STATE OF COLORADO

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

Bernhardt Resource M2002120 Inspection Report and Cost Estimate

1 message

Gagnon - DNR, Nikie <nikie.gagnon@state.co.us> Fri, Jul 11, 2025 at 11:22 AM
To: Joel Bolduc <Joel.bolduc@burnco.com>, chris.oestreich@burnco.com

Hello.
Please see the attached inspection report and reclamation cost estimate for the Bernhardt Resource site, permit no. M-2002-120.

As we discussed on the phone, based on the findings during the inspections, the Division has reason to believe that a violation exists and this matter has been scheduled to appear before the Mined Land Reclamation Board on August 20, 2025. The Notice of Board Hearing will be sent out next week via certified mail. I'll email a copy to you once it is signed so you can begin preparing for the August hearing.

Once you review the inspection report and the cost estimate, feel free to contact me if you have any questions.

Kind regards,
--
Nikie Gagnon
Environmental Protection Specialist

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

Cell: 720.527.1640
Physical: 1313 Sherman Street, Room 215, Denver, CO 80203
Address for FedEx, UPS, or hand delivery:
DRMS Room 215, 1001 E 62nd Ave, Denver, CO 80216
nikie.gagnon@state.co.us | https://www.drms.colorado.gov

2 attachments

Bernhardt Resource_2025 Relcamation Cost Estimate.pdf
350K

INSP-REPORT_M2002120_Bernhardt Resource_final.pdf
9598K

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: Bernhardt Resource	**MINE/PROSPECTING ID#:** M-2002-120	**MINERAL:** Sand and gravel	**COUNTY:** Weld
INSPECTION TYPE: Monitoring	**WEATHER:** Clear	**INSP. DATE:** June 20, 2025	**INSP. TIME:** 10:00
OPERATOR: BURNCO Colorado, LLC	**OPERATOR REPRESENTATIVE:** Joel Bolduc	**TYPE OF OPERATION:** 112c - Construction Regular Operation	
REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $2,557,725.00	
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None	
INSPECTOR(S): Nikie Gagnon	**INSPECTOR'S SIGNATURE:** Nikie Gagnon	**SIGNATURE DATE:** July 11, 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: On June 20, 2025, the Division observed an overburden stockpile adjacent to Cell 5 partially placed outside of the approved permit and affected land boundaries. This is a possible violation at this time pursuant to C.R.S. 34-32.5-116(4)(i) for failure to protect areas outside of the affected land from slides or damages occurring during the mining operation.
CORRECTIVE ACTIONS: This possible violation will require a hearing before the Mined Land Reclamation Board. The schedule and other details for the MLRB hearing will be provided under a separate document to be sent via certified mail to the operator.
CORRECTIVE ACTION DUE DATE: Tentative MLRB hearing date - 8/20/25

INSPECTION TOPIC: Hydrologic Balance
POSSIBLE VIOLATION #2: During the inspection, the Division observed a large overburden stockpile on the north side of the permit area within the floodplain of the Big Thompson River. The stockpile area is not identified in the approved mining plan. The Division also observed inadequate stormwater control practices in the area of the stockpile. Additionally, the Operator does not have an active floodplain permit from the Town of Milliken. This is a possible violation pursuant to C.R.S. 34-32.5-124 for failure to comply with the conditions of the permit or regulation and C.R.S. 34-32.5-116(4)(h) and (j) for disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quality of surface water and failing to effectively control

erosion around the overburden pile.
CORRECTIVE ACTIONS: This possible violation will require a hearing before the Mined Land Reclamation Board. The schedule and other details for the MLRB hearing will be provided under a separate document to be sent via certified mail to the operator.
CORRECTIVE ACTION DUE DATE: Tentative MLRB hearing date - 8/20/25

INSPECTION TOPIC: Topsoil
POSSIBLE VIOLATION #3: During the inspection, the Division did not observe any topsoil storage areas and determined there is inadequate topsoil on site to complete the approved reclamation at the site. This is a possible violation pursuant to C.R.S. 34-32.5-124 for failure to comply with the condition of a permit and C.R.S. 34-32.5-116(4) and Rule 3.1.9, for failure to implement the approved reclamation plan.
CORRECTIVE ACTIONS: This possible violation will require a hearing before the Mined Land Reclamation Board. The schedule and other details for the MLRB hearing will be provided under a separate document to be sent via certified mail to the operator.
CORRECTIVE ACTION DUE DATE: Tentative MLRB hearing date - 8/20/25

