

COST SUMMARY WORK

Task description: Windsor East Mine Bond Estimate

Site: Windsor East Mine Permit Action: 2023 Permit Application

Permit/Job#: M2022042

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/24/2023 County: Weld Filename: M042-001
User: PSH

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
002	Overburden Replacement	SCRAPER1	1	247.17	\$747,969
003	Topsoil Replacement	SCRAPER1	1	33.84	\$102,414
004	Dewatering	SITEMAINT ENANCE	1	0.00	\$10,350
005	Revegetation - 96 Acres	REVEGE	1	120.00	\$429,092
006	Cell C Liner Mobilization	SITEMAINT ENANCE	1	20.00	\$150,000
007	Cell C - Backfill 200-400' Along River	SCRAPER1	1	51.70	\$181,899
008	Cell C - Foundation Excavation	SCRAPER1	1	7.71	\$27,115
009	Cell C - Slope Liner Embankment	SCRAPER1	1	38.54	\$135,577
010	Cell C - Reservoir Grading	DOZERGRADER	1	200.00	\$55,270
<u>SUBTOTALS:</u>				718.96	\$1,839,686

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$37,162
Performance bond:	1.05	Total =	\$19,317
Job superintendent:	299.48	Total =	\$22,500
Profit:	10.00	Total =	\$183,969
		TOTAL O & P =	\$262,947
		CONTRACT AMOUNT (direct + O & P) =	\$2,102,633

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	4.25	Total =	\$89,362
Reclamation management and/or administration:	5.00		\$105,132

CONTINGENCY: 0.00 Total = \$0

TOTAL INDIRECT COST = \$457,940

TOTAL BOND AMOUNT (direct + indirect) = \$2,297,626
\$2,300,000 (Rounded)

SCRAPER TEAM WORKTask description: **Overburden Replacement**Site: **Windsor East Mine**Permit Action: 2023 Permit
ApplicationPermit/Job#: M2022042**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 3/24/2023County: WeldFilename: M042-002User: PSHAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	100	100
Ownership cost/hour:	\$264.49	NA	\$124.85	NA	\$114.80	\$14.98
Operating cost/hour:	\$296.10	NA	\$97.63	NA	\$79.39	\$33.32
%Utilization-ripper:	NA	NA	25	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$13.10	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$1.83	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	NA	\$46.87	\$28.63
Unit Subtotals:	\$607.66	NA	\$277.44	NA	\$241.06	\$76.93
Number of Units:	4	0	1	0	1	1
Group Subtotals:	Work:	\$2,430.64	Support:	\$277.44	Maint:	\$317.99

Total work team cost/hour: **\$3,026.07****MATERIAL QUANTITIES**Initial volume: 489,000

CCY

Swell factor: 1.000Loose volume: **489,000**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource 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

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY

Payload Capacity: 30.79 LCYAdjusted Capacity: 29.00 LCYCycle Time:Scraper Loading Time: 0.80 Minutes
Maneuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4729 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2800	0.84

Haul Time: 0.84 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2949	0.68

Return Time: 0.68 minutesTotal Scraper team cycle time: 2.92 minutesAdjusted for job conditions: 494.59 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 1,978.36 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 1,978.36 LCY/HourUnadjusted unit production/hour: 595.89 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 247.17 HoursUnit cost: \$1.530 /LCYTotal job cost: \$747,969

SCRAPER TEAM WORKTask description: **Topsoil Replacement**Site: **Windsor East Mine**Permit Action: 2023 Permit
ApplicationPermit/Job#: M2022042**PROJECT IDENTIFICATION**Task #: 003State: ColoradoAbbreviation: NoneDate: 3/24/2023County: WeldFilename: M042-003User: PSHAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	NA	100	100
Ownership cost/hour:	\$264.49	NA	\$124.85	NA	\$114.80	\$14.98
Operating cost/hour:	\$296.10	NA	\$97.63	NA	\$79.39	\$33.32
%Utilization-ripper:	NA	NA	25	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$13.10	NA	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$1.83	NA	\$0.00	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	NA	\$46.87	\$28.63
Unit Subtotals:	\$607.66	NA	\$277.44	NA	\$241.06	\$76.93
Number of Units:	4	0	1	0	1	1
Group Subtotals:	Work:	\$2,430.64	Support:	\$277.44	Maint:	\$317.99

