STATE OF COLORADO

Zuber - DNR, Rob <rob.zuber@state.co.us>

Inspection Report for the Benson Brothers Pig Mesa Pit

1 message

Zuber - DNR, Rob <rob.zuber@state.co.us> Thu, Nov 6, 2025 at 10:15 AM
To: Hans Benson <sales@bensonbros.com>
Cc: Tim McCracken <tmccracken@deltacountyco.gov>, "Means - DNR, Russ" <russ.means@state.co.us>, Amy Eschberger - DNR <amy.eschberger@state.co.us>, Scott Schultz <Scott.Schultz@coag.gov>

Good morning, Mr. Benson:

Attached is the Division's report from my inspection of the Benson Brothers Pig Mesa Pit (permit # M-2004-084) on October 1, 2025. Please send a copy to your father, Dwight Benson.

Please let me know if you have comments or questions about this report or other related matters. I look forward to seeing your amendment in the next 90 days.

Regards,
Rob

Rob Zuber, P.E.
Environmental Protection Specialist
Active Mines Program
COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

Phone: 720.601.2276 | Fax: 303.832.8106
Physical Address:
1313 Sherman Street, Room 215
Denver, CO 80203
Address for FedEx or UPS:
Division of Reclamation, Mining and Safety, Room 215
1001 East 62nd Avenue
Denver, CO 80216
rob.zuber@state.co.us | http://drms.colorado.gov

M2004084_DRMS inspection report_6 November 2025.pdf
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COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Benson Brothers Pig Mesa Pit	**MINE/PROSPECTING ID#:** M-2004-084	**MINERAL:** Sand and gravel	**COUNTY:** Delta
INSPECTION TYPE: Monitoring	**WEATHER:** Clear	**INSP. DATE:** October 1, 2025	**INSP. TIME:** 07:40
OPERATOR: Benson Brothers	**OPERATOR REPRESENTATIVE:** Dwight Benson	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Partial Bond	**BOND AMOUNT:** $83,730.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
INSPECTOR(S): Robert Zuber, P.E.	**INSPECTOR'S SIGNATURE:** 	**SIGNATURE DATE:** November 6, 2025

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

INSPECTION TOPIC: Off-site Damage

POSSIBLE VIOLATION #1: Approximately 4.5 acres of land has been affected outside of the approved permit boundary. This is a possible violation at this time pursuant to C.R.S. 34-32.5-109(1) for failure to first obtain from the Board or Office a reclamation permit prior to engaging in a new mining operation.

CORRECTIVE ACTIONS: By the corrective action due date, the operator shall submit an Amendment application, with the required $2,229 fee, to incorporate the offsite affected lands into the permit. This Amendment should include any additional revisions to permit exhibits, as required by the Division in this inspection report (see Possible Violation #2 and Problem #3). If the Amendment is not received by the corrective action due date, the Division will issue a "Reason to Believe a Violation Exists and Notice of Board Hearing" letter for the possible violation, and a hearing before the Mined Land Reclamation Board (MLRB) will be scheduled for consideration of this matter.

CORRECTIVE ACTION DUE DATE: February 4, 2026

INSPECTION TOPIC: General Compliance With Mine Plan
POSSIBLE VIOLATION #2: The current mining plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-112(1)(c)(VI) and (VII). The size of the operation is greater than the approved 20 acres, highwalls significantly exceed the approved maximum length and height, and a sufficient buffer is not being maintained between the crest of the highwall and the permit boundary to reclaim the highwalls in accordance with the approved reclamation plan.
CORRECTIVE ACTIONS: By the corrective action due date, the operator shall submit an Amendment application, with the required $2,229 fee, to update and clarify the currently approved mining and reclamation plans to reflect existing and proposed activities. This Amendment should include any additional revisions to permit exhibits, as required by the Division in this inspection report (see Possible Violation #1 and Problem #3).
CORRECTIVE ACTION DUE DATE: February 4, 2026