INSPECTION TOPIC: Gen. Compliance With Mining Plan
PROBLEM #1: During the inspection the Division observed changes to the configurations of Mining Cells 2 and 5. The current mining plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-112 (1)(c)(VI). The operator must provide sufficient information to describe or identify how the operator intends to conduct the operation.
CORRECTIVE ACTIONS: The operator shall submit a Revision to update and clarify the current approved mine plan to reflect existing and proposed activities by the corrective action date.
CORRECTIVE ACTION DUE DATE: 8/11/25

INSPECTION TOPIC: Gen. Compliance With Reclamation Plan
PROBLEM #2: Mining is complete within reservoir cells 3, 4 and 5. The current approved reclamation plan states reclamation should be complete within one year after mining in these cells. During the inspection, the Division observed incomplete reclamation of reservoir cells 3, 4 and 5. Final earthwork, spillway installation, topsoiling and initial seeding is not complete. The reclamation plan needs to be updated and clarified pursuant to C.R.S. 34-32.5-116 (1). Additionally, the operator has not completed reclamation of Cell 3 within five (5) years from the date that mining activities ceased as required by C.R.S. 34-32.5-116(4) and Rule 3.1.3.
CORRECTIVE ACTIONS: By the corrective action due date, the operator shall submit a Revision to update and clarify the schedule for completing reclamation activities at the site. The expectation is that all required earthwork, spillway installation, and initial seeding of reservoirs 3, 4, and 5 will be completed within one year in accordance with the approved reclamation plan.
CORRECTIVE ACTION DUE DATE: 8/11/25

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 the reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) of the Act.
CORRECTIVE ACTIONS: Enclosed is the reclamation cost estimate, by the corrective action due date, please submit any questions you have regarding the estimate to the Division. After the corrective action due date, the Division may send a separate surety increase notice to the operator regarding the required increase of the financial warranty. The operator will have 60 days from the date on the surety increase notice to post the additional financial warranty.

CORRECTIVE ACTION DUE DATE: 7/25/25

OBSERVATIONS

The Bernhardt Resource mine was inspected by Nikie Gagnon, representing the Division of Reclamation, Mining and Safety (Division), as part of the Division's normal monitoring inspection program. Due to concerns over compliance with the approved permit conditions, the Division conducted two inspections of the site. The first inspection was conducted on March 20, 2025, after which, additional file and site review was necessary. Based on a review of Google imagery and the permit file, the Division was concerned that the operator may be impacting land outside the permit area and conducted a follow-up inspection on June 20, 2025. Joel Bolduc, representing BURNCO (Operator), accompanied the Division for both inspections. Bo Woodcock, representing the landowner, accompanied the Division and Operator during the second inspection.

General Mine Plan Compliance:
The Bernhardt operation permit area is 291.64 acres. The site was mined in 5 phases, leaving four slurry walled reservoirs which will be operated by the Central Colorado Water Conservancy post mining. The Big Thompson River bisects the site, flowing from west to east. Portions of the mining areas are within the floodplain of the river. Mining Cells 1-4 are on the south side of the river and Cell 5 is on the north side. The post mining land use is developed water resources surrounded by upland pasture. A mine sign was posted at the entrance to the site, as required by Rule 3.1.12(1).

Mining of cells 1, 3, 4, and 5 is complete. Cell 2 is currently being mined. Slurry walls are installed around all four reservoirs (Cells 2-5). White plastic markers were observed marking the edge of the slurry walls. According to the 2025 Substitute Water Supply Plan, reservoirs 2, 3 and 4 have final approval from the Division of Water Resources (DWR) to operate as reservoirs. The liners around Cells 3 & 4 were damaged in a rain event in May 2023. Repairs were completed and the new liners were approved on September 4, 2024. The liner around Cell 5 was provisionally approved by DWR in 2019. Central Colorado Water Conservancy is currently storing water in Cells 3 and 4.

Cell 1 was mined first and is utilized as a freshwater pond and silt storage area for the mining operation. Once mining is complete, Cell 1 will be backfilled and graded to the pre-existing grade. Silt storage piles were observed in this area.

