



COLORADO

Division of Reclamation, Mining and Safety

Department of Natural Resources
1313 Sherman Street, Room 215
Denver, Colorado 80203

March 23, 2018

Andre LaRoche
Transit Mix Concrete Co.
444 E. Costilla St.
Colorado Springs, CO 80903

**RE: Reclamation Bond Estimate; 112c Permit Application; Hitch Rack Ranch Quarry;
File No. M-2017-049**

Mr. LaRoche:

The Division of Reclamation, Mining and Safety (Division) has calculated the required financial warranty for the proposed Hitch Rack Ranch Quarry operation. The Division calculated the cost of reclamation through full development of mining phase three, totaling **\$3,549,294.00**.

Please review the enclosed cost summary work utilized by the Division to calculate the cost of reclamation. Any comments regarding the bond estimate should be submitted by close of business on March 26, 2018.

If you have any questions, you may contact me by telephone at 303-866-3567, ext. 8129, or by email at amy.eschberger@state.co.us.

Sincerely,

Amy Eschberger
Environmental Protection Specialist

Enclosure: Cost summary work for required financial warranty

Ec w/Encl: Paul Kos, Norwest Corporation at: pkos@norwestcorp.com
Brandon Hesel, Transit Mix Concrete Co. at: brandon_hesel@transitmix.com
Wally Erickson, DRMS at: wally.erickson@state.co.us



COST SUMMARY WORK

Task description: Cost Summary

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App
2017/2018

Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/21/2018 County: El Paso Filename: M049-000
User: AME

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Rip Plant Area and Roads	RIPPER	2	37.34	\$15,332.00
002	Load/Haul/Grade Subsoil from F1 to Pit Highwall Benches	TRUCK1	1	44.11	\$60,343.00
003	Load/Haul/Grade Topsoil from TS4 to Pit Highwall Benches	TRUCK1	1	18.08	\$24,731.00
004	Load/Haul/Grade Subsoil from F1 to Pit Area	TRUCK1	1	172.84	\$236,461.00
005	Load/Haul/Grade Topsoil from TS1 to Pit Area	TRUCK1	1	47.52	\$65,011.00
006	Construct Drainage Channel in Pit Area	DOZER	1	1,056.18	\$201,204.00
007	Load/Haul/Grade Subsoil from F1 to Sediment Ponds	TRUCK1	1	43.03	\$58,868.00
008	Push Material From Adjacent Berms Into Ditches	DOZER	1	21.71	\$4,136.00
009	Excavate Culvert Material, Dump and Spread on Road	TRUCK1	1	57.51	\$78,680.00
010	Spread Topsoil Berms on Access Road	DOZER	1	348.19	\$66,330.00
011	Spread Topsoil From TS2 on Northern Portion F1 Area	DOZER	1	215.99	\$41,147.00
012	Gouging on Fines Pile Slopes	NA	1	28.60	\$9,295.00
013	Revegetate 139.51 ac - Grasses	REVEGE	1	139.00	\$641,141.00
014	Revegetate 16.5 ac - Mixed Conifer, Highwall Benches	REVEGE	1	16.50	\$4,440.00
015	Revegetate 41.47 ac - Mixed Conifer, Pit Bottom Fines Slopes	REVEGE	1	41.00	\$11,160.00
016	Revegetate 25.29 ac- Mountain Shrubland, Access Road & Fines Piles	REVEGE	1	25.29	\$46,030.00
017	Revegetate 3.65 ac - Riparian	REVEGE	1	4.00	\$4,391.00
018	Revegetation - Planting Materials	REVEGE	1	0.00	\$34,292.50
019	Mobilization/Demobilization	MOBILIZE	1	26.00	\$95,661.00
020	Demolition of Structures	DEMOLISH	1	0.00	\$1,202,297.00
<u>SUBTOTALS:</u>				2342.89	\$2,900,951

