### COST SUMMARY WORK

: King Co	al Mine	Permit Action	: <u>RN7</u>	Permit/Job#:	C1981035
PROJEC	<u>r identif</u>	ICATION			
Task #:	000	State: Colorado	)	Abbreviation:	None
_	5/8/2017	County: La Plata		Filename:	C035-000
Date:					

# TASK LIST (DIRECT COSTS)

DescriptionUsedSizeHulusCost001Demolish King I StructuresDEMOLISH40.00\$37,920.29002King I - Rip 12" in upper facility areaRIPPER12.95\$610.00003King I - baut topsoil/growth medium to UpperTRUCK114.51\$972.00004King I - baut topsoil/growth medium to UpperTRUCK114.51\$977.00005King I - Enish grade upper facilities area (area #3)REVEGE14.00\$1,803.00006King I - backfill portals, grade fill slope and topsoilDOZER11.54\$307.00007King I - invegetate upper facilities areaGRADER11.09\$97.00010King I - revegetate highwall area (Area #4)REVEGE14.00\$1,095.00011King I - regrade cover of pre-law portion of refuse areaDOZER18.11\$1,616.00013King I - regrade 6" growth medium on pre-law refuse areaDOZER11.16\$231.00014King I - regrade 6" growth medium on pre-law refuse areaDOZER11.0.03\$1,999.00015King I - revegetate refuse area (Area #5)REVEGE12.00\$534.00016King I - revegetate refuse area (Area #6)REVEGE12.00\$534.00017King I - revegetate refuse area (Area #6)REVEGE12.00\$534.00018King I - revegetate refuse area (Area #6)REVEGE12.00\$534.00 <t< th=""><th>Torl</th><th></th><th>Form</th><th>Fleet</th><th>Task</th><th></th></t<>	Torl		Form	Fleet	Task	
	Task				Hours	
	001		DEMOLISH	1	40.00	\$37,920.29
$            004  \begin{array}{ c c c c c c c c c c c c c c c c c c c$	002	King I - Rip 12" in upper facility area	RIPPER	1	2.95	\$610.00
Facilities AreaImage: Constraint of the second	003	King I - push ripped waste to tipple highwall	DOZER	1	16.28	\$3,362.00
005King I - Finish grade upper facilities areaGRADER11.92\$168.00006King I - Revegetate upper facilities area (area #3)REVEGE14.00\$1,803.00008King I - Revegetate highwall area (Area #4)REVEGE14.00\$1,205.00010King I - revegetate highwall area (Area #4)REVEGE14.00\$1,205.00011King I - revegetate highwall area (Area #4)REVEGE14.00\$1,095.00012King I - revegetate highwall area (Area #4)REVEGE14.00\$1,095.00013King I - revegetate cover of pre-law portion of refuseDOZER18.11\$1,616.00areaareaRevegetate18.11\$1,616.00013King I - regrade 6° growth medium on pre-lawDOZER11.16\$231.00014King I - regrade 6° growth medium on pre-lawDOZER13.00\$534.00015King I - regrade 3.5' cover or refuse pileDOZER13.03\$655.00016King I - finish grade post-law refuse areaDOZER10.03\$1,999.00017King I - revegetate refuse area (Area #6)REVEGE10.00\$1,840.00020King I - finish grade topsoil areaGRADER10.03\$1,999.00021King I - revegetate refuse area (Area #6)REVEGE12.00\$994.00020King I - revegetate refuse area (Area #6)REVEGE10.00\$1,840.00021 <t< td=""><td>004</td><td></td><td>TRUCK1</td><td>1</td><td>4.51</td><td>\$972.00</td></t<>	004		TRUCK1	1	4.51	\$972.00
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008King I - backfill portals, grade fill slope and topsoilDOZER11.54\$307.00009King I - revegetate highwall area (Area #4)REVEGE14.00\$1,205.00010King I - rip and final grade lower facilities areaGRADER11.09\$97.00011King I - revegetate highwall area (Area #4)REVEGE14.00\$1,095.00012King I - revegetate highwall area (Area #4)REVEGE14.00\$1,095.00013King I - regrade 6" growth medium on pre-lawDOZER18.11\$1,616.00areaareaarea11.16\$231.00014King I - revegetate refuse area (Area #5)REVEGE12.00\$534.00015King I - revegetate refuse area (Area #5)REVEGE110.03\$1,999.00017King I - Push 3.5' cover to refuse pileDOZER110.03\$1,999.00017King I - finish grade topsoil areaGRADER10.97\$85.00018King I - finish grade topsoil areaGRADER10.97\$85.00020King I - insih grade topsoil areaGRADER11.84\$161.00021King I - revegetate efuse area (Area #6)REVEGE14.00\$1,550.62022King I - seal vent holeBOREHOLE18.00\$1,550.62023King I - isel vent holeBOZER110.40\$2,073.00024King I - revegetate east and west ponds (Area #6)REVEGE <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>						
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015King I - Push 3.5' cover to refuse pileDOZER1 $39.02$ $\$7,780.00$ 016King I - grade 3.5' cover on post-law refuse areaDOZER1 $10.03$ $\$1,999.00$ 017King I - Haul topsoil to post-law refuse areaTRUCK11 $3.03$ $\$655.00$ 018King I - finish grade post-law refuse area (area #6)GRADER1 $0.97$ $\$85.00$ 019King I - revegetate refuse area (Area #6)REVEGE1 $2.00$ $\$994.00$ 020King I - revegetate borrow areaGRADER1 $1.84$ $\$161.00$ 021King I - revegetate borrow areaREVEGE1 $4.00$ $\$1,840.00$ 022King I - seal vent holeBOREHOLE1 $8.00$ $\$1,550.62$ 023King I - backfill and regrade east and west sediment pondsDOZER1 $10.40$ $\$2,073.00$ 025King I - revegetate east and west ponds (Area #6)REVEGE1 $4.00$ $\$1,711.00$ 032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE1 $24.00$ $\$4,258.80$ 051King I&II - mobilize for rinitial reclamationMOBILIZE1 $8.00$ $\$2,780.00$ 053King II- and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE1 $24.00$ $\$2,780.00$ 060King II- mobilize for second pond cleaning yr, 10 yrsMOBILIZE1 $8.00$ $\$2,780.00$ 062Weed Control over liability periodREVEGE1 $35.00$ <	013		DOZER	1	1.16	\$231.00
016King I - grade 3.5' cover on post-law refuse areaDOZER110.03 $\$1,999.00$ 017King I - Haul topsoil to post-law refuse areaTRUCK113.03 $\$655.00$ 018King I - finish grade post-law refuse area (area #6)GRADER10.97 $\$85.00$ 019King I - revegetate refuse area (Area #6)REVEGE12.00 $\$994.00$ 020King I - revegetate refuse area (Area #6)REVEGE11.84 $\$161.00$ 021King I - revegetate borrow areaREVEGE14.00 $\$1,840.00$ 022King I - seal vent holeBOREHOLE18.00 $\$1,550.62$ 023King I - seal vent holeDOZER110.40 $\$2,073.00$ 025King I - revegetate east and west ponds (Area #6)REVEGE14.00 $\$1,711.00$ 032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT yr, 10 yrs8.00 $\$1,0,051.00$ 050King I&II - mobilize for initial reclamationMOBILIZE8.00 $\$2,780.00$ 051King I&II - mobilize for second pond cleaningMOBILIZE1 $8.00$ $\$2,780.00$ 060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT yr24.00 $\$4,258.80$ 052King I&II - mobilize for second pond cleaningMOBILIZE1 $8.00$ $\$2,780.00$ 060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT yr24.00 $\$4,258.80$ 062Weed Control over liability period<	014	King I - revegetate refuse area (Area #5)	REVEGE	1	2.00	\$534.00
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018King I - finish grade post-law refuse area (area #6)GRADER1 $0.97$ \$85.00019King I - revegetate refuse area (Area #6)REVEGE1 $2.00$ \$994.00020King I - finish grade topsoil areaGRADER1 $1.84$ \$161.00021King I - revegetate borrow areaREVEGE1 $4.00$ \$1,840.00022King I - seal vent holeBOREHOLE1 $8.00$ \$1,550.62023King I - backfill and regrade east and west sediment pondsDOZER1 $10.40$ \$2,073.00025King I - revegetate east and west ponds (Area #6)REVEGE1 $4.00$ \$1,711.00032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE24.00\$4,258.80050King I&II - mobilize for initial reclamationMOBILIZE1 $8.00$ \$10,051.00051King I&II - mobilize for second pond cleaning maintenance, X 3MOBILIZE1 $8.00$ \$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE24.00\$4,258.80052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE1 $8.00$ \$2,780.00061King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE24.00\$4,258.80062Weed Control over liability periodREVEGE1 $35.00$ \$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE1 $65.13$	016	King I - grade 3.5' cover on post-law refuse area	DOZER	1	10.03	\$1,999.00
019King I - revegetate refuse area (Area #6)REVEGE12.00\$994.00020King I - finish grade topsoil areaGRADER11.84\$161.00021King I - revegetate borrow areaREVEGE14.00\$1,840.00022King I - seal vent holeBOREHOLE18.00\$1,550.62023King I - backfill and regrade east and west sediment pondsDOZER110.40\$2,073.00025King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I - nobilize for initial reclamationMOBILIZE18.00\$1,0051.00050King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$5,148.00052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE24.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	017	King I - Haul topsoil to post-law refuse area	TRUCK1	1	3.03	\$655.00
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021King I - revegetate borrow areaREVEGE14.00\$1,840.00022King I - seal vent holeBOREHOLE18.00\$1,550.62023King I - backfill and regrade east and west sediment pondsDOZER110.40\$2,073.00025King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80050King I&II - mobilize for initial reclamationMOBILIZE18.00\$10,051.00051King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	019	King I - revegetate refuse area (Area #6)	REVEGE	1	2.00	\$994.00
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023King I - backfill and regrade east and west sediment pondsDOZER110.40\$2,073.00025King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80050King I&II - mobilize for initial reclamationMOBILIZE18.00\$10,051.00051King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$5,148.00052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability period Clean sediment ponds (two cleanings)EXCAVATE135.00\$3,150.00	021	King I - revegetate borrow area	REVEGE	1	4.00	\$1,840.00
sediment pondsImage: sediment pondsImage: sediment pondsImage: sediment ponds025King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I - Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80050King I&II - mobilize for initial reclamationMOBILIZE18.00\$10,051.00051King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$5,148.00052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability period 064REVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	022	King I - seal vent hole	BOREHOLE	1	8.00	\$1,550.62
025King I - revegetate east and west ponds (Area #6)REVEGE14.00\$1,711.00032King I -Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80050King I&II - mobilize for initial reclamationMOBILIZE18.00\$10,051.00051King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$5,148.00052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE24.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	023		DOZER	1	10.40	\$2,073.00
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yr, 10 yrsENANCE050King I&II - mobilize for initial reclamationMOBILIZE18.00\$10,051.00051King I&II - mobilize for rill and gully maintenance, X 3MOBILIZE18.00\$5,148.00052King I&II - mobilize for second pond cleaning yr, 10 yrsMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability period Clean sediment ponds (two cleanings)REVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00				1		
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maintenance, X 3MOBILIZE18.00\$2,780.00052King I&II - mobilize for second pond cleaningMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	050	King I&II - mobilize for initial reclamation	MOBILIZE	1	8.00	\$10,051.00
052King I&II - mobilize for second pond cleaningMOBILIZE18.00\$2,780.00060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	051	č .	MOBILIZE	1	8.00	\$5,148.00
060King II-Rill and gully maint. 8 hours every other yr, 10 yrsSITEMAINT ENANCE124.00\$4,258.80062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	052		MOBILIZE	1	8.00	\$2,780,00
yr, 10 yrsENANCE062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00						<b></b>
062Weed Control over liability periodREVEGE135.00\$3,150.00064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	000			T	27.00	ψτ, <i>23</i> 0.00
064Clean sediment ponds (two cleanings)EXCAVATE165.13\$5,126.00	062			1	35.00	\$3,150.00
		~				
1000 King II - naul sediment from ponds to King I site $1$ IKUCKI $1$ 30.85 $323.690.00$	065	King II - haul sediment from ponds to King I site	TRUCK1	1	30.85	\$23,690.00
100         Seal Mine Openings         MINESEAL         1         32.00         \$110,737.60						
200King II structural demolitionDEMOLISH1140.00\$207,465.41						

