

COST SUMMARY WORK

Task description: Cost Summary for RN-05

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 11/23/2021

County: Delta

Filename: C083-000

User: RDZ

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Pull back and Haul Portal Bench Fill Material to Cut Slope	TRUCK1	1	609.56	\$520,741
002	Regrade D-Portal Bench	DOZER	4	158.03	\$238,849
005	Rip and Regrade Material Storage Area at Gob Pile	DOZER	4	1.73	\$2,616
006	Pull Back Material @ Old Truck Loadout Material Storage Area	EXCAVATE	2	21.27	\$15,283
007	Regrade Old Truck Loadout Material Storage Area	DOZER	4	8.21	\$12,407
008	Pull Back Material at Truck Loadout/Coal Stockpile	EXCAVATE	2	147.57	\$106,027
009	Regrade New Truck Loadout and Coal Stockpile	DOZER	4	32.38	\$48,940
010	Pull Material Back onto Train L/O Facil. and Railbed Benches	EXCAVATE	2	431.74	\$310,194
011	Regrade Train Loadout Facilities and Railbed Benches	DOZER	4	171.56	\$259,289
012	Backfill and Regrade Train L/O Overland Conveyor Corridor	DOZER	4	5.62	\$8,486
013	Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench	SCRAPER1	1	60.63	\$47,237
014	Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal Bench	TRUCK1	1	89.33	\$65,814
015	Backfill and Regrade B-Seam Portal Bench	DOZER	4	38.70	\$64,521
019	Regrade Drill Pads from MRs and TRs	DOZER	4	8.01	\$12,108
020	Regrade Material Storage Area from TR-29	DOZER	4	0.48	\$725
021	Backfill and Regrade New Prep Plant Bench	DOZER	4	36.99	\$55,910
022	Replace Fill from Material Storage Area to Water Tank Bench	SCRAPER1	1	1.51	\$1,177
023	Regrade Borrow Area	DOZER	4	19.14	\$28,933
025	Regrade Upper Parking Lot Expansion Area	EXCAVATE	1	3.65	\$1,314
027	Haul Rock to Vent Shafts for Disposal	TRUCK1	1	18.81	\$7,233
036	Spread Uncompacted Refuse on Gob Pile #2	DOZER	4	89.54	\$135,325
037	Spread Uncompacted Refuse at Gob Pile #3	DOZER	4	100.73	\$152,241
038	Compact Material Hauled to Gob Pile #1	COMPACT	1	11.85	\$3,911
039	Compact Refuse on Gob Pile #2	COMPACT	1	135.94	\$44,861
040	Haul refuse out of Gob Pile #2/#3 drying areas for placement	TRUCK1	1	909.13	\$344,705
041	Compact Refuse at Gob Pile #3	COMPACT	1	147.84	\$48,787
042	Haul Topsoil from Stockpile Area to Gob Pile #1	SCRAPER1	1	2.18	\$1,702
043	Place 3.5' of Coverfill on Gob Pile #1	SCRAPER1	1	15.80	\$12,312
044	Place Coverfill from Stockpiles on Gob Pile #2	SCRAPER1	1	173.74	\$135,358

045	Haul Cover Material from Gob Pile #3 to Gob Pile #2	TRUCK1	1	235.64	\$90,596
045A	Distribute Gob Pile #2 cover hauled by T/L	DOZER	1	375.26	\$141,791
045B	Haul Cover Material from Borrow Area #1 to Gob Pile #2	TRUCK1	1	50.03	\$9,156
045C	Haul Cover Material from Borrow Area #2 to Gob Pile #2	TRUCK1	1	228.88	\$41,887
045D	Haul Cover Material from Borrow Area #3 to Gob Pile #2	TRUCK1	1	41.55	\$7,604
045E	Haul Cover Material from B Portal Storage to Gob Pile #2	TRUCK1	1	108.83	\$41,841
046	Place 2.5' of Coverfill on Gob Pile #3, from stockpile	SCRAPER1	1	196.56	\$153,130
047	Push temp coverfill mat. to face of Gob pile #3	DOZER	1	16.77	\$5,179
050	Compact Backfilled D-Portal Bench, Roads, & Utility Corridor	COMPACT	1	511.43	\$168,767
051	Compact Backfilled Material at Truck Loadout/Coal Stockpile	COMPACT	1	56.10	\$18,515
052	Compact Backfilled Train Loadout	COMPACT	1	191.23	\$63,104
053	Compact B-Seam Portal Bench	COMPACT	1	113.99	\$37,618
060	Rip Utility Bench	RIPPER	4	0.30	\$516
061	Rip D-Portal Bench	RIPPER	4	3.71	\$6,192
062	Rip Truck Loadout/Coal Stockpile Area	RIPPER	4	2.06	\$3,440
063	Rip Regraded Mine Area Prior to Topsoil Replacement	RIPPER	4	59.09	\$98,515
064	Rip Train Loadout Facilities and Railbed Benches	RIPPER	4	7.69	\$12,824
065	Rip B-Seam Portal Bench	RIPPER	4	3.71	\$6,192
066	Rip Rock Laydown Pad Topsoil	RIPPER	1	0.43	\$180
070	Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout	RIPPER	4	116.47	\$195,928
071	Remove Haul Road Subbase and Place on Gob Pile #1	SCRAPER1	1	30.02	\$23,385
072	Rip Truck Loadout Road	RIPPER	4	2.14	\$3,610
073	Haul Truck Loadout Subbase to Gob Pile #1	SCRAPER1	1	12.75	\$9,930
074	Rip Upper Haul Road Asphalt Prior to Road Narrowing	RIPPER	4	2.95	\$4,964
075	Pull Back/Haul Fill Mat'l from Upper Haul Rd Narrowing	TRUCK1	1	141.47	\$120,858
076	Regrade Narrowed Section of Haul Road	DOZER	4	26.11	\$39,461
077	Rip Gob Pile #1 Road	RIPPER	4	2.35	\$3,969
078	Regrade Gob Pile #1 Road	DOZER	4	5.17	\$8,612
079	Rip Access Road	RIPPER	4	0.73	\$1,240
080	Haul Access Road Surface to Gob Pile #1	SCRAPER1	1	4.86	\$3,785
081	Regrade Access Road	DOZER	4	1.79	\$2,711
083	Backfill and Regrade Haul Road to Gob Pile #2	DOZER	4	0.44	\$730
084	Rip Lower Haul Road	RIPPER	4	0.95	\$1,591
085	Regrade Lower Haul Road	DOZER	4	36.46	\$60,775
086	Regrade Light Use Roads from MRs and TRs	DOZER	4	60.96	\$101,631
090	Finish Grade Disturbed Mine Area	GRADER	1	129.92	\$23,423
091	Finish Grade Train Loadout	GRADER	1	16.91	\$3,049
092	Finish Grade B-Seam Portal Bench	GRADER	1	6.91	\$1,247
093	Finish Grade Gob Piles #1, #2, #3, and #4	GRADER	1	50.64	\$9,131
095	Backfill and Regrade Pond B	DOZER	1	7.63	\$3,178
096	Backfill and Regrade Pond C	DOZER	1	11.61	\$4,680
097	Backfill and Regrade Gob Pile Pond D	DOZER	1	8.18	\$3,298

098	Backfill and Regrade Pond F	DOZER	1	10.87	\$4,381
099	Backfill and Regrade Pond J	DOZER	1	24.64	\$9,933
100	Backfill and Regrade Pond K	DOZER	1	1.52	\$614
101	Excavate for Post-mining Channel at B-Seam Portals	EXCAVATE	2	0.63	\$453
102	Install Riprap, Gravel, and Geotextile in B-Seam Channel	POSTMININ G	1	43.66	\$7,361
106ag	Plug and seal AW-15	BOREHOLE	1	6.00	\$1,452
106ah	Plug and seal AW16	BOREHOLE	1	6.00	\$1,443
106ai	Plug and seal AW-17	BOREHOLE	1	6.00	\$1,432
106aj	Plug and seal BD-101	BOREHOLE	1	4.00	\$939
106ak	Plug and seal BD-103	BOREHOLE	1	6.00	\$1,401
106al	Plug and seal BD-105	BOREHOLE	1	7.00	\$1,644
106am	Plug and seal BD-105A	BOREHOLE	1	6.00	\$1,395
106an	Plug and seal BD-102	BOREHOLE	1	6.00	\$1,392
106ao	Plug and seal BL-101A	BOREHOLE	1	6.00	\$1,392
106ap	Plug and seal BL-102	BOREHOLE	1	6.00	\$1,394
106aq	Plug and seal BL-102A	BOREHOLE	1	6.00	\$1,392
106bb	Plug and seal GVB-6A	BOREHOLE	1	11.00	\$6,342
106cn	Plug and seal MR133 Utility Hole #1	BOREHOLE	1	10.00	\$7,193
106co	Plug and seal MR133 Utility Hole #2	BOREHOLE	1	10.00	\$7,193
106cp	Plug and seal MR133 Utility Hole #3	BOREHOLE	1	10.00	\$7,193
106cq	Plug and seal MR133 Utility Hole #4	BOREHOLE	1	10.00	\$7,193
106cy	Plug and seal GVB-D-3A (aka GVB-D3-A)	BOREHOLE	1	12.00	\$5,477
106db	Plug and seal GVB-D-7A (aka GVB-D7-A)	BOREHOLE	1	10.00	\$3,638
106dd	Plug and seal GVB-D-5A	BOREHOLE	1	9.00	\$3,043
106do	Plug and seal GVB-D-6A (aka GVB-D6-A)	BOREHOLE	1	10.00	\$3,627
106dp	Plug and seal GVB-D-6B (aka GVB-D6-B)	BOREHOLE	1	6.00	\$5,299
106dq	Plug and seal GVB-D-7B (aka GVB-D7-B)	BOREHOLE	1	11.00	\$4,573
106du	Plug and seal GVB-D-8C (aka GVB-D8-C)	BOREHOLE	1	12.00	\$5,578
106ed	Plug and seal P-TC-03-01 (aka TC-03-01)	BOREHOLE	1	10.00	\$4,266
106ee	Plug and seal P-TC-03-02 (aka TC-03-02)	BOREHOLE	1	10.00	\$4,266
106gb	Plug and seal GVB-17C (aka GVB-B17C)	BOREHOLE	1	12.00	\$11,631
106gc	Plug and seal GVB-17D (aka GVB-B17D)	BOREHOLE	1	12.00	\$13,381
106gd	Plug and seal GVB-17E (aka GVB-B17E)	BOREHOLE	1	12.00	\$15,975
106gi	Plug and seal GVB-17F (aka GVB-B17F)	BOREHOLE	1	12.00	\$16,299
106gn	Plug and seal AW-1	BOREHOLE	1	7.00	\$1,784
106go	Plug and seal AW-2	BOREHOLE	1	6.00	\$1,471
106gp	Plug and seal AW-3	BOREHOLE	1	7.00	\$1,828
106gq	Plug and seal AW-4	BOREHOLE	1	6.00	\$1,471
106gr	Plug and seal AW-5	BOREHOLE	1	6.00	\$1,531
106gs	Plug and seal AW-6	BOREHOLE	1	7.00	\$1,772
106gt	Plug and seal AW-7	BOREHOLE	1	8.00	\$1,940
106gu	Plug and seal AW-8	BOREHOLE	1	6.00	\$1,416
106gv	Plug and seal AW-9	BOREHOLE	1	6.00	\$1,427
106gw	Plug and seal AW-11	BOREHOLE	1	6.00	\$1,411
106gx	Plug and seal AW-12	BOREHOLE	1	6.00	\$1,403
106gy	Plug and seal AW-13	BOREHOLE	1	6.00	\$1,411
106gz	Plug and seal AW-14	BOREHOLE	1	6.00	\$1,392
106hd	Plug and seal DH-13	BOREHOLE	1	12.00	\$4,234
106he	Plug and seal DH-15	BOREHOLE	1	8.00	\$2,149
106hf	Plug and seal DH-15	BOREHOLE	1	9.00	\$2,671

106hg	Plug and seal DH-25	BOREHOLE	1	9.00	\$2,579
106hq	Plug and seal DH-34C	BOREHOLE	1	7.00	\$1,824
106hr	Plug and seal DH-38	BOREHOLE	1	10.00	\$2,948
106hs	Plug and seal DH-39	BOREHOLE	1	8.00	\$2,096
106hv	Plug and seal CWI-DH-47	BOREHOLE	1	12.00	\$5,381
106h w	Plug and seal CWI-DH-48	BOREHOLE	1	12.00	\$5,971
106hx	Plug and seal DH-49	BOREHOLE	1	9.00	\$2,531
106if	Plug and seal DH-57B (aka 98-57B)	BOREHOLE	1	12.00	\$4,012
106ii	Plug and seal DH-58B (aka DH-58A)	BOREHOLE	1	12.00	\$4,113
106ij	Plug and seal CWI-DH-60 (aka Mon Well)	BOREHOLE	1	12.00	\$3,119
106ip	Plug and seal DH-67B	BOREHOLE	1	10.00	\$2,690
106iq	Plug and seal DH-67-D	BOREHOLE	1	9.00	\$2,279
106ir	Plug and seal DH-67-Abv	BOREHOLE	1	8.00	\$1,963
106is	Plug and seal DH-67-Blw	BOREHOLE	1	9.00	\$2,260
106it	Plug and seal CWI-DH-69 (aka B-1 Mon Well)	BOREHOLE	1	12.00	\$3,443
106iu	Plug and seal CWI-DH-70 (aka B-1 Mon Well)	BOREHOLE	1	11.00	\$3,527
106iy	Plug and seal 2010-1B	BOREHOLE	1	12.00	\$4,525
106iz	Plug and seal 2010-1SS	BOREHOLE	1	12.00	\$4,407
110	Replace Topsoil from Stockpile A to Portal/Utility Bench	SCRAPER1	1	652.39	\$508,253
111	Replace Topsoil from Stockpile A to Truck Loadout/Coal Stkpl	SCRAPER1	1	45.95	\$35,795
112	Replace Topsoil from Stockpile F to Train Loadout	SCRAPER1	1	39.98	\$31,146
113	Replace Topsoil from Stockpile A to B-Seam Portal Bench	SCRAPER1	1	87.66	\$68,292
115	Replace Topsoil fm Stockpiles C/D to Pond C and Gob Pond D	SCRAPER1	1	13.12	\$10,218
116	Replace topsoil from Stockpile to Pond F	DOZER	1	3.95	\$1,648
117	Replace topsoil from Stockpile F to Pond J	SCRAPER1	1	2.85	\$2,222
118	Replace topsoil from Stockpile F to Pond K	SCRAPER1	1	1.92	\$1,494
119	Replace topsoil fm stockpile to MR/TR Light-Use Roads	DOZER	4	25.96	\$43,274
120	Replace topsoil from stockpiles to MR/TR drill pads	DOZER	4	27.04	\$43,599
121	Replace topsoil from Stockpile A to Prep Plant Bench	SCRAPER1	1	22.41	\$17,459
122	Replace topsoil from stockpile to Material Storage Area	DOZER	4	0.18	\$305
123	Replace topsoil from Stockpile E to Gob Pile #2	SCRAPER1	1	83.69	\$65,203
124	Replace Topsoil from Stockpile D to Gob Pile #4	SCRAPER1	1	7.01	\$5,463
125	Replace topsoil from stockpile to Gob Pile #3	SCRAPER1	1	85.33	\$66,479
126	Replace topsoil from stockpile to Haul Road	DOZER	4	0.17	\$279
127	Replace topsoil from stockpile to Water Tank Bench	SCRAPER1	1	1.71	\$1,333
128	Replace topsoil from Stockpile G to TR35 road/pad	SCRAPER1	1	5.01	\$3,906
129	Replace topsoil from stockpile to Borrow Area	DOZER	4	5.44	\$9,072
130	Replace topsoil fm stockpile to Upper Parking Lot Expansion	DOZER	1	0.46	\$175
140	Seal Portals and Shafts	MINESEAL	1	40.00	\$258,450
150	Drill Seed Mix 3 on Disturbed Area	REVEGE	1	225.02	\$595,968
151	Drill Seed Drill Pads	REVEGE	1	82.97	\$145,953
152	Drill Seed Lt-Use Roads to Drill Pads and Terror Creek	REVEGE	1	62.01	\$109,082

154	Broadcast Seed Mix 3 on Gob Pile #3	REVEGE	1	60.63	\$113,867
155	Drill seed Hubbard Creek Vent Shaft Pad	REVEGE	1	1.20	\$2,111
156	Drill Seed Rock Laydown Area	REVEGE	1	0.50	\$352
157	Weed Control Over 10-Year Liability Period	REVEGE	1	400.00	\$52,559
165	Demolish and Remove all Structures	DEMOLISH	1	160.00	\$1,666,392
170	Proctor Testing of Backfill (5 tests)	SITEMAINT ENANCE	1	0.00	\$702
171	Nuclear Density Testing of Backfill	SITEMAINT ENANCE	1	0.00	\$133,901
172	Water Truck for Moisture Augmentation of Backfill Material	MISCTRUK	1	1,437.02	\$138,716
173	Site Maintenance - Ten Years	SITEMAINT ENANCE	1	292.00	\$255,198
174	Support Equipment for Scraper Hauling	SITEMAINT ENANCE	1	449.16	\$124,405
180	Mobilize/Demobilize Equipment for First Construction Season	MOBILIZE	1	12.00	\$57,969
181	Mobilize/Demobilize Equipment for Second Construction Season	MOBILIZE	1	12.00	\$57,969
182	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	6.50	\$5,312
183	Mobilize/Demobilize Equipment for Yearly Site Maintenance	MOBILIZE	1	14.00	\$30,637
241	Regrade Terror Creek Light-Use Road	DOZER	1	29.73	\$9,178
242	Replace Topsoil from Stockpile to Terror Creek Lt-Use Road	DOZER	1	22.45	\$6,931
261	Concrete Plug and Backfill Terror Creek Vent Shaft	MINESEAL	1	40.00	\$177,043
301	Reseed Add'l Disturbance from Utility Boreholes at Fan Bench	REVEGE	1	1.00	\$686
302	Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.	DOZER	1	4.06	\$1,252
352	Re-topsoil Pitkin Mesa Pipeline corridor	DOZER	1	10.60	\$3,273
353	Reseed Pitkin Mesa Pipeline Corridor	REVEGE	1	2.00	\$3,518
369	Seal Well DH-67blw	BOREHOLE	1	12.00	\$6,782
374	Seal CWI-DH-58A	BOREHOLE	1	12.00	\$7,949
379	Regrade Section 5 Road	DOZER	1	12.88	\$3,975
380	Re-topsoil Section 5 Road	DOZER	1	5.46	\$1,687
381	Reseed Section 5 road	REVEGE	1	2.00	\$2,146
390	Remove Culvert C27 (from TR-119)	DEMOLISH	1	0.25	\$302
<u>SUBTOTALS:</u>				11487.34	\$9,374,283

INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance: 2.02
 Performance bond: 1.05
 Job superintendent: 5,743.67
 Profit: 10.00

