

# 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:		MINE/PROSPECTING ID#:	MINERAL:	COUNTY:
Greeley 35th Ave Pit		M-1977-036	Sand and gravel	Weld
<b>INSPECTION TYPE:</b>		WEATHER: Clear	INSP. DATE:	INSP. TIME:
Monitoring			November 1, 2023	11:30
OPERATOR:		<b>OPERATOR REPRESENTATIVE:</b>	<b>TYPE OF OPERA</b>	TION:
Martin Marietta Materials, Inc.		Julie Mikulas	112c - Construction l	Regular Operation
<b>REASON FOR INSPECTION:</b>		BOND CALCULATION TYPE:	<b>BOND AMOUNT:</b>	
Normal I&E Program		Complete Bond	\$7,764,000.00	
DATE OF COMPLAINT:		POST INSP. CONTACTS:	JOINT INSP. AGE	NCY:
NA		None	None	
INSPECTOR(S):	INSPE	CTOR'S SIGNATURE:	SIGNATURE DAT	E:
Hunter Ridley			November 8, 2023	
	11 ,	DI.		
	Hunton	Kidley		
	1.0.000			

### **GENERAL INSPECTION TOPICS**

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

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

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

# **OBSERVATIONS**

The Greeley 35<sup>th</sup> Ave site, Permit No. M-1977-036, was inspected by Hunter Ridley with the Division of Reclamation, Mining and Safety (Division) as part of the Division's monitoring inspection program. Julie Mikulas with Martin Marietta Materials, Inc. was present for the inspection. The Greeley 35<sup>th</sup> Ave site is located approximately 4 miles northwest of Greeley, CO and is accessed via N 35<sup>th</sup> Ave. The site is a 112c operation permitted for 381.38 acres with a post-mining land use of recreation and developed water resources.

Boundary markers were observed as required by Rule 3.1.12. A mine identification sign was posted at the site entrance (Photo 1). The sign met all requirements of Rule 3.1.12 except section 3.1.12(1) which specifies a required sign size of 11 x 17. The Operator stated that when the current sign is damaged, the new replacement sign will comply with this sizing rule. The site was being actively mined at the time of inspection. Mining and excavation were occuring in the middle of the site, with product stockpiles being stored in various piles around the floor of the mining area. Unlike the West Pit, the Operator stated that they will likely not submit an amendment to convert this middle area to a slurry wall lined pit. Topsoil and overburden have been stripped from the active mining area and placed in adjacent pit areas to create final reclamation slopes. An asphalt plant and concrete import facilities are located in the southwest corner of the site (Photo 3). A large sedimentation pond is located on the southern half of the pit, near the active mining area (Photos 4 and 5). The exposed slopes of the pond are vegetated with volunteer weeds.

Mining in the East Pit cell was completed pre-1981, therefore an augmentation or substitute water supply plan for any out-of-priority water depletions is not required for this area of the permit. The East Pit is currently in final reclamation (Photo 2). All other water depletions are covered under the site's Substitute Water Supply Plan, the most updated of which was submitted to the Division on March 21, 2023 and covers the site through March 31, 2024.

The West Pit is still in final reclamation. The slurry wall around the West Pit was certified by the Division of Water Resources on December 1, 2015. Should the Operator wish to request a reduction of the bond to reflect the completion and certification of the slurry wall in this area, a Surety Reduction request will need to be submitted to the Division. The application for this type of revision can be found on the Division's website at <a href="https://drms.colorado.gov/forms/minerals-program-forms">https://drms.colorado.gov/forms/minerals-program-forms</a>. The pit slopes remain at the approved 3H:1V slopes and the areas above the anticipated high water level remain vegetated. However some large patches of vegetation on the slopes consisted of annual weed species such as Kochia and Russian thistle. The reservoir is filled with free water from the Cache La Poudre River (Photo 6).

An oil and gas well pad is located along the southern end of the West Pit. The Operator noted that these facilities are due to be removed from the site soon. A technical revision will need to be submitted to the Division to update this change on Mining and Reclamation Plan Maps once removal is complete. No erosion features were noted in this area. Two groundwater monitoring wells, MW-35TH AVE 7 and MW-35TH AVE 8, have been recently replaced at the site after damage due to excavation activities. The two replaced wells are located in the southwest portion of the permit (Photo 7), near their original locations. The other four monitoring wells are located around the West Pit reservoir. Monitoring reports for these wells are to be included with the site's Annual Reports.

