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

1313 Sherman Street, Room 215
Denver, CO 80203

July 13, 2017

Joe C. Baxter
Midway Aggregates, RLLP
P.O. Box 580
Rye, CO 81069

Re: Midway Pit, Permit No. M-1988-018 Technical Revision Application TR-2 Financial Warranty Revision

Mr. Baxter:

David King has discussed the Division's previous bond estimate based on your Technical Revision 2 (TR-02) submittal. Based on these discussions, the Division has eliminated Task 005 for "Finish Grade Reclamation Area". A revised bond estimate is enclosed.

On May 25, 2017 the Division received a request to extend the decision date for Technical Revision 2 (TR-02) by 60 days. The current decision date is July 24, 2017. The Division has not received a response to our May 22, 2017 preliminary adequacy review (PAR), copy enclosed.

The decision date for TR-02 is July 24, 2017. Please be advised that if you are unable to satisfactorily address any concerns identified in the aforementioned PAR before the decision date, **it will be your responsibility to request an extension of the review period**. If there are outstanding issues that have not been adequately addressed prior to the end of the review period, and no extension has been requested, the Division may deny this Technical Revision.

If you have any questions, please contact me (303-866-3567 ext. 8169).
Sincerely,

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

Enclosures

ec: Wally Erickson, DRMS
DRMS file
David King, Midway Aggregates

COST SUMMARY WORK

Task description: **Cost Summary (revised)**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 7/11/2017 County: El Paso Filename: M018-000
User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill 3 Ponds	DOZER	1	12.55	$2,865.00
002	Knockdown Near Vert. West Highwalls	DOZER	1	0.92	$210.00
003	Knockdown Northside Highwalls	DOZER	1	0.89	$204.00
004	Place 3" Topsoil on Disturbed Area (22 acres)	SCRAPER1	1	28.55	$7,090.00
005	Finish Grade Reclamation Area - DELETED	NA	0	0.00	$0.00
06A	Reveg using seed drill	REVEGE	1	80.00	$35,513.00
06B	Reveg using broadcast method	REVEGE	1	4.00	$1,645.00
070	Mob/Demob (revised)	MOBILIZE	1	2.84	$2,143.00
		SUBTOTALS:		**129.75**	**$49,670**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,003.33
Performance bond:	1.05	Total =	$521.54
Job superintendent:	72.87	Total =	$5,323.15
Profit:	10.00	Total =	$4,967.00
		TOTAL O & P =	$11,815.02
		CONTRACT AMOUNT (direct + O & P) =	$61,485.02

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00	Total =	$0.00
Reclamation management and/or administration:	5.00		$3,074.25
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$14,889.27
		TOTAL BOND AMOUNT (direct + indirect) =	**$64,559.27**
		ROUNDED TOTAL BOND AMOUNT (direct + indirect) =	**$64,560.00**

BULLDOZER WORK

Task description: **Backfill 3 Ponds**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-001
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

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

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

MATERIAL QUANTITIES

Initial Volume: 14,755
Swell factor: 1.125
Loose volume: **16,599** LCY

Source of estimated volume: See spread sheets - assume 12 ft depth
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

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

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -10 %
Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

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

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.225	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8737

Adjusted unit production: 1,323.04 LCY/hr

Adjusted fleet production: **1323.04** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: $0.173/LCY

Total job time: **12.55** Hours

Total job cost: **$2,865**

BULLDOZER WORK

Task description: **Knockdown Near Vert. West Highwalls**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-002
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

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

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

MATERIAL QUANTITIES

Initial Volume: 1,864
Swell factor: 1.125
Loose volume: **2,097** LCY

Source of estimated volume: See revised spreadsheets - assume 10 ft height
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet
Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -25 %
Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

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

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0813

Adjusted unit production: 2,282.08 LCY/hr
Adjusted fleet production: **2282.08** LCY/hr

