

STATE OF
COLORADO

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

C1983059, Terror Creek Loadout, April Inspection Report

1 message

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

Fri, May 31, 2024 at 1:31 PM

To: Doug Smith <Doug.Smith@oxbow.com>

Cc: Amy Eschberger - DNR <amy.eschberger@state.co.us>, Jason Musick <jason.musick@state.co.us>

Doug,

The April Inspection Report for Terror Creek Loadout is attached.

The report took me longer than usual to prepare as it includes an evaluation of the Reclamation Cost Estimate. Full details are given in the text of the report, but the summary of my evaluation is that the bond is adequate and no further action is required.

Please let me know if you have any questions,

Leigh

Leigh Simmons
Environmental Protection Specialist



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

P 303.866.3567 x 8121 | C 720.220.1180 | F 303.832.8106
1313 Sherman Street, Room 215, Denver, CO 80203
leigh.simmons@state.co.us | <https://drms.colorado.gov>




2024 Bond Compliance Inspection Report Packet.pdf
10269K



PERMIT INFORMATION

Permit Number: C-1983-059 Mine Name: Terror Creek Loadout Operator: Oxbow Mining, LLC Operator Address: Mr Doug Smith PO Box 535 Paonia, CO 81434	County: Delta Operation Type: Loadout Permit Status: Active Ownership: Private
	Operator Representative Present: N/A
Operator Representative Signature: (Field Issuance Only) 	

INSPECTION INFORMATION

Inspection Start Date: April 19, 2024 Inspection Start Time: 10:00 Inspection End Date: Inspection End Time:	Inspection Type: Coal Partial Inspection Inspection Reason: Normal I&E Program Weather: Cloudy
Joint Inspection Agency: None	Joint Inspection Contacts:
Post Inspection Agency: None	Post Inspection Contacts:
Inspector(s): Leigh Simmons	Inspector's Signature:  Signature Date: May 31, 2024

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	N - Slides and Other Damage
N - Fish & Wildlife	N - Support Facilities On-site
N - Hydrologic Balance	N - Signs and Markers
N - Gen. Compliance With Mine Plan	N - Support Facilities Not On-site
R - 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). The weather was overcast but dry. The gate to the site was locked. There was no activity at the site. The focus of the inspection was to verify bond compliance (i.e. to verify that the Division holds sufficient bond to reclaim actual on-the-ground disturbance). The method followed was as follows:

- Inventory the mine features (pits, stockpiles, boreholes, roads, ditches, etc.)
- Develop a task list, similar to the current Reclamation Cost Estimate (RCE), and plan inspection(s) to gather necessary data.
- Conduct the field inspection(s) and gather relevant data.
- Calculate the cost estimate, using the field data.

BOND COMPLIANCE:

The site-wide (RCE) was last updated with Permit Renewal No. 8 (RN-8) in June, 2023. The RCE was then updated with Minor Revision No. 33 and 34 (MR-33 and MR-34). The following summary of the reclamation plan for the site is copied from the RN-8 Findings document:

Prior to the approval of Permit Revision No. 1 (PR-01), the reclamation plan specified the demolition and disposal of some facilities, grading to restore the site to the approximate original contour, topsoil replacement, and seeding with adapted pasture grasses. The site was to be reclaimed to a post-mining land use of irrigated hay "Cropland". Details of the previously approved plan have been retained in section 2.05.4 of the PAP for future reference.

With the approval of PR-01, the Division approved a change in the post-mining land use to "Industrial or Commercial". The currently approved reclamation plan is described in section 2.05.5 of the PAP. The reclamation plan specifies that the facility pads will remain in the pads current configurations, which reflect the configurations during the active life of the loadout. Concrete walls and footers will be demolished and Loadout tunnels will be filled. The approved post-mining topography is shown on Map 10

Number of Partial Inspection this Fiscal Year: 7

Number of Complete Inspections this Fiscal Year: 3

of the PAP, which was revised with PR-01. Map 10 and section 2.05.5 both refer to Maps 12 and 13 of the PAP, which identify topographic sections. Maps 12 and 13 of the PAP were not revised with PR-01, however the text of section 2.05.5 and in the legend of Map 10 of the PAP clearly states that the “Present Configuration” shown in the topographic section drawings now represents the revised post-mining configuration.

