

STATE OF
COLORADO

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

Re: Walstrum Quarry M1983033 Inspection Report and Cost Estimate

1 message

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

Wed, Jan 29, 2025 at 12:39 PM

To: Phillip Courtney <Phillip.Courtney@martinmarietta.com>

Cc: Julie Mikulas <Julie.Mikulas@martinmarietta.com>, Sara Stevenson-Benn - DNR <sara.stevenson-benn@state.co.us>

Hello.

Please see the attached Notice of Surety Increase from the Division for the Walstrum Quarry - File No. M-1983-033.
Please make arrangements to submit the financial warranty within 60 days.

Let me know 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>On Mon, Jan 13, 2025 at 7:50 AM Phillip Courtney <Phillip.Courtney@martinmarietta.com> wrote:

Received, thank you, Nikie. I will review the bond estimate and let you know if we have any questions.

Regards, Phil

Phillip Courtney

Land Manager | West Division

Martin Marietta

1627 Cole Boulevard, Suite 200, Lakewood, CO, 80401

t. (720) 612-6232 m. (303) 902-0964

e. phillip.courtney@martinmarietta.comwww.martinmarietta.com

From: Gagnon - DNR, Nikie <nikie.gagnon@state.co.us>
Sent: Sunday, January 12, 2025 8:22 PM
To: Phillip Courtney <Phillip.Courtney@martinmarietta.com>
Cc: Julie Mikulas <Julie.Mikulas@martinmarietta.com>
Subject: Walstrum Quarry M1983033 Inspection Report and Cost Estimate

EXTERNAL SENDER – PLEASE ASSESS AND VERIFY

Hi Phil.

Please see the attached inspection report for the November 2024 inspection of the Walstrum Quarry. No problems requiring abatement were observed during the inspection.

As part of our routine monitoring and review of permits, the Division recalculated the bond for the site. Please see the attached bond estimate which shows the estimated reclamation liability for the site is \$1,533,035.00, which is an increase of \$433,035.00. Please review the estimate and reach out to me if you have any questions or concerns on the new amount. A notice of surety increase will be sent after January 27, 2025.

Kind regards,

Nikie Gagnon

Environmental Protection Specialist



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M1983033_Walstrum Quarry_Surety Increase_2024 RCE.pdf
581K



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

January 29, 2025

Phillip Cortney
Albert Frei & Sons Inc.
1627 Cole Boulevard, Suite 200
Lakewood, CO 80401, CO 80401

**Re: Walstrum Quarry - File No. M-1983-033, Albert Frei & Sons Inc.
Surety Increase (SI 1) 2024 Reclamation Cost Estimate**

Dear Phillip Cortney:

On January 29, 2025 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to \$1,533,035.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of \$433,035.00. Please see the November 14, 2024 inspection report for details regarding why this surety increase is required.

On January 29, 2025, the Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days.

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 918-5415, or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit if the amount of any increased Financial Warranty has not been provided by March 30, 2025.

If you have any questions, please contact me by telephone at (720) 527-1640, or by email at nikie.gagnon@state.co.us.

Sincerely,

Nikie Gagnon
Environmental Protection Specialist

Enclosure: 2024 Reclamation Cost Estimate

cc: Sara M. Stevenson-Benn, DRMS
Jared Ebert, Senior EPS, DRMS



COST SUMMARY WORK

Task description: 2024 Bond Estimate

Site: Walstrum Quarry

Permit Action: 2024 Inspection

Permit/Job#: M1983033

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 1/12/2025

County: Clear Creek

Filename: M033-000

User: NCG

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
IY1	Stages I & Y Revegetation	REVEGE	1	80.00	\$755,516
IY2	Stages I & Y Replace Topsoil	LOADER	1	368.08	\$98,730
IY3	Stages I & Y Bench Construction	DOZER	2	77.01	\$74,607
IY4	Stages I & Y Talus Sloping	DOZER	2	176.62	\$171,095
IY5	Stages I & Y Grading and Shaping	GRADER	1	81.55	\$13,205
JM1	Stage J & Misc. Revegetation	REVEGE	1	80.00	\$43,826
JM2	Stage J & Misc. Replace Topsoil	LOADER	1	43.86	\$11,766
JM5	Stage J & Misc. Grading and Shaping	GRADER	1	50.63	\$8,199
JM6	Concrete Demo	SITEMAINT ENANCE	1	40.00	\$29,145
JM7	Scrap Removal	SITEMAINT ENANCE	1	40.00	\$9,450
<u>SUBTOTALS:</u>				1037.75	\$1,215,539

