



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

January 5, 2022

Mr. John P. Ary
Fremont Paving & Redi-Mix, Inc.
839 MacKenzie Avenue
Canon City, CO 81212

Re: Penrose Pit, Permit No. M-1987-131, Amendment Approval, Revision No. AM-3

Dear Mr. Ary:

On January 5, 2022 the Division of Reclamation, Mining and Safety approved the Amendment application submitted to the Division on January 14, 2021, addressing the following:

The amendment to the existing operation changes the total acreage to 1,023.5 with no more than 100 acres active at one time.

The terms of the Amendment No. 3 approved by the Division are hereby incorporated into Permit No. M-1987-131. All other conditions and requirements of Permit No. M-1987-131 remain in full force and effect.

The revised liability amount exceeds the performance bond currently held (see below). Please submit the additional bond. The revision will not be final until the bond is approved by the Division.

Bond Held:	\$320,000.00
Prior Liability:	\$320,000.00
Change in Liability:	\$66,242.00
Revised Liability (see attached estimate):	\$386,242.00

The Division is also approving your acreage release request (AR-2) which will reduce the permit and affected area acreage, but will not affect the bond amount. You will be notified of the approval of AR-2 under separate cover. If you have any questions, please contact me.

Sincerely,

Timothy A. Cazier, P.E.
Environmental Protection Specialist

Enclosure: Bond estimate

cc: Sara Stevenson-Benn, DRMS
DRMS file
Jodi Schreiber, Fremont Paving



COST SUMMARY WORK

Task description: Cost Summary

Site: Penrose Pit

Permit Action: AM-03

Permit/Job#: M1987131

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 12/30/2021

County: Fremont

Filename: M131-000

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill 1,000ft of 40-ft HW to 3H:1V	SCRAPER1	1	91.94	\$96,528
002	Place 3 inches overburden on 100 acres	SCRAPER1	1	41.72	\$43,118
003	Place 3 inches topsoil on 100 acres	SCRAPER1	1	36.91	\$36,470
004	Reveg - 100 acres	REVEGE	1	200.00	\$117,028
006	Mob/Demob Equipment	MOBILIZE	1	4.70	\$7,576
<u>SUBTOTALS:</u>				375.27	\$300,720

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$6,075

Performance bond: 1.05

Total = \$3,158

Job superintendent: 187.64

Total = \$13,515

Profit: 10.00

Total = \$30,072

TOTAL O & P = \$52,819

CONTRACT AMOUNT (direct + O & P) = \$353,539

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): \$0

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$15,025

Reclamation management and/or administration: 5.00

\$17,677

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$85,522

TOTAL BOND AMOUNT (direct + indirect) = \$386,242

SCRAPER TEAM WORKTask description: **Backfill 1,000ft of 40-ft HW to 3H:1V**Site: **Penrose Pit**Permit Action: AM-03Permit/Job#: M1987131**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 12/30/2021County: FremontFilename: M131-001User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	25	25
Ownership cost/hour:	\$147.77	NA	NA	\$97.46	\$85.80	\$33.45
Operating cost/hour:	\$141.36	NA	NA	\$97.63	\$15.10	\$10.49
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	NA	\$41.30	\$28.56	\$0.00
Unit Subtotals:	\$320.03	NA	NA	\$236.39	\$129.46	\$43.94
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$640.06	Support:	\$236.39	Maint:	\$173.40

Total work team cost/hour: **\$1,049.85****MATERIAL QUANTITIES**Initial volume: 88,889

CCY

Swell factor: 1.124Loose volume: **99,876**

LCY

Source of estimated volume: 3H:1V from 1,000 ft long, 40 ft highwall (see 001.1 graphic)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Sand and gravel - Dry
 Rated Payload: 81,600 pounds
 Payload Capacity: 28.14 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: **28.14** LCY

Cycle Time:

Scraper Loading Time: 0.80 Minutes
 Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