Facilities to remain after reclamation include the office, garage, wooden building adjacent to the office, the paved haul road and all of the gravel access road. The siding track may remain if it is sold to the Union Pacific Railroad.

The Bond Compliance exercise is based on the plan approved with PR-01, as described in [Section 2.05.5](#) and on [Map 10](#) of the PAP; it does not consider the plan retained in Section 2.05.4 of the PAP. Initial data collection took place during the inspection conducted on November 15, 2023. Further data was collected during the inspection of April 19, 2024. Data was collected using a DJI Mavic 2 Pro drone, flown at approximately 400' above the ground, following an automated flight path programmed in Pix4D Capture. The front and side overlap of the images was set to 70%. Propeller Aeropoints were placed around the permit area and used as ground control points during image processing. 254 images were captured and processed using Pix4D Mapper. A simulated point cloud was generated, and the points were classified automatically. A Digital Terrain Model (DTM) was generated using an automatically filtered selection of the points, with a resolution of approximately 19cm/pixel. An orthomosaic was generated with a resolution of approximately 15cm/pixel. (The resolution settings were relatively coarse to reduce the processing time, but are adequate for the exercise).

The DTM and Orthomosaic were imported into ArcPro for further analysis. Contour lines with a 5ft interval were generated from the DTM and overlain on the Orthomosaic. Existing mine features were identified on the orthomosaic. The data has been compiled on the appended map “Bond Compliance Inspection C1983059: Terror Creek Loadout”.

The Site-wide RCE retains tasks for the demolition of structures that have already been removed; although this seems counter-intuitive, it is in accordance with the rules regarding bond release - since no bond release applications have been submitted for the Terror Creek Loadout, no credit can be given for structure demolition. The inspection map was compared with both [Map 5 \(Facilities\)](#) and [Map 10 \(Post-Mining Topography\)](#) from the PAP (also appended). Most of the structures shown on Map 5 have been demolished. Of the few structures that remain on site several are explicitly approved as permanent; others are shown on Map 10 but are not explicitly discussed in the PAP text. Details of the structure inventory are given in Table 1, below.

The contour lines shown on the inspection map were generated from the DTM and show the actual topography at the site. The contour interval on the inspection map is the same as that projected on Map 10, so a direct comparison can be made. The current topography is effectively the same as the approved post-mining topography, so no backfilling or grading is needed at the site.

Other tasks specified in the Site-wide RCE include removal and compaction of coal material and sediment, and the plugging and abandonment of 3 alluvial monitoring wells (associated with the Bowie 2 mine, but within the Terror Creek permit area). Since there is no longer any coal material or accumulated sediment on site, and the 3 wells have already been abandoned, these tasks can be ignored, as can the mobilization of equipment to accomplish them.

The only reclamation work still to be completed at the site is associated with the demolition and disposal of non-permanent structures. The tasks have been updated from the Site-wide RCE to reflect that fact that disposal

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must now be off-site. The nearest landfill to the site is Adobe Buttes Landfill, in Delta County, between Delta and Cedaredge – approximately 30 miles from the site.

A new “2024 Bond Compliance” Reclamation Cost Estimate was generated using CIRCES software, based on the inventory in Table 1, and is appended to this report. The estimated total cost to reclaim the site to the approved industrial/commercial post-mining land use is \$452,352. The Division currently holds a bond of \$600,000. The bond is adequate.

