

COST SUMMARY WORK

Task description: Cost Summary

Site: Buss Barrow Pit

Permit Action: New

Permit/Job#: M2019021

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 6/4/2019

County: Fremont

Filename: M021-000

User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
010	Reveg 7.1 Acres	REVEGE	1	4.00	\$9,246
020	Replace Overburden/Topsoil	SCRAPER1	1	34.07	\$8,890
030	Mob/Demob Equipment	MOBILIZE	1	2.36	\$1,718
<u>SUBTOTALS:</u>				40.43	\$19,854

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02

Total = \$401

Performance bond: 1.05

Total = \$208

Job superintendent: 20.58

Total = \$1,503

Profit: 10.00

Total = \$1,985

TOTAL O & P = \$4,098

CONTRACT AMOUNT (direct + O & P) = \$23,952

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

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

Total = \$0

Engineering work and/or contract/bid preparation: 4.25

Total = \$1,018

Reclamation management and/or administration: 5.00

\$1,198

CONTINGENCY: 0.00

Total = \$0

TOTAL INDIRECT COST = \$6,314

TOTAL BOND AMOUNT (direct + indirect) = \$26,168

REVEGETATION WORKTask description: Reveg 7.1 AcresSite: Buss Barrow PitPermit Action: NewPermit/Job#: M2019021**PROJECT IDENTIFICATION**Task #: 010State: ColoradoAbbreviation: NoneDate: 6/4/2019County: FremontFilename: M021-0107:40:09 AMUser: TC1Agency or organization name: DRMS**FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$92.77
Total Tilling Cost/Acre	\$92.77

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Hachita	1.50	24.48	\$24.99
Indian Ricegrass - Nespar	5.00	16.18	\$38.75
Little Bluestem - Pastura	3.50	20.89	\$60.34
Sideoats Grama - Vaughn	4.50	14.77	\$46.08
Streambank Wheatgrass - Sodar	5.50	17.93	\$34.27
Western Wheatgrass - Arriba	8.00	20.20	\$66.24
Totals Seed Mix	28.00	114.46	\$270.67

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$288.00	\$576.00
Total Mulch Materials Cost/Acre				\$576.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$68.78
Total Mulch Application Cost/Acre	\$68.78

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: 7.1 Cost /Acre: \$1,240.22
 Estimated Failure Rate: 5% Cost /Acre*: \$1,240.22
 *Selected Replanting Work Items: TILLING,SEEDING,MULCHING

Initial Job Cost: **\$8,805.56**
 Reseeding Job Cost: **\$440.28**
 Total Job Cost: **\$9,246**
 Job Hours: **4.00**

SCRAPER TEAM WORKTask description: **Replace Overburden/Topsoil**Site: **Buss Barrow Pit**Permit Action: NewPermit/Job#: M2019021**PROJECT IDENTIFICATION**Task #: 020State: ColoradoAbbreviation: NoneDate: 5/31/2019County: FremontFilename: M021-020User: TC1Agency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

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

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	NA	NA	NA
Ownership cost/hour:	\$110.85	NA	NA	NA	NA	NA
Operating cost/hour:	\$119.02	NA	NA	NA	NA	NA
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$31.05	NA	NA	NA	NA	NA
Unit Subtotals:	\$260.92	NA	NA	NA	NA	NA
Number of Units:	1	0	0	0	0	0
Group Subtotals:	Work:	\$260.92	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$260.92****MATERIAL QUANTITIES**Initial volume: 12,907

CCY

Swell factor: 1.250Loose volume: **16,134**

LCY

Source of estimated volume: Two Acres of 4-ft thick overburdenSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

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

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

Cycle Time:Scraper Loading Time: 0.80 MinutesManeuver and Spread Time: 0.70 MinutesJob Condition Correction:

Site Altitude: 6650 feet

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

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

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-5.00	8.00	3.00	2227	0.65

Haul Time: 0.65 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	5.00	8.00	13.00	918	0.90

Return Time: 0.90 minutesTotal Scraper team cycle time: 3.05 minutesAdjusted for job conditions: 473.51 LCY/HourSelected Number of Scrapers: 1 Scraper(s)Adjusted single scraper team (unit) hourly production: 473.51 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 473.51 LCY/HourUnadjusted unit production/hour: 570.49 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 34.07 HoursUnit cost: \$0.551 /LCYTotal job cost: \$8,890

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mob/Demob Equipment**Site: **Buss Barrow Pit**Permit Action: NewPermit/Job#: M2019021**PROJECT IDENTIFICATION**Task #: 030State: ColoradoAbbreviation: NoneDate: 6/4/2019County: FremontFilename: M021-030User: TC1Agency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT
TRAILER (25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Drill/Broadcast Seeder with Tractor	25.00	\$15.54	\$88.67	1	\$104.21	\$88.67	\$250.00
Cat 631G	52.50	\$110.85	\$125.45	1	\$236.30	\$125.45	\$250.00
Subtotals:					\$340.51	\$214.12	\$500.00

ROADABLE EQUIPMENT:

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

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>SALIDA</u>	
Total one-way travel distance:	<u>17.00</u>	miles
Average Travel Speed:	<u>50.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$1,717.66</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>0.34</u>	<u>0.34</u>
Return Time (Hours):	<u>0.34</u>	<u>0.34</u>
Loading Time (Hours):	<u>0.25</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.25</u>	<u>NA</u>
Subtotals:	<u>1.18</u>	<u>0.68</u>

JOB TIME AND COST

Total job time:	<u>2.36</u>	Hours
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Total job cost:	<u>\$1,718</u>
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