INSPECTION TOPIC: Signs and Markers
PROBLEM #1: The mine identification sign at the entrance of the site does not include all of the necessary information per Rule 3.1.12(1).
CORRECTIVE ACTIONS: The operator shall, at the entrance of the mine site, post a sign which shall be clearly visible from the access road with the following: the name of the operator, the operation name, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board, and the permit number. The operator shall submit photo documentation that a proper sign has been posted by the corrective action date.
CORRECTIVE ACTION DUE DATE: December 6, 2025

INSPECTION TOPIC: Availability of Records
PROBLEM #2: The permittee name "Benson Brothers" is not currently registered with the Colorado Secretary of State (CSOS), as required by the Division.
CORRECTIVE ACTIONS: By the corrective action due date, the operator must present evidence that the name "Benson Brothers" has been registered with the CSOS.
CORRECTIVE ACTION DUE DATE: December 6, 2025

INSPECTION TOPIC: Financial Warranty
PROBLEM #3: The financial warranty is not adequate to reclaim the site in accordance with the approved reclamation plan. This is a failure to maintain the proper financial warranty amount to complete reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) and Rule 4.2.1(1).
CORRECTIVE ACTIONS: By the corrective action due date, the operator shall submit an Amendment application, with the required $2,229 fee, (as required by Possible Violations #1 and #2), which includes a revised Exhibit L – Reclamation Costs for reclaiming the affected lands. The Division will determine the full required financial warranty amount for the operation through its review of the Amendment, and any additional required financial warranty will need to be submitted for issuance of the Amendment.
CORRECTIVE ACTION DUE DATE: February 4, 2026

OBSERVATIONS

The Benson Brothers Pig Mesa Pit (M-2004-084) is a 112c operation permitted for 39.0 acres. The site is located approximately three miles northeast of Delta, Colorado, off Fairview Road. The permit area is owned by Benson Brothers Truck & Equipment LLC, per the Delta County property information map. The permittee is Benson Brothers. However, this name is not listed as a registered company name with the Colorado Secretary of State (CSOS). This is cited as a problem in this report (see Problem #2).

The pre-mining land use is rangeland, and the approved post-mining land use (PMLU) for the site is residential. The operator was not actively mining at the time of the inspection, but trucks were seen hauling product off site. The Division estimates that a total of 39 acres have been affected by the operation, of which, approximately 4.5 acres were affected outside of the approved permit area (more details provided below).

This inspection was routine monitoring. The last Division inspection was conducted in October of 2020, and the frequency of inspections for this site is set at 48 months. This inspection was conducted the morning of October 1, 2025. The Division was accompanied by Dwight Benson of Benson Brothers; Tim McCracken, the Delta County Engineer; and Dave Howard with Delta County. The weather during the inspection was warm and clear. The ground was dry.

The entrance sign was clearly visible at the entrance to the pit. The entrance sign was large enough, however, per Rule 3.1.12(1), the sign must include a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board . This is cited as a problem in this report (see Problem #1). The approved affected boundary was well marked with fences (as required by Rule 3.1.12(2)), except for the south side of the site, where the operation has extended their pit beyond the approved southern permit boundary.

The site includes two mining areas that are essentially two pits with only a small earth wall separating them. The larger pit stretches along most of the south side of the site and the smaller pit is near the southeast corner of the site. The larger pit has highwall heights of approximately 50 feet maximum and 40 feet average. The smaller pit has highwall heights of approximately 30 feet maximum and 25 feet average. The smaller southeastern pit is very close to the eastern permit boundary, approximately 20 feet on average, and less than that at one location. On the eastern side of the pit, a cut and fill operation to backfill the highwall to the approved 3H:1V slope gradient will not be possible; therefore, the operator will not be able to reclaim these highwalls in accordance with the approved reclamation plan. This is related to Possible Violation #2.

Other prominent features of the site include several product stockpiles, topsoil stockpiles, an overburden stockpile, a stockpile of concrete rubble (used for road base), and what appeared to be waste stockpiles. The operator needs to ensure that the topsoil is protected from erosion, including seeding it and/or using erosion control BMPs (such as berms and silt fencing) around the sides of the stockpile. At the time of the inspection, much of the topsoil appeared to be well protected.

Portable processing equipment was on site, although it was idle at the time of the inspection. No fuel tanks were seen at the site.

A map showing the prominent features of the site is enclosed with this inspection report.

