



## COLORADO

Division of Reclamation,  
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215  
Denver, Colorado 80203

May 05, 2016

Alan Frantz  
Rough Cut, L.L.C.  
15645 Rd. GG  
Rocky Ford, CO 81067

**Re: Rough Cut Pit, Permit No. M-2001-033, Technical Revision No. 03, Adequacy Review**

Mr. Frantz:

The Division of Reclamation, Mining and Safety (Division) received your Technical Revision application (Revision No. TR-03) for the Rough Cut Pit, Permit No. M-2001-033, which is located in Otero County. The revision requested addresses the following item(s):

*Increase maximum allowed disturbed acreage from 45 acres to 55 acres*

The Division reassessed the required financial warranty for current disturbance at this site, and found the currently held financial warranty to be inadequate to complete reclamation in accordance with the approved reclamation plan. The Division has calculated a required financial warranty in the amount of \$236,953.00, which is \$43,953.00 more than the currently held financial warranty of \$193,000.00. Please review the enclosed Cost Summary Work and submit any comments by the decision date.

You might consider taking this opportunity to make any additional revisions to the approved mining plan or reclamation plan through Technical Revision No. 03 which will reduce liability at the site (e.g., maintain mining walls at 3H:1V slopes rather than the current 0H:1V slopes). You may also reduce liability at the site now (e.g., grade highwalls to 3H:1V slopes, replace topsoil on and/or revegetate disturbed land that will not be redisturbed by the operation) and submit evidence of completion by the decision date.

Please submit the requested information by the decision date of May 25, 2016. If the Division does not receive a response from you by that time, a Surety Increase letter for the amount listed above will be mailed to you. At that time, you will have 60 days to post the additional required Financial Warranty, per Rule 4.2.1(2).

If you have any questions, please contact me by telephone at 303-866-3567, extension 8129, or by email at [amy.eschberger@state.co.us](mailto:amy.eschberger@state.co.us).

Sincerely,

Amy Eschberger  
Environmental Protection Specialist



Enclosure(s): Cost Summary Work

Cc: Wally Erickson, DRMS

## COST SUMMARY WORK

Task description: Cost Summary

Site: Rough Cut Pit

Permit Action: Inspection 1/13/16

Permit/Job#: M2001033

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 3/7/2016

County: Otero

Filename: M033-000

User: AME

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	W. Area - Grade highwall from 0H:1V to 3H:1V	DOZER	2	4.23	\$1,848.00
002	W. Area - Rip 30 ac stockpiling/processing/storage area	RIPPER	2	21.72	\$9,652.00
003	W. Area - Replace Topsoil on 33.2 acres	SCRAPER1	1	22.81	\$16,772.00
004	W. Area - Revegetate 33.2 acres to rangeland	REVEGE	1	120.00	\$64,911.00
005	W. Area - Revegetate 15 acres to rangeland	REVEGE	1	60.00	\$29,327.00
006	Center Area - Grade highwall from 0H:1V to 3H:1V	DOZER	2	2.54	\$1,109.00
007	Center Area - Rip 17 ac stockpiling area	RIPPER	2	12.30	\$5,469.00
008	Center Area - Replace Topsoil on 17.75 acres	SCRAPER1	1	10.56	\$7,764.00
009	Center Area - Revegetate 17.75 acres to rangeland	REVEGE	1	71.00	\$34,704.00
010	Center Area - Revegetate 8.25 acres to rangeland	REVEGE	1	32.00	\$16,130.00
011	East Area - Grade highwall from 0H:1V to 3H:1V	DOZER	1	0.15	\$33.00
012	East Area - Rip 0.5 ac stockpiling area	RIPPER	1	0.85	\$190.00
013	East Area - Replace Topsoil on 1.5 acres	SCRAPER1	1	1.63	\$460.00
014	East Area - Revegetate 1.5 acres to rangeland	REVEGE	1	4.00	\$2,933.00
015	Mobilization/Demobilization	MOBILIZE	1	4.74	\$7,861.00
<b><u>SUBTOTALS:</u></b>				<b>368.53</b>	<b>\$199,163</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02  
Performance bond: 1.05  
Job superintendent: 0.00  
Profit: 10.00