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 500.00

Total = \$58,599.21
Total = \$30,459.99
Total = \$36,525.00

Profit: 10.00

Total = \$290,095.10

TOTAL O & P = \$415,679.30

CONTRACT AMOUNT (direct + O & P) = \$3,316,630.30

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00

Total = 500.00

Engineering work and/or contract/bid preparation: 2.00

Total = \$66,332.61

Reclamation management and/or administration: 5.00

\$165,831.52

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$648,343.42

TOTAL BOND AMOUNT (direct + indirect) = \$3,549,294.42

BULLDOZER RIPPING WORK

Task description: Rip Plant Area and Roads

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App Permit/Job#: M2017049
2017/2018

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/21/2018 County: El Paso Filename: M049-001
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:	\$83.81	NA
Operating Cost/Hour:	\$66.17	100
Ripper Ownership Cost/Hour:	\$7.55	NA
Ripper Operating Cost/Hour:	\$7.21	100
Operator Cost/Hour:	\$40.52	NA
Total Unit Cost/Hour:	\$205.26	
Total Fleet Cost/Hour:	\$410.52	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 49.57 acres Rip Depth (ft): 2.00 Volume: 159,946 BCY or CCY

Source of estimated quantity: 12.35 ac plant area + 37.22 ac roads

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.56</u>	mph
Average Ripping Width:	<u>7.08</u>	degrees
Average Ripping Length:	<u>300.00</u>	feet
Average Dozer Speed:	<u>88.00</u>	feet
Average Maneuver Time:	<u>0.25</u>	feet
Production per unit area:	<u>0.800</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	<u>0.800</u>	Acres/hr
Site Altitude:	<u>7,200</u>	feet
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Adjusted Hourly Unit Production: 0.66 Acres/hr
Adjusted Hourly Fleet Production: 1.33 Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: 37.35 Hours

Unit cost: \$309.301 Per acre Total job cost: \$15,332

TRUCK/LOADER TEAM WORKTask description: **Load/Haul/Grade Subsoil from F1 to Pit Highwall Benches**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-002
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

Cost Breakdown:

	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 26,620 CCY Swell factor: 1.000
 Loose volume: 26,620 LCY

Source of estimated volume: 16.5 ac x 1' subsoil depth
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:**Truck Payload (weight) Basis:

Material weight: 2,900 Pounds/LCY
 Description: Sand and gravel - Dry
 Rated Payload: 122,520 Pounds

Payload Capacity: 42.25 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 42.25 LCY

Final Truck Volume Based on Number of Loader Passes: 41.63 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 11.250 LCY (heaped)
 Bucket Fill Factor: 0.925 Loose material - 1/8" to 3/8" (90 - 95%) 0.925
 Adjusted Capacity: 10.406 LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		<u>-0.100</u>	minutes
Adjusted Loader Cycle Time:		<u>0.500</u>	minutes
Net Load Time per Truck:		<u>1.600</u>	minutes

Truck Cycle Time:

Truck Exchange Time: 0.70 Minutes Adjusted for site altitude: 0.700 Minutes
 Truck Load Time: 1.600 Minutes Adjusted for site altitude: 1.600 Minutes
 Truck Maneuver and Dump Time: 1.10 Minutes Adjusted for site altitude: 1.100 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	13.00	3.00	16.00	526	5.718

Haul Time: **5.718** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3000.00	-13.00	3.00	-10.00	2635	1.186

Return Time: **1.186** minutesTotal Truck Cycle Time: **10.304** minutes

Loading Tool unit

Production 1,085.87 LCY/Hour Adjusted for job efficiency: 901.27 LCY/Hour
Truck Unit Production 242.38 LCY/Hour Adjusted for job efficiency: 201.18 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 603.53 LCY/Hour
Adjusted single truck/loader team production: 603.53 LCY/Hour
Adjusted multiple truck/loader team production: **603.53** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **44.11** HoursUnit cost: \$2.267 /LCY Total job cost: **\$60,343**

TRUCK/LOADER TEAM WORKTask description: Load/Haul/Grade Topsoil from TS4 to Pit Highwall Benches

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App Permit/Job#: M2017049
2017/2018