The Division currently holds a financial warranty amount of \$7,764,000.00 for this site. The bond was last assessed post inspection in 2019. In an effort to ensure the Financial Warranty adequately reflects the actual current cost of fulfilling the requirements of the approved reclamation plan, the Division has updated the reclamation cost estimate. The Division has found the current bond to be **inadequate** for reclamation of the site. The updated required bond amount is \$8,409,301.00. This is an **increase of \$645,301.00**. A copy of staff

calculations has been attached with this report. A notice of surety increase will be sent under separate cover.

Photographs taken during the inspection have been included below. Responses to this inspection report should be directed to: Hunter Ridley at the Division of Reclamation, Mining and Safety, 1313 Sherman St., Room 215, Denver, CO 80203. Direct contact can be made by phone at 720-868-7757 or via email at <u>hunter.ridley@state.co.us</u>.



**PHOTOGRAPHS** 

Photo 1: Mine sign posted at the site entrance.



Photo 2: View north of the East pit which is in final reclamation.



Photo 3: View west of the asphalt plant and concreate importation facilities located to the southeast of the affected pit area.



Photo 4: View northeast of the large sedimentation pond located in the middle of the site.



Photo 5: View north of the sedimentation pond onsite.



Photo 6: View north of the lined west pit area, in final reclamation.



Photo 7: One of two monitoring wells replaced on the eastern side of the permit.

Inspection Contact Address Julie Mikulas Martin Marietta Materials, Inc. 1800 N. Taft Hill Road Fort Collins, CO 80521

# COST SUMMARY WORK

Task des	cription:	Updated post ins	spection in 2	023			
Site: Greek	ey 35th Ave Pit	Per	mit Action:	Insp 2023	Permit/Job#	#: <u>M1977036</u>	
PROJEC Task Dat Use	ET IDENTIFIC           #:         HCR           e:         10/19/2023           er:         HR1	ATION State: County:	Colorado Weld		Abbreviation: Filename:	None M036-HCR	

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task		Form	Fleet	Task	Cost
	Description	Used	Size	nours	Cost
201	Final Slope Grading - Non West Cell - 153 Acres	DOZER	1	1,534.08	\$679,861
202	Import Topsoil	SITEMAINT	1	0.00	\$511,200
		ENANCE			
203	Topsoil Placement - Non West Cell - 153 Acres	LOADER	2	1,555.74	\$356,982
204	Topsoil Final Grading - Non West Cell - 153 Acres	DOZER	1	109.49	\$48,117
205	Conveyor Removal - Non West Cell	DEMOLISH	] 1	80.00	\$71,669
206	Revegetation - 90.5 Acres - Upland	REVEGE	] 1	40.00	\$118,814
207	Revegetate - Transition Zone - 60.5 Acres	REVEGE	] 1	20.00	\$85,306
208	Mob/Demob	MOBILIZE	1	3.14	\$3,361
209	West Cell Slurry Wall Construction	SITEMAINT	1	0.00	\$2,591,735
		ENANCE			
210	Install Slurry Wall - Non West Cell for SEO	SITEMAINT	1	0.00	\$2,244,318
	compliance	ENANCE			
		<u>SUBTO</u>	TALS:	3342.45	\$6,711,363

### **INDIRECT COSTS**

### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$135,570
Performance bond:	1.05	Total =	\$70,469
Job superintendent:	1,671.22	Total =	\$108,763
Profit:	10.00	Total =	\$671,136
		TOTAL O & P =	\$985,938
		CONTRACT AMOUNT (direct + $O \& P$ ) =	\$7,697,301

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$0	Total =	\$0
Engineering work and/or contract/bid preparation:	4.25	Total =	\$327,135
Reclamation management and/or administration:	5.00		\$384,865
CONTINGENCY:	0.00	Total =	\$0
		TOTAL INDIRECT COST =	\$1,697,938

