

COST SUMMARY WORK

Task description: Cost Summary

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

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
 Date: 4/3/2013 County: Delta Filename: C083-000
2:32:25 PM
 User: SLB
 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	\$404,650.02
002	Regrade D-Portal Bench	DOZER	4	158.03	\$202,238.29
003	Pull up Material for Utility Corridor	EXCAVATE	2	24.96	\$12,597.00
004	Regrade Utility Corridor	DOZER	4	4.48	\$5,735.37
005	Rip and Regrade Material Storage Area at Gob Pile	DOZER	4	1.73	\$2,214.69
006	Pull Back Material @ Old Truck Loadout Material Storage Area	EXCAVATE	2	21.27	\$10,734.00
007	Regrade Old Truck Loadout Material Storage Area	DOZER	4	8.21	\$10,504.91
008	Pull Back Material at Truck Loadout/Coal Stockpile	EXCAVATE	2	147.57	\$74,466.00
009	Regrade New Truck Loadout and Coal Stockpile	DOZER	4	32.38	\$41,438.55
010	Pull Material Back onto Train L/O Facil. and Railbed Benches	EXCAVATE	2	431.74	\$217,860.00
011	Regrade Train Loadout Facilities and Railbed Benches	DOZER	4	171.56	\$219,545.68
012	Backfill and Regrade Train L/O Overland Conveyor Corridor	DOZER	4	5.62	\$7,185.63
013	Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench	SCRAPER1	1	82.40	\$45,884.70
014	Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal Bench	TRUCK1	1	89.33	\$57,762.63
015	Backfill and Regrade B-Seam Portal Bench	DOZER	4	38.70	\$52,870.21
016	Pull Material Back onto Freeman Gulch Vent Shaft Bench	EXCAVATE	2	2.31	\$1,169.00
017	Push mat'l from Freeman Gulch Vent Shaft back to Cut Slope	DOZER	4	0.48	\$610.45
018	Regrade Freeman Gulch Vent Shaft Pad	DOZER	4	8.63	\$11,049.96
019	Regrade Drill Pads from MRs and TRs	DOZER	4	87.79	\$112,348.35
020	Regrade Material Storage Area from TR-29	DOZER	4	0.48	\$613.89
021	Backfill and Regrade New Prep Plant Bench	DOZER	4	36.99	\$47,340.24
022	Replace Fill from Material Storage Area to Water Tank Bench	SCRAPER1	1	1.51	\$841.42
023	Regrade Borrow Area	DOZER	4	19.14	\$24,497.89
024	Regrade Hubbard Creek Vent Shaft Pad	DOZER	4	1.89	\$2,414.81
025	Regrade Upper Parking Lot Expansion Area	EXCAVATE	1	3.65	\$923.00
026	Haul Mat'l from Bowie No. 1 Stkpl to Hubbard Crk Vent Shaft	TRUCK1	1	26.68	\$25,480.98

027	Haul Rock to Vent Shafts for Disposal	TRUCK1	1	10.50	\$4,249.97
035	Spread Uncompacted Refuse on Gob Pile #2	DOZER	4	68.14	\$87,196.19
036	Spread Uncompacted Refuse on Gob Pile #2	DOZER	4	86.77	\$111,037.35
037	Spread Uncompacted Refuse at Gob Pile #3	DOZER	4	99.16	\$126,899.83
038	Compact Material Hauled to Gob Pile #1	COMPACT	1	13.38	\$1,877.00
039	Compact Refuse on Gob Pile #2	COMPACT	1	153.51	\$21,525.00
040	Compact Refuse on Gob Pile #3	COMPACT	1	134.32	\$18,834.00
041	Compact Refuse at Gob Pile #3	COMPACT	1	148.39	\$20,807.00
042	Haul Top 1' from Stockpile Area to Gob Pile #1	SCRAPER1	1	14.59	\$8,124.49
043	Place 4' of Cover on Gob Pile #1	SCRAPER1	1	86.77	\$48,317.67
044	Replace Subsoil from Stockpile to Gob Pile #2	SCRAPER1	1	102.82	\$57,257.50
045	Replace Subsoil from Stockpile to Gob Pile #2	SCRAPER1	1	429.02	\$238,906.47
046	Place 1.6' of Cover on Gob Pile #3	SCRAPER1	1	101.00	\$56,244.80
050	Compact Backfilled D-Portal Bench, Roads, & Utility Corridor	COMPACT	1	577.52	\$80,975.00
051	Compact Backfilled Material at Truck Loadout/Coal Stockpile	COMPACT	1	63.35	\$8,883.00
052	Compact Backfilled Train Loadout	COMPACT	1	215.94	\$30,278.00
053	Compact B-Seam Portal Bench	COMPACT	1	128.72	\$18,049.00
054	Compact Backfilled Freeman Gulch Vent Shaft Pad	COMPACT	1	1.83	\$257.00
060	Rip Utility Bench	RIPPER	4	0.30	\$423.00
061	Rip D-Portal Bench	RIPPER	4	3.71	\$5,074.00
062	Rip Truck Loadout/Coal Stockpile Area	RIPPER	4	2.06	\$2,819.00
063	Rip Regraded Mine Area Prior to Topsoil Replacement	RIPPER	4	59.09	\$80,726.00
064	Rip Train Loadout Facilities and Railbed Benches	RIPPER	4	7.69	\$10,509.00
065	Rip B-Seam Portal Bench	RIPPER	4	3.71	\$5,074.00
066	Rip Rock Laydown Pad Topsoil	RIPPER	1	0.43	\$147.00
070	Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout	RIPPER	4	116.47	\$159,846.00
071	Remove Haul Road Subbase and Place on Gob Pile #1	SCRAPER1	1	30.54	\$17,006.95
072	Rip Truck Loadout Road	RIPPER	4	2.14	\$2,946.00
073	Haul Truck Loadout Subbase to Gob Pile #1	SCRAPER1	1	12.75	\$7,097.98
074	Rip Upper Haul Road Asphalt Prior to Road Narrowing	RIPPER	4	2.95	\$4,050.00
075	Pull Back/Haul Fill Mat'l from Upper Haul Rd Narrowing	TRUCK1	1	141.47	\$93,914.32
076	Regrade Narrowed Section of Haul Road	DOZER	4	26.11	\$33,412.46
077	Rip Gob Pile #1 Road	RIPPER	4	2.35	\$3,238.00
078	Regrade Gob Pile #1 Road	DOZER	4	5.17	\$7,056.51
079	Rip Access Road	RIPPER	4	0.73	\$1,011.00
080	Haul Access Road Surface to Gob Pile #1	SCRAPER1	1	4.86	\$2,705.66
081	Regrade Access Road	DOZER	4	1.79	\$2,295.72
082	Rip Freeman Gulch Vent Shaft Light-Use Road	RIPPER	4	0.20	\$287.00
083	Backfill and Regrade Haul Road to Gob Pile #2	DOZER	4	0.44	\$598.38
084	Rip Lower Haul Road	RIPPER	4	0.95	\$1,304.00
085	Regrade Lower Haul Road	DOZER	4	36.46	\$49,800.93
086	Regrade Light Use Roads from MRs and TRs	DOZER	4	83.60	\$114,197.16
090	Finish Grade Disturbed Mine Area	GRADER	1	129.92	\$17,754.00
091	Finish Grade Train Loadout	GRADER	1	16.91	\$2,311.00
092	Finish Grade B-Seam Portal Bench	GRADER	1	6.91	\$945.00
093	Finish Grade Gob Pile #2	GRADER	1	16.37	\$2,238.00
095	Backfill and Regrade Pond B	DOZER	1	7.63	\$2,604.29

096	Backfill and Regrade Pond C	DOZER	1	11.61	\$3,849.63
097	Backfill and Regrade Gob Pile Pond D	DOZER	1	8.18	\$2,712.93
098	Backfill and Regrade Pond F	DOZER	1	10.87	\$3,603.42
099	Backfill and Regrade Pond J	DOZER	1	20.29	\$6,726.38
100	Backfill and Regrade Pond K	DOZER	1	1.52	\$505.20
101	Excavate for Post-mining Channel at B-Seam Portals	EXCAVATE	2	0.63	\$318.00
102	Install Riprap, Gavel, and geotextile in BSeam Channel	NA	1	72.59	\$35,040.73
110	Replace Topsoil from Stockpile A to Portal/Utility Bench	SCRAPER1	1	652.39	\$363,291.49
111	Replace Topsoil from Stockpile A to Truck Loadout/Coal Stkpl	SCRAPER1	1	42.52	\$23,675.47
112	Replace Topsoil from Stockpile F to Train Loadout	SCRAPER1	1	39.98	\$22,263.01
113	Replace Topsoil from Stockpile A to B-Seam Portal Bench	SCRAPER1	1	87.66	\$48,814.27
114	Replace Topsoil fm Stockpile to Freeman Gulch Vent Shaft Pad	DOZER	4	0.93	\$1,273.32
115	Replace Topsoil fm Stockpiles C/D to Pond C and Gob Pond D	SCRAPER1	1	13.12	\$7,303.88
116	Replace topsoil from Stockpile to Pond F	DOZER	1	3.95	\$1,350.55
117	Replace topsoil from Stockpile F to Pond J	SCRAPER1	1	2.85	\$1,588.31
118	Replace topsoil from Stockpile F to Pond K	SCRAPER1	1	1.92	\$1,067.77
119	Replace topsoil fm stockpile to MR/TR Light-Use Roads	DOZER	4	27.35	\$37,359.60
120	Replace topsoil from stockpiles to MR/TR drill pads	DOZER	4	36.23	\$48,046.47
121	Replace topsoil from Stockpile A to Prep Plant Bench	SCRAPER1	1	22.41	\$12,479.57
122	Replace topsoil from stockpile to Material Storage Area	DOZER	4	0.18	\$250.33
123	Replace topsoil from Stockpile E to Gob Pile #2	SCRAPER1	1	28.82	\$16,047.92
124	Replace Topsoil from Stockpile to Gob Pile #2	SCRAPER1	1	69.19	\$38,528.45
125	Replace topsoil from stockpile to Gob Pile #3	SCRAPER1	1	132.68	\$73,884.88
126	Replace topsoil from stockpile to Haul Road	DOZER	4	0.17	\$228.58
127	Replace topsoil from stockpile to Water Tank Bench	SCRAPER1	1	1.71	\$952.98
128	Replace topsoil from Stockpile G to TR35 road/pad	SCRAPER1	1	5.01	\$2,791.77
129	Replace topsoil from stockpile to Borrow Area	DOZER	4	5.44	\$7,434.02
130	Replace topsoil fm stockpile to Upper Parking Lot Expansion	DOZER	1	0.46	\$148.25
131	Replace topsoil fm stockpile to Hubbard Ck Vent Shaft Pad	DOZER	4	0.74	\$1,009.85
140	Seal Portals and Shafts	MINESEAL	1	40.00	\$181,171.28
141	Concrete Plug and Backfill Vent Shaft	NA	1	40.00	\$98,746.83
142	Plug/Seal Boreholes	BOREHOLE	1	1,502.00	\$766,245.38
150	Drill Seed Mix 3 on Disturbed Area	REVEGE	1	40.00	\$591,236.10
151	Drill Seed Drill Pads	REVEGE	1	60.00	\$52,274.71
152	Drill Seed Lt-Use Roads to Drill Pads and Terror Creek	REVEGE	1	65.00	\$60,052.61
154	Broadcast Seed Mix 3 on Gob Pile #3	REVEGE	1	0.00	\$131,843.93
155	Drill seed Hubbard Creek Vent Shaft Pad	REVEGE	1	0.00	\$1,669.67
156	Drill Seed Rock Laydown Area	REVEGE	1	0.00	\$278.28
157	Weed Control Over 10-Year Liability Period	REVEGE	1	0.00	\$51,528.62
165	Demolish and Remove all Structures	DEMOLISH	1	80.00	\$1,725,362.77

170	Proctor Testing of Backfill	NA	1	10.00	\$689.85
171	Nuclear Density Testing of Backfill	NA	1	1,760.00	\$125,910.40
172	Water Truck for Moisture Augmentation of Backfill Material	MISCTRUK	1	1,437.02	\$127,191.00
173	Site Maintenance - Ten Years	SITEMAINT ENANCE	1	292.00	\$238,012.40
174	Support Equipment for Scraper Hauling	SITEMAINT ENANCE	1	449.16	\$103,205.76
180	Mobilize/Demobilize Equipment for First Construction Season	MOBILIZE	1	12.00	\$46,787.39
181	Mobilize/Demobilize Equipment for Second Construction Season	MOBILIZE	1	12.00	\$46,787.39
182	Mobilize/Demobilize Equipment for Pond Removal	MOBILIZE	1	6.50	\$4,574.19
183	Mobilize/Demobilize Equipment for Yearly Site Maintenance	MOBILIZE	1	14.00	\$29,916.42
241	Regrade Terror Creek Light-Use Road	DOZER	1	29.73	\$7,415.42
242	Replace Topsoil from Stockpile to Terror Creek Lt-Use Road	DOZER	1	22.45	\$5,599.40
252	Regrade BRL-1-03-01, 1-08-01, and 1-08-04 pads	DOZER	1	5.51	\$1,374.20
253	Regrade Light-Use Roads BRL-1-03-01, -08-01, and -08-04	DOZER	1	23.45	\$5,848.35
254	Replace topsoil on BRL-1-03-01, -08-01, and -08-04 pads	DOZER	1	1.61	\$401.90
255	Replace topsoil on LU Roads to BRL-1-03-01, -08-01, & -08-04	DOZER	1	10.63	\$2,650.90
256	Reseed BRL-1-03-01, -08-01, and -08-04 pads	REVEGE	1	4.00	\$1,285.74
257	Reseed BRL-1-03-01, -08-01, and -08-04 LU roads	REVEGE	1	16.00	\$4,838.09
261	Concrete plug and backfill Terror Creek vent shaft	NA	1	40.00	\$151,385.41
278	Access Road Topsoil (9.08 acres - TR73)	DOZER	1	43.32	\$8,583.58
279	Plug and seal 13 boreholes TR-73	BOREHOLE	1	156.00	\$86,308.99
280	Reseed Drill Pads (13 pads - TR-73)	REVEGE	1	23.92	\$32,425.71
281	Reseed Access Roads - TR-73	REVEGE	1	18.16	\$24,617.51
282	Drill Pad backfill (13 pads TR-73)	DOZER	1	123.24	\$24,418.65
283	Access Road Regrading (9.08 acres - TR73)	DOZER	1	93.57	\$18,538.40
284	Drill Pad Topsoil (13 pads - TR73)	DOZER	1	57.06	\$11,305.14
285	Regrade GVB-B13F Drill Pad	DOZER	1	6.50	\$1,621.35
286	Regrade Light-Use Road to GVB-B13F	DOZER	1	3.64	\$908.09
287	Replace Topsoil from Stockpile to GVB-B13F pad	DOZER	1	2.60	\$648.50
288	Replace Topsoil from Stockpile to GVB-B13F Light-Use Road	DOZER	1	1.07	\$265.93
289	Reseed GVB-B13F Drill Pad	REVEGE	1	2.00	\$1,280.08
290	Reseed Light-Use Road to GVB-B13F	REVEGE	1	2.00	\$403.50
299	Plug and Seal GVB-B13F	BOREHOLE	1	48.00	\$6,849.62
300	Plug and Seal 4 Utility Holes at Fan Bench	BOREHOLE	1	48.00	\$14,649.86
301	Reseed Add'l Disturbance from Utility Boreholes at Fan Bench	REVEGE	1	1.00	\$542.64
302	Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.	DOZER	1	4.06	\$1,011.57
331	Regrade Vent Hole B13 Drill Pad	DOZER	1	10.54	\$2,628.36
335	Re-topsoil Vent Hole B13 Drill Pad	DOZER	1	5.96	\$1,487.17
337	Reseed Bleeder Vent Boreholes B13	REVEGE	1	0.20	\$1,391.40
338	Plug and Seal GVB B13C-1	BOREHOLE	1	48.00	\$5,544.98
339	Reseed road and pad for GVB B13C-1	REVEGE	1	2.00	\$1,767.07
340	Regrade GVB B13C-1 pad and road	DOZER	1	13.39	\$3,338.67
341	Re-topsoil GVB B13C-1	DOZER	1	5.68	\$1,417.10

<u>SUBTOTALS:</u>	13170.9	\$8,742,874.59
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INDIRECT COSTS**OVERHEAD AND PROFIT:**

Liability insurance:	2.02%	Total =	\$176,606.07
Performance bond:	1.05%	Total =	\$91,800.18
Job superintendent:	2,100.00 hrs	Total =	\$137,361.00
Profit:	10.00%	Total =	\$874,287.46
		TOTAL O & P =	\$1,280,054.71
		CONTRACT AMOUNT (direct + O & P) =	\$10,022,929.30

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	4.00%	Total =	\$400,917.17
Reclamation management and/or administration:	3.13%		\$313,717.69

CONTINGENCY:	0.00	Total =	\$0.00
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TOTAL INDIRECT COST =	\$1,994,689.57
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TOTAL BOND AMOUNT (direct + indirect) =	\$10,737,564.16
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TRUCK/LOADER TEAM WORKTask description: Pull back and Haul Portal Bench Fill Material to Cut SlopeSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 001State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-001User: SLBAgency 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

<u>Cost Breakdown:</u>	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:	\$60.64	\$78.81	NA	NA	NA	NA
Operating cost/hour:	\$119.47	\$139.55	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.66	\$33.94	NA	NA	NA	NA
Unit Subtotals:	\$205.77	\$252.30	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$663.84		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$663.84MATERIAL 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 7 passes
Truck:

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 600.89 LCY/Hour Adjusted for job efficiency: 498.74 LCY/Hour

Truck Unit Production 339.28 LCY/Hour Adjusted for job efficiency: 281.60 LCY/Hour

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

Adjusted hourly truck team production: 563.20 LCY/Hour

Adjusted single truck/loader team production: 498.74 LCY/Hour

Adjusted multiple truck/loader team production: **498.74** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **609.56** HoursUnit cost: \$1.331 /LCY Total job cost: **\$404,650.02**

BULLDOZER WORKTask description: **Regrade D-Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 002State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-002User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 260,593Swell factor: 1.165Loose volume: **303,591 LCY**Source of estimated volume: Operator Estimate

Source 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: 10 %Average site altitude: 6,900 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorOperator Skill: 0.750Source(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: \$0.666/LCY

Total job time: **158.03 Hours**

Total job cost: **\$202,238.29**

HYDRAULIC EXCAVATOR WORKTask description: **Pull up Material for Utility Corridor**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **003**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-003**User: **SLB**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:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

MATERIAL QUANTITIESInitial volume: **11,490**

CCY

Swell factor: **1.165**Loose volume: **13,386**

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**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 FactorsSite Altitude: **6900** 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:	<u>2</u>	Excavator	Total job time:	<u>24.97</u>	Hours
Unit cost:	<u>\$0.941</u>	/LCY	Total job cost:	<u>\$12,597.00</u>	