Active mining was observed in Cell 2. The approved mining plan depicts Cell 2 split into two reservoirs due to overhead powerlines and an oil and gas well. The well has been shut in and the power lines have been abandoned and removed. The operator is mining Cell 2 as one large reservoir. **As stated above, BURNCO will need to submit a revision to update the mining and reclamation plans to show the final configuration of Cell 2.**

Mining is complete in Cells 3 and 4. During this inspection, the Division observed water stored in Cells 3 and 4. The reservoir slopes have been graded to 3H:1V or shallower above the water line, however vegetation is not established on the slopes or around the perimeters to stabilize the shoreline and control erosion. Bare ground and annual weeds were observed around the reservoirs and wave cutting of the reservoir slopes was noted in a few spots. A spillway is installed in the northwest corner of Cell 3, consistent with the approved plan. The reclamation map shows a spillway on the north side of Cell 4. The Cell 4 spillway will need to be installed in the approved location. The remaining reclamation tasks (topsoiling and seeding) around both reservoirs must be

completed by the Operator will all reasonable diligence. Additionally, the Division observed a backfilled slope in the southeast corner of the permit area, adjacent to Cell 4. The operator will need to finish grading the slope to 3H:1V and revegetate it to prevent erosion.

On the north side of the river, mining of Cell 5 is complete, and the slopes have been graded to 3H:1V. Topsoiling and seeding have not been completed in this area and two spillways depicted on the reclamation map need to be installed in the southeast and northwest corners. The original mine plan depicted an oil and gas well on the north side of Cell 5. This well was abandoned and removed and the pad has been mined out. **As stated above, BURNCO will need to submit a revision to update the mining and reclamation plans to show the final configuration of Cell 5.**

Offsite Impact

During the March inspection, the Division observed a large stockpile area on the west end of Cell 5. Processing equipment was in use and trucks were observed entering and leaving this area. Mr. Bolduc stated the stockpile is overburden removed from Cell 5 and the landowner is mixing manure from his cattle operation with the overburden and generating growth medium and selling it. The material will also be used for future reclamation of the site. During a review of the permit file and Google Imagery, the Division determined the approved mine plan does not depict a stockpile area in the floodplain adjacent to Cell 5. Also, it was found that the overburden stockpile may be outside the permit and affected land boundary. Therefore, the Division conducted a 2nd inspection on June 20, 2025, to delineate the overburden stockpile and determined that the northwest corner of the pile, approximately 0.62 acre, is outside the permit boundary. **As stated above, this a possible violation at this time pursuant to C.R.S. 34-32.5-116(4)(i) for failure to protect areas outside of the affected land from slides or damages occurring during the mining operation.**

Hydrologic Balance

As discussed above, the stockpile north of Cell 5 is within the floodplain of the Big Thompson River. During the inspection, the Division observed sedimentation and erosion channels leading to the river on the south side of the overburden stockpile (Photos 24-27). The approved mining plan states that silt fence and hay bale dams will be installed to prevent erosion. When asked about floodplain protection requirements, Mr. Bolduc informed the Division that BURNCO does not have a current floodplain permit from the Town of Milliken for this site. **As stated above, this is a possible violation at this time pursuant to C.R.S. 34-32.5-124 for failure to comply with the conditions of the permit or regulation, and C.R.S. 34-32.5-116(4)(h) and (j) for disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quality of surface water and failing to effectively control erosion around the overburden pile.** Following the inspection, on June 30, 2025, the operator submitted photos showing grading of the stockpile area and berm construction to prevent stormwater from flowing into the river (Photos 28-29).