Site Altitude: 5200 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	1667	0.40
2	250.00	-7.00	4.00	-3.00	2920	0.13
3	375.00	0.00	4.00	4.00	1667	-0.15

Haul Time: 0.38 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	2744	0.38
2	250.00	7.00	4.00	11.00	1060	-0.01
3	375.00	0.00	4.00	4.00	2744	0.33

Return Time: 0.70 minutes

Total Scraper team cycle time: 2.58 minutes
 Adjusted for job conditions: 543.13 LCY/Hour
 Selected Number of Scrapers: 2 Scraper(s)
 Adjusted single scraper team (unit) hourly production: 1,086.26 LCY/Hour
 Adjusted multiple scraper team (fleet) hourly production: 1,086.26 LCY/Hour

Unadjusted unit production/hour: 654.37 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 91.94 HoursUnit cost: \$0.966 /LCY Total job cost: \$96,528

Task # 001.1 Highwall Backfill Volume Estimate

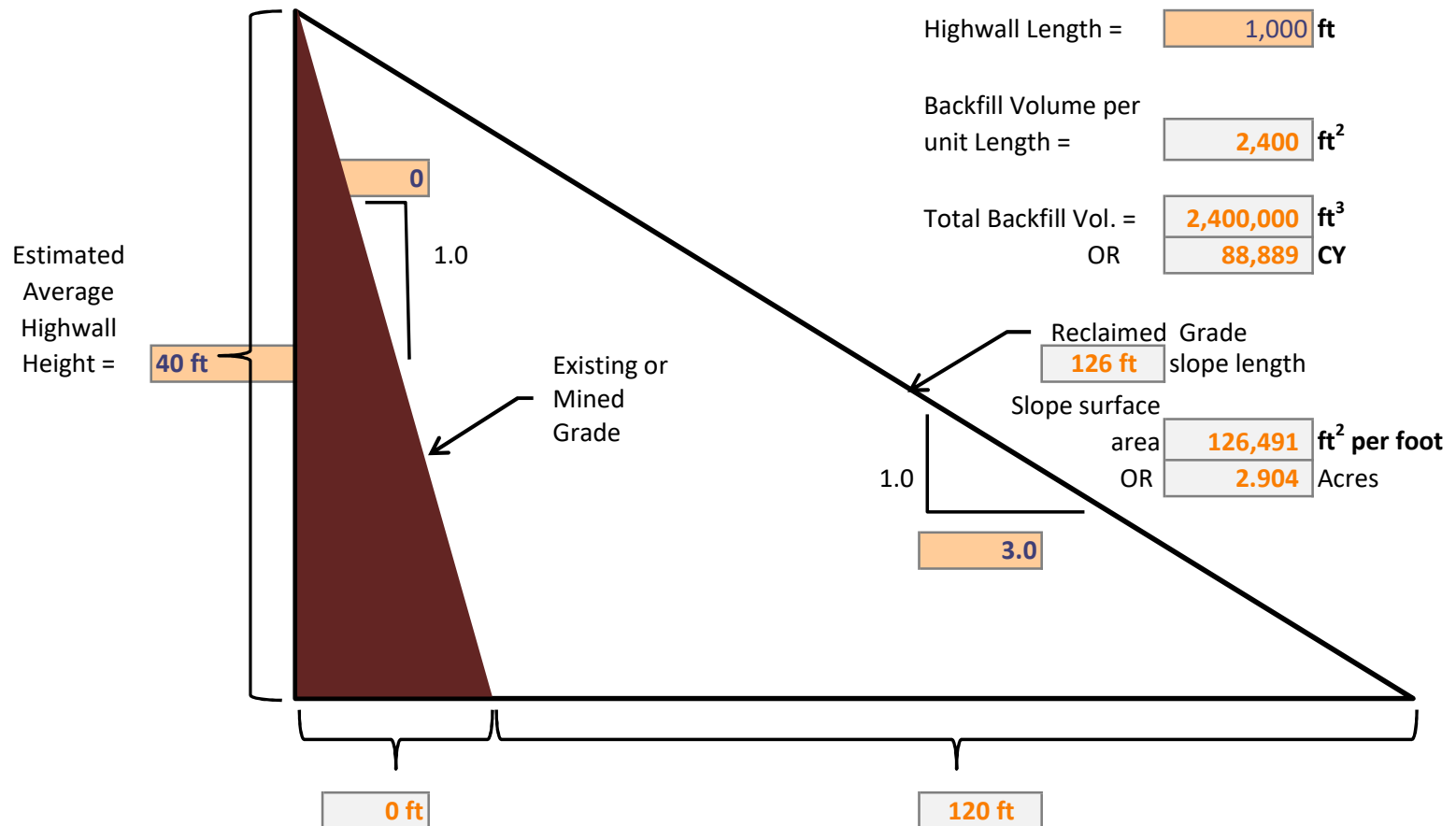
PROJECT: Penrose Pit
PERMIT No.: M-1987-131: AM-3
HIGHWALL LOCATION: Current Phase (reference 8/24/2021 adequacy response letter)