Total = \$189,361
 Total = \$98,430
 Total = \$413,717
 Total = \$937,428

TOTAL O & P = \$1,638,935

CONTRACT AMOUNT (direct + O & P) = \$11,013,218

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>\$500</u>	Total =	<u>\$500</u>
Engineering work and/or contract/bid preparation:	<u>4.00</u>	Total =	<u>\$440,529</u>
Reclamation management and/or administration:	<u>3.13</u>		<u>\$344,714</u>
CONTINGENCY:	0.00	Total =	<u>\$0</u>
		TOTAL INDIRECT COST =	<u>\$2,424,678</u>
		TOTAL BOND AMOUNT (direct + indirect) =	<u>\$11,798,961</u>

TRUCK/LOADER TEAM WORKTask description: Pull back and Haul Portal Bench Fill Material to Cut SlopeSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 001State: ColoradoAbbreviation: NoneDate: 11/19/2021County: DeltaFilename: 001User: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 773F
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$122.05	\$173.79	NA	NA	NA	NA
Operating cost/hour:	\$92.14	\$148.12	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$33.34	\$37.32	NA	NA	NA	NA
Unit Subtotals:	\$247.53	\$359.23	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$854.29		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$854.29MATERIAL QUANTITIESInitial volume: 260,953

CCY

Swell factor: 1.165Loose volume: 304,010

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520

Pounds

Payload Capacity: 42.25

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 42.26 LCY

Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	6.038	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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: 7 passes

Excavators and Front Shovels:

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

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.570	minutes
Net Load Time per Truck:		3.520	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	3.520	Minutes	Adjusted for site altitude:	3.520	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	600.00	17.00	3.00	20.00	379	1.588

Haul Time: **1.588** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	-17.00	3.00	-14.00	1377	0.566

Return Time: **0.566** minutesTotal Truck Cycle Time: **7.474** minutes

Loading Tool unit

Production	<u>600.89</u>	LCY/Hour	Adjusted for job efficiency:	<u>498.74</u>	LCY/Hour
Truck Unit Production	<u>339.28</u>	LCY/Hour	Adjusted for job efficiency:	<u>281.60</u>	LCY/Hour
Optimal No. of Trucks:	<u>2</u>	Truck(s)	Selected Number of Trucks:	<u>2</u>	Truck(s)

Adjusted hourly truck team production:	<u>563.20</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>498.74</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>498.74</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>609.56</u>	Hours
Unit cost:	<u>\$1.713</u>	/LCY	Total job cost:	<u>\$520,741</u>	

BULLDOZER WORKTask description: **Regrade D-Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **002**State: **Colorado**Abbreviation: **None**Date: **11/19/2021**County: **Delta**Filename: **C083-002**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$377.84**Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: **260,593**Swell factor: **1.165**Loose volume: **303,591 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **6,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.787/LCY

Total job time: **158.03** Hours

Total job cost: **\$238,849**

BULLDOZER WORKTask description: **Rip and Regrade Material Storage Area at Gob Pile**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 11/19/2021County: DeltaFilename: C083-005User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: 3,630Swell factor: 1.165Loose volume: **4,229 LCY**Source of estimated volume: Map 15-1Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.619/LCY

Total job time: **1.73** Hours

Total job cost: **\$2,616**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Back Material @ Old Truck Loadout Material Storage Area

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 006 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-006
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick Horsepower: 404
Attachment 1: ROPS Cab Weight (MT): 70.51
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$173.79</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$148.12</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.32</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$359.23</u>	
Total Fleet Cost/Hour:	<u>\$718.46</u>	

MATERIAL QUANTITIES

Initial volume: 9,790 CCY Swell factor: 1.165
Loose volume: 11,405 LCY

Source of estimated volume: Page 3.02-2

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE
Secondary Job Condition within Basic Description: SEVERE
Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Rated Capacity: 3.61 LCY (heaped) Bucket Size Class: Small
Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6500 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour
Adjusted Hourly Unit Production: 268.09 LCY/Hour
Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 21.27 Hours
Unit cost: \$1,340 /LCY Total job cost: \$15,283

BULLDOZER WORKTask description: Regrade Old Truck Loadout Material Storage AreaSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-007User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 9,790Swell factor: 1.165Loose volume: 11,405 LCYSource of estimated volume: Page 3.02-2Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 10 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 347.35 LCY/hr

Adjusted fleet production: **1389.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.088/LCY

Total job time: **8.21** Hours

Total job cost: **\$12,407**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Back Material at Truck Loadout/Coal Stockpile

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 008

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C086-008

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.79	NA
Operating Cost/Hour:	\$148.12	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$359.23	
Total Fleet Cost/Hour:	\$718.46	

MATERIAL QUANTITIES

Initial volume: 67,920

CCY

Swell factor: 1.165

Loose volume: 79,127

LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6000 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 147.58 Hours

Unit cost: \$1,340 /LCY Total job cost: \$106,027

BULLDOZER WORKTask description: Regrade New Truck Loadout and Coal StockpileSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 009State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-009User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 67,920Swell factor: 1.165Loose volume: 79,127 LCYSource of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr
Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.619/LCY

Total job time: **32.38** Hours
Total job cost: **\$48,940**

HYDRAULIC EXCAVATOR WORK

Task description: Pull Material Back onto Train L/O Facil. and Railbed Benches

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 010

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C086-010

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.79	NA
Operating Cost/Hour:	\$148.12	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$359.23	
Total Fleet Cost/Hour:	\$718.46	

MATERIAL QUANTITIES

Initial volume: 231,495

CCY

Swell factor: 1.000

Loose volume: 231,495

LCY

Source of estimated volume: Operator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 5900 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 431.75 Hours

Unit cost: \$1,340 /LCY Total job cost: \$310,194

BULLDOZER WORKTask description: **Regrade Train Loadout Facilities and Railbed Benches**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **011**State: **Colorado**Abbreviation: **None**Date: **11/20/2021**County: **Delta**Filename: **C086-011**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$377.84**Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: **231,495**Swell factor: **1.000**Loose volume: **231,495 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **5 %**Average site altitude: **5,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3566

Adjusted unit production: 337.34 LCY/hr

Adjusted fleet production: **1349.36 LCY/hr**

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.120/LCY

Total job time: **171.56 Hours**

Total job cost: **\$259,289**

BULLDOZER WORKTask description: **Backfill and Regrade Train L/O Overland Conveyor Corridor**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **012**State: **Colorado**Abbreviation: **None**Date: **11/20/2021**County: **Delta**Filename: **C083-012**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$377.84**Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: **9,259**Swell factor: **1.165**Loose volume: **10,787 LCY**Source of estimated volume: **Division Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **5,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.787/LCY

Total job time: **5.62** Hours

Total job cost: **\$8,486**

SCRAPER TEAM WORKTask description: **Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 013State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-013User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 39,000

CCY

Swell factor: 1.165Loose volume: **45,435**

LCY

Source of estimated volume: Operator Estimate, minus 14,000 cy TR79/TR84 to Gob PileSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	800.00	0.00	3.00	3.00	2824	0.52

Haul Time: 0.52 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	3.00	3.00	2874	0.40

Return Time: 0.40 minutesTotal Scraper team cycle time: 2.42 minutesAdjusted for job conditions: 749.34 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 749.34 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 749.34 LCY/HourUnadjusted unit production/hour: 902.82 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 60.63 HoursUnit cost: \$1.040 /LCYTotal job cost: \$47,237

TRUCK/LOADER TEAM WORKTask description: Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal BenchSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 014State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-014User: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Cat 773F
-Loader:	CAT 988H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$122.05	\$105.34	NA	NA	NA	NA
Operating cost/hour:	\$92.14	\$95.63	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$33.34	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$247.53	\$241.68	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$736.74		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$736.74MATERIAL QUANTITIESInitial volume: 53,000

CCY

Swell factor: 1.165Loose volume: 61,745

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520

Pounds

Payload Capacity: 42.25

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 40.25 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	9.200	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	8.050	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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: 5 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): 0.575 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.050	minutes
Adjusted Loader Cycle Time:		0.525	minutes
Net Load Time per Truck:		2.200	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	2.200	Minutes	Adjusted for site altitude:	2.200	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	600.00	0.00	3.00	3.00	2983	0.764

Haul Time: **0.764** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	600.00	0.00	3.00	3.00	3569	0.381

Return Time: **0.381** minutesTotal Truck Cycle Time: **5.145** minutes

Loading Tool unit

Production 832.76 LCY/Hour Adjusted for job efficiency: 691.19 LCY/HourTruck Unit Production 469.39 LCY/Hour Adjusted for job efficiency: 389.59 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 779.18 LCY/Hour
Adjusted single truck/loader team production: 691.19 LCY/Hour
Adjusted multiple truck/loader team production: **691.19** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **89.33** HoursUnit cost: \$1.066 /LCY Total job cost: **\$65,814**

BULLDOZER WORKTask description: **Backfill and Regrade B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **015**State: **Colorado**Abbreviation: **None**Date: **11/20/2021**County: **Delta**Filename: **C083-015**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$416.77**Total Fleet Cost/Hour: **\$1,667.09****MATERIAL QUANTITIES**Initial Volume: **32,000**Swell factor: **1.165**Loose volume: **37,280 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **150 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **20 %**Average site altitude: **6,750 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1937

Adjusted unit production: 240.81 LCY/hr

Adjusted fleet production: **963.24** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.731/LCY

Total job time: **38.70** Hours

Total job cost: **\$64,521**

BULLDOZER WORKTask description: **Regrade Drill Pads from MRs and TRs**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **019**State: **Colorado**Abbreviation: **None**Date: **11/20/2021**County: **Delta**Filename: **C083-019**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$377.84**Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: **15,173**Swell factor: **1.165**Loose volume: **17,677 LCY**Source of estimated volume: **6.27 acres, 1.5' depth**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 551.60 LCY/hr

Adjusted fleet production: **2206.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.685/LCY

Total job time: **8.01** Hours

Total job cost: **\$12,108**

BULLDOZER WORKTask description: Regrade Material Storage Area from TR-29Site: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 020State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-020User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 500Swell factor: 1.165Loose volume: 583 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 303.57 LCY/hr

Adjusted fleet production: **1214.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.245/LCY

Total job time: **0.48** Hours

Total job cost: **\$725**

BULLDOZER WORKTask description: **Backfill and Regrade New Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **021**State: **Colorado**Abbreviation: **None**Date: **11/20/2021**County: **Delta**Filename: **C083-021**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$377.84**Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: **61,000**Swell factor: **1.165**Loose volume: **71,065 LCY**Source of estimated volume: **Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **10 %**Average site altitude: **6,050 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2794

Adjusted unit production: 480.26 LCY/hr

Adjusted fleet production: **1921.04** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.787/LCY

Total job time: **36.99** Hours

Total job cost: **\$55,910**

SCRAPER TEAM WORKTask description: **Replace Fill from Material Storage Area to Water Tank Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 022State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-022User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 700

CCY

Swell factor: 1.165Loose volume: **816**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Decomposed rock - 50% Rock, 50% Earth</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-15.00	5.00	-10.00	1749	0.69

Haul Time: 0.69 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	15.00	5.00	20.00	868	1.17

Return Time: 1.17 minutesTotal Scraper team cycle time: 3.36 minutesAdjusted for job conditions: 539.70 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 539.70 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 539.70 LCY/HourUnadjusted unit production/hour: 650.25 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.51 HoursUnit cost: \$1.443 /LCYTotal job cost: \$1,177

BULLDOZER WORKTask description: Regrade Borrow AreaSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 023State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-023User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 25,600Swell factor: 1.250Loose volume: 32,000 LCYSource of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 175 feetUnadjusted hourly production: 1,074.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,200 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3890

Adjusted unit production: 417.90 LCY/hr

Adjusted fleet production: **1671.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.904/LCY

Total job time: **19.14** Hours

Total job cost: **\$28,933**

HYDRAULIC EXCAVATOR WORK

Task description: Regrade Upper Parking Lot Expansion Area

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 025

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-025

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.79	NA
Operating Cost/Hour:	\$148.12	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$359.23	
Total Fleet Cost/Hour:	\$359.23	

MATERIAL QUANTITIES

Initial volume: 1,500

CCY

Swell factor: 1.250

Loose volume: 1,875

LCY

Source of estimated volume: Opeator Estimate

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Large

Rated Capacity:	<u>6.90</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.850</u>	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	<u>5.87</u>	LCY

Job Condition Correction Factors

Site Altitude: 6900 feet

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

Unadjusted Hourly Unit Production:	<u>617.37</u>	LCY/Hour
Adjusted Hourly Unit Production:	<u>512.42</u>	LCY/Hour
Adjusted Hourly Fleet Production:	<u>512.42</u>	LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 3.66 Hours

Unit cost: \$0.701 /LCY Total job cost: \$1,314

TRUCK/LOADER TEAM WORKTask description: **Haul Rock to Vent Shafts for Disposal**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 027State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-027User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$384.46		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$384.46****MATERIAL QUANTITIES**Initial volume: 2,000

CCY

Swell factor: 1.000Loose volume: **2,000**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,950

Pounds/LCY

Description: Traprock - brokenRated Payload: 35,400

Pounds

Payload Capacity: 12.00

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 11.61 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.675	Blasted rock - poorly blasted (60 - 75%) 0.675
Adjusted Capacity:	2.903	LCY

Job Condition Corrections:

Site Altitude (ft.): 7100 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: 4 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:	Bank or broken material 0.04	0.040	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(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:	Fragile target 0.05	0.050	(Cat HB)
Net Cycle Time Adjustment:		0.030	minutes
Adjusted Loader Cycle Time:		0.530	minutes
Net Load Time per Truck:		1.690	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.690	Minutes	Adjusted for site altitude:	1.690	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 20

Road Condition: Very soft, muddy, rutted, not maintained, 12" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	10.00	20.00	30.00	337	15.668

Haul Time: **15.668** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	-10.00	20.00	10.00	1768	2.996

Return Time: **2.996** minutesTotal Truck Cycle Time: **21.754** minutes

Loading Tool unit

Production 318.08 LCY/Hour Adjusted for job efficiency: 264.01 LCY/HourTruck Unit Production 32.02 LCY/Hour Adjusted for job efficiency: 26.58 LCY/HourOptimal No. of Trucks: 10 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 106.31 LCY/Hour
Adjusted single truck/loader team production: 106.31 LCY/Hour
Adjusted multiple truck/loader team production: **106.31** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **18.81** HoursUnit cost: \$3.616 /LCY Total job cost: **\$7,233**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 036State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-036User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: 200,000Swell factor: 1.000Loose volume: **200,000 LCY**Source of estimated volume: TR-44 Submittal Page 4Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5903

Adjusted unit production: 558.42 LCY/hr

Adjusted fleet production: **2233.68** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.677/LCY

Total job time: **89.54** Hours

Total job cost: **\$135,325**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse at Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 037State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-037User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: **\$1,511.37****MATERIAL QUANTITIES**Initial Volume: 225,000Swell factor: 1.000Loose volume: **225,000 LCY**Source of estimated volume: TR-44 Submittal Page 4Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5903

Adjusted unit production: 558.42 LCY/hr

Adjusted fleet production: **2233.68** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.677/LCY

Total job time: **100.73** Hours

Total job cost: **\$152,241**

COMPACTION WORK

Task description: Compact Material Hauled to Gob Pile #1

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 038

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-038

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Compactor Type: Soil - tamping foot

Horsepower: 354

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %
Operating Cost/Hour:	\$102.80	NA
Operator Cost/Hour:	\$26.02	100
Total Unit Cost/Hour:	\$329.99	NA
Total Fleet Cost/Hour:	\$329.99	

MATERIAL QUANTITIES

Loose volume: 14,349

LCY

Shrinkage factor: 0.875

Compacted volume: 12,555

CCY

Source of estimated volume: Total of all material hauled to Gob Pile

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,400 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: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: 1,059.23 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 11.85 Hours

Unit cost: \$0.312 per CCY

Total job cost: \$3,911

COMPACTION WORK

Task description: Compact Refuse on Gob Pile #2

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 039

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-039

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %	NA
Operating Cost/Hour:	\$102.80		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$329.99		
Total Fleet Cost/Hour:	\$329.99		

MATERIAL QUANTITIES

Loose volume: 200,000 LCY

Shrinkage factor: 0.900

Compacted volume: 180,000 CCY

Source of estimated volume: Page 2.05-45

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>10.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,595.23</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,100 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: 1,324.04 CCY/Hour

Adjusted Hourly Fleet Production: 1,324.04 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 135.95 Hours

Unit cost: \$0.249 per CCY

Total job cost: \$44,861

TRUCK/LOADER TEAM WORKTask description: Haul refuse out of Gob Pile #2/#3 drying areas for placementSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 040State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-040User: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	Cat 345D L 12'-10" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$22.87	\$108.37	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$99.17	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$37.32	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$244.86	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$379.16		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$379.16MATERIAL QUANTITIESInitial volume: 325,000

CCY

Swell factor: 1.000Loose volume: 325,000

LCY

Source of estimated volume: Vol XI, p. 4a, Vol IX p 12-all 225k yds @ #3, 100k yds @ #2Source of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 1,600

Pounds/LCY

Description: Coal - Bituminous, RawRated Payload: 35,400

Pounds

Payload Capacity: 22.13

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 9.18 LCY

Loading Tool Capacity

Bucket Size Class: Medium

Rated Capacity:	3.140	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.062	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 feet

	Truck	Loader	Source
Altitude Adj:	1.000	0.960	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.797	

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: ABOVE AVERAGE
 Selected Value within this Basic Rating: AVERAGE

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.273	minutes
Net Load Time per Truck:		0.646	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.646	Minutes	Adjusted for site altitude:	0.673	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 4.0

Road Condition: Rutted dirt, little maintenance, no water, 1" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	4.00	4.00	2665	0.285

Haul Time: **0.285** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	4.00	4.00	2849	0.201

Return Time: **0.201** minutesTotal Truck Cycle Time: **2.559** minutes

Loading Tool unit

Production 469.83 LCY/Hour Adjusted for job efficiency: 389.96 LCY/HourTruck Unit Production 215.35 LCY/Hour Adjusted for job efficiency: 178.74 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 2 Truck(s)

Adjusted hourly truck team production: 357.49 LCY/Hour
Adjusted single truck/loader team production: 357.49 LCY/Hour
Adjusted multiple truck/loader team production: **357.49** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **909.13** HoursUnit cost: \$1.061 /LCY Total job cost: **\$344,705**

COMPACTION WORK

Task description: Compact Refuse at Gob Pile #3

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 041

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-041

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %	NA
Operating Cost/Hour:	\$102.80		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$329.99		
Total Fleet Cost/Hour:	\$329.99		

MATERIAL QUANTITIES

Loose volume: 225,000

LCY

Shrinkage factor: 0.870

Compacted volume: **195,750**

CCY

Source of estimated volume: Volume XI, Page 1

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>10.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,595.23</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 5,900 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: 1,324.04 CCY/Hour

Adjusted Hourly Fleet Production: **1,324.04** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **147.84** Hours

