

**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:	MINE/PROSPECTING ID#:	MINERAL:	COUNTY:
J&J Stone Pit #1	M-2011-004	Sandstone (silica, sto	Fremont
		quartzite)	
<b>INSPECTION TYPE:</b>	INSPECTOR(S):	INSP. DATE:	INSP. TIME:
Surety-Related Inspection	Timothy A. Cazier	February 16, 2017	09:45
OPERATOR:	<b>OPERATOR REPRESENTATIVE:</b>	TYPE OF OPERAT	TION:
KrauthCo Inc	Mike Krauth, Angela Bellantoni	112c - Construction H	Regular Operation

<b>REASON FOR INSPECTION:</b>	BOND CALCULATION TYPE:	BOND AMOUNT:
Surety Related	Complete Bond	\$5,608.00
DATE OF COMPLAINT:	POST INSP. CONTACTS:	JOINT INSP. AGENCY:
NA	None	None
WEATHER:	INSPECTOR'S SIGNATURE:	SIGNATURE DATE:
Clear	1- 110-	March 2, 2017
	hung a S	

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:** Signs & Markers

**PROBLEM/POSSIBLE VIOLATION:** Problem: The affected area boundary markers are incorrectly placed. This is a problem for failure to maintain boundary markers around the affected area as required by Section 3.1.12(2) of the rule.

**CORRECTIVE ACTIONS:** The operator shall conduct a survey and replace the boundary markers in the correct location(s). The operator shall provide proof to the Division that this has been done by the corrective action date.

**CORRECTIVE ACTION DUE DATE:** 5/01/17

## **OBSERVATIONS**

This pre-operational inspection was required as part of the review process for the AM-01 application. The Operator (KrauthCo Inc) was represented during the inspection by Mr. Mike Krauth and Dr. Angela Bellantoni. The J&J Stone Pit #1 is accessed from Fremont Co Rd 9 approximately 4 miles north of Cañon City and is located approximately 0.6 miles east of FCR 9. This is a 112c sandstone mine. It was operating at the time of the inspection.

<u>Availability of Records</u>: Annual fees are paid through September 2016. There are no open infractions. Adequacy issues related to bonding with the AM-01 review process have been addressed (as of 3/1/2017). However, after georeferencing the AM-01 Exhibit C-2 map with the GPS points (see **Figure A**) collected during the inspection, there appears to be significant discrepancies between features on the ground and those on C-2 (see **Figure A.1**). This will need to be addressed via the adequacy review process for AM-01.

<u>Backfilling and Grading</u>: Backfill material is not required as the mined areas will be benched at a final configuration of 10 ft high and no less than 8 ft wide.

<u>Complete Inspection</u>: The entire permit area was inspected. No problems were observed during the inspection. However, post inspection, permit boundary discrepancies were noted as discussed below in "Signs & Markers".

<u>Excess Spoil and Dev. Waste</u>: Mr. Krauth stated there are no overburden piles. He tries to use/market all materials excavated from the active area while salvaging the small amounts of topsoil.

<u>Financial Warranty</u>: A review of the pending AM-01 also includes a financial warranty review. A revised cost estimate is attached to this inspection report. The bond estimate is \$8,490.00. Unless the Division receives comments on this estimate, the \$8,490 will be due upon approval of AM-01.

<u>Fish and Wildlife</u>: No impact on wildlife was observed. Two deer were seen north of the phase 1 boundary during the inspection.

Hydrologic Balance: No standing water was observed in the pit and no exposed groundwater was observed.

<u>Gen. Compliance with Mine Plan</u>: The operation appeared to be in compliance with the approved mine plan. Google Earth was used to measure the disturbed area, which was estimated to be approximately 2.67 acres (including the ~1/4 acre of access road through the staging area that is to remain). The current working face consists of exposed sandstone (see **Photo 1**). Mr. Krauth indicated he would continue to have the east-west benches in the active mine area drain towards the unnamed gulch until the high point is knocked down and the 10' x 8' benches are developed.

<u>Off-site Damage</u>: The operation appeared to be confined to the permit boundary as approved on paper, but discrepancies exist between permit maps and the boundary as marked on the ground (see discussion under "Signs & Markers".

<u>Processing Waste</u>: Mr. Krauth stated he tries to use/market all materials excavated from the active area.

