

COST SUMMARY WORK

Task description: Reclamation Cost Summary

Site: Fountain Pit

Permit Action: TR-3 Update

Permit/Job#: M1982155

PROJECT IDENTIFICATION

Task #: 100

State: Colorado

Abbreviation: None

Date: 9/29/2022

County: El Paso

Filename: M155-100

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
101A	Slope grading: NE Side Slopes (32 Ac @ 3.5 mph)	DOZERGRADER	1	8.50	\$3,031
101B	NE Side Slopes Windrow Grading	GRADER	1	1.67	\$420
101C	NE Sideslopes Topsoil Placement	TRUCK1	1	83.24	\$95,704
101D	NE Sideslope Seed and Mulch 38 Acres	REVEGE	1	76.00	\$69,357
200	NW area reseed 43.75 Ac @ 25% failure	REVEGE	1	20.00	\$15,916
300	10-Ac Overburden stockpile reseed 10 Ac @ 25% failure	REVEGE	1	5.00	\$3,650
400	HW Reduction (East-West Face)	DOZER	1	50.17	\$17,739
401	HW Reduction (West Sidewall)	DOZER	1	0.83	\$295
402	West Sidewall Backfill	TRUCK1	1	129.20	\$148,552
403	HW Reduction (East Sidewall)	DOZER	1	28.32	\$10,013
404	East Sidewall Backfill	TRUCK1	1	11.73	\$13,488
450	Growth Media Placement	TRUCK1	1	376.75	\$433,187
500	Demo Wash Plant	DEMOLISH	1	0.00	\$2,331
600	Seed and Mulch 172 Acres	REVEGE	1	344.00	\$313,930
700	mob/demob (includes AM-3 area)	MOBILIZE	1	2.20	\$8,021
A31	Cut and fill to 3:1 (AM-3 area)	DOZER	1	164.28	\$58,089
A32	Replace overburden (AM-3 area)	DOZER	1	23.90	\$8,451
A33	Replace topsoil (AM-3 area)	DOZER	1	7.10	\$2,512
A34	Replace overburden/pit bottom (AM-3 area)	DOZER	1	120.21	\$42,508
A35	Apply 4" of topsoil over 15 acres (AM-3 area)	DOZER	1	25.18	\$8,902
A36	Seed and Mulch AM-3 Area	REVEGE	1	42.00	\$33,948
<u>SUBTOTALS:</u>				1520.28	\$1,290,044

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02
Performance bond: 1.05
Job superintendent: 760.14
Profit: 10.00

Total = \$26,059

Total = \$13,545

Total = \$57,109

Total = \$129,004

TOTAL O & P = \$225,718

CONTRACT AMOUNT (direct + O & P) = \$1,515,762

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$64,420

Reclamation management and/or administration:	<u>5.00</u>		<u>\$75,788</u>
CONTINGENCY:	0.00	Total =	<u>\$0</u>
		TOTAL INDIRECT COST =	<u>\$365,926</u>
		TOTAL BOND AMOUNT (direct + indirect) =	<u>\$1,655,970</u>

DOZERGRADER WORKTask description: Slope grading: NE Side Slopes (32 Ac @ 3.5 mph)Site: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155**PROJECT IDENTIFICATION**Task #: 101AState: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-101AUser: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SU

Horsepower: _____

Blade Type: _____

Attachment: 1-shank ripperShift Basis: 1 per day

Data Source: _____

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$19.06	NA
Ripper op. Cost/Hour:	\$9.73	100
Operator Cost/Hour:	\$40.04	NA
Total unit Cost/Hour:	\$356.54	
Total Fleet Cost/Hour:	\$356.54	

JOB TIME AND COSTFleet size: 1 Dozer(s)Unit cost: \$356.54/LCYTotal job time: **8.50** HoursTotal job cost: **\$3,031**

MOTOR GRADER WORK

Task description: NE Side Slopes Windrow Grading

Site: Fountain Pit

Permit Action: TR-3 Update

Permit/Job#: M1982155

PROJECT IDENTIFICATION

Task #: 101B

State: Colorado

Abbreviation: None

Date: 9/29/2022

County: El Paso

Filename: M155-101B

User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 14M

Horsepower: 259

Ripper Attachment: Multi-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$114.80	NA
Operating Cost/Hour:	\$79.39	100
Ripper Ownership Cost/Hour:	\$5.34	NA
Ripper Operating Cost/Hour:	\$3.98	100
Operator Cost/Hour:	\$46.87	NA
Total Unit Cost/Hour:	\$250.38	
Total Fleet Cost/Hour:	\$250.38	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 6.00 acres