JOB TIME AND COST

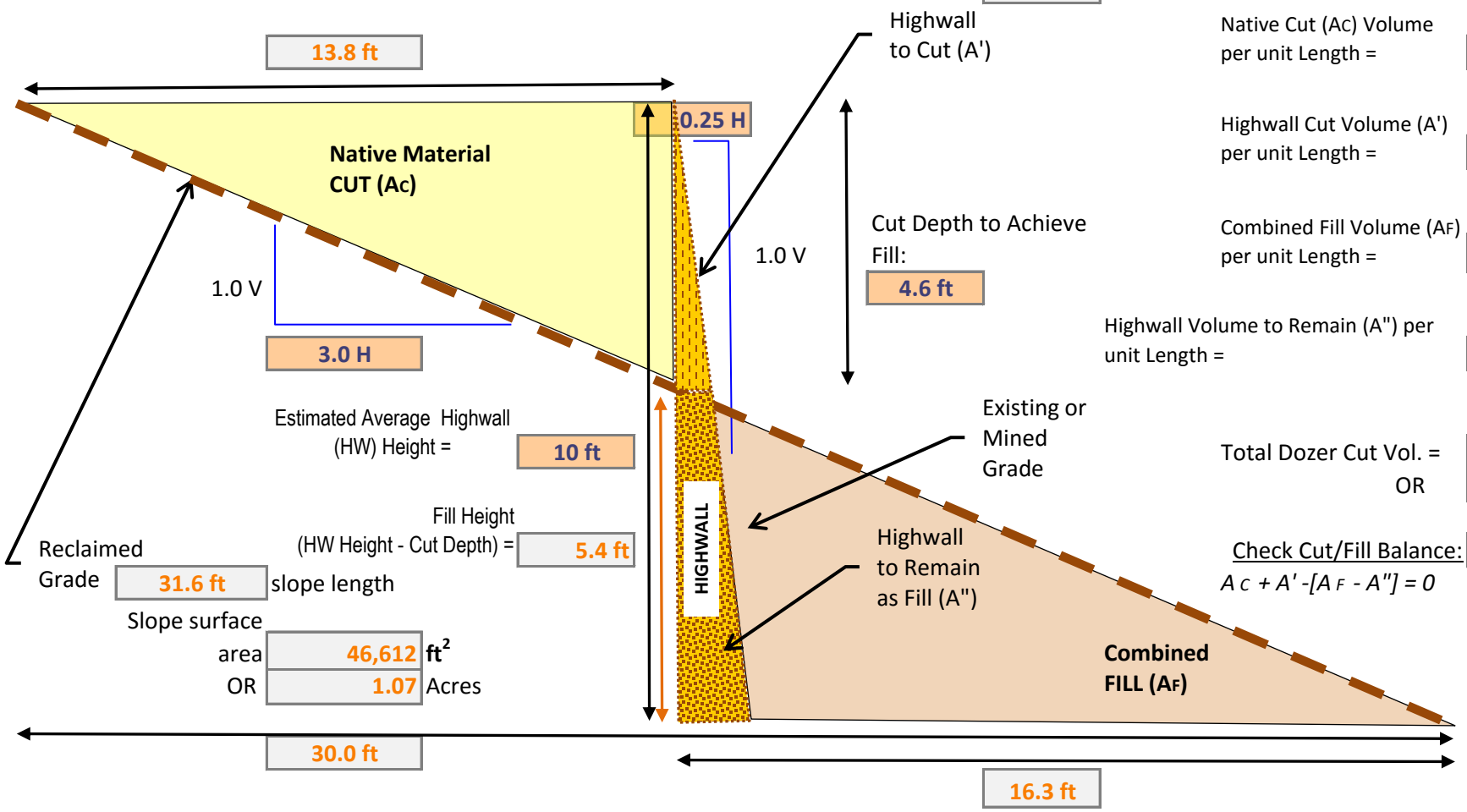
Fleet size: 1 Dozer(s)
Unit cost: $0.100/LCY