Topsoil

According to the approved reclamation plan, topsoil will be removed and segregated from other spoil and stored in places and configurations to minimize erosion and disturbance. In accordance with the approved reclamation plan, topsoil is required to be placed uniformly and spread on all areas disturbed by mining and around the perimeter of the reservoirs above the waterline. The approved minimum thickness of topsoil to be replaced is 6 inches above the finished grade. Topsoil not needed for reclamation was approved to be sold. During the inspection, the Division did not observe any topsoil salvaged and stored on site or placed above the water line or around the perimeters of mining Cells 3, 4, and 5. According to Mr. Woodcock, all the topsoil was sold by the previous operator of the mine. Mr. Bolduc stated that BURNCO has an agreement with the

landowner to purchase the overburden/manure mixture to use as a growth medium for reclamation of the site. **As stated above, this is a possible violation pursuant to C.R.S. 34-32.5-124 for failure to comply with the condition of a permit and C.R.S. 34-32.5-116(4) for failure to implement the approved reclamation plan. Additionally, the Division revised the reclamation bond estimate to include purchasing and hauling of topsoil for reclamation (see Problem #4).**

Reclamation Plan Compliance:
According to the approved reclamation plan, all upland areas will be backfilled and graded to existing grade of approximately 0.2 to 2%, with a 0.5% slope towards the northwest/Big Thompson River within the floodplain. Upland areas will be topsoiled and seeded. The mined cells will be graded to 3H:1V slopes on the reclaimed water reservoirs. The conveyor corridor will be reclaimed as upland. The perimeters of the reservoirs will be topsoiled and seeded above the waterline. Reclamation will be completed with reasonable diligence, within one to two years from completion of mining, but not more than five years from the date the Operator informs the Board or Office that such phase has commenced.

Based on a review of the permit file and observations during this inspection, reclamation at the site stalled after the approval of Amendment 1 in 2019. At that time, the Operator stated that, "reclamation is ongoing across the site. Cell 3 was mined out and actively being reclaimed and Cell 4 would be mined out within a year and reclaimed, and Cell 5 would be mined after Cell 4. Reclamation takes approximately one year." The Division reminds BURNCO of this commitment to carry out reclamation tasks with reasonable diligence once mining is complete. **As stated above, by the corrective action due date, the operator shall submit a Revision to update and clarify the schedule for completing reclamation activities at the site. During the inspections, the Division observed that mining is complete in Cells 3, 4, and 5, therefore, the expectation is that all required earthwork, spillway installation, and initial seeding will be completed within one year in accordance with the approved reclamation plan.**

Financial Warranty
The Division holds a $2,557,725.00 corporate surety for the site. The financial warranty was last reviewed in 2019 for Amendment 1. After the inspections, the Division estimated the reclamation liability at the site to be $2,869,171 which is $311,446.00 more than the currently held financial warranty. **As noted in Problem #3 above, 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 July 25, 2025.** The Division may issue a surety increase notice after July 25, 2025. In accordance with Rule 4.2.1(2), BURNCO 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 720-527-1640 or by email at nikie.gagnon@state.co.us.

Photographs from the March 20, 2025 Inspection

Photo 1: Looking northeast across Cell 5.

Photo 2: Looking across the northwest corner of Cell 5. Processing equipment observed in a stockpile area adjacent to Cell 5 (red arrow).

Photo 3: Looking west across Cell 4.

Photo 4: Graded unvegetated area on the east side of Cell 4.

Photo 5: Looking at unvegetated reservoir perimeter slopes on Cell 4.

Photo 6: Rip rap placed on the east side of Cell 4. This is not on the approved reclamation plan.

Photo 7: Looking at steep unvegetated slope in the southwest corner of Cell 4.

Photo 8: Looking across Cell 3 from the center of the south side of the permit area. No vegetation observed around the perimeter of the reservoir.

Photo 9: Northwest corner of Cell 3. Spillway is installed in the corner adjacent to the river (red arrow).

Photo 10: Looking south across Cell 2 in the active mining area.

Photo 11: Slurry wall marker adjacent to Cell 2.

Photo 12: Looking west across the Cell 1 silt storage area.

Photo 13: Looking southwest across Cell 2. Abandoned gas well to be cut down in the center (red arrow).

Photo 14: Stockpiles in the southeast corner of Cell 2 area, near the entrance to the mine site.

Photo 15: Processing equipment storage area between Cells 1 and 3.

Photo 16: Concrete pads associated with the former aggregate plant between Cells 1 and 3.

Photo 17: Mine sign observed at the entrance to the stockpile area adjacent to Cell 2.

Photographs from follow-up June 20, 2025 Inspection

Photo 18: Looking at the overburden stockpile adjacent to Cell 5.

Photo 19: Road around the south side of the permit area. Arrow points to stormwater path to the river.

