STATE OF COLORADO

Gagnon - DNR, Nikie <nikie.gagnon@state.co.us>

Nelson MIning Resources M2005059

1 message

Gagnon - DNR, Nikie <nikie.gagnon@state.co.us> Fri, Sep 27, 2024 at 9:48 AM
To: Greg Geras <GregG@asphaltspecialties.com>

Hi Greg.
Attached is the inspection report for the Nelson Mining Resource site along with the 2024 financial warranty estimate. Please review them and let me know if you have any comments or questions about the problems cited or the warranty estimate.

Kind regards,

--
Nikie Gagnon
Environmental Protection Specialist
COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

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2 attachments

M2005059_Nelson Mining Resources_2024 Cost Estimate.pdf
222K

INSP-REPORT_M2005059_Nelson Mining Resource.pdf
6333K

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: Nelson Mining Resource	**MINE/PROSPECTING ID#:** M-2005-059	**MINERAL:** Sand and gravel	**COUNTY:** Weld
INSPECTION TYPE: Monitoring	**WEATHER** Clear, Warm	**INSP. DATE:** August 21, 2024	**INSP. TIME:** 10:30
OPERATOR: Asphalt Specialties Co., Inc.	**OPERATOR REPRESENTATIVE:** Greg Geras	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $1,097,165.51
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
INSPECTOR(S): Nikie Gagnon	**INSPECTOR'S SIGNATURE:** Nikie Gagnon	**SIGNATURE DATE:** September 27, 2024

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: Acid or Toxic Materials

PROBLEM 1: Improper storage and containment of toxic materials was observed at the site. Six 5-gallon buckets containing oil and other liquids were observed in the active mining area. No secondary containment was observed.

CORRECTIVE ACTIONS: All storage tanks, petroleum and any hazardous materials on site for any period of time shall have appropriate secondary containment. The site will also have to comply with all applicable SPCC requirements. Please supply photo documentation that any fuel or hazardous materials containers are stored properly - including applicable secondary containment structures by the corrective action date. Note that secondary containment structures shall consist of an impermeable containment which could contain all contents of the tanks and various containers (when full) plus 10% of the total capacity. The operator may also provide photo documentation that all containers have been removed from the site on or before the corrective action date.

CORRECTIVE ACTION DUE DATE: 10/26/24

INSPECTION TOPIC: Site Maintenance
PROBLEM 2: The operator is using the mine site to store abandoned equipment, trailers, and trash. This is a problem for failure to dispose of refuse in a manner that controls unsightliness or deleterious effects of such refuse pursuant to C.R.S. 34-32.5-116(4)(e)
CORRECTIVE ACTIONS: The operator shall submit a written notice to the Division with photo documentation that the abandoned equipment, trailers and trash has been removed from the mine site by the corrective action date.
CORRECTIVE ACTION DUE DATE: 10/26/24

INSPECTION TOPIC: Topsoil
PROBLEM 3: A crescent shaped topsoil stockpile on the west side of the permit area is impacted by abandoned equipment and trash, poorly maintained, and does not have established vegetation on it. Rule 3.1.9(1) states if topsoil is not replaced within a time short enough to avoid deterioration of the topsoil, vegetative cover or other means shall be employed so that the topsoil is protected from erosion. Additionally, topsoil berms on the north end of the site are not well vegetated on the interior/mine side.

CORRECTIVE ACTIONS: The operator shall appropriately protect, maintain, and seed the topsoil stockpiles with the seed mix that was submitted as part of the approved Reclamation Plan. The Operator shall demonstrate compliance by submitting seed tags, a bill of sale or photographs of maintenance and seeding activities. The Operator may also request a follow up inspection.
CORRECTIVE ACTION DUE DATE: 10/26/24

INSPECTION TOPIC: Revegetation
PROBLEM 4: There are state-listed noxious weeds present on site. This is a problem for failure to employ weed control methods for state listed noxious weed species within the permitted area, and to reduce the spread of weeds to nearby areas as required by Section 3.1.10 (6) of the rule.
CORRECTIVE ACTIONS: Implement approved weed control plan and provide proof to the Division that this has been done.
CORRECTIVE ACTION DUE DATE: 10/26/24