Total job time: **0.92** Hours
Total job cost: **$210**

Task # 002.1 Highwall Backfill Volume Estimate

PROJECT: Midway Pit
PERMIT No.: M-1988-018
HIGHWALL LOCATION: West End - Near Vertical Walls

LEGEND
Input
Result



Highwall Length =	1474	ft
Native Cut (Ac) Volume per unit Length =	31.5	ft²
Highwall Cut Volume (A') per unit Length =	2.6	ft²
Combined Fill Volume (A_F) per unit Length =	44.0	ft²
Highwall Volume to Remain (A") per unit Length =	9.9	ft²
Total Dozer Cut Vol. =	50,317	ft³
OR	1,864	CY
Check Cut/Fill Balance:	0.0	

$A_C + A' - [A_F - A''] = 0$

HIGHWALL CUT - FILL VOLUME ESTIMATE

BULLDOZER WORK

Task description: **Knockdown Northside Highwalls**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-003
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

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

Cost Breakdown:

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

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

MATERIAL QUANTITIES

Initial Volume: 1,813
Swell factor: 1.125
Loose volume: **2,040** LCY

Source of estimated volume: See revised spreadsheets - assume 15 ft height
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 50 feet
Unadjusted hourly production: 2,110.5 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: -25 %
Average site altitude: 5,400 feet

Material weight: 2,650 lbs/LCY

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

Job Condition Correction Factor		Source
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.516	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.0813

Adjusted unit production: 2,282.08 LCY/hr
Adjusted fleet production: **2282.08** LCY/hr

JOB TIME AND COST

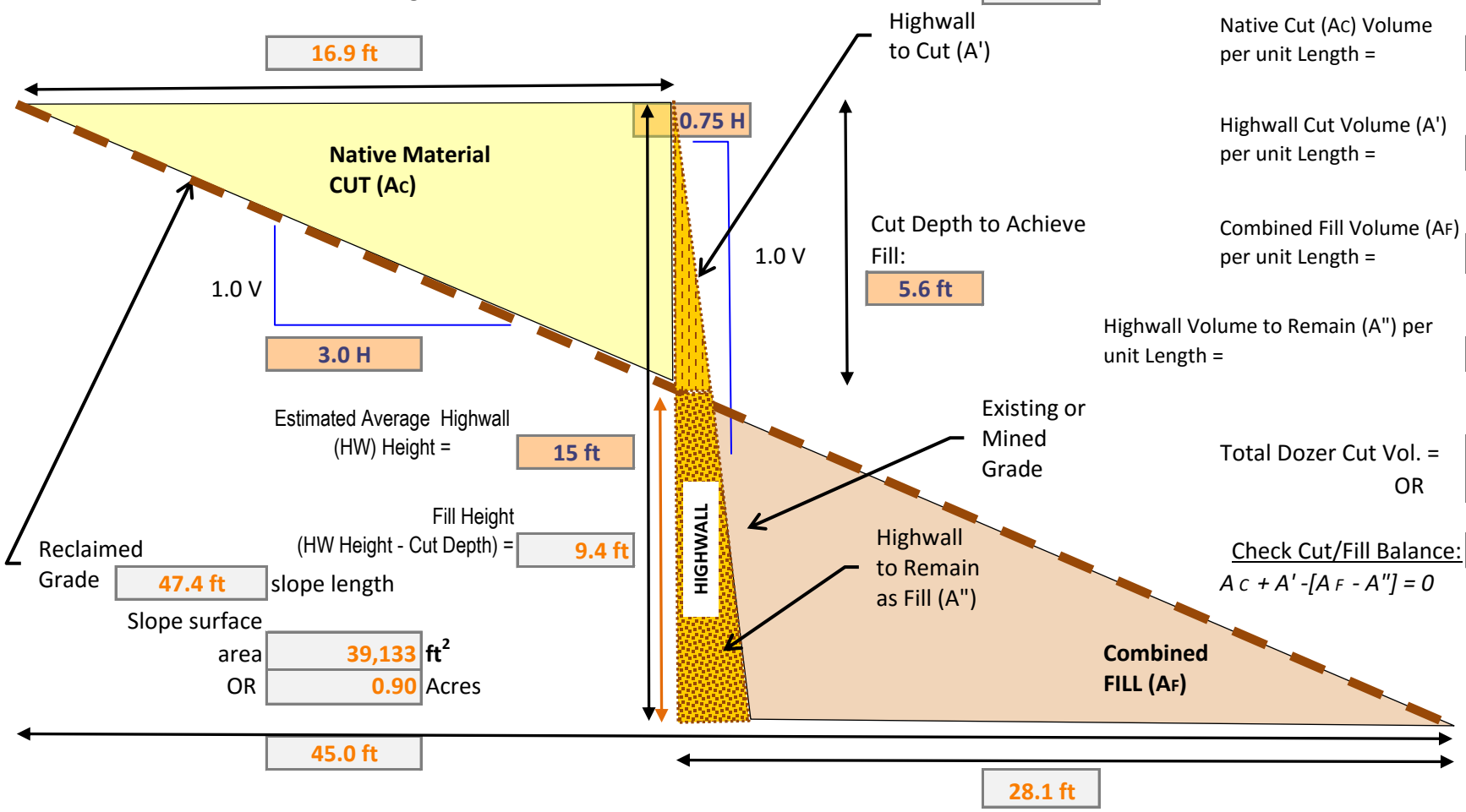
Fleet size: 1 Dozer(s)
Unit cost: $0.100/LCY

