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: Ingleside Quarry	**MINE/PROSPECTING ID#:** M-1980-037-HR	**MINERAL:** Limestone (general)	**COUNTY:** Larimer
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Jared L. Ebert	**INSP. DATE:** July 18, 2017	**INSP. TIME:** 09:30
OPERATOR: Pioneer Sand Company, Inc.	**OPERATOR REPRESENTATIVE:** Russ Bartz, Pioneer Sand Company, Inc.	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $80,644.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Cloudy	**INSPECTOR'S SIGNATURE:** 	**SIGNATURE DATE:** July 20, 2017

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

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

OBSERVATIONS

This was a monitoring inspection of the Ingleside Quarry, DRMS Permit No. M-1980-037HR operated by Pioneer Sand Company, Inc. (PSC) I, Jared Ebert with the Colorado Division of Reclamation, Mining and Safety (Division) conducted the inspection. Mr. Russ Bartz with PSC accompanied me during the inspection.

This is an 86 acre 112c mining operation for limestone, ballast, sub-ballast, road base and aggregate material.

Backfilling and Grading:
The Operator has mined the site from north to south. The advancing highwall daylights to the east and to the north forming an "L" shape. The Operator has created two reclaimed benches on the north side of the site. The highwall above each bench is 20 to 25 feet in height. Below the second bench the highwall is about 10 to 15 feet in height and a slope of rubble has been graded to a near 3H:1V angle. At the toe of the advancing slope, there is a level area where the Operator processes and stockpiles the various types of mine products.

Explosives:
A contractor was onsite preparing for a blast that was scheduled to occur the day following this inspection. An 80 to 85 hole shot was drilled and the blasting operator was onsite loading the holes. The blasting contractor indicated that they design the blast that only one hole is detonated within any 8 millisecond period and that the average hole detonates 150 pounds of ANFO.

A drilling contractor was also onsite preparing another area for a blast.

Financial Warranty:
The Division currently holds a Financial Warranty in the amount of $80,644.00 in the form of a corporate surety. The last time the Division evaluated the financial warranty was in 2013. The Division has re-evaluated the financial warranty held for the site based on the current level of disturbance and the approved mining and reclamation plan. The Division calculated the liability at the site to be $90,878.51. This is $10,234.51 more than the currently held financial warranty. The Division's estimate is enclosed with this report for the Operators review. The Division requests that the Operator review the cost estimate and provide the Division any questions or concerns by **August 4th, 2017**. The Division may issue a surety increase revision after August 4th, 2017 and require the Operator to post the additionally required financial warranty in accordance with Rule 4.2.1(2). The Operator will have sixty (60) days from the date of the separate notice of surety increase to provide the additional financial warranty.

Hydrologic Balance:
This is a dry operation.

Gen. Compliance With Mine Plan:
The approved mining plan indicates the total affected area that can occur at the site to be 66 acres. However, the plan further explains that there should only be 6 acers of major disturbance, 8 acres of moderate disturbance and 7 acres of minor disturbance. It is not clear based on the mining plan what constitutes major, moderate and minor disturbance. Based on the observations made at the site and a recent Google Earth aerial photograph dated September 7, 2016, the Division estimates that 27 acres have been affected by the quarry operation. This area consists of the main quarry area, the stockpile/processing area, roads, a level area

cleared of vegetation where the mining contractor has set up a camper and the two scale-house areas.

It appears the Operator has maintained the 50 foot setback from the edge of the ridge in accordance with the approved plan. Based on the Division's observations, the current quarrying is occurring in the Stage C portion of the mine area. According to Mr. Bartz, PSC plans to go back north and continue mining benches below the currently reclaimed benches.

Off-site Damage:
No offsite damage was observed.

Processing Waste:
A large stockpile of crusher fines is located on the south east end of the affected area.

Reclamation Success:
The Operator has created two benches and has spread fine material on top of these benches and seeded the area. Native grasses and shrubs have well established on these benches.

Support Facilities On-site:
As one enters the site there is a scale, a trailer and a storage building located adjacent to Ingleside road. Also pallets of dimensional stone is located near this area. The access road turns and goes north into the quarry area. Another scale and scale-house is located along the access road.

Topsoil:
Based on the permit, there was not topsoil present at the site when mining began. However, the Operator agreed to maintain a stockpile of processing fines for reclamation on site. A pile of processing fines is located on the southeast portion of the site.

PHOTOGRAPHS

Figure 1. From the northeast toe of the mine slope looking south.

Figure 2. From the north end of the site looking south.

Figure 3. From the north end of the reclaimed benches looking south.

Figure 4. Near the southwest end of the affected area looking east.