300	King II - Haul coal waste rock to King I waste pile	TRUCK1	1	1.06	\$311.00
301	King II - Rip coal sales area	RIPPER	1	1.61	\$334.00
302	King II - Haul gravel from coal sales, portals, rd/wtr tank	TRUCK1	1	14.81	\$4,662.00
303	King II - Haul office fill to portal cuts/acc rd/wtr tank	TRUCK1	1	50.64	\$19,660.00
304	King II - grade portal cuts, access roads, water tank pad	DOZER	1	38.65	\$7,705.00
305	King II-Compact fill on portal cuts/access rd/water tank pad	COMPACT	1	17.23	\$3,514.00
306	King II - Rip portal, access rd., coal sales areas	RIPPER	1	34.32	\$7,092.00
308	King II - remove east and west cleanwater ditches	DOZER	1	8.62	\$1,718.00
309	King II - construct drainage channel in Cochrane Canyon	DOZER	1	3.51	\$699.00
310	King II - construct channel in office drainage	DOZER	1	4.53	\$904.00
311	King II - backfill pond	DOZER	1	18.49	\$3,686.00
312	King II - Rip coal sales area	RIPPER	1	3.43	\$710.00
313	King II - Grade haul road	DOZER	1	13.20	\$2,631.00
314	Water truck for dust control	MISCTRUK	1	240.00	\$10,562.00
401	King II - distribute tosoil from Cochrane stockpile	TRUCK1	1	101.93	\$39,571.00
402	King II - finish grade topsoil area	GRADER	1	20.66	\$1,802.00
403	King II revegetate Rangeland Areas (19.36 acres)	REVEGE	1	20.00	\$35,913.00
404	King II revegetate Pinyon-Juniper areas (3 acres)	REVEGE	1	3.00	\$7,722.00
406	King II-seed water line corridor (0.47 ac)	REVEGE	1	1.25	\$819.00
409	Seal Boreholes CO-14-01 through CO-14-09	BOREHOLE	1	36.00	\$4,632.91
410	Regrade drill pads and pits CO-14-01 through CO- 14-09	DOZER	1	7.06	\$615.00
411	Replace topsoil on CO-14-01 through CO-14-09 disturbance	DOZER	1	3.00	\$261.00
412	King II-Broadcast seed CO-14-01 thru CO-09 disturbance	REVEGE	1	9.00	\$2,198.00
500	King II - seal downgradient monitoring well	BOREHOLE	1	4.00	\$386.16
501	Plug and Seal MW-1, 2, 3 and 4 Clusters (12 Wells) TR26	BOREHOLE	1	53.00	\$9,283.92
502	Remove MW-1,2,3,4 Well Clusters Cement Pads/Poles TR26	DEMOLISH	1	0.00	\$356.19
503	Regrade drill pads and pits (MW-1, 2, 3, 4)	DOZER	1	2.73	\$367.00
504	Replace Topsoil on Well Clusters (TR26)	DOZER	1	1.54	\$200.00
505	Revegetation; MW-1,2,3,4 Well Cluster Pads	REVEGE	1	1.00	\$3,111.00
		SUBTOTALS:		1264.1	\$616,861

# **INDIRECT COSTS**

#### OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$12,460.59
Performance bond:	1.05	Total =	\$6,477.04
Job superintendent:	632.05	Total =	\$46,171.25
Profit:	10.00	Total =	\$61,686.10
		TOTAL O & P =	\$126,794.98
		CONTRACT AMOUNT (direct + O & P) = $($	\$743,655.98
LEGAL - ENGINEERING - PF	ROJECT MANA	GEMENT:	

Financial warranty processing (legal/related costs):	500.00	Total =	500.00
Engineering work and/or contract/bid preparation:	4.25	Total =	\$31,605.38

Reclamation management and/or administration:	5.00		\$37,182.80
CONTINGENCY:	0.00	Total =	\$0.00
		TOTAL INDIRECT COST =	\$196,083.16
TOTAL BO	OND A	MOUNT (direct + indirect) =	\$812,944.16