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-003
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 13,310 CCY Swell factor: 1.000
 Loose volume: **13,310** LCY

Source of estimated volume: 16.5 ac x 6" topsoil depth
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 122,520 Pounds

Payload Capacity: 76.58 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 46.50 LCY

Final Truck Volume Based on Number of Loader Passes: 37.13 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 11.250 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 12.375 LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.100	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time: 0.70 Minutes Adjusted for site altitude: 0.700 Minutes
 Truck Load Time: 1.100 Minutes Adjusted for site altitude: 1.100 Minutes
 Truck Maneuver and Dump Time: 1.10 Minutes Adjusted for site altitude: 1.100 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	13.00	3.00	16.00	526	3.817

Haul Time: **3.817** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	-13.00	3.00	-10.00	2635	0.816

Return Time: **0.816** minutesTotal Truck Cycle Time: **7.533** minutes

Loading Tool unit

Production 1,237.50 LCY/Hour Adjusted for job efficiency: 1,027.13 LCY/Hour
Truck Unit Production 295.70 LCY/Hour Adjusted for job efficiency: 245.43 LCY/Hour

Optimal No. of Trucks: 4 Truck(s) Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 736.29 LCY/Hour
Adjusted single truck/loader team production: 736.29 LCY/Hour
Adjusted multiple truck/loader team production: **736.29** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **18.08** HoursUnit cost: \$1.858 /LCY Total job cost: **\$24,731**

TRUCK/LOADER TEAM WORKTask description: **Load/Haul/Grade Subsoil from F1 to Pit Area**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-004
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 78,279 CCY Swell factor: 1.000
 Loose volume: 78,279 LCY

Source of estimated volume: 48.52 ac x 1' subsoil depth
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 2,900 Pounds/LCY
 Description: Sand and gravel - Dry
 Rated Payload: 122,520 Pounds

Payload Capacity: 42.25 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 42.25 LCY

Final Truck Volume Based on Number of Loader Passes: 41.63 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	<u>11.250</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.925</u>	Loose material - 1/8" to 3/8" (90 - 95%) 0.925
Adjusted Capacity:	<u>10.406</u>	LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.100	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.600	minutes

Truck Cycle Time:

Truck Exchange Time:	<u>0.70</u>	Minutes	Adjusted for site altitude:	<u>0.700</u>	Minutes
Truck Load Time:	<u>1.600</u>	Minutes	Adjusted for site altitude:	<u>1.600</u>	Minutes
Truck Maneuver and Dump Time:	<u>1.10</u>	Minutes	Adjusted for site altitude:	<u>1.100</u>	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4500.00	13.00	3.00	16.00	526	8.570

Haul Time: **8.570** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4500.00	-13.00	3.00	-10.00	2635	1.761

Return Time: **1.761** minutesTotal Truck Cycle Time: **13.731** minutes

Loading Tool unit

Production	<u>1,085.87</u>	LCY/Hour	Adjusted for job efficiency:	<u>901.27</u>	LCY/Hour
Truck Unit Production	<u>181.89</u>	LCY/Hour	Adjusted for job efficiency:	<u>150.97</u>	LCY/Hour

Optimal No. of Trucks:	<u>6</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)
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Adjusted hourly truck team production:	<u>452.90</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>452.90</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>452.90</u>	LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **172.84** HoursUnit cost: \$3.021 /LCY Total job cost: **\$236,461**

TRUCK/LOADER TEAM WORKTask description: **Load/Haul/Grade Topsoil from TS1 to Pit Area**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-005
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 39,139 CCY Swell factor: 1.000
 Loose volume: 39,139 LCY

Source of estimated volume: 48.52 ac x 6" topsoil depth
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 1,600 Pounds/LCY
 Description: Top Soil
 Rated Payload: 122,520 Pounds

Payload Capacity: 76.58 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 46.50 LCY