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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Table 1: Structure inventory

Feature	Dimensions	Material	Foundation/ Footers (2)	Assumptions	Revision	Pg #
Garage/Shop foundation				Permanent	PR-1	2.05.5
Office				Permanent	PR-1	2.05.5
Outbuilding				Permanent	PR-1	2.05.5
Primary Substation, including foundation and fence	16' x 24' x 20'	Only steel structure remains	1' x 2' footer, plus 8' reinforced slab	Reclaim		
Trailer	57' x 10' x 11'			Reclaim		
Temporary Building	85' x 240' x 50'	Steel frame/fabric structure, built on conex boxes		Reclaim	MR-33	
Temporary Building Pad	25,400 sq ft x 8"	Asphalt		Reclaim	MR-33	
Security Fence	1,678' x 6'	Chain link		Reclaim	MR-34	
1) Include all buildings, conveyors, power lines, fences, ventilation fans, weather stations, rail loops, etc						
2) Specify thickness (size) and if reinforced						
CIRCES Input Factors						
All units are LCY and LF unless specified otherwise						

Number of Partial Inspection this Fiscal Year: 7Number of Complete Inspections this Fiscal Year: 3

PHOTOGRAPHS



Figure 1: View of site from north west, showing temporary building

Number of Partial Inspection this Fiscal Year: 7

Number of Complete Inspections this Fiscal Year: 3



Figure 2: View of site from north west, showing upper pad and partially dismantled primary substation

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Number of Complete Inspections this Fiscal Year: 3



Figure 3: Garage/shop foundation, office, outbuilding, primary substation, power poles

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Number of Complete Inspections this Fiscal Year: 3



Figure 4: East end of lower pad and sediment pond

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Figure 5: View of site from east, showing temporary building on lower pad, with upper pad in upper right of frame

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Figure 6: Topsoil stockpile and dugout pond

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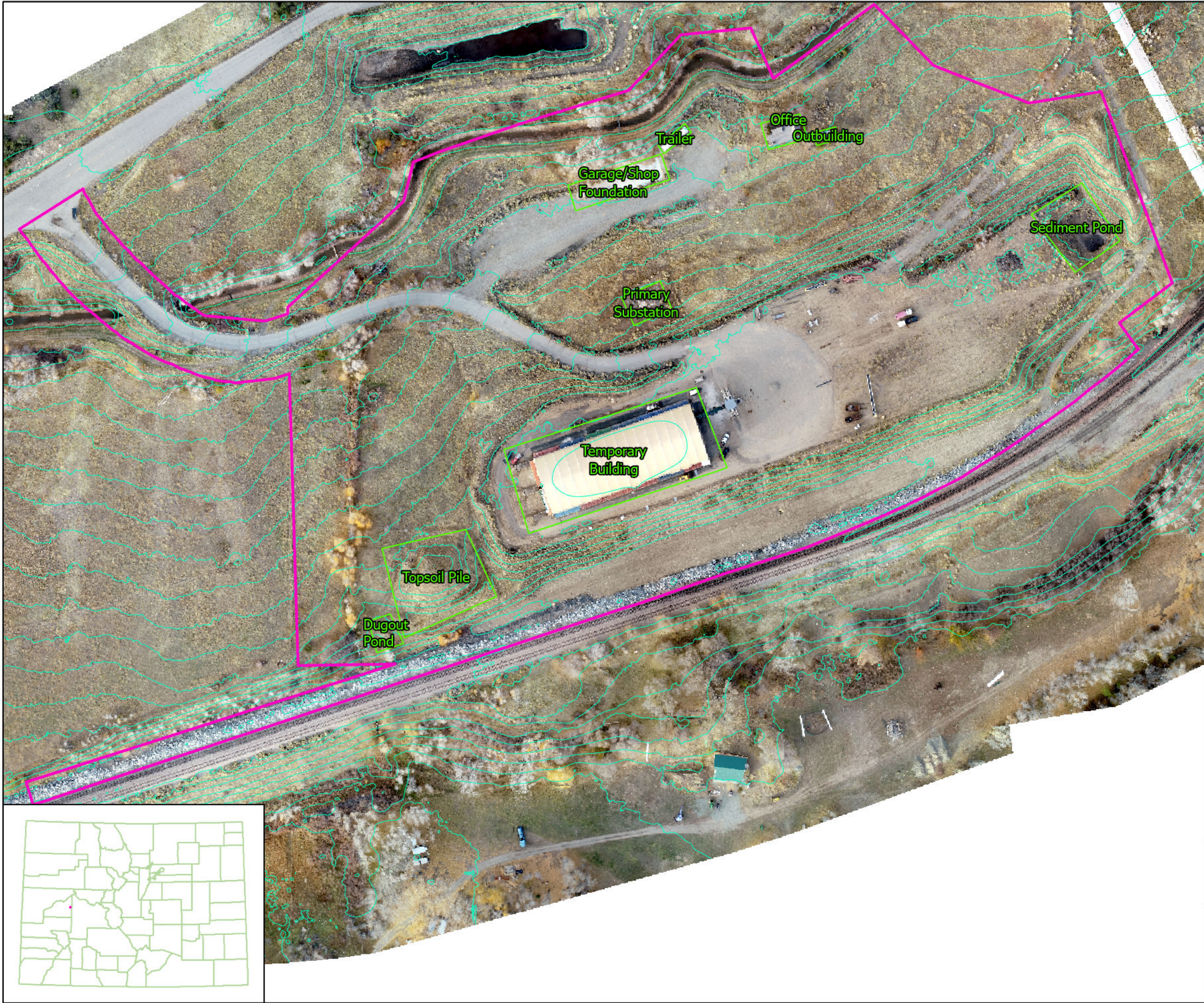
Figure 7: View of site from south west