TOTAL BOND AMOUNT (direct + indirect) = \$8,409,301

## BULLDOZER WORK

	Final	Slope Grac	ing - Non v	vest Cell - 155 Acres		
Greeley 35th Av	ve Pit	Per	mit Action:	Insp 2023	Permit/Job#:	M1977036
PROJECT IDEN	NTIFICATIO	N				
Task #: 201 Date: 11/6/ 2:03:	2023 22 PM	State: County:	Colorado Weld		Abbreviation: Filename:	None 201
User: <u>HR1</u>	·					
Agency of	r organization n	ame: DF	CMS			
HOURLY EQUI	IPMENT CO	<u>ST</u>				
Basic Machine:	Cat D8T - 85	SU				
Horsepower:	310					
Blade Type:	Semi-Univer	sal				
Attachment:	3-shank ripp	er				
Shift Basis: Data Source:	1 per day (CRG)					
Cost Breakdown:	()					
				<u>Utilization %</u>		
Ownership Cost/H	Hour:		\$241.38	NA		
Operating Cost/H	Hour:		\$143.92	100		
Ripper own. Cost/H	Hour:		\$14.11	NA		
Ripper op. Cost/H	Hour:		\$3.73	50		
Operator Cost/H	Hour:		\$40.04	NA		
MATERIAL QU	J <b>ANTITIES</b> 550,000					
minum volume.						
Swell factor: Loose volume:	1.000 550,000 LCY					
Swell factor: Loose volume: Source of estimated	1.000 <b>550,000</b> LCY l volume: l swell factor:	AM-02 A Cat Hand	pplication book			
Swell factor: Loose volume: Source of estimated HOURLY PROI	1.000 <b>550,000</b> LCY 1 volume: 1 swell factor: <b>DUCTION</b>	AM-02 A Cat Hand				
Swell factor: Loose volume: Source of estimated Source of estimated HOURLY PROI Average push dista Unadjusted hourly	1.000 <b>550,000</b> LCY         I volume:         I swell factor: <b>DUCTION</b> nce:         production:	AM-02 A Cat Hand 100 feet 352.6 LCY/	pplication book			
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROI</b> Average push dista Unadjusted hourly	1.000 <b>550,000</b> LCY         I volume:         I swell factor: <b>DUCTION</b> nce:         production:         Structure	AM-02 A Cat Hand 100 feet 352.6 LCY/ _Consol	pplication book hr	 pile 1.0		
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROI</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud	1.000         550,000 LCY         1 volume:         1 swell factor:         1 swell factor:         DUCTION         nce:         production:         cy description:         ient:       -5 %         le:       4,670 f	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet	 pplication book /hr idated stockj	  bile 1.0		
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROI</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud Material weight:	1.000 <b>550,000</b> LCY         I volume:         I swell factor: <b>DUCTION</b> nce:         production:         groduction:         tent:       -5 %         le:       4,670 f         4,050 l	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet bs/LCY	 pplication book /hr idated stockj	 		
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROI</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud Material weight: Weight description	1.000 <b>550,000</b> LCY         I volume:         I swell factor: <b>DUCTION</b> nce:         production:         groduction:         1         ient:       -5 %         le:       4,670 f	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet bs/LCY nd clay - Co	 pplication book /hr idated stocky  ompacted	 bile 1.0		
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROI</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud Material weight: Weight description Job Condition Corr	1.000         550,000 LCY         1 volume:         1 swell factor:         1 swell factor:         DUCTION         nce:         production:         2         cy description:         ient:       -5 %         4,670 f         4,050 l         :       Sand an         rection Factor	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet bs/LCY nd clay - Co	 pplication book /hr idated stocky  ompacted	 		
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROJ</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud Material weight: Weight description Job Condition Corr Ope	1.000 <b>550,000</b> LCY         1 volume:         1 swell factor:         1 swell factor: <b>DUCTION</b> nce:         production:         2         cy description:         ient:       -5 %         4,670 f         4,050 l         :       Sand an         ection Factor         erator Skill:	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet bs/LCY nd clay - Co	 pplication book /hr idated stocky  ompacted 000			
Swell factor: Loose volume: Source of estimated Source of estimated <b>HOURLY PROJ</b> Average push dista Unadjusted hourly Materials consisten Average push gradi Average site altitud Material weight: Weight description Job Condition Corr Ope Material c	1.000         550,000 LCY         1 volume:         1 swell factor:         1 swell factor:         DUCTION         nce:         production:         2         cy description:         ient:       -5 %         le:       4,670 f         4,050 I         :       Sand an         ection Factor         erator Skill:       onsistency:	AM-02 A Cat Hand 100 feet 352.6 LCY/ Consol eet bs/LCY nd clay - Co 1.				