<u>Roads:</u> Haul and access roads did not appear to be a source of sediment that could be tracked offsite.

Sediment Control: No erosion was observed, no BMPs were needed at the time of the inspection.

Support Facilities On-site: A grizzly screen, backhoe, small drill rig, and a forklift were observed on site.

<u>Signs and Markers</u>: The permit sign was properly posted (see **Photo 2**) and boundary markers were observed delineating the permit boundary (see **Photos 3** and **4**). However, the boundary markers on the ground delineate an area less than that on the approved permit (and proposed AM-01) permit drawings (Exhibit C) making a portion of the staging area outside the marked permit boundary, but most likely inside the permit boundary approved on paper. <u>This discrepancy is cited as a problem on p. 1 of this report.</u>

<u>Permit Stipulations</u>: There are no permit stipulations.

Storm Water MGT Plan: No oil or fuel spills observed. Site sediment pond appeared adequate.

<u>Topsoil</u>: Mr. Krauth pointed out the topsoil stockpile at the base of the access road to the active pit area (see **Photo 5**). The pile is small (~ 60 to 80 CY, *estimated*). The topsoil necessary for AM-01 is 1,882 CY. <u>The Division</u> strongly recommends stockpiling additional topsoil to ensure an adequate volume for reclamation.

Please contact Tim Cazier (303-866-3567, ext. 8169) if you have any questions regarding this report.



# **PHOTOGRAPHS**

Photo 1. Current working face (looking east).

## PHOTOGRAPHS (cont.)



Photo 2. Permit sign.



Photo 3. Southwest corner Phase 1 boundary marker (note GPS).

# **PHOTOGRAPHS** (cont.)



Photo 4. South Phase 1 boundary fence line from SW corner (looking east).



Photo 5. Topsoil stockpile.

## **GENERAL INSPECTION TOPICS**

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

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

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

## **Inspection Contact Address**

Mike Krauth KrauthCo Inc 1068 Red Canyon Road Cañon City, CO 81212

#### Enclosures

CC: DRMS file Angela Bellantoni, EAI



# Figure A.1. M-2011-004 Georeferenced Area Map

Based on GPS Points 011, 019 & 017 taken 2/16/2017

# Legend

GPS Point

**I** J&J Stone Pit #1

- M-11-004 Phase 1 Geo-Ref Boundary
- M-11-004 Phase 1 Marked Boundary

GPS Point 017

GPS Point 015 GPS Point 014

See Note 1

1055

94

See Note 2

(10.2 Ac based on boundary markers)

J&J Stone Pit #1

REMANENT LIGHT HER LOAD

GPS Point 011

GPS Point 019

1563 562

59 25

Ac after

913.74

georeferencing

GPS Point 012

Notes: 1. Active mine area is offset ~270 ft 2. Road is offset ~200 ft

88 N

18 . 190 . 61

500 ft

Google earth

# COST SUMMARY WORK

Т	ask descrij	ption:	Cost Summary						
Site: J&J Stone Pit #1 Permit Action:		rmit Action:	AM-01		Permit/Jol	b#: <u>M2011004</u>			
<u>PI</u>	ROJECT	IDENTIFIC	CATION						
	Task #:	000	State:	Colorado		1	Abbreviation:	None	
	Date:	3/2/2017	County:	Fremont			Filename:	M004-000	
	User:	TC1							
	Age	ency or organiz	zation name: DF	RMS					
	C								
$\mathbf{T}_{A}$	ASK LIST	Г (DIRECT	<u>COSTS)</u>						
Tool					Form	Fleet	Task		
Task	Descri	ption			Used	Size	Hours	Cost	
001	Grade s	staging area			GRADER	1	0.77	\$69.00	
002	Spread	7 inches of tor	osoil		DOZER	1	7.41	\$1.531.00	

		<u>SUBTO</u>	TALS:	15.02	\$6,505
005	Mob/Demob	MOBILIZE	1	1.80	\$1,568.00
004	REVEGE 2 ACARES	REVEGE	] 1	3.50	\$3,206.00
003	Final grading on 2 acres	GRADER	1	1.54	\$131.00
002	Spread 7 inches of topsoil	DOZER	] 1	7.41	\$1,531.00
001	Grade staging area	OKIDLK	1	0.77	φ07.00