DATE: 12/30/2021

LEGEND

Input

Result



HIGHWALL BACKFILL VOLUME ESTIMATE

SCRAPER TEAM WORKTask description: Place 3 inches overburden on 100 acresSite: Penrose PitPermit Action: AM-03Permit/Job#: M1987131**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 10/12/2021County: FremontFilename: M131-002User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	CAT 14M
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	100	25
Ownership cost/hour:	\$147.77	NA	NA	\$85.80	\$85.80	\$33.45
Operating cost/hour:	\$141.36	NA	NA	\$60.40	\$60.40	\$10.49
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	NA	\$28.56	\$28.56	\$0.00
Unit Subtotals:	\$320.03	NA	NA	\$174.76	\$174.76	\$43.94
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$640.06	Support:	\$174.76	Maint:	\$218.70

Total work team cost/hour: \$1,033.52**MATERIAL QUANTITIES**Initial volume: 40,333

CCY

Swell factor: 1.124Loose volume: 45,318

LCY

Source of estimated volume: 3 inches over 100 acres = 40,333 CYSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Sand and gravel - Dry
 Rated Payload: 81,600 pounds
 Payload Capacity: 28.14 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: 28.14 LCY

Cycle Time:

Scraper Loading Time: 0.80 Minutes
 Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

Site Altitude: 5200 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	1667	0.40
2	250.00	-7.00	4.00	-3.00	2920	0.13
3	375.00	0.00	4.00	4.00	1667	-0.15

Haul Time: 0.38 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	2744	0.38
2	250.00	7.00	4.00	11.00	1060	-0.01
3	375.00	0.00	4.00	4.00	2744	0.33

Return Time: 0.70 minutes

Total Scraper team cycle time: 2.58 minutes
 Adjusted for job conditions: 543.13 LCY/Hour
 Selected Number of Scrapers: 2 Scraper(s)
 Adjusted single scraper team (unit) hourly production: 1,086.26 LCY/Hour
 Adjusted multiple scraper team (fleet) hourly production: 1,086.26 LCY/Hour

Unadjusted unit production/hour: 654.37 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 41.72 HoursUnit cost: \$0.951 /LCY Total job cost: \$43,118

SCRAPER TEAM WORKTask description: Place 3 inches topsoil on 100 acresSite: Penrose PitPermit Action: AM-03Permit/Job#: M1987131**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 10/13/2021County: FremontFilename: M131-003User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	CAT 14M
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	100	25	25
Ownership cost/hour:	\$147.77	NA	NA	\$85.80	\$85.80	\$33.45
Operating cost/hour:	\$141.36	NA	NA	\$60.40	\$15.10	\$10.49
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$30.90	NA	NA	\$28.56	\$28.56	\$0.00
Unit Subtotals:	\$320.03	NA	NA	\$174.76	\$129.46	\$43.94
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	\$640.06	Support:	\$174.76	Maint:	\$173.40

