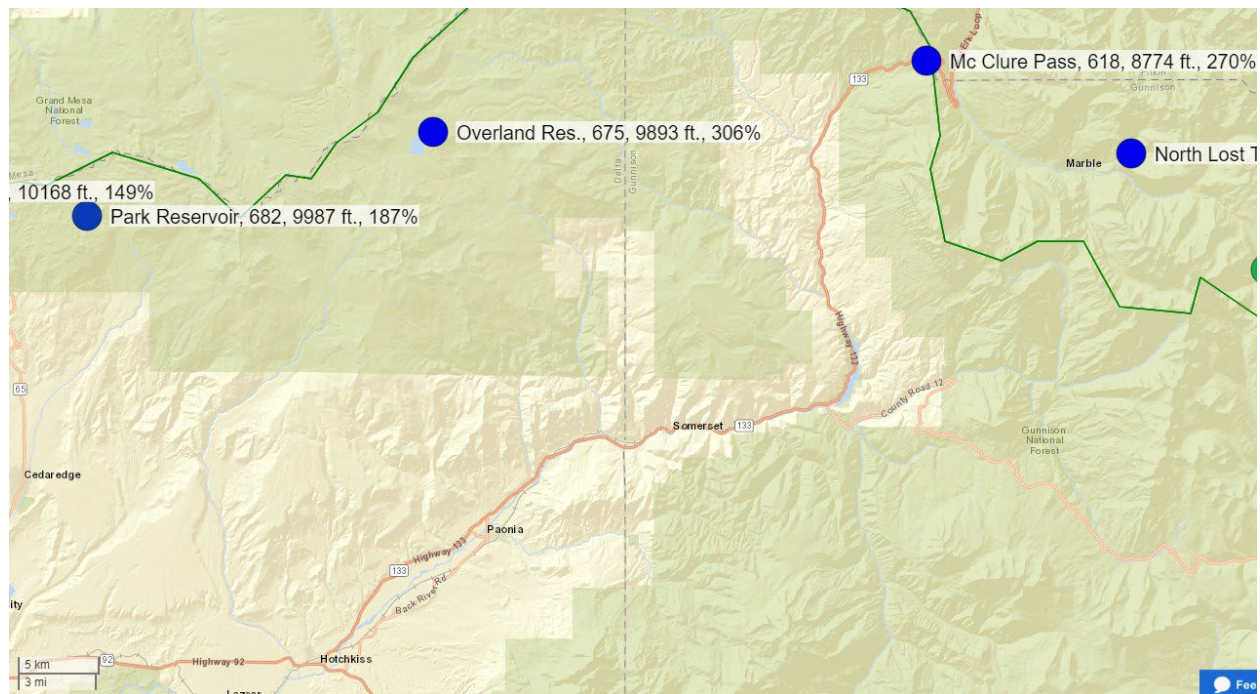


Figure 1: SNOTEL station locations

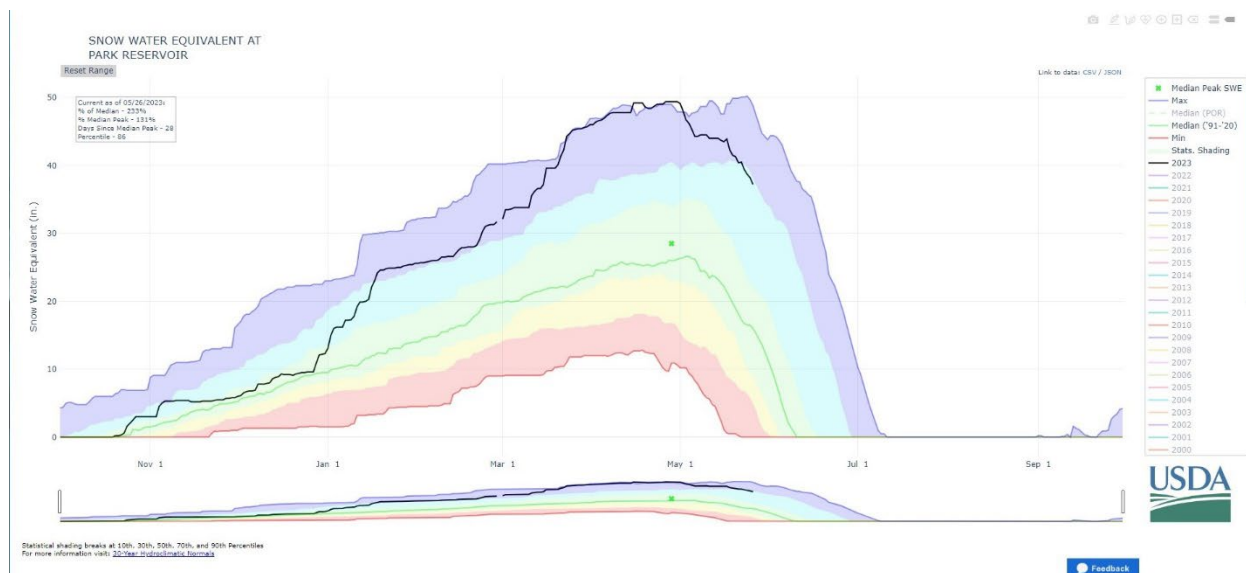


Figure 2: Snow water equivalent at Park Reservoir SNOTEL station

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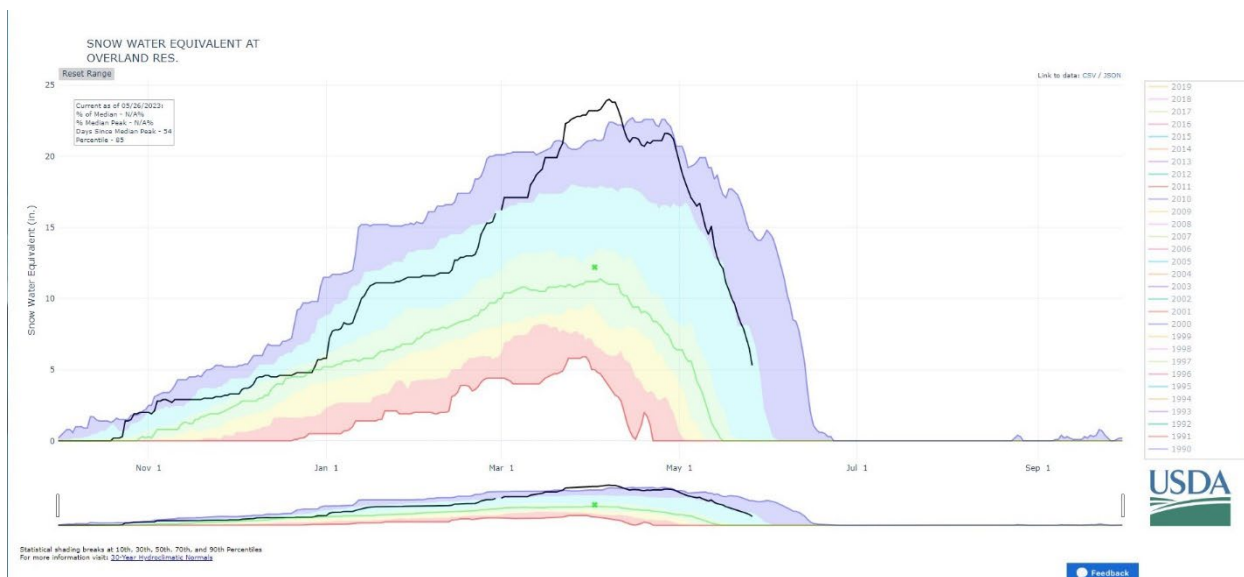


Figure 3: Snow water equivalent at Overland Reservoir SNOTEL station

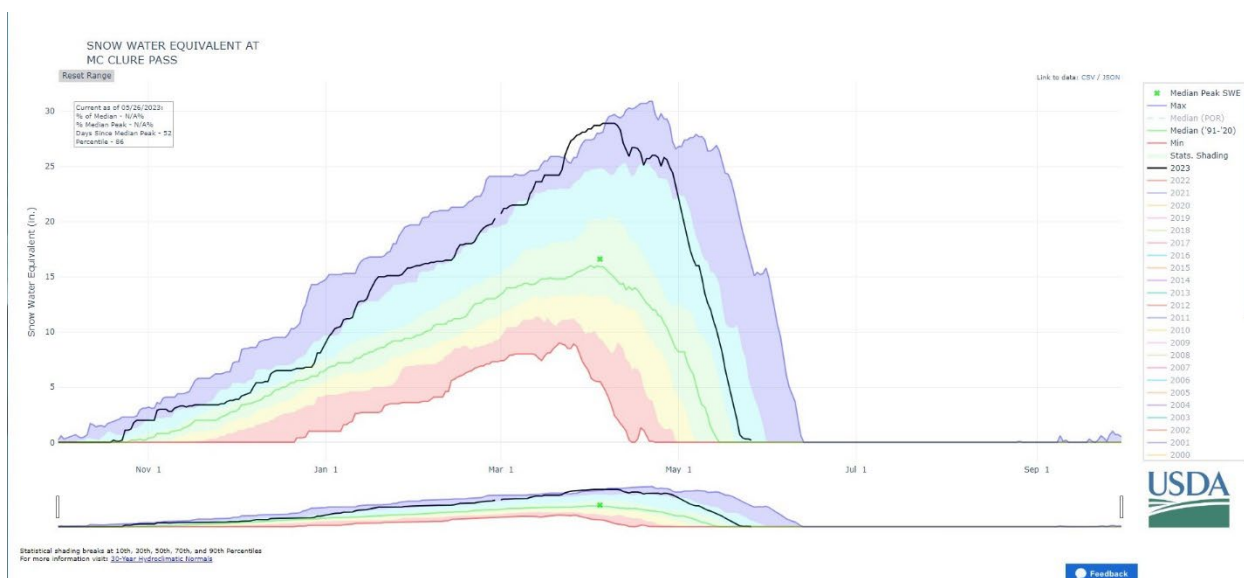


Figure 4: Snow water equivalent at McClure Pass SNOTEL station

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*Figure 5: Small slump at the western end of the East Yard Waste Pile*



*Figure 6: Small slide west of the outlet of the first section of the Elk Creek culvert*

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*Figure 7: Upper section of reclaimed Elk Creek channel*

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*Figure 8: Inlet to first section of Elk Creek culvert*

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*Figure 9: Point where Elk Creek first breached Ditch T-1, below outlet of first section of Elk Creek culvert*



*Figure 10: View downstream from point where Elk Creek first breached Ditch T-1*

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*Figure 11: Damage to stream channel (1)*



*Figure 12: Damage to stream channel (2)*

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*Figure 13: Dam used to divert water back into channel*

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*Figure 14: Erosion in Ditch T-1*

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Figure 15: Damage to stream channel (3)



Figure 16: Damage to stream channel (4)

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*Figure 17: Damage to stream channel (5)*

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Figure 18: Fresh straw wattles placed in attempt to stabilize slope below Ditch T-1



Figure 19: Low spot in Ditch T-1

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