BULLDOZER WORKTask description: **Regrade Utility Corridor**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **004**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-004**User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: **13,386**Swell factor: **1.000**Loose volume: **13,386 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

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: **Partly consolidated stockpile 1.1**Average push gradient: **0 %**Average site altitude: **6,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**Operator Skill: **0.750****Source****(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:	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: 0.4344

Adjusted unit production: 746.69 LCY/hr

Adjusted fleet production: **2986.76 LCY/hr**

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.428/LCY

Total job time: **4.48 Hours**

Total job cost: **\$5,735.37**

BULLDOZER WORKTask description: **Rip and Regrade Material Storage Area at Gob Pile**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 005State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-005User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****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% EarthJob Condition Correction FactorOperator Skill: 0.750Source(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: \$0.524/LCY

Total job time: **1.73 Hours**

Total job cost: **\$2,214.69**

HYDRAULIC EXCAVATOR WORKTask description: **Pull Back Material @ Old Truck Loadout Material Storage Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 006State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-006User: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat 365C L 13'-7" StickAttachment 1: ROPS CabHorsepower: 404Weight (MT): 70.51Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

MATERIAL QUANTITIESInitial volume: 9,790

CCY

Swell factor: 1.165Loose volume: **11,405**

LCY

Source of estimated volume: Page 3.02-2Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):Basic Job Condition Description: SEVERESecondary Job Condition within Basic Description: SEVERECycle 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 FactorsSite Altitude: 6500 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: 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:	<u>2</u>	Excavator	Total job time:	<u>21.27</u>	Hours
Unit cost:	<u>\$0.941</u>	/LCY	Total job cost:	<u>\$10,734.00</u>	

BULLDOZER WORKTask description: **Regrade Old Truck Loadout Material Storage Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-007User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 9,790Swell factor: 1.165Loose volume: **11,405 LCY**Source 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**Operator Skill: 0.750**Source**(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: \$0.921/LCY

Total job time: **8.21 Hours**

Total job cost: **\$10,504.91**

HYDRAULIC EXCAVATOR WORKTask description: **Pull Back Material at Truck Loadout/Coal Stockpile**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 008State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-008User: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat 365C L 13'-7" StickAttachment 1: ROPS CabHorsepower: 404Weight (MT): 70.51Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

MATERIAL QUANTITIESInitial volume: 67,920

CCY

Swell factor: 1.165Loose volume: 79,127

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):Basic Job Condition Description: SEVERESecondary Job Condition within Basic Description: SEVERECycle Time Value: 0.570 minutes**Load Bucket Capacity**Bucket Size Class: Small

Rated Capacity:	<u>3.61</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.850</u>	Hard, tough clay (80% - 90%) <u>0.850</u>
Adjusted Capacity:	<u>3.07</u>	LCY

Job Condition Correction FactorsSite Altitude: 6000 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>323.00</u>	LCY/Hour
Adjusted Hourly Unit Production:	<u>268.09</u>	LCY/Hour
Adjusted Hourly Fleet Production:	<u>536.18</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>2</u>	Excavator	Total job time:	<u>147.58</u>	Hours
Unit cost:	<u>\$0.941</u>	/LCY	Total job cost:	<u>\$74,466.00</u>	

BULLDOZER WORKTask description: **Regrade New Truck Loadout and Coal Stockpile**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 009State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-009User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 67,920Swell factor: 1.165Loose volume: **79,127 LCY**Source of estimated volume: Operator Estimate

Source 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**Operator Skill: 0.750**Source**(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: \$0.524/LCY

Total job time: **32.38 Hours**

Total job cost: **\$41,438.55**

HYDRAULIC EXCAVATOR WORKTask description: **Pull Material Back onto Train L/O Facil. and Railbed Benches**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 010State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-010User: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat 365C L 13'-7" StickAttachment 1: ROPS CabHorsepower: 404Weight (MT): 70.51Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

MATERIAL QUANTITIESInitial volume: 231,495

CCY

Swell factor: 1.000Loose volume: **231,495**

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):Basic Job Condition Description: SEVERESecondary Job Condition within Basic Description: SEVERECycle 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 FactorsSite Altitude: 5900 feet

Altitude Adj:	<u>1.00</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.83</u>	(1 shift/day)
		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:	<u>2</u>	Excavator	Total job time:	<u>431.75</u>	Hours
Unit cost:	<u>\$0.941</u>	/LCY	Total job cost:	<u>\$217,860.00</u>	

BULLDOZER WORKTask description: **Regrade Train Loadout Facilities and Railbed Benches**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 011 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-011
 User: SLB

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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93
 Total Fleet Cost/Hour: **\$1,279.71**

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/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor Source
 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: \$0.948/LCY

Total job time: **171.56 Hours**

Total job cost: **\$219,545.68**

BULLDOZER WORKTask description: **Backfill and Regrade Train L/O Overland Conveyor Corridor**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 012State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-012User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 9,259Swell factor: 1.165Loose volume: **10,787 LCY**Source of estimated volume: Division Estimate

Source 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: 10 %Average site altitude: 5,900 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorOperator Skill: 0.750Source(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: \$0.666/LCY

Total job time: **5.62** Hours
Total job cost: **\$7,185.63**

SCRAPER TEAM WORKTask description: **Haul Fill from Upper Mat'l Strge Area to B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 013State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-013User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: 53,000

CCY

Swell factor: 1.165Loose volume: **61,745**

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: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	800.00	0.00	3.00	3.00	2824	0.52

Haul Time: 0.52 minutes

Return 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: 82.40 HoursUnit cost: \$0.743 /LCY Total job cost: \$45,884.70

TRUCK/LOADER TEAM WORKTask description: Haul Fill fr Adj. Mat'l Storage Area to B-Seam Portal BenchSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 014State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-014User: SLBAgency 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

<u>Cost Breakdown:</u>	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:	\$60.64	\$82.23	NA	NA	NA	NA
Operating cost/hour:	\$119.47	\$117.03	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.66	\$35.82	NA	NA	NA	NA
Unit Subtotals:	\$205.77	\$235.07	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$646.61		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$646.61MATERIAL 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/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520 PoundsPayload 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/Hour

Truck Unit Production 469.39 LCY/Hour Adjusted for job efficiency: 389.59 LCY/Hour

Optimal 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: \$0.936 /LCY Total job cost: **\$57,762.63**

BULLDOZER WORKTask description: **Backfill and Regrade B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **015**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-015**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$10.01	100
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$341.51**Total Fleet Cost/Hour: **\$1,366.06****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**Operator Skill: **0.750****Source****(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: \$1.418/LCY

Total job time: **38.70 Hours**

Total job cost: **\$52,870.21**

HYDRAULIC EXCAVATOR WORKTask description: **Pull Material Back onto Freeman Gulch Vent Shaft Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 016State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-016User: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat 365C L 13'-7" StickAttachment 1: ROPS CabHorsepower: 404Weight (MT): 70.51Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

MATERIAL QUANTITIESInitial volume: 1,600

CCY

Swell factor: 1.165Loose volume: 1,864

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):Basic Job Condition Description: AVERAGESecondary Job Condition within Basic Description: AVERAGECycle Time Value: 0.380 minutes**Load Bucket Capacity**Bucket Size Class: Small

Rated Capacity:	<u>3.61</u>	LCY (heaped)
Bucket Fill Factor:	<u>0.850</u>	Hard, tough clay (80% - 90%) 0.850
Adjusted Capacity:	<u>3.07</u>	LCY

Job Condition Correction FactorsSite 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>484.50</u>	LCY/Hour
Adjusted Hourly Unit Production:	<u>402.14</u>	LCY/Hour
Adjusted Hourly Fleet Production:	<u>804.27</u>	LCY/Hour

JOB TIME AND COST

Fleet size:	<u>2</u>	Excavator	Total job time:	<u>2.32</u>	Hours
Unit cost:	<u>\$0.627</u>	/LCY	Total job cost:	<u>\$1,169.00</u>	

BULLDOZER WORKTask description: **Push mat'l from Freeman Gulch Vent Shaft back to Cut Slope**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 017State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-017User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 1,600Swell factor: 1.165Loose volume: **1,864 LCY**Source of estimated volume: Operator Estimate

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly
production: 2,748.7 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 7,000 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**Operator Skill: 0.750**Source**(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: 976.89 LCY/hr

Adjusted fleet production: **3907.56 LCY/hr**

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.327/LCY

Total job time: **0.48 Hours**

Total job cost: **\$610.45**

BULLDOZER WORKTask description: **Regrade Freeman Gulch Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **018**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-018**User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: **9,000**Swell factor: **1.165**Loose volume: **10,485 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly
production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **7,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor**Operator Skill: **0.750****Source****(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: \$1.054/LCY

Total job time: **8.63** Hours

Total job cost: **\$11,049.96**

BULLDOZER WORKTask description: **Regrade Drill Pads from MRs and TRs**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **019**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-019**User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: **166,270**Swell factor: **1.165**Loose volume: **193,705 LCY**Source of estimated volume: **DRMS**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**Operator Skill: **0.750****Source****(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: \$0.580/LCY

Total job time: **87.79 Hours**

Total job cost: **\$112,348.35**

BULLDOZER WORKTask description: **Regrade Material Storage Area from TR-29**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 020State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-020User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 500Swell factor: 1.165Loose volume: **583 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source 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**Operator Skill: 0.750**Source**(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: \$1.054/LCY

Total job time: **0.48** Hours

Total job cost: **\$613.89**

BULLDOZER WORKTask description: **Backfill and Regrade New Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **021**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-021**User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****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**Operator Skill: **0.750****Source****(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: \$0.666/LCY

Total job time: **36.99 Hours**
Total job cost: **\$47,340.24**

SCRAPER TEAM WORKTask description: **Replace Fill from Material Storage Area to Water Tank Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 022State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-022User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****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 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job 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: \$1.032 /LCY Total job cost: \$841.42

BULLDOZER WORKTask description: **Regrade Borrow Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 023State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-023User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 25,600Swell factor: 1.250Loose volume: **32,000 LCY**Source of estimated volume: Operator Estimate

Source 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% EarthJob Condition Correction FactorOperator Skill: 0.750Source(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: \$0.766/LCY

Total job time: **19.14 Hours**

Total job cost: **\$24,497.89**

BULLDOZER WORKTask description: **Regrade Hubbard Creek Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **024**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-024**User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: **2,900**Swell factor: **1.250**Loose volume: **3,625 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: **User Provided****Job Condition Correction Factor**Operator Skill: **0.750****Source****(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: \$0.666/LCY

Total job time: **1.89 Hours**
Total job cost: **\$2,414.81**

HYDRAULIC EXCAVATOR WORKTask description: Regrade Upper Parking Lot Expansion AreaSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 025State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-025User: SLBAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat 365C L 13'-7" StickAttachment 1: ROPS CabHorsepower: 404Weight (MT): 70.51Shift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$252.30	

MATERIAL QUANTITIESInitial volume: 1,500

CCY

Swell factor: 1.250Loose volume: 1,875

LCY

Source of estimated volume: Opeator EstimateSource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONExcavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):Basic Job Condition Description: SEVERESecondary Job Condition within Basic Description: SEVERECycle Time Value: 0.570 minutesLoad Bucket CapacityBucket Size Class: LargeRated Capacity: 6.90 LCY (heaped)Bucket Fill Factor: 0.850 Hard, tough clay (80% - 90%) 0.850Adjusted Capacity: 5.87 LCYJob Condition Correction FactorsSite Altitude: 6900 feet

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

Unadjusted Hourly Unit Production: 617.37 LCY/HourAdjusted Hourly Unit Production: 512.42 LCY/HourAdjusted Hourly Fleet Production: 512.42 LCY/HourJOB TIME AND COSTFleet size: 1

Excavator

Total job time: 3.66

Hours

<hr/>			<hr/>		
Unit cost:	\$0.492	/LCY	Total job cost:	\$923.00	

TRUCK/LOADER TEAM WORKTask description: Haul Mat'l from Bowie No. 1 Stkpl to Hubbard Crk Vent ShaftSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 026State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-026User: SLBAgency 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:	Cat D9T - 9SU
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

<u>Cost Breakdown:</u>	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck
% Utilization-machine:	100	100	100	NA	NA	NA
Ownership cost/hour:	\$12.02	\$24.98	\$69.88	NA	NA	NA
Operating cost/hour:	\$63.21	\$43.03	\$142.13	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	\$0.00	NA	NA	NA
Operator cost/hour:	\$0.00	\$35.82	\$37.41	NA	NA	NA
Unit Subtotals:	\$75.23	\$103.83	\$249.42	NA	NA	NA
Number of Units:	8	1	1	0	0	0
Group Subtotals:	Work: \$705.67		Support:	\$249.42	Maint:	\$0.00

Total work team cost/hour: \$955.09MATERIAL QUANTITIESInitial volume: 3,000

CCY

Swell factor: 1.125Loose volume: 3,375

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: User ProvidedRated 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: 11.29 LCY

Loading Tool Capacity

Bucket Size Class: NA

Rated Capacity:	4.300	LCY (heaped)
Bucket Fill Factor:	0.875	Loose material - 1" and over (85 - 90%) 0.875
Adjusted Capacity:	3.763	LCY

Job Condition Corrections:

Site Altitude (ft.): 6500 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 3 passes
Truck:

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:	Mixed material 0.02	0.020	(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:	Small target 0.04	0.040	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Loader Cycle Time:		0.500	minutes
Net Load Time per Truck:		1.100	minutes

Truck Cycle Time:

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

Truck Travel (Haul & Return) Time:
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	47520.00	0.00	2.00	2.00	2868	16.665

Haul Time: **16.665** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	47520.00	0.00	2.00	2.00	2905	16.383

Return Time: **16.383** minutesTotal Truck Cycle Time: **35.548** minutes

Loading Tool unit
 Production 423.28 LCY/Hour Adjusted for job efficiency: 351.32 LCY/Hour
 Truck Unit Production
19.05 LCY/Hour Adjusted for job efficiency: 15.81 LCY/Hour
 Optimal No. of Trucks: 22 Truck(s) Selected Number of Trucks: 8 Truck(s)

Adjusted hourly truck team production: 126.50 LCY/Hour
 Adjusted single truck/loader team production: 126.50 LCY/Hour
 Adjusted multiple truck/loader team production: **126.50** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **26.68** HoursUnit cost: \$7.550 /LCY Total job cost: **\$25,480.98**

TRUCK/LOADER TEAM WORKTask description: Haul Rock to Vent Shafts for DisposalSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 027State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-027User: SLBAgency 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

<u>Cost Breakdown:</u>	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:	\$12.02	\$24.98	NA	NA	NA	NA
Operating cost/hour:	\$63.21	\$43.03	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$0.00	\$35.82	NA	NA	NA	NA
Unit Subtotals:	\$75.23	\$103.83	NA	NA	NA	NA
Number of Units:	4	1	0	0	0	0
Group Subtotals:	Work: \$404.75		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$404.75MATERIAL QUANTITIESInitial 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: \$0.00HOURLY PRODUCTIONTruck 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:

Road Condition: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	10.00	5.00	15.00	734	7.199

Haul Time: **7.199** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	5280.00	-10.00	5.00	-5.00	2938	1.853

Return Time: **1.853** minutesTotal Truck Cycle Time: **12.142** minutes

Loading Tool unit

Production 318.08 LCY/Hour Adjusted for job efficiency: 264.01 LCY/Hour

Truck Unit Production 57.37 LCY/Hour Adjusted for job efficiency: 47.62 LCY/Hour

Optimal No. of Trucks: 6 Truck(s) Selected Number of Trucks: 4 Truck(s)

Adjusted hourly truck team production: 190.47 LCY/Hour

Adjusted single truck/loader team production: 190.47 LCY/Hour

Adjusted multiple truck/loader team production: **190.47** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **10.50** HoursUnit cost: \$2.125 /LCY Total job cost: **\$4,249.97**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 035State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-035User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 200,000Swell factor: 1.000Loose volume: **200,000 LCY**Source of estimated volume: Page 2.05-45Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feetUnadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 5 %Average site altitude: 6,100 feetMaterial weight: 2,000 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**Operator Skill: 0.750Source
(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:	1.000	(DOZ-OC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.150	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.7757

Adjusted unit production: 733.81 LCY/hr

Adjusted fleet production: **2935.24** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.436/LCY

Total job time: **68.14** Hours

Total job cost: **\$87,196.19**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse on Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 036State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-036User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 175,000Swell factor: 1.000Loose volume: **175,000 LCY**Source of estimated volume: TR-44 Submittal Page 4

Source 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: 5 %Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User Provided**Job Condition Correction Factor**Operator Skill: 0.750**Source**(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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5330

Adjusted unit production: 504.22 LCY/hr

Adjusted fleet production: **2016.88** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.634/LCY

Total job time: **86.77** Hours

Total job cost: **\$111,037.35**

BULLDOZER WORKTask description: **Spread Uncompacted Refuse at Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 037
Date: 1/16/2013
User: SLBState: Colorado
County: DeltaAbbreviation: None
Filename: C083-037Agency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93
Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 200,000
Swell factor: 1.000
Loose volume: **200,000 LCY**Source of estimated volume: TR-44 Submittal Page 4
Source of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feet
Unadjusted hourly production: 946.0 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 5 %
Average site altitude: 6,100 feetMaterial weight: 2,667 lbs/LCYWeight description: User ProvidedJob Condition Correction Factor
Operator Skill: 0.750 | Source (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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.862	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5330

Adjusted unit production: 504.22 LCY/hr

Adjusted fleet production: **2016.88 LCY/hr**

JOB TIME AND COST

Fleet size: 4 Dozer(s)
Unit cost: \$0.634/LCY

Total job time: **99.16 Hours**
Total job cost: **\$126,899.83**

COMPACTION WORKTask description: Compact Material Hauled to Gob Pile #1Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 038State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-038User: SLBAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: CAT 815FHorsepower: 240Compactor Type: Soil - tamping footShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

MATERIAL QUANTITIESLoose volume: 14,349

LCY

Shrinkage factor: 0.875Compacted volume: 12,555

CCY

Source of estimated volume: Total of all material hauled to Gob PileSource of estimated shrinkage factor: Cat HandbookHOURLY PRODUCTIONUnadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W):	<u>6.50</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>1,130.13</u>	CCY/hour

Job Condition Correction FactorsSite Altitude: 6,400 feet

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

Adjusted Hourly Unit Production: 938.01 CCY/HourAdjusted Hourly Fleet Production: 938.01 CCY/HourJOB TIME AND COSTFleet size: 1 Compactor(s)Total job time: 13.39 HoursUnit cost: \$0.149 per CCYTotal job cost: \$1,877.00

COMPACTION WORKTask description: Compact Refuse on Gob Pile #2Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 039State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-039User: SLBAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: CAT 815FHorsepower: 240Compactor Type: Soil - tamping footShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