Total = \$4,023.09

Total = \$2,091.21

Total = \$0.00

Total = \$19,916.30

TOTAL O & P = \$26,030.60

CONTRACT AMOUNT (direct + O & P) = \$225,193.60

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00  
Engineering work and/or contract/bid preparation: 0.00  
Reclamation management and/or administration: 5.00

Total = 500.00

Total = \$0.00

\$11,259.68

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$37,790.28

**TOTAL BOND AMOUNT (direct + indirect) = \$236,953.28**

**BULLDOZER WORK**Task description: W. Area - Grade highwall from 0H:1V to 3H:1VSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-001User: AMEAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper op. Cost/Hour:	\$3.73	50
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$218.45Total Fleet Cost/Hour: **\$436.90****MATERIAL QUANTITIES**Initial Volume: 7,320Swell factor: 1.250Loose volume: **9,150 LCY**Source of estimated volume: 1,647 ft L x 20 ft H (cut and fill method)Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 60 feetUnadjusted hourly production: 1,246.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -5 %Average site altitude: 4,500 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)

Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8676

Adjusted unit production: 1,081.81 LCY/hr

Adjusted fleet production: **2163.62** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.202/LCY

Total job time: **4.23** Hours

Total job cost: **\$1,848**

## BULLDOZER RIPPING WORK

Task description: W. Area - Rip 30 ac stockpiling/processing/storage area

Site: Rough Cut Pit Permit Action: Inspection 1/13/16 Permit/Job#: M2001033

### PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None  
Date: 3/7/2016 County: Otero Filename: M033-002  
User: AME

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper Operating Cost/Hour:	\$7.46	100
Operator Cost/Hour:	\$38.89	NA
Total Unit Cost/Hour:	\$222.18	
Total Fleet Cost/Hour:	<b>\$444.37</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 30.00 acres Rip Depth (ft): 1.00 Volume: 48,400 BCY or CCY

Source of estimated quantity: 30 ac x 1 ft depth = 48,400 CY

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.56 mph  
Average Ripping Width: 7.08 degrees  
Average Ripping Length: 700.00 feet  
Average Dozer Speed: 88.00 feet  
Average Maneuver Time: 0.25 feet  
Production per unit area: 0.832 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.832 Acres/hr  
Site Altitude: 4,500 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.69 Acres/hr  
Adjusted Hourly Fleet Production: 1.38 Acres/hr

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 21.72 Hours

Unit cost: \$321.726 Per acre Total job cost: \$9,652

**SCRAPER TEAM WORK**Task description: W. Area - Replace Topsoil on 33.2 acresSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-003User: AMEAgency 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:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 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	NA	100	50
Ownership cost/hour:	\$91.86	NA	NA	NA	\$46.96	\$7.54
Operating cost/hour:	\$157.03	NA	NA	NA	\$68.95	\$9.78
Ripper op. cost/hour:	NA	NA	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$34.24	NA	NA	NA	\$35.83	\$0.00
Unit Subtotals:	\$283.13	NA	NA	NA	\$151.74	\$17.32
Number of Units:	2	0	0	0	1	1
Group Subtotals:	Work:	\$566.26	Support:	\$0.00	Maint:	\$169.06

Total work team cost/hour: **\$735.32****MATERIAL QUANTITIES**Initial volume: 23,805

CCY

Swell factor: 1.125Loose volume: **26,781**

LCY

Source of estimated volume: 33.2 ac x 6 in depth = 26,781 CYSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock, 75% Earth</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>30.79 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4500 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	1.00	3.00	4.00	1667	0.55

Haul Time: 0.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	650.00	-1.00	3.00	2.00	2914	0.41

Return Time: 0.41 minutesTotal Scraper team cycle time: 2.46 minutesAdjusted for job conditions: 587.07 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,174.15 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,174.15 LCY/HourUnadjusted unit production/hour: 707.32 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 22.81 HoursUnit cost: \$0.626 /LCYTotal job cost: \$16,772