Unit cost: \$0.249 per CCY

Total job cost: **\$48,787**

SCRAPER TEAM WORKTask description: **Haul Topsoil from Stockpile Area to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 042State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-042User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 966

CCY

Swell factor: 1.000Loose volume: **966**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,900 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>User Provided</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.21 LCY</u>	Adjusted Capacity:	<u>18.21</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	3200.00	0.00	3.00	3.00	2824	1.37

Haul Time: 1.37 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3200.00	0.00	3.00	3.00	2874	1.23

Return Time: 1.23 minutesTotal Scraper team cycle time: 4.10 minutesAdjusted for job conditions: 442.29 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 442.29 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 442.29 LCY/HourUnadjusted unit production/hour: 532.88 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.18 HoursUnit cost: \$1.761 /LCYTotal job cost: \$1,702

SCRAPER TEAM WORKTask description: **Place 3.5' of Coverfill on Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 043State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-043User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 6,324

CCY

Swell factor: 1.165Loose volume: **7,367**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	1500.00	10.00	3.00	13.00	834	1.82

Haul Time: 1.82 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-10.00	3.00	-7.00	2938	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 3.89 minutesAdjusted for job conditions: 466.17 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 466.17 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 466.17 LCY/HourUnadjusted unit production/hour: 561.65 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 15.80 HoursUnit cost: \$1.671 /LCYTotal job cost: \$12,312

SCRAPER TEAM WORKTask description: **Place Coverfill from Stockpiles on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 044State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-044User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 92,937

CCY

Swell factor: 1.165Loose volume: **108,272**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.97

Haul Time: 0.97 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2921	0.44

Return Time: 0.44 minutesTotal Scraper team cycle time: 2.91 minutesAdjusted for job conditions: 623.16 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 623.16 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 623.16 LCY/HourUnadjusted unit production/hour: 750.80 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 173.74 HoursUnit cost: \$1.250 /LCYTotal job cost: \$135,358

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from Gob Pile #3 to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$384.46		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$384.46****MATERIAL QUANTITIES**Initial volume: 58,943

CCY

Swell factor: 1.165Loose volume: **68,669**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.64 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.825	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	3.548	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.070	minutes
Adjusted Loader Cycle Time:		0.430	minutes
Net Load Time per Truck:		0.960	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.960	Minutes	Adjusted for site altitude:	0.960	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	2000.00	0.00	3.00	3.00	2824	0.810
2	4000.00	0.00	3.00	3.00	2824	1.416
3	1000.00	10.00	3.00	13.00	834	0.191

Haul Time: **2.417** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-10.00	3.00	-7.00	2938	0.410
2	4000.00	0.00	3.00	3.00	2874	1.392
3	2000.00	0.00	3.00	3.00	2874	0.696

Return Time: **2.498** minutesTotal Truck Cycle Time: **7.275** minutes

Loading Tool unit

Production 437.36 LCY/Hour Adjusted for job efficiency: 363.01 LCY/Hour
 Truck Unit Production 87.77 LCY/Hour Adjusted for job efficiency: 72.85 LCY/Hour

Optimal No. of Trucks: 5 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 291.41 LCY/Hour
 Adjusted single truck/loader team production: 291.41 LCY/Hour
 Adjusted multiple truck/loader team production: **291.41** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **235.64** HoursUnit cost: \$1.319 /LCY Total job cost: **\$90,596**

BULLDOZER WORKTask description: Distribute Gob Pile #2 cover hauled by T/LSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045AState: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045AUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: **\$377.84****MATERIAL QUANTITIES**Initial Volume: 134,142Swell factor: 1.000Loose volume: **134,142 LCY**Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 250 feetUnadjusted hourly production: 754.3 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 6,300 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

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

Net correction: 0.4739

Adjusted unit production: 357.46 LCY/hr

Adjusted fleet production: **357.46** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.057/LCY

Total job time: **375.26** Hours

Total job cost: **\$141,791**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from Borrow Area #1 to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045BState: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045BUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work: \$183.01		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$183.01****MATERIAL QUANTITIES**Initial volume: 7,200

CCY

Swell factor: 1.165Loose volume: **8,388**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.97 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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:	Bank or broken material 0.04	0.040	(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:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.040	minutes
Adjusted Loader Cycle Time:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	5.00	5.00	10.00	1068	0.482

Haul Time: **0.482** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	-5.00	5.00	0.00	2938	0.195

Return Time: **0.195** minutesTotal Truck Cycle Time: **3.257** minutes

Loading Tool unit

Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/Hour

Truck Unit Production 202.00 LCY/Hour Adjusted for job efficiency: 167.66 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 167.66 LCY/Hour
Adjusted single truck/loader team production: 167.66 LCY/Hour
Adjusted multiple truck/loader team production: **167.66** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **50.03** Hours

Unit cost: \$1.092 /LCY Total job cost: **\$9,156**

TRUCK/LOADER TEAM WORKTask description: Haul Cover Material from Borrow Area #2 to Gob Pile #2Site: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 045CState: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045CUser: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work: \$183.01		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$183.01MATERIAL QUANTITIESInitial volume: 30,000

CCY

Swell factor: 1.165Loose volume: 34,950

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.97 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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:	Bank or broken material 0.04	0.040	(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:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.040	minutes
Adjusted Loader Cycle Time:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	5.00	5.00	10.00	1068	0.716

Haul Time: **0.716** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	-5.00	5.00	0.00	2938	0.280

Return Time: **0.280** minutesTotal Truck Cycle Time: **3.576** minutes

Loading Tool unit

Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/Hour

Truck Unit Production 183.98 LCY/Hour Adjusted for job efficiency: 152.70 LCY/Hour

Optimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 152.70 LCY/Hour
Adjusted single truck/loader team production: 152.70 LCY/Hour
Adjusted multiple truck/loader team production: **152.70** LCY/Hour

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **228.88** Hours

Unit cost: \$1.198 /LCY Total job cost: **\$41,887**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from Borrow Area #3 to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045DState: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045DUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	1	1	0	0	0	0
Group Subtotals:	Work: \$183.01		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$183.01****MATERIAL QUANTITIES**Initial volume: 5,000

CCY

Swell factor: 1.165Loose volume: **5,825**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**Truck Payload (weight) Basis:Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.97 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.850	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	3.655	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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:	Bank or broken material 0.04	0.040	(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:	Inconsistent operation 0.04	0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.040	minutes
Adjusted Loader Cycle Time:		0.540	minutes
Net Load Time per Truck:		1.180	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.180	Minutes	Adjusted for site altitude:	1.180	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

Truck Travel (Haul & Return) Time:
penetration 5.0

Road Condition: Rutted dirt, little maintenance, no water, 2" tire

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.950

Haul Time: **0.950** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2938	0.365

Return Time: **0.365** minutesTotal Truck Cycle Time: **3.895** minutes

Loading Tool unit

Production 391.61 LCY/Hour Adjusted for job efficiency: 325.03 LCY/HourTruck Unit Production 168.91 LCY/Hour Adjusted for job efficiency: 140.19 LCY/HourOptimal No. of Trucks: 2 Truck(s) Selected Number of Trucks: 1 Truck(s)

Adjusted hourly truck team production: 140.19 LCY/Hour
Adjusted single truck/loader team production: 140.19 LCY/Hour
Adjusted multiple truck/loader team production: **140.19** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **41.55** HoursUnit cost: \$1.305 /LCY Total job cost: **\$7,604**

TRUCK/LOADER TEAM WORKTask description: **Haul Cover Material from B Portal Storage to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045EState: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-045EUser: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Shift basis: 1 per day

	Equipment Description
Truck Loader Team -Truck:	Generic 10-12 cy, 6x4
-Loader:	CAT 950H
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

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	NA
Ownership cost/hour:	\$22.87	\$38.59	NA	NA	NA	NA
Operating cost/hour:	\$44.28	\$36.56	NA	NA	NA	NA
%Utilization-ripper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$40.71	NA	NA	NA	NA
Unit Subtotals:	\$67.15	\$115.86	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$384.46		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: **\$384.46****MATERIAL QUANTITIES**Initial volume: 14,000

CCY

Swell factor: 1.165Loose volume: **16,310**

LCY

Source of estimated volume: Volume XI, Appendix ASource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00**HOURLY PRODUCTION****Truck Capacity:**

Truck Payload (weight) Basis:

Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 35,400

Pounds

Payload Capacity: 12.21

LCY

Truck Bed (volume) Basis:

Struck Volume:	10.00	LCY
Heaped Volume:	12.00	LCY
Average Volume:	11.00	LCY
Adjusted Volume:	12.00	LCY

Final Truck Volume Based on Number of Loader Passes: 10.64 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.825	Blasted rock - avg. blasted (75 - 90%) 0.825
Adjusted Capacity:	3.548	LCY

Job Condition Corrections:

Site Altitude (ft.): 6300 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:	Material 3/4" to 6" diameter 0.00	0.000	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high or less 0.01	0.010	(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:		-0.070	minutes
Adjusted Loader Cycle Time:		0.430	minutes
Net Load Time per Truck:		0.960	minutes

Truck Cycle Time:

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.960	Minutes	Adjusted for site altitude:	0.960	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	6500.00	-10.70	3.00	-7.70	1749	3.831
2	3100.00	0.00	3.00	3.00	2824	1.128
3	1000.00	10.00	3.00	13.00	834	0.191

Haul Time: **5.150** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-10.00	3.00	-7.00	2938	0.410
2	3100.00	0.00	3.00	3.00	2874	1.079
3	6500.00	10.70	3.00	13.70	1274	5.147

Return Time: **6.636** minutesTotal Truck Cycle Time: **14.146** minutes

Loading Tool unit

Production	<u>437.36</u>	LCY/Hour	Adjusted for job efficiency:	<u>363.01</u>	LCY/Hour
Truck Unit Production	<u>45.14</u>	LCY/Hour	Adjusted for job efficiency:	<u>37.47</u>	LCY/Hour

Optimal No. of Trucks:	<u>10</u>	Truck(s)	Selected Number of Trucks:	<u>4</u>	Truck(s)
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Adjusted hourly truck team production:	<u>149.86</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>149.86</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>149.86</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>108.83</u>	Hours
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Unit cost:	<u>\$2.565</u>	/LCY	Total job cost:	<u>\$41,841</u>
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SCRAPER TEAM WORKTask description: **Place 2.5' of Coverfill on Gob Pile #3, from stockpile**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 046State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-046User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 78,050

CCY

Swell factor: 1.165Loose volume: **90,928**

LCY

Source of estimated volume: Volume XI, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight: 2,900 lbs/LCY
 Material description: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2218	1.35

Haul Time: 1.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2814	1.07

Return Time: 1.07 minutesTotal Scraper team cycle time: 3.92 minutesAdjusted for job conditions: 462.60 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 462.60 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 462.60 LCY/HourUnadjusted unit production/hour: 557.35 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 196.56 HoursUnit cost: \$1.684 /LCYTotal job cost: \$153,130

BULLDOZER WORKTask description: Push temp coverfill mat. to face of Gob pile #3Site: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 047State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-047User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$308.72Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: 5,500Swell factor: 1.000Loose volume: **5,500 LCY**Source of estimated volume: MR199 app.Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 700.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 5 %Average site altitude: 5,900 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	0.800	(POOR)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	1.000	(DOZ-OC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4684

Adjusted unit production: 327.88 LCY/hr

Adjusted fleet production: **327.88** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.942/LCY

Total job time: **16.77** Hours

Total job cost: **\$5,179**

COMPACTION WORK

Task description: Compact Backfilled D-Portal Bench, Roads, & Utility Corridor

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 050

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-050

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %
Operating Cost/Hour:	\$102.80	NA
Operator Cost/Hour:	\$26.02	100
Total Unit Cost/Hour:	\$329.99	NA
Total Fleet Cost/Hour:	\$329.99	

MATERIAL QUANTITIES

Loose volume: 619,112

LCY

Shrinkage factor: 0.875

Compacted volume: **541,723**

CCY

Source of estimated volume: Total of All Backfilling Tasks

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,500 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: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **511.43** Hours

Unit cost: \$0.312 per CCY

Total job cost: **\$168,767**

COMPACTION WORK

Task description: Compact Backfilled Material at Truck Loadout/Coal Stockpile

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 051

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-051

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %	NA
Operating Cost/Hour:	\$102.80		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$329.99		
Total Fleet Cost/Hour:	\$329.99		

MATERIAL QUANTITIES

Loose volume: 67,920

LCY

Shrinkage factor: 0.875

Compacted volume: 59,430

CCY

Source of estimated volume: Operator Estimate

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,000 feet

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

Adjusted Hourly Unit Production: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: 1,059.23 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: 56.11 Hours

Unit cost: \$0.312 per CCY

Total job cost: \$18,515

COMPACTION WORK

Task description: Compact Backfilled Train Loadout

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 052

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-052

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Horsepower: 354

Compactor Type: Soil - tamping foot

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %	NA
Operating Cost/Hour:	\$102.80		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$329.99		
Total Fleet Cost/Hour:	\$329.99		

MATERIAL QUANTITIES

Loose volume: 231,495 LCY

Shrinkage factor: 0.875

Compacted volume: **202,558** CCY

Source of estimated volume: Operator Estimate

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 5,900 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: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **191.23** Hours

Unit cost: \$0.312 per CCY

Total job cost: **\$63,104**

COMPACTION WORK

Task description: Compact B-Seam Portal Bench

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 053

State: Colorado

Abbreviation: None

Date: 11/20/2021

County: Delta

Filename: C083-053

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 825H

Compactor Type: Soil - tamping foot

Horsepower: 354

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

Ownership Cost/Hour:	\$201.17	Utilization %	NA
Operating Cost/Hour:	\$102.80		100
Operator Cost/Hour:	\$26.02		NA
Total Unit Cost/Hour:	\$329.99		
Total Fleet Cost/Hour:	\$329.99		

MATERIAL QUANTITIES

Loose volume: 138,000

LCY

Shrinkage factor: 0.875

Compacted volume: **120,750**

CCY

Source of estimated volume: Operator Estimate

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):	<u>7.34</u>	feet
Average Compactor Speed (S):	<u>4.00</u>	mph
Compacted thickness of each lift (L):	<u>8.00</u>	inches
Conversion Constant (C):	<u>16.3</u>	(5,280ft./12in./27cu.ft.)
Required number of machine passes (P):	<u>3</u>	passes
Unadjusted Hourly Unit Production:	<u>1,276.18</u>	CCY/hour

Job Condition Correction Factors

Site Altitude: 6,750 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: 1,059.23 CCY/Hour

Adjusted Hourly Fleet Production: **1,059.23** CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s)

Total job time: **114.00** Hours

Unit cost: \$0.312 per CCY

Total job cost: **\$37,618**

BULLDOZER RIPPING WORK

Task description: Rip Utility Bench

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 060 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-060
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 0.75 acres Rip Depth (ft): 2.63 Volume: 3,182 BCY or CCY

Source of estimated quantity: Map 15-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 0.31 Hours

Unit cost: \$688.043 Per acre Total job cost: \$516

BULLDOZER RIPPING WORK

Task description: Rip D-Portal Bench

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 061 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-061
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 9.00 acres Rip Depth (ft): 2.63 Volume: 38,188 BCY or CCY

Source of estimated quantity: Map 15-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 3.71 Hours

Unit cost: \$688.043 Per acre Total job cost: \$6,192

BULLDOZER RIPPING WORK

Task description: Rip Truck Loadout/Coal Stockpile Area

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 062 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-062
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 5.00 acres Rip Depth (ft): 2.63 Volume: 21,215 BCY or CCY

Source of estimated quantity: Map 15-1

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 2.06 Hours

Unit cost: \$688.043 Per acre Total job cost: \$3,440

BULLDOZER RIPPING WORK

Task description: Rip Regraded Mine Area Prior to Topsoil Replacement

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 063 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-063
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 169.00 acres Rip Depth (ft): 2.63 Volume: 717,078 BCY or CCY

Source of estimated quantity: Total Regraded Area (Ripping per Page 2.05-48)

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 100.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.861 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.861 Acres/hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.71 Acres/hr
Adjusted Hourly Fleet Production: **2.86** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **59.09** Hours

Unit cost: \$582.925 Per acre Total job cost: **\$98,515**

BULLDOZER RIPPING WORK

Task description: Rip Train Loadout Facilities and Railbed Benches

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 064 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-064
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 22.00 acres Rip Depth (ft): 2.63 Volume: 93,347 BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 100.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.861 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.861 Acres/hr
Site Altitude: 5,900 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.71 Acres/hr
Adjusted Hourly Fleet Production: **2.86** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **7.69** Hours

Unit cost: \$582.925 Per acre Total job cost: **\$12,824**

BULLDOZER RIPPING WORK

Task description: Rip B-Seam Portal Bench

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 065 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-065
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 9.00 acres Rip Depth (ft): 2.63 Volume: 38,188 BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 50.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.730 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.730 Acres/hr
Site Altitude: 6,750 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.61 Acres/hr
Adjusted Hourly Fleet Production: 2.42 Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: 3.71 Hours

Unit cost: \$688.043 Per acre Total job cost: \$6,192

BULLDOZER RIPPING WORK

Task description: Rip Rock Laydown Pad Topsoil

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 066 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-066
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$416.77	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 0.20 acres Rip Depth (ft): 2.00 Volume: 645 BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 25.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.559 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.559 Acres/hr
Site Altitude: 7,100 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.46 Acres/hr
Adjusted Hourly Fleet Production: **0.46** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.43** Hours

Unit cost: \$898.279 Per acre Total job cost: **\$180**

BULLDOZER RIPPING WORK

Task description: Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 070 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-070
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$28.00	NA
Ripper Operating Cost/Hour:	\$14.69	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$420.53	
Total Fleet Cost/Hour:	\$1,682.13	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 260,481 BCY Bank Volume: 260,481 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Operator Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **116.48** Hours

Unit cost: \$0.752 Per cu. yd. Total job cost: **\$195,928**

SCRAPER TEAM WORKTask description: **Remove Haul Road Subbase and Place on Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 071State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-071User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 7,484

CCY

Swell factor: 1.000Loose volume: **7,484**

LCY

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

Material weight:	<u>2,800 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Clay - Natural bed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.86 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	6850.00	-6.00	3.00	-3.00	2938	2.40

Haul Time: 2.40 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	6850.00	6.00	3.00	9.00	1930	3.63

Return Time: 3.63 minutesTotal Scraper team cycle time: 7.53 minutesAdjusted for job conditions: 249.33 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 249.33 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 249.33 LCY/HourUnadjusted unit production/hour: 300.40 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 30.02 HoursUnit cost: \$3.125 /LCYTotal job cost: \$23,385

BULLDOZER RIPPING WORK

Task description: Rip Truck Loadout Road

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 072 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-072
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$28.00	NA
Ripper Operating Cost/Hour:	\$14.69	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$420.53	
Total Fleet Cost/Hour:	\$1,682.13	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 4,800 BCY Bank Volume: 4,800 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,000 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.15** Hours

Unit cost: \$0.752 Per cu. yd. Total job cost: **\$3,610**

SCRAPER TEAM WORKTask description: **Haul Truck Loadout Subbase to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 073State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-073User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$779.06	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 6,000