Ownership Cost/Hour:	\$36.81	Utilization %	NA
Operating Cost/Hour:	\$79.64		100
Operator Cost/Hour:	\$23.76		NA
Total Unit Cost/Hour:	\$140.21		
Total Fleet Cost/Hour:	\$140.21		

MATERIAL QUANTITIESLoose volume: 200,000

LCY

Shrinkage factor: 0.900Compacted volume: 180,000

CCY

Source of estimated volume: Page 2.05-45Source of estimated shrinkage factor: Cat HandbookHOURLY PRODUCTIONUnadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W):	<u>6.50</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>1,412.67</u>	CCY/hour

Job Condition Correction FactorsSite 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: 1,172.51 CCY/HourAdjusted Hourly Fleet Production: 1,172.51 CCY/HourJOB TIME AND COSTFleet size: 1 Compactor(s)Total job time: 153.52 HoursUnit cost: \$0.120 per CCYTotal job cost: \$21,525.00

COMPACTION WORKTask description: Compact Refuse on Gob Pile #3Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 040State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-040User: SLBAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: CAT 815FHorsepower: 240Compactor Type: Soil - tamping footShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

Ownership Cost/Hour:	\$36.81	Utilization %	NA
Operating Cost/Hour:	\$79.64		100
Operator Cost/Hour:	\$23.76		NA
Total Unit Cost/Hour:	\$140.21		
Total Fleet Cost/Hour:	\$140.21		

MATERIAL QUANTITIESLoose volume: 175,000

LCY

Shrinkage factor: 0.900Compacted volume: **157,500**

CCY

Source of estimated volume: TR-44 Page 4Source of estimated shrinkage factor: Cat HandbookHOURLY PRODUCTIONUnadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W):	<u>6.50</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>1,412.67</u>	CCY/hour

Job Condition Correction FactorsSite 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: 1,172.51 CCY/HourAdjusted Hourly Fleet Production: **1,172.51** CCY/HourJOB TIME AND COSTFleet size: 1 Compactor(s)Total job time: 134.33 HoursUnit cost: \$0.120 per CCYTotal job cost: **\$18,834.00**

COMPACTION WORKTask description: Compact Refuse at Gob Pile #3Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 041State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-041User: SLBAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: CAT 815FHorsepower: 240Compactor Type: Soil - tamping footShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

MATERIAL QUANTITIESLoose volume: 200,000

LCY

Shrinkage factor: 0.870Compacted volume: 174,000

CCY

Source of estimated volume: Volume XI, Page 1Source of estimated shrinkage factor: Cat HandbookHOURLY PRODUCTIONUnadjusted hourly production = $(W \times S \times L \times C) / P$

Compacted width per pass (W):	<u>6.50</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>1,412.67</u>	CCY/hour

Job Condition Correction FactorsSite Altitude: 5,900 feet

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

Adjusted Hourly Unit Production: 1,172.51 CCY/HourAdjusted Hourly Fleet Production: 1,172.51 CCY/HourJOB TIME AND COSTFleet size: 1 Compactor(s)Total job time: 148.40 HoursUnit cost: \$0.120 per CCYTotal job cost: \$20,807.00

SCRAPER TEAM WORKTask description: Haul Top 1' from Stockpile Area to Gob Pile #1Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 042State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-042User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: 6,453

CCY

Swell factor: 1.000Loose volume: **6,453**

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>2,900 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: 14.59 HoursUnit cost: \$1.259 /LCYTotal job cost: \$8,124.49

SCRAPER TEAM WORKTask description: Place 4' of Cover on Gob Pile #1Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 043State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-043User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: 34,720

CCY

Swell factor: 1.165Loose volume: **40,449**

LCY

Source of estimated volume: Page 3.02-4Source 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 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job 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: 86.77 HoursUnit cost: \$1.195 /LCY Total job cost: \$48,317.67

SCRAPER TEAM WORKTask description: Replace Subsoil from Stockpile to Gob Pile #2Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 044State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-044User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86**MATERIAL QUANTITIESInitial volume: 55,000

CCY

Swell factor: 1.165Loose volume: **64,075**

LCY

Source of estimated volume: Appendix ASource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job 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: 102.82 HoursUnit cost: \$0.894 /LCY Total job cost: \$57,257.50

SCRAPER TEAM WORKTask description: **Replace Subsoil from Stockpile to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 045State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-045User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: 118,196

CCY

Swell factor: 1.165Loose volume: **137,698**

LCY

Source of estimated volume: 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>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 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job 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	2400.00	10.00	5.00	15.00	734	3.29

Haul Time: 3.29 minutesReturn Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	2400.00	-10.00	5.00	-5.00	2938	0.86

Return Time: 0.86 minutesTotal Scraper team cycle time: 5.65 minutesAdjusted for job conditions: 320.96 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 320.96 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 320.96 LCY/HourUnadjusted unit production/hour: 386.70 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 429.02 HoursUnit cost: \$1.735 /LCY Total job cost: \$238,906.47

SCRAPER TEAM WORKTask description: Place 1.6' of Cover on Gob Pile #3Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 046State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-046User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: 38,700

CCY

Swell factor: 1.250Loose volume: **48,375**

LCY

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

Material weight:	<u>2,650 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>19.92 LCY</u>	Adjusted Capacity:	<u>18.85</u>	LCY

Cycle Time:

Scraper Loading Time: 0.90 Minutes
 Maneuver and Spread Time: 0.60 Minutes

Job 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: 478.94 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 478.94 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 478.94 LCY/HourUnadjusted unit production/hour: 577.04 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 101.00 HoursUnit cost: \$1.163 /LCY Total job cost: \$56,244.80

COMPACTION WORKTask description: Compact Backfilled D-Portal Bench, Roads, & Utility CorridorSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 050 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-050
1:03:31 PM
 User: SLB

Agency or organization name: DRMSHOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

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 x S x L x C) / P

Compacted width per pass (W): 6.50 feet
 Average Compactor Speed (S): 4.00 mph
 Compacted thickness of each lift (L): 8.00 inches
 Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
 Required number of machine passes (P): 3 passes
 Unadjusted Hourly Unit Production: 1,130.13 CCY/hour

Job Condition Correction FactorsSite Altitude: 6,500 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: 938.01 CCY/Hour
 Adjusted Hourly Fleet Production: 938.01 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 577.52 Hours
 Unit cost: \$0.149 per CCY Total job cost: \$80,975.00

COMPACTION WORKTask description: Compact Backfilled Material at Truck Loadout/Coal StockpileSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 051 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-051
1:07:12 PM
 User: SLB

Agency or organization name: DRMSHOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$36.81</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$79.64</u>	<u>100</u>
Operator Cost/Hour:	<u>\$23.76</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$140.21</u>	
Total Fleet Cost/Hour:	<u>\$140.21</u>	

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 x S x L x C) / P

Compacted width per pass (W): 6.50 feet
 Average Compactor Speed (S): 4.00 mph
 Compacted thickness of each lift (L): 8.00 inches
 Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
 Required number of machine passes (P): 3 passes
 Unadjusted Hourly Unit Production: 1,130.13 CCY/hour

Job Condition Correction FactorsSite Altitude: 6,000 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: 938.01 CCY/Hour
 Adjusted Hourly Fleet Production: 938.01 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 63.36 Hours
 Unit cost: \$0.149 per CCY Total job cost: \$8,883.00

COMPACTION WORKTask description: Compact Backfilled Train LoadoutSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 052 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-052
1:07:52 PM
 User: SLB

Agency or organization name: DRMSHOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

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 x S x L x C) / P

Compacted width per pass (W): 6.50 feet
 Average Compactor Speed (S): 4.00 mph
 Compacted thickness of each lift (L): 8.00 inches
 Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
 Required number of machine passes (P): 3 passes
 Unadjusted Hourly Unit Production: 1,130.13 CCY/hour

Job Condition Correction FactorsSite Altitude: 5,900 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: 938.01 CCY/Hour
 Adjusted Hourly Fleet Production: 938.01 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 215.94 Hours
 Unit cost: \$0.149 per CCY Total job cost: \$30,278.00

COMPACTION WORKTask description: Compact B-Seam Portal BenchSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 053 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-053
1:08:29 PM
 User: SLB

Agency or organization name: DRMSHOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

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 x S x L x C) / P

Compacted width per pass (W): 6.50 feet
 Average Compactor Speed (S): 4.00 mph
 Compacted thickness of each lift (L): 8.00 inches
 Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
 Required number of machine passes (P): 3 passes
 Unadjusted Hourly Unit Production: 1,130.13 CCY/hour

Job Condition Correction FactorsSite Altitude: 6,750 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: 938.01 CCY/Hour
 Adjusted Hourly Fleet Production: 938.01 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 128.73 Hours
 Unit cost: \$0.149 per CCY Total job cost: \$18,049.00

COMPACTION WORKTask description: Compact Backfilled Freeman Gulch Vent Shaft PadSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 054 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-054
1:09:08 PM
 User: SLB

Agency or organization name: DRMSHOURLY EQUIPMENT COST

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$36.81	NA
Operating Cost/Hour:	\$79.64	100
Operator Cost/Hour:	\$23.76	NA
Total Unit Cost/Hour:	\$140.21	
Total Fleet Cost/Hour:	\$140.21	

MATERIAL QUANTITIES

Loose volume: 1,964 LCY Shrinkage factor: 0.875
 Compacted volume: 1,719 CCY
 Source of estimated volume: Operator Estimate
 Source of estimated shrinkage factor: Cat Handbook

HOURLY PRODUCTION

Unadjusted hourly production = (W x S x L x C) / P

Compacted width per pass (W): 6.50 feet
 Average Compactor Speed (S): 4.00 mph
 Compacted thickness of each lift (L): 8.00 inches
 Conversion Constant (C): 16.3 (5,280ft./12in./27cu.ft.)
 Required number of machine passes (P): 3 passes
 Unadjusted Hourly Unit Production: 1,130.13 CCY/hour

Job Condition Correction FactorsSite Altitude: 7,000 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: 938.01 CCY/Hour
 Adjusted Hourly Fleet Production: 938.01 CCY/Hour

JOB TIME AND COST

Fleet size: 1 Compactor(s) Total job time: 1.83 Hours
 Unit cost: \$0.149 per CCY Total job cost: \$257.00

BULLDOZER RIPPING WORKTask description: **Rip Utility Bench**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 060 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-060
1:11:28 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 50.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **0.31** Hours

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Unit cost:	<u>\$563.797</u>	Per acre	Total job cost: <u>\$423.00</u>

BULLDOZER RIPPING WORKTask description: **Rip D-Portal Bench**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 061 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-061
1:12:10 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 50.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **3.71** Hours

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Unit cost:	<u>\$563.797</u>	Per acre	Total job cost: <u>\$5,074.00</u>

BULLDOZER RIPPING WORKTask description: **Rip Truck Loadout/Coal Stockpile Area**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 062 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-062
1:12:57 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 50.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **2.06** Hours

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Unit cost:	<u>\$563.797</u>	Per acre	Total job cost: <u>\$2,819.00</u>

BULLDOZER RIPPING WORKTask description: **Rip Regraded Mine Area Prior to Topsoil Replacement**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 063 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-063
2:38:27 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 100.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **59.09** Hours

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Unit cost:	<u>\$477.661</u>	Per acre	Total job cost: <u>\$80,726.00</u>

BULLDOZER RIPPING WORKTask description: **Rip Train Loadout Facilities and Railbed Benches**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 064 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-064
2:40:16 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 100.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **7.69** Hours

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Unit cost:	<u>\$477.661</u>	Per acre	Total job cost: <u>\$10,509.00</u>

BULLDOZER RIPPING WORKTask description: **Rip B-Seam Portal Bench**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 065 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-065
2:40:51 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 50.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **3.71** Hours

Unit cost:	<u>\$563.797</u>	Per acre	Total job cost: <u>\$5,074.00</u>

BULLDOZER RIPPING WORKTask description: **Rip Rock Laydown Pad Topsoil**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 066 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-066
2:41:39 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$341.51</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 25.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 1 Grader(s) Total job time: **0.43** Hours

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Unit cost:	<u>\$736.068</u>	Per acre	Total job cost: <u>\$147.00</u>

BULLDOZER RIPPING WORKTask description: **Rip Haul Roads (Portion Being Reclaimed) & Old Truck Loadout**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 070 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-070
2:42:19 PM
 User: SLB

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:	<u>\$110.68</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$11.64</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$343.09</u>	
Total Fleet Cost/Hour:	<u>\$1,372.35</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: NA degrees
 Average Ripping Length: NA feet
 Average Dozer Speed: NA feet
 Average Maneuver Time: NA feet
 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 COSTFleet size: 4 Grader(s) Total job time: **116.48** Hours

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Unit cost:	<u>\$0.614</u>	Per cu. yd.	Total job cost: <u>\$159,846.00</u>

SCRAPER TEAM WORKTask description: **Remove Haul Road Subbase and Place on Gob Pile #1**Site: **Bowie No. 2 Mine** Permit Action: **Permit Renewal 3** Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: **071** State: **Colorado** Abbreviation: **None**
 Date: **1/16/2013** County: **Delta** Filename: **C083-071**
 2:43:17 PM
 User: **SLB**

Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**

Initial volume: **7,484** CCY Swell factor: **1.000**
 Loose volume: **7,484** LCY

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

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

Material weight:	2,850 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Gravel - Dry (1/4"-2" diam.)	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	18.53 LCY	Adjusted Capacity:	18.53	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 3.0

Haul 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 minutes

Return 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: 245.05 LCY/HourSelected Number of Scrapers: 2 Scraper(s)Adjusted single scraper team (unit) hourly production: 245.05 LCY/HourAdjusted multiple scraper team (fleet) hourly production: 245.05 LCY/HourUnadjusted unit production/hour: 295.24 LCY/Hour

Optimal Number of Scrapers per push dozer: _____

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: 30.54 HoursUnit cost: \$2.272 /LCY Total job cost: \$17,006.95

BULLDOZER RIPPING WORKTask description: **Rip Truck Loadout Road**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 072 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-072
2:44:13 PM
 User: SLB

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:	\$110.68	NA
Operating Cost/Hour:	\$183.36	100
Ripper Operating Cost/Hour:	\$11.64	100
Operator Cost/Hour:	\$37.41	NA
Total Unit Cost/Hour:	\$343.09	
Total Fleet Cost/Hour:	\$1,372.35	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: NA degrees
 Average Ripping Length: NA feet
 Average Dozer Speed: NA feet
 Average Maneuver Time: NA feet
 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 COSTFleet size: 4 Grader(s) Total job time: **2.15** Hours

Unit cost:	<u> \$0.614 </u>	Per cu. yd.	Total job cost:	<u> \$2,946.00 </u>
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SCRAPER TEAM WORKTask description: **Haul Truck Loadout Subbase to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **073**State: **Colorado**Abbreviation: **None**Date: **1/16/2013
2:45:11 PM**County: **Delta**Filename: **C083-073**User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **6,000**

CCY

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

LCY

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

Material weight:	2,850 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Gravel - Dry (1/4"-2" diam.)	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	18.53 LCY	Adjusted Capacity:	18.53	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 5.0

Haul 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 minutes

Return 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: \$1.183 /LCY Total job cost: \$7,097.98

BULLDOZER RIPPING WORKTask description: **Rip Upper Haul Road Asphalt Prior to Road Narrowing**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #:	<u>074</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/16/2013</u>	County:	<u>Delta</u>	Filename:	<u>C083-074</u>
	<u>2:46:15 PM</u>				
User:	<u>SLB</u>				

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

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$110.68</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$11.64</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$343.09</u>	
Total Fleet Cost/Hour:	<u>\$1,372.35</u>	

MATERIAL QUANTITIESSelected estimating method: Seismic**Alternate Methods:**

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

Source of estimated quantity: Division Estimate**HOURLY PRODUCTION****Seismic:**Seismic Velocity: 5,000 feet/second**Area:**

Average Ripping Depth:	<u>NA</u>	mph
Average Ripping Width:	<u>NA</u>	degrees
Average Ripping Length:	<u>NA</u>	feet
Average Dozer Speed:	<u>NA</u>	feet
Average Maneuver Time:	<u>NA</u>	feet
Production per unit area:	<u>NA</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	<u>673.60</u>	Cu. yds./hr
Site Altitude:	<u>6,800</u>	feet
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier
Adjusted Hourly Unit Production:	<u>559.09</u>	Cu. yds./hr
Adjusted Hourly Fleet Production:	<u>2,236.35</u>	Cu. yds./hr

JOB TIME AND COSTFleet size: 4 Grader(s) Total job time: **2.95** Hours

<hr/>		<hr/>	
Unit cost:	<u>\$0.614</u>	Per cu. yd.	Total job cost: <u>\$4,050.00</u>

TRUCK/LOADER TEAM WORKTask description: Pull Back/Haul Fill Mat'l from Upper Haul Rd NarrowingSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 075State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0752:48:03 PMUser: SLBAgency 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

<u>Cost Breakdown:</u>	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:	\$60.64	\$78.81	NA	NA	NA	NA
Operating cost/hour:	\$119.47	\$139.55	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$25.66	\$33.94	NA	NA	NA	NA
Unit Subtotals:	\$205.77	\$252.30	NA	NA	NA	NA
Number of Units:	2	1	0	0	0	0
Group Subtotals:	Work: \$663.84		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$663.84MATERIAL QUANTITIESInitial volume: 60,564 CCY Swell factor: 1.165Loose volume: 70,557 LCYSource 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/LCYDescription: Decomposed rock - 50% Rock, 50% EarthRated Payload: 122,520 PoundsPayload 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 600.89 LCY/Hour Adjusted for job efficiency: 498.74 LCY/Hour
 Truck Unit Production
377.23 LCY/Hour Adjusted for job efficiency: 313.10 LCY/Hour

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

Adjusted hourly truck team production: 626.20 LCY/Hour
 Adjusted single truck/loader team production: 498.74 LCY/Hour
 Adjusted multiple truck/loader team production: **498.74** LCY/Hour

JOB TIME AND COSTFleet size: 1 Team(s) Total job time: **141.47** HoursUnit cost: \$1.331 /LCY Total job cost: **\$93,914.32**

BULLDOZER WORKTask description: **Regrade Narrowed Section of Haul Road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 076State: ColoradoAbbreviation: NoneDate: 1/16/2013
2:49:30 PMCounty: DeltaFilename: C083-076User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: 60,564Swell factor: 1.165Loose volume: **70,557 LCY**Source 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****Source**

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: \$0.474/LCY

Total job time: **26.11 Hours**
Total job cost: **\$33,412.46**

BULLDOZER RIPPING WORKTask description: **Rip Gob Pile #1 Road**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 077 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-077
2:50:31 PM
 User: SLB

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:	<u>\$110.68</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$11.64</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$343.09</u>	
Total Fleet Cost/Hour:	<u>\$1,372.35</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: NA degrees
 Average Ripping Length: NA feet
 Average Dozer Speed: NA feet
 Average Maneuver Time: NA feet
 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 COSTFleet size: 4 Grader(s) Total job time: **2.36** Hours