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.568	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4205	

Adjusted unit production:	358.52 LCY/hr
Adjusted fleet production:	358.52 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.236/LCY

Total job time:	1,534.08 Hours
Total job cost:	\$679,861

### SITE MAINTENANCE

Г	Fask description:	Import Top	soil			
Site:	Greeley 35th Ave Pit		Permit Action:	Insp 2023	Permit/.	Job#: <u>M1977036</u>
PROJEC	CT IDENTIFICATIO	N				
Task #:	202	State:	Colorado		Abbreviation:	None
Date:	11/6/2023 2:09:50	County:	Weld		Filename:	202
	PM					
Lloor	HR1					

## UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Import 51,120 CY Topsoil	40.00	USER PROVIDED	51,120.00	0	\$10.00	\$511,200.00
ropson		I I EIVI				

Job Hours: 0.00

Total Cost: \$511,200.00

### Page 1 of 2

# WHEEL LOADER - LOAD AND CARRY WORK

	l opsoli Placement - Non	west Cell - 153 Acres		
Greeley 35th Ave Pit	Permit Actio	on: Insp 2023	Permit/Job#:	M1977036
PROJECT IDENTIFICA	ATION			
Task #: 203	State: Colora	do	Abbreviation:	None
Date: $11/6/2023$ 2:06:25 PM	County: Weld		Filename:	203
User: HR1			-	
Agency or organiza	tion name: DRMS			
HOURLY EQUIPMENT	<u>COST</u>			
Basic Machine: CA	AT 938H	Horse	power:	172
Attachment 1: RC	DPS Cab	Shift	Basis: 1 p	er day
		Data S	Source: (C	CRG)
Cost Breakdown:				
		Utilization %		
Ownership Cost/Hou	r: \$43.90	NA		
Operating Cost/Hou	r: \$34.86	100		
Operator Cost/Hou	r: \$35.97	NA		
Total Unit Cost/Hou	r: \$114.73			
Total Fleet Cost/Hou	ır: \$229.46			
MATERIAL QUANTIT	IES			
Initial volume: 185 1	I30 CCY	Swell factor: 1	000	
Loose volume:	185.130 LCY			
Source of a	stimated volume: AM (	17 Application		
Source of estimations	stimated volume: <u>AM-(</u>	02 Application		
Source of estimations	ated swell factor: AM-C	2 Application landbook		
Source of estimation Source of estimation Source of estimation of the second statement of the second s	ated swell factor: AM-( Cat H	)2 Application landbook		
Source of es Source of estima HOURLY PRODUCTIO	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u>	2 Application landbook		
Source of es Source of estime HOURLY PRODUCTIO Loader Cycle Time:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u><b>DN</b></u> Jnadjusted Basic Cycle Ti	)2 Application landbook me (load, dump, maneuver):	0.483	minutes
Source of es Source of estima HOURLY PRODUCTIC Loader Cycle Time: [ Cycle Time Factors	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u>DN</u> Jnadjusted Basic Cycle Ti	)2 Application landbook me (load, dump, maneuver): 	0.483 Factor (min.)	minutes Source
Source of es Source of estima HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u><b>DN</b></u> Jnadjusted Basic Cycle Ti <u>Mixed material 0.02</u>	)2 Application landbook me (load, dump, maneuver):	0.483 Factor (min.) 0.020	minutes Source (Cat HB)
Source of es Source of estima HOURLY PRODUCTIC Loader Cycle Time: Cycle Time Factors Material: Stockpile:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u>DN</u> Jnadjusted Basic Cycle Ti <u>Mixed material 0.02</u> Dumped by truck 0.02	)2 Application landbook me (load, dump, maneuver):	0.483 Factor (min.) 0.020 0.020	minutes Source (Cat HB) (Cat HB)
Source of est Source of estimation HOURLY PRODUCTIO Loader Cycle Time: Cycle Time Factors Material: Stockpile: Truck Ownership:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u>DN</u> Jnadjusted Basic Cycle Ti <u>Mixed material 0.02</u> Dumped by truck 0.02 Common ownership of t	2 Application Iandbook me (load, dump, maneuver):	0.483 Factor (min.) 0.020 0.020 -0.040	minutes Source (Cat HB) (Cat HB) (Cat HB)
Source of est Source of estimation HOURLY PRODUCTION Loader Cycle Time: U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u>DN</u> Jnadjusted Basic Cycle Ti <u>Mixed material 0.02</u> Dumped by truck 0.02 Common ownership of Constant operation -0.04	2 Application landbook me (load, dump, maneuver):	0.483 Factor (min.) 0.020 0.020 -0.040 -0.040	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Source of est Source of estimation HOURLY PRODUCTION Loader Cycle Time: U Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u><b>DN</b></u> Jnadjusted Basic Cycle Ti Mixed material 0.02 Dumped by truck 0.02 Common ownership of the Constant operation -0.04 No adjustment - factor r	2 Application landbook me (load, dump, maneuver): trucks and loaders -0.04 4 not applicable 0.00	0.483 Factor (min.) 0.020 0.020 -0.040 -0.040 0.000	minutes Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)
Source of est Source of estimation HOURLY PRODUCTION Loader Cycle Time: C Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	stimated volume: <u>AM-(</u> ated swell factor: <u>Cat H</u> <u>ON</u> Jnadjusted Basic Cycle Ti Mixed material 0.02 Dumped by truck 0.02 Common ownership of t Constant operation -0.04 No adjustment - factor r	2 Application landbook me (load, dump, maneuver): trucks and loaders -0.04 4 not applicable 0.00 Cycle Time Adjustment:	0.483 Factor (min.) 0.020 0.020 -0.040 -0.040 0.000 -0.040	minutes Source (Cat HB) minutes