Total work team cost/hour: **\$3,026.07****MATERIAL QUANTITIES**Initial volume: 68,600

CCY

Swell factor: 1.000Loose volume: **68,600**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 1,600 lbs/LCY
 Material description: Top Soil
 Rated Payload: 81,600 pounds
 Payload Capacity: 51.00 LCY

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

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4729 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2800	0.77

Haul Time: 0.77 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1600.00	0.00	3.00	3.00	2949	0.68

Return Time: 0.68 minutesTotal Scraper team cycle time: 2.85 minutesAdjusted for job conditions: 506.74 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 2,026.95 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,026.95 LCY/HourUnadjusted unit production/hour: 610.53 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 33.84 HoursUnit cost: \$1.493 /LCYTotal job cost: \$102,414

SITE MAINTENANCE

Task description: Dewatering

Site: Windsor East Mine Permit Action: 2023 Permit Application Permit/Job#: M2022042

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 3/24/2023 County: Weld Filename: M042-004
User: PSH

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Dewatering	80.00	Centrifugal pump - 90M, 6 in.	200.00	EA	\$51.75	\$10,350.00

Job Hours: 0.00

Total Cost: \$10,350.00

REVEGETATION WORKTask description: **Revegetation - 96 Acres**

Site: **Windsor East Mine** Permit Action: **2023 Permit Application** Permit/Job#: **M2022042**

PROJECT IDENTIFICATION

Task #: **005** State: **Colorado** Abbreviation: **None**
 Date: **3/24/2023** County: **Weld** Filename: **M042-005**
 User: **PSH**

Agency or organization name: **DRMS****FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
0-20-20, 4-8-12, 10-10-10	2.00	pound	\$0.23	\$0.46
			Total Fertilizer Materials Cost/Acre	\$0.46

Application

Description	Cost / Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	\$39.64
Total Fertilizer Application Cost/Acre	\$39.64

TILLING

Description	Cost / Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$117.18
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$407.58

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Alkali Sacaton	0.10	3.90	\$2.85
Switchgrass - Pathfinder	0.67	5.98	\$8.54
Mountain Brome - Bromar	1.74	2.80	\$6.61
Sideoats Grama - Butte	1.80	5.91	\$16.20
Western Wheatgrass - Arriba	1.74	4.39	\$11.31
Sweetvetch, Utah or Northern	1.02	0.46	\$76.50
Needle and Thread	1.29	3.41	\$53.99
Rose, Meadow	0.87	0.74	\$21.75
Prairie Sandreed - Goshen	0.48	3.01	\$4.97

Penstemon, Rocky Mountain	0.46	7.21	\$13.57
Globemallow, Gooseberry Leaf	0.26	2.94	\$25.22
Totals Seed Mix	10.43	40.75	\$241.51

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
Herbicide - Tordon 22K @ 1.0 pt/ac	117.00	ACRE	\$13.40	\$1,567.80
Total Mulch Materials Cost/Acre				\$2,410.52

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Weed spray, truck, aquatic area, annuals [DMG]	\$22.81
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
Weed spray, truck, non-aquatic area, nox. [DMG]	\$62.72
Weed spray, truck, non-aquatic areas, ann. [DMG]	\$22.81
Total Mulch Application Cost/Acre	\$244.06

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:	96	Cost /Acre:	\$3,575.77
Estimated Failure Rate:	25%	Cost /Acre*:	\$3,575.77
*Selected Replanting Work Items:	FERTILIZING, TILLING, SEEDING, MULCHING		
Initial Job Cost:	\$343,273.92		
Reseeding Job Cost:	\$85,818.48		
Total Job Cost:	\$429,092		
Job Hours:	120.00		

