



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

April 10, 2023

Vic Girardi
Hidden Mesa Ranch, LLC
3183 D Road
Grand Junction, CO 81504

Steve Baker
3B Enterprises, LLC
P.O. Box 1665
Craig, CO 81626

Re: Hidden Pit, File No. M-2022-040, 112c Construction Materials Permit application

Dear Sirs:

On September 9, 2022, the Division of Reclamation, Mining and Safety (Division) received your 112c Construction Materials Reclamation Permit Application package for the Hidden Pit, File No. M-2022-040. The Division sent an adequacy letter on February 7, 2023, and we received Steve Baker's response to that letter on March 7, 2023. The Division sent a second adequacy letter on March 20, 2023, and we received Steve Baker's response to that letter on April 4, 2023.

No additional adequacy responses are required. But before we approve this application, I want to discuss the enclosed reclamation cost estimate with you. Let me know if you have any questions, comments, or objections to this estimate (720-601-2276 or Rob.zuber@state.co.us).

At this point, the Division is required to issue an approval or denial decision no later than April 14, 2023. If appropriate to allow more time for the discussion noted above, please request an extension of the deadline via email.

Sincerely,

Robert D. Zuber, P.E.
Environmental Protection Specialist

Enclosure

Cc: Michael Cunningham, DRMS



COST SUMMARY WORK

Task description: _____

Site: Hidden Pit

Permit Action: Application 2023

Permit/Job#: M2022040

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 4/8/2023

County: Delta

Filename: M040-000

User: RDZ

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
010	Demo scale house, slabs, concrete blocks for scale, and tank	DEMOLISH	1	0.00	\$3,197
02a	Haul subsoil to slopes of pit	TRUCK1	1	83.39	\$34,130
02B	Haul subsoil to pond at process area	TRUCK1	1	23.25	\$9,515
030	Compact soil on slopes of pit	COMPACT	2	1.58	\$739
040	Haul topsoil to slopes of pit	TRUCK1	1	22.99	\$9,408
050	Spread topsoil on slopes of pit	DOZER	2	2.10	\$1,210
060	Seed slopes around pit	REVEGE	1	2.00	\$8,330
070	Rip process area and footprint of soil piles	RIPPER	2	3.07	\$1,776
080	Haul topsoil to process area and pond	TRUCK1	1	10.13	\$4,147
090	Spread topsoil on slopes of pit	DOZER	2	1.08	\$625
100	Seed process area, pond, soil pile areas	REVEGE	1	2.00	\$8,543
110	Equip. mobilization from Delta (and demob)	MOBILIZE	1	1.10	\$4,100
<u>SUBTOTALS:</u>				152.69	\$85,720

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$1,732
Performance bond:	1.05	Total =	\$900
Job superintendent:	76.34	Total =	\$5,735
Profit:	10.00	Total =	\$8,572
		TOTAL O & P =	\$16,939
		CONTRACT AMOUNT (direct + O & P) =	\$102,659

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	\$500	Total =	\$500
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0
Reclamation management and/or administration:	5.00		\$5,133
CONTINGENCY:		Total =	\$0

TOTAL INDIRECT COST = \$22,572

TOTAL BOND AMOUNT (direct + indirect) = \$108,292

DEMOLITION WORK

Task description: Demo scale house, slabs, concrete blocks for scale, and tank

Site: Hidden Pit

Permit Action: Application 2023

Permit/Job#: M2022040

PROJECT IDENTIFICATION

Task #: 010

State: Colorado

Abbreviation: None

Date: 4/9/2023

County: Delta

Filename: M040-010

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 89.80 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Scale house	30' x 10'	Bldg. (SN) demo./off-site disposal in approved landfill - Max. 30 mile haul	3,000.00	CF	\$0.43	\$1,299.00
Scale slabs for approach	2 x 12' x 10'	Floor, concrete, demolition only, average reinforcing - 6 in. thick	240.00	SF	\$1.11	\$266.40
Blocks for scale	4 x 12'x4'x18"	Footing, concrete, average reinforcing - 2.0 ft. x 3 ft.	48.00	LF	\$13.36	\$641.28
Disposal of concrete	408 CF	Loading and 5 mile haul, salvage allowed - Concrete frame structures	15.00	CY	\$14.15	\$212.25
Dump fees for concrete	408 CF	Dump fees - Building construction materials.	15.00	CY	\$11.10	\$166.50
Fuel Tank	6000 gallons	Excavate and load tank onto trailer, non-leaking - 6,000 gal. to 8,000 gal.	1.00	EA	\$975.00	\$975.00