Unit cost:	<u> \$0.614 </u>	Per cu. yd.	Total job cost:	<u> \$3,238.00 </u>
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BULLDOZER WORKTask description: **Regrade Gob Pile #1 Road**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **078**State: **Colorado**Abbreviation: **None**Date: **1/16/2013
2:51:47 PM**County: **Delta**Filename: **C083-078**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$10.01	100
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$341.51**Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**Initial Volume: **5,963**Swell factor: **1.165**Loose volume: **6,947 LCY**Source of estimated volume: **Page 3.02-2**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 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****Source**

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: \$1.016/LCY

Total job time: **5.17** Hours
Total job cost: **\$7,056.51**

BULLDOZER RIPPING WORKTask description: **Rip Access Road**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 079 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-079
2:52:33 PM
 User: SLB

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:	<u>\$110.68</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$11.64</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$343.09</u>	
Total Fleet Cost/Hour:	<u>\$1,372.35</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: NA degrees
 Average Ripping Length: NA feet
 Average Dozer Speed: NA feet
 Average Maneuver Time: NA feet
 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 COSTFleet size: 4 Grader(s) Total job time: **0.74** Hours

Unit cost:	<u> \$0.614 </u>	Per cu. yd.	Total job cost:	<u> \$1,011.00 </u>
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SCRAPER TEAM WORKTask description: **Haul Access Road Surface to Gob Pile #1**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **080**State: **Colorado**Abbreviation: **None**Date: **1/16/2013
2:53:23 PM**County: **Delta**Filename: **C083-080**User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **1,928**

CCY

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

LCY

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

Material weight:	2,900 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Decomposed rock - 50% Rock, 50% Earth	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	18.21 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: \$1.403 /LCY Total job cost: \$2,705.66

BULLDOZER WORKTask description: **Regrade Access Road**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **081**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-081**

2:54:35 PM

User: **SLB**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:	\$99.15	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$319.93**Total Fleet Cost/Hour: **\$1,279.71****MATERIAL QUANTITIES**Initial Volume: **3,296**Swell factor: **1.330**Loose volume: **4,384 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **100 feet**

Unadjusted hourly

production:

1,718.9 LCY/hrMaterials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **0 %**Average site altitude: **6,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor****Source**

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: \$0.524/LCY

Total job time: **1.79** Hours

Total job cost: **\$2,295.72**

BULLDOZER RIPPING WORKTask description: **Rip Freeman Gulch Vent Shaft Light-Use Road**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #:	<u>082</u>	State:	<u>Colorado</u>	Abbreviation:	<u>None</u>
Date:	<u>1/16/2013</u>	County:	<u>Delta</u>	Filename:	<u>C083-082</u>
	<u>2:55:26 PM</u>				
User:	<u>SLB</u>				

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

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

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected estimating method: Area**Alternate Methods:**

Seismic:	<u>NA</u>	Bank Volume:	<u>NA</u>	BCY	<u>NA</u>
Area:	<u>0.60</u> acres	Rip Depth (ft):	<u>2.63</u>	Volume:	<u>2,546</u> BCY or CCY

Source of estimated quantity: Page 2.05-25**HOURLY PRODUCTION****Seismic:**Seismic Velocity: NA feet/second**Area:**

Average Ripping Depth:	<u>2.88</u>	mph
Average Ripping Width:	<u>8.67</u>	degrees
Average Ripping Length:	<u>100.00</u>	feet
Average Dozer Speed:	<u>88.00</u>	feet
Average Maneuver Time:	<u>0.25</u>	feet
Production per unit area:	<u>0.861</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production:	<u>0.861</u>	Acres/hr
Site Altitude:	<u>7,000</u>	feet
Altitude Adj:	<u>1.00</u>	(CAT HB)
Job Efficiency:	<u>0.83</u>	(1 shift/day)
Net Correction:	<u>0.83</u>	multiplier

Adjusted Hourly Unit Production:	<u>0.71</u>	Acres/hr
Adjusted Hourly Fleet Production:	<u>2.86</u>	Acres/hr

JOB TIME AND COSTFleet size: 4 Grader(s) Total job time: **0.21** Hours

Unit cost:	<u>\$477.661</u>	Per acre	Total job cost:	<u>\$287.00</u>
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BULLDOZER WORKTask description: **Backfill and Regrade Haul Road to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **083**State: **Colorado**Abbreviation: **None**Date: **1/16/2013
2:56:29 PM**County: **Delta**Filename: **C083-083**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$10.01	100
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$341.51**Total Fleet Cost/Hour: **\$1,366.06****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****Source**

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: \$0.856/LCY

Total job time: **0.44 Hours**
Total job cost: **\$598.38**

BULLDOZER RIPPING WORKTask description: **Rip Lower Haul Road**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 084 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-084
2:57:16 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$341.51</u>	
Total Fleet Cost/Hour:	<u>\$1,366.06</u>	

MATERIAL QUANTITIESSelected 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 mph
 Average Ripping Width: 8.67 degrees
 Average Ripping Length: 200.00 feet
 Average Dozer Speed: 88.00 feet
 Average Maneuver Time: 0.25 feet
 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 COSTFleet size: 4 Grader(s) Total job time: **0.95** Hours

Unit cost:	<u>\$434.593</u>	Per acre	Total job cost:	<u>\$1,304.00</u>
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BULLDOZER WORKTask description: **Regrade Lower Haul Road**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **085**State: **Colorado**Abbreviation: **None**Date: **1/16/2013
2:59:05 PM**County: **Delta**Filename: **C083-085**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$10.01	100
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$341.51**Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**Initial Volume: **37,998**Swell factor: **1.165**Loose volume: **44,268 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**Source of estimated swell factor: **Cat Handbook****HOURLY PRODUCTION**Average push distance: **200 feet**Unadjusted hourly production: **946.0 LCY/hr**Materials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **6,500 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor****Source**

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: \$1.125/LCY

Total job time: **36.46 Hours**

Total job cost: **\$49,800.93**

BULLDOZER WORKTask description: **Regrade Light Use Roads from MRs and TRs**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 086State: ColoradoAbbreviation: NoneDate: 1/16/2013
2:59:51 PMCounty: DeltaFilename: C083-086User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**Initial Volume: 158,323Swell factor: 1.165Loose volume: **184,446 LCY**Source of estimated volume: DRMSSource 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****Source**

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: \$0.619/LCY

Total job time: **83.60 Hours**

Total job cost: **\$114,197.16**

MOTOR GRADER WORKTask description: **Finish Grade Disturbed Mine Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 090State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0903:00:46 PMUser: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 14MHorsepower: 259Ripper Attachment: Multi-Shank RipperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$41.37	NA
Operating Cost/Hour:	\$67.74	100
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.55	NA
Total Unit Cost/Hour:	\$136.65	
Total Fleet Cost/Hour:	\$139.95	

MATERIAL QUANTITIESTotal Area to be graded or ripped: 169.00 acresSource 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 FactorsSite Altitude: 6500 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/HourAdjusted Hourly Fleet Production: **1.3008** acres/Hour**JOB TIME AND COST**Fleet size: 1 Grader(s)Total job time: **129.92** Hours

Unit cost: \$105.05 per acreTotal job cost: **\$17,754.00**

MOTOR GRADER WORKTask description: **Finish Grade Train Loadout**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 091State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0913:03:02 PMUser: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 14MHorsepower: 259Ripper Attachment: Multi-Shank RipperShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$41.37	NA
Operating Cost/Hour:	\$67.74	100
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.55	NA
Total Unit Cost/Hour:	\$136.65	
Total Fleet Cost/Hour:	\$139.95	

MATERIAL QUANTITIESTotal Area to be graded or ripped: 22.00 acresSource 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 FactorsSite Altitude: 5900 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/HourAdjusted Hourly Fleet Production: **1.3008** acres/Hour**JOB TIME AND COST**Fleet size: 1 Grader(s)Total job time: **16.91** Hours

Unit cost: \$105.05 per acreTotal job cost: **\$2,311.00**

MOTOR GRADER WORKTask description: **Finish Grade B-Seam Portal Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 092State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0923:03:46 PMUser: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 14MHorsepower: 259Ripper Attachment: Multi-Shank RipperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$41.37	NA
Operating Cost/Hour:	\$67.74	100
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.55	NA
Total Unit Cost/Hour:	\$136.65	
Total Fleet Cost/Hour:	\$139.95	

MATERIAL QUANTITIESTotal Area to be graded or ripped: 9.00 acresSource 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 FactorsSite Altitude: 6750 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/HourAdjusted Hourly Fleet Production: **1.3008** acres/Hour**JOB TIME AND COST**Fleet size: 1 Grader(s)Total job time: **6.92** Hours

Unit cost: \$105.05 per acreTotal job cost: **\$945.00**

MOTOR GRADER WORKTask description: **Finish Grade Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 093State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0933:04:18 PMUser: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 14MHorsepower: 259Ripper Attachment: Multi-Shank RipperShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$41.37	NA
Operating Cost/Hour:	\$67.74	100
Ripper Operating Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$27.55	NA
Total Unit Cost/Hour:	\$136.65	
Total Fleet Cost/Hour:	\$139.95	

MATERIAL QUANTITIESTotal Area to be graded or ripped: 21.30 acresSource 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 FactorsSite Altitude: 6100 feet

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

Adjusted Hourly Unit Production: 1.3008 acres/HourAdjusted Hourly Fleet Production: **1.3008** acres/Hour**JOB TIME AND COST**Fleet size: 1 Grader(s)Total job time: **16.38** Hours

Unit cost: \$105.05 per acreTotal job cost: **\$2,238.00**

BULLDOZER WORKTask description: **Backfill and Regrade Pond B**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **095**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-095****3:05:10 PM**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$10.01	100
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$341.51**Total Fleet Cost/Hour: **\$341.51****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****Source**

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: \$0.456/LCY

Total job time: **7.63 Hours**

Total job cost: **\$2,604.29**

BULLDOZER WORKTask description: **Backfill and Regrade Pond C**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **096**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-096****3:05:56 PM**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$331.50**Total Fleet Cost/Hour: **\$331.50****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****Source**

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: \$0.543/LCY

Total job time: **11.61** Hours

Total job cost: **\$3,849.63**

BULLDOZER WORKTask description: **Backfill and Regrade Gob Pile Pond D**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **097**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-097**

3:06:40 PM

User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$331.50**Total Fleet Cost/Hour: **\$331.50****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****Source**

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: \$0.543/LCY

Total job time: **8.18** Hours

Total job cost: **\$2,712.93**

BULLDOZER WORKTask description: **Backfill and Regrade Pond F**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 098State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-0983:07:17 PMUser: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$331.50Total Fleet Cost/Hour: **\$331.50****MATERIAL QUANTITIES**Initial Volume: 5,700Swell factor: 1.165Loose volume: **6,641 LCY**Source of estimated volume: Appendix B-4; Division 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: 6,100 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorSource

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: \$0.543/LCY

Total job time: **10.87** Hours

Total job cost: **\$3,603.42**

BULLDOZER WORKTask description: **Backfill and Regrade Pond J**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **099**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-099****3:08:02 PM**User: **SLB**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:	\$110.73	NA
Operating Cost/Hour:	\$183.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$331.50**Total Fleet Cost/Hour: **\$331.50****MATERIAL QUANTITIES**Initial Volume: **9,320**Swell factor: **1.330**Loose volume: **12,396 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****Source**

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: \$0.543/LCY

Total job time: **20.29** Hours

Total job cost: **\$6,726.38**

BULLDOZER WORKTask description: **Backfill and Regrade Pond K**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 100State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:09:37 PMCounty: DeltaFilename: C083-100User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$331.50Total Fleet Cost/Hour: **\$331.50****MATERIAL QUANTITIES**Initial Volume: 700Swell factor: 1.330Loose volume: **931 LCY**Source of estimated volume: Map 22K; 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: 5,900 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorSource

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: \$0.543/LCY

Total job time: **1.52** Hours

Total job cost: **\$505.20**

HYDRAULIC EXCAVATOR WORKTask description: **Excavate for Post-mining Channel at B-Seam Portals**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: **101** State: **Colorado** Abbreviation: **None**
 Date: **1/16/2013** County: **Delta** Filename: **C083-101**
 3:10:40 PM
 User: **SLB**

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:	\$78.81	NA
Operating Cost/Hour:	\$139.55	100
Operator Cost/Hour:	\$33.94	NA
Total Unit Cost/Hour:	\$252.30	
Total Fleet Cost/Hour:	\$504.60	

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

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 FactorsSite 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:	<u>2</u>	Excavator	Total job time:	<u>0.63</u>	Hours
Unit cost:	<u>\$0.941</u>	/LCY	Total job cost:	<u>\$318.00</u>	

Postmining Channel Construction

Task No. 102

Date : 18-Jun-12 Permit C1996083 Site: Bowie No. 2 Mine
 User: SLB State : Colorado County: Delta
 Agency Name: Colorado Division of Reclamation, Mining and Safety
 Permit Task Description: Install Riprap, Gravel, and Geotextile in B-Seam
 Action: Permit Renewal 3 Channel

Channel	L (ft)	D (ft)	W (bot) (ft)	Slopes (X:1)	W (Top) (ft)	V/LF (CY)	V tot (CY)	Riprap	Slope L (ft)	Surf Area (sf)	Riprap V CY
C/F								365			1320
Totals	0							365		0	132
Materials Needed:		Geotextile (SY):		1,093		Riprap (CY):		365	Gravel (CY):		182
Material Costs:		Geotextile (SY):		\$ 1.99		Riprap (CY):		\$ 72.90	Gravel (CY):		\$ 34.38
Means Reference		33 46 26.10 0100				31 37 13.10 0011			31 23 23.16 0050		
Totals:		Geotextile (SY):		\$ 2,175.07		Riprap (CY):		\$ 26,608.50	Gravel (CY):		\$ 6,257.16
Hours:		Geotextile (SY):		12.49		Riprap (CY):	47.10		Gravel (CY):		13.00
		87.5 SY/HR				7.75 CY/HR			14 CY/HR		
Total Post-Mining Channel Reconstruction hours:								72.59			
Total Post-Mining Channel Reconstruction Cost:								\$ 35,040.73			

SCRAPER TEAM WORKTask description: Replace Topsoil from Stockpile A to Portal/Utility BenchSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 110State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-110

3:15:30 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial 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 HandbookHOURLY PRODUCTIONScraper 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: \$3.518 /LCY Total job cost: \$363,291.49

SCRAPER TEAM WORKTask description: Replace Topsoil from Stockpile A to Truck Loadout/Coal StkplSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 111State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-111

3:16:28 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial volume: 20,100

CCY

Swell factor: 1.125Loose volume: 22,613

LCY

Source of estimated volume: Page 2.05-35Source of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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: 42.52 HoursUnit cost: \$1.047 /LCY Total job cost: \$23,675.47

SCRAPER TEAM WORKTask description: Replace Topsoil from Stockpile F to Train LoadoutSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 112State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-112

3:17:32 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial 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 HandbookHOURLY PRODUCTIONScraper 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: \$0.825 /LCY Total job cost: \$22,263.01

SCRAPER TEAM WORKTask description: Replace Topsoil from Stockpile A to B-Seam Portal BenchSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 113State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-1133:18:21 PMUser: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial volume: 20,489

CCY

Swell factor: 1.125Loose volume: 23,050

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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: \$2.118 /LCY Total job cost: \$48,814.27

BULLDOZER WORKTask description: **Replace Topsoil fm Stockpile to Freeman Gulch Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 114 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-114
3:19:42 PM
 User: SLB

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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51
 Total Fleet Cost/Hour: **\$1,366.06**

MATERIAL QUANTITIES

Initial Volume: 2,830
 Swell factor: 1.125
 Loose volume: **3,184 LCY**

Source of estimated volume: Division 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: Consolidated stockpile 1.0

Average push gradient: 5 %
 Average site altitude: 7,000 feet

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction FactorSource

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: 853.91 LCY/hr

Adjusted fleet production: **3415.64** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.400/LCY

Total job time: **0.93** Hours

Total job cost: **\$1,273.32**

SCRAPER TEAM WORKTask description: **Replace Topsoil fm Stockpiles C/D to Pond C and Gob Pond D**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **115**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-115**

3:20:28 PM

User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **5,300**

CCY

Swell factor: **1.125**Loose volume: **5,963**

LCY

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

Material weight:	2,550 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Earth - Dry packed	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	20.71 LCY	Adjusted Capacity:	18.85	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: \$1.225 /LCY Total job cost: \$7,303.88

BULLDOZER WORKTask description: **Replace topsoil from Stockpile to Pond F**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 116State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:22:10 PMCounty: DeltaFilename: C083-116User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$341.51****MATERIAL QUANTITIES**Initial Volume: 1,000Swell factor: 1.125Loose 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/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 0 %Average site altitude: 6,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor****Source**

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: \$1.200/LCY

Total job time: **3.95 Hours**

Total job cost: **\$1,350.55**

SCRAPER TEAM WORKTask description: Replace topsoil from Stockpile F to Pond JSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 117State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-117

3:23:09 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial 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 HandbookHOURLY PRODUCTIONScraper 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: \$1.186 /LCY Total job cost: \$1,588.31

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile F to Pond K**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 118State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-118

3:24:04 PM

User: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****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: \$1.186 /LCYTotal job cost: \$1,067.77

BULLDOZER WORKTask description: **Replace topsoil fm stockpile to MR/TR Light-Use Roads**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 119State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:25:16 PMCounty: DeltaFilename: C083-119User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**

Initial Volume: 67,794
 Swell factor: 1.125
 Loose volume: **76,268 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: Consolidated stockpile 1.0

Average push gradient: 5 %
 Average site altitude: 7,500 feet

Material weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor****Source**

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: \$0.490/LCY

Total job time: **27.35 Hours**

Total job cost: **\$37,359.60**

BULLDOZER WORKTask description: **Replace topsoil from stockpiles to MR/TR drill pads**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 120State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:25:58 PMCounty: DeltaFilename: C083-120User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$331.50Total Fleet Cost/Hour: **\$1,326.00****MATERIAL QUANTITIES**Initial Volume: 78,580Swell factor: 1.125Loose volume: **88,403 LCY**Source 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****Source**

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: \$0.543/LCY

Total job time: **36.23 Hours**

Total job cost: **\$48,046.47**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile A to Prep Plant Bench**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 121State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-1213:26:48 PMUser: SLBAgency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****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: \$1.008 /LCY Total job cost: \$12,479.57

BULLDOZER WORKTask description: **Replace topsoil from stockpile to Material Storage Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 122State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:27:56 PMCounty: DeltaFilename: C083-122User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****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: 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 packedJob Condition Correction FactorSource

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: \$0.890/LCY

Total job time: **0.18** Hours

Total job cost: **\$250.33**

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile E to Gob Pile #2**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **123**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-123**