Photo 20: Sedimentation along the stormwater path between the stockpile and the river.

Photo 21: Sediment piles and cement blocks on the south side of the overburden pile, adjacent the Big Thompson River.

Photo 22: Tire installed adjacent to the river to catch sediment.

Photo 23: West end of the of the overburden stockpile in the floodplain.

Photo 24: Looking at the northwest corner of the overburden stockpile where it extends outside the permit boundary.

Photo 25: Standing on the top of the overburden stockpile on the northern boundary of the permit area, west of Cell 5. Red arrows point to material placed outside the permit boundary.

Photo 26: Looking east across the processing area and Cell 5 from the top of the stockpile.

Photographs received from the Operator on 6/30/2025

Photo 27: Landowner installed a berm and graded the southwest side of the stockpile to prevent sediment from flowing to the river.

Photo 28: South side of the stockpile, adjacent to the processing area. The Landowner installed a berm and graded the base of the pile towards the pit to prevent sediment from flowing to the river.

Figure 1: View of the Bernhardt permit area. The yellow line is the permit boundary. The orange outline on the northern boundary is the overburden stockpile area within the floodplain. Google Imagery dated March 3, 2025.

Figure 2: Close up view of the stockpile area adjacent to Cell 5 (orange outline). The portion of the stockpile that is outside of the permit boundary is shaded. The yellow line is the northern permit boundary.
Google Imagery dated March 3, 2025.

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-------- PB**	**(RD) ROADS---------- N**
(HB) HYDROLOGIC BALANCE---------- PV	**(BG) BACKFILL & GRADING---------- Y**	**(EX) EXPLOSIVES--------- N**
(PW) PROCESSING WASTE/TAILING---- N	**(SF) PROCESSING FACILITIES------- N**	**(TS) TOPSOIL---------- PV**
(MP) GENL MINE PLAN COMPLIANCE- PB	**(FW) FISH & WILDLIFE---------- N**	**(RV) REVEGETATION---- Y**
(SM) SIGNS AND MARKERS---------- N	**(SP) STORM WATER MGT PLAN---- N**	**(RS) RECL PLAN/COMP-- PB**
(ES) OVERBURDEN/DEV. WASTE--------- N	**(SC) EROSION/SEDIMENTATION--- Y**	**(ST) STIPULATIONS------- N**
(AT) ACID OR TOXIC MATERIALS------- N	**(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
Joel Bolduc
BURNCO Colorado, LLC
10100 Dallas St
Henderson, CO 80640

Enclosure: Reclamation Cost Estimate 2025

CC: Jared Ebert, DRMS

COST SUMMARY WORK

Task description: **Reclamation Cost Estimate**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M120-000
User: NCG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill Settling Pond 5 acres/10 feet deep	DOZER	2	812.46	$524,953
003	Serge Piles into settling pond	DOZER	2	11.36	$5,136
004	Remove 15cy concrete wash plant pad (op est)	NA	1	8.00	$975
005	Demo and remove shop (op est)	NA	1	8.00	$2,000
006	Remove 8cy concrete office footings (op est)	NA	1	8.00	$520
007	Remove 10cy concrete scale base (op est)	NA	1	8.00	$650
008	Reveg Processing Area 11 ac.	REVEGE	1	11.00	$26,986
009	Remove and reclaim conveyor corridor (op est)	NA	1	8.00	$15,000
010	Reveg Settling Pond, AM01 area, Shorelines 37 ac	REVEGE	1	37.00	$86,049
011	Mob/Demob	MOBILIZE	1	9.28	$24,114
012	Slurry Wall Reservoir 2 (40' x 6257' @ $5 sq/ft 20%)	NA	1	8.00	$250,280
013	Slurry Wall Reservoir 3 (40' x 4032' @ $5 sq/ft 20%)	NA	1	8.00	$161,280
014	Slurry Wall Reservoir 4 (40' x 3550' @ $5 sq/ft 20%)	NA	1	8.00	$142,000
015	Slurry Wall Reservoir 5 (40' x 5086 @$5 sq/ft 20%)	NA	1	8.00	$191,234
016	Spillway Res 4 - op est haul, place, type II bedding	NA	1	16.00	$134,211
017	Spillways Res 5 (2) op est haul, place, type II bedding	NA	1	16.00	$264,272
018	Spread 6" Topsoil processing area 11 ac.	SCRAPER1	1	7.10	$16,132
018a	Spread 6" Topsoil perimeter, setting pond, shorelines 37 ac.	SCRAPER1	1	23.87	$54,261
019	Purchase and Haul Topsoil	TRUCK1	1	65.63	$297,144
			SUBTOTALS:	**1081.7**	**$2,197,197**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$44,383
Performance bond:	1.05	Total =	$23,071
Job superintendent:	540.85	Total =	$40,634
Profit:	10.00	Total =	$219,720
		TOTAL O & P =	$327,808
		CONTRACT AMOUNT (direct + O & P) =	$2,525,005

