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

June 24, 2024

Jeffrey Jacoby
Schmidt Construction Company
2635 Delta Dr.
Colorado Springs, CO 80910

Re: Menzer Quarry - File No. M-1976-009-HR
Schmidt Construction Company
Surety Increase (SI-2)
Surety Increase related to TR2

Dear Jeffrey Jacoby:

On June 24, 2024 the Division of Reclamation, Mining and Safety increased the current Financial Warranty for this permit to $829,527.00, in accordance with Rule 4.2.1 of the Rules and Regulations. This is an increase of $161,789.00.

Reclamation cost estimate updated after the approval of TR2 which revised the mining and blasting plan.

On June 24, 2024, the Division ordered amendment of the current Financial Warranty or submittal of a new Financial Warranty reflecting the increase, within 60 days.

Please make arrangements with Sara M. Stevenson-Benn at the Division's Denver office for submittal of the financial warranty. Any other questions regarding completion, execution and/or submittal of financial warranty forms should also be directed to Sara M. Stevenson-Benn by telephone at (303) 866-3567 (8148), or by email at Sara.stevenson-benn@state.co.us.

The Permittee for this site may be scheduled for a Formal Board Hearing for possible revocation of the permit if the amount of any increased Financial Warranty has not been provided by August 23, 2024.

Bond Held:	$667,738.00
Prior Liability:	$667,738.00
Change in Liability:	$161,789.00

Revised Liability:	$829,527.00
Prior Permit Acreage:	172.50
Change in Permit Acreage:	0.00
Revised Permit Acreage:	172.50
Prior Affected Acreage:	141.40
Change in Affected Acreage:	0.00
Revised Affected Acreage:	141.40

If you have any questions, please contact me by telephone at (303) 866-3567 x 8176, or by email at Hunter.ridley@state.co.us.

Sincerely,

Hunter Ridley

Hunter C. Ridley
Environmental Protection Specialist

Mark Heifner

M-GR-04

COST SUMMARY WORK

Task description: **Cost Summary**

Site: **Menzer Quarry** Permit Action: 2024 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-000
User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Mobilize/demobilize reclamation equipment	MOBILIZE	1	3.90	$13,601
002	Repair and or clear roads to benches and topsoil stockpile	DOZER	1	8.64	$3,861
003	Clean benches - move rock rubble to bench wall	DOZER	1	41.18	$17,517
004	Haul backfill fines} to quarry benches - truck/loader operat	TRUCK1	1	100.69	$174,923
005	Grade track dumped backfill to 5:1 on benches	DOZER	1	94.42	$40,159
006	Haul topsoil from stockpiles to benches	TRUCK1	1	69.59	$85,602
007	Remove plant foundations miscellaneous trash, debris{1.65%+)	NA	1	20.00	$33,000
008	Rip the quarry floor	RIPPER	1	72.84	$32,554
009	Haul growth medium to quarry floor & #10: grade w/ dozer	TRUCK1	1	104.81	$124,022
011	Establish grades for riparian areas {1.65% infl. rate}	NA	1	4.00	$2,640
012A	Broadcast grass seed mix on north facing quarry benches	REVEGE	1	45.00	$10,373
012B	Broadcast grass seed mix on east facing quarry benches	REVEGE	1	45.00	$10,023
012C	Broadcast grass seed mix on south facing quarry benches	REVEGE	1	25.00	$5,694
013	Drill grass seed mix on quarry floor	REVEGE	1	100.00	$43,384
014	Collect seed and broadcast on riparian areas {1.65% infl.}	NA	1	4.00	$3,300
015	Plant trees on 6 acres of mine benches {operator supplied co	NA	1	4.00	$2,970
016	Stain bench highwalls, visual impact benches only (operator	NA	1	20.00	$37,274
017	Grade topsoil stockpile and quarry bench access road areas	DOZER	1	10.30	$4,381
018	Broadcast seed - graded haul road areas	REVEGE	1	10.00	$3,702
		SUBTOTALS:		**783.37**	**$648,980**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02 Total = $13,109