3:37:38 PM

User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **13,900**

CCY

Swell factor: **1.125**Loose volume: **15,638**

LCY

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

Material weight:	2,550 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Earth - Dry packed	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	20.71 LCY	Adjusted Capacity:	18.85	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: 28.82 HoursUnit cost: \$1.026 /LCY Total job cost: \$16,047.92

SCRAPER TEAM WORKTask description: Replace Topsoil from Stockpile to Gob Pile #2Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 124State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-124

3:38:54 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work:	\$556.86	Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial volume: 39,679

CCY

Swell factor: 1.125Loose volume: 44,639

LCY

Source of estimated volume: Appendix ASource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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: 69.19 HoursUnit cost: \$0.863 /LCY Total job cost: \$38,528.45

SCRAPER TEAM WORKTask description: **Replace topsoil from stockpile to Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **125**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-125**

3:40:16 PM

User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **58,100**

CCY

Swell factor: **1.250**Loose volume: **72,625**

LCY

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

Material weight:	2,550 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Earth - Dry packed	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	20.71 LCY	Adjusted Capacity:	18.85	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: 132.68 HoursUnit cost: \$1.017 /LCY Total job cost: \$73,884.88

BULLDOZER WORKTask description: **Replace topsoil from stockpile to Haul Road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 126State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:41:30 PMCounty: DeltaFilename: C083-126User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**Initial Volume: 300Swell factor: 1.125Loose volume: **338 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/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****Source**

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: \$0.677/LCY

Total job time: **0.17** Hours

Total job cost: **\$228.58**

SCRAPER TEAM WORKTask description: Replace topsoil from stockpile to Water Tank BenchSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 127State: ColoradoAbbreviation: NoneDate: 1/16/2013County: DeltaFilename: C083-127

3:43:40 PM

User: SLBAgency or organization name: DRMSHOURLY EQUIPMENTCOSTShift 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: \$556.86MATERIAL QUANTITIESInitial volume: 850

CCY

Swell factor: 1.125Loose volume: 956

LCY

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat HandbookHOURLY PRODUCTIONScraper 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: \$0.997 /LCYTotal job cost: \$952.98

SCRAPER TEAM WORKTask description: **Replace topsoil from Stockpile G to TR35 road/pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **128**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-128**

3:42:11 PM

User: **SLB**Agency 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:	\$65.78	NA	NA	NA	NA	NA
Operating cost/hour:	\$182.63	NA	NA	NA	NA	NA
Ripper op. cost/hour:	NA	NA	NA	NA	NA	NA
Operator cost/hour:	\$30.02	NA	NA	NA	NA	NA
Unit Subtotals:	\$278.43	NA	NA	NA	NA	NA
Number of Units:	2	0	0	0	0	0
Group Subtotals:	Work: \$556.86		Support:	\$0.00	Maint:	\$0.00

Total work team cost/hour: **\$556.86****MATERIAL QUANTITIES**Initial volume: **1,000**

CCY

Swell factor: **1.250**Loose volume: **1,250**

LCY

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

Material weight:	2,550 lbs/LCY	Struck Volume:	15.70	LCY
Material description:	Earth - Dry packed	Heaped Volume:	22.00	LCY
Rated Payload:	52,800 pounds	Average Volume:	18.85	LCY
Payload Capacity:	20.71 LCY	Adjusted Capacity:	18.85	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: \$2.233 /LCY Total job cost: \$2,791.77

BULLDOZER WORKTask description: **Replace topsoil from stockpile to Borrow Area**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 129State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:44:44 PMCounty: DeltaFilename: C083-129User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.250Loose volume: **9,250 LCY**Source 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****Source**

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: \$0.804/LCY

Total job time: **5.44 Hours**

Total job cost: **\$7,434.02**

BULLDOZER WORKTask description: **Replace topsoil fm stockpile to Upper Parking Lot Expansion**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 130State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:45:28 PMCounty: DeltaFilename: C083-130User: SLBAgency 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:	<u>\$99.15</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$319.93Total Fleet Cost/Hour: **\$319.93****MATERIAL QUANTITIES**

Initial Volume: 250
 Swell factor: 1.125
 Loose volume: **281 LCY**

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

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: Consolidated stockpile 1.0Average push gradient: 10 %Average site altitude: 6,900 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction FactorSource

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: \$0.527/LCY

Total job time: **0.46** Hours

Total job cost: **\$148.25**

BULLDOZER WORKTask description: **Replace topsoil fm stockpile to Hubbard Ck Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 131State: ColoradoAbbreviation: NoneDate: 1/16/2013
3:46:08 PMCounty: DeltaFilename: C083-131User: SLBAgency 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:	<u>\$110.73</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$183.36</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$10.01</u>	<u>100</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$341.51Total Fleet Cost/Hour: **\$1,366.06****MATERIAL QUANTITIES**

Initial Volume: 1,450
 Swell factor: 1.250
 Loose volume: **1,813 LCY**

Source of estimated volume: Operator EstimateSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 100 feet
 Unadjusted hourly production: 1,718.9 LCY/hr

Materials consistency description: Consolidated stockpile 1.0

Average push gradient: 5 %
 Average site altitude: 7,500 feet

Material weight: 2,900 lbs/LCYWeight description: User Provided**Job Condition Correction Factor****Source**

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: 612.96 LCY/hr

Adjusted fleet production: **2451.84** LCY/hr

JOB TIME AND COST

Fleet size: 4 Dozer(s)

Unit cost: \$0.557/LCY

Total job time: **0.74** Hours

Total job cost: **\$1,009.85**

SAFEGUARDING UNDERGROUND OPENINGSTask description: **Seal Portals and Shafts**Site: **Bowie No. 2 Mine** Permit Action: **Permit Renewal 3** Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: **140** State: **Colorado** Abbreviation: **None**
 Date: **1/16/2013 3:46:53 PM** County: **Delta** Filename: **C083-140**
 User: **SLB**

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	\$74.32	\$44,592.00
- backfill	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$1,415.48	\$4,246.44
- drainpipe	165 LFX 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$4.97	\$2,460.15
B Portal Intake, Beltline & Return bulkhead	200 SF x 3	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	600.00	SF	\$74.32	\$44,592.00
- backfill	185 CY x 3	Adit closure - backfilling (per opening)	3.00	EA	\$1,415.48	\$4,246.44
- drainpipe	165 LF x 3	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	495.00	LF	\$4.97	\$2,460.15
Hubbard Creek Vent Shaft - Fill	10.5'D x 500'	Shaft closure - backfilling, < 100 cu. yd. (per cu. yd.)	3,200.00	CY	\$18.84	\$60,288.00
- concrete cap	173 SF	Shaft closure - concrete cap, poured-in-place (per sq. ft.)	173.00	SF	\$105.70	\$18,286.10

Job Hours: 40.00**Total Cost: \$181,171.28**

Task #141**Concrete Plug and Backfill Vent Shaft
Bowie No. 2 Mine - C1996083
Permit Renewal No. 3****16-Jan-13**

<i>Item</i>	<i>Means Location</i>	<i>Unit Cost</i>	<i>Qty</i>	<i>Total</i>
Steel Dowels	03 21 10.60 2420	\$2.93	2200	\$6,446.00
Steel Beams	03 21 10.60 0150	\$1,560.00	16.46	\$25,677.60
Crane Handling	03 21 10.60 2210	\$37.10	16.46	\$610.67
Saddle Assembly	03 21 10.60 0550	\$1,315.00	1.21	\$1,591.15
Heavy Gauge Fabric	03 22 05.50 0700	\$83.00	5	\$415.00
Q-Decking Fabric	03220 200 1020 Indexed from 2009	\$988.85	4.54	\$4,489.38
Concrete Plugs	CIRCES	\$138.29	254	\$35,125.66
Subtotal				\$74,355.46
City Cost Index - 102.2%			1.022	\$1,635.82
Subtotal				\$75,991.28
Backfill Shaft	CIRCES	\$16.43	1385	\$22,755.55
TOTAL				\$98,746.83

Volumes and designs are based on a similar shaft at the West Elk Mine. Costs were obtained from the RS Means Building Construction and Site Work & Landscape Cost Data References, 2012 editions, unless otherwise noted.

BOREHOLE SEALING WORKTask description: **Plug/Seal Boreholes**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**

Task #: 142 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-142
4:11:07 PM
 User: SLB

Agency or organization name: DRMS**UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Concrete Seal 6" holes - 88	Portland cement grout - 6 in. (labor, equip, materials)	6	63340	8,488.00	LF	\$10.92	\$92,694.90
Bottom Plugs	Stainless steel plug - 6 in. diameter borehole	6	NA	88.00	EA	\$133.74	\$11,769.12
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	6	NA	88.00	LF	\$5.87	\$516.56
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	88.00	EA	\$2.81	\$247.28
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	560.00	EA	\$143.59	\$80,410.40
Water Truck	Water Tanker, 3,500 Gal.	NA	NA	560.00	EA	\$85.47	\$47,863.20
Concrete Seal 6.25"/6.75" - 7	Portland cement grout - 6 in. (labor, equip, materials)	6.5	2848	210.00	LF	\$10.92	\$2,293.35
Bottom Plugs	Stainless steel plug - 6 in. diameter borehole	6.5	NA	7.00	EA	\$133.74	\$936.18
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	6.5	NA	7.00	LF	\$5.87	\$41.09
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	44.00	EA	\$143.59	\$6,317.96
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	44.00	EA	\$68.18	\$2,999.92
Concrete Seal 7.63"/8" - 21	Portland cement grout - 8 in. (labor, equip, materials)	7.8	2334	2,334.00	LF	\$11.88	\$27,721.38
Bottom Plugs	Stainless steel plug - 8 in. diameter	7.8	NA	21.00	EA	\$183.21	\$3,847.41

	borehole						
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	7.8	NA	21.00	LF	\$5.87	\$123.27
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	21.00	EA	\$2.81	\$59.01
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	210.00	EA	\$143.59	\$30,153.90
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	210.00	EA	\$68.18	\$14,317.80
Markers for 6.25"/6.75"	Borehole location/identification marker (EA, material cost only)	NA	NA	7.00	EA	\$2.81	\$19.67
Concrete Seal 4" Alluvials - 3	Portland cement grout - 4 in. (labor, equip, materials)	4	150	9.00	LF	\$7.82	\$70.36
Bottom Plug	Stainless steel plug - 4 in. diameter borehole	4	NA	3.00	EA	\$73.98	\$221.94
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	4	NA	3.00	LF	\$5.87	\$17.61
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$2.81	\$8.43
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	6.00	EA	\$143.59	\$861.54
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	6.00	EA	\$68.18	\$409.08
Concrete Seal 6" Exploration - 7	Portland cement grout (Bag, material cost only...94 lb. bag)	6	560	835.00	bag	\$11.50	\$9,602.50
Bottom Plug	Stainless steel plug - 6 in. diameter borehole	6	NA	7.00	EA	\$133.74	\$936.18
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	7.00	EA	\$2.81	\$19.67
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	74.00	EA	\$143.59	\$10,625.66
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	74.00	EA	\$68.18	\$5,045.32
Concrete Seal 3" Geotech - 18	Portland cement grout (Bag, material cost only...94 lb. bag)	3	560	60.00	bag	\$11.50	\$690.00
Bottom Plug	Stainless steel plug - 2 in. diameter borehole	3	NA	18.00	EA	\$53.52	\$963.36
Cut Casing at Surface	Exposed casing removal - 2 to 3.5 in.	NA	NA	36.00	LF	\$1.33	\$47.88

	diameter steel pipe (LF)						
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	38.00	EA	\$143.59	\$5,456.42
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	38.00	EA	\$68.18	\$2,590.84
Concrete Seal 2" Piezometers - 3	Portland cement grout - 2 in. (labor, equip, materials)	2	92	9.00	LF	\$7.36	\$66.28
Bottom Plug	PVC plug - 2 in. diameter borehole	2	NA	3.00	EA	\$20.59	\$61.77
Cut Casing at Surface	Exposed casing removal - 2 to 3.5 in. diameter steel pipe (LF)	2	NA	3.00	LF	\$1.33	\$3.99
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	3.00	EA	\$2.81	\$8.43
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	6.00	EA	\$143.59	\$861.54
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	6.00	EA	\$68.18	\$409.08
Concrete Seal 15" D Seam Hole	Portland cement grout - 12 in. (libor, equip, materias)	15	215	90.00	LF	\$21.88	\$1,969.03
Bottom Plug	Stainless steel plug - 12 in. diameter borehole	15	NA	1.00	EA	\$343.88	\$343.88
Cut Casing	Exposed casing removal - 10 to 16 in. diameter steel pipe (LF)	15	NA	1.00	LF	\$8.81	\$8.81
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$2.81	\$2.81
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$143.59	\$1,723.08
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	12.00	EA	\$68.18	\$818.16
Seal 9.375" GVBs and Explor. - 37	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	36612	23,518.00	bag	\$11.50	\$270,457.00
Bottom Plug	Stainless steel plug - 10 in. diameter borehole	9.375	NA	37.00	EA	\$251.01	\$9,287.37
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	9.375	NA	74.00	LF	\$5.87	\$434.38
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	37.00	EA	\$2.81	\$103.97
Drill Rig	ATLAS COPCO	NA	NA	500.00	EA	\$143.59	\$71,795.00

	ROC D7-11,4.0 in.						
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	500.00	EA	\$68.18	\$34,090.00
Concrete Seal 4" Geotech - 11	Portland cement grout - 12 in. (libor, equip, materias)	4	550	24.00	LF	\$21.88	\$525.07
Bottom Plug	Stainless steel plug - 4 in. diameter borehole	4	NA	11.00	EA	\$73.98	\$813.78
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	4	NA	11.00	LF	\$5.87	\$64.57
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	11.00	EA	\$2.81	\$30.91
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	44.00	EA	\$143.59	\$6,317.96
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	44.00	EA	\$68.18	\$2,999.92
Seal 9.875" D Seam Hole	Portland cement grout - 10 in. (labor, equip, materials)	9.875	250	67.00	LF	\$17.84	\$1,195.55
Bottom Plug	Stainless steel plug - 10 in. diameter borehole	9.875	NA	1.00	EA	\$251.01	\$251.01
Cut Casing at Surface	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	9.875	NA	1.00	LF	\$5.87	\$5.87
Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$2.81	\$2.81
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	8.00	EA	\$143.59	\$1,148.72
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	8.00	EA	\$68.18	\$545.44

Job Hours: 1,502.00Total Cost: \$766,245.38

REVEGETATION WORKTask description: **Drill Seed Mix 3 on Disturbed Area**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **150**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-150**

4:13:41 PM

User: **SLB**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}	\$88.58
Total Tilling Cost/Acre	\$88.58

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	1.30	4.24	\$13.31
Bitterbrush, Antelope	8.30	2.55	\$168.16
Aster, Smooth	0.30	5.22	\$88.27
Great Basin Wildrye - Magnar	1.20	4.88	\$8.99
Kentucky Bluegrass - Ginger	0.10	4.94	\$0.32
Ryegrass, Perennial - Belramo	0.70	3.97	\$0.97
Intermediate Wheatgrass - Oahe	1.80	3.84	\$3.89
Smooth Brome - Manchar	1.20	3.99	\$2.36
Alfalfa - Ranger (inoculated)	0.70	3.37	\$2.02
Burnett, Small (or Little) - Delar	2.80	3.54	\$4.96

Sheep Fescue - Covar	0.20	3.12	\$0.67
Milk Vetch, Cicer - Lutana	1.10	3.66	\$5.59
Tall Wheatgrass - Jose	2.00	3.63	\$4.50
Western Wheatgrass - Arriba	1.40	3.54	\$5.15
Rose, Wood's	2.70	0.00	\$71.25
Flax, Lewis Blue	0.50	3.32	\$8.26
Sagebrush, Silver	0.10	1.94	\$4.19
Saltbush, Four Wing	2.40	3.31	\$25.75
Serviceberry	4.80	8.82	\$512.35
Siberian Wheatgrass	0.90	2.27	\$2.40
Totals Seed Mix	34.50	74.14	\$933.35

Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	223.55	Cost /Acre:	\$1,792.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$1,704.12
*Selected Replanting Work Items:	SEEDING,MULCHING		

Initial Job Cost:	\$400,758.09
Reseeding Job Cost:	\$190,478.01
Total Job Cost:	\$591,236.10
Job Hours:	40.00

REVEGETATION WORKTask description: **Drill Seed Drill Pads**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **151**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-151**

4:14:41 PM

User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	37.57	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$43,397.86
Reseeding Job Cost:	\$8,876.85
Total Job Cost:	\$52,274.71
Job Hours:	60.00

REVEGETATION WORKTask description: **Drill Seed Lt-Use Roads to Drill Pads and Terror Creek**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **152**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-152**

4:14:51 PM

User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	43.16	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$49,854.98
Reseeding Job Cost:	\$10,197.63
Total Job Cost:	\$60,052.61
Job Hours:	65.00

REVEGETATION WORKTask description: **Broadcast Seed Mix 3 on Gob Pile #3**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **154**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-154**

4:20:59 PM

User: **SLB**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}	\$88.58
Total Tilling Cost/Acre	\$88.58

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Beardless Wheatgrass - Whitmar	2.60	8.48	\$26.62
Bitterbrush, Antelope	16.60	5.11	\$336.32
Aster, Smooth	0.60	10.44	\$176.53
Great Basin Wildrye - Magnar	2.40	9.75	\$17.98
Kentucky Bluegrass - Ginger	0.20	9.87	\$0.63
Ryegrass, Perennial - Belramo	1.40	7.94	\$1.93
Intermediate Wheatgrass - Oahe	3.60	7.69	\$7.78
Smooth Brome - Manchar	2.40	7.99	\$4.73
Alfalfa - Ranger (inoculated)	1.40	6.75	\$4.03
Burnett, Small (or Little) - Delar	5.60	7.07	\$9.91

Sheep Fescue - Covar	0.40	6.24	\$1.34
Milk Vetch, Cicer - Lutana	2.20	7.32	\$11.18
Tall Wheatgrass - Jose	4.00	7.25	\$9.00
Western Wheatgrass - Arriba	2.80	7.07	\$10.30
Rose, Wood's	5.40	0.00	\$142.51
Flax, Lewis Blue	1.00	6.63	\$16.52
Sagebrush, Silver	0.20	3.88	\$8.38
Saltbush, Four Wing	4.80	6.61	\$51.50
Serviceberry	9.60	17.63	\$1,024.70
Siberian Wheatgrass	1.80	4.55	\$4.81
Totals Seed Mix	69.00	148.28	\$1,866.70

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$261.28
Total Seed Application Cost/Acre	\$261.28

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	30.63	Cost /Acre:	\$2,899.13
Estimated Failure Rate:	50%	Cost /Acre*:	\$2,810.55
*Selected Replanting Work Items:	SEEDING,MULCHING		