Haul:Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Return:Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

### Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	1800	0.00	3.00	3.00	1.4131	(Cat HB)
Return Route:	1800	0.00	3.00	3.00	1.3271	(Cat HB)

Total Travel Time:	2.7402	minutes
Total Cycle Time:	3.1827	minutes

### Load Bucket Capacity

Rated Capacity:	3.90	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.80	LCY

Job Condition Correction Factors Site Altitude: <u>4670</u> feet

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

Unadjusted Hourly Unit Production:	71.69	LCY/Hour
Adjusted Hourly Unit Production:	59.50	LCY/Hour
Adjusted Hourly Fleet Production:	119.00	LCY/Hour

Fleet size:	2	Loader(s)	Total job time:	1,555.75	Hours
Unit cost:	\$1.928	/LCY	Total job cost:	\$356,982	

## BULLDOZER WORK

Task description:	Topsoil Final Gr	ading - Non	West Cell - 153 Acres		
Greeley 35th Ave Pit	Per	mit Action:	Insp 2023	Permit/Job#:	M1977036
PROJECT IDENTIF	ICATION				
Task #: 204	State:	Colorado		Abbreviation:	None
Date: 11/6/2023	County:	Weld		Filename:	204
2:04:36 PM	1			-	
User: HR1					
Agency or organ	nization name: DF	RMS			
HOURLY EQUIPME	ENT COST				
Basic Machine: Cat	: D8T - 8SU				
Horsepower: 310	)				
Blade Type: Ser	ni-Universal				
Attachment: <u>3-sl</u>	hank ripper				
Shift Basis: <u>1 p</u>	er day				
Data Source: (Ch	(U)				
Cost Breakdown:		I	¥7.111 .1		
Our and in Cast /II		\$241.20	Utilization %		
Ownership Cost/Hour:		\$241.58 \$142.02	<u>INA</u>		
Ripper own Cost/Hour		\$14.3.92 \$14.11	N A		
Ripper op. Cost/Hour		\$0.00	0		
Operator Cost/Hour:		\$40.04	ΝA		
MATERIAL QUANT Initial Volume: 185,	<u>TTIES</u> 130				
Swell factor:1.00Loose volume:185,	0 130 LCY				
Source of estimated volum	me: Division	of Reclamati	on, Mining & Safety		
Source of estimated swell	l factor: Cat Hand	book			
	FION				
<u>HOUKLI PRODUCI</u>	lion				
Average push distance:	55 feet				
Unadjusted hourly produce	ction: <u>1,323.4 LC</u>	Y/hr			
Materials consistency des					
	scription: Loose	stockpile 1.2			
Average push gradient:	-5 %	stockpile 1.2			
Average push gradient: Average site altitude:	<u>-5 %</u> 4,670 feet	stockpile 1.2			
Average push gradient: Average site altitude: Material weight:	-5 % 4,670 feet 1,600 lbs/LCY				
Average push gradient: Average site altitude: Material weight: Weight description:	<u>-5 %</u> <u>4,670 feet</u> <u>1,600 lbs/LCY</u> <u>Top Soil</u>				
Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction	-5 % 4,670 feet 1,600 lbs/LCY Top Soil Factor		Source		
Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator	Loose :	stockpile 1.2	Source (EXCL.)		
Average push gradient: Average site altitude: Material weight: Weight description: Job Condition Correction Operator Material consiste	Loose :	<u>stockpile 1.2</u> 	Source (EXCL.) (CAT HB)		

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)
Blade type:	1.000	(PAT)
Net correction:	1.2776	

Adjusted unit production:	1,690.78 LCY/hr
Adjusted fleet production:	1690.78 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.260/LCY