Performance bond:	1.05	Total =	$6,814
Job superintendent:	391.68	Total =	$25,491
Profit:	10.00	Total =	$64,898
		TOTAL O & P =	$110,312
		CONTRACT AMOUNT (direct + O & P) =	$759,292

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	$0	Total =	$0
Engineering work and/or contract/bid preparation:	4.25	Total =	$32,270
Reclamation management and/or administration:	5.00		$37,965
CONTINGENCY:	0.00	Total =	$0
		TOTAL INDIRECT COST =	$180,547
		TOTAL BOND AMOUNT (direct + indirect) =	**$829,527**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/demobilize reclamation equipment**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-001
User: TC1

Agency or organization name: DRMS

EQUIPMENT TRANSPORT RIG COST

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

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

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

Cost Breakdown:

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	$20.26	$36.04	$47.05
Operating Cost/Hour:	$39.51	$76.08	$82.85
Operator Cost/Hour:	$22.52	$22.52	$22.52
Helper Cost/Hour:	$0.00	$23.53	$23.53
Total Unit Cost/Hour:	$82.29	$158.17	$175.95

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D8T - 8SU	53.08	$255.49	$175.95	1	$431.44	$175.95	$250.00
Cat 770D	37.54	$106.52	$158.17	5	$1,323.45	$790.85	$1,250.00
CAT 990H	83.34	$77.20	$175.95	1	$253.15	$175.95	$250.00
Water Tanker, 5,000 Gal.	15.00	$57.13	$82.29	1	$139.42	$82.29	$250.00
CAT 14M	23.57	$149.33	$82.29	1	$231.62	$82.29	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$6.73	$82.29	1	$89.02	$82.29	$250.00
Subtotals:					**$2,468.10**	**$1,389.62**	**$2,500.00**

ROADABLE EQUIPMENT:

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

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	
Total one-way travel distance:	19.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$13,601.03	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$0.00	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.48	0.48
Return Time (Hours):	0.48	0.48
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.95	0.95

JOB TIME AND COST

Total job time:	**3.90**	Hours
Total job cost:	**$13,601**	

BULLDOZER WORK

Task description: **Repair and or clear roads to benches and topsoil stockpile**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-002
User: TC1

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:

		Utilization %
Ownership Cost/Hour:	$241.38	NA
Operating Cost/Hour:	$143.92	100
Ripper own. Cost/Hour:	$14.11	NA
Ripper op. Cost/Hour:	$7.45	100
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $446.90
Total Fleet Cost/Hour: **$446.90**

MATERIAL QUANTITIES

Initial Volume: 2,037
Swell factor: 1.215
Loose volume: **2,475** LCY

Source of estimated volume: AM-03 CIRCES worksheet
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: 10 %
Average site altitude: 6,975 feet

Material weight: 3,300 lbs/LCY

Weight description: Decomposed rock - 75% Rock, 25% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2046

Adjusted unit production: 286.44 LCY/hr
Adjusted fleet production: **286.44** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $1.560/LCY

Total job time: **8.64** Hours
Total job cost: **$3,861**

BULLDOZER WORK

Task description: **Clean benches - move rock rubble to bench wall**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-003
User: TC1

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:

		Utilization %
Ownership Cost/Hour:	$241.38	NA
Operating Cost/Hour:	$143.92	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $425.34
Total Fleet Cost/Hour: **$425.34**

MATERIAL QUANTITIES

Initial Volume: 23,518
Swell factor: 1.000
Loose volume: **23,518** LCY

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

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: 0 %
Average site altitude: 6,975 feet

Material weight: 2,950 lbs/LCY

Weight description: Traprock - broken

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.780	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4079

Adjusted unit production: 571.06 LCY/hr
Adjusted fleet production: **571.06** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.745/LCY

Total job time: **41.18** Hours
Total job cost: **$17,517**

TRUCK/LOADER TEAM WORK

Task description: **Haul backfill fines} to quarry benches - truck/loader operat**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-004
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 5,000 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	NA	100	100
Ownership cost/hour:	$106.52	$77.20	NA	NA	$149.33	$57.13
Operating cost/hour:	$86.75	$120.94	NA	NA	$92.79	$66.49
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	NA	$0.00	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	NA	$0.00	$0.00
Operator cost/hour:	$24.82	$35.97	NA	NA	$46.87	$0.00
Unit Subtotals:	$218.09	$234.11	NA	NA	$288.99	$123.62
Number of Units:	5	1	0	0	1	1
Group Subtotals:	Work:	$1,324.56	Support:	$0.00	Maint:	$412.61