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$500	Total =	$500
Engineering work and/or contract/bid preparation:	6.00	Total =	$151,500
Reclamation management and/or administration:	5.00		$126,250
CONTINGENCY:	3.00	Total =	$65,916
		TOTAL INDIRECT COST =	$671,974
		TOTAL BOND AMOUNT (direct + indirect) =	**$2,869,171**

BULLDOZER WORK

Task description: **Backfill Settling Pond 5 acres/10 feet deep**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M120-001
User: NCG

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:	$39.46	NA

Total unit Cost/Hour: $329.51
Total Fleet Cost/Hour: **$659.02**

MATERIAL QUANTITIES

Initial Volume: 81,000
Swell factor: 1.125
Loose volume: **91,125** LCY

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

HOURLY PRODUCTION

Average push distance: 500 feet
Unadjusted hourly production: 129.7 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
Average site altitude: 4,730 feet

Material weight: 2,550 lbs/LCY

Weight description: Earth - Dry packed

Job Condition Correction Factor Source

Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4324

Adjusted unit production: 56.08 LCY/hr

Adjusted fleet production: **112.16** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $5.876/LCY

Total job time: **812.46** Hours
Total job cost: **$535,424**

BULLDOZER WORK

Task description: **Serge silt piles into settling pond**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M120-003
User: NCG

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:	$39.46	NA

Total unit Cost/Hour: $329.51
Total Fleet Cost/Hour: **$659.02**

MATERIAL QUANTITIES

Initial Volume: 1,000
Swell factor: 1.000
Loose volume: **1,000** LCY

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

HOURLY PRODUCTION

Average push distance: 500 feet
Unadjusted hourly production: 129.7 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
Average site altitude: 4,730 feet

Material weight: 3,250 lbs/LCY

Weight description: Gravel - Pitrun

Job Condition Correction Factor Source

Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.708	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3394

Adjusted unit production: 44.02 LCY/hr

Adjusted fleet production: **88.04** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)
Unit cost: $7.485/LCY

Total job time: **11.36** Hours
Total job cost: **$7,485**

REVEGETATION WORK

Task description: **Reveg Processing Area 11 ac.**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M2002120
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
Subsoil scarification, (MEANS 32 91 13.23 3100)	$250.91
Weed control spraying (MEANS 31 31 16.13 3100)	$338.80
Total Tilling Cost/Acre	**$589.71**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indiangrass - Cheyenne	0.50	1.52	$6.30
Indian Ricegrass - Nespar	3.00	9.71	$52.90
Switchgrass - Blackwell	1.50	13.40	$20.30
Sand Lovegrass - Bend	2.50	86.09	$44.58
Little Bluestem - Cimarron	0.75	4.48	$10.41
Sand Dropseed	0.50	59.69	$6.66
Sand Bluestem - Garden Co.	1.00	2.59	$24.81
Needlegrass, Green - Lodorm	1.50	6.23	$13.28
Prairie Sandreed - Goshen	0.75	4.70	$13.07

Totals Seed Mix	12.00	188.41	**$192.32**

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
Total Mulch Application Cost/Acre	**$239.35**

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: 11 Cost /Acre: $2,272.80
Estimated Failure Rate: 25% Cost /Acre*: $1,683.09
*Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: **$25,000.80**
Reseeding Job Cost: **$4,628.50**
Total Job Cost: **$29,629**
Job Hours: **11.00**