Final Truck Volume Based on Number of Loader Passes: 37.13 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 11.250 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 12.375 LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.100	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time: 0.70 Minutes Adjusted for site altitude: 0.700 Minutes
 Truck Load Time: 1.100 Minutes Adjusted for site altitude: 1.100 Minutes
 Truck Maneuver and Dump Time: 1.10 Minutes Adjusted for site altitude: 1.100 Minutes

Truck Travel (Haul & Return) Time: Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	1.00	3.00	4.00	3405	3.510

Haul Time: **3.510** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-1.00	3.00	2.00	3569	0.324

Return Time: **0.324** minutesTotal Truck Cycle Time: **6.734** minutes

Loading Tool unit

Production	<u>1,237.50</u>	LCY/Hour	Adjusted for job efficiency:	<u>1,027.13</u>	LCY/Hour
Truck Unit Production	<u>330.78</u>	LCY/Hour	Adjusted for job efficiency:	<u>274.55</u>	LCY/Hour

Optimal No. of Trucks:	<u>4</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)
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Adjusted hourly truck team production:	<u>823.65</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>823.65</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>823.65</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>47.52</u>	Hours
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Unit cost:	<u>\$1.661</u>	/LCY	Total job cost:	<u>\$65,011</u>
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BULLDOZER WORKTask description: **Construct Drainage Channel in Pit Area**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-006
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 149,185
 Swell factor: 1.000
 Loose volume: **149,185 LCY**

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

HOURLY PRODUCTION

Average push distance: 180 feet
 Unadjusted hourly production: 548.1 LCY/hr

Materials consistency description: Rock, poorly ripped or blasted 0.6

Average push gradient: 0 %
 Average site altitude: 7,200 feet

Material weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>0.600</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2577

Adjusted unit production: 141.25 LCY/hr

Adjusted fleet production: **141.25 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.349/LCY

Total job time: **1,056.18 Hours**
Total job cost: **\$201,204**

TRUCK/LOADER TEAM WORKTask description: Load/Haul/Grade Subsoil from F1 to Sediment Ponds

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App Permit/Job#: M2017049
2017/2018

PROJECT IDENTIFICATION

Task #: 007 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-007
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

<u>Cost Breakdown:</u>	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 10,129 CCY Swell factor: 1.000
 Loose volume: **10,129** LCY

Source of estimated volume: Phase III, 8 ponds, dimension in Appendix L-1, pg 9
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:**Truck Payload (weight) Basis:

Material weight: 2,900 Pounds/LCY
 Description: Sand and gravel - Dry
 Rated Payload: 122,520 Pounds

Payload Capacity: 42.25 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 42.25 LCY

Final Truck Volume Based on Number of Loader Passes: 41.63 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 11.250 LCY (heaped)
 Bucket Fill Factor: 0.925 Loose material - 1/8" to 3/8" (90 - 95%) 0.925
 Adjusted Capacity: 10.406 LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 4 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.100	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.600	minutes

Truck Cycle Time:

Truck Exchange Time: 0.70 Minutes Adjusted for site altitude: 0.700 Minutes
 Truck Load Time: 1.600 Minutes Adjusted for site altitude: 1.600 Minutes
 Truck Maneuver and Dump Time: 1.10 Minutes Adjusted for site altitude: 1.100 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	13000.00	10.00	3.00	13.00	678	19.202

Haul Time: **19.202** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	13000.00	-10.00	3.00	-7.00	3512	3.816

Return Time: **3.816** minutesTotal Truck Cycle Time: **26.418** minutes

Loading Tool unit

Production	<u>1,085.87</u>	LCY/Hour	Adjusted for job efficiency:	<u>901.27</u>	LCY/Hour
Truck Unit Production	<u>94.54</u>	LCY/Hour	Adjusted for job efficiency:	<u>78.47</u>	LCY/Hour

Optimal No. of Trucks:	<u>11</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)
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Adjusted hourly truck team production:	<u>235.40</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>235.40</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>235.40</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>43.03</u>	Hours
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Unit cost:	<u>\$5.812</u>	/LCY	Total job cost:	<u>\$58,868</u>
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BULLDOZER WORKTask description: **Push Material From Adjacent Berms Into Ditches**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-008
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 16,113
 Swell factor: 1.125
 Loose volume: **18,127 LCY**