Total job time:	109.49 Hours
Total job cost:	\$48,117

## **DEMOLITION WORK**

,	Task description:	Conveyor <b>F</b>	Removal - Non West Cell		
Site:	Greeley 35th Ave Pit		Permit Action: Insp 2023	Permit/J	ob#: <u>M1977036</u>
PROJE	<u>CT IDENTIFICATIO</u>	N			
Task #:	205	State:	Colorado	Abbreviation:	None
Date:	2 11/6/2023 2:02:46 PM	County:	Weld	Filename:	205
User:	HR1				
	Agency or organiza	tion name:	DRMS		

## UNIT COSTS

## Location adjustment: 94.70 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Conveyor Removal	4,300 feet	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	4,300.00	LF	\$17.60	\$75,680.00

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	80.00	(unadjusted):	\$75,680.00	location):	\$71,668.96

# **REVEGETATION WORK**

Task	k descrip	tion:	<b>Revegetation</b> -	90.5 Acres - U	J <b>pland</b>		
Site: G	Freeley 3	5th Ave Pit	P	ermit Action:	Insp 2023	Permit/Jol	o#: <u>M1977036</u>
<u>PRO</u>	)JECT ]	<b>IDENTIFIC</b>	ATION				
Т	Fask #:	206	State:	Colorado		Abbreviation:	None
	Date.	2:08:07 PM	County.	weid			200
	User:	HR1		DMC			

# **FERTILIZING**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
0-20-20, 4-8-12, 10-10-10	40.00	pound	\$0.62	\$24.80
			Total Fertilizer Materials Cost/Acre	\$24.80

### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$41.82
	Total Fertilizer Application Cost/Acre	\$41.82

# **TILLING**

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$112.82
Weed control spraying (MEANS 31 31 16.13 3100)	\$338.80
Total Tilling Cost/Acre	\$451.62

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.10	3.90	\$2.85
Switchgrass - Pathfinder	0.67	5.98	\$8.54
Sand Dropseed	0.48	57.30	\$4.68
Mountain Brome - Bromar	1.74	2.80	\$6.61
Sideoats Grama - Butte	1.80	5.91	\$16.20
Western Wheatgrass - Arriba	1.74	4.39	\$11.31
Sweetvetch, Utah or Northern	1.02	0.46	\$76.50
Needle and Thread	1.29	3.41	\$53.99
Rose, Meadow	0.87	0.74	\$21.75

Globemallow, Scarlet (or copper)	0.25	2.83	\$33.88
Penstemon, Rocky Mountain	0.46	7.21	\$13.57
Totals Seed Mix	10.42	94.93	\$249.87

### Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$232.00

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

### Application

Description	Cost /Acre
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acro	\$62.72

### **NURSERY STOCK PLANTING**

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

	No. of Acres:	90.5	Cost /Acre:	\$1,062.83
Estimate	ed Failure Rate:	25%	Cost /Acre*:	\$1,000.11
*Selected Replanti	ng Work Items:	FERTILIZING,TII	LLING,SEEDING	
Initial Job Cost:	\$96,186.12			
Reseeding Job Cost:	\$22,627.49			
Total Job Cost:	\$118,814			
Job Hours:	40.00			

# **REVEGETATION WORK**

ption:	Revegetate - Tra	nsition Zone - 60.5	Acres		
35th Ave Pit	Per	mit Action: Insp 20	Per Per	rmit/Job#: M1977036	
IDENTIFIC	ATION				
207	State:	Colorado	Abbrevi	ation: None	
11/6/2023 2:08:49 PM	County:	Weld	Filer	name: 207	
HR1					
	207 <u>106/2023</u> 2:08:49 PM HR1	Revegetate - Tra       35th Ave Pit     Per       IDENTIFICATION       207     State:       11/6/2023     County:       2:08:49 PM     HR1	Revegetate - Transition Zone - 60.5 A         35th Ave Pit       Permit Action: Insp 20         IDENTIFICATION       Insp 20         207       State: Colorado         11/6/2023       County: Weld         2:08:49 PM       HR1	Revegetate - Transition Zone - 60.5 Acres         35th Ave Pit       Permit Action: Insp 2023       Permit         IDENTIFICATION       State: Colorado       Abbrevi         207       State: Colorado       Abbrevi         11/6/2023       County: Weld       Filer         2:08:49 PM       HR1       Filer	Revegetate - Transition Zone - 60.5 Acres         35th Ave Pit       Permit Action: Insp 2023       Permit/Job#: M1977036         IDENTIFICATION       State: Colorado       Abbreviation: None         207       State: Colorado       Abbreviation: 207         11/6/2023       County: Weld       Filename: 207         2:08:49 PM       HR1