Figure 5. Bench where blasting contractor was preparing a blast.

Figure 6. From the southwest end of the site looking north along the top of the ridge.

Inspection Contact Address
Joe Kraig
Pioneer Sand Company, Inc.
630 Plaza Drive, Suite 150
Highlands Ranch, CO 80129

Enclosure

EC: Julie Sevier, PSC via e-mail Jsevier@pioneersand.com

COST SUMMARY WORK

Task description:

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: M037-000
User: JLE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Blasting benches in highwall	BLASTING	1	129.24	$30,137.00
002	Backfill and grade ~22,222 cy of rubble	DOZER	1	29.30	$6,690.00
003	Rip storage area and internal haul roads	RIPPER	1	19.44	$4,786.00
004	Spread fines on reclaimed benches	DOZER	1	0.37	$85.00
005	Revegetate Pit floor, storage areas, internal haul roads.	REVEGE	1	12.22	$24,236.00
006	Revegetating benches	REVEGE	1	1.00	$1,128.00
007	Equipment Mobilization/Demobilization	MOBILIZE	1	2.20	$3,225.00
		SUBTOTALS:		**193.77**	**$70,287**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,419.80
Performance bond:	1.05	Total =	$738.01
Job superintendent:	96.89	Total =	$7,077.45
Profit:	10.00	Total =	$7,028.70
		TOTAL O & P =	$16,263.96
		CONTRACT AMOUNT (direct + O & P) =	$86,550.96

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00	Total =	$0.00
Reclamation management and/or administration:	5.00		$4,327.55
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$20,591.51
		TOTAL BOND AMOUNT (direct + indirect) =	**$90,878.51**

SURFACE BLASTING WORK

Task description: **Blasting benches in highwall**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

BLAST AREA DIMENSIONS

		QUANTITY	UNIT
Blast Area Configuration:	Box-shaped mass (flat safety benches, general pit blasting)		
Blasting Method Description:	Conventional surface blast (fragmentation only)		
Highwall or Bench Face Angle:		0.00	h:1v
Regraded Slope Angle:		0.00	h:1v
Highwall or Bench Length:		1,200	feet
Highwall or Bench Width:		20	feet
Highwall or Bench Height:		30.0	feet
Depth to Base of Cut at Highwall:		25.0	feet

BLAST AREA VOLUMES

	QUANTITY	UNIT
Total Volume of Dimensional Mass to be Shot:	22,222	cubic yards
Blast Volume to Subdrill Grade and Blast Pattern Lines:	17,778	cubic yards
Blast Volume to Finish Grade and Blast Pattern Lines:	17,778	cubic yards
Remaining Volume Required to be Re-Shot or Ripped:	4,444	cubic yards

BLAST AREA DESIGN

	QUANTITY	UNIT
Recommended Blasthole Diameter:	3.333	inches
Selected Blasthole Diameter:	4.000	inches
Subdrilling Allowance:	0.0	feet
Blasthole Depth:	25.0	feet
Density of Rock:	Average Density Rock (ANFO Basis)	rock density
Burden to Charge Diameter Ratio:	25	times diameter
Burden:	8.0	feet
Spacing to Burden Ratio:	1.3	times burden
Spacing:	10.0	feet
Cubic Yards of Rock per Blasthole:	74.07	cubic yards
Powder Factor Description:	Medium	rock strength
Powder Factor:	0.575	pounds/cu. yd.
Density of Blasting Agent:	0.85	grams/cc
Quantity of Explosives per Blasthole:	42.59	POUNDS
Height of Powder Column:	9.20	feet
Height of Stemming per Blasthole:	15.80	feet
Stemming to Burden Ratio:	1.98	times burden
Quantity of Stemming per Blasthole:	0.0511	cubic yards
Number of Rows:	2	rows
Number of Blastholes per Row:	120	holes per row
Total Number of Blastholes:	240	holes
Total Length of all Blastholes:	6,000	feet

BLASTING MATERIALS QUANTITIES

	QUANTITY	UNIT
Total Quantity of Stemming Required:	12.26	cubic yards
Total Quantity of Explosives Required:	10,222	pounds
Total Quantity of det. cord/fuse/wire Required:	9,258	linear feet
Quantity of Blasting Caps per Blasthole:	1	cap(s)
Total Quantity of Blasting Caps Required:	240	caps
Quantity of Primers per Blasthole:	1	primer(s)
Total Quantity of Primers Required:	240	primers
Quantity of Delays per Blasthole:	1	delay(s)
Total Quantity of Delays Required:	242	delays