Total work team cost/hour: **$1,737.17**

MATERIAL QUANTITIES

Initial volume: 89,572 CCY Swell factor: 1.000
Loose volume: **89,572** LCY

Source of estimated volume: AM-03 CIRCES worksheet
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: 2,850 Pounds/LCY
Description: Sand - Damp
Rated Payload: 82,000 Pounds
Payload Capacity: 28.77 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	28.77	LCY

Final Truck Volume Based on Number of Loader Passes: **24.75** 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.): 6975 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: 2 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 up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(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:	Small target 0.04	0.040	(Cat HB)
	Net Cycle Time Adjustment:	0.000	minutes
	Adjusted Loader Cycle Time:	**0.600**	minutes
	Net Load Time per Truck:	**0.700**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.700	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	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	1840.00	7.00	3.00	10.00	834	2.247
2	1840.00	1.00	3.00	4.00	2051	1.121

Haul Time: **3.368** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1840.00	-1.00	3.00	2.00	4254	0.745
2	1840.00	-7.00	3.00	-4.00	3893	0.515

Return Time: **1.260** minutes
Total Truck Cycle Time: **6.928** minutes

Loading Tool unit Production 1,142.31 LCY/Hour Adjusted for job efficiency: 948.12 LCY/Hour

Truck Unit Production 214.35 LCY/Hour Adjusted for job efficiency: 177.91 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 5 Truck(s)

Adjusted hourly truck team production: 889.54 LCY/Hour
Adjusted single truck/loader team production: 889.54 LCY/Hour
Adjusted multiple truck/loader team production: **889.54** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **100.69** Hours

Unit cost: $1.953 /LCY Total job cost: **$174,923**

BULLDOZER WORK

Task description: **Grade track dumped backfill to 5:1 on benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: 005
User: TC1

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:

		Utilization %
Ownership Cost/Hour:	$241.38	NA
Operating Cost/Hour:	$143.92	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $425.34
Total Fleet Cost/Hour: **$425.34**

MATERIAL QUANTITIES

Initial Volume: 44,097
Swell factor: 1.000
Loose volume: **44,097** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: Loose stockpile 1.2

Average push gradient: 15 %
Average site altitude: 6,975 feet

Material weight: 2,400 lbs/LCY

Weight description: Sand - Dry, loose

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.958	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3336

Adjusted unit production: 467.04 LCY/hr
Adjusted fleet production: **467.04** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.911/LCY

Total job time: **94.42** Hours
Total job cost: **$40,159**

TRUCK/LOADER TEAM WORK

Task description: **Haul topsoil from stockpiles to benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-006
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 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	NA	NA	100
Ownership cost/hour:	$106.52	$77.20	NA	NA	NA	$57.13
Operating cost/hour:	$86.75	$120.94	NA	NA	NA	$66.49
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	NA	NA	$0.00
Operator cost/hour:	$24.82	$35.97	NA	NA	NA	$0.00
Unit Subtotals:	$218.09	$234.11	NA	NA	NA	$123.62
Number of Units:	4	1	0	0	0	1
Group Subtotals:	Work:	$1,106.47	Support:	$0.00	Maint:	$123.62

Total work team cost/hour: **$1,230.09**

MATERIAL QUANTITIES

Initial volume: 56,943 CCY Swell factor: 1.000
Loose volume: **56,943** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: 82,000 Pounds
Payload Capacity: 30.94 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	30.94	LCY

Final Truck Volume Based on Number of Loader Passes: **31.22** 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.): 6975 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:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(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:	Small target 0.04	0.040	(Cat HB)
	Net Cycle Time Adjustment:	0.000	minutes
	Adjusted Loader Cycle Time:	**0.600**	minutes
	Net Load Time per Truck:	**1.300**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.300	Minutes	Adjusted for site altitude:	1.300	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	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	1875.00	5.00	3.00	8.00	1057	1.842
2	1300.00	0.00	3.00	3.00	2754	0.889