No ditches or ponds were observed. Runoff from rain and snow is contained on site and infiltrates into the soil. There is no indication that the site is causing offsite impacts to surface water hydrology, including to Tongue Creek or the irrigation canal (the receiving waters that are adjacent to the site). No washing of product is done at the site. Dust control is done with water trucked in from other locations.

There is no indication that the mining operation intercepts groundwater. The site appears to be well above the groundwater table.

No State-listed noxious weed species were identified during the inspection.

There is a discrepancy between existing conditions and the approved mining plan for this site. The mining plan states that the maximum depth of the pit will be 25 feet and the maximum un-reclaimed highwall length will be 1,800 feet. However, the Division estimated during the inspection that the average depth of the pit is greater than 30 feet (with an average of 40 feet along the southern boundary). Using aerial imagery in Google Earth, the Division estimates that the length of un-reclaimed highwall is approximately 2,700 feet. The operation is out of compliance with the approved Mining Plan, and this is cited as Possible Violation #2 at the beginning of this report.

A portion of the Benson Brothers pit has been extended south into the permit area for the Pig Mesa Pit operated by Delta County (M-1978-168). According to aerial imagery in Google Earth, this encroachment started sometime between August 2019 and April 2023. The imagery also indicates that the Benson Brothers pit extends approximately 4.5 acres and approximately 120 feet beyond the approved southern permit boundary. Although Benson Brothers has an agreement with the County to mine in this area, there was no amendment to the mine permit to increase the acreage of the affected land, per Rule 1.1(6). The Division considers any offsite affected land that exceeds two acres in size to be substantial, and to therefore fall into the category of operating without a permit. Accordingly, a Possible Violation is cited in this report (see Possible Violation #1) for failure to first obtain from the Board or Office a reclamation permit prior to engaging in a new mining operation.

For the two Possible Violations noted above, non-compliance with the approved mining plan and mining substantial acreage outside of the approved permit boundary, an Amendment application is required to update permit exhibits. All maps that show the permit boundary (including, but not limited to, the Mining Plan Map in Exhibit C and the Reclamation Plan Map in Exhibit F) need to be updated to show the new boundary, which at a minimum, must include the 4.5 acres of offsite affected lands. The operator needs to accurately show the total area to be involved in the operation on the Mining Plan Map per Rule 6.4.3(d), including the area to be mined and the area of affected lands. Also, primary features of the site should be shown including product, overburden, and topsoil stockpiles, the processing area, and roads. The Mining Plan (Exhibit D) will need to be updated to reflect the current plan, including the maximum height and length of the unreclaimed highwall at any time. The Reclamation Plan (Exhibit E) will also need to be updated to address reclamation of the highwalls, specifying which portions can be graded to the final 3H:1V slope gradient using cut and fill methods, and which portions will need to be backfilled. This updated plan should discuss any material that will need to be imported to the site for reclamation.

Additionally, the revegetation plan needs to be reassessed as the current approved seed mixture includes crested wheatgrass, which is considered an invasive, non-native species that can aggressively outcompete native plants. If the operator wishes to revise other aspects of the permit, those revisions can be proposed in

the same Amendment application.

The current financial warranty posted by the operator is $83,730.00. This amount is not adequate to reclaim all the affected lands at the site, and this is cited as a problem in the report (see Problem #3). The operator will need to submit an updated Exhibit L – Reclamation Costs (in the Amendment required for Possible Violations #1 and #2) that includes costs for reclaiming all affected lands at the site. In its review of the required Amendment application, the Division will calculate the full required financial warranty for the operation, and any additional required amount will need to be submitted for issuance of the Amendment.