# **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
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
Switchgrass - Pathfinder	0.78	6.97	\$9.95
Sand Dropseed	0.03	3.58	\$0.29
Canada Wildrye	2.47	6.52	\$26.77
Sideoats Grama - Butte	1.24	4.07	\$11.16
Great Basin Wildrye - Magnar	1.34	5.44	\$15.48
Western Wheatgrass - Arriba	1.45	3.66	\$9.43
Vetch, American	5.81	2.63	\$580.56
Globemallow, Scarlet (or copper)	0.05	0.59	\$7.05

Totals Seed Mix	13.17	33.46	\$660.68	
I Otals Seeu MIX	13.17	55.40	φ000.00	

### Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$232.00

## **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
	\$0.00				

Estimate *Selected Replanti	No. of Acres: ed Failure Rate: ng Work Items:	60.5 20% SEEDING	Cost /Acre: Cost /Acre*:	\$1,231.48 \$892.68
Initial Job Cost:	\$74,504.54		_	
Reseeding Job Cost:	\$10,801.43			
Total Job Cost:	\$85,306			
Job Hours:	20.00		_	

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Greeley 35th Ave Pit	Permit	t Action: Insp 20	23	Permit/Job#: <u>M1977036</u>		
PROJECT IDENTIFICATI	ON					
Task #: 208	State: C	olorado	Abl	previation:	None	
Date: 11/6/2023 2:07:09 PM	County: W	Veld		Filename:	208	
User: HR1						
Agency or organization EQUIPMENT TRANSPOR	n name: <u>DRMS</u> T RIG COST	5				
			01.0	hogia	1 per dav	
			Shift Cost Data So	ource:	CRG Data	
Truck Tractor Desc	ription: GENE	ERIC ON-HIGHW	Shift Cost Data So AY TRUCK TRAC 400 HP (2ND HAL	Dasis. Durce: TOR, 6X4, F, 2006)	, DIESEL POWERI	
Truck Tractor Desc Truck Trailer Desc	ription: GENE	ERIC ON-HIGHW GENERIC FOLDIN TR	Shift Cost Data So AY TRUCK TRAC 400 HP (2ND HAL JG GOOSENECK, I AILER (25T, 50T, 2010)	Dasis. Durce: TOR, 6X4, F, 2006) DROP DEC AND 100T	, DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u>	ription: GENE ription: C	ERIC ON-HIGHW GENERIC FOLDIN TR	Shift Cost Data Sc AY TRUCK TRAC 400 HP (2ND HAL IG GOOSENECK, I AILER (25T, 50T, A	Dasis Durce: F, 2006) DROP DEC AND 100T	, DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u> Available Rig Capacities	ription: GENE	ERIC ON-HIGHW GENERIC FOLDIN TR 26-50 Tons	Shift Cost Data So AY TRUCK TRAC 400 HP (2ND HAL NG GOOSENECK, I AILER (25T, 50T, 7 51+ Tons	Dasis. Durce: TOR, 6X4, F, 2006) DROP DEC AND 100T	, DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u> Available Rig Capacities Ownership Cost/Hour:	ription: GENE ription: C	ERIC ON-HIGHW GENERIC FOLDIN TR 26-50 Tons \$36.04	Shift Cost Data Sc AY TRUCK TRAC 400 HP (2ND HAL NG GOOSENECK, I AILER (25T, 50T, A 51+ Tons \$47.05	Dasis Durce: TOR, 6X4, F, 2006) DROP DEC AND 100T	, DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u> <u>Available Rig Capacities</u> Ownership Cost/Hour: Operating Cost/Hour:	ription: GENE ription: C 0-25 Tons \$20.26 \$39.51	ERIC ON-HIGHW GENERIC FOLDIN TR 26-50 Tons \$36.04 \$76.08	Shift Cost Data Sc AY TRUCK TRAC 400 HP (2ND HAL VG GOOSENECK, I AILER (25T, 50T, 2 51+ Tons \$47.05 \$82.85	Dasis Durce: TOR, 6X4, F, 2006) DROP DEC AND 100T	CRG Data , DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u> <u>Available Rig Capacities</u> Ownership Cost/Hour: Operating Cost/Hour: Operator Cost/Hour:	oription:         GENE           rription:         C           0-25 Tons         20.26           \$39.51         \$22.52	ERIC ON-HIGHW GENERIC FOLDIN TR 26-50 Tons \$36.04 \$76.08 \$22.52	Shift Cost Data Sc AY TRUCK TRAC 400 HP (2ND HAL G GOOSENECK, I AILER (25T, 50T, A 51+ Tons \$47.05 \$82.85 \$22.52	Dasis Durce: TOR, 6X4, F, 2006) DROP DEC AND 100T	CRG Data , DIESEL POWERI CK EQUIPMENT	
Truck Tractor Desc Truck Trailer Desc <u>Cost Breakdown:</u> <u>Available Rig Capacities</u> Ownership Cost/Hour: Operating Cost/Hour: Operator Cost/Hour: Helper Cost/Hour:	oription:         GENE           oription:         O           0-25 Tons         \$20.26           \$39.51         \$22.52           \$0.00         \$0.00	ERIC ON-HIGHW GENERIC FOLDIN TR 26-50 Tons \$36.04 \$76.08 \$22.52 \$23.53	Shift Cost Data Sc AY TRUCK TRAC' 400 HP (2ND HAL NG GOOSENECK, I AILER (25T, 50T, A 51+ Tons \$47.05 \$82.85 \$22.52 \$23.53	Dasis Durce: TOR, 6X4, <u>F, 2006)</u> DROP DEC AND 100T	CRG Data , DIESEL POWERI CK EQUIPMENT	