# **INDIRECT COSTS**

## OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$131.40
Performance bond:	1.05	Total =	\$68.30
Job superintendent:	10.00	Total =	\$730.50
Profit:	10.00	Total =	\$650.50
		TOTAL O & P =	\$1,580.70
		CONTRACT AMOUNT (direct + O & P) = $($	\$8,085.70

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): Engineering work and/or contract/bid preparation: Reclamation management and/or administration:	0.00 0.00 5.00	Total = Total =	0.00 \$0.00 \$404.29
CONTINGENCY:	0.00	Total =	\$0.00
	TOTAL	INDIRECT COST =	\$1,984.99
TOTAL BO	ND AMOUNT	(direct + indirect) =	\$8,489.99
ROUND TOTAL BONI	) AMOUNT (di	rect + indirect) TO:	\$8,490.00

# MOTOR GRADER WORK

Task description:	Grade staging a	ea				
te: J&J Stone Pit #1	Per	mit Action:	AM-01	P	ermit/Job#:	M2011004
PROJECT IDENTIF	<b>ICATION</b>					
Task #: 001	State:	Colorado		Abbrev	viation N	None
Date: $3/2/2017$	County:	Fremont				M004-001
User: $TC1$	County.	Tremont			<u></u>	
Agency or orga	anization name: DR	MS				
HOURLY EQUIPME	ENT COST					
Basic Machir	e: CAT 12M			Horsepower:	15	8
Ripper Attachmen	nt: Multi-Shank Rij	oper		Shift Basis:	1 per	day
11		•		Data Source:	(CR	
Cost Breakdown:					·`	
Cost Breakdown:				Utilization %		
Own	ership Cost/Hour:		\$28.02	NA		
	rating Cost/Hour:		\$28.28	100		
1	ership Cost/Hour:		\$1.99	NA		
	rating Cost/Hour:		\$2.16	100		
	erator Cost/Hour:		\$28.90	NA		
-	1 Unit Cost/Hour:		\$89.35			
Total	Fleet Cost/Hour:	\$89.	.35			
MATERIAL QUANT Total Area	to be graded or ripped	d: <u>1.00</u>				acres
Source	ce of estimated acreage	e: Revised	d Exhibit L (ve	erified w/ Google E	arth 6/15/1	6 image)
HOURLY PRODUC	<u>FION</u>					
	Average Grader Sp	eed:	1.50	mph		
	Selected Applicat	ion:	Finish	grading (0-2.5 mph	) - 1.5	
	Selected Blade An	gle:	30	degrees		
	Effective Blade Len	gth:	10.40	feet		
	of blade overlap per p		2.00	feet		
	or ripping width per p		8.40	feet		
Unadjusted	d Hourly Unit Product	ion:	1.5273	acres/hou	ſ	
Job Condition Correction	n Factors		S	ite Altitude: <u>5630</u> f	eet	
		Source				
Altitude Adj:	1.00	(CAT HB	5)			
Job Efficiency:	0.85	(1sh/d, mo				
Net Correction:	0.8500	multiplier				
	dinated Hermin Harris	-	1 2092	0.0000 / 11		
	djusted Hourly Unit I		1.2982	acres/Hour acres/Hour		
А	djusted Hourly Fleet I	-iouucuon:	1.2982	acres/Hour		
JOB TIME AND CO	<u>ST</u>					
Fleet size:	1 Grader(s)		Total job time		I	Hours
Unit cost: \$6	8.83 per acre		Total job cost	:: <b>\$69</b>		
φ0	per dere			φ07		