Job Hours: 0.00

Subtotal
(unadjusted): \$3,560.43

Total Cost
(adjusted for location): \$3,197.27

TRUCK/LOADER TEAM WORKTask description: **Haul subsoil to slopes of pit**Site: **Hidden Pit**Permit Action: **Application 2023**Permit/Job#: **M2022040****PROJECT IDENTIFICATION**Task #: **02A**State: **Colorado**Abbreviation: **None**Date: **4/8/2023**County: **Delta**Filename: **M040-02a**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

		Equipment Description
Truck Loader Team -Truck:		Generic 12-18 cy, 6x4
-Loader:		CAT 966H high lift
Support Equipment -Load Area:		NA
-Dump Area:		NA
Road Maintenance -Motor Grader:		NA
-Water Truck:		Water Tanker, 3,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$24.21	\$49.15	NA	NA	NA	\$14.98
Operating cost/hour:	\$57.28	\$43.04	NA	NA	NA	\$33.32
% Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$114.03	\$132.90	NA	NA	NA	\$48.30
Number of Units:	2	1	0	0	0	1
Group Subtotals:	Work: \$360.96		Support: \$0.00		Maint: \$48.30	

Total work team cost/hour: **\$409.26****MATERIAL QUANTITIES**Initial volume: **24,688**

CCY

Swell factor: **1.115**Loose volume: **27,527**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,100**

Pounds/LCY

Description: **Earth - Loam**Rated Payload: **50,300**

Pounds

Payload Capacity: **23.95**

LCY

Truck Bed (volume) Basis:

Struck Volume:	12.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	15.00	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: **14.63** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	4.875	LCY

Job Condition Corrections:

Site Altitude (ft.): 5600 feet

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

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.100	Minutes	Adjusted for site altitude:	1.100	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	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	2400.00	0.50	3.00	3.50	2665	1.051

Haul Time: **1.051** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2400.00	-0.50	3.00	2.50	2905	0.862

Return Time: **0.862** minutesTotal Truck Cycle Time: **4.413** minutes

Loading Tool unit

Production	<u>548.44</u>	LCY/Hour	Adjusted for job efficiency:	<u>455.20</u>	LCY/Hour
Truck Unit Production	<u>198.84</u>	LCY/Hour	Adjusted for job efficiency:	<u>165.04</u>	LCY/Hour

Optimal No. of Trucks:	<u>3</u>	Truck(s)	Selected Number of Trucks:	<u>2</u>	Truck(s)
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Adjusted hourly truck team production:	<u>330.08</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>330.08</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>330.08</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>83.39</u>	Hours
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Unit cost:	<u>\$1.240</u>	/LCY	Total job cost:	<u>\$34,130</u>
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TRUCK/LOADER TEAM WORKTask description: **Haul subsoil to pond at process area**Site: **Hidden Pit**Permit Action: **Application 2023**Permit/Job#: **M2022040****PROJECT IDENTIFICATION**Task #: **02B**State: **Colorado**Abbreviation: **None**Date: **4/8/2023**County: **Delta**Filename: **M040-02B**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

		Equipment Description
Truck Loader Team -Truck:		Generic 12-18 cy, 6x4
-Loader:		CAT 966H high lift
Support Equipment -Load Area:		NA
-Dump Area:		NA
Road Maintenance -Motor Grader:		NA
-Water Truck:		Water Tanker, 3,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$24.21	\$49.15	NA	NA	NA	\$14.98
Operating cost/hour:	\$57.28	\$43.04	NA	NA	NA	\$33.32
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$114.03	\$132.90	NA	NA	NA	\$48.30
Number of Units:	2	1	0	0	0	1
Group Subtotals:	Work: \$360.96		Support: \$0.00		Maint: \$48.30	