OBSERVATIONS

The Nelson Mine site was inspected by Nikie Gagnon, representing the Division of Reclamation, Mining and Safety (Division) as part of the Division's normal monitoring inspection program. Greg Geras representing Asphalt Specialties Co. (Operator) accompanied the Division during the inspection. The site is located on the north side of County Road 26, west of intersection with County Road 15. The site is fenced, and the mine sign was observed posted at the entrance. The operation is approved to affect 73 acres, and the post mining land use is developed water resources.

Gen. Compliance With Mine Plan:
The mine site is divided into three mining Cells A, B, and C. Mining and backfill of Cell C is complete. The operator is using Cell C for stockpile staging. During this inspection, the Division observed active mining on the in Cells A and B. A wash plant, mobile feeder and crusher were staged on the north end of Cell A. A mobile office trailer was also observed in this area. Haul trucks were observed entering and leaving the site. According to the annual report filed in February 2024, approximately 56 acres have been affected by the mining operation. The south ends of Cells A & B are currently undisturbed agriculture fields.

Toxic Material Storage
The Division inspected an equipment storage area adjacent to the processing area. Six five-gallon buckets were observed in this area, above the sediment pond in Cell B. One of the buckets was labeled oil and another was labeled antifreeze. As cited in Problem #1 above, all storage tanks, petroleum and any hazardous materials on site for any period of time shall have appropriate secondary containment. By the corrective action date, the Operator shall provide photo documentation that any fuel or hazardous materials containers are stored properly - including applicable secondary containment structures. Note that secondary containment structures shall consist of an impermeable containment which could contain all contents of the tanks and various containers (when full) plus 10% of the total capacity. The operator may also provide photo documentation that all containers have been removed from the site on or before the corrective action date.

Site Maintenance
A former oil and gas well pad on the west side of the permit area is currently being used to store abandoned trailers and equipment, and trash. As noted in Problem 2 cited above, this is a problem for failure to dispose of refuse in a manner that controls unsightliness or deleterious effects of such refuse pursuant to C.R.S. 34-32.5-116(4)(e). The operator shall submit a written notice to the Division with photo documentation that the abandoned equipment, trailers and trash have been removed from the mine site by the corrective action date. The Division may also conduct a follow-up inspection.

Topsoil
The approved mine plan depicts three topsoil stockpile storage areas within the permit area. The exterior side of the northwest and northeast stockpiles are well vegetated and appear stable. However, the Division noted the interior/mine side of these topsoil berms are sparsely vegetated. Additionally, the Division observed a crescent shaped topsoil berm around the former oil and gas pad described above. Abandoned equipment and trash was observed on and around the stockpile. The topsoil stockpile is not well graded and maintained and lacked adequate vegetative cover to protect it from erosion. Rule 3.1.9(1) states if topsoil is not replaced within a time short enough to avoid deterioration of the topsoil, vegetative cover or other means shall be employed so that the topsoil is protected from erosion. The Operator shall appropriately protect, maintain, and

seed the topsoil stockpiles with the seed mix that was submitted as part of the approved Reclamation Plan. The Operator shall demonstrate compliance by submitting seed tags, a bill of sale or photographs of maintenance and seeding activities. The Operator may also request a follow up inspection.

Weed Control

The Division observed a few List B and List C state-listed noxious weeds in and around the pit area (field bindweed, cheatgrass, common mullein, and tamarisk and Russian olive trees). This is a problem for failure to employ weed control methods for state listed noxious weed species within the permitted area, and to reduce the spread of weeds to nearby areas as required by Section 3.1.10 (6) of the rule. The operator shall implement the approved weed control plan and provide proof to the Division that this has been done.