CCY

Swell factor: 1.000Loose volume: **6,000**

LCY

Source of estimated volume: Page 2.08-18Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,850 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Gravel - Dry (1/4"-2" diam.)</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>18.53 LCY</u>	Adjusted Capacity:	<u>18.53</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2218	1.35

Haul Time: 1.35 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2600.00	0.00	5.00	5.00	2814	1.07

Return Time: 1.07 minutesTotal Scraper team cycle time: 3.92 minutesAdjusted for job conditions: 470.72 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 470.72 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 470.72 LCY/HourUnadjusted unit production/hour: 567.13 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 12.75 HoursUnit cost: \$1.655 /LCYTotal job cost: \$9,930

BULLDOZER RIPPING WORK

Task description: Rip Upper Haul Road Asphalt Prior to Road Narrowing

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 074 State: Colorado Abbreviation: None
Date: 11/20/2021 County: Delta Filename: C083-074
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$28.00	NA
Ripper Operating Cost/Hour:	\$14.69	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$420.53	
Total Fleet Cost/Hour:	\$1,682.13	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 6,600 BCY Bank Volume: 6,600 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,800 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.95** Hours

Unit cost: \$0.752 Per cu. yd. Total job cost: **\$4,964**

TRUCK/LOADER TEAM WORKTask description: Pull Back/Haul Fill Mat'l from Upper Haul Rd NarrowingSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 075State: ColoradoAbbreviation: NoneDate: 11/20/2021County: DeltaFilename: C083-075User: RDZAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Cat 773F
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

Cost Breakdown:

Truck/Loader Team

Support Equipment

Maintenance Equipment

	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$122.05	\$173.79	NA	NA	NA	NA
Operating cost/hour:	\$92.14	\$148.12	NA	NA	NA	NA
%Utilization-riper:	NA	0	NA	NA	NA	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$33.34	\$37.32	NA	NA	NA	NA
Unit Subtotals:	\$247.53	\$359.23	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$854.29		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$854.29MATERIAL QUANTITIESInitial volume: 60,564

CCY

Swell factor: 1.165Loose volume: 70,557

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:

Truck Payload (weight) Basis:

Material weight: 2,900

Pounds/LCY

Description: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520

Pounds

Payload Capacity: 42.25

LCY

Truck Bed (volume) Basis:

Struck Volume:	35.00	LCY
Heaped Volume:	46.50	LCY
Average Volume:	40.75	LCY
Adjusted Volume:	42.25	LCY

Final Truck Volume Based on Number of Loader Passes: 42.26 LCY

Loading Tool Capacity

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	6.038	LCY

Job Condition Corrections:

Site Altitude (ft.): 6900 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: 7 passes

Excavators and Front Shovels:

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

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): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.570	minutes
Net Load Time per Truck:		3.520	minutes

Truck Cycle Time:

Truck Exchange Time:	0.70	Minutes	Adjusted for site altitude:	0.700	Minutes
Truck Load Time:	3.520	Minutes	Adjusted for site altitude:	3.520	Minutes
Truck Maneuver and Dump Time:	1.10	Minutes	Adjusted for site altitude:	1.100	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	750.00	10.00	3.00	13.00	678	1.135

Haul Time: **1.135** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	750.00	-10.00	3.00	-7.00	3512	0.267

Return Time: **0.267** minutesTotal Truck Cycle Time: **6.722** minutes

Loading Tool unit

Production	<u>600.89</u>	LCY/Hour	Adjusted for job efficiency:	<u>498.74</u>	LCY/Hour
Truck Unit Production	<u>377.23</u>	LCY/Hour	Adjusted for job efficiency:	<u>313.10</u>	LCY/Hour
Optimal No. of Trucks:	<u>2</u>	Truck(s)	Selected Number of Trucks:	<u>2</u>	Truck(s)

Adjusted hourly truck team production:	<u>626.20</u>	LCY/Hour
Adjusted single truck/loader team production:	<u>498.74</u>	LCY/Hour
Adjusted multiple truck/loader team production:	<u>498.74</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>1</u>	Team(s)	Total job time:	<u>141.47</u>	Hours
Unit cost:	<u>\$1.713</u>	/LCY	Total job cost:	<u>\$120,858</u>	

BULLDOZER WORKTask description: Regrade Narrowed Section of Haul RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 076State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-076User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 60,564Swell factor: 1.165Loose volume: 70,557 LCYSource of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly production: 2,105.3 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 675.59 LCY/hr

Adjusted fleet production: **2702.36** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.559/LCY

Total job time: **26.11** Hours

Total job cost: **\$39,461**

BULLDOZER RIPPING WORK

Task description: Rip Gob Pile #1 Road

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 077

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-077

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU
Ripper Attachment: 1-Shank Ripper

Horsepower: 574

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$28.00	NA
Ripper Operating Cost/Hour:	\$14.69	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$420.53	
Total Fleet Cost/Hour:	\$1,682.13	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 5,277 BCY Bank Volume: 5,277 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Page 3.02-2

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr

Site Altitude: 6,000 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr

Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **2.36** Hours

Unit cost: \$0.752 Per cu. yd. Total job cost: **\$3,969**

BULLDOZER WORKTask description: Regrade Gob Pile #1 RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 078State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-078User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 5,963Swell factor: 1.165Loose volume: 6,947 LCYSource of estimated volume: Page 3.02-2Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 336.21 LCY/hr

Adjusted fleet production: **1344.84** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.240/LCY

Total job time: **5.17** Hours

Total job cost: **\$8,612**

BULLDOZER RIPPING WORK

Task description: Rip Access Road

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 079 State: Colorado Abbreviation: None
Date: 11/21/2021 County: Delta Filename: C083-079
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 1-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$28.00	NA
Ripper Operating Cost/Hour:	\$14.69	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$420.53	
Total Fleet Cost/Hour:	\$1,682.13	

MATERIAL QUANTITIES

Selected estimating method: Seismic

Alternate Methods:

Seismic: 1,648 BCY Bank Volume: 1,648 BCY Adverse
Area: NA acres Rip Depth (ft): NA Volume: NA BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: 5,000 feet/second

Area:

Average Ripping Depth: NA feet/pass
Average Ripping Width: NA feet/pass
Average Ripping Length: NA feet/pass
Average Dozer Speed: NA feet/minute
Average Maneuver Time: NA minutes/pass
Production per unit area: NA acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 673.60 Cu. yds./hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 559.09 Cu. yds./hr
Adjusted Hourly Fleet Production: **2,236.35** Cu. yds./hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **0.74** Hours

Unit cost: \$0.752 Per cu. yd. Total job cost: **\$1,240**

SCRAPER TEAM WORKTask description: **Haul Access Road Surface to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 080State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-080User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 1,928

CCY

Swell factor: 1.000Loose volume: **1,928**

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: Decomposed rock - 50% Rock, 50% Earth
 Rated Payload: 52,800 pounds
 Payload Capacity: 18.21 LCY

Struck Volume: 15.70 LCY
 Heaped Volume: 22.00 LCY
 Average Volume: 18.85 LCY
 Adjusted Capacity: **18.21** LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	3900.00	-2.50	3.00	0.50	2921	1.50

Haul Time: 1.50 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3900.00	2.50	3.00	5.50	2736	1.57

Return Time: 1.57 minutesTotal Scraper team cycle time: 4.57 minutesAdjusted for job conditions: 396.81 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 396.81 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 396.81 LCY/HourUnadjusted unit production/hour: 478.08 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 4.86 HoursUnit cost: \$1.963 /LCYTotal job cost: \$3,785

BULLDOZER WORKTask description: Regrade Access RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 081State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-081User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: \$1,511.37**MATERIAL QUANTITIES**Initial Volume: 3,296Swell factor: 1.330Loose volume: 4,384 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **2443.6** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.619/LCY

Total job time: **1.79** Hours

Total job cost: **\$2,711**

BULLDOZER WORKTask description: **Backfill and Regrade Haul Road to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **083**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-083**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$416.77**Total Fleet Cost/Hour: **\$1,667.09****MATERIAL QUANTITIES**Initial Volume: **600**Swell factor: **1.165**Loose volume: **699 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **150 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **6,100 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 398.94 LCY/hr

Adjusted fleet production: **1595.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.045/LCY

Total job time: **0.44** Hours

Total job cost: **\$730**

BULLDOZER RIPPING WORK

Task description: Rip Lower Haul Road

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 084 State: Colorado Abbreviation: None
Date: 11/21/2021 County: Delta Filename: C083-084
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D10T - 10SU Horsepower: 574
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper Ownership Cost/Hour:	\$25.19	NA
Ripper Operating Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA
Total Unit Cost/Hour:	\$416.77	
Total Fleet Cost/Hour:	\$1,667.09	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 3.00 acres Rip Depth (ft): 2.00 Volume: 9,680 BCY or CCY

Source of estimated quantity: Division Estimate

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 2.88 feet/pass
Average Ripping Width: 8.67 feet/pass
Average Ripping Length: 200.00 feet/pass
Average Dozer Speed: 88.00 feet/minute
Average Maneuver Time: 0.25 minutes/pass
Production per unit area: 0.947 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.947 Acres/hr
Site Altitude: 6,500 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.79 Acres/hr
Adjusted Hourly Fleet Production: **3.14** Acres/hr

JOB TIME AND COST

Fleet size: 4 Grader(s) Total job time: **0.95** Hours

Unit cost: \$530.367 Per acre Total job cost: **\$1,591**

BULLDOZER WORKTask description: Regrade Lower Haul RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 085State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-085User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 37,998Swell factor: 1.165Loose volume: 44,268 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 303.57 LCY/hr

Adjusted fleet production: **1214.28** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.373/LCY

Total job time: **36.46** Hours

Total job cost: **\$60,775**

BULLDOZER WORKTask description: Regrade Light Use Roads from MRs and TRsSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 086State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-086User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 115,458Swell factor: 1.165Loose volume: 134,509 LCYSource of estimated volume: 46.71 acres, 1.5' depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 551.60 LCY/hr

Adjusted fleet production: **2206.4** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.756/LCY

Total job time: **60.96** Hours

Total job cost: **\$101,631**

MOTOR GRADER WORK

Task description: Finish Grade Disturbed Mine Area

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 090

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-090

User: RDZ

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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$5.52	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$180.28	
Total Fleet Cost/Hour:	\$180.28	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 169.00 acres

Source of estimated acreage: Total of all disturbed areas

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</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>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6500 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **129.92** Hours

Unit cost: \$138.60 per acre Total job cost: **\$23,423**

MOTOR GRADER WORK

Task description: Finish Grade Train Loadout

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 091

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-091

User: RDZ

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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$5.52	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$180.28	
Total Fleet Cost/Hour:	\$180.28	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 22.00 acres

Source of estimated acreage: Operator estimate

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</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>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 5900 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **16.91** Hours

Unit cost: \$138.60 per acre Total job cost: **\$3,049**

MOTOR GRADER WORK

Task description: Finish Grade B-Seam Portal Bench

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 092

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-092

User: RDZ

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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$5.52	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$180.28	
Total Fleet Cost/Hour:	\$180.28	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 9.00 acres

Source of estimated acreage: Operator Estimate

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</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>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6750 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **6.92** Hours

Unit cost: \$138.60 per acre Total job cost: **\$1,247**

MOTOR GRADER WORK

Task description: Finish Grade Gob Piles #1, #2, #3, and #4

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 093

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-093

User: RDZ

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:	\$85.80	NA
Operating Cost/Hour:	\$60.40	100
Ripper Ownership Cost/Hour:	\$5.52	NA
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$28.56	NA
Total Unit Cost/Hour:	\$180.28	
Total Fleet Cost/Hour:	\$180.28	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 65.88 acres

Source of estimated acreage: Permit Volume IX

HOURLY PRODUCTION

Average Grader Speed:	<u>1.25</u>	mph
Selected Application:	<u>Production Deration - 1.25</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>1.5303</u>	acres/hour

Job Condition Correction Factors

Site Altitude: 6100 feet

		Source
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.85</u>	(1sh/d, mod.)
Net Correction:	<u>0.8500</u>	multiplier

Adjusted Hourly Unit Production: 1.3008 acres/Hour

Adjusted Hourly Fleet Production: **1.3008** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **50.65** Hours

Unit cost: \$138.60 per acre Total job cost: **\$9,131**

BULLDOZER WORKTask description: **Backfill and Regrade Pond B**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **095**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-095**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$416.77**Total Fleet Cost/Hour: **\$416.77****MATERIAL QUANTITIES**Initial Volume: **4,290**Swell factor: **1.330**Loose volume: **5,706 LCY**Source of estimated volume: **Map 22B; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **75 feet**Unadjusted hourly production: **2,105.3 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 748.22 LCY/hr

Adjusted fleet production: **748.22** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.557/LCY

Total job time: **7.63** Hours

Total job cost: **\$3,178**

BULLDOZER WORKTask description: **Backfill and Regrade Pond C**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **096**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-096**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$403.03**Total Fleet Cost/Hour: **\$403.03****MATERIAL QUANTITIES**Initial Volume: **5,334**Swell factor: **1.330**Loose volume: **7,094 LCY**Source of estimated volume: **Map 22C; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.660/LCY

Total job time: **11.61** Hours

Total job cost: **\$4,680**

BULLDOZER WORKTask description: **Backfill and Regrade Gob Pile Pond D**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **097**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-097**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$403.03**Total Fleet Cost/Hour: **\$403.03****MATERIAL QUANTITIES**Initial Volume: **3,759**Swell factor: **1.330**Loose volume: **4,999 LCY**Source of estimated volume: **Map 95266-04; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.660/LCY

Total job time: **8.18** Hours

Total job cost: **\$3,298**

BULLDOZER WORKTask description: **Backfill and Regrade Pond F**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **098**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-098**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$403.03**Total Fleet Cost/Hour: **\$403.03****MATERIAL QUANTITIES**Initial Volume: **5,700**Swell factor: **1.165**Loose volume: **6,641 LCY**Source of estimated volume: **Appendix B-4; Division Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,100 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.660/LCY

Total job time: **10.87** Hours

Total job cost: **\$4,381**

BULLDOZER WORKTask description: **Backfill and Regrade Pond J**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **099**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-099**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$403.03**Total Fleet Cost/Hour: **\$403.03****MATERIAL QUANTITIES**Initial Volume: **11,320**Swell factor: **1.330**Loose volume: **15,056 LCY**Source of estimated volume: **Map 22J; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.660/LCY

Total job time: **24.64** Hours

Total job cost: **\$9,933**

BULLDOZER WORKTask description: **Backfill and Regrade Pond K**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **100**State: **Colorado**Abbreviation: **None**Date: **11/21/2021**County: **Delta**Filename: **C083-100**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$403.03**Total Fleet Cost/Hour: **\$403.03****MATERIAL QUANTITIES**Initial Volume: **700**Swell factor: **1.330**Loose volume: **931 LCY**Source of estimated volume: **Map 22K; Operator Estimate**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,718.9 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **5,900 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
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:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3554

Adjusted unit production: 610.90 LCY/hr

Adjusted fleet production: **610.9** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.660/LCY

Total job time: **1.52** Hours

Total job cost: **\$614**

HYDRAULIC EXCAVATOR WORK

Task description: Excavate for Post-mining Channel at B-Seam Portals

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 101

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-101

User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 365C L 13'-7" Stick

Attachment 1: ROPS Cab

Horsepower: 404

Weight (MT): 70.51

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$173.79	NA
Operating Cost/Hour:	\$148.12	100
Operator Cost/Hour:	\$37.32	NA
Total Unit Cost/Hour:	\$359.23	
Total Fleet Cost/Hour:	\$718.46	

MATERIAL QUANTITIES

Initial volume: 290

CCY

Swell factor: 1.165

Loose volume: 338

LCY

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

Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: SEVERE

Secondary Job Condition within Basic Description: SEVERE

Cycle Time Value: 0.570 minutes

Load Bucket Capacity

Bucket Size Class: Small

Rated Capacity: 3.61 LCY (heaped)

Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850

Adjusted Capacity: 3.07 LCY

Job Condition Correction Factors

Site Altitude: 6650 feet

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

Unadjusted Hourly Unit Production: 323.00 LCY/Hour

Adjusted Hourly Unit Production: 268.09 LCY/Hour

Adjusted Hourly Fleet Production: 536.18 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Excavator Total job time: 0.63 Hours

Unit cost: \$1.340 /LCY Total job cost: \$453

Post-Mining Drainage Channel Construction (Ditches)

Task description: Install Riprap, Gravel, and Geotextile in B-Seam Channel

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 102

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-102

User: RDZ

Agency or organization name: DRMS

Channel	Length (ft)	Depth (ft)	Width (bottom) (ft)	Side Slopes (XH:1V)	Width (top) (ft)	Excavated Vol./LF (CY)	Excavated Vol. (total) (CY)
C/F	150	6.00	5.00	5.00	65.00	7.7778	1,167
Totals:	150						1,167

Riprap	Riprap Thickness (2xD50) (ft)	Perimeter, P (ft)	Area for Geotextile (excl. anchor trenches) (sf)	Riprap Vol. (CY)
	0.00	66.19	9,928	0
Totals:			9,928	0

Materials Needed:

Geotextile (SY incl. 15% wastage): 1,269

Riprap (CY): 0

Excavation (CY): 1,167

Costs:

Material Costs:	Geotextile (SY):	<u>\$1.75</u>	Riprap (CY):	<u>\$32.00</u>	Excavation (CY):	<u>\$0.00</u>
Labor Cost:		<u>\$0.30</u>		<u>\$13.65</u>		<u>\$2.65</u>
Equipment Cost:		<u>\$0.00</u>		<u>\$14.15</u>		<u>\$1.43</u>
Means Reference	31 32 1916 1510		31 37 1310 0100		31 23 1642 0310	

Totals:

Geotextile (SY): \$2,600.65

Riprap (CY): \$0.00

Excavation (CY): \$4,760.00

Hours:

Geotextile (SY): 14.50
87.50 SY/HR

Riprap (CY): 0.00
7.75 CY/HR

Excavation (CY): 29.17
40.00 CY/HR

Total Post-Mining Channel Reconstruction hours: 43.67 Hours

Total Post-Mining Channel Reconstruction Cost: \$7,361

BOREHOLE SEALING WORK

Task description: Plug and seal AW-15

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AG

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ag

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	86	3.58	bag	\$19.95	\$71.42
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.26	\$0.98
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,452.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW16

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AH

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ah

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	75	3.12	bag	\$19.95	\$62.24
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.26	\$0.98
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,443.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-17

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AI

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ai

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	62	2.58	bag	\$19.95	\$51.47
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.30	LF	\$3.26	\$0.98
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,432.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-101

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AJ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106aj

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	16.5	0.31	bag	\$19.95	\$6.18
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.20	LF	\$3.26	\$0.65
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	4.00	EA	\$156.22	\$624.88
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	4.00	EA	\$67.47	\$269.88

Job Hours: 4.00

Total Cost: \$939.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-103

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AK

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ak

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	53	0.98	bag	\$19.95	\$19.55
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,401.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-105