**REVEGETATION WORK**Task description: W. Area - Revegetate 33.2 acres to rangelandSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-004User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$89.14</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$21.34</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$88.76
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
<b>Total Tilling Cost/Acre</b>	<b>\$330.76</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	0.25	2.23	\$1.36
Blue Grama - Lovington	0.75	12.24	\$8.16
Sand Dropseed	0.03	3.58	\$0.21
Sideoats Grama - Vaughn	4.50	14.77	\$50.67
Galleta	0.20	0.73	\$5.05
Western Wheatgrass - Arriba	1.60	4.04	\$5.90
<b>Totals Seed Mix</b>	<b>7.33</b>	<b>37.60</b>	<b>\$71.35</b>

## Application

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

## MULCHING and MISCELLANEOUS

## Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200)	77.00	BALE	\$10.60	\$816.20
<b>Total Mulch Materials Cost/Acre</b>				<b>\$816.20</b>

## Application

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

## 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:	33.2	Cost /Acre:	\$1,828.81
Estimated Failure Rate:	25%	Cost /Acre*:	\$505.35
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	<b>\$60,716.49</b>		
Reseeding Job Cost:	<b>\$4,194.41</b>		
Total Job Cost:	<b>\$64,911</b>		
Job Hours:	<b>120.00</b>		

**REVEGETATION WORK**Task description: W. Area - Revegetate 15 acres to rangelandSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-005User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$89.14</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$21.34</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$88.76
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
<b>Total Tilling Cost/Acre</b>	<b>\$330.76</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	0.25	2.23	\$1.36
Blue Grama - Lovington	0.75	12.24	\$8.16
Sand Dropseed	0.03	3.58	\$0.21
Sideoats Grama - Vaughn	4.50	14.77	\$50.67
Galleta	0.20	0.73	\$5.05
Western Wheatgrass - Arriba	1.60	4.04	\$5.90
<b>Totals Seed Mix</b>	<b>7.33</b>	<b>37.60</b>	<b>\$71.35</b>

## Application

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

## MULCHING and MISCELLANEOUS

## Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200)	77.00	BALE	\$10.60	\$816.20
<b>Total Mulch Materials Cost/Acre</b>				<b>\$816.20</b>

## Application

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

## 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:	15	Cost /Acre:	\$1,828.81
Estimated Failure Rate:	25%	Cost /Acre*:	\$505.35
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$27,432.15		
Reseeding Job Cost:	\$1,895.06		
Total Job Cost:	\$29,327		
Job Hours:	60.00		

**BULLDOZER WORK**Task description: Center Area - Grade highwall from 0H:1V to 3H:1VSite: Rough Cut Pit Permit Action: Inspection 1/13/16 Permit/Job#: M2001033**PROJECT IDENTIFICATION**

Task #: 006 State: Colorado Abbreviation: None  
 Date: 3/7/2016 County: Otero Filename: M033-006  
 User: AME

Agency or organization name: DRMS**HOURLY 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)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper op. Cost/Hour:	\$3.73	50
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$218.45  
 Total Fleet Cost/Hour: \$436.90

**MATERIAL QUANTITIES**

Initial Volume: 4,935  
 Swell factor: 1.250  
 Loose volume: 6,169 LCY

Source of estimated volume: 1,974 ft L x 15 ft H = 6169 CY (cut and fill method)  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION**

Average push distance: 50 feet  
 Unadjusted hourly production: 1,400.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -5 %  
 Average site altitude: 4,500 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)

Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8676

Adjusted unit production: 1,214.64 LCY/hr

Adjusted fleet production: **2429.28** LCY/hr

### **JOB TIME AND COST**

Fleet size: 2 Dozer(s)

Unit cost: \$0.180/LCY

Total job time: **2.54** Hours

Total job cost: **\$1,109**

## BULLDOZER RIPPING WORK

Task description: Center Area - Rip 17 ac stockpiling area

Site: Rough Cut Pit Permit Action: Inspection 1/13/16 Permit/Job#: M2001033

### PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None  
Date: 3/7/2016 County: Otero Filename: M033-007  
User: AME

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310  
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper Operating Cost/Hour:	\$7.46	100
Operator Cost/Hour:	\$38.89	NA
Total Unit Cost/Hour:	\$222.18	
Total Fleet Cost/Hour:	<b>\$444.37</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 17.00 acres Rip Depth (ft): 1.00 Volume: 27,427 BCY or CCY