### **DEMOLITION WORK**

e: King Coal Mine		Permit Action:	RN7	Pe	rmit/Job#: <u>C198</u>	C1981035	
PROJE Task #:	CT IDENTI 001	FICATION State: Colorado		Abbreviation:	None		
Date:	5/3/2017	County: La Plata		Abbreviation. Filename:	C035-001		
User:	JHB						

#### UNIT COSTS

#### Location adjustment: 94.00 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Two office trailers	12x120x10	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 15 mile haul	14,400.00	CF	\$0.35	\$5,097.60
Portal Building	12x20x8	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 15 mile haul	1,920.00	CF	\$0.35	\$679.68
Main Conveyor	40	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	40.00	LF	\$44.51	\$1,780.36
Tipple Building	60x65x8	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 200 ft. push	31,200.00	CF	\$0.18	\$5,584.80
Tipple Lean- to Shed	16x44x8	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 200 ft. push	5,632.00	CF	\$0.18	\$1,008.13
East bins	15x25x50	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 200 ft. push	18,750.00	CF	\$0.18	\$3,356.25
Mine fan	8x6x30	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 15 mile haul	1,440.00	CF	\$0.35	\$509.76
Mine fan	8x6x10	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 15 mile haul	480.00	CF	\$0.35	\$169.92
Stacker conveyor	300	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	300.00	LF	\$44.51	\$13,352.70
Stacker tower #1	16x16x50/10x10x50	Bldg. (SN) demo./off- site disposal in approved landfill -	8,900.00	CF	\$0.35	\$3,150.60

		Max. 15 mile haul				
Stacker tower #2	8.5x16x25/8.5x5.5x25	Bldg. (SN) demo./off- site disposal in approved landfill - Max. 15 mile haul	2,284.00	CF	\$0.35	\$808.54
2 500 gallon fuel tanks	NA	Haul tank to certified salvage dump - 3,000 to 5,000 gal. tank	2.00	EA	\$760.00	\$1,520.00
Bury debris	10x10x40.5	Push demolished materials/rubble/debris into pit - Max. 200 ft. push	150.00	СҮ	\$0.83	\$123.90
Scale house	40x42x10	Bldg. (SN) demo./on- site disposal in existing pit or cut - Max. 200 ft. push	16,800.00	CF	\$0.18	\$3,007.20
Cement Pads (TR26) MW- 1,2,3 & 4	3(3' x4' x0.3'th)	Demo. and on-site disposal in existing pit, 4 in. thick - Max. 50 ft. push	36.00	SF	\$0.40	\$14.33
(TR26) 4" x 6'1 steel poles MW- 1,2,3 &4	24(4" dia. x 6'l)	Pipe, steel, welded connections - 4 in. diameter pipe	144.00	LF	\$1.16	\$167.04
(TR26) disposal of poles	24 poles	Dump fees - Rubbish only	1.05	СҮ	\$9.45	\$9.92

				Total Cost	
		Subtotal		(adjusted for	
Job Hours:	40.00	(unadjusted):	\$40,340.73	location):	\$37,920.29

### BULLDOZER RIPPING WORK

	Task description:	King I - Rip 12" in upper f	acility area			
Site	: King Coal Mine	Permit Action	RN7	Perm	it/Job#: <u>C198103</u>	5
	PROJECT IDENTIFI	CATION				
	Task #: 002	State: Colorado	)	Abbrevia	ation: None	
	Date: 5/3/2017	County: La Plata		Filen	name: C035-002	
	User: JHB					
	Agency or organ	ization name: DRMS				
	HOURLY EQUIPME	NT COST				
	Basic Machine:	Cat D8T - 8SU		Horsepower:	310	
	Ripper Attachment:	: 3-Shank Ripper		Shift Basis:	1 per day	_
				Data Source:	(CRG)	
	Cost Breakdown:			TT.'1' .' 0/		
	Owner	ship Cost/Hour:	\$83.81	Utilization % NA		
		ating Cost/Hour:	\$66.17	100		
		ship Cost/Hour:	\$7.55	NA		
		ating Cost/Hour:	\$7.21	100		
	1	rator Cost/Hour:	\$41.85	NA		
	Total	Unit Cost/Hour:	\$206.59	-		
	Total 1	Fleet Cost/Hour: \$2	06.59			
				-		
	MATERIAL QUANT	ITIES Se	elected estimatir	ng method: Area		
	Alternate Methods:					
Seismic:	NA	Bank Volume:	NA	BCY	NA	
Area:	1.96 acr		1.00	Volume: 3,16		BCY or CCY
	Source	of estimated quantity: Map	King I-007			
	HOURLY PRODUCT	<u>10N</u>				
	Seismic:	Solomia Valooitu	NA	feet/second		
		Seismic Velocity:	INA			
	Area:		1.00			
		Average Ripping Depth: Average Ripping Width:	1.00 7.08	mph degrees		
		Average Ripping Width	300.00	feet		
	Γ	Average Dozer Speed:	88.00	feet		
	Δ	Average Maneuver Time:	0.25	feet		
		Production per unit area:	0.800	acres/hour		
	Job Condition Correction		0.000			
			0.000			
	Unadjusted	Hourly Unit Production:	0.800	Acres/hr		
		Site Altitude:	7,400	feet		
		Altitude Adj:	1.00	(CAT HB)		
		Job Efficiency:	0.83	(1 shift/day)	)	
		Net Correction:	0.83	multiplier		
	Ad	djusted Hourly Unit Production	: 0.66	Acres/hr		
	Ad	ljusted Hourly Fleet Production	: 0.66	Acres/hr		

Fleet size:	1	Grader(s)	Total job time:	2.95	Hours
Unit cost:	\$311.305	Per acre	Total job cost:	\$610	

#### BULLDOZER WORK

Task description:	1111 <u>6</u> 1 - p		to tipple highwall		
King Coal Mine		Permit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDENT	<b>IFICATION</b>				
Task #: 003	:	State: Colorado		Abbreviation:	None
Date: 5/3/2017		ounty: La Plata		Filename:	C035-003
User: JHB		·		-	
Agency or or	ganization name	DRMS			
HOURLY EQUIPM	MENT COST				
	Cat D8T - 8SU				
· ·	310				
	Semi-Universal 3-shank ripper		_		
	1 per day				
	(CRG)		_		
Cost Breakdown:			Utilization %		
Ownership Cost/Hou	ir:	\$83.81	NA		
Operating Cost/Hou		\$66.17	100		
Ripper own Cost/Hou	n.	\$7.55	NA		
Ripper op. Cost/Hou		\$7.21	100		
1000000000000000000000000000000000000					
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour:	ir: \$206.59 : <b>\$206.59</b>	\$41.85	NA		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume: 3, Swell factor: 1. Loose volume: 3, Source of estimated vo Source of estimated sw	ır:	\$41.85			
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: <b>MATERIAL QUAI</b> Initial Volume: 3, Swell factor: 1. Loose volume: 3, Source of estimated vo Source of estimated so factor:	ır:\$206.59 :\$206.59 NTITIES ,794 .000 ,794 LCY plume: vellCa	Jume from Task 00			
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAI</u> Initial Volume:3, Swell factor:1. Loose volume:3, Source of estimated vo Source of estimated sw factor: <u>HOURLY PRODU</u>	ır:\$206.59 :\$206.59 NTITIES .794 .000 .794 LCY .000 .794 LCY .000 .000 .794 LCY .000 	olume from Task 00 t Handbook			
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: <b>MATERIAL QUAI</b> Initial Volume: 3, Swell factor: 1. Loose volume: 3, Source of estimated vo Source of estimated so factor:	ır:	olume from Task 00 t Handbook			
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume:3, Swell factor:1. Loose volume:3, Source of estimated vo Source of estimated so factor: HOURLY PRODU Average push distance Unadjusted hourly	ur: \$206.59 \$206.59 NTITIES ,794 .000 .794 LCY blume: Vo well Ca  VCTION e: 200 f 491.9	olume from Task 00 t Handbook	)2, 20% swell		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume: 3, Swell factor: 1. Loose volume: 3, Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODU Average push distance Unadjusted hourly production:	IIT:	Jume from Task 00 t Handbook	)2, 20% swell		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume: <u>3</u> , Swell factor: <u>1</u> . Loose volume: <u>3</u> , Source of estimated vo Source of estimated so factor: HOURLY PRODU Average push distance Unadjusted hourly production: Materials consistency Average push gradient	\$206.59 $$206.59$ <b>NTITIES</b> ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,000         ,794         ,0%	Jume from Task 00 t Handbook	)2, 20% swell		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume:	ur:       \$206.59         \$206.59         NTITIES         ,794         .000         ,794         .000         ,794         .000         ,794         .000         ,794         .000         ,794         .000         ,794         .000         .794         .000         .794         .000         .794         .000         .794         .000         .794         .000         .794	Jume from Task 00 t Handbook	)2, 20% swell		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAI Initial Volume: 3, Swell factor: 1. Loose volume: 3, Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODU Average push distance Unadjusted hourly production: Materials consistency Average push gradient Average push gradient Average site altitude: Material weight:	IIT:	Seet	)2, 20% swell		