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AL

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106al

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	107	1.98	bag	\$19.95	\$39.50
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$156.22	\$1,093.54
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$67.47	\$472.29

Job Hours: 7.00

Total Cost: \$1,644.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-105A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AM

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106am

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	38.5	0.71	bag	\$19.95	\$14.16
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,395.00

BOREHOLE SEALING WORK

Task description: Plug and seal BD-102

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AN

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106an

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	30	0.55	bag	\$19.95	\$10.97
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,392.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-101A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AO

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ao

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	29	0.54	bag	\$19.95	\$10.77
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,392.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-102

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AP

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ap

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	34	0.63	bag	\$19.95	\$12.57
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,394.00

BOREHOLE SEALING WORK

Task description: Plug and seal BL-102A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106AQ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-RN5

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	29	0.54	bag	\$19.95	\$10.77
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,392.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-6A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106BB

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106bb

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 8 in. diameter borehole	7.625	NA	1.00	EA	\$84.15	\$84.15
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	7.625	700	188.11	bag	\$19.95	\$3,752.79
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	2.00	LF	\$3.26	\$6.52
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$156.22	\$1,718.42
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$67.47	\$742.17

Job Hours: 11.00

Total Cost: \$6,342.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #1

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CN

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106cn

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$19.95	\$4,794.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$7,193.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #2

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CO

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106co

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$19.95	\$4,794.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$7,193.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #3

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CP

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106cp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	540	240.35	bag	\$19.95	\$4,794.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$7,193.00

BOREHOLE SEALING WORK

Task description: Plug and seal MR133 Utility Hole #4

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CQ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106cq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	10	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	520	240.35	bag	\$19.95	\$4,794.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	10	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$7,193.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-3A (aka GVB-D3-A)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106CY

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106cy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 8 in. diameter borehole	7.625	NA	1.00	EA	\$84.15	\$84.15
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	7.625	870	133.56	bag	\$19.95	\$2,664.52
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	7.625	NA	2.00	LF	\$3.26	\$6.52
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$5,477.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-7A (aka GVB-D7-A)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DB

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106db

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	465	65.02	bag	\$19.95	\$1,297.15
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$3,638.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-5A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DD

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106dd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	332	46.42	bag	\$19.95	\$926.08
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$3,043.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-6A (aka GVB-D6-A)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DO
Date: 11/21/2021
User: RDZ

State: Colorado
County: Delta

Abbreviation: None
Filename: C083-106do

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	461	64.46	bag	\$19.95	\$1,285.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$3,627.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-6B (aka GVB-D6-B)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DP

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106dp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	900	125.84	bag	\$19.95	\$2,510.51
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 6.00

Total Cost: \$5,299.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-7B (aka GVB-D7-B)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DQ
Date: 11/21/2021
User: RDZ

State: Colorado
County: Delta

Abbreviation: None
Filename: C083-106dq

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	720	100.67	bag	\$19.95	\$2,008.37
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$156.22	\$1,718.42
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$67.47	\$742.17

Job Hours: 11.00

Total Cost: \$4,573.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-D-8C (aka GVB-D8-C)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106DU

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106du

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	5.5	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	5.5	1000	139.82	bag	\$19.95	\$2,789.41
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	5.5	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$5,578.00

BOREHOLE SEALING WORK

Task description: Plug and seal P-TC-03-01 (aka TC-03-01)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106ED

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ed

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	6	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	6	580	96.51	bag	\$19.95	\$1,925.37
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	6	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$4,266.00

BOREHOLE SEALING WORK

Task description: Plug and seal P-TC-03-02 (aka TC-03-02)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106EE

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ee

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 6 in. diameter borehole	6	NA	1.00	EA	\$61.43	\$61.43
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	6	580	96.51	bag	\$19.95	\$1,925.37
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	6	NA	1.50	LF	\$3.26	\$4.89
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$4,266.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17C (aka GVB-B17C)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GB

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gb

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1090	442.81	bag	\$19.95	\$8,834.06
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	GENERIC 3.0 in. - 1, 700 ft. capy.	NA	NA	12.00	EA	\$152.21	\$1,826.52
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$11,631.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17D (aka GVB-B17D)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GC

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gc

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1300	528.12	bag	\$19.95	\$10,535.99
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$13,381.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17E (aka GVB-B17E)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GD

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1620	658.12	bag	\$19.95	\$13,129.49
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$15,975.00

BOREHOLE SEALING WORK

Task description: Plug and seal GVB-17F (aka GVB-B17F)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GI

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gi

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 10 in. diameter borehole	9.375	NA	1.00	EA	\$115.29	\$115.29
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	1660	674.37	bag	\$19.95	\$13,453.68
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	9.375	NA	2.50	LF	\$3.26	\$8.15
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$16,299.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-1

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GN

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gn

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	120	8.87	bag	\$19.95	\$176.96
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$156.22	\$1,093.54
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$67.47	\$472.29

Job Hours: 7.00

Total Cost: \$1,784.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-2

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GO

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106go

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	60	4.43	bag	\$19.95	\$88.38
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,471.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-3

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GP

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gp

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	150	11.09	bag	\$19.95	\$221.25
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$156.22	\$1,093.54
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$67.47	\$472.29

Job Hours: 7.00

Total Cost: \$1,828.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-4

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GQ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	60	4.44	bag	\$19.95	\$88.58
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,471.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-5

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GR

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gr

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	100	7.40	bag	\$19.95	\$147.63
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,531.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-6

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GS

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gs

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	112	8.28	bag	\$19.95	\$165.19
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$156.22	\$1,093.54
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$67.47	\$472.29

Job Hours: 7.00

Total Cost: \$1,772.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-7

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GT

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gt

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	193	5.58	bag	\$19.95	\$111.32
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$156.22	\$1,249.76
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$67.47	\$539.76

Job Hours: 8.00

Total Cost: \$1,940.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-8

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GU

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gu

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	60	1.73	bag	\$19.95	\$34.51
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,416.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-9

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GV

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gv

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	80	2.31	bag	\$19.95	\$46.08
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,427.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-11

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GW

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gw

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	80	1.48	bag	\$19.95	\$29.53
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,411.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-12

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GX

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gx

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	60	1.11	bag	\$19.95	\$22.14
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,403.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-13

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GY

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	80	1.48	bag	\$19.95	\$29.53
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,411.00

BOREHOLE SEALING WORK

Task description: Plug and seal AW-14

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106GZ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106gz

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	30	0.55	bag	\$19.95	\$10.97
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	6.00	EA	\$156.22	\$937.32
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	6.00	EA	\$67.47	\$404.82

Job Hours: 6.00

Total Cost: \$1,392.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-13

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HD

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hd

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1000	73.95	bag	\$19.95	\$1,475.30
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$4,234.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-15

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HE

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: 083-106he

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	216	15.97	bag	\$19.95	\$318.60
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$156.22	\$1,249.76
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$67.47	\$539.76

Job Hours: 8.00

Total Cost: \$2,149.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-15

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HF

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hf

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	395	29.21	bag	\$19.95	\$582.74
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$2,671.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-25

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HG

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hg

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	333	24.63	bag	\$19.95	\$491.37
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$2,579.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-34C

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HQ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	4	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	124	9.17	bag	\$19.95	\$182.94
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	7.00	EA	\$156.22	\$1,093.54
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	7.00	EA	\$67.47	\$472.29

Job Hours: 7.00

Total Cost: \$1,824.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-38

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HR

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hr

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	454	33.58	bag	\$19.95	\$669.92
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$2,948.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-39

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HS

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hs

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	180	13.31	bag	\$19.95	\$265.53
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$156.22	\$1,249.76
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$67.47	\$539.76

Job Hours: 8.00

Total Cost: \$2,096.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-47

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HV

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hv

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1800	133.12	bag	\$19.95	\$2,655.74
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$5,381.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-48

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HW

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hw

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	2200	162.70	bag	\$19.95	\$3,245.87
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$5,971.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-49

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106HX

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106hx

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	323	23.89	bag	\$19.95	\$476.61
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$2,531.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-57B (aka 98-57B)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IF

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106if

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	3	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	1512	62.90	bag	\$19.95	\$1,254.86
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$4,012.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-58B (aka DH-58A)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106II

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ii

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plug	PVC plug - 4 in. diameter borehole	3	NA	1.00	EA	\$33.98	\$33.98
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	3	1634	67.97	bag	\$19.95	\$1,356.00
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	3	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$4,113.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-60 (aka Mon Well)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IJ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ij

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	1073	19.84	bag	\$19.95	\$395.81
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$3,119.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67B

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IP

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ip

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	594	20.76	bag	\$19.95	\$414.16
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	10.00	EA	\$156.22	\$1,562.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	10.00	EA	\$67.47	\$674.70

Job Hours: 10.00

Total Cost: \$2,690.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67-D

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IQ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106iq

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	325	11.36	bag	\$19.95	\$226.63
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$2,279.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67-Abv

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IR

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106ir

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.75	193	6.75	bag	\$19.95	\$134.66
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.75	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	8.00	EA	\$156.22	\$1,249.76
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	8.00	EA	\$67.47	\$539.76

Job Hours: 8.00

Total Cost: \$1,963.00

BOREHOLE SEALING WORK

Task description: Plug and seal DH-67-Blw

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IS

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106is

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2.5	360	10.40	bag	\$19.95	\$207.48
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2.5	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	9.00	EA	\$156.22	\$1,405.98
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	9.00	EA	\$67.47	\$607.23

Job Hours: 9.00

Total Cost: \$2,260.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-69 (aka B-1 Mon Well)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IT

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106it

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	2	1950	36.05	bag	\$19.95	\$719.20
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	2	NA	0.50	LF	\$3.26	\$1.63
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$3,443.00

BOREHOLE SEALING WORK

Task description: Plug and seal CWI-DH-70 (aka B-1 Mon Well)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IU

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106iu

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	695	51.40	bag	\$19.95	\$1,025.43
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	11.00	EA	\$156.22	\$1,718.42
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	11.00	EA	\$67.47	\$742.17

Job Hours: 11.00

Total Cost: \$3,527.00

BOREHOLE SEALING WORK

Task description: Plug and seal 2010-1B

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IY

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106iy

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1220	90.22	bag	\$19.95	\$1,799.89
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$4,525.00

BOREHOLE SEALING WORK

Task description: Plug and seal 2010-1SS

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 106IZ

State: Colorado

Abbreviation: None

Date: 11/21/2021

County: Delta

Filename: C083-106iz

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	4	1140	84.31	bag	\$19.95	\$1,681.98
Cut casings	Exposed casing removal - Calculate Circumference in Linear Feet	4	NA	1.00	LF	\$3.26	\$3.26
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig time	Truck Mounted - 3.0 in. - 1,700 ft. capy.	NA	NA	12.00	EA	\$156.22	\$1,874.64
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$4,407.00

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to Portal/Utility Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 110State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-110User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 91,800

CCY

Swell factor: 1.125Loose volume: **103,275**

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	8000.00	5.00	5.00	10.00	1068	7.53

Haul Time: 7.53 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	8000.00	-5.00	5.00	0.00	2921	2.83

Return Time: 2.83 minutesTotal Scraper team cycle time: 11.86 minutesAdjusted for job conditions: 158.30 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 158.30 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 158.30 LCY/HourUnadjusted unit production/hour: 190.73 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 652.39 HoursUnit cost: \$4.921 /LCYTotal job cost: \$508,253

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to Truck Loadout/Coal Stkpl**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 111State: ColoradoAbbreviation: NoneDate: 11/21/2021County: DeltaFilename: C083-111User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 21,722

CCY

Swell factor: 1.125Loose volume: **24,437**

LCY

Source of estimated volume: Page 2.05-35, plus 800 yds MR151, 710 yds MR153Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	-5.00	5.00	0.00	2921	0.83

Haul Time: 0.83 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	5.00	5.00	10.00	1768	1.20

Return Time: 1.20 minutesTotal Scraper team cycle time: 3.53 minutesAdjusted for job conditions: 531.86 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 531.86 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 531.86 LCY/HourUnadjusted unit production/hour: 640.79 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 45.95 HoursUnit cost: \$1.465 /LCYTotal job cost: \$35,795

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile F to Train Loadout**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 112State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-112User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 24,000

CCY

Swell factor: 1.125Loose volume: **27,000**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48; Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2218	0.71

Haul Time: 0.71 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1200.00	0.00	5.00	5.00	2814	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 2.78 minutesAdjusted for job conditions: 675.35 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 675.35 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 675.35 LCY/HourUnadjusted unit production/hour: 813.67 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 39.98 HoursUnit cost: \$1.154 /LCYTotal job cost: \$31,146

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile A to B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 113State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-113User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 20,489

CCY

Swell factor: 1.125Loose volume: **23,050**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	3900.00	9.00	3.00	12.00	918	4.27

Haul Time: 4.27 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	3900.00	-9.00	3.00	-6.00	2938	1.37

Return Time: 1.37 minutesTotal Scraper team cycle time: 7.14 minutesAdjusted for job conditions: 262.95 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 262.95 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 262.95 LCY/HourUnadjusted unit production/hour: 316.81 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 87.66 HoursUnit cost: \$2.963 /LCYTotal job cost: \$68,292

SCRAPER TEAM WORKTask description: **Replace Topsoil fm Stockpiles C/D to Pond C and Gob Pond D**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 115State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-115User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 5,300

CCY

Swell factor: 1.125Loose volume: **5,963**

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	10.00	5.00	15.00	734	2.06

Haul Time: 2.06 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-10.00	5.00	-5.00	2938	0.57

Return Time: 0.57 minutesTotal Scraper team cycle time: 4.13 minutesAdjusted for job conditions: 454.59 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 454.59 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 454.59 LCY/HourUnadjusted unit production/hour: 547.70 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 13.12 HoursUnit cost: \$1.714 /LCYTotal job cost: \$10,218

BULLDOZER WORKTask description: **Replace topsoil from Stockpile to Pond F**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **116**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-116**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D10T - 10SU**Horsepower: **574**Blade Type: **Semi-Universal**Attachment: **3-shank ripper**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$416.77**Total Fleet Cost/Hour: **\$416.77****MATERIAL QUANTITIES**Initial Volume: **1,000**Swell factor: **1.125**Loose volume: **1,125 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **300 feet**Unadjusted hourly production: **633.3 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **0 %**Average site altitude: **6,100 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**

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

Net correction: 0.4492

Adjusted unit production: 284.48 LCY/hr

Adjusted fleet production: **284.48** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.465/LCY

Total job time: **3.95** Hours

Total job cost: **\$1,648**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile F to Pond J**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 117State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-117User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 1,190

CCY

Swell factor: 1.125Loose volume: **1,339**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48 and Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2218	1.39

Haul Time: 1.39 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2814	1.11

Return Time: 1.11 minutesTotal Scraper team cycle time: 4.00 minutesAdjusted for job conditions: 469.37 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 469.37 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 469.37 LCY/HourUnadjusted unit production/hour: 565.50 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 2.85 HoursUnit cost: \$1.660 /LCYTotal job cost: \$2,222

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile F to Pond K**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 118State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-118User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 800

CCY

Swell factor: 1.125Loose volume: **900**

LCY

Source of estimated volume: Page 2.05-36; Page 2.05-48; Map 32Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2218	1.39

Haul Time: 1.39 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2700.00	0.00	5.00	5.00	2814	1.11

Return Time: 1.11 minutesTotal Scraper team cycle time: 4.00 minutesAdjusted for job conditions: 469.37 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 469.37 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 469.37 LCY/HourUnadjusted unit production/hour: 565.50 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.92 HoursUnit cost: \$1.660 /LCYTotal job cost: \$1,494

BULLDOZER WORKTask description: Replace topsoil fm stockpile to MR/TR Light-Use RoadsSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 119State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-119User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 64,347Swell factor: 1.125Loose volume: 72,390 LCYSource of estimated volume: 53.18 acres, 0.75' depthSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 697.19 LCY/hr

Adjusted fleet production: **2788.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.598/LCY

Total job time: **25.96** Hours

Total job cost: **\$43,274**

BULLDOZER WORKTask description: Replace topsoil from stockpiles to MR/TR drill padsSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 120State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-120User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$403.03Total Fleet Cost/Hour: \$1,612.13**MATERIAL QUANTITIES**Initial Volume: 58,650Swell factor: 1.125Loose volume: 65,981 LCYSource of estimated volume: DRMS EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 120 feetUnadjusted hourly production: 1,503.8 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 609.94 LCY/hr

Adjusted fleet production: **2439.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.661/LCY

Total job time: **27.04** Hours

Total job cost: **\$43,599**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile A to Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 121State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-121User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 11,000

CCY

Swell factor: 1.125Loose volume: **12,375**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	-20.00	5.00	-15.00	1295	0.77

Haul Time: 0.77 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	20.00	5.00	25.00	712	1.13

Return Time: 1.13 minutesTotal Scraper team cycle time: 3.40 minutesAdjusted for job conditions: 552.19 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 552.19 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 552.19 LCY/HourUnadjusted unit production/hour: 665.29 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 22.41 HoursUnit cost: \$1.411 /LCYTotal job cost: \$17,459

BULLDOZER WORKTask description: Replace topsoil from stockpile to Material Storage AreaSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 122State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-122User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 250Swell factor: 1.125Loose volume: 281 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 6,000 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 383.70 LCY/hr

Adjusted fleet production: **1534.8** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$1.086/LCY

Total job time: **0.18** Hours

Total job cost: **\$305**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile E to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 123State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-123User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 40,368

CCY

Swell factor: 1.125Loose volume: **45,414**

LCY

Source of estimated volume: Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6100 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	12.00	5.00	17.00	650	1.55

Haul Time: 1.55 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-12.00	5.00	-7.00	2938	0.41

Return Time: 0.41 minutesTotal Scraper team cycle time: 3.46 minutesAdjusted for job conditions: 542.62 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 542.62 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 542.62 LCY/HourUnadjusted unit production/hour: 653.76 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 83.69 HoursUnit cost: \$1.436 /LCYTotal job cost: \$65,203

SCRAPER TEAM WORKTask description: **Replace Topsoil from Stockpile D to Gob Pile #4**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 124State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-124User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 4,524

CCY

Swell factor: 1.000Loose volume: **4,524**

LCY

Source of estimated volume: Volume IX, Appendix ASource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	5.00	5.00	10.00	1068	0.97

Haul Time: 0.97 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-5.00	5.00	0.00	2921	0.44

Return Time: 0.44 minutesTotal Scraper team cycle time: 2.91 minutesAdjusted for job conditions: 645.18 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 645.18 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 645.18 LCY/HourUnadjusted unit production/hour: 777.32 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 7.01 HoursUnit cost: \$1.208 /LCYTotal job cost: \$5,463

SCRAPER TEAM WORKTask description: **Replace topsoil from stockpile to Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 125State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-125User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 46,708

CCY

Swell factor: 1.000Loose volume: **46,708**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	5.00	5.00	2218	1.07

Haul Time: 1.07 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2000.00	0.00	5.00	5.00	2814	0.86