Source of estimated quantity: 17 ac x 1 ft depth = 27,427 CY

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.56 mph  
Average Ripping Width: 7.08 degrees  
Average Ripping Length: 700.00 feet  
Average Dozer Speed: 88.00 feet  
Average Maneuver Time: 0.25 feet  
Production per unit area: 0.832 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.832 Acres/hr  
Site Altitude: 4,500 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.69 Acres/hr  
Adjusted Hourly Fleet Production: 1.38 Acres/hr

### JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 12.31 Hours

Unit cost: \$321.726 Per acre Total job cost: \$5,469

**SCRAPER TEAM WORK**Task description: Center Area - Replace Topsoil on 17.75 acresSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 008State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-008User: AMEAgency 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:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 2,500 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	NA	100	50
Ownership cost/hour:	\$91.86	NA	NA	NA	\$46.96	\$7.54
Operating cost/hour:	\$157.03	NA	NA	NA	\$68.95	\$9.78
Ripper op. cost/hour:	NA	NA	NA	NA	\$0.00	\$0.00
Operator cost/hour:	\$34.24	NA	NA	NA	\$35.83	\$0.00
Unit Subtotals:	\$283.13	NA	NA	NA	\$151.74	\$17.32
Number of Units:	2	0	0	0	1	1
Group Subtotals:	Work:	\$566.26	Support:	\$0.00	Maint:	\$169.06

Total work team cost/hour: **\$735.32****MATERIAL QUANTITIES**Initial volume: 12,727

CCY

Swell factor: 1.125Loose volume: **14,318**

LCY

Source of estimated volume: 17.75 ac x 6 in depth = 14,318 CYSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,650 lbs/LCY</u>	Struck Volume:	<u>24.00</u>	LCY
Material description:	<u>Decomposed rock - 25% Rock, 75% Earth</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>30.79 LCY</u>	Adjusted Capacity:	<b><u>29.00</u></b>	LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4500 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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	1.00	3.00	4.00	1667	0.34

Haul Time: 0.34 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	300.00	-1.00	3.00	2.00	2914	0.29

Return Time: 0.29 minutesTotal Scraper team cycle time: 2.13 minutesAdjusted for job conditions: 678.03 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,356.06 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,356.06 LCY/HourUnadjusted unit production/hour: 816.90 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 10.56 HoursUnit cost: \$0.542 /LCYTotal job cost: \$7,764

**REVEGETATION WORK**Task description: Center Area - Revegetate 17.75 acres to rangelandSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 009State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-009User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$89.14</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$21.34</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$88.76
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
<b>Total Tilling Cost/Acre</b>	<b>\$330.76</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	0.25	2.23	\$1.36
Blue Grama - Lovington	0.75	12.24	\$8.16
Sand Dropseed	0.03	3.58	\$0.21
Sideoats Grama - Vaughn	4.50	14.77	\$50.67
Galleta	0.20	0.73	\$5.05
Western Wheatgrass - Arriba	1.60	4.04	\$5.90
<b>Totals Seed Mix</b>	<b>7.33</b>	<b>37.60</b>	<b>\$71.35</b>

**Application**

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	77.00	BALE	\$10.60	\$816.20
<b>Total Mulch Materials Cost/Acre</b>				<b>\$816.20</b>

**Application**

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

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 17.75                      Cost /Acre: \$1,828.81  
 Estimated Failure Rate: 25%                      Cost /Acre\*: \$505.35  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$32,461.38**  
 Reseeding Job Cost: **\$2,242.49**  
 Total Job Cost: **\$34,704**  
 Job Hours: **71.00**

**REVEGETATION WORK**Task description: Center Area - Revegetate 8.25 acres to rangelandSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 010State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-010User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$89.14</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$21.34</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$88.76
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
<b>Total Tilling Cost/Acre</b>	<b>\$330.76</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	0.25	2.23	\$1.36
Blue Grama - Lovington	0.75	12.24	\$8.16
Sand Dropseed	0.03	3.58	\$0.21
Sideoats Grama - Vaughn	4.50	14.77	\$50.67
Galleta	0.20	0.73	\$5.05
Western Wheatgrass - Arriba	1.60	4.04	\$5.90
<b>Totals Seed Mix</b>	<b>7.33</b>	<b>37.60</b>	<b>\$71.35</b>