The Division calculated current reclamation costs (see enclosed estimate) just for reclaiming the 4.5 acres of affected lands that are outside of the approved permit boundary, which totals $1,203,517.00. This estimate includes costs for the following:

- Importing backfill material
- Pushing imported material up to form a 3H:1V slope
- Pushing stockpiled material down to form a 3H:1V slope
- Grading the backfill area
- Hauling and placing topsoil
- Revegetating 4.5 acres
- Mobilizing and demobilizing equipment
- Indirect costs

Fill material will need to be imported to complete reclamation of the highwalls because the overburden material currently stockpiled above the highwall is insufficient in volume, and other stockpiled material at the site will be needed for reclaiming other portions of the pit that are within the boundary. Also, the use of cut and fill methods to slope the southern high wall would create additional off-site disturbance, which is unacceptable to the Division. The Division estimates that the material stockpiled along the top of the highwall can be used for 25 percent of the volume of fill, and 75 percent will have to be imported. Based on an average height of 40 feet and a length of 1,000 feet, the Division has calculated that 88,889 cubic yards will be required to backfill the southern highwall, and 75 percent of this value is 66,667 cubic yards. If the forthcoming Amendment proposes to expand the permit area enough to allow for highwalls to be backfilled via cut and fill methods, rather than with imported fill, the Division would expect the costs associated with highwall reclamation to be significantly lower than the estimate provided above.

If the operator fails to submit the required Amendment application by the 90-day corrective action due date, the Possible Violations will be scheduled for a hearing before the Mined Land Reclamation Board (MLRB). At that hearing, one of the Division's recommendations will be for the operator to submit an interim financial warranty for the amount mentioned above ($1,203,517.00) until the offsite affected lands have been incorporated into the permit through the required Amendment.

Photographs taken during the inspection are attached.

Please contact Rob Zuber with comments or questions at 720-601-2276 or rob.zuber@state.co.us.

PHOTOGRAPHS

Photo 1. Entrance sign lacking reference to MLRB

Photo 2. Processing area and stockpiles

Photo 3. Portion of pit that is beyond the permit boundary, looking east

Photo 4. Portion of pit that is beyond the permit boundary, looking north

Photo 5. Smaller pit on eastern portion of mine, looking west

Photo 6. Smaller pit on eastern portion of mine, looking north

Photo 7. Concrete rubble stored near entrance

Photo 8. Topsoil stockpile with some vegetation (erosion BMPs are recommended)

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

(AR) RECORDS---------- PB	(FN) FINANCIAL WARRANTY-------- PB	(RD) ROADS---------- Y
(HB) HYDROLOGIC BALANCE---------- Y	(BG) BACKFILL & GRADING---------- Y	(EX) EXPLOSIVES--------- NA
(PW) PROCESSING WASTE/TAILING---- Y	(SF) PROCESSING FACILITIES------- Y	(TS) TOPSOIL---------- Y
(MP) GENL MINE PLAN COMPLIANCE- PV	(FW) FISH & WILDLIFE---------- Y	(RV) REVEGETATION---- Y
(SM) SIGNS AND MARKERS---------- PB	(SP) STORM WATER MGT PLAN---- N	(RS) RECL PLAN/COMP-- N
(ES) OVERBURDEN/DEV. WASTE--------- Y	(SC) EROSION/SEDIMENTATION--- Y	(ST) STIPULATIONS------- NA
(AT) ACID OR TOXIC MATERIALS------- Y	(OD) OFF-SITE DAMAGE----------PV	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

Inspection Contact Address
Dwight Benson
Benson Brothers
21240 Austin Rd.
Austin, CO 81410