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APPENDICES

- Bond Compliance Inspection Map
- Map 5, Facilities
- Map 10, Post-mining Topography
- 2024 – Bond Compliance Reclamation Cost Estimate



Bond Compliance Inspection

C1983059: Terror Creek Loadout

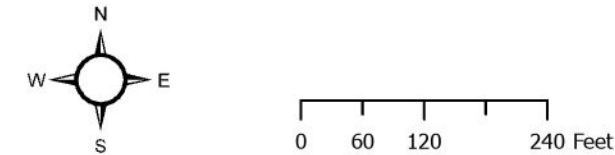
- PermitBoundaries_Working
- BondComplianceFeatures
- Contours_5ft

TerrorCreek_Orthomosaic_2023_11_15.tif

RGB

- Red: Band_1
- Green: Band_2
- Blue: Band_3

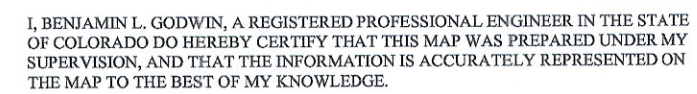
Notes:
Mine Permit Boundary layer contains an approximation of legal permit boundaries, digitized from approved maps associated with current mine permits.



Date Exported: 5/31/2024 9:20 AM



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



BENJAMIN L. GODWIN PE 34286 DATE

TERROR CREEK COMPANY
BOWIE, COLORADO

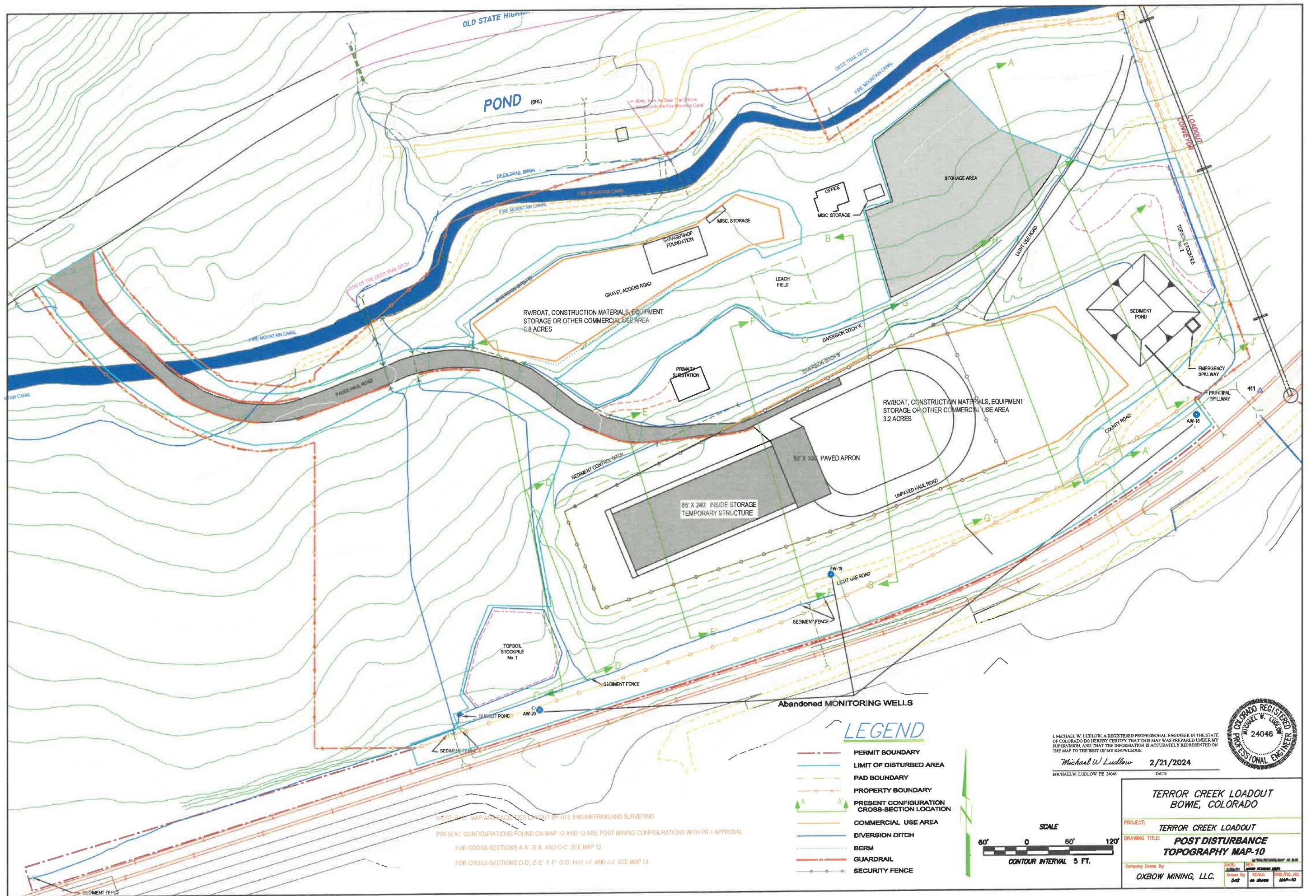
PROJECT: **TERROR CREEK LOADOUT**

DRAINING TIDE:

FACILITIES
MAP 5

Company Drainage: **OXBOW MINING, L.L.C.**

FILL	DRAINAGE	SOLIDS
60 Tons Company	100 - 60 - 60	100 - 60 - 60



COST SUMMARY WORK

Task description: Estimated cost to reclaim on-the-ground disturbance

Site: Terror Creek Loadout Permit Action: 2024 Bond Compliance Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 5/28/2024 County: Delta Filename: 000
User: LDS

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Demolish and Remove Remaining Structures	DEMOLISH	1	40.00	\$10,311
002	Demo Temporary Building	DEMOLISH	1	40.00	\$294,426
003	Demo Asphalt Pad	DEMOLISH	1	40.00	\$42,135
004	Demo Security Fence	DEMOLISH	1	16.00	\$4,370
<u>SUBTOTALS:</u>				136	\$351,242

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$7,095
Performance bond:	1.05	Total =	\$3,688
Job superintendent:	68.00	Total =	\$4,425
Profit:	10.00	Total =	\$35,124

TOTAL O & P = \$50,333

CONTRACT AMOUNT (direct + O & P) = \$401,575

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>7.22</u>	Total =	<u>\$28,994</u>
Reclamation management and/or administration:	<u>5.30</u>		<u>\$21,283</u>