Total work team cost/hour: **\$409.26****MATERIAL QUANTITIES**Initial volume: **8,067**

CCY

Swell factor: **1.115**Loose volume: **8,995**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: **2,100**

Pounds/LCY

Description: **Earth - Loam**Rated Payload: **50,300**

Pounds

Payload Capacity: **23.95**

LCY

Truck Bed (volume) Basis:

Struck Volume:	12.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	15.00	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: 14.63 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	4.875	LCY

Job Condition Corrections:

Site Altitude (ft.): 5600 feet

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

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.100	Minutes	Adjusted for site altitude:	1.100	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.50	3.00	3.50	2665	0.713

Haul Time: **0.713** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-0.50	3.00	2.50	2905	0.552

Return Time: **0.552** minutesTotal Truck Cycle Time: **3.765** minutes

Loading Tool unit

Production 548.44 LCY/Hour Adjusted for job efficiency: 455.20 LCY/Hour
Truck Unit Production 233.07 LCY/Hour Adjusted for job efficiency: 193.45 LCY/Hour

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

Adjusted hourly truck team production: 386.89 LCY/Hour
Adjusted single truck/loader team production: 386.89 LCY/Hour
Adjusted multiple truck/loader team production: **386.89** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **23.25** Hours

Unit cost: \$1.058 /LCY Total job cost: **\$9,515**

COMPACTION WORK

Task description: Compact soil on slopes of pit

Site: Hidden Pit Permit Action: Application 2023 Permit/Job#: M2022040

PROJECT IDENTIFICATION

Task #: 030 State: Colorado Abbreviation: None
Date: 4/9/2023 County: Delta Filename: M040-030
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 815F Horsepower: 240
Compactor Type: Soil - tamping foot Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	<u>\$110.46</u>	Utilization %	<u>NA</u>
Operating Cost/Hour:	<u>\$96.20</u>		<u>100</u>
Operator Cost/Hour:	<u>\$26.02</u>		<u>NA</u>
Total Unit Cost/Hour:	<u>\$232.68</u>		
Total Fleet Cost/Hour:	<u>\$465.37</u>		

MATERIAL QUANTITIES

Loose volume: 24,688 LCY Shrinkage factor: 0.905
Compacted volume: 22,343 CCY
Source of estimated volume: Division of Reclamation, Mining & Safety
Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W): 6.50 feet
Average Compactor Speed (S): 8.00 mph
Compacted thickness of each lift (L): 10.00 inches
Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
Required number of machine passes (P): 1 passes
Unadjusted Hourly Unit Production: 8,476.00 CCY/hour

Job Condition Correction Factors

Site Altitude: 5,600 feet

Altitude Adj:	<u>1.00</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.8300</u>	(1 shift/day)
		multiplier

Adjusted Hourly Unit Production: 7,035.08 CCY/Hour
Adjusted Hourly Fleet Production: 14,070.16 CCY/Hour

JOB TIME AND COST

Fleet size: 2 Compactor(s) Total job time: 1.59 Hours
Unit cost: \$0.033 per CCY Total job cost: \$739

TRUCK/LOADER TEAM WORKTask description: Haul topsoil to slopes of pitSite: Hidden PitPermit Action: Application 2023Permit/Job#: M2022040**PROJECT IDENTIFICATION**Task #: 040State: ColoradoAbbreviation: NoneDate: 4/8/2023County: DeltaFilename: M040-040User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 12-18 cy, 6x4
-Loader:	CAT 966H high lift
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	Water Tanker, 3,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$24.21	\$49.15	NA	NA	NA	\$14.98
Operating cost/hour:	\$57.28	\$43.04	NA	NA	NA	\$33.32
% Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$114.03	\$132.90	NA	NA	NA	\$48.30
Number of Units:	2	1	0	0	0	1
Group Subtotals:	Work: \$360.96		Support: \$0.00		Maint: \$48.30	

Total work team cost/hour: \$409.26**MATERIAL QUANTITIES**Initial volume: 6,245

CCY

Swell factor: 1.215Loose volume: 7,588

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 1,600

Pounds/LCY

Description: Top SoilRated Payload: 50,300

Pounds

Payload Capacity: 31.44

LCY

Truck Bed (volume) Basis:

Struck Volume:	12.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	15.00	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: **14.63** LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	4.875	LCY

Job Condition Corrections:

Site Altitude (ft.): 5600 feet

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

Loading Tool Cycle Time:

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.100	Minutes	Adjusted for site altitude:	1.100	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	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	2400.00	0.50	3.00	3.50	2665	1.051

Haul Time: **1.051** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2400.00	-0.50	3.00	2.50	2905	0.862

Return Time: **0.862** minutesTotal Truck Cycle Time: **4.413** minutes

Loading Tool unit

Production 548.44 LCY/Hour Adjusted for job efficiency: 455.20 LCY/HourTruck Unit Production 198.84 LCY/Hour Adjusted for job efficiency: 165.04 LCY/HourOptimal No. of Trucks: 3 Truck(s) Selected Number of Trucks: 2 Truck(s)Adjusted hourly truck team production: 330.08 LCY/HourAdjusted single truck/loader team production: 330.08 LCY/HourAdjusted multiple truck/loader team production: **330.08** LCY/Hour**JOB TIME AND COST**Fleet size: 1 Team(s) Total job time: **22.99** HoursUnit cost: \$1.240 /LCY Total job cost: **\$9,408**

BULLDOZER WORKTask description: Spread topsoil on slopes of pitSite: Hidden Pit Permit Action: Application 2023 Permit/Job#: M2022040**PROJECT IDENTIFICATION**

Task #: 050 State: Colorado Abbreviation: None
 Date: 4/9/2023 County: Delta Filename: M040-050
 User: RDZ

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

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

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>\$16.38</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$8.60</u>	<u>100</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour: \$288.76
 Total Fleet Cost/Hour: \$577.52

MATERIAL QUANTITIES

Initial Volume: 6,245
 Swell factor: 1.215
 Loose volume: 7,588 LCY

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

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: -5 %
 Average site altitude: 5,600 feet

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

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.2935

Adjusted unit production: 1,810.90 LCY/hr

Adjusted fleet production: **3621.8** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.159/LCY

Total job time: **2.10** Hours

Total job cost: **\$1,210**

REVEGETATION WORKTask description: Seed slopes around pitSite: Hidden PitPermit Action: Application 2023Permit/Job#: M2022040**PROJECT IDENTIFICATION**Task #: 060State: ColoradoAbbreviation: NoneDate: 4/9/2023County: DeltaFilename: M040-060User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.38	\$76.00
			Total Fertilizer Materials Cost/Acre	\$76.00

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
Chisel plowing {DMG}	\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$388.83

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Elsie	0.30	3.72	\$0.93
Smooth Brome - Lincoln	1.60	5.33	\$5.32
Intermediate Wheatgrass - Oahe	2.50	5.34	\$7.00
Pubescent Wheatgrass - Greenleaf	2.25	4.65	\$8.21
Sainfoin - Shoshone	2.50	1.09	\$4.25
Totals Seed Mix	9.15	20.12	\$25.71

Application

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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
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$850.66

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Weed spray, truck, non-aquatic areas, ann. [DMG]	\$22.81
Total Mulch Application Cost/Acre	\$95.81

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres: 3.9 Cost /Acre: \$1,708.65
 Estimated Failure Rate: 25% Cost /Acre*: \$1,708.65
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU
LCHING

Initial Job Cost: **\$6,663.74**
 Reseeding Job Cost: **\$1,665.93**
 Total Job Cost: **\$8,330**
 Job Hours: **2.00**

BULLDOZER RIPPING WORK

Task description: Rip process area and footprint of soil piles

Site: Hidden Pit Permit Action: Application 2023 Permit/Job#: M2022040

PROJECT IDENTIFICATION

Task #: 070 State: Colorado Abbreviation: None
Date: 4/9/2023 County: Delta Filename: M040-070
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU Horsepower: 310
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$124.85	NA
Operating Cost/Hour:	\$97.63	100
Ripper Ownership Cost/Hour:	\$16.38	NA
Ripper Operating Cost/Hour:	\$8.60	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$288.76	
Total Fleet Cost/Hour:	\$577.52	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 3.00 acres Rip Depth (ft): 1.00 Volume: 4,840 BCY or CCY