Page 1 of 2

# BULLDOZER WORK

DIFCT IDENTIFICATION     Task #:   002     State:   Colorado     Date:   3/2/2017     County:   Fremont     Date:   3/2/2017     County:   Fremont     Date:   3/2/2017     County:   Fremont     M004-002     Agency or organization name:   DRMS     URLY EQUIPMENT COST     Basic Machine:   Cat D8T - 8SU     Horsepower:   310     Biade Type:   Semi-Universal     Attachment:   3-shank ripper     Shift Basis:   1 per day     Data Source:   (CRG)     'EBreakdown:   Villization %     wnership Cost/Hour:   566.17     Cost/Hour:   57.55     NA   Stat 1.85     NA   Stat 1.85     NA   Stat 1.85     Natal unit Cost/Hour:   \$206.59     TERIAL OUANTITIES   Stat 1.85     nitial Volume:   1.882     Swell factor:   2.315 LCY     urce of estimated swell   Cat Handbook     cor:   S76.6 LCY/h	Task description:	Spread 7 inches of topsoil		D	
Task #:   002   State:   Colorado   Abbreviation:   None     Date:   3/2/2017   County:   Fremont   M004-002     Use:   TC1   Agency or organization name:   DRMS     URLY EQUIPMENT COST     Basic Machine:   Cat D8T - 8SU     Horsepower   310   Blade Type:   Semi-Universal     Attachment:   Semi-Universal   Stift Basis:   Iper day     Data Source:   (CRG)   CostHour:   \$83.81   NA     Operating Cost/Hour:   \$83.81   NA   State:   State:     Operator Cost/Hour:   \$7.55   NA   State:   State:   State:     Diper op. Cost/Hour:   \$206.59   State:	J&J Stone Pit #1	Permit Action:	AM-01	Permit/Jo	b#: <u>M201100</u> 4
Date: $\overline{12/2017}$ County:   Fremont   Filename: $\overline{M004-002}$ User:   TC1   Image: County:   Filename: $\overline{M004-002}$ Agency or organization name:   DRMS     URLY EQUIPMENT COST     Basic Machine:   Cat D8T - 8SU     Horsepower:   310   Blade Type:   Semi-Universal     Attachment:   3-shank ripper   Shift Basis:   1 per day     Data Source:   (CRG)   Image: CostHour:   \$83.81   NA     Sperating Cost/Hour:   \$83.81   NA   NA     Operator Cost/Hour:   \$7.25   NA   Operator Cost/Hour:   \$206.59     tat unit Cost/Hour:   \$2006.59   Stal 1.85   NA   NA     tat unit Cost/Hour:   \$2306.59   Swelf factor:   1.230   Operator Cost/Hour:   \$2315 LCY     urce of estimated volume:   1 riches over 2 acres   Image: Carl Handbook   Image: Carl Handbook   Image: Carl Handbook     tor:	ROJECT IDENTIF	ICATION			
User:   TC1     Agency or organization name:   DRMS     URLY EQUIPMENT COST     Basic Machine:   Cat D8T - 8SU     Horsepower:   310     Blade Type:   Semi-Universal     Attachment:   3-shank ripper     Shift Basis:   1 per day     Data Source:   (CRG)     Breakdown:   Willization %     wnership Cost/Hour:   \$83.81     NA   NA     poperating Cost/Hour:   \$66.17     Ripper own.   \$7.55     NA   ipper op. Cost/Hour:     S206.59   \$121     tatal unit Cost/Hour:   \$206.59     tatal lete Cost/Hour:   \$206.59     tatal lete Cost/Hour:   \$206.59     tatal lete cost/Hour:   \$206.59     swelf facto:   1.230	Task #: 002	State: Colorado		Abbreviation:	None
Agency or organization name:   DRMS     UPUT EOUIPMENT COST     Basic Machine:   Cat D&T - 8SU     Horsepowe:   310     Blade Type:   Semi-Universal     Attachment:   3-shank ripper     Shift Basis:   1 per day     Data Source:   (CGG)     "Ereakdown:   (CGG)     wnership Cost/Hour:   \$83.81     NA   NA     Operating Cost/Hour:   \$7.55     Cost/Hour:   \$7.21     Cost/Hour:   \$206.59     stal unit Cost/Hour:   \$206.59     THERAL QUANTITIES   NA     Initial Youme:   1.882     Swell factor:   1.230     coost Vhour:   \$216.59     THELA QUANTITIES   Stat Handbook     stor:   \$206.59     Turce of estimated swell:   Cat Handbook     stor:   \$206.59     Turce of estimated swell:   Cat Handbook     stor:   \$206.50     Turce of estimated swell:   \$76.61.CY/hr     odiusted bourly   \$76.61.CY/hr     oduction:   \$56.01 feet	Date: 3/2/2017			Filename:	M004-002
URLY EQUIPMENT COST     Basic Machine:   Cat D8T - 8SU     Horsepower:   310     Blade Type:   Semi-Universal     Attachment:   3-shank ripper     Data Source:   (CRG)     Effectation %   Initiation %     whership Cost/Hour:   \$83.81   NA     perating Cost/Hour:   \$66.17   100     Ripper own.   \$7.55   NA     cost/Hour:   \$7.21   100     Operator Cost/Hour:   \$206.59     stal unit Cost/Hour:   \$206.59     stal Pieet Cost/Hour:   \$206.59     stal Pieet Cost/Hour:   \$206.59     stal Pieet Cost/Hour:   \$216.59     stal Init Cost/Hour:   \$216.59     stal Init Cost/Hour:   \$216.59     TERIAL QUANTITIES     mitial Volume:   1.315 LCY     urce of estimated swell   Cat Handbook     Cart Handbook     trape ush distance:     urce of estimated swell   S76.6 LCY/hr     odiuction:   5%     adjusted hourly   \$76.6 LCY/hr     oduction:	User: TC1				