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$101,110

TOTAL BOND AMOUNT (direct + indirect) = \$452,352

DEMOLITION WORK

Task description: Demolish and Remove Remaining Structures

Site: Terror Creek Loadout Permit Action: 2024 Bond Compliance Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 5/31/2024 County: Delta Filename: C059-001
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 98.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Trailer Near Garage	57'x10'x11x	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 30 mile haul	6,270.00	CF	\$0.46	\$2,879.18
Powerlines and Poles	1,115 LF	Utility Poles, Wood 35' - 45' high (each pole)	6.00	EA	\$307.50	\$1,845.00
Dispose of powerline material	1,115 LF	Disposal of utility pole and hardware surplus material	1,115.00	LF	\$0.02	\$22.30
Substation	16'x24'x20'	Bldg. (MN) demo./off-site disposal in approved landfill - Max. 30 mile haul	7,680.00	CF	\$0.56	\$4,308.48
- Pad	12'x10'x8"	Floor, concrete, demolition only, average reinforcing - 8 in. thick	120.00	SF	\$1.60	\$191.71
- Footing	1'x2'x44 LF	Footing, concrete, average reinforcing - 1.0 ft. x 2 ft.	44.00	LF	\$4.79	\$210.88
Substation Fencing	164 LF	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	164.00	LF	\$3.39	\$555.96
Substation fence and foundation - load	Up to 18 CY	Loading only, open areas (unconfined) - Track loader	18.00	CY	\$0.89	\$15.95
Substation fence and foundation - haul	Up to 18 CY	Hauling only, per mile, 12-18 CY truck - 30 mph average speed	30.00	MI	\$9.01	\$270.38
Substation fence and foundation - dispose	Up to 18 CY	Dump fees - Building construction materials.	18.00	CY	\$11.10	\$199.80

Job Hours: <u>40.00</u>	Subtotal (unadjusted): <u>\$10,499.64</u>	Total Cost (adjusted for location): <u>\$10,310.65</u>
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DEMOLITION WORK

Task description: **Demo Temporary Building**

Site: **Terror Creek Loadout** Permit Action: 2024 Bond Permit/Job#: C1983059
Compliance

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/31/2024 County: Delta Filename: C059-002
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demo/Dispose Temp Building (30% discount, applied through volume)	85'x240'x50'	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 30 mile haul	714,000.00	CF	\$0.46	\$327,868.80

Job Hours: 40.00 Subtotal (unadjusted): \$327,868.80 Total Cost (adjusted for location): \$294,426.18

DEMOLITION WORK

Task description: **Demo Asphalt Pad**

Site: **Terror Creek Loadout** Permit Action: 2024 Bond Compliance Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 5/31/2024 County: Delta Filename: C059-003
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demolish Asphalt Pad	25,400 sq ft x 8"	Pavement, bituminous, demolition only - 4 in. to 6 in. thick	3,763.00	SY	\$8.27	\$31,120.01
Load Asphalt	25,400 sq ft x 8"	Loading only, open areas (unconfined) - Track loader	627.00	CY	\$0.89	\$555.52
Haul Asphalt to landfill (Delta)	627 cu yd, 60mile haul rt	Hauling only, per mile, 12-18 CY truck - 50 mph average speed	2,100.00	MI	\$3.95	\$8,285.97
Dump Asphalt	627 cu yd	Dump fees - Building construction materials.	627.00	CY	\$11.10	\$6,959.70

Job Hours: 40.00 Subtotal (unadjusted): \$46,921.20 Total Cost (adjusted for location): \$42,135.24

DEMOLITION WORK

Task description: **Demo Security Fence**

Site: **Terror Creek Loadout** Permit Action: 2024 Bond
Compliance Permit/Job#: C1983059

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 5/31/2024 County: Delta Filename: C059-004
User: LDS

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Demo 1,678ft of 6ft high chain link fence	1,678 ft x 6 ft	Fencing, chain link, including posts and fabric - to 6 ft. high	1,678.00	LF	\$2.90	\$4,866.20

Job Hours: <u>16.00</u>	Subtotal (unadjusted): <u>\$4,866.20</u>	Total Cost (adjusted for location): <u>\$4,369.85</u>
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