REVEGETATION WORK

Task description: **Reveg Settling Pond, AM01 area, Shorelines 37 ac**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 010 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M120-010
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
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
Indiangrass - Cheyenne	0.50	1.52	$6.30
Indian Ricegrass - Nespar	3.00	9.71	$52.90
Switchgrass - Blackwell	1.50	13.40	$20.30
Sand Lovegrass - Bend	2.50	86.09	$44.58
Little Bluestem - Cimarron	0.75	4.48	$10.41
Sand Dropseed	0.50	59.69	$6.66
Sand Bluestem - Garden Co.	1.00	2.59	$24.81
Needlegrass, Green - Lodorm	1.50	6.23	$13.28
Prairie Sandreed - Goshen	0.75	4.70	$13.07

Totals Seed Mix	12.00	188.41	**$192.32**

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
Total Mulch Application Cost/Acre	**$239.35**

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: 37
Estimated Failure Rate: 25%
*Selected Replanting Work Items: SEEDING,MULCHING

Cost /Acre: $2,136.02
Cost /Acre*: $1,683.09

Initial Job Cost: **$79,032.74**
Reseeding Job Cost: **$15,568.58**
Total Job Cost: **$94,601**
Job Hours: **37.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 011 State: Colorado Abbreviation: None
Date: 3/19/2025 County: Weld Filename: M120-011
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:	$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	2	$645.60	$286.40	$500.00
Drill/Broadcast Seeder with Tractor	25.00	$5.99	$75.46	1	$81.45	$75.46	$250.00
Water Tanker, 5,000 Gal.	15.00	$53.71	$75.46	1	$129.17	$75.46	$250.00
Cat 637G w/push-pull	59.59	$285.51	$159.59	2	$890.20	$319.18	$500.00
CAT 14M	23.57	$107.85	$75.46	1	$183.31	$75.46	$250.00
CAT 972H	28.00	$65.96	$143.20	2	$418.32	$286.40	$500.00
Subtotals:					**$2,348.05**	**$1,118.36**	**$2,250.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	$31.11	1	$31.11	$31.11
Generic 12-18 cy, 6x4	$111.61	2	$223.22	$223.22
Subtotals:			**$254.33**	**$254.33**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GREELEY	
Total one-way travel distance:	16.00	miles
Average Travel Speed:	50.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$25,502.90
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$162.77

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.32	0.32
Return Time (Hours):	0.32	0.32
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	2.00	NA
Subtotals:	4.64	0.64

JOB TIME AND COST

Total job time:	**9.28**	Hours
Total job cost:	**$25,666**	

SCRAPER TEAM WORK

Task description: **Spread 6" Topsoil processing area 11 ac.**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 018 State: Colorado Abbreviation: None
Date: 6/18/2025 County: Weld Filename: M120-018
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	25	100
Ownership cost/hour:	$285.51	$179.60	$179.60	NA	$101.88	$53.71
Operating cost/hour:	$313.00	$110.45	$110.45	NA	$18.29	$48.32
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	NA	$0.00	$0.00
Operator cost/hour:	$59.78	$39.46	$39.46	NA	$58.07	$0.00
Unit Subtotals:	$658.29	$329.51	$329.51	NA	$178.24	$102.03
Number of Units:	2	1	1	0	1	1
Group Subtotals:	Work:	$1,646.09	Support:	$329.51	Maint:	$280.27

Total work team cost/hour: **$2,255.87**

MATERIAL QUANTITIES

Initial volume: 8,873 CCY Swell factor: 1.000
Loose volume: **8,873** LCY

Source of estimated volume: Amendment 1 Cost Estimate
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: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 4730 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	0.00	3.00	3.00	2800	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	0.00	3.00	3.00	2949	0.32

Return Time: **0.32** minutes

Total Scraper team cycle time: **2.31** minutes
Adjusted for job conditions: 1,250.39 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,250.39 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,250.39** LCY/Hour

Unadjusted unit production/hour: 1,506.49 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **7.10** Hours