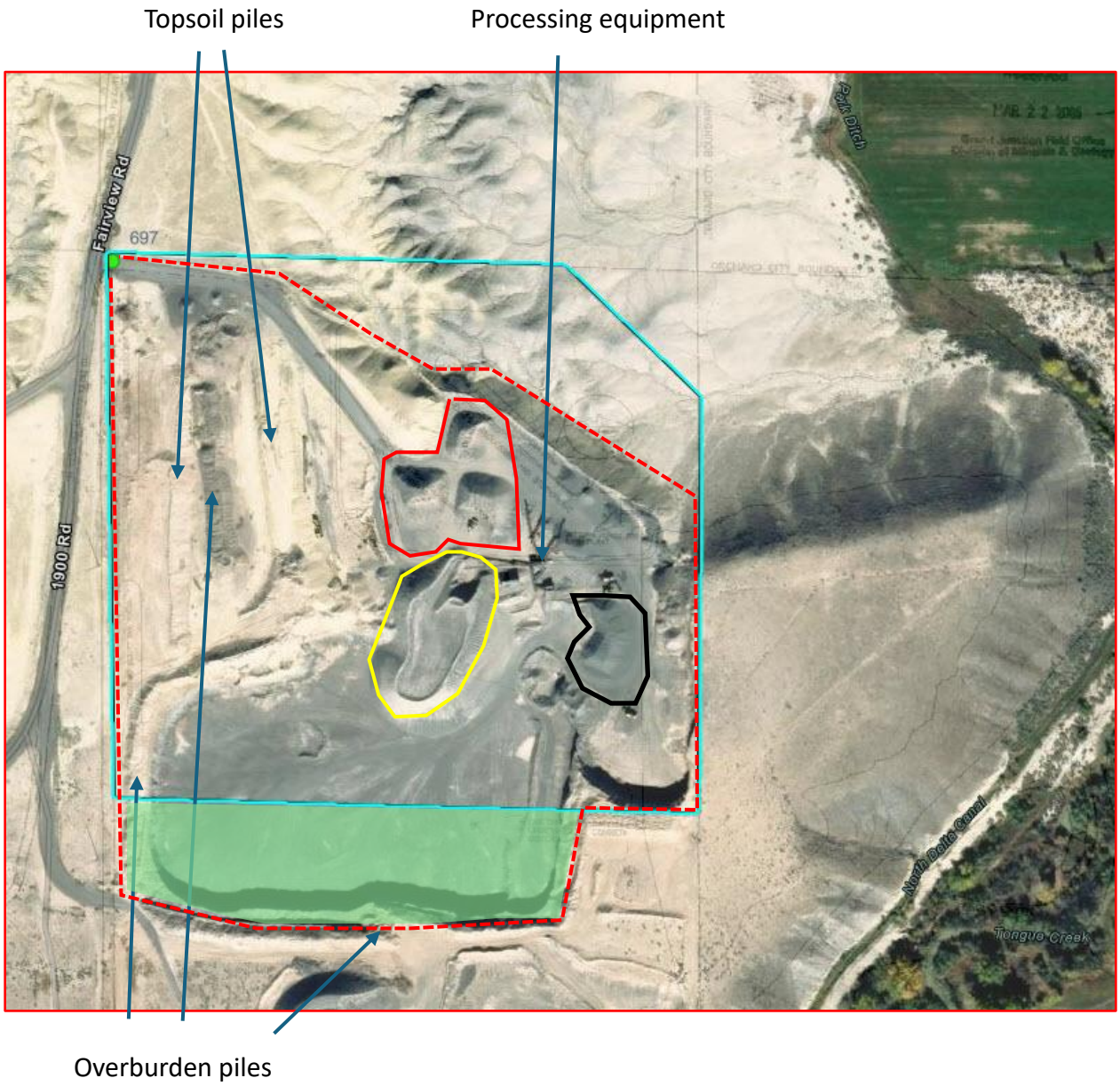
Encls: Map with prominent features at Benson Brothers Pig Mesa Pit
Division's bond estimate for reclaiming offsite affected lands

CC: Hans Benson, Benson Brothers
Tim McCracken, Delta County
Russ Means, DRMS
Amy Eschberger, DRMS
Scott Schultz, AGO

Map of Prominent Features at Benson Brothers Pig Mesa Pit

Prominent Features at Benson Brothers Pig Mesa Pit

Blue polygon is the permit boundary
Red polygon (dashed) is estimate of affected area
Green shaded area is disturbance beyond the permit area
Green dot is entrance
Red polygon is rock piles
Yellow polygon is sand pile
Black polygon is a pea gravel pile



Division's Bond Estimate for Reclaiming Offsite Affected Lands

COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M84-000
User: AME

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Import backfill material, 66,667cy x $12.5/cy	NA	0	0.00	$833,338
002	Push imported material up to form 3H:1V slope	DOZER	2	119.81	$78,608
003	Push stockpiled material down to form 3H:1V slope	DOZER	2	14.05	$9,220
004	Grade backfilled area	GRADER	1	2.44	$526
005	Haul and place topsoil	SCRAPER1	1	4.98	$10,631
006	Revegetate 4.5 acres	REVEGE	1	4.50	$11,376
007	Mobilize and demobilize equipment	MOBILIZE	1	7.44	$25,085
			SUBTOTALS:	**153.22**	**$968,784**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$19,569
Performance bond:	1.05	Total =	$10,172
Job superintendent:	76.61	Total =	$5,756
Profit:	10.00	Total =	$96,878
		TOTAL O & P =	$132,376
		CONTRACT AMOUNT (direct + O & P) =	$1,101,160