Source of estimated acreage: TR-3 Exh L, p. 5

HOURLY PRODUCTION

Average Grader Speed:	<u>3.25</u>	mph
Selected Application:	<u>Heavy blading (0-6 mph) - 3.25</u>	
Selected Blade Angle:	<u>30</u>	degrees
Effective Blade Length:	<u>12.10</u>	feet
Width of blade overlap per pass:	<u>2.00</u>	feet
Net grading or ripping width per pass:	<u>10.10</u>	feet
Unadjusted Hourly Unit Production:	<u>3.9788</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5740 feet

Altitude Adj:	<u>1.00</u>	Source (CAT HB)
Job Efficiency:	<u>0.90</u>	(1sh/d, fav.)
Net Correction:	<u>0.9000</u>	multiplier

Adjusted Hourly Unit Production: 3.5809 acres/Hour

Adjusted Hourly Fleet Production: **3.5809** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **1.68** Hours

Unit cost: \$69.92 per acre Total job cost: **\$420**

TRUCK/LOADER TEAM WORKTask description: NE Sideslopes Topsoil PlacementSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155**PROJECT IDENTIFICATION**Task #: 101CState: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-101CUser: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
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	100	25	25
Ownership cost/hour:	\$97.13	\$54.58	NA	\$92.78	\$114.80	\$37.19
Operating cost/hour:	\$65.52	\$53.14	NA	\$79.33	\$19.85	\$12.83
%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:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$187.47	\$143.69	NA	\$212.15	\$181.52	\$50.02
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$706.10		Support: \$212.15		Maint: \$231.54	

Total work team cost/hour: \$1,149.79**MATERIAL QUANTITIES**Initial volume: 51,089

CCY

Swell factor: 1.125Loose volume: 57,475

LCY

Source of estimated volume: TR-3, Exh L, pp. 5 - 6Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: 2,550

Pounds/LCY

Description: Earth - Dry packedRated Payload: 62,000

Pounds

Payload Capacity: 24.31

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 16.50 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	8.250	LCY

Job Condition Corrections:

Site Altitude (ft.): 5740 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): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:		-0.060	minutes
Adjusted Loader Cycle Time:		0.490	minutes
Net Load Time per Truck:		0.590	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.590	Minutes	Adjusted for site altitude:	0.590	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	1000.00	2.00	3.00	5.00	1427	0.823

Haul Time: **0.823** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-2.00	3.00	1.00	3060	0.459

Return Time: **0.459** minutesTotal Truck Cycle Time: **3.472** minutes

Loading Tool unit

Production 831.93 LCY/HourAdjusted for job efficiency: 690.50 LCY/Hour

Truck Unit Production

285.14 LCY/HourAdjusted for job efficiency: 236.66 LCY/HourOptimal No. of Trucks: 3 Truck(s)Selected Number of Trucks: 3 Truck(s)Adjusted hourly truck team production: 709.99 LCY/HourAdjusted single truck/loader team production: 690.50 LCY/HourAdjusted multiple truck/loader team production: **690.50** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: **83.24** HoursUnit cost: \$1.665 /LCYTotal job cost: **\$95,704**

REVEGETATION WORKTask description: NE Sideslope Seed and Mulch 38 AcresSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 101DState: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-101DUser: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
White Sweet Clover	0.50	2.98	\$2.06
Western Wheatgrass - Native	3.00	7.58	\$18.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Totals Seed Mix	8.00	36.28	\$72.42

Application

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	38	Cost /Acre:	\$1,460.14
Estimated Failure Rate:	25%	Cost /Acre*:	\$1,460.14
*Selected Replanting Work Items:	TILLING,SEEDING,MULCHING		

Initial Job Cost:	\$55,485.32
Reseeding Job Cost:	\$13,871.33
Total Job Cost:	\$69,357
Job Hours:	76.00

REVEGETATION WORKTask description: NW area reseed 43.75 Ac @ 25% failureSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 200State: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-200User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
White Sweet Clover	0.50	2.98	\$2.06
Western Wheatgrass - Native	3.00	7.58	\$18.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Totals Seed Mix	8.00	36.28	\$72.42

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 10.9 Cost /Acre: \$1,460.14
 Estimated Failure Rate: 0% Cost /Acre*: \$0.00
 *Selected Replanting Work Items: NONE

Initial Job Cost: **\$15,915.53**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$15,916**
 Job Hours: **20.00**

REVEGETATION WORKTask description: 10-Ac Overburden stockpile reseed 10 Ac @ 25% failureSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 300State: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-300User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
White Sweet Clover	0.50	2.98	\$2.06
Western Wheatgrass - Native	3.00	7.58	\$18.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Totals Seed Mix	8.00	36.28	\$72.42

Application

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	2.5	Cost /Acre:	\$1,460.14
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		
Initial Job Cost:	\$3,650.35		
Reseeding Job Cost:	\$0.00		
Total Job Cost:	\$3,650		
Job Hours:	5.00		