Unit cost: $1.804 /LCY Total job cost: **$16,009**

SCRAPER TEAM WORK

Task description: **Spread 6" Topsoil perimeter, setting pond, shorelines 37 ac.**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 018A State: Colorado Abbreviation: None
Date: 6/18/2025 County: Weld Filename: M120-018a
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 637G w/push-pull
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	NA	25	100
Ownership cost/hour:	$285.51	$179.60	$179.60	NA	$101.88	$53.71
Operating cost/hour:	$313.00	$110.45	$110.45	NA	$18.29	$48.32
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	NA	$0.00	$0.00
Operator cost/hour:	$59.78	$39.46	$39.46	NA	$58.07	$0.00
Unit Subtotals:	$658.29	$329.51	$329.51	NA	$178.24	$102.03
Number of Units:	2	1	1	0	1	1
Group Subtotals:	Work:	$1,646.09	Support:	$329.51	Maint:	$280.27

Total work team cost/hour: **$2,255.87**

MATERIAL QUANTITIES

Initial volume: 29,846 CCY Swell factor: 1.000
Loose volume: **29,846** LCY

Source of estimated volume: Amendment 1 Cost Estimate
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: 1.00 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 4730 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	0.00	3.00	3.00	2800	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	0.00	3.00	3.00	2949	0.32

Return Time: **0.32** minutes

Total Scraper team cycle time: **2.31** minutes
Adjusted for job conditions: 1,250.39 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 1,250.39 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **1,250.39** LCY/Hour

Unadjusted unit production/hour: 1,506.49 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **23.87** Hours

Unit cost: $1.804 /LCY Total job cost: **$53,846**

TRUCK/LOADER TEAM WORK

Task description: **Purchase and Haul Topsoil**

Site: **Bernhardt Resource** Permit Action: 2025 Inspection Permit/Job#: M2002120

PROJECT IDENTIFICATION

Task #: 019 State: Colorado Abbreviation: None
Date: 6/18/2025 County: Weld Filename: M120-019
User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 12-18 cy, 6x4
-Loader:	CAT 972H
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	100	100	NA	100
Ownership cost/hour:	$28.52	$65.96	$179.60	$179.60	NA	$53.71
Operating cost/hour:	$58.59	$60.89	$110.45	$110.45	NA	$48.32
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	$0.00	$0.00	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	$0.00	$0.00	NA	$0.00
Operator cost/hour:	$24.50	$59.52	$39.46	$39.46	NA	$0.00
Unit Subtotals:	$111.61	$186.37	$329.51	$329.51	NA	$102.03
Number of Units:	2	1	1	1	0	1
Group Subtotals:	Work:	$409.59	Support:	$659.02	Maint:	$102.03

Total work team cost/hour: **$1,170.64**

MATERIAL QUANTITIES

Initial volume: 36,720 CCY Swell factor: 1.000
Loose volume: **36,720** LCY

Source of estimated volume: Amendment 1 Cost Estimate
Source of estimated swell factor: Cat Handbook
Material Purchase Cost: $6.00
Total Cost: $220,320.00

HOURLY PRODUCTION

Truck Capacity:

Truck Payload (weight) Basis:

Material weight: 1,600 Pounds/LCY
Description: Top Soil
Rated Payload: 50,300 Pounds

Payload Capacity: 31.44 LCY

Truck Bed (volume) Basis:

Struck Volume:	12.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	15.00	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: **17.64** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.600	LCY (heaped)
Bucket Fill Factor:	1.050	Moist loam or sandy clay (100% - 110%) 1.050
Adjusted Capacity:	**5.880**	LCY

Job Condition Corrections: Site Altitude (ft.): 4730 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	**0.830**	**0.830**	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
Selected Value within this Basic Rating: NA

Track Loaders – Material Description:

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.525 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.040	minutes
	Adjusted Loader Cycle Time:	**0.485**	minutes
	Net Load Time per Truck:	**1.070**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.070	Minutes	Adjusted for site altitude:	1.070	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) 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	0.00	3.00	3.00	2824	0.338

Haul Time: **0.338** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2874	0.209

Return Time: **0.209** minutes
Total Truck Cycle Time: **3.017** minutes

Loading Tool unit Production 674.14 LCY/Hour Adjusted for job efficiency: 559.54 LCY/Hour

Truck Unit Production 350.81 LCY/Hour Adjusted for job efficiency: 291.17 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 582.35 LCY/Hour
Adjusted single truck/loader team production: 559.54 LCY/Hour
Adjusted multiple truck/loader team production: **559.54** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **65.63** Hours

Unit cost: $2.092 /LCY Total job cost: **$297,144**