Hydrologic Balance

The mining pit holds a few feet of water in the bottom. Trees and wetland plants are growing in the base of the pit. The Division observed pumps in sediment ponds #2 and #3 near the active mining area on the north end. The pump in pond #3 was not operating during the inspection. The operator stated this pump is used to move water to the wash plant. The pump in pond #2 was operating and pumping water from pond #2 into pond #3. The Division observed a discharge point associated with CDPHE permit COG500471. No water was discharging during this inspection.

The Operator has an approved Substitute Water Supply Plan (SWSP) which expires on October 31, 2024. The plan indicates that at the time of approval, 3.88 acres of water surface are exposed at the site in sedimentation pond #1 (1.25 acres) and sedimentation pond #2 (1.5 acres) sedimentation pond #3 (0.85 acres) and in the dewatering trenches (0.25 acres). The operator submitted a renewal application in August 2024 which increases the exposure to 8 acres, which is consistent with the exposure area observed by the Division during this inspection. Once approved, the Operator shall submit the approved SWSP to the Division.

The reclamation plan proposes to install a compacted clay liner around the mined-out pit for future use as a water storage reservoir.

Financial Warranty:

The Division currently holds a financial warranty in the amount of $1,097,165.51. The reclamation cost estimate was last calculated in January 2015. After this inspection, the Division estimated the reclamation liability at the site to be $1,887,769.00 which is $790,603.49 more than the currently held financial warranty. The Division's reclamation cost estimate is enclosed with this report for the Operator's review. The Division requests that any questions or concerns regarding the estimated liability level be forwarded to the Division by October 11, 2024. The Division may issue a surety increase revision after October 11, 2024. In accordance with Rule 4.2.1(2), Asphalt Specialties will have sixty (60) days from the date of the notice of surety increase to provide the additional financial warranty.

This concludes the Division's Inspection Report; a subset of photographs taken during the time of the inspection are included below. If you need additional information or have any questions, please contact me at Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, by telephone at 303866-3567 x8126, or by email at nikie.gagnon@state.co.us.

PHOTOGRAPHS

Photo 1: Looking southeast across the mined pit in Cell A. Noxious weeds and trees noted in and around the pit.

Photo 2: Looking northeast at the mined pit in Cell A

Photo 3: Process area on the north end of the permit area.

Photo 4: Stockpiles at the north end of the permit area.

Photo 5: Looking southwest across the mined pit.

Photo 6: Looking at a sediment pond in the northeast corner of Cell B.

Photo 7: Water pumped between the sediment pond in Cell B to the pond in Cell A

Photo 8: Five-gallon buckets observed in the processing area.

Photo 9: Former oil and gas well pad, trash, abandoned equipment and trailers observed here.

Photo 10: Trash pushed up against the poorly maintained topsoil berm on the west side.

Photo 11: Trash and abandoned equipment around and on the topsoil berm on the west side.

Photo 12: View of the mine side of the sparsely vegetated topsoil berm in the northeast corner.

Photo 13: View of the exterior side of the topsoil berm in the northeast corner.

Photo 14: View of the exterior side of the topsoil berm on the east side of the permit area.

Photo 15: View of the undisturbed field on the south end of the permit area.

Photo 16: Looking at the CDPHE adjacent to the north permit boundary.

GENERAL INSPECTION TOPICS

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

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

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

Inspection Contact Address
Greg Geras
Asphalt Specialties Co., Inc.
345 W. 62nd Ave.
Denver, CO 80216

Enclosure: 2024 Financial Warranty Estimate

CC: Jared Ebert, DRMS

COST SUMMARY WORK

Task description:

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M059-000
User: NCG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill 3 Well Pads to 150' radius	SCRAPER1	1	132.92	$195,631
002	QA/QC Liner Replacement	NA	1	120.00	$15,600
003	Backfill 5.5 ac in NE corner of permit	SCRAPER1	1	157.06	$230,770
004	Rip/condition liner material from pit floor	DOZER	2	560.47	$387,837
005	Place Liner Material	SCRAPER1	1	238.15	$434,971
007	Replace Topsoil	SCRAPER1	1	14.87	$22,358
008	Revegetate	REVEGE	1	8.00	$27,039
009	Mob/Demob	MOBILIZE	1	8.80	$13,180
010	Dewater pit - 1000 ac ft	PUMPING	1	6,421.54	$241,643
	SUBTOTALS:			**7661.81**	**$1,569,029**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$31,694
Performance bond:	1.05	Total =	$16,475
Job superintendent:	80.00	Total =	$6,342
Profit:	10.00	Total =	$156,903
		TOTAL O & P =	$211,414
		CONTRACT AMOUNT (direct + O & P) =	$1,780,443