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$24,554

Performance bond: 0.00

Total = \$0

Job superintendent: 518.87

Total = \$41,131

Profit: 10.00

Total = \$121,554

TOTAL O & P = \$187,239

CONTRACT AMOUNT (direct + O & P) = \$1,402,778

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$500

Total = \$500

Engineering work and/or contract/bid preparation: 4.25

Total = \$59,618

Reclamation management and/or administration: 5.00

\$70,139

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$317,496

TOTAL BOND AMOUNT (direct + indirect) = \$1,533,035

REVEGETATION WORKTask description: Stages I & Y RevegetationSite: Walstrum QuarryPermit Action: 2024 InspectionPermit/Job#: M1983033**PROJECT IDENTIFICATION**Task #: IY1State: ColoradoAbbreviation: NoneDate: 1/12/2025County: Clear CreekFilename: M033-IY1User: NCGAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
0-20-20, 4-8-12, 10-10-10	1.00	pound	\$0.64	\$0.64
			Total Fertilizer Materials Cost/Acre	\$0.64

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$278.78
Total Fertilizer Application Cost/Acre	\$278.78

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	11.90	194.24	\$253.77
Indian Ricegrass - Native	4.08	13.21	\$70.55
Sand Dropseed	6.60	787.88	\$85.86
Canada Wildrye	3.30	8.71	\$33.76
Sandberg Bluegrass - VNS	9.90	210.23	\$143.02
Currant, Wax	1.30	4.48	\$90.17
Slender Wheatgrass - Native	6.60	24.09	\$46.63
Mahogany, Mountain	1.30	1.76	\$131.23
Western Wheatgrass - Barton	9.90	25.00	\$93.02
Rose, Wood's	1.30	0.00	\$69.39
Sage, Fringed	0.70	58.50	\$69.46

Prairie Junegrass	3.30	175.41	\$160.85
Flax, Lewis Blue	1.30	8.62	\$54.99
Penstemon, Rocky Mountain	1.30	20.38	\$79.84
Yarrow, Western	0.70	42.56	\$33.77
Totals Seed Mix	63.48	1,575.06	\$1,416.29

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,359.07
Total Seed Application Cost/Acre	\$1,359.07

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Tordon 22K @ 1.0 pt/ac	1.00	ACRE	\$11.80	\$11.80
Jute mesh #2, stapled (MEANS 31 25 14.16 0300)	1.00	ACRE	\$2,758.80	\$2,758.80
Total Mulch Materials Cost/Acre				\$2,770.60

Application

Description	Cost /Acre
Jute mesh #2 (MEANS 31 25 14.16 0300)	\$2,323.20
Weed spray, hand, non-aquatic area, nox. [DMG]	\$209.61
Weed spray, hand, non-aquatic areas, ann. [DMG]	\$136.48
Total Mulch Application Cost/Acre	\$2,669.29

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:	79.3	Cost /Acre:	\$8,833.47
Estimated Failure Rate:	25%	Cost /Acre*:	\$2,775.36
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$700,494.17		
Reseeding Job Cost:	\$55,021.51		
Total Job Cost:	\$755,516		
Job Hours:	80.00		

REVEGETATION WORKTask description: Stage J & Misc. RevegetationSite: Walstrum QuarryPermit Action: 2024 InspectionPermit/Job#: M1983033**PROJECT IDENTIFICATION**Task #: JM1State: ColoradoAbbreviation: NoneDate: 1/12/2025County: Clear CreekFilename: M033-JM1User: NCGAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
0-20-20, 4-8-12, 10-10-10	1.00	pound	\$0.64	\$0.64
			Total Fertilizer Materials Cost/Acre	\$0.64

Application

Description	Cost /Acre
Hydro spreader (MEANS 32 01 90.13 0180)	\$278.78
Total Fertilizer Application Cost/Acre	\$278.78

TILLING

Description	Cost /Acre
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$338.80