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Deprating Cost/Hour:   \$66.17   100     Ripper own.   \$7.55   NA     cost/Hour:   \$7.21   100     Operator Cost/Hour:   \$206.59     stal unit Cost/Hour:   \$206.59     stal state   \$206.59     stal unit Cost/Hour:   \$206.59     stal Fleet Cost/Hour:   \$206.59     stal Fleet Cost/Hour:   \$206.59     stal Fleet Cost/Hour:   \$206.59     TERIAL QUANTITIES   nitial Volume:     nitial Volume:   1.882     Swell factor:   1.230     .coose volume:   2,315 LCY     uurce of estimated volume:   7 inches over 2 acres     uurce of estimated swell   Cat Handbook     ctor:   Cat Handbook     ctor:   576.6 LCY/hr     udjusted hourly   576.6 LCY/hr     oduction:	Ownership Cost/Hour:	\$83.81			
Ripper own. Cost/Hour:   \$7.55   NA     ipper op. Cost/Hour:   \$7.21   100     Operator Cost/Hour:   \$206.59     stal unit Cost/Hour:   \$206.59     TERIAL QUANTITIES     nitial Volume:   1.882     Swell factor:   1.230     .coose volume:   2,315 LCY     urce of estimated volume:   7 inches over 2 acres     urce of estimated swell   Cat Handbook     .tor:   Cat Handbook     URLY PRODUCTION     verage push distance:   170 feet     adjusted hourly   576.6 LCY/hr     odduction:	Operating Cost/Hour:		100		
ipper op. Cost/Hour: $\$7.21$ 100     Operator Cost/Hour: $\$206.59$ stal Ifleet Cost/Hour: $\$206.59$ tal Fleet Cost/Hour: $\$206.59$ TERIAL QUANTITIES     nitial Volume: $1.882$ Swell factor: $1.230$ 2.coose volume: $2.315 LCY$ nurce of estimated volume:   7 inches over 2 acres     Cat Handbook   Cat Handbook     ctor:   Cat Handbook     URLY PRODUCTION   76.6 LCY/hr     verage push distance:   170 feet     nadjusted hourly   576.6 LCY/hr     oduction:   2.600 feet     aterials consistency description:   Partly consolidated stockpile 1.1     verage push   5 %     adient: $5.630$ feet     aterial weight: $2.100$ lbs/LCY     eight description:   Earth - Loam			NA		
And the construction of the constru			100		
stal unit Cost/Hour:   \$206.59     stal Fleet Cost/Hour:   \$206.59     TERIAL QUANTITIES     nitial Volume:   1,882     Swell factor:   1.230     Loose volume:   2,315 LCY     uurce of estimated volume:   7 inches over 2 acres     uurce of estimated swell   Cat Handbook     ctor:   Cat Handbook     verage push distance:   170 feet     adjusted hourly   576.6 LCY/hr     oduction:   2,630 feet     aterials consistency description:   Partly consolidated stockpile 1.1     verage push   5 %     aterial weight:   2,100 lbs/LCY     eight description:   Earth - Loam					
Purce of estimated volume:   7 inches over 2 acres     Purce of estimated swell   Cat Handbook     Cat Handbook   Cat Handbook     URLY PRODUCTION   Prevention     Verage push distance:   170 feet     hadjusted hourly   576.6 LCY/hr     oduction:   Partly consolidated stockpile 1.1     verage push   5 %     adient:   5,630 feet     verage site altitude:   5,630 feet     aterial weight:   2,100 lbs/LCY     eight description:   Earth - Loam	Initial Volume: 1,8 Swell factor: 1.2	82 30			
urce of estimated swell   Cat Handbook     ctor:	Loose volume: 2,3	15 LCY			
ctor:	Source of estimated vol	lume: 7 inches over 2 acres			
URLY PRODUCTION     verage push distance:   170 feet     hadjusted hourly   576.6 LCY/hr     oduction:   Partly consolidated stockpile 1.1     verage push   5 %     adient:   5,630 feet     verage site altitude:   5,630 feet     aterial weight:   2,100 lbs/LCY     eight description:   Earth - Loam	Source of estimated swe factor:	ell Cat Handbook			
verage push distance:   170 feet     hadjusted hourly   576.6 LCY/hr     oduction:   Partly consolidated stockpile 1.1     verage push   5 %     adient:   5,630 feet     verage site altitude:   5,630 feet     aterial weight:   2,100 lbs/LCY     eight description:   Earth - Loam					
hadjusted hourly   576.6 LCY/hr     oduction:	IOURLY PRODUCT	<u>FION</u>			
verage push 5 %   adient: 5,630 feet   verage site altitude: 5,630 feet   aterial weight: 2,100 lbs/LCY   eight description: Earth - Loam	Average push distance: Unadjusted hourly production:				
adient: verage site altitude: 5,630 feet aterial weight: 2,100 lbs/LCY eight description: Earth - Loam	Materials consistency d	lescription: _ Partly consolidated	stockpile 1.1		
verage site altitude:   5,630 feet     aterial weight:   2,100 lbs/LCY     eight description:   Earth - Loam	Average push	5 %			
eight description: Earth - Loam	Average site altitude:	5,630 feet			
	Material weight:	2,100 lbs/LCY			
Condition Correction Factor Source	Weight description:	Earth - Loam			
Boulden Concellon Factor					