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	1.00	Total =	$17,804
Reclamation management and/or administration:	5.00		$89,022
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$318,740
		TOTAL BOND AMOUNT (direct + indirect) =	**$1,887,769**

SCRAPER TEAM WORK

Task description: **Backfill 3 Well Pads to 150' radius**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 2,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	$234.09	$173.32	NA	NA	NA	$11.65
Operating cost/hour:	$265.71	$109.71	NA	NA	NA	$22.45
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Operator cost/hour:	$57.52	$40.04	NA	NA	NA	$0.00
Unit Subtotals:	$557.32	$323.07	NA	NA	NA	$34.10
Number of Units:	2	1	0	0	0	1
Group Subtotals:	Work:	$1,437.71	Support:	$0.00	Maint:	$34.10

Total work team cost/hour: **$1,471.81**

MATERIAL QUANTITIES

Initial volume: 115,000 CCY Swell factor: 1.000
Loose volume: **115,000** LCY

Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 2,700 lbs/LCY
Material description: Sand and clay - Loose
Rated Payload: 52,800 pounds
Payload Capacity: 19.56 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 15.70 LCY
Heaped Volume: 22.00 LCY
Average Volume: 18.85 LCY
Adjusted Capacity: **18.85** LCY

Cycle Time:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 4800 feet

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

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	500.00	2.00	3.00	5.00	2218	0.40

Haul Time: **0.40** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	3.00	1.00	2913	0.27

Return Time: **0.27** minutes

Total Scraper team cycle time: **2.17** minutes
Adjusted for job conditions: 865.19 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 865.19 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **865.19** LCY/Hour

Unadjusted unit production/hour: 1,042.40 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **132.92** Hours

Unit cost: $1.701 /LCY Total job cost: **$195,631**

SCRAPER TEAM WORK

Task description: **Backfill 5.5 ac in NE corner of permit**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	$329.66	NA	NA	NA	NA	NA
Operating cost/hour:	$347.48	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	$57.52	NA	NA	NA	NA	NA
Unit Subtotals:	$734.66	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	$1,469.32	Support:	$0.00	Maint:	$0.00

Total work team cost/hour: **$1,469.32**

MATERIAL QUANTITIES

Initial volume: 215,000 CCY Swell factor: 1.000
Loose volume: **215,000** LCY

Source of estimated volume: Operator
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 2,700 lbs/LCY
Material description: Sand and clay - Loose
Rated Payload: 81,600 pounds
Payload Capacity: 30.22 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: 0.60 Minutes

Job Condition Correction: Site Altitude: 4800 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	2.00	4.00	6.00	1477	0.42

Haul Time: **0.42** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	4.00	2.00	2960	0.29

Return Time: **0.29** minutes

Total Scraper team cycle time: **2.11** minutes
Adjusted for job conditions: 684.45 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,368.91 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,368.91** LCY/Hour

Unadjusted unit production/hour: 824.64 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **157.06** Hours

Unit cost: $1.073 /LCY Total job cost: **$230,770**

SCRAPER TEAM WORK

Task description: **Place Liner Material**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 2,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	NA	100
Ownership cost/hour:	$329.66	NA	NA	$173.32	NA	$11.65
Operating cost/hour:	$347.48	NA	NA	$109.71	NA	$22.45
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	$0.00	NA	$0.00
Ripper op. cost/hour:	NA	NA	NA	$0.00	NA	$0.00
Operator cost/hour:	$57.52	NA	NA	$40.04	NA	$0.00
Unit Subtotals:	$734.66	NA	NA	$323.07	NA	$34.10
Number of Units:	2	0	0	1	0	1
Group Subtotals:	Work:	$1,469.32	Support:	$323.07	Maint:	$34.10