Source of estimated volume: Phase III, 19 ditches, Dimensions in Appendix L-1, pg 8
 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: Consolidated stockpile 1.0

Average push gradient: -5 %
 Average site altitude: 7,200 feet

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

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5964

Adjusted unit production: 834.96 LCY/hr

Adjusted fleet production: **834.96** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.228/LCY

Total job time: **21.71** Hours

Total job cost: **\$4,136**

TRUCK/LOADER TEAM WORKTask description: **Excavate Culvert Material, Dump and Spread on Road**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-009
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 990H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 10,000 Gal.

Cost Breakdown:**Truck/Loader Team****Support Equipment****Maintenance Equipment**

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	100	100	50
Ownership cost/hour:	\$107.96	\$126.84	NA	\$83.81	\$54.68	\$60.47
Operating cost/hour:	\$81.97	\$118.18	NA	\$66.17	\$46.99	\$44.08
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$25.65	\$41.46	NA	\$40.52	\$38.16	\$0.00
Unit Subtotals:	\$215.58	\$286.48	NA	\$190.50	\$139.83	\$104.55
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$933.22		Support: \$190.50		Maint: \$244.38	

Total work team cost/hour: **\$1,368.10****MATERIAL QUANTITIES**

Initial volume: 52,507 CCY Swell factor: 1.125
 Loose volume: **59,070** LCY

Source of estimated volume: Appendix L-1
 Source of estimated swell factor: Cat Handbook
 Material Purchase Cost: \$0.00
 Total Cost: \$0.00

HOURLY PRODUCTION**Truck Capacity:****Truck Payload (weight) Basis:**

Material weight: 2,650 Pounds/LCY
 Description: Decomposed rock - 25% Rock, 75% Earth
 Rated Payload: 122,520 Pounds

Payload Capacity: 46.23 LCY

Truck Bed (volume) Basis:

Struck Volume: 35.00 LCY
 Heaped Volume: 46.50 LCY
 Average Volume: 40.75 LCY
 Adjusted Volume: 46.23 LCY

Final Truck Volume Based on Number of Loader Passes: 37.13 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity: 11.250 LCY (heaped)
 Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
 Adjusted Capacity: 12.375 LCY

Job Condition Corrections:

Site Altitude (ft.): 7200 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

Loading Tool Cycle Time: Number of Loading Tool Passes Required to Fill Truck: 3 passes

Excavators and Front Shovels:

Machine Cycle Time vs. Job Condition Rating: NA
 Selected Value within this Basic Rating: NA

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.600 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -0.02	-0.020	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders -0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		<u>-0.100</u>	minutes
Adjusted Loader Cycle Time:		<u>0.500</u>	minutes
Net Load Time per Truck:		<u>1.100</u>	minutes

Truck Cycle Time:

Truck Exchange Time: 0.70 Minutes Adjusted for site altitude: 0.700 Minutes
 Truck Load Time: 1.100 Minutes Adjusted for site altitude: 1.100 Minutes
 Truck Maneuver and Dump Time: 1.10 Minutes Adjusted for site altitude: 1.100 Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	5.00	3.00	8.00	1023	1.523

Haul Time: **1.523** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-5.00	3.00	-2.00	3569	0.467

Return Time: **0.467** minutesTotal Truck Cycle Time: **4.890** minutes

Loading Tool unit

Production	<u>1,237.50</u>	LCY/Hour	Adjusted for job efficiency:	<u>1,027.13</u>	LCY/Hour
Truck Unit Production	<u>455.52</u>	LCY/Hour	Adjusted for job efficiency:	<u>378.08</u>	LCY/Hour