BULLDOZER WORKTask description: **HW Reduction (East-West Face)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**Task #: **400**State: **Colorado**Abbreviation: **None**Date: **9/29/2022**County: **El Paso**Filename: **M155-400**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$353.61**Total Fleet Cost/Hour: **\$353.61****MATERIAL QUANTITIES**Initial Volume: **60,089**Swell factor: **1.124**Loose volume: **67,516 LCY**Source of estimated volume: **TR-3 Exh L & Tasks # 400.1A & B**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: **Compacted fill or embankment 0.9**Average push gradient: **-15 %**Average site altitude: **5,740 feet**Material weight: **2,900 lbs/LCY**Weight description: **Sand and gravel - Dry**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6377

Adjusted unit
production: 1,345.87 LCY/hr
Adjusted fleet
production: **1345.87** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.263/LCY

Total job time: **50.17** Hours
Total job cost: **\$17,739**

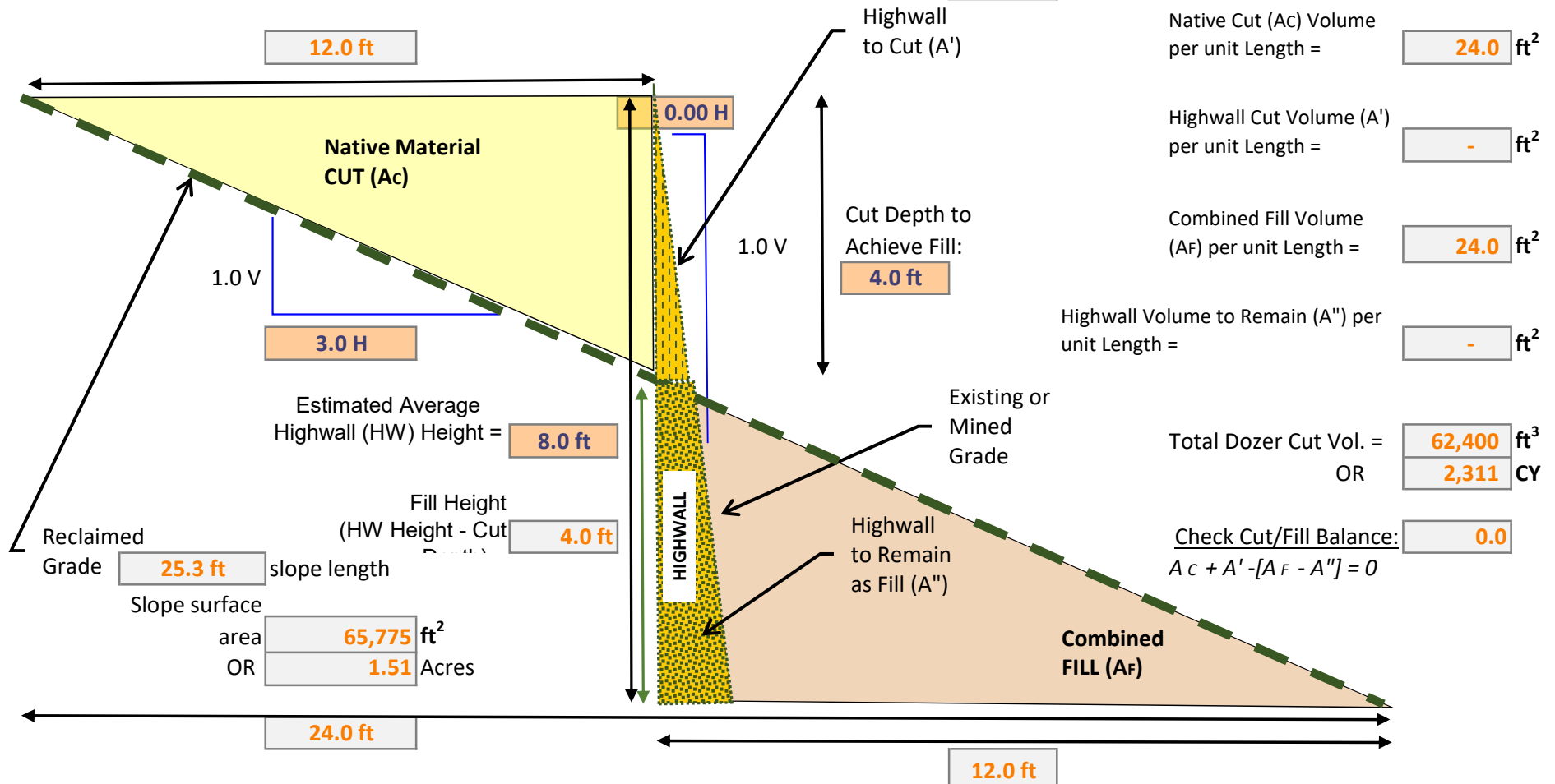
Task # 400.1A East-West Overburden Highwall Cut/Fill Volume Estimate