Task # 002

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:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5417

Adjusted unit production:	312.34 LCY/hr
Adjusted fleet production:	<b>312.34</b> LCY/hr

#### JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.661/LCY

Total job time:	<b>7.41</b> Hours
Total job cost:	\$1,531

# MOTOR GRADER WORK

Task description:	Final grading on 2	acres			
Site: J&J Stone Pit #1	Perm	it Action: A	M-01	Pe	ermit/Job#: <u>M2011004</u>
PROJECT IDENTIF	<b>ICATION</b>				
Task #: 003	State:	Colorado		Abbrev	iation: None
Date: 3/2/2017 User: TC1	County: _]	Fremont		File	mame: M004-003
Agency or orga	unization name: DRM	IS			
HOURLY EQUIPMI	ENT COST				
Basic Machir	e: CAT 12M			Horsepower:	158
Ripper Attachmen	nt:			Shift Basis:	1 per day
				Data Source:	(CRG)
Cost Breakdown:					
<u>Cost Broundo win</u>				Utilization %	
Own	ership Cost/Hour:		\$28.02	NA	
-	rating Cost/Hour:		\$28.28	100	
	ership Cost/Hour:		\$0.00	NA	
	rating Cost/Hour:		\$0.00		
	erator Cost/Hour: l Unit Cost/Hour:		\$28.90 \$85.20	NA	
10ta			\$83.20		
Total	Fleet Cost/Hour:	\$85.20			
MATERIAL QUAN	TTIES				
Total Area	to be graded or ripped:	2.00			acres
Source	e of estimated acreage:	Revised Ex	hibit L		
HOURLY PRODUC	<u>FION</u>				
	Average Grader Spee	d:	1.50	mph	
	Selected Application			grading (0-2.5 mph)	) - 1.5
	Selected Blade Angl		30	degrees	
XX7: 1/1	Effective Blade Lengt		10.40	feet	
	of blade overlap per pas or ripping width per pas		2.00 8.40	feet feet	
	Hourly Unit Production		1.5273	acres/hour	
Job Condition Correction	-			te Altitude: 5630 fe	
		Source			
Altitude Adj:	1.00	(CAT HB)			
Job Efficiency:		1sh/d, mod.)			
Net Correction:	0.8500	multiplier			
A	djusted Hourly Unit Pro	oduction:	1.2982	acres/Hour	
	djusted Hourly Fleet Pro		1.2982	acres/Hour	
JOB TIME AND CO	ST				
Fleet size:	1 Grader(s)	Tot	al job time:	1.54	Hours
Unit cost: \$6	5.63 per acre	Tot	al job cost:	: \$131	