Optimal No. of Trucks:	<u>3</u>	Truck(s)	Selected Number of Trucks:	<u>3</u>	Truck(s)
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Adjusted hourly truck team production:	<u>1,134.25</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>1,027.13</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>1,027.13</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>57.51</u>	Hours
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Unit cost:	<u>\$1.332</u>	/LCY	Total job cost:	<u>\$78,680</u>
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BULLDOZER WORKTask description: **Spread Topsoil Berms on Access Road**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 010 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-010
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 30,024
 Swell factor: 1.000
 Loose volume: **30,024 LCY**

Source of estimated volume: 37.22 ac x 6" topsoil depth
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 600 feet
 Unadjusted hourly production: 97.3 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %
 Average site altitude: 7,200 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.100</u>	<u>(50% SL)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8862

Adjusted unit production: 86.23 LCY/hr

Adjusted fleet production: **86.23** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$2.209/LCY

Total job time: **348.19** Hours

Total job cost: **\$66,330**

BULLDOZER WORKTask description: **Spread Topsoil From TS2 on Northern Portion F1 Area**

Site: **Hitch Rack Ranch Quarry** Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 011 State: Colorado Abbreviation: None
 Date: 3/21/2018 County: El Paso Filename: M049-011
 User: AME

Agency or organization name: DRMS**HOURLY EQUIPMENT COST**

Basic Machine: Cat D8T - 8SU
 Horsepower: 310
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$83.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$66.17</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$0.00</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$40.52</u>	<u>NA</u>

Total unit Cost/Hour: \$190.50
 Total Fleet Cost/Hour: **\$190.50**

MATERIAL QUANTITIES

Initial Volume: 11,277
 Swell factor: 1.000
 Loose volume: **11,277 LCY**

Source of estimated volume: 13.98 ac x 6" topsoil depth
 Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 600 feet
 Unadjusted hourly production: 97.3 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 15 %
 Average site altitude: 7,200 feet

Material weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	<u>0.750</u>	<u>(AVG.)</u>
Material consistency:	<u>1.000</u>	<u>(CAT HB)</u>
Dozing method:	<u>1.000</u>	<u>(GEN.)</u>
Visibility:	<u>1.000</u>	<u>(AVG.)</u>

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5366

Adjusted unit production: 52.21 LCY/hr

Adjusted fleet production: **52.21** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$3.649/LCY

Total job time: **215.99** Hours

Total job cost: **\$41,147**

EROSION CONTROL WORK

Task description: Gouging on Fines Pile Slopes

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 012 State: Colorado Abbreviation: None
Date: 3/22/2018 County: El Paso Filename: M049-012
User: AME

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 100.00 %

Structure or Item Description	Dimensions	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Gouging on Fines Pile Slopes	1.5-2 ft deep	USER PROVIDED ITEM	28.60	ac	\$325.00	\$9,295.00

Job Hours: 28.60 Subtotal (unadjusted): \$9,295.00 Total Cost (adjusted for location): \$9,295.00

REVEGETATION WORKTask description: Revegetate 139.51 ac - GrassesSite: Hitch Rack Ranch QuarryPermit Action: 112c Permit App
2017/2018Permit/Job#: M2017049**PROJECT IDENTIFICATION**Task #: 013
Date: 3/22/2018
User: AMEState: Colorado
County: El PasoAbbreviation: None
Filename: M049-013Agency 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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$106.29
Weed control spraying (MEANS 31 31 16.13 3100)	\$242.00
Total Tilling Cost/Acre	\$348.29

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Switchgrass - Blackwell	4.00	35.72	\$38.32
Big Bluestem - Native	4.00	11.94	\$41.00
Blue Grama - Native	4.00	65.29	\$58.00
Indian Ricegrass - Native	4.00	12.95	\$28.00
Canada Wildrye	4.00	10.56	\$42.36
Prairie Clover, Purple - Kanab	4.00	27.33	\$226.12
Little Bluestem - Native	4.00	23.88	\$63.00
Sheep Fescue - Bighorn	4.00	62.44	\$18.92