Return Time: 0.86 minutesTotal Scraper team cycle time: 3.43 minutesAdjusted for job conditions: 547.36 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 547.36 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 547.36 LCY/HourUnadjusted unit production/hour: 659.48 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 85.33 HoursUnit cost: \$1.423 /LCYTotal job cost: \$66,479

BULLDOZER WORKTask description: Replace topsoil from stockpile to Haul RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 126State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-126User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 300Swell factor: 1.125Loose volume: 338 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 150 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 6,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4056

Adjusted unit production: 504.24 LCY/hr

Adjusted fleet production: **2016.96** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.827/LCY

Total job time: **0.17** Hours

Total job cost: **\$279**

SCRAPER TEAM WORKTask description: **Replace topsoil from stockpile to Water Tank Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 127State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-127User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 850

CCY

Swell factor: 1.125Loose volume: **956**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Scraper Bowl (volume) Basis:**

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	-15.00	5.00	-10.00	1749	0.69

Haul Time: 0.69 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1000.00	15.00	5.00	20.00	868	1.17

Return Time: 1.17 minutesTotal Scraper team cycle time: 3.36 minutesAdjusted for job conditions: 558.77 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 558.77 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 558.77 LCY/HourUnadjusted unit production/hour: 673.21 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 1.71 HoursUnit cost: \$1.394 /LCYTotal job cost: \$1,333

SCRAPER TEAM WORKTask description: Replace topsoil from Stockpile G to TR35 road/padSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 128State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-128User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT**COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 627G w/push-pull
-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:	\$188.81	NA	NA	NA	NA	NA
Operating cost/hour:	\$169.82	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:	\$30.90	NA	NA	NA	NA	NA
Unit Subtotals:	\$389.53	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$779.06		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$779.06****MATERIAL QUANTITIES**Initial volume: 1,000

CCY

Swell factor: 1.250Loose volume: **1,250**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Scraper Bowl (volume) Basis:

Material weight:	<u>2,550 lbs/LCY</u>	Struck Volume:	<u>15.70</u>	LCY
Material description:	<u>Earth - Dry packed</u>	Heaped Volume:	<u>22.00</u>	LCY
Rated Payload:	<u>52,800 pounds</u>	Average Volume:	<u>18.85</u>	LCY
Payload Capacity:	<u>20.71 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:Scraper Loading Time: 0.90 MinutesManeuver and Spread Time: 0.60 MinutesJob Condition Correction:

Site Altitude: 6750 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	4500.00	8.00	3.00	11.00	1018	4.45

Haul Time: 4.45 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	4500.00	-8.00	3.00	-5.00	2938	1.58

Return Time: 1.58 minutesTotal Scraper team cycle time: 7.53 minutesAdjusted for job conditions: 249.33 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 249.33 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 249.33 LCY/HourUnadjusted unit production/hour: 300.40 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s)Total job time: 5.01 HoursUnit cost: \$3.125 /LCYTotal job cost: \$3,906

BULLDOZER WORKTask description: Replace topsoil from stockpile to Borrow AreaSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 129State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-129User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: 3-shank ripperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$25.19	NA
Ripper op. Cost/Hour:	\$13.74	100
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$416.77Total Fleet Cost/Hour: \$1,667.09**MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.250Loose volume: 9,250 LCYSource of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 6,200 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Net correction: 0.4492

Adjusted unit production: 424.94 LCY/hr

Adjusted fleet production: **1699.76** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.981/LCY

Total job time: **5.44** Hours

Total job cost: **\$9,072**

BULLDOZER WORKTask description: Replace topsoil fm stockpile to Upper Parking Lot ExpansionSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 130State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-130User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D10T - 10SUHorsepower: 574Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$169.60	NA
Operating Cost/Hour:	\$166.94	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$377.84Total Fleet Cost/Hour: **\$377.84****MATERIAL QUANTITIES**Initial Volume: 250Swell factor: 1.125Loose volume: **281 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,718.9 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 10 %Average site altitude: 6,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3531

Adjusted unit production: 606.94 LCY/hr

Adjusted fleet production: **606.94** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.623/LCY

Total job time: **0.46** Hours

Total job cost: **\$175**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Seal Portals and Shafts

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 140

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-140

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
D Portal Intake, Beltline & Return bulkhead	200 SF x 3	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	600.00	SF	\$192.07	\$115,242.00
- backfill	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$2,723.90	\$8,171.70
- drainpipe	165 LF x 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$11.74	\$5,811.30
B Portal Intake, Beltline & Return bulkhead	200 SF x 3	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	600.00	SF	\$192.07	\$115,242.00
- backfill	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$2,723.90	\$8,171.70
- drainpipe	165 LF x 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$11.74	\$5,811.30

Job Hours: 40.00

Total Cost: \$258,450.00

REVEGETATION WORKTask description: Drill Seed Mix 3 on Disturbed AreaSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 150State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-150User: RDZAgency 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}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	1.30	4.24	\$15.24
Bitterbrush, Antelope	8.30	2.55	\$161.85
Aster, Smooth	0.30	5.22	\$43.95
Great Basin Wildrye - Magnar	1.20	4.88	\$13.86
Kentucky Bluegrass - Ginger	0.10	4.94	\$0.32
Ryegrass, Perennial - Belramo	0.70	3.97	\$1.26
Intermediate Wheatgrass - Oahe	1.80	3.84	\$5.04
Smooth Brome - Manchar	1.20	3.99	\$3.99
Alfalfa - Ranger (inoculated)	0.70	3.37	\$1.79
Burnett, Small (or Little) - Delar	2.80	3.54	\$7.00

Sheep Fescue - Covar	0.20	3.12	\$1.22
Milk Vetch, Cicer - Lutana	1.10	3.66	\$9.02
Tall Wheatgrass - Jose	2.00	3.63	\$6.75
Western Wheatgrass - Arriba	1.40	3.54	\$9.10
Rose, Wood's	2.70	0.00	\$55.35
Flax, Lewis Blue	0.50	3.32	\$8.25
Sagebrush, Silver	0.10	1.94	\$3.10
Saltbush, Four Wing	2.40	3.31	\$30.00
Serviceberry	4.80	8.82	\$295.20
Siberian Wheatgrass	0.90	2.27	\$5.15
Totals Seed Mix	34.50	74.14	\$677.44

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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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: 225.02 Cost /Acre: \$1,797.84
 Estimated Failure Rate: 50% Cost /Acre*: \$1,701.34
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: \$404,549.96
 Reseeding Job Cost: \$191,417.76
 Total Job Cost: \$595,968
 Job Hours: 225.02

REVEGETATION WORKTask description: **Drill Seed Drill Pads**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **151**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-151**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost / Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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:	82.97	Cost / Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost / Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$119,203.00		
Reseeding Job Cost:	\$26,749.53		
Total Job Cost:	\$145,953		
Job Hours:	82.97		

REVEGETATION WORKTask description: **Drill Seed Lt-Use Roads to Drill Pads and Terror Creek**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 152State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-152User: RDZAgency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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:	62.01	Cost /Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$89,089.77		
Reseeding Job Cost:	\$19,992.02		
Total Job Cost:	\$109,082		
Job Hours:	62.01		

REVEGETATION WORKTask description: **Broadcast Seed Mix 3 on Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **154**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-154**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
Chisel plowing {DMG}	\$96.50
Total Tilling Cost/Acre	\$96.50

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.60	8.48	\$30.49
Bitterbrush, Antelope	16.60	5.11	\$323.70
Aster, Smooth	0.60	10.44	\$87.90
Great Basin Wildrye - Magnar	2.40	9.75	\$27.72
Kentucky Bluegrass - Ginger	0.20	9.87	\$0.64
Ryegrass, Perennial - Belramo	1.40	7.94	\$2.52
Intermediate Wheatgrass - Oahe	3.60	7.69	\$10.08
Smooth Brome - Manchar	2.40	7.99	\$7.98
Alfalfa - Ranger (inoculated)	1.40	6.75	\$3.57
Burnett, Small (or Little) - Delar	5.60	7.07	\$14.00

Sheep Fescue - Covar	0.40	6.24	\$2.44
Milk Vetch, Cicer - Lutana	2.20	7.32	\$18.04
Tall Wheatgrass - Jose	4.00	7.25	\$13.50
Western Wheatgrass - Arriba	2.80	7.07	\$18.20
Rose, Wood's	5.40	0.00	\$110.70
Flax, Lewis Blue	1.00	6.63	\$16.50
Sagebrush, Silver	0.20	3.88	\$6.20
Saltbush, Four Wing	4.80	6.61	\$60.00
Serviceberry	9.60	17.63	\$590.40
Siberian Wheatgrass	1.80	4.55	\$10.31
Totals Seed Mix	69.00	148.28	\$1,354.88

Application

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

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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: 30.63 Cost /Acre: \$2,510.50
 Estimated Failure Rate: 50% Cost /Acre*: \$2,414.00
 *Selected Replanting Work Items: SEEDING,MULCHING

Initial Job Cost: \$76,896.62
 Reseeding Job Cost: \$36,970.41
 Total Job Cost: \$113,867
 Job Hours: 60.63

REVEGETATION WORKTask description: **Drill seed Hubbard Creek Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 155State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-155User: RDZAgency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	1.2	Cost /Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,724.04
Reseeding Job Cost:	\$386.88
Total Job Cost:	\$2,111
Job Hours:	1.20

REVEGETATION WORKTask description: **Drill Seed Rock Laydown Area**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 156State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-156User: RDZAgency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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:	0.2	Cost /Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$287.34		
Reseeding Job Cost:	\$64.48		
Total Job Cost:	\$352		
Job Hours:	0.50		

REVEGETATION WORKTask description: **Weed Control Over 10-Year Liability Period**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **157**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-157**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
			\$
Totals Seed Mix	0.00	0.00	\$0.00

Application

Description	Cost /Acre
	\$

Total Seed Application Cost/Acre	\$0.00
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MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	1.00		\$0.00	\$0.00
	1.00		\$0.00	\$0.00
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
Weed spray, truck, aquatic area, nox. [DMG]	\$62.72
Total Mulch Application Cost/Acre	\$62.72

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:	838	Cost /Acre:	\$62.72
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost:	\$52,559.36
Reseeding Job Cost:	\$0.00
Total Job Cost:	\$52,559
Job Hours:	400.00

DEMOLITION WORK

Task description: Demolish and Remove all Structures

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 165

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-165

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 102.20 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Office and Bath House Superstructure	120'x50'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	144,000.00	CF	\$0.24	\$33,984.00
floor	120'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	6,000.00	SF	\$1.05	\$6,318.00
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	340.00	LF	\$6.32	\$2,148.80
Shop Superstructure	100'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	144,000.00	CF	\$0.24	\$33,984.00
floor	100'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.05	\$5,265.00
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	300.00	LF	\$6.32	\$1,896.00
Warehouse Superstructure	50'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	72,000.00	CF	\$0.24	\$16,992.00
floor	50'x60'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,000.00	SF	\$1.05	\$3,159.00
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$6.32	\$1,390.40
Wash Bay Superstructure	50'x25'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	30,000.00	CF	\$0.24	\$7,080.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,250.00	SF	\$1.05	\$1,316.25

footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$6.32	\$948.00
MCC Building Superstructure D-Seam Portal	18'x42'x11'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	8,316.00	CF	\$0.27	\$2,253.64
floor	18'x42'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	756.00	SF	\$1.05	\$796.07
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	120.00	LF	\$6.32	\$758.40
MCC Building Superstructure Hubbard Creek	15'x25'x12'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,500.00	CF	\$0.27	\$1,219.50
floor	15'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.05	\$394.88
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$6.32	\$505.60
Covered Storage Superstructure - D Seam Portal	30'x80'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	48,000.00	CF	\$0.24	\$11,328.00
floor	30'x80'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,400.00	SF	\$1.05	\$2,527.20
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$6.32	\$1,390.40
Covered Storage Superstructure B Seam	27'x55'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	22,275.00	CF	\$0.24	\$5,256.90
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	110.00	LF	\$6.32	\$695.20
Covered Storage Superstructure B Seam	50'x25'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	25,000.00	CF	\$0.24	\$5,900.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max.	1,250.00	SF	\$1.05	\$1,316.25

		200 ft. push				
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$6.32	\$948.00
Covered Storage Superstructure Stockpile Level	30'x110'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	49,500.00	CF	\$0.24	\$11,682.00
floor	30'x110'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,300.00	SF	\$1.05	\$3,474.90
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	280.00	LF	\$6.32	\$1,769.60
Covered Storage Superstructure Stockpile Level	40'x15'x15'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	9,000.00	CF	\$0.24	\$2,124.00
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	110.00	LF	\$6.32	\$695.20
Water Treatment Building Superstructure	40'x21'x12'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,360.00	CF	\$0.22	\$722.40
floor	14'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.05	\$884.52
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	122.00	LF	\$6.32	\$771.04
Fueling Station Superstructure	20'x30'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	12,000.00	CF	\$0.24	\$2,832.00
Fueling Station Containment Structure	20'x30'x4'	Demo. and on-site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	280.00	SF	\$1.84	\$515.20
-floor	20'x30'x8"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
10k gal diesel tank remove/haul	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000	1.00	EA	\$397.00	\$397.00

		gal.				
sludge disposal	NA	Dispose of tank sludge off-site - Average	150.00	GAL	\$6.80	\$1,020.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$1.71	\$256.50
500 gal DOTdiesel tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$238.00	\$238.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.80	\$340.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$1.71	\$12.83
2k gal oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$238.00	\$238.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	200.00	GAL	\$6.80	\$1,360.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	30.00	LB	\$1.71	\$51.30
2.5k gal gas tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$238.00	\$238.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	250.00	GAL	\$6.80	\$1,700.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	37.00	LB	\$1.71	\$63.27
1k gal motor oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$238.00	\$238.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	100.00	GAL	\$6.80	\$680.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	15.00	LB	\$1.71	\$25.65

Sewage Treatment Plant Superstructure	20'x30'x10'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	6,000.00	CF	\$0.27	\$1,626.00
floor	20'x30'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$6.32	\$632.00
Substation Superstructure	50'x100'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	50,000.00	CF	\$0.24	\$11,800.00
floor	50'x100'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.05	\$5,265.00
transformers	3 each	NON-PCB Transformer Removal	3.00	EA	\$2,238.20	\$6,714.60
Mine Ventilation Fan Superstructure	20'x20'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,200.00	CF	\$0.22	\$688.00
floor	20'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.05	\$421.20
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$6.32	\$505.60
Non-Coal Waste Storage Structures (3)	20'x30'x6'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,800.00	CF	\$0.24	\$2,570.40
Rock Dust Storage Area Superstructure	30'x20'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,800.00	CF	\$0.22	\$1,032.00
floor	30'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$6.32	\$632.00
silo	50'hx8'd	Bldg. (MC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	2,513.00	CF	\$0.31	\$768.98
silo pad	25'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.05	\$105.30
Pump House	18'x12'x8	Bldg. (SN) demo./on-	1,728.00	CF	\$0.22	\$371.52

Superstructure		site disposal in excavated pit - Max. 10,000 ft. haul				
floor	18'x12'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	216.00	SF	\$1.05	\$227.45
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	60.00	LF	\$6.32	\$379.20
Portal Conveyor Transfer Building Superstructure	20'x24'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	21,600.00	CF	\$0.24	\$5,097.60
floor	20'x24'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.05	\$505.44
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	88.00	LF	\$6.32	\$556.16
Screening and Crushing Building	40'x21'x52'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	43,680.00	CF	\$0.24	\$10,308.48
floor	40'x21'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.05	\$884.52
footing	1.5'x2'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	122.00	LF	\$6.32	\$771.04
Clean Gob Pile Material Storage Area	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	968.00	CY	\$18.95	\$18,343.60
Clean Haul Road Storage Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	484.00	CY	\$18.95	\$9,171.80
Clean Topsoil Stockpile A Storage Pile	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,839.00	CY	\$18.95	\$34,849.05
Clean Portal Bench/Light Use Rd Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,670.00	CY	\$18.95	\$31,646.50
Portal Conveyor (D and B Seams)	140'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	140.00	LF	\$53.42	\$7,478.80
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	5.00	LF	\$12.64	\$63.20
Gob Belt Conveyor	81'x48"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	81.00	LF	\$44.51	\$3,605.23

footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$12.64	\$25.28
Stockpile Conveyor	393'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	393.00	LF	\$53.42	\$20,994.06
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	16.00	LF	\$12.64	\$202.24
Reclaim Conveyor	402'x48"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	402.00	LF	\$44.51	\$17,892.62
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	18.00	LF	\$12.64	\$227.52
Off-Spec Coal Conveyor	111'x72"	OBSOLETE-Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	111.00	LF	\$53.42	\$5,929.62
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	4.00	LF	\$12.64	\$50.56
Radial Stacker #1 Conveyor	150'x36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	150.00	LF	\$44.51	\$6,676.35
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	6.00	LF	\$12.64	\$75.84
Radial Stacker #2 Conveyor	80' x 36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$44.51	\$3,560.72
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	1.00	LF	\$12.64	\$12.64
Stoker Collecting Conveyor	29' x 36"	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	29.00	LF	\$44.51	\$1,290.76
concrete runway	29' x 48"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	116.00	SF	\$0.70	\$81.43
Stacking Tube	12' diam x 100'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	3,770.00	SF	\$2.21	\$8,331.70
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max.	38.00	LF	\$12.64	\$480.32

		200 ft. push				
Stacking Tube	12' diam x 120'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	4,524.00	SF	\$2.21	\$9,998.04
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$12.64	\$480.32
Stacking Tube	12' diam x 130'	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	4,901.00	SF	\$2.21	\$10,831.21
Reclaim Tunnel Part 1	13' diam x 350'	USER PROVIDED ITEM	9,065.00	SF	\$7.77	\$70,435.05
Reclaim Tunnel Part 2	13' diam x 200'	USER PROVIDED ITEM	1,481.00	SF	\$7.77	\$11,507.37
Escape Tube	42" x 160'&150'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,797.00	CF	\$0.22	\$816.36
Concrete Fan Housing	6'x6'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	288.00	CF	\$0.22	\$61.92
10k gal hydraulic oil tank	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
remove sludge	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$397.00	\$397.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.80	\$6,800.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$1.71	\$256.50
500 gal antifreeze tank	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$760.00	\$760.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$238.00	\$238.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.80	\$340.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$1.71	\$12.83
Power line removal	6350' lin.ft.	Disposal of utility pole and hardware surplus material	6,350.00	LF	\$0.02	\$127.00
Portal Bench to Transfer Tower on grade conveyor	36" x 800'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	800.00	LF	\$17.60	\$14,080.00
Portal Bench to	36" x 120'	OBSOLETE-Conveyor,	120.00	LF	\$44.51	\$5,341.08