**Application**

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	77.00	BALE	\$10.60	\$816.20
<b>Total Mulch Materials Cost/Acre</b>				<b>\$816.20</b>

**Application**

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

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 8.25                      Cost /Acre: \$1,828.81  
 Estimated Failure Rate: 25%                      Cost /Acre\*: \$505.35  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$15,087.68**  
 Reseeding Job Cost: **\$1,042.28**  
 Total Job Cost: **\$16,130**  
 Job Hours: **32.00**

**BULLDOZER WORK**Task description: East Area - Grade highwall from 0H:1V to 3H:1VSite: Rough Cut Pit Permit Action: Inspection 1/13/16 Permit/Job#: M2001033**PROJECT IDENTIFICATION**

Task #: 011 State: Colorado Abbreviation: None  
 Date: 3/7/2016 County: Otero Filename: M033-011  
 User: AME

Agency or organization name: DRMS**HOURLY 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)

**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper op. Cost/Hour:	\$3.73	50
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$218.45  
 Total Fleet Cost/Hour: \$218.45

**MATERIAL QUANTITIES**

Initial Volume: 145  
 Swell factor: 1.250  
 Loose volume: 181 LCY

Source of estimated volume: 520 ft L x 5 ft H = 181 CY (cut and fill method)  
 Source of estimated swell factor: Cat Handbook

**HOURLY PRODUCTION**

Average push distance: 50 feet  
 Unadjusted hourly production: 1,400.0 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -5 %  
 Average site altitude: 4,500 feet

Material weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	1.000	(EXCL.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)

Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8676

Adjusted unit production: 1,214.64 LCY/hr

Adjusted fleet production: **1214.64** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.180/LCY

Total job time: **0.15** Hours

Total job cost: **\$33**

## BULLDOZER RIPPING WORK

Task description: East Area - Rip 0.5 ac stockpiling area

Site: Rough Cut Pit

Permit Action: Inspection 1/13/16

Permit/Job#: M2001033

### PROJECT IDENTIFICATION

Task #: 012

State: Colorado

Abbreviation: None

Date: 3/7/2016

County: Otero

Filename: M033-012

User: AME

Agency or organization name: DRMS

### HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU  
Ripper Attachment: 3-Shank Ripper

Horsepower: 310  
Shift Basis: 1 per day  
Data Source: (CRG)

#### Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$73.32	NA
Operating Cost/Hour:	\$102.51	100
Ripper Operating Cost/Hour:	\$7.46	100
Operator Cost/Hour:	\$38.89	NA
Total Unit Cost/Hour:	\$222.18	
Total Fleet Cost/Hour:	<b>\$222.18</b>	

### MATERIAL QUANTITIES

Selected estimating method: Area

#### Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA  
Area: 0.50 acres Rip Depth (ft): 1.00 Volume: 807 BCY or CCY

Source of estimated quantity: 0.5 ac x 1 ft depth = 807 CY

### HOURLY PRODUCTION

#### Seismic:

Seismic Velocity: NA feet/second

#### Area:

Average Ripping Depth: 2.56 mph  
Average Ripping Width: 7.08 degrees  
Average Ripping Length: 100.00 feet  
Average Dozer Speed: 88.00 feet  
Average Maneuver Time: 0.25 feet  
Production per unit area: 0.703 acres/hour

#### Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.703 Acres/hr  
Site Altitude: 4,500 feet  
Altitude Adj: 1.00 (CAT HB)  
Job Efficiency: 0.83 (1 shift/day)  
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.58 Acres/hr  
Adjusted Hourly Fleet Production: **0.58** Acres/hr

### JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.86** Hours

Unit cost: \$380.546 Per acre Total job cost: **\$190**

**SCRAPER TEAM WORK**Task description: **East Area - Replace Topsoil on 1.5 acres**Site: **Rough Cut Pit**Permit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 013State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-013User: AMEAgency 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:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