SITE MAINTENANCE

Task description: Cell C Liner Mobilization

Site: Windsor East Mine Permit Action: 2023 Permit Application Permit/Job#: M2022042

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 3/24/2023 County: Weld Filename: M042-006
User: PSH
Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Cell C Liner Mobilization - MMM Provided	20.00	USER PROVIDED ITEM	1.00	1	\$150,000.00	\$150,000.00

Job Hours: 20.00

Total Cost: \$150,000.00

SCRAPER TEAM WORKTask description: **Cell C - Backfill 200-400' Along River**Site: **Windsor East Mine**Permit Action: 2023 Permit
ApplicationPermit/Job#: M2022042**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 3/24/2023County: WeldFilename: M042-007User: PSHAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	CAT 836H
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	100	100	100
Ownership cost/hour:	\$264.49	NA	\$124.85	\$241.92	\$114.80	\$14.98
Operating cost/hour:	\$296.10	NA	\$97.63	\$218.66	\$79.39	\$33.32
%Utilization-ripper:	NA	NA	25	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$13.10	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$1.83	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	\$31.50	\$46.87	\$28.63
Unit Subtotals:	\$607.66	NA	\$277.44	\$492.08	\$241.06	\$76.93
Number of Units:	4	0	1	1	1	1
Group Subtotals:	Work:	\$2,430.64	Support:	\$769.52	Maint:	\$317.99

Total work team cost/hour: **\$3,518.15****MATERIAL QUANTITIES**Initial volume: 115,000

CCY

Swell factor: 1.000Loose volume: **115,000**

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Sand and gravel - Dry
 Rated Payload: 81,600 pounds
 Payload Capacity: 28.14 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: **28.14** LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4729 feet

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

Travel Time:Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2800	0.64

Haul Time: 0.64 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	3.00	3.00	2949	0.48

Return Time: 0.48 minutesTotal Scraper team cycle time: 2.52 minutesAdjusted for job conditions: 556.06 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 2,224.24 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,224.24 LCY/HourUnadjusted unit production/hour: 669.95 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 51.70 HoursUnit cost: \$1.582 /LCYTotal job cost: \$181,899

SCRAPER TEAM WORKTask description: **Cell C - Foundation Excavation**Site: **Windsor East Mine**Permit Action: 2023 Permit
Application

Permit/Job#: M2022042

PROJECT IDENTIFICATION

Task #: 008

State: Colorado

Abbreviation: None

Date: 3/24/2023

County: Weld

Filename: M042-008

User: PSH

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	CAT 836H
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	100	100	100
Ownership cost/hour:	\$264.49	NA	\$124.85	\$241.92	\$114.80	\$14.98
Operating cost/hour:	\$296.10	NA	\$97.63	\$218.66	\$79.39	\$33.32
%Utilization-ripper:	NA	NA	25	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$13.10	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$1.83	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	\$31.50	\$46.87	\$28.63
Unit Subtotals:	\$607.66	NA	\$277.44	\$492.08	\$241.06	\$76.93
Number of Units:	4	0	1	1	1	1
Group Subtotals:	Work: \$2,430.64		Support: \$769.52		Maint: \$317.99	

Total work team cost/hour: **\$3,518.15****MATERIAL QUANTITIES**

Initial volume: 18,000

CCY

Swell factor: 1.000

Loose volume: **18,000**

LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION**Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Sand and gravel - Dry
 Rated Payload: 81,600 pounds
 Payload Capacity: 28.14 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: **28.14** LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4729 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: Very hard, smooth, asphalt or concrete, no tire penetration 1.2Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	1.20	1.20	2952	0.55

Haul Time: 0.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	1.20	1.20	2963	0.45

Return Time: 0.45 minutesTotal Scraper team cycle time: 2.40 minutesAdjusted for job conditions: 583.86 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 2,335.45 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,335.45 LCY/HourUnadjusted unit production/hour: 703.45 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 7.71 HoursUnit cost: \$1.506 /LCYTotal job cost: \$27,115