Slender Wheatgrass - Native	4.00	14.60	\$11.28
Thickspike Wheatgrass - Critana	4.00	14.14	\$22.96
Milkweed, Swamp	4.00	6.17	\$1,196.80
Penstemon, Rocky Mountain	1.00	15.67	\$29.50
Bluebunch Wheatgrass - Goldar	4.00	12.86	\$22.00
Totals Seed Mix	49.00	313.54	\$1,798.26

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
Power mulcher (MEANS 32 91 13.16 0350)	\$99.32
Weed spray, hand, non-aquatic area, nox. [DMG]	\$180.00
Total Mulch Application Cost/Acre	\$279.32

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: 139.51
 Estimated Failure Rate: 50%
 *Selected Replanting Work Items: SEEDING,MULCHING

Cost /Acre: \$3,179.87

Cost /Acre*: \$2,831.58

Initial Job Cost: **\$443,623.66**
 Reseeding Job Cost: **\$197,516.86**
 Total Job Cost: **\$641,141**
 Job Hours: **139.00**

REVEGETATION WORKTask description: Revegetate 16.5 ac - Mixed Conifer, Highwall Benches

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App Permit/Job#: M2017049
2017/2018

PROJECT IDENTIFICATION

Task #: 014 State: Colorado Abbreviation: None
 Date: 3/23/2018 County: El Paso Filename: M049-014
 User: AME

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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Fir, Douglas	60	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.22	\$2.40	\$133.20
Pine, Ponderosa	10	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.62	\$2.40	\$46.20
Totals Nursery Stock Cost / Acre					\$179.40

JOB TIME AND COST

No. of Acres: 16.5 Cost /Acre: \$179.40
 Estimated Failure Rate: 50% Cost /Acre*: \$179.40
 *Selected Replanting Work Items: NURSERY

Initial Job Cost: **\$2,960.10**
 Reseeding Job Cost: **\$1,480.05**
 Total Job Cost: **\$4,440**
 Job Hours: **16.50**

REVEGETATION WORKTask description: Revegetate 41.47 ac - Mixed Conifer, Pit Bottom & Fines Slopes

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App Permit/Job#: M2017049
2017/2018

PROJECT IDENTIFICATION

Task #: 015 State: Colorado Abbreviation: None
 Date: 3/23/2018 County: El Paso Filename: M049-015
 User: AME

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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Fir, Douglas	60	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.22	\$2.40	\$133.20
Pine, Ponderosa	10	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.62	\$2.40	\$46.20
Totals Nursery Stock Cost / Acre					\$179.40

JOB TIME AND COST

No. of Acres:	41.47	Cost /Acre:	\$179.40
Estimated Failure Rate:	50%	Cost /Acre*:	\$179.40
*Selected Replanting Work Items:	NURSERY		

Initial Job Cost:	\$7,439.72
Reseeding Job Cost:	\$3,719.86
Total Job Cost:	\$11,160
Job Hours:	41.00

REVEGETATION WORKTask description: Revegetate 25.29 ac - Mountain Shrubland, Access Road & Fines SlopesSite: Hitch Rack Ranch Quarry Permit Action: 112c Permit App
2017/2018Permit/Job#: M2017049**PROJECT IDENTIFICATION**Task #: 016 State: Colorado Abbreviation: None
Date: 3/23/2018 County: El Paso Filename: M049-016
User: AMEAgency 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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Kinnikinnik	33	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$69.96
Mahogany, Mountain	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$106.00
Oak, Gambel's	285	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$604.20
Sagebrush, Fringed	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$106.00
Sagewort, White	50	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$106.00
Snowberry, Mountain	34	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$72.08
Sumac, Three-Leaf	33	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.52	\$2.40	\$149.16
Totals Nursery Stock Cost / Acre					\$1,213.40

JOB TIME AND COST

No. of Acres: 25.29
 Estimated Failure Rate: 50%
 *Selected Replanting Work Items: NURSERY

Cost /Acre: \$1,213.40
 Cost /Acre*: \$1,213.40

Initial Job Cost: **\$30,686.89**
 Reseeding Job Cost: **\$15,343.44**
 Total Job Cost: **\$46,030**
 Job Hours: **25.29**