Initial Job Cost:	\$88,800.35
Reseeding Job Cost:	\$43,043.57
Total Job Cost:	\$131,843.93
Job Hours:	0.00

REVEGETATION WORKTask description: **Drill seed Hubbard Creek Vent Shaft Pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **155**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-155**

4:21:59 PM

User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	1.2	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,386.14
Reseeding Job Cost:	\$283.53
Total Job Cost:	\$1,669.67
Job Hours:	0.00

REVEGETATION WORKTask description: **Drill Seed Rock Laydown Area**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **156**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-156**

4:22:39 PM

User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.2	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$231.02
Reseeding Job Cost:	\$47.26
Total Job Cost:	\$278.28
Job Hours:	0.00

REVEGETATION WORKTask description: **Weed Control Over 10-Year Liability Period**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **157**State: **Colorado**Abbreviation: **None**Date: **8/20/2012**County: **Delta**Filename: **C083-157**User: **SLB**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]	\$61.49
Total Mulch Application Cost/Acre	\$61.49

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:	\$61.49
Estimated Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: **\$51,528.62**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$51,528.62**
 Job Hours: **0.00**

DEMOLITION WORKTask description: Demolish and Remove all StructuresSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATIONTask #: 165State: ColoradoAbbreviation: NoneDate: 1/16/2013 4:24:11 PMCounty: DeltaFilename: C083-165User: SLBAgency or organization name: DRMSUNIT COSTSLocation 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	\$0.21	\$30,672.00
floor	120'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	6,000.00	SF	\$1.70	\$10,188.00
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	\$10.19	\$3,463.58
Shop Superstructure	100'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	144,000.00	CF	\$0.21	\$30,672.00
floor	100'x50'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.70	\$8,490.00
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	\$10.19	\$3,056.10
Warehouse Superstructure	50'x60'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	72,000.00	CF	\$0.21	\$15,336.00
floor	50'x60'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,000.00	SF	\$1.70	\$5,094.00
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	\$10.19	\$2,241.14
Wash Bay Superstructure	50'x25'x24'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	30,000.00	CF	\$0.21	\$6,390.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,250.00	SF	\$1.70	\$2,122.50

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	\$10.19	\$1,528.05
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	\$0.24	\$1,987.52
floor	18'x42'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	756.00	SF	\$1.70	\$1,283.69
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	\$10.19	\$1,222.44
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	\$0.24	\$1,075.50
floor	15'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.70	\$636.75
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	\$10.19	\$814.96
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	\$0.21	\$10,224.00
floor	30'x80'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,400.00	SF	\$1.70	\$4,075.20
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	\$10.19	\$2,241.14
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	\$0.21	\$4,744.58
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
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	\$10.19	\$1,120.57
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	\$0.21	\$5,325.00
floor	50'x25'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,250.00	SF	\$1.70	\$2,122.50
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	\$10.19	\$1,528.05
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	\$0.21	\$10,543.50
floor	30'x110'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,300.00	SF	\$1.70	\$5,603.40
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	\$10.19	\$2,852.36

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	\$0.21	\$1,917.00
floor	40'x15'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
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	\$10.19	\$1,120.57
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	\$0.19	\$638.40
floor	14'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.70	\$1,426.32
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	\$10.19	\$1,242.81
Fueling Station Superstructure	20'x30'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	12,000.00	CF	\$0.21	\$2,556.00
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	\$2.44	\$683.20
-floor	20'x30'x8"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
10k gal diesel tank remove/haul	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,000.00	\$1,000.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$364.00	\$364.00
sludge disposal	NA	Dispose of tank sludge off-site - Average	150.00	GAL	\$6.00	\$900.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	22.50	LB	\$1.64	\$36.90
500 gal DOTdiesel tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$745.00	\$745.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$218.50	\$218.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.00	\$300.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$1.64	\$12.30
2k gal oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$745.00	\$745.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$218.50	\$218.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	200.00	GAL	\$6.00	\$1,200.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	30.00	LB	\$1.64	\$49.20

2.5k gal gas tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$745.00	\$745.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$218.50	\$218.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	250.00	GAL	\$6.00	\$1,500.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	37.00	LB	\$1.64	\$60.68
1k gal motor oil tank remove/haul	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$745.00	\$745.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$218.50	\$218.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	100.00	GAL	\$6.00	\$600.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	15.00	LB	\$1.64	\$24.60
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	\$0.24	\$1,434.00
floor	20'x30'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
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	\$10.19	\$1,018.70
Substation Superstructure	50'x100'x20'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	50,000.00	CF	\$0.21	\$10,650.00
floor	50'x100'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,000.00	SF	\$1.70	\$8,490.00
transformers	3 each	NON-PCB Transformer Removal	3.00	EA	\$2,500.00	\$7,500.00
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	\$0.19	\$608.00
floor	20'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.70	\$679.20
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	\$10.19	\$814.96
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	\$0.20	\$2,160.00
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	\$0.19	\$912.00
floor	30'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
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	\$10.19	\$1,018.70
silo	50'hx8'd	Bldg. (MC) demo./on-site disposal in	2,513.00	CF	\$0.28	\$691.08

		excavated pit - Max. 10,000 ft. haul				
silopad	25'x20'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.70	\$169.80
Pump House Superstructure	18'x12'x8	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	1,728.00	CF	\$0.19	\$328.32
floor	18'x12'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	216.00	SF	\$1.70	\$366.77
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	\$10.19	\$611.22
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	\$0.21	\$4,600.80
floor	20'x24'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.70	\$815.04
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	\$10.19	\$896.46
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	\$0.21	\$9,303.84
floor	40'x21'x6"	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	840.00	SF	\$1.70	\$1,426.32
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	\$10.19	\$1,242.81
Clean Gob Pile Material Storage Area	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	968.00	CY	\$16.45	\$15,923.60
Clean Haul Road Storage Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	484.00	CY	\$16.45	\$7,961.80
Clean Topsoil Stockpile A Storage Pile	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,839.00	CY	\$16.45	\$30,251.55
Clean Portal Bench/Light Use Rd Piles (2)	NA	Loading and 5 mile haul, salvage allowed - Wood frame structures	1,670.00	CY	\$16.45	\$27,471.50
Portal Conveyor (D and B Seams)	140'x72"	Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	140.00	LF	\$51.81	\$7,253.40
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	5.00	LF	\$20.37	\$101.87
Gob Belt Conveyor	81'x48"	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	81.00	LF	\$43.17	\$3,496.77
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$20.37	\$40.75
Stockpile Conveyor	393'x72"	Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	393.00	LF	\$51.81	\$20,361.33
footing	2'x3'	Demo. and on-site disposal in excavated pit,	16.00	LF	\$20.37	\$325.98

		2.0 ft. x 3 ft. - Max. 200 ft. push				
Reclaim Conveyor	402'x48"	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	402.00	LF	\$43.17	\$17,354.34
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	18.00	LF	\$20.37	\$366.73
Off-Spec Coal Conveyor	111'x72"	Conveyor, elevated, including supports - 8 ft. W x 10 ft. H housing	111.00	LF	\$51.81	\$5,750.91
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	4.00	LF	\$20.37	\$81.50
Radial Stacker #1 Conveyor	150'x36"	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	150.00	LF	\$43.17	\$6,475.50
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	6.00	LF	\$20.37	\$122.24
Radial Stacker #2 Conveyor	80' x 36"	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$43.17	\$3,453.60
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	1.00	LF	\$20.37	\$20.37
Stoker Collecting Conveyor	29' x 36"	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	29.00	LF	\$43.17	\$1,251.93
concrete runway	29' x 48"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	116.00	SF	\$1.13	\$131.31
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	\$3.66	\$13,801.97
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$20.37	\$774.21
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	\$3.66	\$16,562.36
foundation	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	38.00	LF	\$20.37	\$774.21
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	\$3.66	\$17,942.56
Reclaim Tunnel Part 1	13' diam x 350'	Multiplate Tunnel	9,065.00	SF	\$7.77	\$70,435.05
Reclaim Tunnel Part 2	13' diam x 200'	Multiplate Tunnel	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	\$0.19	\$721.43
Concrete Fan Housing	6'x6'x8'	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	288.00	CF	\$0.19	\$54.72
10k gal hydraulic oil tank	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,000.00	\$1,000.00
remove sludge	NA	Remove sludge, water, and rem. product from	1.00	EA	\$364.00	\$364.00

		tank - 9,000 to 12,000 gal.				
sludge disposal	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.00	\$6,000.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$1.64	\$246.00
500 gal antifreeze tank	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	1.00	EA	\$745.00	\$745.00
sludge removal	NA	Remove sludge, water, and rem. product from tank - 3,000 to 5,000 gal.	1.00	EA	\$218.50	\$218.50
sludge disposal	NA	Dispose of tank sludge off-site - Average	50.00	GAL	\$6.00	\$300.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	7.50	LB	\$1.64	\$12.30
Culvert B1(50), B3(100), B7(220), B9(140)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	510.00	LF	\$2.24	\$1,142.40
B13(110) B18(110) B25(160) C1(110)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	490.00	LF	\$2.24	\$1,097.60
C2(30) C3(40) C8(30) C19(60) C21(170)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	330.00	LF	\$2.24	\$739.20
E1(40) G2(40) G4(25) J5(50) K1(40) K2(130)	12"	Pipe, corrugated metal (CMP) - 12 in. diameter pipe	325.00	LF	\$2.24	\$728.00
B11(60) B12(170) B14(70) B20(130) B22(40)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	470.00	LF	\$2.39	\$1,123.30
B23(40) C4(300) J6(50) J7(50)	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	440.00	LF	\$2.39	\$1,051.60
B15(80) B16(60) B17(90) B19(60) B27(100)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	390.00	LF	\$3.17	\$1,236.30
C11(90) C12(65) C14(170) C15(25)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	350.00	LF	\$3.17	\$1,109.50
C16(90) G3(50) J4(40) J8(40)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	220.00	LF	\$3.17	\$697.40
B28(120) C13(35) D1(40) D2(30)	30"	Pipe, corrugated metal (CMP) - 30 in. diameter pipe	225.00	LF	\$4.43	\$996.75
B21(40) C5(260) C7(130) C20(25)	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	455.00	LF	\$4.83	\$2,197.65
F2(40)	42"	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	40.00	LF	\$6.05	\$242.00
Power line removal	6350' lin.ft.	Powerline or utility line, overhead, wood - Double or "H" pole	6,350.00	LF	\$5.23	\$33,197.80
Portal Bench to Transfer Tower on grade conveyor	36" x 800'	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	800.00	LF	\$17.07	\$13,656.00
Portal Bench to Transfer	36" x 120'	Conveyor, elevated, including supports - 5 ft.	120.00	LF	\$43.17	\$5,180.40

Tower elevated conveyor		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	\$20.37	\$774.21
tunnel structure	100 lin.ft.	Tunnel	100.00	LF	\$58.19	\$5,819.00
Transfer Tower to Stockpile overland	36" x 2280'	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	2,280.00	LF	\$17.07	\$38,919.60
Transfer Tower to Stockpile elevated	36" x 475'	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	475.00	LF	\$43.17	\$20,505.75
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	112.00	LF	\$20.37	\$2,281.89
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	\$0.20	\$1,280.00
concrete pad	16'x16'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	256.00	SF	\$1.70	\$434.69
footing	2'x3'	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	65.00	LF	\$20.37	\$1,324.31
Wildlife Structures	300 lin.ft.	USER PROVIDED ITEM	300.00	LF	\$58.19	\$17,457.00
Reclaim Conveyor overland	36" x 395'	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	395.00	LF	\$17.07	\$6,742.65
Reclaim Conveyor elevated	36" x 180'	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	180.00	LF	\$43.17	\$7,770.60
Coal Loadout Bin	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	46,875.00	CF	\$0.20	\$9,375.00
footing	2'x3'	Demo. and on-site disposal in existing pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	100.00	LF	\$19.98	\$1,998.40
Coal Reclaim Tunnel	42" x 160'	Tunnel	160.00	LF	\$58.19	\$9,310.40
escapeway	42" x 160'	Tunnel	160.00	LF	\$13.70	\$2,192.00
fan housing building	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	288.00	CF	\$0.20	\$57.60
Loadout Substation	20'x20'x10'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,000.00	CF	\$0.20	\$800.00
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.70	\$679.20
transformer	NA	NON-PCB Transformer Removal	1.00	EA	\$2,500.00	\$2,500.00
fencing	100 lin.ft.	Fencing, chain link, including posts and fabric - 8 ft. to 10 ft. high	100.00	LF	\$2.82	\$282.00
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	\$1.70	\$978.05
wing and stem walls	1408 sq.ft.	Reinforced concrete walls	1,408.00	SF	\$14.26	\$20,078.08

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	\$15.28	\$1,528.00
fan and evase	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	22,032.00	CF	\$0.20	\$4,406.40
shaft house	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,788.00	CF	\$0.20	\$2,157.60
Haul road pavement removal	NA	Pavement, bituminous, demolition only - 3 in. thick	33,467.00	SY	\$4.01	\$134,202.67
disposal	NA	Loading and 2 mile haul, no salvage - Machine loading	5,578.00	CY	\$15.43	\$86,068.54
guardrail removal	NA	Railing, roadside guiderail and posts (posts on 20 ft. centers)	7,545.00	LF	\$11.04	\$83,296.80
Storage Shed at Topsoil Stockpile	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	76,500.00	CF	\$0.20	\$15,300.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	5,100.00	SF	\$1.70	\$8,659.80
Wood fencing from TR-11	NA	Fencing, wood, all types - 4 ft. to 6 ft. high	140.00	LF	\$1.30	\$182.00
12" PVC Pipe from TR-11	NA	Pipe, corrugated metal (CMP) - 8 in. diameter pipe	42.00	LF	\$1.69	\$70.98
Misc Steel Pipe from TR-11	NA	Pipe, steel, welded connections - 4 in. diameter pipe	18.00	LF	\$1.59	\$28.62
Reclaim Conveyor Transfer Building	20'x20'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,000.00	CF	\$0.20	\$3,600.00
floor	20'x20'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$1.70	\$679.20
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$10.19	\$814.96
Batch Weigh System	30'x40'x120'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	144,000.00	CF	\$0.20	\$28,800.00
Railroad Track	NA	Railroad track - Ties and track	7,630.00	LF	\$8.56	\$65,312.80
Storage Track	NA	Railroad track - Ties and track	3,880.00	LF	\$8.56	\$33,212.80
Bypass Track	NA	Railroad track - Ties and track	615.00	LF	\$8.56	\$5,264.40
ballast	NA	Railroad track - Ballast	1,347.00	CY	\$4.23	\$5,697.81
Reclaim Conveyor Transfer Building	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	340.00	LF	\$17.07	\$5,803.80
elevated portion	NA	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	265.00	LF	\$43.17	\$11,440.05
elevated to batch weigh	NA	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	1,200.00	LF	\$43.17	\$51,804.00
footing	NA	Demo. and on-site disposal in excavated pit,	7.00	LF	\$20.37	\$142.62

		2.0 ft. x 3 ft. - Max. 200 ft. push				
Hazardous Waste Removal	NA	Hazardous waste removal - Drum solids/liquids, per drum, (7+ drum job)	20.00	DRUM	\$335.51	\$6,710.20
test	NA	Hazardous waste sampling and analysis, per sample	20.00	EA	\$225.00	\$4,500.00
transport to dump	NA	Solid transport, large truck (max. 80 drums, 25 cy, or 18 tons) - Maximum	150.00	MI	\$7.00	\$1,050.00
dump charges	NA	Dumpsite disposal charge - Average	6.00	TON	\$262.50	\$1,575.00
TR24 Fan Structure	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	12,923.00	CF	\$0.20	\$2,584.60
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	20.00	SF	\$1.70	\$33.96
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	12.00	LF	\$10.19	\$122.24
Conveyor Overpass Retaining Wall	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,400.00	CF	\$0.20	\$680.00
concrete halfwall	NA	Demo. and on-site disposal in existing pit, 8 in. thick - Max. 200 ft. push	480.00	SF	\$2.40	\$1,150.56
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	120.00	SF	\$1.70	\$203.76
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	360.00	LF	\$10.19	\$3,667.32
multiplate structure	NA	Retaining wall, steel bin type, demolition only - 5.5 ft. D x 4 ft. H	60.00	LF	\$8.94	\$536.40
140k gal water tank	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	19,300.00	CF	\$0.20	\$3,860.00
Transfer Building	20'x24'x45'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	21,600.00	CF	\$0.20	\$4,320.00
floor	20'x35'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	700.00	SF	\$1.70	\$1,188.60
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	106.00	LF	\$10.19	\$1,079.82
MCC Building	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,000.00	CF	\$0.20	\$200.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	100.00	SF	\$1.70	\$169.80
Substation	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	25,000.00	CF	\$0.20	\$5,000.00
transformer	NA	NON-PCB Transformer Removal	2.00	EA	\$2,500.00	\$5,000.00
Water tank 50k gal	NA	Bldg. (MN) demo./on-site disposal in	6,720.00	CF	\$0.20	\$1,344.00

		excavated pit - Max. 200 ft. push				
Mine vent fan	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,200.00	CF	\$0.20	\$640.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	40.00	SF	\$1.70	\$67.92
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	116.00	LF	\$10.19	\$1,181.69
Powerlines	NA	Powerline or utility line, overhead, wood - Double or "H" pole	200.00	LF	\$5.23	\$1,045.60
Rock Dust Tank	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	2,513.00	CF	\$0.20	\$502.60
compressor house	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,800.00	CF	\$0.20	\$960.00
Portal Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	148.00	LF	\$17.07	\$2,526.36
Gob Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	100.00	LF	\$17.07	\$1,707.00
Radial Stacker Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	42.00	LF	\$17.07	\$716.94
Wash Plant	55'x70'x80'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	308,000.00	CF	\$0.20	\$61,600.00
floor	55'x70'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,850.00	SF	\$1.70	\$6,537.30
footing	55'x70'	Demo. and on-site disposal in existing pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	250.00	LF	\$9.99	\$2,498.00
MCC Room	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,760.00	CF	\$0.20	\$1,152.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	480.00	SF	\$1.70	\$815.04
Transfer Bldg - Reclaim to Plant	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	10,240.00	CF	\$0.20	\$2,048.00
Reclaim Tunnel Multiplate	NA	Retaining wall, steel bin type, demolition only - 5.5 ft. D x 4 ft. H	200.00	LF	\$8.94	\$1,788.00
Stacking Tube	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,900.00	CF	\$0.20	\$980.00
structure	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	8,000.00	SF	\$1.83	\$14,640.00
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	38.00	LF	\$10.19	\$387.11
Clarifier Tank/Thickener	70'd x 10'h x 10"	Demo. and on-site disposal in excavated pit,	2,199.00	SF	\$2.83	\$6,223.17