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	11.90	194.24	\$253.77
Indian Ricegrass - Native	4.08	13.21	\$70.55
Sand Dropseed	6.60	787.88	\$85.86
Canada Wildrye	3.30	8.71	\$33.76
Sandberg Bluegrass - VNS	9.90	210.23	\$143.02
Currant, Wax	1.30	4.48	\$90.17
Slender Wheatgrass - Native	6.60	24.09	\$46.63
Mahogany, Mountain	1.30	1.76	\$131.23
Western Wheatgrass - Barton	9.90	25.00	\$93.02
Rose, Wood's	1.30	0.00	\$69.39
Sage, Fringed	0.70	58.50	\$69.46

Prairie Junegrass	3.30	175.41	\$160.85
Flax, Lewis Blue	1.30	8.62	\$54.99
Penstemon, Rocky Mountain	1.30	20.38	\$79.84
Yarrow, Western	0.70	42.56	\$33.77
Totals Seed Mix	63.48	1,575.06	\$1,416.29

Application

Description	Cost /Acre
Hydro seeding (MEANS 32 92 19.14 0200)	\$1,359.07
Total Seed Application Cost/Acre	\$1,359.07

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Herbicide - Tordon 22K @ 1.0 pt/ac	1.00	ACRE	\$11.80	\$11.80
Jute mesh #2, stapled (MEANS 31 25 14.16 0300)	1.00	ACRE	\$2,758.80	\$2,758.80
Total Mulch Materials Cost/Acre				\$2,770.60

Application

Description	Cost /Acre
Jute mesh #2 (MEANS 31 25 14.16 0300)	\$2,323.20
Weed spray, hand, non-aquatic area, nox. [DMG]	\$209.61
Weed spray, hand, non-aquatic areas, ann. [DMG]	\$136.48
Total Mulch Application Cost/Acre	\$2,669.29

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:	4.6	Cost /Acre:	\$8,833.47
Estimated Failure Rate:	25%	Cost /Acre*:	\$2,775.36
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$40,633.96		
Reseeding Job Cost:	\$3,191.66		
Total Job Cost:	\$43,826		
Job Hours:	80.00		

WHEEL LOADER – LOAD AND CARRY WORKTask description: Stages I & Y Replace TopsoilSite: Walstrum QuarryPermit Action: 2024 InspectionPermit/Job#: M1983033**PROJECT IDENTIFICATION**Task #: IY2State: ColoradoAbbreviation: NoneDate: 1/12/2025County: Clear CreekFilename: M033-IY2User: NCGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 988HAttachment 1: ROPS CabHorsepower: 475Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$131.26	NA
Operating Cost/Hour:	\$100.12	100
Operator Cost/Hour:	\$36.85	NA
Total Unit Cost/Hour:	\$268.23	
Total Fleet Cost/Hour:	\$268.23	

MATERIAL QUANTITIESInitial volume: 93,412

CCY

Swell factor: 1.000Loose volume: 93,412

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.575 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(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:		-0.060	minutes
Adjusted Basic Cycle Time:		0.515	minutes

Rolling Resistance – Road ConditionsHaul: Hard, smooth, stabilized, surfaced, watered, maintained 2.0Return: Hard, smooth, stabilized, surfaced, watered, maintained 2.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	900	5.00	2.00	7.00	0.9002	(Cat HB)
Return Route:	900	-5.00	2.00	-3.00	0.4804	(Cat HB)

Total Travel Time: 1.3806 minutes
 Total Cycle Time: 1.8956 minutes

Load Bucket Capacity

Rated Capacity: 9.20 LCY (heaped)
 Bucket Fill Factor: 1.050 Other - moist loam (100-110%) 1.050
 Adjusted Capacity: 9.66 LCY

Job Condition Correction Factors

Site Altitude: 7220 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Unadjusted Hourly Unit Production: 305.76 LCY/Hour
 Adjusted Hourly Unit Production: 253.78 LCY/Hour
 Adjusted Hourly Fleet Production: 253.78 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 368.08 Hours
 Unit cost: \$1.057 /LCY Total job cost: \$98,730