1.200	(CAT HB)
1.000	(GEN.)
1.000	(AVG.)
0.830	(1 SHIFT/DAY)
0.800	(FND-RF)
1.000	(CAT HB)
1.000	(CAT HB)
0.793	(CAT HB)
1.000	(PAT)
0.4739	
	1.000           0.830           0.800           1.000           1.000           1.000           0.793           1.000

Adjusted unit production:	233.11 LCY/hr
Adjusted fleet production:	<b>233.11</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.886/LCY

Total job time:	16.28 Hours
Total job cost:	\$3,362

#### TRUCK/LOADER TEAM WORK

nization name ENT COST Loader Team quipment -Lo -Dur nance –Motor	State: ( ounty: 1 e: DRM n -Truck: -Loader: ad Area: np Area:	Colora La Pla IS IS Gen OBS	ta Equipment Descri eric 10-12 cy, 6x4	Abb Shift bas	Permit/Job#: <u>C</u> previation: <u>No</u> Filename: <u>CO</u> is: <u>1 per day</u>	
nization name ENT COST Loader Team quipment -Lo -Dur nance –Motor	ounty: e: n -Truck: -Loader: ad Area: np Area:	La Pla IS Gen OBS	ta Equipment Descri eric 10-12 cy, 6x4	Shift bas	Filename: C0	
nization name ENT COST Loader Team quipment -Lo -Dur nance –Motor	ounty: e: n -Truck: -Loader: ad Area: np Area:	La Pla IS Gen OBS	ta Equipment Descri eric 10-12 cy, 6x4	Shift bas	Filename: C0	
nization name ENT COST Loader Team quipment -Lo -Dur nance –Motor	e: <u>DRM</u> n -Truck: <u>-Loader:</u> ad Area: np Area:	IS I Gen OBS	Equipment Descri eric 10-12 cy, 6x4	Shift bas		
ENT COST Loader Team quipment -Lo -Dur nance –Motor	n -Truck: -Loader: ad Area: np Area:	Gen OBS	eric 10-12 cy, 6x4	ption	is: <u>1 per day</u>	
ENT COST Loader Team quipment -Lo -Dur nance –Motor	n -Truck: -Loader: ad Area: np Area:	Gen OBS	eric 10-12 cy, 6x4	ption	is: <u>1 per day</u>	
Loader Team quipment -Lo -Dur nance –Motor	n -Truck: -Loader: ad Area: np Area:	Gen OBS	eric 10-12 cy, 6x4	ption	is: <u>1 per day</u>	
quipment -Lo -Dur nance –Motor	-Loader: ad Area: np Area:	Gen OBS	eric 10-12 cy, 6x4			
quipment -Lo -Dur nance –Motor	-Loader: ad Area: np Area:	OBS				
quipment -Lo -Dur nance –Motor	ad Area: np Area:					
-Dur nance –Motor	np Area:	NA	SOLETE - CAT 9	38H		
nance – Motor		NA				
-Wate		NA				
	er Truck:	NA				
Truck/Load	ler Team		Support I	Equipment	Maintena	nce Equipment
1	Loader		Load Area	Dump Area	Motor Grader	Water Truck
100		100	NA	NA	NA	NA
\$18.29	\$2	5.66	NA	NA	NA	NA
\$39.97	\$3	2.31	NA	NA	NA	NA
NA		0	NA	NA	NA	NA
NA	\$	0.00	NA	NA	NA	NA
NA	\$	0.00	NA	NA	NA	NA
\$0.00	\$4	1.20	NA	NA	NA	NA
\$58.26	\$9	9.17	NA	NA	NA	NA
2		1	0	0	0	0
Work:	\$215.69		Support:	\$0.00	Maint:	\$0.00
ur: <u>\$215.69</u> <u>FITIES</u>						
.581		CCY	Swell	factor: 1.165		
1,842		LCY				
of estimated v	volume:	1.96 :	acres x 6" denth			
	NA           NA           NA           \$0.00           \$58.26           2           Work:           Ir:         \$215.69           FITIES           ,581           1,842           of estimated v           timated swell           terial Purchas	NA         \$           NA         \$           NA         \$           \$0.00         \$4           \$58.26         \$9           2         2           Work:         \$215.69           nr:         \$215.69           FITIES         ,581	NA         0           NA         \$0.00           NA         \$0.00           \$0.00         \$41.20           \$58.26         \$99.17           2         1           Work:         \$215.69           Ir:         \$215.69           Ir:         \$215.69           Of estimated volume:         1.96 a           timated swell factor:         Cat H           terial Purchase Cost:         \$0.00	NA         0         NA           NA         \$0.00         NA           NA         \$0.00         NA           \$0.00         \$41.20         NA           \$0.00         \$41.20         NA           \$58.26         \$99.17         NA           2         1         0           Work:         \$215.69         Support:           Ir:         \$21.96         Support:	NA         0         NA         NA           NA         \$0.00         NA         NA           NA         \$0.00         NA         NA           NA         \$0.00         NA         NA           \$0.00         \$NA         NA         NA           \$0.00         \$41.20         NA         NA           \$58.26         \$99.17         NA         NA           2         1         0         0           Work:         \$215.69         Support:         \$0.00   Ir: <a \$0.00="" cat="" cost:="" depth="" factor:="" handbook="" href="mailto:\$\$215.69&lt;/a&gt; IITIES           ,581         CCY         Swell factor:         1.165           1,842         LCY         ICY         Integration           of estimated volume:         1.96 acres x 6" integration="" integration<="" purchase="" swell="" td="" terial="" timated=""><td>NA         0         NA         NA         NA           NA         \$0.00         NA         NA         NA           NA         \$0.00         NA         NA         NA           NA         \$0.00         NA         NA         NA           \$0.00         \$41.20         NA         NA         NA           \$58.26         \$99.17         NA         NA         NA           2         1         0         0         0           Work:         \$215.69         Support:         \$0.00         Maint:           Ir:         \$215.69         Swell factor:         1.165        </td></a>	NA         0         NA         NA         NA           NA         \$0.00         NA         NA         NA           NA         \$0.00         NA         NA         NA           NA         \$0.00         NA         NA         NA           \$0.00         \$41.20         NA         NA         NA           \$58.26         \$99.17         NA         NA         NA           2         1         0         0         0           Work:         \$215.69         Support:         \$0.00         Maint:           Ir:         \$215.69         Swell factor:         1.165

### **HOURLY PRODUCTION**

Truck Capacity:		
Truck Payload (weight) Bas	sis:	
Material weight:	2,850	Pounds/LCY
Description:	User Provided	
Rated Payload:	35,400	Pounds
Payload Capacity:	12.42	LCY

Truck Bed (volume) Basis:

10.00	LCY
12.00	LCY
11.00	LCY
12.00	LCY
	12.00 11.00

Final Truck Volume Based on Number of Loader Passes: 11.41 LCY

Site Altitude (ft.): 7400 feet

#### Loading Tool Capacity

		Bucket Size Class: NA
Rated Capacity:	3.900	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.803	LCY

#### Job Condition Corrections:

	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
Excavators and Front Shovels:	Truck:	5	
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	00
-----------------------------------	----

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -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:	-0.090	minutes
	Adjusted Loader Cycle Time:	0.393	minutes
	Net Load Time per Truck:	0.885	minutes