SCRAPER TEAM WORKTask description: **Cell C - Slope Liner Embankment**Site: **Windsor East Mine**Permit Action: 2023 Permit
Application

Permit/Job#: M2022042

PROJECT IDENTIFICATION

Task #: 009

State: Colorado

Abbreviation: None

Date: 3/24/2023

County: Weld

Filename: M042-009

User: PSH

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	NA
Support Equipment -Load Area:	Cat D8T - 8SU
-Dump Area:	CAT 836H
Road Maintenance -Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	100	100	100	100
Ownership cost/hour:	\$264.49	NA	\$124.85	\$241.92	\$114.80	\$14.98
Operating cost/hour:	\$296.10	NA	\$97.63	\$218.66	\$79.39	\$33.32
%Utilization-ripper:	NA	NA	25	NA	NA	NA
Ripper own. cost/hour:	NA	NA	\$13.10	\$0.00	\$0.00	\$0.00
Ripper op. cost/hour:	NA	NA	\$1.83	\$0.00	\$0.00	\$0.00
Operator cost/hour:	\$47.07	NA	\$40.04	\$31.50	\$46.87	\$28.63
Unit Subtotals:	\$607.66	NA	\$277.44	\$492.08	\$241.06	\$76.93
Number of Units:	4	0	1	1	1	1
Group Subtotals:	Work:	\$2,430.64	Support:	\$769.52	Maint:	\$317.99

Total work team cost/hour: **\$3,518.15****MATERIAL QUANTITIES**

Initial volume: 90,000

CCY

Swell factor: 1.000

Loose volume: 90,000

LCY

Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION**Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Sand and gravel - Dry
 Rated Payload: 81,600 pounds
 Payload Capacity: 28.14 LCY

Struck Volume: 24.00 LCY
 Heaped Volume: 34.00 LCY
 Average Volume: 29.00 LCY
 Adjusted Capacity: 28.14 LCY

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 4729 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: Very hard, smooth, asphalt or concrete, no tire penetration 1.2Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	1.20	1.20	2952	0.55

Haul Time: 0.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	0.00	1.20	1.20	2963	0.45

Return Time: 0.45 minutesTotal Scraper team cycle time: 2.40 minutesAdjusted for job conditions: 583.86 LCY/HourSelected Number of Scrapers: 4 Scraper(s)Adjusted single scraper team (unit) hourly production: 2,335.45 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 2,335.45 LCY/HourUnadjusted unit production/hour: 703.45 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 38.54 HoursUnit cost: \$1.506 /LCYTotal job cost: \$135,577

DOZERGRADER WORKTask description: Cell C - Reservoir GradingSite: Windsor East Mine Permit Action: 2023 Permit Application Permit/Job#: M2022042PROJECT IDENTIFICATION

Task #:	<u>010</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>3/24/2023</u>	County:	<u>Weld</u>	Filename:	<u>M042-010</u>
User:	<u>PSH</u>				

Agency or organization name: DRMSHOURLY EQUIPMENT COST

Basic Machine:	<u>Cat D8T - 8SU</u>
Horsepower:	<u></u>
Blade Type:	<u></u>
Attachment:	<u>3-shank ripper</u>
Shift Basis:	<u>1 per day</u>
Data Source:	<u></u>

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$124.85</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$97.63</u>	<u>100</u>
Ripper own. Cost/Hour:	<u>\$13.10</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$0.73</u>	<u>10</u>
Operator Cost/Hour:	<u>\$40.04</u>	<u>NA</u>
Total unit Cost/Hour:	<u>\$276.35</u>	
Total Fleet Cost/Hour:	<u>\$276.35</u>	

JOB TIME AND COST

Fleet size:	<u>1 Dozer(s)</u>
Unit cost:	<u>\$276.35/LCY</u>

Total job time:	<u>200.00 Hours</u>
Total job cost:	<u>\$55,270</u>