Source of estimated quantity: Application and DRMS assumptions

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 3.71 feet/pass
Average Ripping Width: 5.56 feet/pass
Average Ripping Length: 150.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.588 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.588 Acres/hr
Site Altitude: 5,600 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.49 Acres/hr
Adjusted Hourly Fleet Production: **0.98** Acres/hr

JOB TIME AND COST

Fleet size: 2 Grader(s) Total job time: **3.07** Hours

Unit cost: \$591.937 Per acre Total job cost: **\$1,776**

TRUCK/LOADER TEAM WORKTask description: **Haul topsoil to process area and pond**Site: **Hidden Pit**Permit Action: **Application 2023**Permit/Job#: **M2022040****PROJECT IDENTIFICATION**Task #: **080**State: **Colorado**Abbreviation: **None**Date: **4/8/2023**County: **Delta**Filename: **M040-080**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Shift basis: **1 per day**

		Equipment Description
Truck Loader Team -Truck:		Generic 12-18 cy, 6x4
-Loader:		CAT 966H high lift
Support Equipment -Load Area:		NA
-Dump Area:		NA
Road Maintenance -Motor Grader:		NA
-Water Truck:		Water Tanker, 3,500 Gal.

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

	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	100
Ownership cost/hour:	\$24.21	\$49.15	NA	NA	NA	\$14.98
Operating cost/hour:	\$57.28	\$43.04	NA	NA	NA	\$33.32
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	\$0.00
Operator cost/hour:	\$32.54	\$40.71	NA	NA	NA	\$0.00
Unit Subtotals:	\$114.03	\$132.90	NA	NA	NA	\$48.30
Number of Units:	2	1	0	0	0	1
Group Subtotals:	Work: \$360.96		Support: \$0.00		Maint: \$48.30	

Total work team cost/hour: **\$409.26****MATERIAL QUANTITIES**Initial volume: **3,227**

CCY

Swell factor: **1.215**Loose volume: **3,921**

LCY

Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook**Material Purchase Cost: **\$0.00**Total Cost: **\$0.00****HOURLY PRODUCTION****Truck Capacity:****Truck Payload (weight) Basis:**Material weight: **1,600**

Pounds/LCY

Description: **Top Soil**Rated Payload: **50,300**

Pounds

Payload Capacity: **31.44**

LCY

Truck Bed (volume) Basis:

Struck Volume:	12.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	15.00	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: 14.63 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	5.000	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - uniform aggregates to 1/8" (95-100%) 0.975
Adjusted Capacity:	4.875	LCY

Job Condition Corrections:

Site Altitude (ft.): 5600 feet

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

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

Excavators and Front Shovels:

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

Track Loaders – Material Description: _____

Cycle Time Elements (min.):

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.500 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Stockpile:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Dump Target:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.100	Minutes	Adjusted for site altitude:	1.100	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
maintained 3.0

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

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	0.50	3.00	3.50	2665	0.713

Haul Time: **0.713** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-0.50	3.00	2.50	2905	0.552

Return Time: **0.552** minutesTotal Truck Cycle Time: **3.765** minutes

Loading Tool unit

Production 548.44 LCY/Hour Adjusted for job efficiency: 455.20 LCY/Hour
Truck Unit Production 233.07 LCY/Hour Adjusted for job efficiency: 193.45 LCY/Hour

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

Adjusted hourly truck team production: 386.89 LCY/Hour
Adjusted single truck/loader team production: 386.89 LCY/Hour
Adjusted multiple truck/loader team production: **386.89** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **10.13** HoursUnit cost: \$1.058 /LCY Total job cost: **\$4,147**

BULLDOZER WORKTask description: Spread topsoil on slopes of pitSite: Hidden Pit Permit Action: Application 2023 Permit/Job#: M2022040**PROJECT IDENTIFICATION**

Task #: 090 State: Colorado Abbreviation: None
 Date: 4/9/2023 County: Delta Filename: M040-090
 User: RDZ

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

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

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>\$16.38</u>	<u>NA</u>
Ripper op. Cost/Hour:	<u>\$8.60</u>	<u>100</u>
Operator Cost/Hour:	<u>\$41.30</u>	<u>NA</u>