#### **Truck Cycle Time:**

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.885	Minutes	Adjusted for site altitude:	0.885	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

#### Truck Travel (Haul & Return) Time: penetration 5.0

e

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

Haul Rou	te:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	5.00	5.00	2218	0.293

	Return R	oute:				Haul Time:	0.293	minute	S
	Seg #		Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
-	1	500.0	0	0.00	5.00	5.00	2814	0.203	
					Total Tru	Return Time: ck Cycle Time:	0.203 2.781	minu minu	
	oading To Prod Unit Prod	uction	494.19	LCY/Hour		Adjusted for j	job efficiency:	410.18	LCY/Hour
			246.12	LCY/Hour		Adjusted for j	job efficiency:	204.28	LCY/Hour
Optima	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
						k team production			Y/Hour
						r team productio			Y/Hour
				Adjusted multipl	e truck/loade	r team productio	on: <b>408.</b>	<u>55</u> LC	Y/Hour
	JOB TI	ME AN	ND COST						
	Fleet	size:	1	Team(s)	]	Fotal job time:	4.51	I	Hours
	Unit	cost:	\$0.528	/LCY	,	Total job cost:	\$972	2	

### MOTOR GRADER WORK

Task description:	King I - Finish grade uppe	er facilities area		
: King Coal Mine	Permit Action	: <u>RN7</u>	Perm	it/Job#: <u>C1981035</u>
PROJECT IDENTIF	ICATION			
Task #: 005	State: Colorad	0	Abbrevi	ation: None
Date: 5/4/2017	County: La Plata			name: C035-005
User: JHB	·			
A				
Agency or orga	nization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machin	e: CAT 12M		Horsepower:	158
Ripper Attachmen	t: Multi-Shank Ripper		Shift Basis:	1 per day
11			Data Source:	(CRG)
Cost Breakdown:				
			Utilization %	
	ership Cost/Hour:	\$28.02	NA	
	rating Cost/Hour:	\$28.28	100	
	ership Cost/Hour:	\$1.99	NA	
	rating Cost/Hour:	\$0.00	0	
-	erator Cost/Hour:	\$28.90	NA	
I ota	l Unit Cost/Hour:	\$87.19		
Total	Fleet Cost/Hour: \$	87.19		
Sourc	e of estimated acreage: <u>Section</u>	ion 2.05.3 of permi	it application	
HOURLY PRODUC				
	Average Grader Speed:	1.25	mph	
	Selected Application:		uction Deration - 1.2	25
	Selected Blade Angle:	30	degrees	
Width	Effective Blade Length: of blade overlap per pass:	10.40 2.00	feet feet	
	or ripping width per pass:	8.40	feet	
	d Hourly Unit Production:	1.2727	acres/hour	
Job Condition Correction	•		e Altitude: <u>7400</u> fee	t
	Sour			
Altitude Adj:	1.00 (CAT )			
Job Efficiency:	0.80 (3sh/d,			
Net Correction:	0.8000 multipli	ler		
A	Adjusted Hourly Unit Production	n: 1.0182	acres/Hour	
A	djusted Hourly Fleet Production	n: <b>1.0182</b>	acres/Hour	
JOB TIME AND CO	<u>ST</u>			
	1 Grader(s)	Total job time:	1.93	Hours
Unit cost:\$8:	5.63 per acre	Total job cost:	\$168	

### **REVEGETATION WORK**

Task description: e: King Coal Mine		King I - Revegetate upper facilities area (area #3)         Permit Action:       RN7		Permit/Job#:	C1981035	
PROJECT	<u> IDENTIF</u>	ICATION				
Task #:	006	State:	Colorado		Abbreviation:	None
Task #: Date:	006 5/4/2017		Colorado La Plata		Abbreviation: Filename:	None C035-006

#### **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

#### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

Description		Cost /Acre
		\$0.00
	<b>Total Seed Application Cost/Acre</b>	\$0.00

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

#### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

# **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre \$0.0				\$0.00	

	No. of Acres:	1.96	Cost /Ac	re: \$885.70	
Estimate	ed Failure Rate:	50%	Cost /Acre	e*: \$68.76	
*Selected Replanti	ng Work Items:	SEEDING			
Initial Job Cost:	/				
Reseeding Job Cost:	\$67.38				
Total Job Cost:	\$1,803				
Job Hours:	4.00				

### TRUCK/LOADER TEAM WORK

Site: King Coal Mine		Permit Acti	on: 007		Permit/Job#:	C1981035	
PROJECT IDEN	TIFICATION						
Task #: 007		State: Color	ado	Abl	previation:	None	
Date: 5/4/20 User: JHB	17 0	County: La Pla				C035-007	
Agency or	organization nan	ne: DRMS					
HOURLY EQUI	PMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>		
			Equipment Descri	ption			
Т	ruck Loader Tea		neric 10-12 cy, 6x4				
			SOLETE - CAT 9	38H			
Suppo	ort Equipment -L	oad Area: NA Imp Area: NA					
Road Ma	intenance – Moto	1					
Road Ma		ter Truck: NA					
		I.					
Cost Breakdown:	Truck/Loa	ader Team	Support 1	Equipment		enance Equipi	
	Truck	Loader	Load Area	Dump Area	Motor Grade	er Water T	ruck
%Utilization-machine:	100	100	NA	NA	N	A	NA
Ownership cost/hour:	\$18.29	\$25.66	NA	NA	N	A	NA
Operating cost/hour:	\$39.97	\$32.31	NA	NA	N	A	NA
%Utilization-riper:	NA	0	NA	NA	N	A	NA
Ripper own. cost/hour:	NA	\$0.00	NA	NA	Ν	A	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	N	A	NA
Operator cost/hour:	\$0.00	\$41.20	NA	NA	N	A	NA
	\$58.26	\$99.17	NA	NA	N	A	NA
Unit Subtotals:	φ50.20		1				
Unit Subtotals: Number of Units:	2	1	0	0		0	0

#### **MATERIAL QUANTITIES**

CCY Swell factor: 1.000
LCY
1.96 acres, 6" depth
Cat Handbook
\$0.00
\$0.00

### **HOURLY PRODUCTION**

Truck Capacity:		
Truck Payload (weight) Bas	is:	
Material weight:	2,850	Pounds/LCY
Description:	User Provided	
Rated Payload:	35,400	Pounds
Payload Capacity:	12.42	LCY

Truck Bed (volume) Basis:

10.00	LCY
12.00	LCY
11.00	LCY
12.00	LCY
	12.00 11.00

Final Truck Volume Based on Number of Loader Passes: 11.41 LCY

Site Altitude (ft.): 7500 feet

#### Loading Tool Capacity

		Bucket Size Class: NA
Rated Capacity:	3.900	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.803	LCY

#### Job Condition Corrections:

	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
Excavators and Front Shovels:	Truck:	5	
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): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -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:	-0.090	minutes
	Adjusted Loader Cycle Time:	0.393	minutes
	Net Load Time per Truck:	0.885	minutes

#### **Truck Cycle Time:**

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.885	Minutes	Adjusted for site altitude:	0.885	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

# <u>Truck Travel (Haul & Return) Time:</u> penetration 5.0 Haul Route:

e

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

en	e	tra	<b>t</b> 1	<u>on</u>	5.0
т	1	n			

Haul Kou	ite.					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1100.00	-6.00	5.00	-1.00	2938	0.444

	Return R	oute:				Haul Time:	0.444	minute	s
	Seg #	1	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
-	1	1100.	00	6.00	5.00	11.00	1584	0.702	
					Total True	Return Time: ck Cycle Time:	0.702 3.431	minu minu	
	oading Too Prod Unit Prod	uction	494.19	LCY/Hour		Adjusted for j	ob efficiency:	410.18	LCY/Hour
			199.49	LCY/Hour		Adjusted for j	ob efficiency:	165.58	LCY/Hour
Optima	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
						k team productio			Y/Hour
						r team productio			Y/Hour
				Adjusted multipl	e truck/loade	r team productio	on: <u>331.</u>	<u>15</u> LC	Y/Hour
	JOB TI	ME AN	ND COST						
	Fleet	size:	1	Team(s)	]	Fotal job time:	3.19	<u> </u>	Iours
	Unit	cost:	\$0.651	/LCY	,	Total job cost:	\$688	3	