PROJECT: Fountain Pit
 PERMIT No.: M-1982-155
 HIGHWALL LOCATION: 2600 feet Length of Overburden Highwall

LEGEND

Input

Result



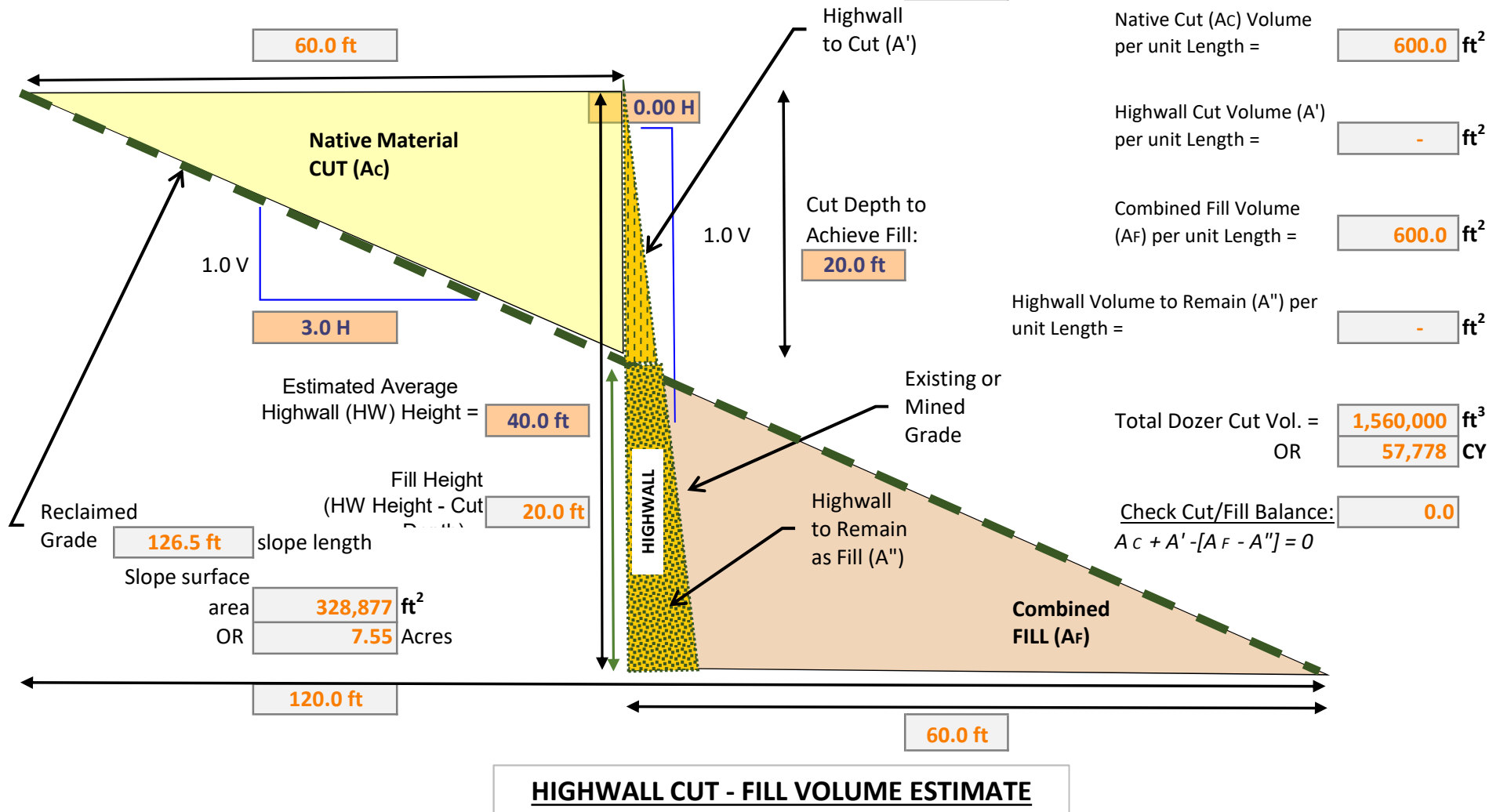
HIGHWALL CUT - FILL VOLUME ESTIMATE

Task # 400.1B East-West Working Face Highwall Cut/Fill Volume Estimate

PROJECT: Fountain Pit
 PERMIT No.: M-1982-155
 HIGHWALL LOCATION: 2600 feet Length of Working Face Highwall