	th	10 in. thick - Max. 200 ft. push				
base	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,848.00	SF	\$1.70	\$6,533.90
sludge removal	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	10.00	EA	\$364.00	\$3,640.00
Transfer Building - Plant Feed	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	8,192.00	CF	\$0.20	\$1,638.40
Transfer Building - Clean Coal	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	4,096.00	CF	\$0.20	\$819.20
Refuse Bin	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	24,000.00	CF	\$0.20	\$4,800.00
Reclaim Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	250.00	LF	\$25.91	\$6,477.50
Plant Feed Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	300.00	LF	\$25.91	\$7,773.00
Stoker Stockpile Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	125.00	LF	\$25.91	\$3,238.75
Clean Coal Transfer Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	25.00	LF	\$25.91	\$647.75
Clean Coal Stockpile Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	550.00	LF	\$25.91	\$14,250.50
Refuse Conveyor	NA	Conveyor, overland, including supports - 8 ft. W x 10 ft. H housing	275.00	LF	\$25.91	\$7,125.25
Synfuel Plant	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	84,000.00	CF	\$0.20	\$16,800.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	28,000.00	SF	\$1.70	\$47,544.00
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	220.00	LF	\$10.19	\$2,241.14
Feed Belt Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	50.00	LF	\$17.07	\$853.50
Product Belt Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	85.00	LF	\$17.07	\$1,450.95
Return Belt Conveyor	NA	Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	80.00	LF	\$17.07	\$1,365.60
Fan and Duct Work TR62	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	31,752.00	CF	\$0.20	\$6,350.40
footings	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	108.00	LF	\$10.19	\$1,100.20
MCC Building TR62	NA	Bldg. (MN) demo./on-site disposal in	4,500.00	CF	\$0.20	\$900.00

		excavated pit - Max. 200 ft. push				
motor foundation	NA	Demo and on-site disposal in excavated pit	6.00	CY	\$89.00	\$534.00
floor	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	375.00	SF	\$1.70	\$636.75
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	80.00	LF	\$10.19	\$814.96
Water Line TR53	NA	Means 02 41 13.38 1700 PVC 6-8"	400.00	LF	\$1.88	\$752.00
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	\$3.66	\$4,777.61
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	150.00	LF	\$10.19	\$1,528.05
Parking Area Expansion Culvert	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	80.00	LF	\$2.39	\$191.20
10k gal fuel tank TR47	NA	Excavate and load tank onto trailer, non-leaking - 9,000 gal. to 12,000 gal.	1.00	EA	\$1,230.00	\$1,230.00
remove sludge	NA	Remove sludge, water, and rem. product from tank - 9,000 to 12,000 gal.	1.00	EA	\$364.00	\$364.00
dispose of sludge	NA	Dispose of tank sludge off-site - Average	1,000.00	GAL	\$6.00	\$6,000.00
insert CO2	NA	Insert dry ice (CO2) into tank to produce inert gas - 1.5 lbs./100 gal.	150.00	LB	\$1.64	\$246.00
haul tank to certified dump	NA	Haul tank to certified salvage dump - 9,000 to 12,000 gal. tank	1.00	EA	\$1,000.00	\$1,000.00
Trailers (3)	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,000.00	CF	\$0.20	\$600.00
Quonset Hut MR108	25'x60'x12.5'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	18,750.00	CF	\$0.20	\$3,750.00
floor	25'x60'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.70	\$2,547.00
Hoist Structure MR97	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	1,440.00	CF	\$0.20	\$288.00
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	9.00	LF	\$10.19	\$91.68
piers	NA	Demo and on-site disposal in excavated pit	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	\$0.20	\$1,177.20
Collecting Conveyor	NA	Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	76.00	LF	\$43.17	\$3,280.92
footing	NA	Demo. and on-site disposal in excavated pit, 2.0 ft. x 3 ft. - Max. 200 ft. push	2.00	LF	\$20.37	\$40.75
Batch Weigh @ Loadout	30' x 40' x 120'	Bldg. (MN) demo./on-site disposal in	144,000.00	CF	\$0.20	\$28,800.00

		excavated pit - Max. 200 ft. push				
Fuel Station floor	20' x 30'	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	600.00	SF	\$1.70	\$1,018.80
footing	2'x3'	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	100.00	LF	\$10.19	\$1,018.70
Loadout Storage Stacker	NA	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	8,000.00	CF	\$0.20	\$1,600.00
tube	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	3,678.00	SF	\$1.70	\$6,245.24
footing	NA	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	44.00	LF	\$10.19	\$448.23
Filter Building MR 125	40'x16'x8'	Bldg. (SC) demo./on-site disposal in excavated pit - Max. 200 ft. push	5,120.00	CF	\$0.23	\$1,157.12
floor	40'x16'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	640.00	SF	\$1.13	\$724.48
footing	112 LF	Demo. and on-site disposal in excavated pit, 1.5 ft. x 2 ft. - Max. 200 ft. push	112.00	LF	\$10.19	\$1,140.94
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	\$0.20	\$1,920.00
floor	16'x50'x4"	Demo. and on-site disposal in excavated pit, 4 in. thick - Max. 200 ft. push	800.00	SF	\$1.13	\$905.60
footing	82 LF	Demo. and on-site disposal in excavated pit, 1.0 ft. x 2 ft. - Max. 200 ft. push	82.00	LF	\$6.79	\$556.86
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	\$3.40	\$3,056.40
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	\$0.19	\$2,796.80
pad	NA	Demo. and on-site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,500.00	SF	\$1.70	\$2,547.00

Job Hours: 80.00Subtotal (unadjusted): \$1,688,221.89Total Cost (adjusted for location): \$1,725,362.77

Task #170

**Proctor Testing of Backfill
Bowie No. 2 Mine - C1996083
Permit Renewal No. 3**

22-Aug-12

Assume 5 tests required (operator estimate)

<i>Item</i>	<i>Means Location</i>	<i>Unit Cost</i>	<i>Qty</i>	<i>Total</i>
Proctor Test	01 45 23.50 4900	\$135.00	5	\$675.00

Subtotal				\$675.00
City Cost Index - 102.2%			1.022	
TOTAL				\$689.85

Costs were obtained from the RS Means Building Construction and Site Work & Landscape Cost Data References, 2012 editions, unless otherwise noted.

Task #171**Nuclear Density Testing of Backfill
Bowie No. 2 Mine - C1996083
Permit Renewal No. 3****22-Aug-12**

Assume technician on site for all backfilling hours (1760 hrs)

<i>Item</i>	<i>Means Location</i>	<i>Unit Cost</i>	<i>Qty</i>	<i>Total</i>
Supervision/Quality Control	01 41 23.5 0010	\$70.00	1760	\$123,200.00

Subtotal				\$123,200.00
City Cost Index - 102.2%			1.022	
TOTAL				\$125,910.40

Costs were obtained from the RS Means Building Construction and Site Work & Landscape Cost Data References, 2012 editions, unless otherwise noted.

MISCELLANEOUS TRUCK WORKTask description: Water Truck for Moisture Augmentation of Backfill MaterialSite: Bowie No. 2 Mine Permit Action: Permit Renewal 3 Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 172 State: Colorado Abbreviation: None
 Date: 1/16/2013 County: Delta Filename: C083-172
4:30:41 PM
 User: SLB

Agency or organization name: DRMSHOURLY 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:	\$20.80	NA
Operating Cost/Hour:	\$46.55	100
Operator Cost/Hour:	\$21.17	NA
Total Unit Cost/Hour:	\$88.51	
Total Fleet Cost/Hour:	\$88.51	

JOB TIME AND COST

Fleet size: 1 Truck(s) Total job time: 1,437.02 Hours
 Unit cost: \$88.51 /Hour Total job cost: \$127,191.00

SITE MAINTENANCETask description: **Site Maintenance - Ten Years**Site: **Bowie No. 2 Mine** Permit Action: Permit Renewal 3 Permit/Job#: C1996083**PROJECT IDENTIFICATION**

Task #: 173 State: Colorado Abbreviation: None
Date: 1/16/2013 County: Delta Filename: C083-173
4:35:15 PM
User: SLB

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	\$75.79	\$18,189.60
Grader for Roads and Ditches	4.00	CAT 12M	40.00	EA	\$95.57	\$3,822.80
Pond Dredging	12.00	Dredging	12.00	EA	\$18,000.00	\$216,000.00

Job Hours: **292.00****Total Cost:** **\$238,012.40**

SITE MAINTENANCETask description: Support Equipment for Scraper HaulingSite: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083PROJECT IDENTIFICATION

Task #: 174 State: Colorado Abbreviation: None
Date: 1/16/2013 County: Delta Filename: C083-174
4:35:54 PM
User: SLB

Agency or organization name: DRMSUNIT 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	\$88.51	\$40,588.03
Grader	458.57	CAT 14M	458.57	EA	\$136.55	\$62,617.73

Job Hours: 449.16Total Cost: \$103,205.76

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demobilize Equipment for First Construction Season**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **180**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-180**

4:36:52 PM

User: **SLB**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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D10T - 10SU	84.53	\$99.15	\$125.45	4	\$898.41	\$501.80	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$78.81	\$125.45	2	\$408.52	\$250.90	\$500.00
CAT 815F	22.88	\$36.81	\$88.67	1	\$125.48	\$88.67	\$250.00
CAT 14M	23.57	\$37.98	\$88.67	1	\$126.65	\$88.67	\$250.00
CAT 988H	54.46	\$82.23	\$125.45	1	\$207.68	\$125.45	\$250.00
Cat 773F	49.74	\$60.64	\$117.55	3	\$534.56	\$352.65	\$750.00
Cat 627G w/push- pull	43.48	\$65.78	\$117.55	4	\$733.32	\$470.20	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$20.80	\$88.67	1	\$109.47	\$88.67	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$49.55	\$88.67	1	\$138.22	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00
Power Mulcher (Reinco M90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$0.00

Subtotals: **\$3,506.27 \$2,233.02 \$4,750.00**

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	\$70.40	1	\$70.40	\$70.40
Lube Truck, 6x4, 210 HP	\$84.15	1	\$84.15	\$84.15
Flatbed Truck, 6x4, 45K GVW	\$77.12	1	\$77.12	\$77.12
Light Duty Pickup, 4x4, 1 T. Crew	\$84.01	1	\$84.01	\$84.01
Subtotals:			\$315.68	\$315.68

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	GRAND JUNCTION	
Total one-way travel distance:	100.00	miles
Average Travel Speed:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$45,208.99
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$1,578.40
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	2.50	2.50
Return Time (Hours):	2.50	2.50
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	6.00	5.00

JOB TIME AND COSTTotal job time: **12.00** HoursTotal job cost: **\$46,787.39**

EQUIPMENT MOBILIZATION/DEMobilIZATIONTask description: **Mobilize/Demobilize Equipment for Second Construction Season**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **181**State: **Colorado**Abbreviation: **None**Date: **1/16/2013**County: **Delta**Filename: **C083-181**

4:45:50 PM

User: **SLB**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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D10T - 10SU	84.53	\$99.15	\$125.45	4	\$898.41	\$501.80	\$1,000.00
Cat 365C L 13'-7" Stick	77.56	\$78.81	\$125.45	2	\$408.52	\$250.90	\$500.00
CAT 815F	22.88	\$36.81	\$88.67	1	\$125.48	\$88.67	\$250.00
CAT 14M	23.57	\$37.98	\$88.67	1	\$126.65	\$88.67	\$250.00
CAT 988H	54.46	\$82.23	\$125.45	1	\$207.68	\$125.45	\$250.00
Cat 773F	49.74	\$60.64	\$117.55	3	\$534.56	\$352.65	\$750.00
Cat 627G w/push- pull	43.48	\$65.78	\$117.55	4	\$733.32	\$470.20	\$1,000.00
Water Tanker, 5,000 Gal.	15.00	\$20.80	\$88.67	1	\$109.47	\$88.67	\$250.00
ATLAS COPCO ROC D7-11,4.0 in.	0.00	\$49.55	\$88.67	1	\$138.22	\$88.67	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00
Power Mulcher (Reinco M90)	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$0.00

Subtotals: **\$3,506.27** **\$2,233.02** **\$4,750.00**

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	\$70.40	1	\$70.40	\$70.40
Lube Truck, 6x4, 210 HP	\$84.15	1	\$84.15	\$84.15
Flatbed Truck, 6x4, 45K GVW	\$77.12	1	\$77.12	\$77.12
Light Duty Pickup, 4x4, 1 T. Crew	\$84.01	1	\$84.01	\$84.01
Subtotals:			\$315.68	\$315.68

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region: GRAND JUNCTION

Total one-way travel distance: 100.00 miles

Average Travel Speed: 40.00 mph

Total Non-Roadable Mob/Demob Cost * \$45,208.99

* two round trips with haul rig:

Total Roadable Mob/Demob Cost ** \$1,578.40

** 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: 12.00 Hours

Total job cost: \$46,787.39

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilize/Demoblize Equipment for Pond Removal**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **182**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-182**User: **SLB**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:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D9T - 9SU	60.01	\$69.88	\$125.45	1	\$195.33	\$125.45	\$250.00
Cat 627G w/push-pull	43.48	\$65.78	\$117.55	1	\$183.33	\$117.55	\$250.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00

Subtotals: **\$506.92** **\$331.67** **\$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	\$77.12	1	\$77.12	\$77.12

Subtotals: **\$77.12** **\$77.12**

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:	40.00	mph

Total Non-Roadable Mob/Demob Cost *	\$4,400.67
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$173.52
'** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	1.13	1.13
Return Time (Hours):	1.13	1.13
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	3.25	2.25

JOB TIME AND COST

Total job time:	6.50	Hours
Total job cost:	\$4,574.19	

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>45.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$29,916.30</u>
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 * two round trips with haul rig:

Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
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 ** one round trip, no haul rig:

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>1.00</u>	<u>1.00</u>
Return Time (Hours):	<u>1.00</u>	<u>1.00</u>
Loading Time (Hours):	<u>2.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>2.50</u>	<u>NA</u>
Subtotals:	<u>7.00</u>	<u>2.00</u>

JOB TIME AND COST

Total job time:	<u>14.00</u>	Hours
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Total job cost:	<u>\$29,916.30</u>
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BULLDOZER WORKTask description: **Regrade Terror Creek Light-Use Road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 241State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2419:45:24 AMUser: SLBAgency 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:	\$69.88	NA
Operating Cost/Hour:	\$142.13	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****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 Cat Handbook

factor: _____

HOURLY PRODUCTIONAverage push distance: 125 feetUnadjusted hourly 1,055.6 LCY/hr

production: _____

Materials 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: \$0.673/LCY

Total job time: **29.73 Hours**
 Total job cost: **\$7,415.42**

BULLDOZER WORKTask description: **Replace Topsoil from Stockpile to Terror Creek Lt-Use Road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 242State: ColoradoAbbreviation: NoneDate: 1/17/2013
9:46:08 AMCounty: DeltaFilename: C083-242User: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 7,400Swell factor: 1.125Loose volume: **8,325 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****Source**

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: \$0.673/LCY

Total job time: **22.45 Hours**

Total job cost: **\$5,599.40**

BULLDOZER WORKTask description: **Regrade BRL-1-03-01, 1-08-01, and 1-08-04 pads**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **252**State: **Colorado**Abbreviation: **None**Date: **1/17/2013
9:47:01 AM**County: **Delta**Filename: **C083-252**User: **SLB**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:	\$69.88	NA
Operating Cost/Hour:	\$142.13	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$249.42**Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: **1,925**Swell factor: **1.250**Loose volume: **2,406 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **100 feet**

Unadjusted hourly

production:

1,243.2 LCY/hrMaterials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **8,100 feet**Material weight: **2,650 lbs/LCY**Weight description: **Decomposed rock - 25% Rock, 75% Earth****Job Condition Correction Factor****Source**

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: 436.74 LCY/hr

Adjusted fleet production: **436.74 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.571/LCY

Total job time: **5.51 Hours**

Total job cost: **\$1,374.20**

BULLDOZER WORKTask description: **Regrade Light-Use Roads BRL-1-03-01, -08-01, and -08-04**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 253State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-253

9:47:43 AM

User: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 6,000Swell factor: 1.250Loose volume: **7,500 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: 910.5 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 5 %Average site altitude: 8,100 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% Earth**Job Condition Correction Factor****Source**

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: 319.86 LCY/hr

Adjusted fleet production: **319.86 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.780/LCY

Total job time: **23.45 Hours**

Total job cost: **\$5,848.35**

BULLDOZER WORKTask description: **Replace topsoil on BRL-1-03-01, -08-01, and -08-04 pads**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 254State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2549:48:21 AMUser: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 650Swell factor: 1.250Loose volume: **813 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet

Unadjusted hourly

production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 8,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction FactorSource

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: **504.24** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.495/LCY

Total job time: **1.61** Hours

Total job cost: **\$401.90**

BULLDOZER WORKTask description: **Replace topsoil on LU Roads to BRL-1-03-01, -08-01, & -08-04**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 255State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2559:49:00 AMUser: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 3,140Swell factor: 1.250Loose volume: **3,925 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: 910.5 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 5 %Average site altitude: 8,100 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packed**Job Condition Correction Factor****Source**

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: 369.30 LCY/hr

Adjusted fleet production: **369.3 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.675/LCY

Total job time: **10.63 Hours**
Total job cost: **\$2,650.90**

REVEGETATION WORKTask description: **Reseed BRL-1-03-01, -08-01, and -08-04 pads**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **256**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-256****9:49:55 AM**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$86.68

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:	0.97	Cost /Acre:	\$1,089.23
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,056.55
Reseeding Job Cost:	\$229.19
Total Job Cost:	\$1,285.74
Job Hours:	4.00

REVEGETATION WORKTask description: **Reseed BRL-1-03-01, -08-01, and -08-04 LU roads**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **257**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-257****9:51:18 AM**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$86.68

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	3.65	Cost /Acre:	\$1,089.23
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$3,975.69
Reseeding Job Cost:	\$862.40
Total Job Cost:	\$4,838.09
Job Hours:	16.00

Task #261**Concrete Plug and Backfill Vent Shaft
Bowie No. 2 Mine - C1996083
Permit Renewal No. 3****17-Jan-13**

<i>Item</i>	<i>Means Location</i>	<i>Unit Cost</i>	<i>Qty</i>	<i>Total</i>
Concrete Plugs	CIRCES	\$138.29	269	\$37,200.01
City Cost Index - 102.2%			1.022	\$ 818.40
Subtotal				\$38,018.41
Backfill Shaft	CIRCES	\$16.43	6900	\$113,367.00
				\$151,385.41
TOTAL				\$151,385.41

Volumes and designs are based on a similar shaft at the West Elk Mine. Costs were obtained from the RS Means Building Construction and Site Work & Landscape Cost Data References, 2012 editions, unless otherwise noted.