Total unit Cost/Hour: \$288.76
 Total Fleet Cost/Hour: \$577.52

MATERIAL QUANTITIES

Initial Volume: 3,227
 Swell factor: 1.215
 Loose volume: 3,921 LCY

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

HOURLY PRODUCTION

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

Materials consistency description: Loose stockpile 1.2

Average push gradient: -5 %
 Average site altitude: 5,600 feet

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

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.900	(SSD-FC)
Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 1.2935

Adjusted unit production: 1,810.90 LCY/hr

Adjusted fleet production: **3621.8** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.159/LCY

Total job time: **1.08** Hours

Total job cost: **\$625**

REVEGETATION WORKTask description: Seed process area, pond, soil pile areasSite: Hidden PitPermit Action: Application 2023Permit/Job#: M2022040**PROJECT IDENTIFICATION**Task #: 100State: ColoradoAbbreviation: NoneDate: 4/9/2023County: DeltaFilename: M040-100User: RDZAgency or organization name: DRMS**FERTILIZING****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	200.00	pound	\$0.38	\$76.00
			Total Fertilizer Materials Cost/Acre	\$76.00

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
Chisel plowing {DMG}	\$98.43
Weed control spraying (MEANS 31 31 16.13 3100)	\$290.40
Total Tilling Cost/Acre	\$388.83

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Orchardgrass - Elsie	0.30	3.72	\$0.93
Smooth Brome - Lincoln	1.60	5.33	\$5.32
Intermediate Wheatgrass - Oahe	2.50	5.34	\$7.00
Pubescent Wheatgrass - Greenleaf	2.25	4.65	\$8.21
Sainfoin - Shoshone	2.50	1.09	\$4.25
Totals Seed Mix	9.15	20.12	\$25.71

Application

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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
Herbicide - Curtail @ 4.0 pt/ac	1.00	ACRE	\$7.94	\$7.94
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$421.36	\$842.72
Total Mulch Materials Cost/Acre				\$850.66

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$73.00
Weed spray, truck, non-aquatic areas, ann. [DMG]	\$22.81
Total Mulch Application Cost/Acre	\$95.81

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: 4 Cost /Acre: \$1,708.65
 Estimated Failure Rate: 25% Cost /Acre*: \$1,708.65
 *Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING,MU
LCHING

Initial Job Cost: **\$6,834.60**
 Reseeding Job Cost: **\$1,708.65**
 Total Job Cost: **\$8,543**
 Job Hours: **2.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Equip. mobilization from Delta (and demob)**Site: **Hidden Pit**Permit Action: **Application 2023**Permit/Job#: **M2022040****PROJECT IDENTIFICATION**Task #: **110**State: **Colorado**Abbreviation: **None**Date: **4/10/2023**County: **Delta**Filename: **M040-110**User: **RDZ**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 D8T - 8SU	52.21	\$141.23	\$136.92	2	\$556.30	\$273.84	\$500.00
CAT 966H high lift	25.80	\$49.15	\$68.22	1	\$117.37	\$68.22	\$250.00
Hydroseeder with Tractor	28.00	\$11.91	\$101.82	1	\$113.73	\$101.82	\$250.00
CAT 815F	22.88	\$110.46	\$68.22	2	\$357.36	\$136.44	\$500.00

Subtotals: **\$1,144.76** **\$580.32** **\$1,500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 12-18 cy, 6x4	\$113.40	2	\$226.80	\$226.80
Water Tanker, 3,500 Gal.	\$48.30	1	\$48.30	\$48.30

Subtotals: **\$275.10** **\$275.10**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: DELTA
 Total one-way travel distance: 11.00 miles
 Average Travel Speed: 40.00 mph

Total Non-Roadable Mob/Demob Cost * \$3,948.79
 * two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$151.31
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.28	0.28
Return Time (Hours):	0.28	0.28
Loading Time (Hours):	0.00	NA
Unloading Time (Hours):	0.00	NA
Subtotals:	0.55	0.55

JOB TIME AND COST

Total job time: 1.10 Hours

Total job cost: \$4,100