WHEEL LOADER – LOAD AND CARRY WORKTask description: Stage J & Misc. Replace TopsoilSite: Walstrum QuarryPermit Action: 2024 InspectionPermit/Job#: M1983033**PROJECT IDENTIFICATION**Task #: JM2State: ColoradoAbbreviation: NoneDate: 1/12/2025County: Clear CreekFilename: M033-JM2User: NCGAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 988HAttachment 1: ROPS CabHorsepower: 475Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$131.26	NA
Operating Cost/Hour:	\$100.12	100
Operator Cost/Hour:	\$36.85	NA
Total Unit Cost/Hour:	\$268.23	
Total Fleet Cost/Hour:	\$268.23	

MATERIAL QUANTITIESInitial volume: 11,132

CCY

Swell factor: 1.000Loose volume: 11,132

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.575 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(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:		-0.060	minutes
Adjusted Basic Cycle Time:		0.515	minutes

Rolling Resistance – Road ConditionsHaul: Hard, smooth, stabilized, surfaced, watered, maintained 2.0Return: Hard, smooth, stabilized, surfaced, watered, maintained 2.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	900	5.00	2.00	7.00	0.9002	(Cat HB)
Return Route:	900	-5.00	2.00	-3.00	0.4804	(Cat HB)

Total Travel Time: 1.3806 minutes
 Total Cycle Time: 1.8956 minutes

Load Bucket Capacity

Rated Capacity: 9.20 LCY (heaped)
 Bucket Fill Factor: 1.050 Other - moist loam (100-110%) 1.050
 Adjusted Capacity: 9.66 LCY

Job Condition Correction Factors

Site Altitude: 7220 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Unadjusted Hourly Unit Production: 305.76 LCY/Hour
 Adjusted Hourly Unit Production: 253.78 LCY/Hour
 Adjusted Hourly Fleet Production: 253.78 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 43.86 Hours
 Unit cost: \$1.057 /LCY Total job cost: \$11,766

BULLDOZER WORKTask description: **Stages I & Y Bench Construction**Site: **Walstrum Quarry** Permit Action: **2024 Inspection** Permit/Job#: **M1983033****PROJECT IDENTIFICATION**

Task #:	<u>IY3</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/12/2025</u>	County:	<u>Clear Creek</u>	Filename:	<u>M033-IY3</u>
User:	<u>NCG</u>				

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine:	<u>Cat D9T - 9SU</u>
Horsepower:	<u>405</u>
Blade Type:	<u>Semi-Universal</u>
Attachment:	<u>3-shank ripper</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u>(CRG)</u>

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$253.16</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$164.35</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$18.79</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$9.48</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.59</u>	<u>NA</u>

Total unit Cost/Hour:	<u>\$484.37</u>
Total Fleet Cost/Hour:	<u>\$968.73</u>

MATERIAL QUANTITIES

Initial Volume:	<u>155,063</u>
Swell factor:	<u>1.000</u>
Loose volume:	<u>155,063 LCY</u>

Source of estimated volume:	<u>Division of Reclamation, Mining & Safety</u>
Source of estimated swell factor:	<u>Cat Handbook</u>

HOURLY PRODUCTION

Average push distance:	<u>50 feet</u>
Unadjusted hourly production:	<u>2,110.5 LCY/hr</u>

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

Average push gradient:	<u>0 %</u>
Average site altitude:	<u>7,220 feet</u>

Material weight: 2,800 lbs/LCYWeight description: Granite - Broken

<u>Job Condition Correction Factor</u>	<u>Source</u>
Operator Skill:	<u>1.000 (EXCL.)</u>
Material consistency:	<u>0.700 (CAT HB)</u>
Dozing method:	<u>1.000 (GEN.)</u>
Visibility:	<u>1.000 (AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.821	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4770

Adjusted unit production: 1,006.71 LCY/hr

Adjusted fleet production: **2013.42** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.481/LCY

Total job time: **77.01** Hours

Total job cost: **\$74,607**

BULLDOZER WORKTask description: **Stages I & Y Talus Sloping**Site: **Walstrum Quarry** Permit Action: **2024 Inspection** Permit/Job#: **M1983033****PROJECT IDENTIFICATION**

Task #: **IY4** State: **Colorado** Abbreviation: **None**
 Date: **1/12/2025** County: **Clear Creek** Filename: **M033-IY4**
 User: **NCG**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D9T - 9SU**
 Horsepower: **405**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$253.16	NA
Operating Cost/Hour:	\$164.35	100
Ripper own. Cost/Hour:	\$18.79	NA
Ripper op. Cost/Hour:	\$9.48	100
Operator Cost/Hour:	\$38.59	NA