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	4.25	Total =	$46,799
Reclamation management and/or administration:	5.00		$55,058
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$234,733
		TOTAL BOND AMOUNT (direct + indirect) =	**$1,203,517**

BULLDOZER WORK

Task description: **Push imported material up to form 3H:1V slope**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-002
User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$179.60	NA
Operating Cost/Hour:	$110.45	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$38.02	NA

Total unit Cost/Hour: $328.07
Total Fleet Cost/Hour: **$656.13**

MATERIAL QUANTITIES

Initial Volume: 66,667
Swell factor: 1.000
Loose volume: **66,667** LCY

Source of estimated volume: 40'H x 1000'L HW x 75% imported
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 80 feet
Unadjusted hourly production: 984.2 LCY/hr

Materials consistency description: Loose stockpile 1.2

Average push gradient: 20 %
Average site altitude: 5,100 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2827

Adjusted unit production: 278.23 LCY/hr
Adjusted fleet production: **556.46** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $1.179/LCY

Total job time: **119.81** Hours
Total job cost: **$78,608**

BULLDOZER WORK

Task description: **Push stockpiled material down to form 3H:1V slope**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-003
User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: NA
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$179.60	NA
Operating Cost/Hour:	$110.45	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$38.02	NA

Total unit Cost/Hour: $328.07
Total Fleet Cost/Hour: **$656.13**

MATERIAL QUANTITIES

Initial Volume: 22,222
Swell factor: 1.125
Loose volume: **25,000** LCY

Source of estimated volume: 40'H x 1000'L HW x 25% stockpiled above HW
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet
Unadjusted hourly production: 1,400.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: -10 %
Average site altitude: 5,100 feet

Material weight: 2,650 lbs/LCY

Weight description: Decomposed rock - 25% Rock, 75% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6354

Adjusted unit production: 889.56 LCY/hr
Adjusted fleet production: **1779.12** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $0.369/LCY

Total job time: **14.05** Hours
Total job cost: **$9,220**

MOTOR GRADER WORK

Task description: **Grade backfilled area**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-004
User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 16M Horsepower: 297
Ripper Attachment: Multi-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$78.02	NA
Operating Cost/Hour:	$68.53	100
Ripper Ownership Cost/Hour:	$5.97	NA
Ripper Operating Cost/Hour:	$2.30	50
Operator Cost/Hour:	$60.00	NA
Total Unit Cost/Hour:	$214.81	
Total Fleet Cost/Hour:	**$214.81**	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 4.50 acres

Source of estimated acreage: Google Earth + 10/2025 inspection

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Finish grading (0-2.5 mph) - 1.5
Selected Blade Angle: 30 degrees
Effective Blade Length: 13.90 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 11.90 feet
Unadjusted Hourly Unit Production: 2.1636 acres/hour

Job Condition Correction Factors Site Altitude: 5100 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.8391 acres/Hour
Adjusted Hourly Fleet Production: **1.8391** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **2.45** Hours

Unit cost: $116.80 per acre Total job cost: **$526**

SCRAPER TEAM WORK

Task description: **Haul and place topsoil**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-005
User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 16M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	100	50
Ownership cost/hour:	$462.75	NA	$179.60	NA	$78.02	$17.97
Operating cost/hour:	$260.25	NA	$110.45	NA	$68.53	$17.54
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	$0.00	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	NA	$0.00	NA	$0.00	$0.00
Operator cost/hour:	$59.78	NA	$38.02	NA	$60.00	$0.00
Unit Subtotals:	$782.78	NA	$328.07	NA	$206.55	$35.51
Number of Units:	2	0	1	0	1	1
Group Subtotals:	Work:	$1,565.56	Support:	$328.07	Maint:	$242.06