LEGEND

Input
Result



BULLDOZER WORKTask description: **HW Reduction (West Sidewall)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**Task #: **401**State: **Colorado**Abbreviation: **None**Date: **9/29/2022**County: **El Paso**Filename: **M155-401**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$353.61**Total Fleet Cost/Hour: **\$353.61****MATERIAL QUANTITIES**Initial Volume: **1,000**Swell factor: **1.124**Loose volume: **1,124 LCY**Source of estimated volume: **TR-3 Exh L p. 3 & Figure 2**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: **Compacted fill or embankment 0.9**Average push gradient: **-15 %**Average site altitude: **5,740 feet**Material weight: **2,900 lbs/LCY**Weight description: **Sand and gravel - Dry**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6377

Adjusted unit
production: 1,345.87 LCY/hr
Adjusted fleet
production: **1345.87** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.263/LCY

Total job time: **0.83** Hours
Total job cost: **\$295**

TRUCK/LOADER TEAM WORKTask description: West Sidewall BackfillSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 402State: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-402User: TC1Agency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
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	100	25	25
Ownership cost/hour:	\$97.13	\$54.58	NA	\$92.78	\$114.80	\$37.19
Operating cost/hour:	\$65.52	\$53.14	NA	\$79.33	\$19.85	\$12.83
%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:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$187.47	\$143.69	NA	\$212.15	\$181.52	\$50.02
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$706.10		Support: \$212.15		Maint: \$231.54	

Total work team cost/hour: \$1,149.79MATERIAL QUANTITIESInitial volume: 79,300

CCY

Swell factor: 1.125Loose volume: 89,213

LCY

Source of estimated volume: TR-3, Exh L, p 3 & Figure 2Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,550

Pounds/LCY

Description: Earth - Dry packedRated Payload: 62,000

Pounds

Payload Capacity: 24.31

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 16.50 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	8.250	LCY

Job Condition Corrections:

Site Altitude (ft.): 5740 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): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:		-0.060	minutes
Adjusted Loader Cycle Time:		0.490	minutes
Net Load Time per Truck:		0.590	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.590	Minutes	Adjusted for site altitude:	0.590	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	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	1000.00	1.00	3.00	4.00	1774	0.753

Haul Time: **0.753** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-1.00	3.00	2.00	3040	0.476

Return Time: **0.476** minutesTotal Truck Cycle Time: **3.419** minutes

Loading Tool unit

Production	<u>831.93</u>	LCY/Hour	Adjusted for job efficiency:	<u>690.50</u>	LCY/Hour
Truck Unit Production	<u>289.56</u>	LCY/Hour	Adjusted for job efficiency:	<u>240.33</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>721.00</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>690.50</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>690.50</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>129.20</u>	Hours
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Unit cost:	<u>\$1.665</u>	/LCY	Total job cost:	<u>\$148,552</u>
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BULLDOZER WORKTask description: **HW Reduction (East Sidewall)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**Task #: **403**State: **Colorado**Abbreviation: **None**Date: **9/29/2022**County: **El Paso**Filename: **M155-403**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$353.61**Total Fleet Cost/Hour: **\$353.61****MATERIAL QUANTITIES**Initial Volume: **33,920**Swell factor: **1.124**Loose volume: **38,113 LCY**Source of estimated volume: **TR-3 Exh L p. 4 & Figures 3 & 4**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: **Compacted fill or embankment 0.9**Average push gradient: **-15 %**Average site altitude: **5,740 feet**Material weight: **2,900 lbs/LCY**Weight description: **Sand and gravel - Dry**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6377

Adjusted unit
production: 1,345.87 LCY/hr

Adjusted fleet
production: **1345.87** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.263/LCY

Total job time: **28.32** Hours

Total job cost: **\$10,013**

TRUCK/LOADER TEAM WORKTask description: East Sidewall BackfillSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 404State: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-404User: TC1Agency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
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	100	25	25
Ownership cost/hour:	\$97.13	\$54.58	NA	\$92.78	\$114.80	\$37.19
Operating cost/hour:	\$65.52	\$53.14	NA	\$79.33	\$19.85	\$12.83
%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:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$187.47	\$143.69	NA	\$212.15	\$181.52	\$50.02
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$706.10		Support: \$212.15		Maint: \$231.54	

Total work team cost/hour: \$1,149.79MATERIAL QUANTITIESInitial volume: 7,200

CCY

Swell factor: 1.125Loose volume: 8,100

LCY

Source of estimated volume: TR-3, Exh L, p 4 & Figures 3 & 4Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,550

Pounds/LCY

Description: Earth - Dry packedRated Payload: 62,000

Pounds

Payload Capacity: 24.31

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 16.50 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	8.250	LCY

Job Condition Corrections:

Site Altitude (ft.): 5740 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): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:		-0.060	minutes
Adjusted Loader Cycle Time:		0.490	minutes
Net Load Time per Truck:		0.590	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.590	Minutes	Adjusted for site altitude:	0.590	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	1000.00	1.00	3.00	4.00	1774	0.753

Haul Time: **0.753** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-1.00	3.00	2.00	3040	0.476

Return Time: **0.476** minutesTotal Truck Cycle Time: **3.419** minutes

Loading Tool unit

Production 831.93 LCY/HourAdjusted for job efficiency: 690.50 LCY/Hour

Truck Unit Production

289.56 LCY/HourAdjusted for job efficiency: 240.33 LCY/HourOptimal No. of Trucks: 3 Truck(s)Selected Number of Trucks: 3 Truck(s)Adjusted hourly truck team production: 721.00 LCY/HourAdjusted single truck/loader team production: 690.50 LCY/HourAdjusted multiple truck/loader team production: **690.50** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: **11.73** HoursUnit cost: \$1.665 /LCYTotal job cost: **\$13,488**

TRUCK/LOADER TEAM WORKTask description: Growth Media PlacementSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 450State: ColoradoAbbreviation: NoneDate: 9/29/2022County: El PasoFilename: M155-450User: TC1Agency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 730
-Loader:	CAT 980H
Support Equipment -Load Area:	NA
-Dump Area:	Cat D7R DS Series II LGP
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	100	25	25
Ownership cost/hour:	\$97.13	\$54.58	NA	\$92.78	\$114.80	\$37.19
Operating cost/hour:	\$65.52	\$53.14	NA	\$79.33	\$19.85	\$12.83
%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:	\$24.82	\$35.97	NA	\$40.04	\$46.87	\$0.00
Unit Subtotals:	\$187.47	\$143.69	NA	\$212.15	\$181.52	\$50.02
Number of Units:	3	1	0	1	1	1
Group Subtotals:	Work: \$706.10		Support: \$212.15		Maint: \$231.54	

Total work team cost/hour: \$1,149.79MATERIAL QUANTITIESInitial volume: 231,244

CCY

Swell factor: 1.125Loose volume: 260,150

LCY

Source of estimated volume: TR-3, Exh L: 10" over 172 acresSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,550

Pounds/LCY

Description: Earth - Dry packedRated Payload: 62,000

Pounds

Payload Capacity: 24.31

LCY

Truck Bed (volume) Basis:

Struck Volume:	17.10	LCY
Heaped Volume:	22.10	LCY
Average Volume:	19.60	LCY
Adjusted Volume:	22.10	LCY

Final Truck Volume Based on Number of Loader Passes: 16.50 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	7.500	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	8.250	LCY

Job Condition Corrections:

Site Altitude (ft.): 5740 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): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 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:		-0.060	minutes
Adjusted Loader Cycle Time:		0.490	minutes
Net Load Time per Truck:		0.590	minutes

Truck Cycle Time:

Truck Exchange Time:	0.60	Minutes	Adjusted for site altitude:	0.600	Minutes
Truck Load Time:	0.590	Minutes	Adjusted for site altitude:	0.590	Minutes
Truck Maneuver and Dump Time:	1.00	Minutes	Adjusted for site altitude:	1.000	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	1200.00	0.00	3.00	3.00	2183	0.813

Haul Time: **0.813** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	3.00	3.00	2936	0.563

Return Time: **0.563** minutesTotal Truck Cycle Time: **3.566** minutes

Loading Tool unit

Production 831.93 LCY/HourAdjusted for job efficiency: 690.50 LCY/Hour

Truck Unit Production

277.62 LCY/HourAdjusted for job efficiency: 230.43 LCY/HourOptimal No. of Trucks: 3 Truck(s)Selected Number of Trucks: 3 Truck(s)Adjusted hourly truck team production: 691.28 LCY/HourAdjusted single truck/loader team production: 690.50 LCY/HourAdjusted multiple truck/loader team production: **690.50** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s)Total job time: **376.75** HoursUnit cost: \$1.665 /LCYTotal job cost: **\$433,187**

DEMOLITION WORK

Task description: Demo Wash Plant

Site: Fountain Pit

Permit Action: TR-3 Update

Permit/Job#: M1982155

PROJECT IDENTIFICATION

Task #: 500

State: Colorado

Abbreviation: None

Date: 9/29/2022

County: El Paso

Filename: M155-500

User: TC1

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 87.90 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Wash Plant Demo/Haul to Midway	8' x 36' x 7'	Plant (1S) demo./off-site disposal in approved landfill - Max. 15 mile haul	2,016.00	CF	\$0.73	\$1,467.65
Demo concrete support slab	800 sqft	Floor, concrete, demolition only, average reinforcing - 8 in. thick	800.00	SF	\$1.48	\$1,184.00