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Description
Drilling Equipment - Drill:	ATLAS COPCO ROC D7-11,4.0 in.
-Drill Pad Preparation:	NA
Misc. Drill Support Equipment:	NA
Misc. Explosives Support Equipment:	NA
Explosives Delivery –Bulk Truck:	ANFO Bulk Delivery Truck
-Cap Truck:	Cap Delivery Truck

Cost Breakdown:

	Drilling Equipment	Drill Pad Preparation	Misc. Drill Support	Misc. Expl. Support	Explosives Delivery Bulk Truck	Cap Truck
	Drilling				MiscTruck	MiscTruck
%Utilization-machine:	50	NA	NA	NA	5	5
Ownership cost/hour:	$70.69	NA	NA	NA	$74.07	$4.42
Operating cost/hour:	$29.74	NA	NA	NA	$5.44	$1.08
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	NA	NA	NA	$0.00	$0.00
Operator cost/hour:	$28.53	NA	NA	NA	$41.26	$41.26
Unit Subtotals:	$128.96	$0.00	$0.00	$0.00	$120.77	$46.77
Number of Units:	1	0	0	0	1	1
Group Subtotals:	$128.96	$0.00	$0.00	$0.00	$120.77	$46.77

Total work team cost/hour: **$296.50**

MATERIALS COST

	Description	Unit	Unit Cost	Quantity	Total Cost
Blasting Agent:	Bulk ANFO nom. density (7,900-15,000 fps)	Pound	$0.239	10222.222	$2,443.11
Primers or Boosters:	Cast primer, 0.3 lb (electric or non-electric system)	Each	$2.950	240.000	$708.00
Blasting Caps:	Non-electric cap, delay (non-electric systems)	Each	$3.569	240.000	$856.56
Det. Cord, fuse, or wire:	Detonating cord, 10 gr./ft. (non-electric systems)	Linear foot	$0.122	9257.600	$1,129.43
Delays:	MS connectors (non-electric systems)	Each	$7.850	242.000	$1,899.70
Miscellaneous:	NO MISCELLANEOUS MATERIALS REQUIRED	NA	$0.000	0.000	$0.00
Drill bits:	Bit life = 1,400	Linear feet	$1,095.19	4.286	$4,693.67
				Total Materials Cost:	**$11,730.47**

DRILLING AND EXPLOSIVES PREPARATION TIME

Total Drilling Length:	6,000	linear feet
Unadjusted Drilling Rate:	112.00	feet/hour
Drilling Time:	84.17	hours

Job Condition Corrections:

Site Altitude:	5,800	feet
Altitude Adjustment:	0.95	(DRMS est.)
Job Efficiency Factor:	0.67	(CH. Exc. HB)
Adjusted Drilling Rate:	**71.29**	feet/hour
Explosives Prep. Time:	45.08	hours

JOB TIME AND COST

Total Job Time: **129.25** Hours

Unit cost: $1.695 per cu. yd. Total Job Cost: **$30,137**

BULLDOZER WORK

Task description: **Backfill and grade ~22,222 cy of rubble**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: M037-002
User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.52	NA

Total unit Cost/Hour: $228.34
Total Fleet Cost/Hour: **$228.34**

MATERIAL QUANTITIES

Initial Volume: 22,222
Swell factor: 1.000
Loose volume: **22,222** 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, well ripped or blasted 0.8

Average push gradient: 0 %
Average site altitude: 5,600 feet

Material weight: 2,550 lbs/LCY

Weight description: Sandstone

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)

Material consistency:	0.800	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3594

Adjusted unit production: 758.51 LCY/hr

Adjusted fleet production: **758.51** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: $0.301/LCY

Total job time: **29.30** Hours

Total job cost: **$6,690**

BULLDOZER RIPPING WORK

Task description: **Rip storage area and internal haul roads**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU Horsepower: 405
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper Ownership Cost/Hour:	$10.94	NA
Ripper Operating Cost/Hour:	$6.82	100
Operator Cost/Hour:	$40.52	NA
Total Unit Cost/Hour:	$246.10	

Total Fleet Cost/Hour: **$246.10**

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 12.30 acres Rip Depth (ft): 1.00 Volume: 19,844 BCY or CCY

Source of estimated quantity: DRMS Estimate of current Storage, Scale House and Road Areas

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.63	mph
Average Ripping Width:	7.67	degrees
Average Ripping Length:	100.00	feet
Average Dozer Speed:	88.00	feet
Average Maneuver Time:	0.25	feet
Production per unit area:	0.762	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	0.762	Acres/hr
Site Altitude:	5,600	feet
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier
Adjusted Hourly Unit Production:	0.63	Acres/hr
Adjusted Hourly Fleet Production:	**0.63**	Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **19.45** Hours