#### BULLDOZER WORK

Task description:	I I I I I	Ducisini	por tais, gra	ue ini siop	pe and topsoil		
: King Coal Mine		Peri	nit Action:	RN7		Permit/Job#:	C1981035
PROJECT IDENT	TIFICATIO	<u>N</u>					
Task #: 008		State:	Colorado			Abbreviation:	None
Date: $5/4/201$	7	County:	La Plata			Filename:	C035-008
User: JHB		e o unit j t	Bullinu				0000 000
	rganization na	ame: DR	MS				
HOURLY EQUIP	-						
	Cat D8T - 8S						
	310	0		_			
	Semi-Univers	.al		_			
	3-shank rippe			_			
	1 per day	4					
	(CRG)						
				_			
Cost Breakdown:							
				Ut	ilization %		
Ownership Cost/Hou	ur:		\$83.81		NA		
Operating Cost/Hou	ur:		\$66.17		100		
Ripper ow Cost/Hou			\$7.55		NA		
Ripper op. Cost/Hou			\$0.00		0		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour	\$199.38		\$41.85		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: _4	\$199.38 r: <b>\$199.38</b> <b>NTITIES</b>				NA		
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>4</u> Swell factor: <u>1</u>	\$199.38 r: <b>\$199.38</b>				NA		
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 4 Swell factor: 1 Loose volume: 4 Source of estimated v Source of estimated sy	\$199.38 \$199.38 <b>NTITIES</b> 00 .000 00 LCY rolume:		  on plan		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 4 Swell factor: 1 Loose volume: 4 Source of estimated v Source of estimated so factor:	\$199.38 \$199.38 NTITIES 400 .000 400 LCY rolume: well	Reclamati	  on plan				
Total unit Cost/Hour:         Total Fleet Cost/Hour         MATERIAL QUA         Initial Volume:       4         Swell factor:       1         Loose volume:       4         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU	\$199.38 \$199.38 <b>NTITIES</b> 00 00 00 00 CY rolume: well UCTION	Reclamati Cat Handl	  on plan		NA		
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: 4 Swell factor: 1 Loose volume: 4 Source of estimated v Source of estimated sy factor:	state for the second state of the second state	Reclamati	  on plan book				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>4</u> Swell factor: <u>1</u> Loose volume: <u>4</u> Source of estimated v Source of estimated v Source of estimated so factor: HOURLY PRODU Average push distance Unadjusted hourly	state	Reclamati Cat Handl	  on plan book				
Total unit Cost/Hour:         Total Fleet Cost/Hour <b>MATERIAL QUA</b> Initial Volume:       4         Swell factor:       1         Loose volume:       4         Source of estimated v         Source of estimated set         factor:         HOURLY PRODU         Average push distance         Unadjusted hourly         production:	\$199.38         \$199.38         \$199.38         \$00         .000 <td>Reclamati Cat Handl</td> <td>   on plan book</td> <td></td> <td></td> <td></td> <td></td>	Reclamati Cat Handl	   on plan book				
Total unit Cost/Hour:         Total Fleet Cost/Hour         MATERIAL QUA         Initial Volume:       4         Swell factor:       1         Loose volume:       4         Source of estimated v         Source of estimated so factor:         HOURLY PRODU         Average push distance         Unadjusted hourly         production:         Materials consistency         Average push gradien	\$199.38         \$199.38         \$199.38         \$00         .000 <td>Reclamati Cat Handl 00 feet 91.9 LCY/ Loose s</td> <td>   on plan book</td> <td></td> <td></td> <td></td> <td></td>	Reclamati Cat Handl 00 feet 91.9 LCY/ Loose s	   on plan book				
Total unit Cost/Hour:         Total Fleet Cost/Hour <b>MATERIAL QUA</b> Initial Volume:       4         Swell factor:       1         Loose volume:       4         Source of estimated v         Source of estimated v         Source of estimated stactor: <b>HOURLY PRODU</b> Average push distance         Unadjusted hourly         production:         Materials consistency         Average push gradien         Average site altitude:	$ \begin{array}{rcl} & & & & & \\ & & & & \\ & & & & \\ \hline & & & \\ & & & \\ & & & \\ \hline & & & \\ & & & \\ \hline & & & \\ & & & \\ \hline & & & \\ & & & \\ \hline & & & \\ & & & \\ \hline \\ \hline$	Reclamati Cat Handl 00 feet 91.9 LCY/ Loose s eet ps/LCY	   on plan book				

1.200	(CAT HB)
1.000	(GEN.)
1.000	(AVG.)
0.830	(1 SHIFT/DAY)
0.800	(SSD-AC)
1.115	(CAT HB)
1.000	(CAT HB)
0.793	(CAT HB)
1.000	(PAT)
0.5284	
	1.000         1.000         0.830         0.800         1.115         1.000         0.793         1.000

Adjusted unit production:	259.92 LCY/hr
Adjusted fleet production:	<b>259.92</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.767/LCY

Total job time:	1.54 Hours
Total job cost:	\$307

### **REVEGETATION WORK**

Task descrij King Coa	-	King I - revegetate	it Action:	 Permit/Job#:	C1981035
PROJECT	<b>IDENTIF</b>	ICATION			
<b>T</b> 1 //	000	<b>G</b>	<u>.</u>		N.T.
Task #:	009		Colorado	Abbreviation:	None
Task #: Date:	009 5/4/2017		Colorado La Plata	 Abbreviation: Filename:	None C035-009

# **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

#### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

Description		Cost /Acre
		\$0.00
	<b>Total Seed Application Cost/Acre</b>	\$0.00

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

#### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

# **NURSERY STOCK PLANTING**

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

	No. of Acres:	1.31	Cos	st /Acre:	\$885.70
Estimate	ed Failure Rate:	50%	Cost	/Acre*:	\$68.76
*Selected Replanti	ng Work Items:	SEEDING			
Initial Job Cost:	\$1,160.27		_		
Reseeding Job Cost:	\$45.04		_		
Total Job Cost:	\$1,205				
Job Hours:	4.00		-		

### MOTOR GRADER WORK

e: <u>King Coal Mine</u> <u>PROJECT IDENTIFI</u> Task #: 010		nai grade lo	wer facilities a	area		
	Perm	nit Action:	RN7	Perr	nit/Job#:	C1981035
Task #: 010	<u>CATION</u>					
	State:	Colorado		Abbrev	iation: N	Vone
Date: 5/4/2017	County:	La Plata		File	name: C	2035-010
User: JHB	· _					
Agency or organi	zation name: DRM	MS				
HOURLY EQUIPME	NT COST					
				**	1.5	
Basic Machine:	CAT 12M		_	Horsepower:	15	
Ripper Attachment:	Multi-Shank Ripp	per	_	Shift Basis:	1 per	
				Data Source:	(CR	G)
Cost Breakdown:						
				Utilization %		
	ship Cost/Hour:		\$28.02	NA		
	ting Cost/Hour:		\$28.28	100		
	ship Cost/Hour:		\$1.99	NA		
	ting Cost/Hour:		\$2.16	100		
_	ator Cost/Hour:		\$28.90	NA		
Total U	Unit Cost/Hour:		\$89.35			
Total F	Fleet Cost/Hour:	\$89.	35			
	o be graded or ripped of estimated acreage		hmittal		0	cres
	-	. <u> </u>	omittai			
HOURLY PRODUCT						
	Average Grader Spe		1.25	mph	~~	
	Selected Applicati			uction Deration - 1.	.25	
	Selected Blade Ang		30	degrees		
	Effective Blade Leng f blade overlap per pa		10.40 2.00	feet		
	r ripping width per pa		8.40	feet feet		
6 6	Hourly Unit Producti		1.2727	acres/hour		
enaujustea	•			e Altitude: <u>7400</u> fe	et	
Job Condition Correction I		Source				
-						
-	1.00	(CAT HB)	)			
Job Condition Correction I	1.00	(CAT HB) (1sh/d, mod				
Job Condition Correction I Altitude Adj:						
Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500	(1sh/d, mod multiplier	.)	acros/Hour		
Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction:	0.85 0.8500 justed Hourly Unit P	(1sh/d, mod multiplier Production:	1.0818	acres/Hour		
Job Condition Correction I         Altitude Adj:         Job Efficiency:         Net Correction:         Add	0.85 0.8500	(1sh/d, mod multiplier Production:	.)	acres/Hour acres/Hour		
Job Condition Correction I         Altitude Adj:         Job Efficiency:         Net Correction:         Add	0.85 0.8500 Jjusted Hourly Unit P justed Hourly Fleet P	(1sh/d, mod multiplier Production:	1.0818			
Job Condition Correction I Altitude Adj: Job Efficiency: Net Correction: Adj	0.85 0.8500 Jjusted Hourly Unit P justed Hourly Fleet P	(1sh/d, mod multiplier Production: Production:	1.0818	acres/Hour	H	Iours