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/uni	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)		t		fleet		
Cat D8T - 8SU	47.71	\$241.38	\$158.17	1	\$399.55	\$158.17	\$500.00
CAT 938H	16.34	\$43.90	\$82.29	2	\$252.38	\$164.58	\$250.00

Subtotals: \$651.93 \$322.75 \$750.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
		Subtotals:	\$0.00	\$0.00

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	GREELEY	
Total one-way travel distance:	10.00	miles
Average Travel Speed:	35.00	mph
Total Non-Roadable Mob/Demob Cost *	\$3,360.82	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$0.00	

Transportation Cycle Time:

	Non-	
	Roadable	Roadable
	Equipment	Equipment
Haul Time (Hours):	0.29	0.29
Return Time (Hours):	0.29	0.29
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.57	0.57

### JOB TIME AND COST

Total job time: 3.14 Hours

Total job cost: \$3,361

### SITE MAINTENANCE

Т	ask description:	West Cell S	Slurry Wall Con	struction		
Site:	Greeley 35th Ave Pit		Permit Action:	Insp 2023	Permit/.	Job#: <u>M1977036</u>
ROJEC	<u>CT IDENTIFICATIO</u>	N				
Task #:	209	State:	Colorado		Abbreviation:	None
Date:	11/6/2023 2:10:18	County:	Weld		Filename:	209
	PM					

## UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
West Cell Slurry Wall	40.00	USER PROVIDED	2,591,735.00	1	\$1.00	\$2,591,735.00
Construction Cost		ITEM				

Job Hours: 0.00

Total Cost: \$2,591,735.00

### SITE MAINTENANCE

ask description:	Install Sluri	y Wall - Non Wes	t Cell for SEO	) compliance	
Greeley 35th Ave Pit		Permit Action: Ir	nsp 2023	Permit/.	Job#: <u>M1977036</u>
T IDENTIFICATIO	<u>N</u>				
210	State:	Colorado		Abbreviation:	None
11/6/2023 2:10:44	County:	Weld		Filename:	210
PM					
HR1					
() ()	nsk description: Greeley 35th Ave Pit T IDENTIFICATIO 210 11/6/2023 2:10:44 PM UD 1	Install Slurr       Greeley 35th Ave Pit       T IDENTIFICATION       210     State:       11/6/2023 2:10:44     County:       PM     UP 1	Install Slurry Wall - Non Wes         Greeley 35th Ave Pit       Permit Action:       Ir         T IDENTIFICATION       State:       Colorado         210       State:       Colorado         11/6/2023 2:10:44       County:       Weld         PM       UD 1       UD 1	Install Slurry Wall - Non West Cell for SEC         Greeley 35th Ave Pit       Permit Action: Insp 2023         T IDENTIFICATION         210       State: Colorado         11/6/2023 2:10:44       County: Weld         PM       UP1	Install Slurry Wall - Non West Cell for SEO compliance         Greeley 35th Ave Pit       Permit Action: Insp 2023       Permit/.         T IDENTIFICATION       State: Colorado       Abbreviation: Filename: Pilename:

### UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Install Slurry Wall at 4	1.00	USER PROVIDED	748,106.00	1	\$3.00	\$2,244,318.00
remaining open water		ITEM				
lakes						

Job Hours: 0.00

Total Cost: \$2,244,318.00