Unit cost:	$389.092	Per acre	Total job cost:	**$4,786**

BULLDOZER WORK

Task description: **Spread fines on reclaimed benches**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.52	NA

Total unit Cost/Hour: $228.34
Total Fleet Cost/Hour: **$228.34**

MATERIAL QUANTITIES

Initial Volume: 444
Swell factor: 1.000
Loose volume: **444** LCY

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

HOURLY PRODUCTION

Average push distance: 75 feet
Unadjusted hourly production: 1,514.3 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 0 %
Average site altitude: 5,600 feet

Material weight: 1,600 lbs/LCY

Weight description: Top Soil

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7877

Adjusted unit production: 1,192.81 LCY/hr

Adjusted fleet production: **1192.81** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: $0.191/LCY

Total job time: **0.37** Hours

Total job cost: **$85**

REVEGETATION WORK

Task description: **Revegetate Pit floor, storage areas, internal haul roads.**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

FERTILIZING

Materials

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

Application

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

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	2.50	8.09	$17.50
Little Bluestem - Native	2.00	11.94	$31.50
Sideoats Grama - Vaughn	3.00	9.85	$30.00
Pubescent Wheatgrass - VNS	3.50	7.23	$11.90
Totals Seed Mix	11.00	37.11	**$90.90**

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
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
Total Mulch Application Cost/Acre	**$66.02**

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:	24.44	Cost /Acre:	$910.92
Estimated Failure Rate:	25%	Cost /Acre*:	$322.90
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	**$22,262.88**
Reseeding Job Cost:	**$1,972.92**
Total Job Cost:	**$24,236**
Job Hours:	**12.22**

REVEGETATION WORK

Task description: **Revegetating benches**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

FERTILIZING

Materials

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

Application

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

TILLING

Description	Cost /Acre
	$
Total Tilling Cost/Acre	**$0.00**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	5.00	16.18	$35.00
Little Bluestem - Native	4.00	23.88	$63.00
Sideoats Grama - Vaughn	6.00	19.70	$60.00
Pubescent Wheatgrass - VNS	7.00	14.46	$23.80
Totals Seed Mix	22.00	74.22	**$181.80**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22

Total Seed Application Cost/Acre	**$267.22**

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
Hydromulching (MEANS 32 92 19.13 1100)	$968.00
Total Mulch Application Cost/Acre	**$968.00**

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:	0.55	Cost /Acre:	$1,939.02
Estimated Failure Rate:	25%	Cost /Acre*:	$449.02
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	**$1,066.46**
Reseeding Job Cost:	**$61.74**
Total Job Cost:	**$1,128**
Job Hours:	**1.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Equipment Mobilization/Demobilization**

Site: **Ingleside Quarry** Permit Action: 2017 Cost Estimate Permit/Job#: M1980037HR

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
Date: 7/20/2017 County: Larimer Filename: NA
User: JLE

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

Shift basis: 1 per day
Cost Data Source: CRG Data

Truck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED, 400 HP (2ND HALF, 2006)

Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER (25T, 50T, AND 100T)

Cost Breakdown:

Available Rig Capacities	**0-25 Tons**	**26-50 Tons**	**51+ Tons**
Ownership Cost/Hour:	$16.63	$18.37	$22.33
Operating Cost/Hour:	$44.38	$46.13	$50.07
Operator Cost/Hour:	$27.66	$27.66	$27.66
Helper Cost/Hour:	$0.00	$25.39	$25.39
Total Unit Cost/Hour:	$88.67	$117.55	$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	66.13	$111.53	$125.45	2	$473.96	$250.90	$250.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	$70.69	$88.67	1	$159.36	$88.67	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$12.22	$88.67	1	$100.89	$88.67	$250.00
Subtotals:					**$734.21**	**$428.24**	**$750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
ANFO Bulk Delivery Truck	$208.74	1	$208.74	$208.74
Cap Delivery Truck	$51.94	1	$51.94	$51.94
Light Duty Pickup, 4x4, 3/4 T.	$77.71	1	$77.71	$77.71
Fuel Tanker, 6x4, 210 HP	$74.87	2	$149.74	$149.74
Subtotals:			**$488.13**	**$488.13**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	FORT COLLINS	
Total one-way travel distance:	15.00	miles
Average Travel Speed:	50.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$2,931.68	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$292.88	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.30	0.30
Return Time (Hours):	0.30	0.30
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.10	0.60

JOB TIME AND COST

Total job time:	**2.20**	Hours
Total job cost:	**$3,225**	