REVEGETATION WORKTask description: Revegetate 3.65 ac - RiparianSite: Hitch Rack Ranch QuarryPermit Action: 112c Permit App
2017/2018Permit/Job#: M2017049**PROJECT IDENTIFICATION**Task #: 017
Date: 3/23/2018
User: AMEState: Colorado
County: El PasoAbbreviation: None
Filename: M049-017Agency 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
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre

	\$
Total Seed Application Cost/Acre	\$0.00

MULCHING and MISCELLANEOUS**Materials**

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

Application

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

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
Buffaloberry, Silver	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Birch, Mountain	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$74.20
Box Elder	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$74.20
Currant, Golden or Yellow	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Cottonwood, Narrowleaf	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$74.20
Dogwood, Red Osier	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$74.20
Hackberry, Common	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Willow, Bluestem	35	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$74.20
Indigo Bush	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Rose, Wood's	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Serviceberry	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$2.12	\$2.40	\$53.00
Snowberry, Mountain	25	Bare root seedling, 11-16 inch ht. (MEANS)	\$4.52	\$2.40	\$113.00
Totals Nursery Stock Cost / Acre					\$802.00

JOB TIME AND COST

No. of Acres: 3.65
Estimated Failure Rate: 50%

Cost /Acre: \$802.00
Cost /Acre*: \$802.00

*Selected Replanting Work Items: NURSERY

Initial Job Cost:	<u>\$2,927.30</u>
Reseeding Job Cost:	<u>\$1,463.65</u>
Total Job Cost:	<u>\$4,391</u>
Job Hours:	<u>4.00</u>

REVEGETATION WORK

Task description: Revegetation - Planting Materials

Site: Hitch Rack Ranch Quarry Permit Action: 112c Permit App
2017/2018 Permit/Job#: M2017049

PROJECT IDENTIFICATION

Task #: 018 State: Colorado Abbreviation: None
Date: 3/23/2018 County: El Paso Filename: M049-018
User: AME

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 100.00 %

Structure or Item Description	Dimensions	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
18" protection basket with 3' x 3' weed barrier	NA	USER PROVIDED ITEM	18,866.00	NA	\$1.25	\$23,582.50
Transportation, 2 Laborers	NA	Light Duty Pickup, 4x4, 1 T. Crew	140.00	EA	\$76.50	\$10,710.00

Job Hours: 0.00 Subtotal (unadjusted): \$34,292.50 Total Cost (adjusted for location): \$34,292.50

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization/Demobilization**

Site: **Hitch Rack Ranch Quarry** Permit Action: **112c Permit App 2017/2018** Permit/Job#: **M2017049**

PROJECT IDENTIFICATION

Task #: **019** State: **Colorado** Abbreviation: **None**
 Date: **3/23/2018** County: **El Paso** Filename: **M049-019**
 User: **AME**

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 D8T - 8SU	53.08	\$91.36	\$125.45	4	\$867.24	\$501.80	\$1,000.00
CAT 990H	83.34	\$126.84	\$125.45	2	\$504.58	\$250.90	\$500.00
Cat 773F	49.74	\$107.96	\$117.55	6	\$1,353.06	\$705.30	\$1,500.00
CAT 14M	23.57	\$54.68	\$88.67	2	\$286.70	\$177.34	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$12.22	\$88.67	1	\$100.89	\$88.67	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$250.00
Water Tanker, 10,000 Gal.	41.10	\$60.47	\$117.55	1	\$178.02	\$117.55	\$500.00

Subtotals: **\$3,386.19** **\$1,930.23** **\$4,500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$76.50	1	\$76.50	\$76.50

Subtotals: **\$76.50** **\$76.50**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	
Total one-way travel distance:	20.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$95,584.98
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$76.50
'** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	6.00	NA
Unloading Time (Hours):	6.00	NA
Subtotals:	13.00	1.00

JOB TIME AND COST

Total job time:	26.00	Hours
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Total job cost:	\$95,661
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