BULLDOZER WORKTask description: Access Road Topsoil (9.08 acres - TR73)Site: Bowie No. 2 MinePermit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 278State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2781:10:00 PMUser: SLBAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8SUHorsepower: 310Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	<u>\$56.69</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$104.03</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$198.13Total Fleet Cost/Hour: **\$198.13****MATERIAL QUANTITIES**Initial Volume: 14,650Swell factor: 1.125Loose volume: **16,481 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet

Unadjusted hourly

production: 852.6 LCY/hrMaterials consistency description: Partly consolidated stockpile 1.1Average push gradient: 5 %Average site altitude: 8,000 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction FactorSource

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:	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: 0.4462

Adjusted unit production: 380.43 LCY/hr
Adjusted fleet production: **380.43 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.521/LCY

Total job time: **43.32 Hours**
Total job cost: **\$8,583.58**

BOREHOLE SEALING WORKTask description: **Plug and seal 13 boreholes TR-73**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **279**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-279**

1:11:19 PM

User: **SLB**Agency or organization name: **DRMS****UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
13 bore holes	PVC plug - 10 in. diameter borehole	9.375	18030	13.00	EA	\$96.54	\$1,255.02
Fill holes with cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375	18030	4,321.00	bag	\$11.50	\$49,691.50
Cut casings	Exposed casing removal - 4 to 10 in. diameter steel pipe (LF)	9.375	NA	26.00	LF	\$5.87	\$152.62
Borehole markers	Borehole location/identification marker (EA, material cost only)	NA	NA	13.00	EA	\$2.81	\$36.53
Drill Rig time	SCHRAMM T450BH	NA	NA	156.00	EA	\$178.70	\$27,877.20
WaterTruck	Water Tanker, 3,500 Gal.	NA	NA	156.00	EA	\$46.77	\$7,296.12

Job Hours: 156.00**Total Cost: \$86,308.99**

REVEGETATION WORKTask description: **Reseed Drill Pads (13 pads - TR-73)**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **280**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-280**

1:13:12 PM

User: **SLB**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
Arrowleaf Balsamroot	1.10	1.37	\$43.46
Bitterbrush, Antelope	16.60	5.11	\$336.32
Indian Ricegrass - Native	1.90	6.15	\$12.81
Alfalfa - Ladak (inoculated)	1.40	6.75	\$4.37
Burnett, Small (or Little) - Delar	5.60	7.07	\$9.91
Sheep Fescue - Covar	0.40	6.24	\$1.34
Slender Wheatgrass - Native	2.00	7.30	\$4.50
Milk Vetch, Cicer - Lutana	2.20	7.32	\$11.18
Streambank Wheatgrass - Sodar	3.00	9.78	\$12.63

Thickspike Wheatgrass - Critana	5.00	17.68	\$25.85
Western Wheatgrass - Arriba	2.80	7.07	\$10.30
Needlegrass, Green - Lodorm	1.76	7.31	\$9.49
Rose, Wood's	5.40	0.00	\$142.51
Sagebrush, Louisiana or Prairie	0.20	20.16	\$27.48
Sagebrush, Mountain or Big	0.20	10.56	\$6.74
Flax, Lewis Blue	1.00	6.63	\$16.52
Saltbush, Four Wing	4.80	6.61	\$51.50
Serviceberry	9.60	17.63	\$1,024.70
Basin Wildrye - Trailhead	2.40	9.75	\$15.72
Totals Seed Mix	67.36	160.50	\$1,767.33

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$261.28
Total Seed Application Cost/Acre	\$261.28

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	11.96	Cost /Acre:	\$2,711.18
Estimated Failure Rate:	50%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: **\$32,425.71**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$32,425.71**
 Job Hours: **23.92**

REGETATION WORKTask description: **Reseed Access Roads - TR-73**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **281**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-281**

1:14:09 PM

User: **SLB**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
Arrowleaf Balsamroot	1.10	1.37	\$43.46
Bitterbrush, Antelope	16.60	5.11	\$336.32
Indian Ricegrass - Native	1.90	6.15	\$12.81
Alfalfa - Ladak (inoculated)	1.40	6.75	\$4.37
Burnett, Small (or Little) - Delar	5.60	7.07	\$9.91
Sheep Fescue - Covar	0.40	6.24	\$1.34
Slender Wheatgrass - Native	2.00	7.30	\$4.50
Milk Vetch, Cicer - Lutana	2.20	7.32	\$11.18
Streambank Wheatgrass - Sodar	3.00	9.78	\$12.63

Thickspike Wheatgrass - Critana	5.00	17.68	\$25.85
Western Wheatgrass - Arriba	2.80	7.07	\$10.30
Needlegrass, Green - Lodorm	1.76	7.31	\$9.49
Rose, Wood's	5.40	0.00	\$142.51
Sagebrush, Louisiana or Prairie	0.20	20.16	\$27.48
Sagebrush, Mountain or Big	0.20	10.56	\$6.74
Flax, Lewis Blue	1.00	6.63	\$16.52
Saltbush, Four Wing	4.80	6.61	\$51.50
Serviceberry	9.60	17.63	\$1,024.70
Basin Wildrye - Trailhead	2.40	9.75	\$15.72
Totals Seed Mix	67.36	160.50	\$1,767.33

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$261.28
Total Seed Application Cost/Acre	\$261.28

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	9.08	Cost /Acre:	\$2,711.18
Estimated Failure Rate:	50%	Cost /Acre*:	\$0.00
*Selected Replanting Work Items:	NONE		

Initial Job Cost: **\$24,617.51**
 Reseeding Job Cost: **\$0.00**
 Total Job Cost: **\$24,617.51**
 Job Hours: **18.16**

BULLDOZER WORKTask description: **Drill Pad backfill (13 pads TR-73)**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **282**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-282**

1:15:23 PM

User: **SLB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$56.69	NA
Operating Cost/Hour:	\$104.03	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$198.13**Total Fleet Cost/Hour: **\$198.13****MATERIAL QUANTITIES**Initial Volume: **28,944**Swell factor: **1.165**Loose volume: **33,720 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **100 feet**

Unadjusted hourly

production:

852.6 LCY/hrMaterials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **8,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor****Source**

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: 273.60 LCY/hr

Adjusted fleet production: **273.6 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.724/LCY

Total job time: **123.24 Hours**

Total job cost: **\$24,418.65**

BULLDOZER WORKTask description: **Access Road Regrading (9.08 acres - TR73)**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **283**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-283**

1:16:11 PM

User: **SLB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$56.69	NA
Operating Cost/Hour:	\$104.03	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$198.13**Total Fleet Cost/Hour: **\$198.13****MATERIAL QUANTITIES**Initial Volume: **21,974**Swell factor: **1.165**Loose volume: **25,600 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **100 feet**

Unadjusted hourly

production:

852.6 LCY/hrMaterials consistency description: **Compacted fill or embankment 0.9**Average push gradient: **5 %**Average site altitude: **8,000 feet**Material weight: **2,900 lbs/LCY**Weight description: **Decomposed rock - 50% Rock, 50% Earth****Job Condition Correction Factor****Source**

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: 273.60 LCY/hr

Adjusted fleet production: **273.6 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.724/LCY

Total job time: **93.57 Hours**

Total job cost: **\$18,538.40**

BULLDOZER WORKTask description: **Drill Pad Topsoil (13 pads - TR73)**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **284**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-284**

1:16:54 PM

User: **SLB**Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**Basic Machine: **Cat D8T - 8SU**Horsepower: **310**Blade Type: **Semi-Universal**Attachment: **NA**Shift Basis: **1 per day**Data Source: **(CRG)****Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$56.69	NA
Operating Cost/Hour:	\$104.03	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$198.13**Total Fleet Cost/Hour: **\$198.13****MATERIAL QUANTITIES**Initial Volume: **19,295**Swell factor: **1.125**Loose volume: **21,707 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**

Source of estimated swell

factor:

Cat Handbook**HOURLY PRODUCTION**Average push distance: **100 feet**

Unadjusted hourly

production:

852.6 LCY/hrMaterials consistency description: **Partly consolidated stockpile 1.1**Average push gradient: **5 %**Average site altitude: **8,000 feet**Material weight: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor****Source**

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:	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: 0.4462

Adjusted unit production: 380.43 LCY/hr

Adjusted fleet production: **380.43** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.521/LCY

Total job time: **57.06** Hours

Total job cost: **\$11,305.14**

BULLDOZER WORKTask description: **Regrade GVB-B13F Drill Pad**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 285State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2851:18:30 PMUser: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 2,226Swell factor: 1.165Loose volume: **2,593 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet

Unadjusted hourly

production: 1,243.2 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****Source**

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: **398.94** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.625/LCY

Total job time: **6.50** Hours

Total job cost: **\$1,621.35**

BULLDOZER WORKTask description: **Regrade Light-Use Road to GVB-B13F**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 286State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2861:19:34 PMUser: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 702Swell factor: 1.165Loose volume: **818 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 200 feet

Unadjusted 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****Source**

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: \$1.110/LCY

Total job time: **3.64** Hours

Total job cost: **\$908.09**

BULLDOZER WORKTask description: **Replace Topsoil from Stockpile to GVB-B13F pad**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 287State: ColoradoAbbreviation: NoneDate: 1/17/2013County: DeltaFilename: C083-2871:20:13 PMUser: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 1,113Swell factor: 1.125Loose volume: **1,252 LCY**Source of estimated volume: Division of Reclamation, Mining & Safety

Source of estimated swell

factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 125 feet

Unadjusted hourly

production: 1,055.6 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****Source**

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:	0.900	(SSD-FC)
Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4563

Adjusted unit production: 481.67 LCY/hr

Adjusted fleet production: **481.67** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.518/LCY

Total job time: **2.60** Hours

Total job cost: **\$648.50**

BULLDOZER WORKTask description: **Replace Topsoil from Stockpile to GVB-B13F Light-Use Road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 288State: ColoradoAbbreviation: NoneDate: 1/17/2013
1:20:59 PMCounty: DeltaFilename: C083-288User: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**

Initial Volume: 350
 Swell factor: 1.125
 Loose volume: **394 LCY**

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 150 feet
 Unadjusted hourly production: 910.5 LCY/hr

Materials 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****Source**

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: 369.30 LCY/hr

Adjusted fleet production: **369.3** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.675/LCY

Total job time: **1.07** Hours
Total job cost: **\$265.93**

REVEGETATION WORKTask description: **Reseed GVB-B13F Drill Pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **289**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-289****1:22:01 PM**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.92	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,062.71
Reseeding Job Cost:	\$217.37
Total Job Cost:	\$1,280.08
Job Hours:	2.00

REVEGETATION WORKTask description: **Reseed Light-Use Road to GVB-B13F**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **290**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-290**

1:23:00 PM

User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.29	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$334.98
Reseeding Job Cost:	\$68.52
Total Job Cost:	\$403.50
Job Hours:	2.00

BOREHOLE SEALING WORKTask description: **Plug and Seal GVB-B13F**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **299**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-299**

1:23:59 PM

User: **SLB**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"	1,635'	1.00	EA	\$96.54	\$96.54
- Fill Holes with Cement	Portland cement grout (Bag, material cost only...94 lb. bag)	9.375"	1400	336.00	bag	\$11.50	\$3,864.00
- Cut Casing at Surface	Exposed casing removal - 8 to 14 in. diameter steel pipe (LF)	9.375"	NA	3.00	LF	\$8.81	\$26.43
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$2.81	\$2.81
- Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	12.00	EA	\$174.62	\$2,095.44
- Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	12.00	EA	\$63.70	\$764.40

Job Hours: 48.00**Total Cost: \$6,849.62**

BOREHOLE SEALING WORKTask description: **Plug and Seal 4 Utility Holes at Fan Bench**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **300**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-300**

1:24:38 PM

User: **SLB**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	2080	4.00	EA	\$96.54	\$386.16
- Fill Holes with Cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	2080	567.00	bag	\$11.50	\$6,520.50
- Cut Casing at Surface	Exposed casing removal - 8 to 14 in. diameter steel pipe (LF)	10	NA	12.00	LF	\$8.81	\$105.72
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	4.00	EA	\$2.81	\$11.24
- Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	32.00	EA	\$174.62	\$5,587.84
- Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	32.00	EA	\$63.70	\$2,038.40

Job Hours: 48.00**Total Cost: \$14,649.86**

REVEGETATION WORKTask description: **Reseed Add'l Disturbance from Utility Boreholes at Fan Bench**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **301**State: **Colorado**Abbreviation: **None**Date: **1/17/2013**County: **Delta**Filename: **C083-301****1:25:25 PM**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding {DMG}	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	0.39	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$450.50
Reseeding Job Cost:	\$92.15
Total Job Cost:	\$542.64
Job Hours:	1.00

BULLDOZER WORKTask description: **Regrade Fan Bench - Utility Borehole Mudpit Add'l Dist.**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 302State: ColoradoAbbreviation: NoneDate: 1/17/2013
1:26:34 PMCounty: DeltaFilename: C083-302User: SLBAgency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**

Initial Volume: 782
 Swell factor: 1.165
 Loose volume: **911 LCY**

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**

Average push distance: 200 feet
 Unadjusted hourly production: 700.0 LCY/hr

Materials 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****Source**

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: \$1.110/LCY

Total job time: **4.06** Hours

Total job cost: **\$1,011.57**

BULLDOZER WORKTask description: **Regrade Vent Hole B13 Drill Pad**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **331**
Date: **3/19/2013**
User: **SLB**State: **Colorado**
County: **Delta**Abbreviation: **None**
Filename: **C083-331**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:	\$69.88	NA
Operating Cost/Hour:	\$142.13	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$249.42**Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: **2,420**
Swell factor: **1.165**
Loose volume: **2,819 LCY**Source of estimated volume: **Division of Reclamation, Mining & Safety**
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**Operator Skill: **0.750****Source**
(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: \$0.932/LCY

Total job time: **10.54 Hours**

Total job cost: **\$2,628.36**

BULLDOZER WORKTask description: **Re-topsoil Vent Hole B13 Drill Pad**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 335
Date: 3/19/2013
User: SLBState: Colorado
County: DeltaAbbreviation: None
Filename: C083-335Agency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 1,613
Swell factor: 1.125
Loose volume: **1,815 LCY**Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet
Unadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 20 %
Average site altitude: 7,725 feetMaterial weight: 2,550 lbs/LCYWeight description: Earth - Dry packedJob Condition Correction FactorSource

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: \$0.820/LCY

Total job time: **5.96 Hours**
Total job cost: **\$1,487.17**

REVEGETATION WORKTask description: **Reseed Bleeder Vent Boreholes B13**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **337**State: **Colorado**Abbreviation: **None**Date: **3/19/2013**County: **Delta**Filename: **C083-337**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding (DRMS Cost Data)	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	1	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,155.12
Reseeding Job Cost:	\$236.28
Total Job Cost:	\$1,391.40
Job Hours:	0.20

BOREHOLE SEALING WORKTask description: **Plug and Seal GVB B13C-1**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **338**State: **Colorado**Abbreviation: **None**Date: **4/2/2013**County: **Delta**Filename: **C083-338**User: **SLB**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	1100	1.00	EA	\$96.54	\$96.54
- Fill Holes with Cement	Portland cement grout (Bag, material cost only...94 lb. bag)	10	1100	264.00	bag	\$11.50	\$3,036.00
- Cut Casing at Surface	Exposed casing removal - 8 to 14 in. diameter steel pipe (LF)	10	NA	3.00	LF	\$8.81	\$26.43
- Borehole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	1.00	EA	\$2.81	\$2.81
- Drill Rig Time	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	10.00	EA	\$174.62	\$1,746.20
- Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	10.00	EA	\$63.70	\$637.00

Job Hours: 48.00**Total Cost: \$5,544.98**

REVEGETATION WORKTask description: **Reseed road and pad for GVB B13C-1**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **339**State: **Colorado**Abbreviation: **None**Date: **4/2/2013**County: **Delta**Filename: **C083-339**User: **SLB**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	\$21.24
Bluebunch Wheatgrass - Secar	3.00	9.64	\$20.52
Mountain Brome - Bromar	3.00	4.82	\$10.20
Sandberg Bluegrass - VNS	3.00	63.71	\$26.04
Coreopsis, Lance Leafed	1.00	25.58	\$30.65
Western Wheatgrass - Arriba	4.00	10.10	\$14.72
Daisy, Englemann's	1.00	4.94	\$104.61
Prairie Junegrass	2.00	106.31	\$68.80
Golden Banner	1.00	2.00	\$87.57

Totals Seed Mix	21.00	236.80	\$384.35
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Application

Description	Cost /Acre
Drill seeding (DRMS Cost Data)	\$88.20
Total Seed Application Cost/Acre	\$88.20

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Hay, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$265.00	\$530.00
Total Mulch Materials Cost/Acre				\$530.00

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$65.89
Power mulcher (MEANS 32 91 13.16 0250)	\$86.68
Total Mulch Application Cost/Acre	\$152.57

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	1.27	Cost /Acre:	\$1,155.12
Estimated Failure Rate:	50%	Cost /Acre*:	\$472.55
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$1,467.00
Reseeding Job Cost:	\$300.07
Total Job Cost:	\$1,767.07
Job Hours:	2.00

BULLDOZER WORKTask description: **Regrade GVB B13C-1 pad and road**Site: **Bowie No. 2 Mine**Permit Action: Permit Renewal 3Permit/Job#: C1996083**PROJECT IDENTIFICATION**Task #: 340
Date: 4/2/2013
User: SLBState: Colorado
County: DeltaAbbreviation: None
Filename: C083-340Agency 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:	<u>\$69.88</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$142.13</u>	<u>100</u>
Ripper op. Cost/Hour:	<u>\$0.00</u>	<u>0</u>
Operator Cost/Hour:	<u>\$37.41</u>	<u>NA</u>

Total unit Cost/Hour: \$249.42Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: 3,074
Swell factor: 1.165
Loose volume: **3,581 LCY**Source of estimated volume: DRMS - assume 1.5' material over 1.27 acresSource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feet
Unadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Consolidated stockpile 1.0Average push gradient: 20 %
Average site altitude: 7,725 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% EarthJob Condition Correction FactorOperator Skill: 0.750Source
(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: \$0.932/LCY

Total job time: **13.39 Hours**

Total job cost: **\$3,338.67**

BULLDOZER WORKTask description: **Re-topsoil GVB B13C-1**Site: **Bowie No. 2 Mine**Permit Action: **Permit Renewal 3**Permit/Job#: **C1996083****PROJECT IDENTIFICATION**Task #: **341**
Date: **4/2/2013**
User: **SLB**State: **Colorado**
County: **Delta**Abbreviation: **None**
Filename: **C083-341**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:	\$69.88	NA
Operating Cost/Hour:	\$142.13	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: **\$249.42**Total Fleet Cost/Hour: **\$249.42****MATERIAL QUANTITIES**Initial Volume: **1,537**
Swell factor: **1.125**
Loose volume: **1,729 LCY**Source of estimated volume: **DRMS - 0.75' over 1.27 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: **2,550 lbs/LCY**Weight description: **Earth - Dry packed****Job Condition Correction Factor**Operator Skill: **0.750****Source**
(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: \$0.820/LCY

Total job time: **5.68 Hours**

Total job cost: **\$1,417.10**