Job Hours: 0.00

Subtotal
(unadjusted): \$2,651.65

Total Cost
(adjusted for location): \$2,330.80

REVEGETATION WORKTask description: Seed and Mulch 172 AcresSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: 600State: ColoradoAbbreviation: NoneDate: 9/28/2022County: El PasoFilename: M155-600User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
White Sweet Clover	0.50	2.98	\$2.06
Western Wheatgrass - Native	3.00	7.58	\$18.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Totals Seed Mix	8.00	36.28	\$72.42

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 172 Cost /Acre: \$1,460.14
 Estimated Failure Rate: 25% Cost /Acre*: \$1,460.14
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: \$251,144.08
 Reseeding Job Cost: \$62,786.02
 Total Job Cost: \$313,930
 Job Hours: 344.00

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/demob (includes AM-3 area)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**

Task #: 700 State: Colorado Abbreviation: None
 Date: 9/28/2022 County: El Paso Filename: M155-700
 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:	\$15.25	\$23.06	\$37.58
Operating Cost/Hour:	\$25.26	\$30.83	\$51.41
Operator Cost/Hour:	\$27.71	\$27.71	\$27.71
Helper Cost/Hour:	\$0.00	\$20.22	\$20.22
Total Unit Cost/Hour:	\$68.22	\$101.82	\$136.92

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	\$146.30	\$136.92	1	\$283.22	\$136.92	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$6.25	\$68.22	1	\$74.47	\$68.22	\$250.00
Power Mulcher (Bowie LD-90)	6.00	\$14.79	\$68.22	1	\$83.01	\$68.22	\$250.00
Cat 730	25.19	\$97.13	\$68.22	3	\$496.05	\$204.66	\$750.00
CAT 14M	23.57	\$120.14	\$68.22	1	\$188.36	\$68.22	\$250.00
Cat D7R DS Series II LGP	34.57	\$92.78	\$101.82	1	\$194.60	\$101.82	\$250.00
CAT 980H	33.12	\$54.58	\$101.82	1	\$156.40	\$101.82	\$250.00
Water Tanker, 5,000 Gal.	15.00	\$37.19	\$68.22	1	\$105.41	\$68.22	\$250.00

Subtotals: **\$1,581.52** **\$818.10** **\$2,500.00****ROADABLE EQUIPMENT:**

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

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>COLORADO SPRINGS</u>	
Total one-way travel distance:	<u>15.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$8,021.29</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non- Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.30</u>	<u>0.30</u>
Return Time (Hours):	<u>0.30</u>	<u>0.30</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>1.10</u>	<u>0.60</u>

JOB TIME AND COST

Total job time:	<u>2.20</u>	Hours
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Total job cost:	<u>\$8,021</u>
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BULLDOZER WORKTask description: Cut and fill to 3:1 (AM-3 area)Site: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155**PROJECT IDENTIFICATION**Task #: A31State: ColoradoAbbreviation: NoneDate: 9/28/2022County: El PasoFilename: M155-A31User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.	\$17.01	NA
Cost/Hour:		
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: \$353.61Total Fleet Cost/Hour: \$353.61**MATERIAL QUANTITIES**Initial Volume: 34,722Swell factor: 1.180Loose volume: 40,972 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 546.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -15 %Average site altitude: 5,342 feetMaterial weight: 4,050 lbs/LCYWeight description: Sand and clay - Compacted

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.568	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4568

Adjusted unit
production: 249.41 LCY/hr

Adjusted fleet
production: **249.41** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.418/LCY

Total job time: **164.28** Hours

Total job cost: **\$58,089**

BULLDOZER WORKTask description: **Replace overburden (AM-3 area)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**Task #: **A32**State: **Colorado**Abbreviation: **None**Date: **9/28/2022**County: **El Paso**Filename: **M155-A32**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$146.30</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$141.41</u>	<u>100</u>
Ripper own.		
Cost/Hour:	<u>\$17.01</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$8.85</u>	<u>100</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$353.61</u>	
Total Fleet Cost/Hour:	<u>\$353.61</u>	

MATERIAL QUANTITIESInitial Volume: **5,852**Swell factor: **1.266**Loose volume: **7,407 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **250 feet**Unadjusted hourly production: **546.0 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **-5 %**Average site altitude: **5,342 feet**Material weight: **2,700 lbs/LCY**Weight description: **Sand and clay - Loose**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.852	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5677

Adjusted unit
production: 309.96 LCY/hr

Adjusted fleet
production: **309.96** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.141/LCY