Total work team cost/hour: **$1,826.49**

MATERIAL QUANTITIES

Initial volume: 326,000 CCY Swell factor: 1.000
Loose volume: **326,000** LCY

Source of estimated volume: Operator
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Material weight: 2,700 lbs/LCY
Material description: Sand and clay - Loose
Rated Payload: 81,600 pounds
Payload Capacity: 30.22 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: 0.60 Minutes

Job Condition Correction: Site Altitude: 4800 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	2.00	4.00	6.00	1477	0.42

Haul Time: **0.42** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	4.00	2.00	2960	0.29

Return Time: **0.29** minutes

Total Scraper team cycle time: **2.11** minutes
Adjusted for job conditions: 684.45 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,368.91 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,368.91** LCY/Hour

Unadjusted unit production/hour: 824.64 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **238.15** Hours

Unit cost: $1.334 /LCY Total job cost: **$434,971**

SCRAPER TEAM WORK

Task description: **Replace Topsoil**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 2,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	100
Ownership cost/hour:	$329.66	NA	NA	NA	NA	$11.65
Operating cost/hour:	$347.48	NA	NA	NA	NA	$22.45
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	$0.00
Ripper op. cost/hour:	NA	NA	NA	NA	NA	$0.00
Operator cost/hour:	$57.52	NA	NA	NA	NA	$0.00
Unit Subtotals:	$734.66	NA	NA	NA	NA	$34.10
Number of Units:	2	0	0	0	0	1
Group Subtotals:	Work:	$1,469.32	Support:	$0.00	Maint:	$34.10

Total work team cost/hour: **$1,503.42**

MATERIAL QUANTITIES

Initial volume: 20,651 CCY Swell factor: 1.000
Loose volume: **20,651** LCY

Source of estimated volume: Operator
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: 0.60 Minutes

Job Condition Correction: Site Altitude: 4800 feet

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

Travel Time:

Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	2.00	4.00	6.00	1477	0.39

Haul Time: **0.39** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-2.00	4.00	2.00	2960	0.29

Return Time: **0.29** minutes

Total Scraper team cycle time: **2.08** minutes
Adjusted for job conditions: 694.33 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,388.65 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,388.65** LCY/Hour

Unadjusted unit production/hour: 836.54 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **14.87** Hours

Unit cost: $1.083 /LCY Total job cost: **$22,358**

BULLDOZER WORK

Task description: **Rip/condition liner material from pit floor**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$173.32	NA
Operating Cost/Hour:	$109.71	100
Ripper own. Cost/Hour:	$13.69	NA
Ripper op. Cost/Hour:	$9.24	100
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $346.00
Total Fleet Cost/Hour: **$691.99**

MATERIAL QUANTITIES

Initial Volume: 156,000
Swell factor: 1.000
Loose volume: **156,000** LCY

Source of estimated volume: Operator
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 150 feet
Unadjusted hourly production: 634.3 LCY/hr

Materials consistency description: Rock, avg. ripped or blasted 0.7

Average push gradient: 5 %
Average site altitude: 4,800 feet

Material weight: 3,300 lbs/LCY

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

Job Condition Correction Factor Source

Operator Skill:	0.750	(AVG.)
Material consistency:	0.700	(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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2194

Adjusted unit production: 139.17 LCY/hr

Adjusted fleet production: **278.34** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: $2.486/LCY

Total job time: **560.47** Hours

Total job cost: **$387,837**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

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:	$10.44	$22.18	$23.94
Operating Cost/Hour:	$26.48	$54.55	$55.65
Operator Cost/Hour:	$22.52	$22.52	$22.52
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$59.44	$122.78	$125.64