# **REVEGETATION WORK**

J&J Sto	ne Pit #1	Permit Action: A	M-01 Per	mit/Job#: <u>M2011004</u>
<u>'ROJECT</u>	IDENTIFI	CATION		
Task #:	004	State: Colorado	Abbrevia	tion: None
Date:	3/2/2017	County: Fremont	Filen	ame: M004-004
	TC1			

# **FERTILIZING**

#### Materials

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

# Application

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

# TILLING

Description		Cost /Acre
Chisel plowing {DMG}		\$90.60
Weed control spraying (MEANS 31 31 16.13 3100)		\$242.00
	<b>Total Tilling Cost/Acre</b>	\$332.60

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	2.40	39.17	\$34.80
Indian Ricegrass - Native	2.50	8.09	\$17.50
Sideoats Grama - El Reno	4.50	14.77	\$43.52
Western Wheatgrass - Arriba	8.00	20.20	\$64.64
Totals Seed Mix	17.40	82.24	\$160.46

#### Application

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

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

## Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
	<b>Total Mulch Application Cost/Acre</b>	\$66.02

## **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
		Totals 1	Nursery Stoc	k Cost / Acre	\$ <b>0.00</b>

## JOB TIME AND COST

No. of Acres:	2	Cost /Acre:	\$1,313.08
Estimated Failure Rate:	40%	Cost /Acre*:	\$725.06
*Selected Replanting Work Items:	FERTILIZING,TII	LING,SEEDING	

Initial Job Cost:	\$2,626.16
Reseeding Job Cost:	\$580.05
Total Job Cost:	\$3,206
Job Hours:	3.50