Total job time: **0.89** Hours
Total job cost: **$204**

Task # 003.1 Highwall Backfill Volume Estimate

PROJECT: Midway Pit
PERMIT No.: M-1988-018
HIGHWALL LOCATION: North Side Highwalls

LEGEND
Input
Result



Highwall Length =	825	ft
Native Cut (Ac) Volume per unit Length =	47.5	ft^2
Highwall Cut Volume (A') per unit Length =	11.9	ft^2
Combined Fill Volume (A_F) per unit Length =	131.8	ft^2
Highwall Volume to Remain (A") per unit Length =	72.5	ft^2
Total Dozer Cut Vol. =	48,944	ft^3
OR	1,813	CY
Check Cut/Fill Balance:	0.0	

$A_C + A' - [A_F - A''] = 0$

HIGHWALL CUT - FILL VOLUME ESTIMATE

SCRAPER TEAM WORK

Task description: **Place 3" Topsoil on Disturbed Area (22 acres)**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-004
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 631G
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	$98.72	NA	NA	NA	NA	NA
Operating cost/hour:	$108.19	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	$41.46	NA	NA	NA	NA	NA
Unit Subtotals:	$248.37	NA	NA	NA	NA	NA
Number of Units:	1	0	0	0	0	0
Group Subtotals:	Work:	$248.37	Support:	$0.00	Maint:	$0.00

Total work team cost/hour: **$248.37**

MATERIAL QUANTITIES

Initial volume: 8,873 CCY Swell factor: 1.125
Loose volume: **9,982** LCY

Source of estimated volume: 3" depth over 22 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

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

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

Cycle Time:

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

Job Condition Correction: Site Altitude: 5400 feet

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

Travel Time:

Road Condition: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-5.00	8.00	3.00	2227	0.97

Haul Time: **0.97** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	5.00	8.00	13.00	918	1.66

Return Time: **1.66** minutes

Total Scraper team cycle time: **4.13** minutes
Adjusted for job conditions: 349.69 LCY/Hour
Selected Number of Scrapers: 1 Scraper(s)
Adjusted single scraper team (unit) hourly production: 349.69 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **349.69** LCY/Hour

Unadjusted unit production/hour: 421.31 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **28.55** Hours

Unit cost: $0.710 /LCY Total job cost: **$7,090**

REVEGETATION WORK

Task description: **Reveg using seed drill**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 06A State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-06A
User: TC1