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 627G w/push-pull	43.48	$234.09	$122.78	2	$713.74	$245.56	$500.00
Cat D8T - 8SU	47.71	$173.32	$122.78	2	$592.20	$245.56	$500.00
Subtotals:					**$1,305.94**	**$491.12**	**$1,000.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	$34.10	1	$34.10	$34.10
Subtotals:			**$34.10**	**$34.10**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	LONGMONT	
Total one-way travel distance:	8.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$13,166.34
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$13.64

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	2.00	NA
Subtotals:	4.40	0.40

JOB TIME AND COST

Total job time:	**8.80**	Hours
Total job cost:	**$13,180**	

PUMPING WORK

Task description: **Dewater pit - 1000 ac ft**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 010 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

	Description	Quantity
Make and Model:	Centrifugal pump - 90M, 6 in.	1
Attachment 1:	Suction hose - 6 in. diam., 25 ft.	1
Attachment 2:	Discharge hose - 6 in. D., 25 ft.	2
Labor Unit 1:	Mechanic or Welder	0

Horsepower: 65
Shift Basis: 3 per day
Weight: 1.05 (US Tons)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$15.58	NA
Operating Cost/Hour:	$22.05	100
Operator Cost/Hour:	$0.00	NA
Total Unit Cost/Hour:	$37.63	

Total Fleet Cost/Hour: $37.63

PUMPING QUANTITIES

Initial Pond Volume: 1,000.00 Conversion factor: 325850.5800
Final Pond Volume: **325,850,580.00** gallons
Total Pond Inflow Surface Area: 142,000 Sq. ft. Unit inflow rate in gph/sq. ft.: 0.1758
Total Pond Inflow Volume per Hour: 24,963.60 gallons

Source of estimated volume: Operator/DRMS

PUMPING TIME

Maximum Pump Capacity:	90,000	gph/pump
Estimated Suction Head:	20	feet
Estimated Discharge Head:	10	feet
Total Head:	30	feet
CPB Pump Capacity:	63,000	gph/pump
Site Altitude:	4,900	feet

Adjusted Pumping Capacity:	63,000	gph
Initial Unadjusted Pumping Time:	5,172.23	hours
Inflow during Initial Pumping:	129,117,516	gallons
Net Unadjusted Pumping Time:	7,221.72	Hours
Altitude Adjustment Factor:	0.9700	(3% rule)
Pump Efficiency Factor:	0.9167	(55 min./hr.)
Total Adjusted Pumping Time:	6,421.54	hours

JOB TIME AND COST

Total job time: **6,421.54** Hours

Unit cost: $0.000531 /Gallon Total job cost: **$241,643**

REVEGETATION WORK

Task description: **Revegetate**

Site: **Nelson Mining Resource** Permit Action: 2024 Inspection Permit/Job#: M2005059

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
Date: 9/23/2024 County: Weld Filename: M2005059
User: NCG

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
			Total Fertilizer Materials Cost/Acre	**$0.00**

Application

Description	Cost /Acre
	$
Total Fertilizer Application Cost/Acre	**$0.00**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$102.41
Total Tilling Cost/Acre	**$102.41**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	5.00	24.10	$19.96
Switchgrass - Nebraska 28	6.00	53.58	$66.78
Sideoats Grama - Vaughn	7.00	22.98	$172.14
Thickspike Wheatgrass - Critana	10.00	35.35	$81.48
Totals Seed Mix	28.00	136.02	**$340.35**

Application

Description	Cost /Acre

Drill Seeding (DRMS Survey Cost)	$236.64
Total Seed Application Cost/Acre	**$236.64**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$492.78	$985.56
Total Mulch Materials Cost/Acre				**$985.56**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$85.37
Total Mulch Application Cost/Acre	**$85.37**

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: 13
Estimated Failure Rate: 20%
*Selected Replanting Work Items: SEEDING,MULCHING

Cost /Acre: $1,750.33
Cost /Acre*: $1,647.92

Initial Job Cost: **$22,754.29**
Reseeding Job Cost: **$4,284.59**
Total Job Cost: **$27,039**
Job Hours: **8.00**