Total unit Cost/Hour: **\$484.37**
 Total Fleet Cost/Hour: **\$968.73**

MATERIAL QUANTITIES

Initial Volume: **155,063**
 Swell factor: **1.000**
 Loose volume: **155,063 LCY**

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

HOURLY PRODUCTION

Average push distance: **50 feet**
 Unadjusted hourly production: **2,110.5 LCY/hr**

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

Average push gradient: **20 %**
 Average site altitude: **7,220 feet**

Material weight: **2,800 lbs/LCY**Weight description: **Granite - Broken****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	0.700	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	0.800	(POOR)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.821	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2080

Adjusted unit production: 438.98 LCY/hr

Adjusted fleet production: **877.96 LCY/hr**

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$1.103/LCY

Total job time: **176.62 Hours**

Total job cost: **\$171,095**

SITE MAINTENANCE

Task description: Concrete Demo

Site: Walstrum Quarry Permit Action: 2024 Inspection Permit/Job#: M1983033

PROJECT IDENTIFICATION

Task #: JM6 State: Colorado Abbreviation: None
Date: 1/12/2025 County: Clear Creek Filename: M033-JM6
User: NCG

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Concrete Footer Demolition	40.00	Demo. and on-site disposal in existing pit, 1.5 ft. x 3 ft. - Max. 10,000 ft. haul	2,800.00	LF	\$10.41	\$29,144.64

Job Hours: 40.00

Total Cost: \$29,144.64

SITE MAINTENANCE

Task description: Scrap Removal

Site: Walstrum Quarry Permit Action: 2024 Inspection Permit/Job#: M1983033

PROJECT IDENTIFICATION

Task #: JM7 State: Colorado Abbreviation: None
Date: 1/12/2025 County: Clear Creek Filename: M033-JM7
User: NCG

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Scrap Removal	40.00	USER PROVIDED ITEM	35.00		\$270.00	\$9,450.00

Job Hours: 40.00

Total Cost: \$9,450.00

MOTOR GRADER WORK

Task description: Stages I & Y Grading and Shaping

Site: Walstrum Quarry

Permit Action: 2024 Inspection

Permit/Job#: M1983033

PROJECT IDENTIFICATION

Task #: IY5

State: Colorado

Abbreviation: None

Date: 1/12/2025

County: Clear Creek

Filename: M033-IY5

User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 140M

Horsepower: 183

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$77.29	NA
Operating Cost/Hour:	\$56.87	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$161.92	
Total Fleet Cost/Hour:	\$161.92	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 112.10 acres

Source of estimated acreage: Permit Application

HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>10.40</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>8.40</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5273</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 7220 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 1.3745 acres/Hour

Adjusted Hourly Fleet Production: **1.3745** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **81.55** Hours

Unit cost: \$117.80 per acre Total job cost: **\$13,205**

MOTOR GRADER WORK

Task description: Stage J & Misc. Grading and Shaping

Site: Walstrum Quarry

Permit Action: 2024 Inspection

Permit/Job#: M1983033

PROJECT IDENTIFICATION

Task #: JM5

State: Colorado

Abbreviation: None

Date: 1/12/2025

County: Clear Creek

Filename: M033-JM5

User: NCG

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 140M

Horsepower: 183

Ripper Attachment: _____

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$77.29	NA
Operating Cost/Hour:	\$56.87	100
Ripper Ownership Cost/Hour:	\$0.00	NA
Ripper Operating Cost/Hour:	\$0.00	
Operator Cost/Hour:	\$27.76	NA
Total Unit Cost/Hour:	\$161.92	
Total Fleet Cost/Hour:	\$161.92	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 69.60 acres

Source of estimated acreage: Permit Application

HOURLY PRODUCTION

Average Grader Speed:	<u>1.50</u>	mph
Selected Application:	<u>Finish grading (0-2.5 mph) - 1.5</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>10.40</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>8.40</u>	feet
Unadjusted Hourly Unit Production:	<u>1.5273</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 7220 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 1.3745 acres/Hour

Adjusted Hourly Fleet Production: **1.3745** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **50.63** Hours

Unit cost: \$117.80 per acre Total job cost: **\$8,199**