Haul Time: **2.731** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1300.00	0.00	3.00	3.00	4074	0.662
2	1875.00	-5.00	3.00	-2.00	4254	0.477

Return Time: **1.139** minutes
Total Truck Cycle Time: **6.770** minutes

Loading Tool unit Production 985.86 LCY/Hour Adjusted for job efficiency: 818.26 LCY/Hour

Truck Unit Production 276.68 LCY/Hour Adjusted for job efficiency: 229.64 LCY/Hour

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

Adjusted hourly truck team production: 918.58 LCY/Hour
Adjusted single truck/loader team production: 818.26 LCY/Hour
Adjusted multiple truck/loader team production: **818.26** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **69.59** Hours

Unit cost: $1.503 /LCY Total job cost: **$85,602**

BULLDOZER RIPPING WORK

Task description: **Rip the quarry floor**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 008 State: Colorado Abbreviation: None
Date: 5/18/2021 County: El Paso Filename: M009-008
User: TC1

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:	$241.38	NA
Operating Cost/Hour:	$143.92	100
Ripper Ownership Cost/Hour:	$14.11	NA
Ripper Operating Cost/Hour:	$7.45	100
Operator Cost/Hour:	$40.04	NA
Total Unit Cost/Hour:	$446.90	

Total Fleet Cost/Hour: **$446.90**

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 49.70 acres Rip Depth (ft): 1.50 Volume: 120,274 BCY or CCY

Source of estimated quantity: AM-03 CIRCES Worksheet

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	2.56	feet/pass
Average Ripping Width:	7.08	feet/pass
Average Ripping Length:	500.00	feet/pass
Average Dozer Speed:	88.00	feet/minute
Average Maneuver Time:	0.25	minutes/pass
Production per unit area:	0.822	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.822 Acres/hr

Site Altitude:	6,975	feet
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Adjusted Hourly Unit Production: 0.68 Acres/hr
Adjusted Hourly Fleet Production: **0.68** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **72.84** Hours

Unit cost: $655.018 Per acre Total job cost: **$32,554**

TRUCK/LOADER TEAM WORK

Task description: **Haul growth medium to quarry floor & #10: grade w/ dozer**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 009 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-009
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 770D
-Loader:	CAT 990H high lift
Support Equipment -Load Area:	NA
-Dump Area:	Cat D8T - 8SU
Road Maintenance –Motor Grader:	NA
-Water Truck:	Water Tanker, 5,000 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	75	NA	100
Ownership cost/hour:	$106.52	$77.20	NA	$241.38	NA	$57.13
Operating cost/hour:	$86.75	$120.94	NA	$107.94	NA	$66.49
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	$0.00	NA	$0.00	NA	$0.00
Ripper op. cost/hour:	NA	$0.00	NA	$0.00	NA	$0.00
Operator cost/hour:	$24.82	$35.97	NA	$40.04	NA	$0.00
Unit Subtotals:	$218.09	$234.11	NA	$389.36	NA	$123.62
Number of Units:	2	1	0	1	0	1
Group Subtotals:	Work:	$670.29	Support:	$389.36	Maint:	$123.62

Total work team cost/hour: **$1,183.27**

MATERIAL QUANTITIES

Initial volume: 75,827 CCY Swell factor: 1.000
Loose volume: **75,827** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: 82,000 Pounds
Payload Capacity: 30.94 LCY

Truck Bed (volume) Basis:

Struck Volume:	21.60	LCY
Heaped Volume:	31.70	LCY
Average Volume:	26.65	LCY
Adjusted Volume:	30.94	LCY

Final Truck Volume Based on Number of Loader Passes: **31.22** 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.): 6975 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:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(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:	-0.040	minutes
	Adjusted Loader Cycle Time:	**0.560**	minutes
	Net Load Time per Truck:	**1.220**	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	1.220	Minutes	Adjusted for site altitude:	1.220	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	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	1250.00	2.00	3.00	5.00	1629	0.921

Haul Time: **0.921** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1250.00	-2.00	3.00	1.00	4254	0.557