Total work team cost/hour: **$2,135.69**

MATERIAL QUANTITIES

Initial volume: 3,630 CCY Swell factor: 1.215
Loose volume: **4,410** LCY

Source of estimated volume: 4.5 acres x 6" depth
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 1,600 lbs/LCY
Material description: Top Soil
Rated Payload: 81,600 pounds
Payload Capacity: 51.00 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 0.80 Minutes
Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction: Site Altitude: 5100 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	4.00	3.00	7.00	962	1.28

Haul Time: **1.28** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	-4.00	3.00	-1.00	2920	0.48

Return Time: **0.48** minutes

Total Scraper team cycle time: **3.26** minutes
Adjusted for job conditions: 443.01 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 886.01 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **886.01** LCY/Hour

Unadjusted unit production/hour: 533.74 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **4.98** Hours

Unit cost: $2.410 /LCY Total job cost: **$10,631**

REVEGETATION WORK

Task description: **Revegetate 4.5 acres**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-006
User: AME

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	$0.66	$79.53
Superphosphate, 0-20-0 with 12% S	200.00	pound	$0.73	$145.54
			Total Fertilizer Materials Cost/Acre	**$225.07**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$46.17
Total Fertilizer Application Cost/Acre	**$46.17**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$114.13
Weed control spraying (MEANS 31 31 16.13 3100)	$338.80
Total Tilling Cost/Acre	**$452.93**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Crested Wheatgrass - Nordan	1.00	4.59	$5.44
Yellow Sweet Clover - Madrid	1.00	5.97	$4.64
Western Wheatgrass - Arriba	4.00	10.10	$37.00
Saltbush, Four Wing	0.50	0.69	$10.17
Saltbush, Shadscale	0.50	0.75	$9.26
Totals Seed Mix	7.00	22.10	**$66.51**

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	$242.30
Total Seed Application Cost/Acre	**$242.30**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered	2.00	TON	$504.56	$1,009.12
Total Mulch Materials Cost/Acre				**$1,009.12**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$239.35
Power mulcher (MEANS 32 91 13.16 0350)	$141.57
Weed spray, truck, non-aquatic areas, ann. [DMG]	$27.84
Total Mulch Application Cost/Acre	**$408.76**

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 4.5
Estimated Failure Rate: 25%
*Selected Replanting Work Items: SEEDING

Cost /Acre: $2,450.86
Cost /Acre*: $308.81

Initial Job Cost: **$11,028.87**
Reseeding Job Cost: **$347.41**
Total Job Cost: **$11,376**
Job Hours: **4.50**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize and demobilize equipment**

Site: **Benson Brothers Pig Mesa Pit** Permit Action: 2025-10 Violation Permit/Job#: M2004084

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 10/14/2025 County: Delta Filename: M084-007
User: AME

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$21.47	$38.32	$48.96
Operating Cost/Hour:	$31.47	$60.11	$65.86
Operator Cost/Hour:	$22.52	$22.52	$22.52
Helper Cost/Hour:	$0.00	$22.25	$22.25
Total Unit Cost/Hour:	$75.46	$143.20	$159.59

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	47.71	$179.60	$143.20	4	$1,291.20	$572.80	$500.00
CAT 16M	28.73	$83.99	$143.20	1	$227.19	$143.20	$500.00
Cat 631G	52.50	$462.75	$159.59	2	$1,244.68	$319.18	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$5.99	$75.46	1	$81.45	$75.46	$250.00
Power Mulcher (Bowie LD-90)	6.00	$29.91	$75.46	1	$105.37	$75.46	$250.00
Subtotals:					**$2,949.89**	**$1,186.10**	**$1,750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	$53.04	1	$53.04	$53.04
Light Duty Pickup, 4x4, 3/4 T.	$22.72	1	$22.72	$22.72
Subtotals:			**$75.76**	**$75.76**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	DELTA	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$25,068.34
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$16.84

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.11	0.11
Return Time (Hours):	0.11	0.11
Loading Time (Hours):	1.75	NA
Unloading Time (Hours):	1.75	NA
Subtotals:	3.72	0.22

JOB TIME AND COST

Total job time:	**7.44**	Hours
Total job cost:	**$25,085**	