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description	n: <u>Mo</u>	b/Demob					
: J&J Stone P	it #1	Permit	Action: <u>AM-0</u>	)1	]	Permit/Job#: <u>M</u>	2011004
PROJECT ID	ENTIFICATI	ON					
Task #: 0	)5	State: Co	olorado		Abbre	eviation: None	
	2/2017	County: Fre	emont		Fi	lename: M004	-005
User: T	C1						
Agency	or organization	n name: DRMS					
EQUIPMENT	TRANSPOR	<u>T RIG COST</u>					
					Shift ba	sis: 1 per da	ly
				C	Cost Data Sour		
Tm	alt Tractor Daga	mintion: CENE	DIC ON LICU	VAV TDI	CV TDACTO	D 6VA DIECEI	DOWEDED
Tru	ck Tractor Desc	ription: GENE	RIC ON-HIGHV			OR, 6X4, DIESEL 2006)	L POWERED,
		-		400 HP	(2ND HALF,	2006)	
	ck Tractor Desc ck Trailer Desc	-	ENERIC FOLD	400 HP ING GOO	(2ND HALF, SENECK, DF	2006) ROP DECK EQU	
		-	ENERIC FOLD	400 HP ING GOO	(2ND HALF,	2006) ROP DECK EQU	
	ck Trailer Desc	-	ENERIC FOLD	400 HP ING GOO	(2ND HALF, SENECK, DF	2006) ROP DECK EQU	
Trı	ck Trailer Desc	-	ENERIC FOLD	400 HP ING GOO TRAILER (	(2ND HALF, SENECK, DF	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig	ck Trailer Desc	ription: Gl	ENERIC FOLD T	400 HP ING GOO TRAILER ( 51+	(2ND HALF, SENECK, DF (25T, 50T, AN	2006) ROP DECK EQU	
Tru <u>Cost Breakdown</u> <b>Available Rig</b> Ownersh	ck Trailer Desc C <b>apacities</b>	o-25 Tons	ENERIC FOLD T 26-50 Tons	400 HP ING GOO TRAILER ( 51+ \$2	(2ND HALF, SENECK, DF (25T, 50T, AN Tons	2006) ROP DECK EQU	
Tru <u>Cost Breakdown</u> Available Rig Ownersh Operatin	ck Trailer Desc C <b>apacities</b> ip Cost/Hour:	0-25 Tons \$16.63	ENERIC FOLD T 26-50 Tons \$18.37	400 HP ING GOO RAILER ( 51+ \$2 \$5	(2ND HALF, SENECK, DF (25T, 50T, AN Tons 2.33	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig Ownersh Operatin Operat Help	ck Trailer Desc Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour:	0-25 Tons       \$16.63       \$44.38	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$2	(2ND HALF, SENECK, DF (25T, 50T, AN 7.66 5.39	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig Ownersh Operatin Operat Help	ck Trailer Desc Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour:	0-25 Tons       \$16.63       \$44.38       \$27.66	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$2	(2ND HALF, SENECK, DF (25T, 50T, AN 7.66	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig Ownersh Operatin Operat Help	ck Trailer Desc Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour:	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$2	(2ND HALF, SENECK, DF (25T, 50T, AN 7.66 5.39	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig Ownersh Operatin Operat Help	ck Trailer Desc Capacities ip Cost/Hour: ng Cost/Hour: or Cost/Hour: er Cost/Hour: hit Cost/Hour:	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$2	(2ND HALF, SENECK, DF (25T, 50T, AN 7.66 5.39	2006) ROP DECK EQU	
Tru Cost Breakdown Available Rig Ownersh Operatin Operati Help Total Un NON ROADA	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: bit Cost/Hour:	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55	400 HP ING GOO TRAILER ( 51+ \$2 \$5 \$2 \$2 \$1 \$1	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45	2006) ROP DECK EQU ND 100T)	IPMENT
Tru <u>Cost Breakdown</u> <u>Available Rig</u> Ownersh Operati Operati Help Total Ur NON ROADA Machine	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: bit Cost/Hour: BLE EQUIPN Weight/	0-25 Tons       \$16.63       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67       MENT:       Owner ship	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$12 \$12 Fleet	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45 Haul Trip	2006) ROP DECK EQU ND 100T) Return Trip	IPMENT DOT Permit
Tru Cost Breakdown Available Rig Ownersh Operatin Operati Help Total Un NON ROADA	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: BLE EQUIPN Weight/ Unit	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni	400 HP ING GOO TRAILER ( 51+ \$2 \$5 \$2 \$2 \$1 \$1	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/	2006) ROP DECK EQU ND 100T)	IPMENT
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Un NON ROADA Machine Description	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67       MENT:       Owner ship       Cost/hr/ unit	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$1 \$1 Fleet Size	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet	2006) ROP DECK EQUIND 100T) Return Trip Cost/hr/ fleet	IPMENT DOT Permit Cost/ fleet
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Un NON ROADA Machine Description Cat D8T - 8SU	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: BLE EQUIPN Weight/ Unit (TONS) 53.08	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67       MENT:       Owner ship       Cost/hr/ unit       \$91.36	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$1 \$1 Fleet Size 1	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet \$216.81	2006) ROP DECK EQU ND 100T) Return Trip Cost/hr/ fleet \$125.45	IPMENT DOT Permit Cost/ fleet \$250.00
Tru Cost Breakdown Available Rig Ownersh Operatin Operatin Operatin Un NON ROADA Machine Description	ck Trailer Desc Capacities ip Cost/Hour: or Cost/Hour: or Cost/Hour: er Cost/Hour: it Cost/Hour: BLE EQUIPN Weight/ Unit (TONS)	0-25 Tons       \$16.63       \$44.38       \$27.66       \$0.00       \$88.67       MENT:       Owner ship       Cost/hr/ unit	ENERIC FOLD T 26-50 Tons \$18.37 \$46.13 \$27.66 \$25.39 \$117.55 Haul Rig Cost/hr/uni t \$125.45 \$88.67	400 HP ING GOO 'RAILER ( 51+ \$2 \$5 \$2 \$2 \$2 \$1 \$1 Fleet Size	(2ND HALF, SENECK, DF (25T, 50T, AN 2.33 0.07 7.66 5.39 25.45 Haul Trip Cost/hr/ fleet	2006) ROP DECK EQUIND 100T) Return Trip Cost/hr/ fleet	IPMENT DOT Permit Cost/ fleet

# **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Drill/Broadcast Seeder with Tractor	\$30.89	1	\$30.89	\$30.89
		Subtotals:	\$30.89	\$30.89

# **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	CAÑON CITY	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	25.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$1,555.33	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$12.36	

Transportation Cycle Time:

Haul Time (Hours): Return Time (Hours): Loading Time (Hours):	Non- Roadable Equipment 0.20 0.20 0.25	Roadable Equipment 0.20 0.20 NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.90	0.40

## JOB TIME AND COST

Total job time: **1.80** Hours

Total job cost: \$1,568