Return Time: **0.557** minutes
Total Truck Cycle Time: **4.298** minutes

Loading Tool unit Production 1,029.19 LCY/Hour Adjusted for job efficiency: 854.23 LCY/Hour

Truck Unit Production 435.81 LCY/Hour Adjusted for job efficiency: 361.72 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 723.45 LCY/Hour
Adjusted single truck/loader team production: 723.45 LCY/Hour
Adjusted multiple truck/loader team production: **723.45** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **104.81** Hours

Unit cost: $1.636 /LCY Total job cost: **$124,022**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on north facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012A State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012A
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.62	$74.80
Triple superphosphate, 0-46-0	100.00	pound	$0.89	$89.00
			Total Fertilizer Materials Cost/Acre	**$163.80**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$41.82
Total Fertilizer Application Cost/Acre	**$41.82**

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Ryegrass, Perennial - Belramo	1.20	6.80	$2.16
Sideoats Grama - Vaughn	1.30	4.27	$10.89
Intermediate Wheatgrass - Oahe	2.20	4.70	$6.16
Pubescent Wheatgrass - Luna	2.00	4.13	$6.80
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Streambank Wheatgrass - Sodar	1.60	5.22	$9.12
Western Wheatgrass - Native	2.30	5.81	$13.80
Flax, Lewis Blue	4.00	26.53	$66.00

Totals Seed Mix	20.10	95.46	**$135.92**

Application

Description	**Cost /Acre**
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	**Units / Acre**	**Unit**	**Cost / Unit**	**Cost /Acre**
			$	$
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**
					$
				Totals Nursery Stock Cost / Acre	**$0.00**

JOB TIME AND COST

No. of Acres: 11.36
Estimated Failure Rate: 50%
*Selected Replanting Work Items: FERTILIZING,SEEDING

Cost /Acre: $608.76
Cost /Acre*: $608.76

Initial Job Cost: **$6,915.51**
Reseeding Job Cost: **$3,457.76**
Total Job Cost: **$10,373**
Job Hours: **45.00**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on east facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012B State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012B
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.62	$74.80
Triple superphosphate, 0-46-0	100.00	pound	$0.89	$89.00
			Total Fertilizer Materials Cost/Acre	**$163.80**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$41.82
Total Fertilizer Application Cost/Acre	**$41.82**

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Crested Wheatgrass - Nordan	1.70	7.81	$6.63
Sideoats Grama - Vaughn	1.50	4.92	$12.56
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Slender Wheatgrass - San Luis	1.80	6.57	$7.65
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Flax, Lewis Blue	3.00	19.90	$49.50

Totals Seed Mix	18.00	89.89	**$123.79**

Application

Description	**Cost /Acre**
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	**Units / Acre**	**Unit**	**Cost / Unit**	**Cost /Acre**
			$	$
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**
					$
				Totals Nursery Stock Cost / Acre	**$0.00**

JOB TIME AND COST

No. of Acres: 11.2 Cost /Acre: $596.63
Estimated Failure Rate: 50% Cost /Acre*: $596.63
*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: **$6,682.26**
Reseeding Job Cost: **$3,341.13**
Total Job Cost: **$10,023**
Job Hours: **45.00**

REVEGETATION WORK

Task description: **Broadcast grass seed mix on south facing quarry benches**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 012C State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-012C
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.62	$74.80
Triple superphosphate, 0-46-0	100.00	pound	$0.89	$89.00
			Total Fertilizer Materials Cost/Acre	**$163.80**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$41.82
Total Fertilizer Application Cost/Acre	**$41.82**

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Great Basin Wildrye - Magnar	1.80	7.31	$20.79
Sideoats Grama - Vaughn	1.50	4.92	$12.56
Crested Wheatgrass - Standard	1.70	7.81	$7.06
Yellow Sweet Clover - Madrid	5.00	29.84	$14.13
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Totals Seed Mix	15.00	70.73	**$87.86**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
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
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 6.77 Cost /Acre: $560.70
Estimated Failure Rate: 50% Cost /Acre*: $560.70
*Selected Replanting Work Items: FERTILIZING,SEEDING