**Cost Breakdown:****Scraper Work Team****Support Equipment****Maintenance Equipment**

	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$91.86	NA	NA	NA	NA	NA
Operating cost/hour:	\$157.03	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$34.24	NA	NA	NA	NA	NA
Unit Subtotals:	\$283.13	NA	NA	NA	NA	NA
Number of Units:	1	0	0	0	0	0
Group Subtotals:	Work:	\$283.13	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$283.13****MATERIAL QUANTITIES**Initial volume: 1,076

CCY

Swell factor: 1.125Loose volume: **1,211**

LCY

Source of estimated volume: 1.5 ac x 6 in depth= 1,210 CY neededSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,650 lbs/LCY  
 Material description: Decomposed rock - 25% Rock,  
75% Earth  
 Rated Payload: 81,600 pounds  
 Payload Capacity: 30.79 LCY

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

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 4500 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	100.00	1.00	4.00	5.00	1343	0.18

Haul Time: 0.18 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	100.00	-1.00	4.00	3.00	2890	0.26

Return Time: 0.26 minutesTotal Scraper team cycle time: 1.94 minutesAdjusted for job conditions: 744.43 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 744.43 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 744.43 LCY/HourUnadjusted unit production/hour: 896.91 LCY/Hour

Optimal Number of Scrapers per push dozer: \_\_\_\_\_

**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: 1.63 HoursUnit cost: \$0.380 /LCYTotal job cost: \$460

**REVEGETATION WORK**Task description: East Area - Revegetate 1.5 acres to rangelandSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 014State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-014User: AMEAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	121.00	pound	\$0.37	\$44.77
Triple superphosphate, 0-46-0	87.00	pound	\$0.51	\$44.37
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$89.14</b>

**Application**

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$21.34
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$21.34</b>

**TILLING**

Description	Cost /Acre
Chisel plowing {DMG}	\$88.76
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
<b>Total Tilling Cost/Acre</b>	<b>\$330.76</b>

**SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	0.25	2.23	\$1.36
Blue Grama - Lovington	0.75	12.24	\$8.16
Sand Dropseed	0.03	3.58	\$0.21
Sideoats Grama - Vaughn	4.50	14.77	\$50.67
Galleta	0.20	0.73	\$5.05
Western Wheatgrass - Arriba	1.60	4.04	\$5.90
<b>Totals Seed Mix</b>	<b>7.33</b>	<b>37.60</b>	<b>\$71.35</b>

**Application**

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	77.00	BALE	\$10.60	\$816.20
<b>Total Mulch Materials Cost/Acre</b>				<b>\$816.20</b>

**Application**

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

**NURSERY STOCK PLANTING**

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

**JOB TIME AND COST**

No. of Acres: 1.5                      Cost /Acre: \$1,828.81  
 Estimated Failure Rate: 25%                      Cost /Acre\*: \$505.35  
 \*Selected Replanting Work Items: SEEDING

Initial Job Cost: **\$2,743.22**  
 Reseeding Job Cost: **\$189.51**  
 Total Job Cost: **\$2,933**  
 Job Hours: **4.00**

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: Mobilization/DemobilizationSite: Rough Cut PitPermit Action: Inspection 1/13/16Permit/Job#: M2001033**PROJECT IDENTIFICATION**Task #: 015State: ColoradoAbbreviation: NoneDate: 3/7/2016County: OteroFilename: M033-015User: AMEAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 D8T - 8SU	53.08	\$73.32	\$125.45	2	\$397.53	\$250.90	\$500.00
CAT 14M	23.57	\$46.96	\$88.67	1	\$135.63	\$88.67	\$250.00
Cat 631G	52.50	\$91.86	\$125.45	2	\$434.62	\$250.90	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00

Subtotals: **\$1,096.04** **\$679.14** **\$1,500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	\$27.11	1	\$27.11	\$27.11

Subtotals: **\$27.11** **\$27.11**

**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>LA JUNTA</u>	
Total one-way travel distance:	<u>24.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$7,837.37</u>
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$23.66</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.44</u>	<u>0.44</u>
Return Time (Hours):	<u>0.44</u>	<u>0.44</u>
Loading Time (Hours):	<u>0.75</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.75</u>	<u>NA</u>
Subtotals:	<u>2.37</u>	<u>0.87</u>

**JOB TIME AND COST**

Total job time: 4.75 Hours

Total job cost: \$7,861