Transfer Tower elevated conveyor		elevated, including supports - 5 ft. W x 6 ft. H housing				
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$12.64	\$480.32
tunnel structure	100 lin.ft.	USER PROVIDED ITEM	100.00	LF	\$58.19	\$5,819.00
Transfer Tower to Stockpile overland	36" x 2280'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	2,280.00	LF	\$17.60	\$40,128.00
Transfer Tower to Stockpile elevated	36" x 475'	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	475.00	LF	\$44.51	\$21,141.78
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	112.00	LF	\$12.64	\$1,415.68
tunnel	80 lin.ft.	USER PROVIDED ITEM	80.00	LF	\$58.19	\$4,655.20
Downhill Conveyor Transfer Tower Structure	16'x16'x25'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,400.00	CF	\$0.24	\$1,523.20
concrete pad	16'x16'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	256.00	SF	\$1.05	\$269.57
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	65.00	LF	\$12.64	\$821.60
Wildlife Structures	300 lin.ft.	USER PROVIDED ITEM	300.00	LF	\$58.19	\$17,457.00
Reclaim Conveyor overland	36" x 395'	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	395.00	LF	\$17.60	\$6,952.00
Reclaim Conveyor elevated	36" x 180'	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	180.00	LF	\$44.51	\$8,011.62
Coal Loadout Bin	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	46,875.00	CF	\$0.24	\$11,156.25
footing	2'x3'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	100.00	LF	\$12.10	\$1,210.00
Coal Reclaim Tunnel	42" x 160'	USER PROVIDED ITEM	160.00	LF	\$58.19	\$9,310.40
escapeway	42" x 160'	USER PROVIDED ITEM	160.00	LF	\$17.70	\$2,832.00
fan housing building	NA	Bldg. (MN) demo./on-site disposal in	288.00	CF	\$0.24	\$68.54

		excavated pit - Max. 200 ft. push				
Loadout Substation	20'x20'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,000.00	CF	\$0.24	\$952.00
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.05	\$421.20
transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,238.20	\$2,238.20
fencing	100 lin.ft.	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	100.00	LF	\$3.08	\$308.00
Structure at Vent Shaft - Lap Slab	576 sq.ft.	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	576.00	SF	\$1.05	\$606.53
wing and stem walls	1408 sq.ft.	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	1,408.00	SF	\$1.06	\$1,492.48
wing wall footing	100 lin. ft.	Demo. and on-site disposal in excavated pit, 1.5 ft. x 3 ft. - Max. 200 ft. push	100.00	LF	\$9.48	\$948.00
fan and evase	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	22,032.00	CF	\$0.24	\$5,243.62
shaft house	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,788.00	CF	\$0.24	\$2,567.54
Haul road pavement removal	NA	Pavement, bituminous, demolition only - 3 in. thick	33,367.00	SY	\$4.66	\$155,490.22
disposal	NA	Loading and 2 mile haul, no salvage - Machine loading	5,578.00	CY	\$18.25	\$101,798.50
guardrail removal	NA	Railing, roadside guiderail and posts (posts on 20 ft. centers)	7,545.00	LF	\$2.85	\$21,503.25
Storage Shed at Topsoil Stockpile	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	76,500.00	CF	\$0.24	\$18,207.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,100.00	SF	\$1.05	\$5,370.30
Wood fencing from TR-11	NA	Fencing, wood, all types - 4 ft. to 6 ft. high	140.00	LF	\$1.64	\$229.60
12" PVC Pipe from TR-11	NA	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	42.00	LF	\$3.12	\$131.17
Misc Steel Pipe from	NA	Pipe, steel, welded	18.00	LF	\$1.82	\$32.76

TR-11		connections - 4 in. diameter pipe				
Reclaim Conveyor Transfer Building	20'x20'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,000.00	CF	\$0.24	\$4,284.00
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.05	\$421.20
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$6.32	\$505.60
Railroad Track	NA	Railroad track - Ties and track	7,630.00	LF	\$9.98	\$76,147.40
Storage Track	NA	Railroad track - Ties and track	3,880.00	LF	\$9.98	\$38,722.40
Bypass Track	NA	Railroad track - Ties and track	615.00	LF	\$9.98	\$6,137.70
ballast	NA	Railroad track - Ballast	1,347.00	CY	\$4.90	\$6,600.30
Reclaim Conveyor Transfer Building	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	340.00	LF	\$17.60	\$5,984.00
elevated portion	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	265.00	LF	\$44.51	\$11,794.89
elevated to batch weigh	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	1,200.00	LF	\$44.51	\$53,410.80
footing	NA	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	7.00	LF	\$12.64	\$88.48
Hazardous Waste Removal	NA	Hazardous waste removal - Drum solids/liquids, per drum, (7+ drum job)	20.00	DRUM	\$572.93	\$11,458.60
test	NA	Hazardous waste sampling and analysis, per sample	20.00	EA	\$224.61	\$4,492.20
transport to dump	NA	Solid transport, large truck (max. 80 drums, 25 cy, or 18 tons) - Maximum	150.00	MI	\$7.25	\$1,087.50
dump charges	NA	Dumpsite disposal charge - Average	6.00	TON	\$277.50	\$1,665.00
TR24 Fan Structure	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	12,923.00	CF	\$0.24	\$3,075.67
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	20.00	SF	\$1.05	\$21.06
footing	NA	Demo. and on-site	12.00	LF	\$6.32	\$75.84

		disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push				
Conveyor Overpass Retaining Wall	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,400.00	CF	\$0.24	\$809.20
concrete halfwall	NA	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	480.00	SF	\$1.42	\$681.60
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	120.00	SF	\$1.05	\$126.36
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	360.00	LF	\$6.32	\$2,275.20
multiplate structure	5.5' dia x 4'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	64.00	CF	\$0.20	\$12.86
140k gal water tank	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	19,300.00	CF	\$0.24	\$4,593.40
Transfer Building	20'x24'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	21,600.00	CF	\$0.24	\$5,140.80
floor	20'x35'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	700.00	SF	\$1.05	\$737.10
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	106.00	LF	\$6.32	\$669.92
MCC Building	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,000.00	CF	\$0.24	\$238.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.05	\$105.30
Substation	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	25,000.00	CF	\$0.24	\$5,950.00
transformer	NA	NON-PCB Transformer Removal	2.00	EA	\$2,238.20	\$4,476.40
Water tank 50k gal	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	6,720.00	CF	\$0.24	\$1,599.36
Mine vent fan	NA	Bldg. (MN) demo./on-site disposal in	3,200.00	CF	\$0.24	\$761.60

		excavated pit - Max. 200 ft. push				
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	40.00	SF	\$1.05	\$42.12
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	116.00	LF	\$6.32	\$733.12
Powerlines	NA	Disposal of utility pole and hardware surplus material	200.00	LF	\$0.02	\$4.00
Rock Dust Tank	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	2,513.00	CF	\$0.24	\$598.09
compressor house	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	4,800.00	CF	\$0.24	\$1,142.40
Portal Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	148.00	LF	\$17.60	\$2,604.80
Gob Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	100.00	LF	\$17.60	\$1,760.00
Radial Stacker Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	42.00	LF	\$17.60	\$739.20
Wash Plant	55'x70'x80'	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	308,000.00	CF	\$0.24	\$73,304.00
floor	55'x70'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,850.00	SF	\$1.05	\$4,054.05
footing	55'x70'	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	250.00	LF	\$6.05	\$1,512.50
MCC Room	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	5,760.00	CF	\$0.24	\$1,370.88
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.05	\$505.44
Transfer Bldg - Reclaim to Plant	NA	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	10,240.00	CF	\$0.24	\$2,437.12
Reclaim Tunnel Multiplate	5.5' dia x 4'	Bldg. (SN) demo./on- site disposal in existing	64.00	CF	\$0.20	\$12.86

		pit or cut - Max. 200 ft. push				
Stacking Tube	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,900.00	CF	\$0.24	\$1,166.20
structure	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	8,000.00	SF	\$1.11	\$8,880.00
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	38.00	LF	\$6.32	\$240.16
Clarifier Tank/Thickener	70'd x 10'h x 10" th	Demo. and on-site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	2,199.00	SF	\$1.76	\$3,859.25
base	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,848.00	SF	\$1.05	\$4,051.94
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	10.00	EA	\$397.00	\$3,970.00
Transfer Building - Plant Feed	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	8,192.00	CF	\$0.24	\$1,949.70
Transfer Building - Clean Coal	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,096.00	CF	\$0.24	\$974.85
Reclaim Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	250.00	LF	\$26.71	\$6,677.50
Plant Feed Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	300.00	LF	\$26.71	\$8,013.00
Stoker Stockpile Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	125.00	LF	\$26.71	\$3,338.75
Clean Coal Transfer Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	25.00	LF	\$26.71	\$667.75
Clean Coal Stockpile Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	550.00	LF	\$26.71	\$14,690.50
Synfuel Plant	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	84,000.00	CF	\$0.24	\$19,992.00
floor	NA	Demo. and on-site	28,000.00	SF	\$1.05	\$29,484.00

		disposal in excavated pit, 6 in. thick - Max. 200 ft. push				
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$6.32	\$1,390.40
Feed Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	50.00	LF	\$17.60	\$880.00
Product Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	85.00	LF	\$17.60	\$1,496.00
Return Belt Conveyor	NA	OBSOLETE-Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$17.60	\$1,408.00
Fan and Duct Work TR62	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	31,752.00	CF	\$0.24	\$7,556.98
footings	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	108.00	LF	\$6.32	\$682.56
MCC Building TR62	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,500.00	CF	\$0.24	\$1,071.00
motor foundation	NA	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.01	\$100.80
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.05	\$394.88
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$6.32	\$505.60
Water Line TR53	NA	Pipe, sewer/water - 12 in. diameter pipe	400.00	LF	\$4.57	\$1,828.00
Upper Parking Area Retaining Wall TR50	NA	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	1,305.00	SF	\$2.21	\$2,884.05
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$6.32	\$948.00
10k gal fuel tank TR47	NA	Excavate and load tank onto trailer, non-leaking - 9,000 gal. to 12,000 gal.	1.00	EA	\$1,050.00	\$1,050.00
remove sludge	NA	Remove sludge, water, and rem. product from	1.00	EA	\$397.00	\$397.00

		tank - 9,000 to 12,000 gal.				
dispose of sludge	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.80	\$6,800.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$1.71	\$256.50
haul tank to certified dump	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,050.00	\$1,050.00
Trailers (3)	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	\$0.24	\$714.00
Quonset Hut MR108	25'x60'x12.5'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,750.00	CF	\$0.24	\$4,462.50
floor	25'x60'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.05	\$1,579.50
Hoist Structure MR97	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,440.00	CF	\$0.24	\$342.72
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	9.00	LF	\$6.32	\$56.88
piers	NA	USER PROVIDED ITEM	2.00	CY	\$89.00	\$178.00
head frame	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,886.00	CF	\$0.24	\$1,400.87
Collecting Conveyor	NA	OBSOLETE-Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	76.00	LF	\$44.51	\$3,382.68
footing	NA	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$12.64	\$25.28
Batch Weigh @ Loadout	30' x 40' x 120'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	144,000.00	CF	\$0.24	\$34,272.00
Fuel Station floor	20' x 30'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.05	\$631.80
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$6.32	\$632.00
Loadout Storage Stacker	NA	Bldg. (MN) demo./on-site disposal in	8,000.00	CF	\$0.24	\$1,904.00

		excavated pit - Max. 200 ft. push				
tube	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,678.00	SF	\$1.05	\$3,872.93
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	44.00	LF	\$6.32	\$278.08
Filter Building MR 125	40'x16'x8'	Bldg. (SC) demo./on- site disposal in excavated pit - Max. 200 ft. push	5,120.00	CF	\$0.27	\$1,402.88
floor	40'x16'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	640.00	SF	\$0.70	\$449.28
footing	112 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	112.00	LF	\$6.32	\$707.84
Shower Facility Expansion MR 126	16' x 50' x 12'	Bldg. (MN) demo./on- site disposal in excavated pit - Max. 200 ft. push	9,600.00	CF	\$0.24	\$2,284.80
floor	16'x50'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	800.00	SF	\$0.70	\$561.60
footing	82 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	82.00	LF	\$4.21	\$345.22
Terror Creek Vent Shaft Collar	30'x30'x12"	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	900.00	SF	\$1.11	\$995.40
Terror Creek Vent Shaft Quonset Hut	NA	Bldg. (SN) demo./on- site disposal in excavated pit - Max. 10,000 ft. haul	14,720.00	CF	\$0.22	\$3,164.80
pad	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.05	\$1,579.50
Temporary Culvert T-F1	24" x 300'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	300.00	LF	\$7.25	\$2,176.20
Temporary Culvert T-F2	12" x 20'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	20.00	LF	\$4.10	\$81.94
Half Culvert C-J11	30" x 500'	USER PROVIDED ITEM	500.00	LF	\$3.42	\$1,710.00
Culvert C-G5	36" x 95'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	95.00	LF	\$11.32	\$1,075.21
Culvert C-G6	12" x 87'	Pipe, corrugated metal (CMP) - 12 in.	87.00	LF	\$4.10	\$356.44

		diameter pipe				
Culvert C-G2	12" x 40'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	40.00	LF	\$4.10	\$163.88
Concrete Box Structure at Pond D	4' x 4'	Wall, concrete, demolition only, average reinforcing - 4 in. thick	80.00	SF	\$0.74	\$59.20
Temporary Culvert T-F3	24" x 20'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	20.00	LF	\$7.25	\$145.08
Temporary Culvert T-F4	30" x 40'	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	40.00	LF	\$9.35	\$374.00
Temporary Culvert T-F5	30" x 80'	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	80.00	LF	\$9.35	\$748.00
Temporary Culvert C-J10	24" x 30'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	30.00	LF	\$7.25	\$217.62
Culvert C22 drop inlet structure	44 - 16" x 8" x 6" blocks	Wall, block, demolition only, 6 in. thick - Vertical reinforcing	39.06	SF	\$0.61	\$23.83
Trailer Mounted Filter Press	8' x 8' x 40'	Bldg. (SN) demo./on-site disposal in existing pit or cut - Max. 200 ft. push	2,560.00	CF	\$0.20	\$514.56
West Terror Creek Flume Anchors	1' x 1.5' x 4'	Footing, concrete, 1.0 ft. x 2 ft. - Average reinforcing	8.00	LF	\$3.61	\$28.88
W Ter Crk Flume walls - 2 walls/2 flumes	2' x 4' x 4" (2)	Footing, concrete, 1.5 ft. x 2 ft. - Average reinforcing	16.00	LF	\$4.32	\$69.12
Flume rubble disposal	NA	Loading and 5 mile haul, salvage allowed - Concrete frame structures	2.80	CY	\$12.80	\$35.84
Rock Bin on D Portal Bench - side walls	7' x 15' (2)	Wall, concrete, demolition only, average reinforcing - 12 in. thick	210.00	SF	\$2.23	\$468.30
Rock Bin on D Portal Bench - back wall	8' x 23'	Wall, concrete, demolition only, average reinforcing - 18 in. thick	184.00	SF	\$3.34	\$614.56
Rock Bin on D Portal Bench - floor	16.5' x 23' x 12"	Floor, concrete, demolition only, average reinforcing - 12 in. thick	379.50	SF	\$1.92	\$728.64
Rock Bin on D Bench rubble disposal	NA	Push demolished materials/rubble/debris into pit - Max. 200 ft. push	32.00	CY	\$1.92	\$61.47
Concrete patch @haul road intersection	50' x 18' x 8"	Pavement, concrete, demolition only, 7 in. to 24 in. thick - Reinforced	7.40	CY	\$133.50	\$987.90
Culverts B1(50), B3(100), B7(220)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	370.00	LF	\$4.10	\$1,515.89

Culverts B8(110), B9(140)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	250.00	LF	\$4.10	\$1,024.25
Culverts B13(110), B18(110), B24(60)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	280.00	LF	\$4.10	\$1,147.16
Culverts B25(160), B26(70)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	230.00	LF	\$4.10	\$942.31
Culvert B11(60) and B29 (40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	100.00	LF	\$5.57	\$557.40
Culverts B12(170), B14(70), B22(40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	280.00	LF	\$5.57	\$1,560.72
Culvert B23(40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	40.00	LF	\$5.57	\$222.96
Culverts B15(80), B16(60), B17(90)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	230.00	LF	\$7.25	\$1,668.42
Culverts B19(60), B27(100)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	160.00	LF	\$7.25	\$1,160.64
Culvert B28(120)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	120.00	LF	\$9.35	\$1,122.00
Culvert B21(40)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$11.32	\$452.72
Culverts C1(110), C2(30), C3(40), C8(30)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	210.00	LF	\$4.10	\$860.37
Culverts C10(100) and C17(100)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	200.00	LF	\$4.10	\$819.40
Culverts C19(60), C21(170), C22(150)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	380.00	LF	\$4.10	\$1,556.86
Culverts C23(30), C24(30), C25(30)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	90.00	LF	\$4.10	\$368.73
Culverts C4(300) and C11(90)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	390.00	LF	\$7.25	\$2,829.06
Culverts C12(65), C13(120), C14(170)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	355.00	LF	\$7.25	\$2,575.17
Culverts C15(25), C16(90), C18(30)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	145.00	LF	\$7.25	\$1,051.83
Culvert C5(260)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	260.00	LF	\$9.35	\$2,431.00
Culverts C7(400), C20(25), C26(40)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	465.00	LF	\$11.32	\$5,262.87
Culverts D1(40), D2(30)	24"	Pipe, corrugated metal (CMP) - 24 in.	70.00	LF	\$7.25	\$507.78

		diameter pipe				
Culvert E1(40)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	40.00	LF	\$4.10	\$163.88
Culvert F2(40) and F4(60)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	100.00	LF	\$9.35	\$935.00
Culverts G2(40) and G4(25)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	65.00	LF	\$4.10	\$266.31
Culvert G3(50)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$7.25	\$362.70
Culvert H1(175)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	175.00	LF	\$11.32	\$1,980.65
Culverts J3(60), J5(50), J6(60)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	170.00	LF	\$4.10	\$696.49
Culverts J7(60), J12(50), J13(50)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	160.00	LF	\$4.10	\$655.52
Culvert J14(175)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	175.00	LF	\$4.10	\$716.98
Culverts J1(65), J2(100), J4(50)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	215.00	LF	\$7.25	\$1,559.61
Culverts J8(50), J9(90-2), J10(40)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	270.00	LF	\$7.25	\$1,958.58
Culverts K1(40), K2(130)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	170.00	LF	\$4.10	\$696.49
Culvert K3(75)	24	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	75.00	LF	\$7.25	\$544.05
Refuse Bin	20' x 20' x 60'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	24,000.00	CF	\$0.24	\$5,712.00
- slab	20' x 20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.05	\$421.20
- footing	20' x 20'	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$6.05	\$484.00
Refuse Bin Fender Walls	4' x 40' x 12" (2)	Wall, concrete, demolition only, average reinforcing - 12 in. thick	320.00	SF	\$2.23	\$713.60
- footing (10' either side of bin)	20' (2)	Demo. and on-site disposal in existing pit, 1.5 ft. x 3 ft. - Max. 10,000 ft. haul	40.00	LF	\$9.01	\$360.40
Refuse Bin Bollards (2)	12"diam	USER PROVIDED ITEM	2.00	EA	\$23.50	\$47.00