Initial Job Cost: **$3,795.94**
Reseeding Job Cost: **$1,897.97**
Total Job Cost: **$5,694**
Job Hours: **25.00**

REVEGETATION WORK

Task description: **Drill grass seed mix on quarry floor**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 013 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-013
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.62	$74.80
Triple superphosphate, 0-46-0	100.00	pound	$0.89	$89.00
			Total Fertilizer Materials Cost/Acre	**$163.80**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$41.82
Total Fertilizer Application Cost/Acre	**$41.82**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$100.40
Total Tilling Cost/Acre	**$100.40**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.25	4.08	$3.43
Great Basin Wildrye - Magnar	0.90	3.66	$10.40
Sideoats Grama - Vaughn	0.75	2.46	$6.28
Crested Wheatgrass - Standard	0.85	3.90	$3.53
Yellow Sweet Clover - Madrid	2.50	14.92	$7.06
Streambank Wheatgrass - Sodar	0.90	2.93	$5.13
Western Wheatgrass - Native	1.35	3.41	$8.10
Totals Seed Mix	7.50	35.37	**$43.93**

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
			$	$
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
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 49.7 Cost /Acre: $581.95
Estimated Failure Rate: 50% Cost /Acre*: $581.95
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **$28,922.92**
Reseeding Job Cost: **$14,461.46**
Total Job Cost: **$43,384**
Job Hours: **100.00**

BULLDOZER WORK

Task description: **Grade topsoil stockpile and quarry bench access road areas**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 017 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-017
User: TC1

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:

		Utilization %
Ownership Cost/Hour:	$241.38	NA
Operating Cost/Hour:	$143.92	100
Ripper own. Cost/Hour:	$0.00	NA
Ripper op. Cost/Hour:	$0.00	0
Operator Cost/Hour:	$40.04	NA

Total unit Cost/Hour: $425.34
Total Fleet Cost/Hour: **$425.34**

MATERIAL QUANTITIES

Initial Volume: 6,111
Swell factor: 1.000
Loose volume: **6,111** LCY

Source of estimated volume: AM-03 CIRCES Worksheet
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: Partly consolidated stockpile 1.1

Average push gradient: -5 %
Average site altitude: 6,975 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.700	(FND-MF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4238

Adjusted unit production: 593.32 LCY/hr
Adjusted fleet production: **593.32** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.717/LCY

Total job time: **10.30** Hours
Total job cost: **$4,381**

REVEGETATION WORK

Task description: **Broadcast seed - graded haul road areas**

Site: **Menzer Quarry** Permit Action: 2021 Update Permit/Job#: M1976009HR

PROJECT IDENTIFICATION

Task #: 018 State: Colorado Abbreviation: None
Date: 5/19/2021 County: El Paso Filename: M009-018
User: TC1

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Ammonium nitrate, 33-0-0	120.00	pound	$0.62	$74.80
Triple superphosphate, 0-46-0	100.00	pound	$0.89	$89.00
			Total Fertilizer Materials Cost/Acre	**$163.80**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$41.82
Total Fertilizer Application Cost/Acre	**$41.82**

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	$100.40
Total Tilling Cost/Acre	**$100.40**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	$6.86
Great Basin Wildrye - Magnar	1.80	7.31	$20.79
Sideoats Grama - Vaughn	1.80	5.91	$15.08
Crested Wheatgrass - Standard	1.70	7.81	$7.06
Streambank Wheatgrass - Sodar	1.80	5.87	$10.26
Western Wheatgrass - Native	2.70	6.82	$16.20
Totals Seed Mix	10.30	41.88	**$76.24**

Application

Description	Cost /Acre
Broadcast seeding [DMG]	$267.22
Total Seed Application Cost/Acre	**$267.22**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			$	$
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
					$
Totals Nursery Stock Cost / Acre					**$0.00**

JOB TIME AND COST

No. of Acres: 3.8 Cost /Acre: $649.48
Estimated Failure Rate: 50% Cost /Acre*: $649.48
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **$2,468.02**
Reseeding Job Cost: **$1,234.01**
Total Job Cost: **$3,702**
Job Hours: **10.00**