Total job time: **23.90** Hours

Total job cost: **\$8,451**

BULLDOZER WORKTask description: **Replace topsoil (AM-3 area)**Site: **Fountain Pit**Permit Action: **TR-3 Update**Permit/Job#: **M1982155****PROJECT IDENTIFICATION**Task #: **A33**State: **Colorado**Abbreviation: **None**Date: **9/28/2022**County: **El Paso**Filename: **M155-A33**User: **TC1**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: **\$353.61**Total Fleet Cost/Hour: **\$353.61****MATERIAL QUANTITIES**Initial Volume: **1,951**Swell factor: **1.429**Loose volume: **2,787 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **250 feet**Unadjusted hourly production: **546.0 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **-5 %**Average site altitude: **5,342 feet**Material weight: **1,600 lbs/LCY**Weight description: **Top Soil**

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7186

Adjusted unit
production: 392.36 LCY/hr

Adjusted fleet
production: **392.36** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.901/LCY

Total job time: **7.10** Hours

Total job cost: **\$2,512**

BULLDOZER WORKTask description: **Replace overburden/pit bottom (AM-3 area)**Site: **Fountain Pit** Permit Action: TR-3 Update Permit/Job#: M1982155**PROJECT IDENTIFICATION**

Task #: A34 State: Colorado Abbreviation: None
 Date: 9/28/2022 County: El Paso Filename: M155-A34
 User: TC1

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

Basic Machine: Cat D9T - 9SU
 Horsepower: 405
 Blade Type: Semi-Universal
 Attachment: 3-shank ripper
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$146.30</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$141.41</u>	<u>100</u>
Ripper own.	<u>\$17.01</u>	<u>NA</u>
Cost/Hour:		
Ripper op. Cost/Hour:	<u>\$8.85</u>	<u>100</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$353.61</u>	
Total Fleet Cost/Hour:	<u>\$353.61</u>	

MATERIAL QUANTITIES

Initial Volume: 24,200
 Swell factor: 1.266
 Loose volume: **30,632 LCY**

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

HOURLY PRODUCTION

Average push distance: 250 feet
 Unadjusted hourly production: 546.0 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 0 %
 Average site altitude: 5,342 feet

Material weight: 2,700 lbs/LCYWeight description: Sand and clay - Loose

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.100	(50% SL)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.852	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4667

Adjusted unit
production: 254.82 LCY/hr
Adjusted fleet
production: **254.82** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.388/LCY

Total job time: **120.21** Hours
Total job cost: **\$42,508**

BULLDOZER WORKTask description: Apply 4" of topsoil over 15 acres (AM-3 area)Site: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155**PROJECT IDENTIFICATION**Task #: A35State: ColoradoAbbreviation: NoneDate: 9/28/2022County: El PasoFilename: M155-A35User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$146.30	NA
Operating Cost/Hour:	\$141.41	100
Ripper own.		
Cost/Hour:	\$17.01	NA
Ripper op. Cost/Hour:	\$8.85	100
Operator Cost/Hour:	\$40.04	NA

Total unit Cost/Hour: \$353.61Total Fleet Cost/Hour: **\$353.61****MATERIAL QUANTITIES**Initial Volume: 8,067Swell factor: 1.429Loose volume: **11,525 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 546.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: -5 %Average site altitude: 5,342 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil

Job Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.000	(CAT HB)
Dozing method:	1.200	(SLOT)
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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8384

Adjusted unit
production: 457.77 LCY/hr

Adjusted fleet
production: **457.77** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.772/LCY

Total job time: **25.18** Hours

Total job cost: **\$8,902**

REVEGETATION WORKTask description: Seed and Mulch AM-3 AreaSite: Fountain PitPermit Action: TR-3 UpdatePermit/Job#: M1982155PROJECT IDENTIFICATIONTask #: A36State: ColoradoAbbreviation: NoneDate: 9/28/2022County: El PasoFilename: M155-A36User: TC1Agency or organization name: DRMSFERTILIZING**Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$98.43
Total Tilling Cost/Acre	\$98.43

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.50	8.16	\$6.86
Little Bluestem - Native	1.00	5.97	\$13.57
Sideoats Grama - Vaughn	1.00	3.28	\$8.38
White Sweet Clover	0.50	2.98	\$2.06
Western Wheatgrass - Native	3.00	7.58	\$18.00
Needlegrass, Green - Lodorm	2.00	8.31	\$23.55
Totals Seed Mix	8.00	36.28	\$72.42

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
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$842.72

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Power mulcher (MEANS 32 91 13.16 0350)	\$141.57
Total Mulch Application Cost/Acre	\$214.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 18.6 Cost /Acre: \$1,460.14
 Estimated Failure Rate: 25% Cost /Acre*: \$1,460.14
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$27,158.60**
 Reseeding Job Cost: **\$6,789.65**
 Total Job Cost: **\$33,948**
 Job Hours: **42.00**