### **REVEGETATION WORK**

King Coal Mine Per		nit Action:	RN7	Permit/Job#:	C1981035	
PROJECT Task #: Date:	O11           5/4/2017	ICATION State: County:	Colorado La Plata		Abbreviation: Filename:	None C035-011
User: Ag	JHB gency or organ	nization name:	MS			

#### **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

#### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

Description		Cost /Acre
		\$0.00
	<b>Total Seed Application Cost/Acre</b>	\$0.00

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

#### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

# **NURSERY STOCK PLANTING**

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

	No. of Acres:		Cost /Acre	e: \$885.70
Estimate	Estimated Failure Rate:		Cost /Acre <sup>3</sup>	*: \$68.76
*Selected Replanti	*Selected Replanting Work Items:			
Initial Job Cost: Reseeding Job Cost:				
Total Job Cost:				
Job Hours:	4.00			

#### BULLDOZER WORK

	8	0	<b>-</b>	-law portion (	orretuse	area	
King Coal Mine		Per	mit Action:	RN7		Permit/Job#:	C1981035
PROJECT IDENI	<b>TIFICATIO</b>	N					
Task #: 012		State:	Colorado			Abbreviation:	None
Date: $\frac{012}{5/4/201}$	7	County:	La Plata			Filename:	C035-012
User: JHB							
Agency or o	rganization n	ame: DR	RMS				
HOURLY EQUIP	MENT CO	<u>ST</u>					
	Cat D8T - 8S	U		_			
· · _	310			_			
• 1	Semi-Univers			_			
	3-shank rippe	er		_			
	1 per day			_			
Data Source:	(CRG)			_			
Cost Breakdown:				Utiliza	tion %		
Ownership Cost/Hou	117.		\$83.81	<u>otinza</u> N			
Operating Cost/Hot			\$66.17	10			
Ripper ow							
Cost/Hor			\$7.55	N.	A		
Ripper op. Cost/Hor	ur:		\$0.00	C	)		
			\$41.85	N	Δ		
Operator Cost/Hou Total unit Cost/Hour: Total Fleet Cost/Hour	\$199.38		ψ1.05	IN.			
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA	\$199.38 r: <b>\$199.38</b> <b>NTITIES</b>		Ψ1.05	N			
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: _3	\$199.38 r: <b>\$199.38</b> <b>NTITIES</b> 3,275		ψ <b>1</b> 1.03	N			
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u>	\$199.38 \$19		φτ1.03 	N			
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u>	\$199.38 r: <b>\$199.38</b> <b>NTITIES</b> 3,275			N			
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u>	\$199.38 \$199.38 \$199.38 \$3,275 000 \$,275 LCY volume:	3	 s, 3.5' depth				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated s	\$199.38 \$199.38 <b>NTITIES</b> 3,275 1,000 3,275 LCY rolume: well	<b>3</b> 0.58 acres	 s, 3.5' depth				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated s factor: HOURLY PRODU	\$199.38 \$199.38 \$199.38 \$199.38 \$275 .000 \$275 LCY rolume: well UCTION	0.58 acres Cat Hand	 s, 3.5' depth				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated so factor:	\$199.38         \$199.38         \$199.38         \$199.38         \$3,275         .000         3,275 LCY         volume:         well         UCTION         e:       1	<b>3</b> 0.58 acres					
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated v Source of estimated s factor: HOURLY PRODU Average push distance Unadjusted hourly	\$199.38 \$199.38 \$199.38 \$199.38 \$275 .000 \$275 LCY rolume: well UCTION e:1 8	0.58 acres Cat Hand 00 feet 852.6 LCY/					
Total unit Cost/Hour:         Total Fleet Cost/Hour         MATERIAL QUA         Initial Volume:       3         Swell factor:       1         Loose volume:       3         Source of estimated v         Source of estimated so factor:         HOURLY PRODU         Average push distance         Unadjusted hourly         production:         Materials consistency	\$199.38 \$199.38 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	0.58 acres Cat Hand 00 feet 852.6 LCY/	s, 3.5' depthbook				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated v Source of estimated s factor: HOURLY PRODU Average push distance Unadjusted hourly production:	\$199.38         \$199.38         \$199.38         \$199.38         \$3,275         000         3,275 LCY         volume:         well         UCTION         e:       1         a         y description:         nt:       0 %	0.58 acres Cat Hand 00 feet 52.6 LCY/	s, 3.5' depthbook				
Total unit Cost/Hour:         Total Fleet Cost/Hour         MATERIAL QUA         Initial Volume:       3         Swell factor:       1         Loose volume:       3         Source of estimated v         Source of estimated so factor:         HOURLY PRODU         Average push distance         Unadjusted hourly         production:         Materials consistency         Average push gradien	\$199.38         \$199.38         \$199.38         \$199.38         \$3,275         000         3,275 LCY         volume:         well         UCTION         e:       1         a         y description:         nt:       0 %	0.58 acres Cat Hand 00 feet 00 feet	s, 3.5' depthbook				
Total unit Cost/Hour:         Total Fleet Cost/Hour         MATERIAL QUA         Initial Volume:       3         Swell factor:       1         Loose volume:       3         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distance         Unadjusted hourly         production:         Materials consistency         Average push gradien         Average site altitude:	\$199.38         \$199.38         \$199.38         \$199.38         \$199.38         \$3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000         3,275         .000	0.58 acres Cat Hand 00 feet 852.6 LCY/ Loose s eet bs/LCY	s, 3.5' depthbook				
Total unit Cost/Hour: Total Fleet Cost/Hour MATERIAL QUA Initial Volume: <u>3</u> Swell factor: <u>1</u> Loose volume: <u>3</u> Source of estimated v Source of estimated v Source of estimated st factor: HOURLY PRODU Average push distance Unadjusted hourly production: Materials consistency Average push gradien Average site altitude: Material weight:	$ \begin{array}{rcccccccccccccccccccccccccccccccccccc$	0.58 acres Cat Hand 00 feet 852.6 LCY/ Loose s eet bs/LCY	hr hr	 	Source		

Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4739	

Adjusted unit production:	404.05 LCY/hr
Adjusted fleet production:	<b>404.05</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.493/LCY