- footing	1' x 2'	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	2.00	LF	\$4.00	\$8.00
Mine Entrance Security Gate	6' x 40'	USER PROVIDED ITEM	40.00	LF	\$16.62	\$664.80
- motor assembly	NA	USER PROVIDED ITEM	1.00	EA	\$755.00	\$755.00
- actuator	NA	USER PROVIDED ITEM	1.00	EA	\$50.50	\$50.50
Culvert G5	36" x 150'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	150.00	LF	\$11.32	\$1,697.70
Culvert G6	12" x 100'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	100.00	LF	\$4.10	\$409.70
Fire Mountain Canal Storage Bldg	100' x 20' x 20'	Bldg. (MN) demo./on-site disposal in existing pit or cut - Max. 10,000 ft. haul	40,000.00	CF	\$0.22	\$8,760.00
- slab	100' x 20'	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 10,000 ft. haul	2,000.00	SF	\$1.00	\$2,002.00
- footing	100' x 20'	Demo. and on-site disposal in existing pit, 1.0 ft. x 2 ft. - Max. 10,000 ft. haul	240.00	LF	\$4.00	\$960.00
Culvert C9 (replaced by Ditch D-C14)	36" x 500'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	500.00	LF	\$11.32	\$5,659.00
Smart Ditch T-F6	24"X 50'	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	50.00	LF	\$7.25	\$362.70
Bowie Rd Intersection Asphalt Removal	620 SY	Pavement, bituminous, demolition only - 3 in. thick	620.00	SY	\$4.66	\$2,889.20
Temporary Culvert T6	36"X40'	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	40.00	LF	\$11.32	\$452.72
Methane Flare Stack (MR200)	6' dia x 50'	USER PROVIDED ITEM	1,414.00	CF	\$0.22	\$311.08
- Skid	17' x 10' x 6'	USER PROVIDED ITEM	1,020.00	CF	\$0.22	\$224.40
- Interconnecting Piping	40'	USER PROVIDED ITEM	40.00	LF	\$2.30	\$92.00
- Remove Fence	350'	Fencing, chain link, including posts and fabric - to 6 ft. high	350.00	LF	\$2.68	\$938.00
- Concrete Foundation for Oxidizer	8' dia	Demo. and on-site disposal in existing pit, 6 in. thick - Max. 200 ft. push	50.00	SF	\$1.01	\$50.40
- Footing	25'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	25.00	LF	\$12.10	\$302.50

Job Hours: 160.00Subtotal \$1,630,520.06Total Cost \$1,666,391.50

(unadjusted):

(adjusted for
location):

SITE MAINTENANCE

Task description: Proctor Testing of Backfill (5 tests)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 170

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-170

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Supervision/Quality Control	0.00	USER PROVIDED ITEM	5.00	1	\$140.45	\$702.25

Job Hours: 0.00

Total Cost: \$702.25

SITE MAINTENANCE

Task description: Nuclear Density Testing of Backfill

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 171

State: Colorado

Abbreviation: None

Date: 11/23/2021

County: Delta

Filename: C083-171

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Testing of Backfill	0.00	USER PROVIDED ITEM	1,760.00	EA	\$76.08	\$133,900.80

Job Hours: 0.00

Total Cost: \$133,900.80

MISCELLANEOUS TRUCK WORK

Task description: Water Truck for Moisture Augmentation of Backfill Material

Site: Bowie No. 2 Mine Permit Action: RN5 Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 172 State: Colorado Abbreviation: None
Date: 11/22/2021 County: Delta Filename: C083-172
User: RDZ

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Make and Model: Water Tanker, 5,000 Gal. Horsepower: 175
Attachment 1: _____ Shift Basis: 1 per day
Attachment 2: _____ Weight: 15.00
Labor Unit 1: Tanker Driver - 1 rear axle (US Tons)
Labor Unit 2: _____

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$33.45</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$41.96</u>	<u>100</u>
Operator Cost/Hour:	<u>\$21.12</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$96.53</u>	
Total Fleet Cost/Hour:	<u>\$96.53</u>	

JOB TIME AND COST

Fleet size: 1 Truck(s) Total job time: 1,437.02 Hours
Unit cost: \$96.53 /Hour Total job cost: \$138,716

SITE MAINTENANCE

Task description: Site Maintenance - Ten Years

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 173

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-173

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Dozer for Rills and Gullies	24.00	Cat D3K LGP - 3P	240.00	EA	\$108.10	\$25,944.00
Grader for Roads and Ditches	4.00	CAT 12M	40.00	EA	\$113.24	\$4,529.60
Pond Dredging	12.00	USER PROVIDED ITEM	12.00	EA	\$18,727.00	\$224,724.00

Job Hours: 292.00

Total Cost: \$255,197.60

SITE MAINTENANCE

Task description: **Support Equipment for Scraper Hauling**

Site: **Bowie No. 2 Mine**

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 174

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-174

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Water Truck	458.57	Water Tanker, 5,000 Gal.	458.57	EA	\$96.53	\$44,265.76
Grader	458.57	CAT 14M	458.57	EA	\$174.76	\$80,139.69

Job Hours: **449.16**

Total Cost: **\$124,405.45**

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for First Construction Season**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: **180** State: **Colorado** Abbreviation: **None**
 Date: **11/22/2021** County: **Delta** Filename: **C083-180**
 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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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 D10T - 10SU	84.53	\$169.60	\$147.95	4	\$1,270.20	\$591.80	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$173.79	\$147.95	2	\$643.48	\$295.90	\$500.00
CAT 815F	22.88	\$91.25	\$68.37	1	\$159.62	\$68.37	\$250.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
CAT 988H	54.46	\$105.34	\$147.95	1	\$253.29	\$147.95	\$250.00
Cat 773F	49.74	\$122.05	\$132.49	3	\$763.62	\$397.47	\$750.00
Cat 627G w/push-pull	43.48	\$188.81	\$132.49	4	\$1,285.20	\$529.96	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$33.45	\$68.37	1	\$101.82	\$68.37	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	1.25	\$109.75	\$68.37	1	\$178.12	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Fuel Tanker, 6x4, 210 HP	6.00	\$17.15	\$68.37	1	\$85.52	\$68.37	\$250.00

Subtotals: **\$4,971.39** **\$2,373.30** **\$5,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$67.47	1	\$67.47	\$67.47
Lube Truck, 6x4, 250 HP	\$67.47	1	\$67.47	\$67.47
Flatbed Truck, 6x4, 45K GVW	\$77.44	1	\$77.44	\$77.44
Light Duty Pickup, 4x4, 1 T. Crew	\$48.19	1	\$48.19	\$48.19

Subtotals:	\$260.57	\$260.57
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EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>100.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$56,666.23</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$1,302.85</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.50</u>	<u>2.50</u>
Return Time (Hours):	<u>2.50</u>	<u>2.50</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>6.00</u>	<u>5.00</u>

JOB TIME AND COST

Total job time:	<u>12.00</u>	Hours
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Total job cost:	<u>\$57,969</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Second Construction Season**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: 181 State: Colorado Abbreviation: None
 Date: 11/22/2021 County: Delta Filename: C083-181
 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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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 D10T - 10SU	84.53	\$169.60	\$147.95	4	\$1,270.20	\$591.80	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$173.79	\$147.95	2	\$643.48	\$295.90	\$500.00
CAT 815F	22.88	\$91.25	\$68.37	1	\$159.62	\$68.37	\$250.00
CAT 14M	23.57	\$85.80	\$68.37	1	\$154.17	\$68.37	\$250.00
CAT 988H	54.46	\$105.34	\$147.95	1	\$253.29	\$147.95	\$250.00
Cat 773F	49.74	\$122.05	\$132.49	3	\$763.62	\$397.47	\$750.00
Cat 627G w/push-pull	43.48	\$188.81	\$132.49	4	\$1,285.20	\$529.96	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$33.45	\$68.37	1	\$101.82	\$68.37	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	1.25	\$109.75	\$68.37	1	\$178.12	\$68.37	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00
Fuel Tanker, 6x4, 210 HP	6.00	\$17.15	\$68.37	1	\$85.52	\$68.37	\$250.00

Subtotals: **\$4,971.39** **\$2,373.30** **\$5,000.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Fuel Tanker, 6x4, 210 HP	\$67.47	1	\$67.47	\$67.47
Lube Truck, 6x4, 250 HP	\$67.47	1	\$67.47	\$67.47
Flatbed Truck, 6x4, 45K GVW	\$77.44	1	\$77.44	\$77.44
Light Duty Pickup, 4x4, 1 T. Crew	\$48.19	1	\$48.19	\$48.19

Subtotals: **\$260.57** **\$260.57**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>GRAND JUNCTION</u>	
Total one-way travel distance:	<u>100.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$56,666.23</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$1,302.85</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>2.50</u>	<u>2.50</u>
Return Time (Hours):	<u>2.50</u>	<u>2.50</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>6.00</u>	<u>5.00</u>

JOB TIME AND COST

Total job time:	<u>12.00</u>	Hours
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Total job cost:	<u>\$57,969</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demoblize Equipment for Pond Removal**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **182**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-182**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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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	\$126.01	\$147.95	1	\$273.96	\$147.95	\$250.00
Cat 627G w/push-pull	43.48	\$188.81	\$132.49	1	\$321.30	\$132.49	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$7.98	\$68.37	1	\$76.35	\$68.37	\$250.00

Subtotals: **\$671.61** **\$348.81** **\$750.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Flatbed Truck, 6x4, 45K GVW	\$76.83	1	\$76.83	\$76.83

Subtotals: **\$76.83** **\$76.83**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>DELTA</u>	
Total one-way travel distance:	<u>45.00</u>	miles
Average Travel Speed:	<u>40.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$5,139.17</u>
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 ** two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$172.87</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.13</u>	<u>1.13</u>
Return Time (Hours):	<u>1.13</u>	<u>1.13</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>3.25</u>	<u>2.25</u>

JOB TIME AND COST

Total job time:	<u>6.50</u>	Hours
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Total job cost:	<u>\$5,312</u>
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EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for Yearly Site Maintenance**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **183**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-183**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:	\$21.28	\$37.94	\$47.67
Operating Cost/Hour:	\$26.55	\$50.48	\$56.21
Operator Cost/Hour:	\$20.54	\$20.54	\$20.54
Helper Cost/Hour:	\$0.00	\$23.53	\$23.53
Total Unit Cost/Hour:	\$68.37	\$132.49	\$147.95

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 D3K LGP - 3P	9.20	\$30.26	\$68.37	10	\$986.30	\$683.70	\$2,500.00
CAT 14M	23.57	\$85.80	\$68.37	5	\$770.85	\$341.85	\$1,250.00
Subtotals:					\$1,757.15	\$1,025.55	\$3,750.00

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: DELTA
 Total one-way travel distance: 45.00 miles
 Average Travel Speed: 45.00 mph

Total Non-Roadable Mob/Demob Cost * \$30,636.90
 ** two round trips with haul rig:
 Total Roadable Mob/Demob Cost ** \$0.00
 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.00	1.00
Return Time (Hours):	1.00	1.00
Loading Time (Hours):	2.50	NA
Unloading Time (Hours):	2.50	NA
Subtotals:	7.00	2.00

JOB TIME AND COST

Total job time: 14.00 Hours

Total job cost: \$30,637

BULLDOZER WORKTask description: Regrade Terror Creek Light-Use RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 241State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-241User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$308.72Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: 9,800Swell factor: 1.125Loose volume: **11,025 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 125 feetUnadjusted hourly production: 1,055.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,800 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3513

Adjusted unit production: 370.83 LCY/hr

Adjusted fleet production: **370.83** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.833/LCY

Total job time: **29.73** Hours

Total job cost: **\$9,178**

BULLDOZER WORKTask description: Replace Topsoil from Stockpile to Terror Creek Lt-Use RoadSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 242State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-242User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$308.72Total Fleet Cost/Hour: \$308.72**MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.125Loose volume: 8,325 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 125 feetUnadjusted hourly production: 1,055.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,800 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3513

Adjusted unit production: 370.83 LCY/hr

Adjusted fleet production: **370.83** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.833/LCY

Total job time: **22.45** Hours

Total job cost: **\$6,931**

SAFEGUARDING UNDERGROUND OPENINGS

Task description: Concrete Plug and Backfill Terror Creek Vent Shaft

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 261

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-261

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Concrete Cap	269.00 cf	Shaft closure - concrete cap, poured-in-place (per Cubic Feet)	269.00	CF	\$13.89	\$3,736.41
Backfill Shaft	6900 cy	Shaft closure - backfilling, by hand	6,900.00	CY	\$25.00	\$172,500.00
- Equipment to Backfill	1717 hr/cy	Cat D7R DS XR Series II	4.00	EA	\$201.65	\$806.60

Job Hours: 40.00

Total Cost: \$177,043.01

REVEGETATION WORKTask description: **Reseed Add'l Disturbance from Utility Boreholes at Fan Bench**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 301State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-301User: RDZAgency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost / Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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:	0.39	Cost / Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost / Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$560.31		
Reseeding Job Cost:	\$125.74		
Total Job Cost:	\$686		
Job Hours:	1.00		

BULLDOZER WORKTask description: **Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.**Site: **Bowie No. 2 Mine**Permit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 302State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-302User: RDZAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: \$308.72Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: 782Swell factor: 1.165Loose volume: **911 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 700.0 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 7,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3209

Adjusted unit production: 224.63 LCY/hr

Adjusted fleet production: **224.63** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.374/LCY

Total job time: **4.06** Hours

Total job cost: **\$1,252**

BULLDOZER WORKTask description: **Re-topsoil Pitkin Mesa Pipeline corridor**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **352**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-352**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$308.72**Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: **3,227**Swell factor: **1.000**Loose volume: **3,227 LCY**Source of estimated volume: **BRL - 2 acres @ 12"**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2448

Adjusted unit production: 304.34 LCY/hr

Adjusted fleet production: **304.34** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.014/LCY

Total job time: **10.60** Hours

Total job cost: **\$3,273**

REVEGETATION WORKTask description: Reseed Pitkin Mesa Pipeline CorridorSite: Bowie No. 2 MinePermit Action: RN5Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 353State: ColoradoAbbreviation: NoneDate: 11/22/2021County: DeltaFilename: C083-353User: RDZAgency 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
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

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	Cost /Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$2,873.40		
Reseeding Job Cost:	\$644.80		
Total Job Cost:	\$3,518		
Job Hours:	2.00		

BOREHOLE SEALING WORK

Task description: Seal Well DH-67blw

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 369

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-369

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Cement seal	Portland cement grout (Bag, material cost only...94 lb. bag)	8.75	360	127.40	bag	\$19.95	\$2,541.63
Casing removal	Exposed casing removal - Calculate Circumference in Linear Feet	8.75	3	2.00	LF	\$3.26	\$6.52
Hole marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$282.25	\$3,387.00
Water Truck Time	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$6,782.00

BOREHOLE SEALING WORK

Task description: Seal CWI-DH-58A

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 374

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-374

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal hole	Portland cement grout (Bag, material cost only...94 lb. bag)	8.75	550	194.37	bag	\$19.95	\$3,877.68
Remove casing	Exposed casing removal - Calculate Circumference in Linear Feet	8.75	3	2.00	LF	\$3.26	\$6.52
Hole marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$37.50	\$37.50
Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$268.10	\$3,217.20
Water Truck Time	Water Tanker, 3,500 Gal.	NA	NA	12.00	EA	\$67.47	\$809.64

Job Hours: 12.00

Total Cost: \$7,949.00

BULLDOZER WORKTask description: **Regrade Section 5 Road**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **379**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-379**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$308.72**Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: **2,957**Swell factor: **1.165**Loose volume: **3,445 LCY**Source of estimated volume: **DRMS - assume 1.5' material over 1.22 ac**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2152

Adjusted unit production: 267.54 LCY/hr

Adjusted fleet production: **267.54** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.154/LCY

Total job time: **12.88** Hours

Total job cost: **\$3,975**

BULLDOZER WORKTask description: **Re-topsoil Section 5 Road**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **380**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-380**User: **RDZ**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D9T - 9SU**Horsepower: **405**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$126.01	NA
Operating Cost/Hour:	\$141.41	100
Ripper own. Cost/Hour:	\$0.00	NA
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$41.30	NA

Total unit Cost/Hour: **\$308.72**Total Fleet Cost/Hour: **\$308.72****MATERIAL QUANTITIES**Initial Volume: **1,478**Swell factor: **1.125**Loose volume: **1,663 LCY**Source of estimated volume: **DRMS - 0.75' over 1.22 acres**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **100 feet**Unadjusted hourly production: **1,243.2 LCY/hr**Materials consistency description: **Consolidated stockpile 1.0**Average push gradient: **20 %**Average site altitude: **7,725 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**

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

Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	0.545	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2448

Adjusted unit production: 304.34 LCY/hr

Adjusted fleet production: **304.34** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$1.014/LCY

Total job time: **5.46** Hours

Total job cost: **\$1,687**

REVEGETATION WORKTask description: **Reseed Section 5 road**Site: **Bowie No. 2 Mine**Permit Action: **RN5**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **381**State: **Colorado**Abbreviation: **None**Date: **11/22/2021**County: **Delta**Filename: **C083-381**User: **RDZ**Agency or organization name: **DRMS****FERTILIZING****Materials**

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

Application

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

TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Nespar	3.00	9.71	\$26.63
Bluebunch Wheatgrass - Secar	3.00	9.64	\$32.63
Mountain Brome - Bromar	3.00	4.82	\$11.40
Sandberg Bluegrass - VNS	3.00	63.71	\$25.20
Coreopsis, Lance Leafed	1.00	25.58	\$28.55
Western Wheatgrass - Arriba	4.00	10.10	\$26.00
Daisy, Englemann's	1.00	4.94	\$127.40
Prairie Junegrass	2.00	106.31	\$52.00
Golden Banner	1.00	2.00	\$83.00

Totals Seed Mix	21.00	236.80	\$412.80
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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	\$307.02	\$614.04
Total Mulch Materials Cost/Acre				\$614.04

Application

Description	Cost / Acre
Crimping, with tractor {DMG survey data}	\$71.57
Power mulcher (MEANS 32 91 13.16 0350)	\$106.29
Total Mulch Application Cost/Acre	\$177.86

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	1.22	Cost / Acre:	\$1,436.70
Estimated Failure Rate:	50%	Cost / Acre*:	\$644.80
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$1,752.77		
Reseeding Job Cost:	\$393.33		
Total Job Cost:	\$2,146		
Job Hours:	2.00		

DEMOLITION WORK

Task description: Remove Culvert C27 (from TR-119)

Site: Bowie No. 2 Mine

Permit Action: RN5

Permit/Job#: C1996083

PROJECT IDENTIFICATION

Task #: 390

State: Colorado

Abbreviation: None

Date: 11/22/2021

County: Delta

Filename: C083-390

User: RDZ

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 92.10 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Culvert C27	12"X80'	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	80.00	LF	\$4.10	\$327.76

Job Hours: 0.25

Subtotal
(unadjusted): \$327.76

Total Cost
(adjusted for location): \$301.87