Total work team cost/hour: **\$988.22****MATERIAL QUANTITIES**Initial volume: 40,333

CCY

Swell factor: 1.429Loose volume: **57,620**

LCY

Source of estimated volume: 3 inches over 100 acres = 40,333 CYSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>1,600 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Top Soil</u>	Heaped Volume:	<u>34.00</u>	LCY
Rated Payload:	<u>81,600 pounds</u>	Average Volume:	<u>29.00</u>	LCY
Payload Capacity:	<u>51.00 LCY</u>	Adjusted Capacity:	<u>29.00</u>	LCY

Cycle Time:

Scraper Loading Time: 0.80 Minutes
 Maneuver and Spread Time: 0.70 Minutes

Job Condition Correction:

Site Altitude: 5200 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	NA	(CAT HB)
Job Efficiency:	0.830	NA	(CAT HB)
Net Correction:	0.830	NA	

Travel Time:Road Condition: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	1667	0.34
2	250.00	-7.00	4.00	-3.00	2920	0.13
3	375.00	0.00	4.00	4.00	1667	-0.82

Haul Time: -0.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	375.00	0.00	4.00	4.00	2744	0.38
2	250.00	7.00	4.00	11.00	1060	-0.01
3	375.00	0.00	4.00	4.00	2744	0.33

Return Time: 0.70 minutes

Total Scraper team cycle time: 1.85 minutes
 Adjusted for job conditions: 780.65 LCY/Hour
 Selected Number of Scrapers: 2 Scraper(s)
 Adjusted single scraper team (unit) hourly production: 1,561.30 LCY/Hour
 Adjusted multiple scraper team (fleet) hourly production: 1,561.30 LCY/Hour

Unadjusted unit production/hour: 940.54 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 36.91 HoursUnit cost: \$0.633 /LCY Total job cost: \$36,470

REVEGETATION WORKTask description: Reveg - 100 acresSite: Penrose PitPermit Action: AM-03Permit/Job#: M1987131**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 10/13/2021County: FremontFilename: M131-004User: TC1Agency 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
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Little Bluestem - Pastura	0.70	4.18	\$9.44
Sideoats Grama - Vaughn	0.90	2.95	\$7.54
Pubescent Wheatgrass - Luna	2.80	5.79	\$9.52
Streambank Wheatgrass - Sodar	2.20	7.17	\$12.54
Tall Wheatgrass - Jose	2.00	3.63	\$6.75
Western Wheatgrass - Arriba	3.20	8.08	\$20.80
Totals Seed Mix	11.80	31.80	\$66.59

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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Total Mulch Application Cost/Acre	\$71.57

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: 100 Cost /Acre: \$1,080.70
 Estimated Failure Rate: 30% Cost /Acre*: \$298.59
 *Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$108,070.00**
 Reseeding Job Cost: **\$8,957.70**
 Total Job Cost: **\$117,028**
 Job Hours: **200.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob Equipment**Site: **Penrose Pit**Permit Action: **AM-03**Permit/Job#: **M1987131****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **12/30/2021**County: **Fremont**Filename: **M131-006**User: **TC1**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck Tractor Description: **GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)**Truck Trailer Description: **GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)****Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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 631G	52.50	\$147.77	\$147.95	2	\$591.44	\$295.90	\$500.00
Cat D8T - 8SU	53.08	\$112.65	\$147.95	1	\$260.60	\$147.95	\$250.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Water Tanker, 5,000 Gal.	15.00	\$33.45	\$68.37	1	\$101.82	\$68.37	\$250.00

Subtotals: **\$1,184.38** **\$648.96** **\$1,500.00****ROADABLE EQUIPMENT:**

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

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>COLORADO SPRINGS</u>	
Total one-way travel distance:	<u>37.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$7,576.06</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.93</u>	<u>0.93</u>
Return Time (Hours):	<u>0.93</u>	<u>0.93</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>2.35</u>	<u>1.85</u>

JOB TIME AND COST

Total job time: 4.70 Hours

Total job cost: \$7,576