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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$106.29
Total Tilling Cost/Acre	**$106.29**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.15	5.85	$4.25
Sand Dropseed	0.05	5.97	$0.54
Little Bluestem - Pastura	1.34	8.00	$22.55
Sideoats Grama - Vaughn	1.82	5.97	$18.20
Galleta	0.37	1.35	$9.14
Needle and Thread	1.09	2.88	$45.24
Western Wheatgrass - Native	3.20	8.08	$22.40
Saltbush, Four Wing	1.00	1.38	$12.50
Winter Fat	0.02	0.05	$0.41
Totals Seed Mix	9.04	39.53	**$135.23**

Application

Description	Cost /Acre
Drill seeding (MEANS 32 92 19.13 0020)	$438.00
Total Seed Application Cost/Acre	**$438.00**

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
Total Mulch Application Cost/Acre	**$99.32**

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: 21 Cost /Acre: $1,300.84
Estimated Failure Rate: 30% Cost /Acre*: $1,300.84
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$27,317.64**
Reseeding Job Cost: **$8,195.29**
Total Job Cost: **$35,513**
Job Hours: **80.00**

REVEGETATION WORK

Task description: **Reveg using broadcast method**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 06B State: Colorado Abbreviation: None
Date: 5/22/2017 County: El Paso Filename: M018-06B
User: TC1

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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$106.29
Total Tilling Cost/Acre	**$106.29**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alkali Sacaton	0.30	11.71	$8.50
Sand Dropseed	0.10	11.94	$1.08
Little Bluestem - Pastura	2.68	16.00	$45.10
Sideoats Grama - Vaughn	3.64	11.95	$36.40
Galleta	0.74	2.70	$18.28
Needle and Thread	2.18	5.76	$90.47
Western Wheatgrass - Native	6.40	16.16	$44.80
Saltbush, Four Wing	2.00	2.75	$25.00
Winter Fat	0.04	0.10	$0.82
Totals Seed Mix	18.08	79.07	**$270.45**

Application

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

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$261.00	$522.00
Total Mulch Materials Cost/Acre				**$522.00**

Application

Description	Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)	$99.32
Total Mulch Application Cost/Acre	**$99.32**

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: 1 Cost /Acre: $1,265.28
Estimated Failure Rate: 30% Cost /Acre*: $1,265.28
*Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **$1,265.28**
Reseeding Job Cost: **$379.58**
Total Job Cost: **$1,645**
Job Hours: **4.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob (revised)**

Site: **Midway Pit** Permit Action: 2017 TR-02 Permit/Job#: M1988018

PROJECT IDENTIFICATION

Task #: 070 State: Colorado Abbreviation: None
Date: 7/11/2017 County: El Paso Filename: M018-070
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:	$16.63	$18.37	$22.33
Operating Cost/Hour:	$44.38	$46.13	$50.07
Operator Cost/Hour:	$27.66	$27.66	$27.66
Helper Cost/Hour:	$0.00	$25.39	$25.39
Total Unit Cost/Hour:	$88.67	$117.55	$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	$100.59	$125.45	1	$226.04	$125.45	$250.00
Cat 631G	52.50	$98.72	$125.45	1	$224.17	$125.45	$250.00
Subtotals:					**$450.21**	**$250.90**	**$500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Drill/Broadcast Seeder with Tractor	$30.89	1	$30.89	$30.89
Power Mulcher (Bowie LD-90)	$21.31	1	$21.31	$21.31
Subtotals:			**$52.20**	**$52.20**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	COLORADO SPRINGS	
Total one-way travel distance:	23.00	miles
Average Travel Speed:	50.00	mph

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$2,095.23
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$48.02

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.46	0.46
Return Time (Hours):	0.46	0.46
Loading Time (Hours):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	1.42	0.92

JOB TIME AND COST

Total job time:	**2.84**	Hours
Total job cost:	**$2,143**	