Total job time:	8.11 Hours
Total job cost:	\$1,616

#### BULLDOZER WORK

Task description:		5 5 5 6 7 6 1 1	nedium on pre-law refu	ise ui cu	
King Coal Mine	Per	mit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDENTI	FICATION				
Task #: 013	State:	Colorado		Abbreviation:	None
Date: 5/4/2017	County:	La Plata		Filename:	C035-013
User: JHB					
Agency or org	anization name: <u>DI</u>	RMS			
HOURLY EQUIPM	ENT COST				
	at D8T - 8SU		_		
Horsepower: 31			_		
	emi-Universal		-		
	shank ripper		-		
	per day		_		
Data Source: (C	CRG)		_		
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hours		\$83.81	NA		
Operating Cost/Hour:		\$66.17	100		
Ripper own		\$7.55	NA		
Cost/Hour: Ripper op. Cost/Hour:		\$0.00	0		
Ripper op. Cost/Hour.					
Onenater Cent/Harris		C / 1 O Z			
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN	\$199.38 <b>\$199.38</b>	\$41.85	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 468 Swell factor: 1.0	\$199.38 <b>\$199.38</b> <b>TITIES</b> 3	\$41.85 	NA		
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 468 Swell factor: 1.0	\$199.38 \$199.38 TITIES 3 00 3 LCY ume:	s, 6" depth	NA		
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       Source of estimated swefactor:         HOURLY PRODUC	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre ell Cat Hand CTION	s, 6" depth	NA		
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       Source of estimated swefactor:         HOURLY PRODUC       Average push distance:	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre ell Cat Hand CTION 100 feet	s, 6" depth	NA		
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       Source of estimated swefactor:         HOURLY PRODUC	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre ell Cat Hand CTION	s, 6" depth	NA		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       Source of estimated swafactor:         HOURLY PRODUC       Average push distance:         Unadjusted hourly       10	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre Cat Hand CTION 100 feet 852.6 LCY	s, 6" depth	NA		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       50         Source of estimated swefactor:       468         HOURLY PRODUC       Average push distance:         Unadjusted hourly       production:         Materials consistency d       468	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre Cat Hand CTION 100 feet 852.6 LCY escription: Loose s	s, 6" depth lbook	NA		
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol         Source of estimated swefactor:         HOURLY PRODUC         Average push distance:         Unadjusted hourly         production:	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre Cat Hand CTION 100 feet 852.6 LCY	s, 6" depth lbook			
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       50         Source of estimated swefactor:       468         HOURLY PRODUC       Average push distance:         Unadjusted hourly       production:         Materials consistency d	\$199.38 \$199.38 TITIES 3 00 3 LCY ume: 0.58 acre Cat Hand CTION 100 feet 852.6 LCY escription: Loose s	s, 6" depth lbook			
Fotal unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol       Source of estimated swefactor:         HOURLY PRODUC       Average push distance:         Unadjusted hourly       production:         Materials consistency d       Average push gradient:         Average site altitude:       10	\$199.38 \$199.38 TITIES 3 00 3 LCY ume:	s, 6" depth lbook /hr stockpile 1.2			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUAN         Initial Volume:       468         Swell factor:       1.0         Loose volume:       468         Source of estimated vol         Source of estimated swefactor:         HOURLY PRODUC         Average push distance:         Unadjusted hourly         production:         Materials consistency d         Average site altitude:         Material weight:	$ \begin{array}{r} & \$199.38 \\ \hline \$199.38 \\ \hline \\ \hline \$199.38 \\ \hline \\ \hline \\ \hline \\ \$199.38 \\ \hline \\ $	s, 6" depth lbook /hr stockpile 1.2			

Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.4739	

Adjusted unit production:	404.05 LCY/hr
Adjusted fleet production:	<b>404.05</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.493/LCY

Total job time:	1.16 Hours
Total job cost:	\$231

### **REVEGETATION WORK**

Task des	cription:	King I - revegetate	refuse area	(Area #5)		
e: King	g Coal Mine Permit Action: RN7 Permi		Mine Permit Action: RN		Permit/Job#:	C1981035
<b>PROJI</b>	CT IDENTIF	ICATION				
Task	#: 014	State: 0	Colorado		Abbreviation:	None
Task Da			Colorado La Plata		Abbreviation: Filename:	None C035-014

#### **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

#### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

Description		Cost /Acre
		\$0.00
	<b>Total Seed Application Cost/Acre</b>	\$0.00

# **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

#### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

# **NURSERY STOCK PLANTING**

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

	No. of Acres:		Cost /	Acre:	\$885.70
Estimate	Estimated Failure Rate:		Cost /A	cre*:	\$68.76
*Selected Replantin	*Selected Replanting Work Items:				
Initial Job Cost: Reseeding Job Cost: Total Job Cost: Job Hours:	\$19.94 \$534				

#### BULLDOZER WORK

Task description:	0			efuse pile		
King Coal Mine		Per	mit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDEN	TIFICATIO	ON				
Task #:         015           Date:         5/4/20           User:         JHB		State: County:	Colorado La Plata		Abbreviation: Filename:	None C035-015
Agency or	organization	name: DF	RMS			
HOURLY EQUI	PMENT CO	<u>)ST</u>				
Basic Machine: Horsepower: Blade Type: Attachment: Shift Basis: Data Source:	Cat D8T - 8 310 Semi-Unive 3-shank ripp 1 per day (CRG)	rsal		-		
Cost Breakdown:			1			
Ownership Cost/H	our		\$83.81	<u>Utilization %</u> NA		
Operating Cost/H			\$66.17	100		
Ripper of			\$7.55	NA		
Cost/H			\$0.00	0		
Ripper on Cost/H	our.			0		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho	our:		\$41.85	NA		
Operator Cost/H Total unit Cost/Hou	our:			NA		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor:	our: r: \$199.3 ur: <b>\$199.3</b> <b>ANTITIES</b> 6,098 1.000 6,098 LCY volume:	38	\$41.85			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated factor:	our: r: \$199.3 ur: <b>\$199.3</b> <b>ANTITIES</b> 6,098 1.000 <b>6,098</b> LCY volume: swell	38 3.5' depth	\$41.85			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	our: r: <u>\$199.3</u> ur: <b>\$199.3</b> <b>ANTITIES</b> 6,098 1.000 <b>6,098</b> LCY volume: swell <b>DUCTION</b>	38 3.5' depth	\$41.85			
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor: Loose volume: Source of estimated factor: <u>HOURLY PROE</u> Average push distar Unadjusted hourly	our: r: <u>\$199.3</u> ur: <b>\$199.3</b> <b>ANTITIES</b> 6,098 1.000 <b>6,098</b> LCY volume: swell <b>DUCTION</b> nce:	3.5' depth 	\$41.85	es		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated factor: <u>HOURLY PROD</u> Average push distar Unadjusted hourly production:	our:	3.5' depth	\$41.85	es		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROE Average push distar Unadjusted hourly production: Materials consistence	our:       \$199.3         r:       \$199.3         ur:       \$199.3         ANTITIES       6,098         6,098       1.000         6,098       LCY         volume:       swell         DUCTION	3.5' depth	\$41.85	es		
Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROD Average push distant Unadjusted hourly production: Materials consistence Average push gradie Average site altitude	our: r: \$199.3 ur: \$199.3 ANTITIES 6,098 1.000 6,098 LCY volume: swell DUCTION nce: cy description ent: 25 % c; 7,400 2,900	3.5' depth	\$41.85	es 		

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:	0.422	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)
Net correction:	0.1833	

Adjusted unit production:	156.28 LCY/hr
Adjusted fleet production:	156.28 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$1.276/LCY

Total job time:	<b>39.02</b> Hours
Total job cost:	\$7,780

#### BULLDOZER WORK

King Coal Mine		Per	mit Action:	RN7	Permit/Job#	C1981035
PROJECT IDENTI	FICATION	<u>1</u>				
Task #: 016		State:	Colorado		Abbreviation:	None
Date: $5/4/2017$		County:	La Plata		Filename:	C035-016
User: JHB	<u> </u>	county.	La Flata		T fieldifie.	0000 010
Agency or org	vanization na	ne: DF	RMS			
HOURLY EQUIPM						
	at D8T - 8SU	J		_		
· ·	10	1		-		
	emi-Universa			-		
	-shank ripper			-		
	per day			_		
Data Source:(	CRG)			_		
Cost Breakdown:						
				Utilization %		
Ownership Cost/Hour	:		\$83.81	NA		
Operating Cost/Hour			\$66.17	100		
Ripper own			\$7 EE	NT 4		
Cost/Hour	:		\$7.55	NA		
D: ~ ~ -			\$0.00	0		
Ripper op. Cost/Hour			φ0.00			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour:	\$199.38 <b>\$199.38</b>		\$41.85	NA		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume:6,0	: 			NA		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>6,0</u> Swell factor: <u>1.0</u>	: 			NA		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: <u>6,0</u> Swell factor: <u>1.0</u>	: \$199.38 <b>\$199.38</b> <b>VTITIES</b> 998 900 998 LCY lume:	3.5' deptl Cat Hand	\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUAN</u> Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated sw	:		\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODUC	:	Cat Hand	\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: <b>MATERIAL QUAN</b> Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated sw factor:	:		\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODUC Average push distance: Unadjusted hourly	: <u>\$199.38</u> <b>\$199.38</b> <b>VTITIES</b> 098 000 098 LCY lume: ell <u>CTION</u> <u>50</u> 1,	Cat Hand	\$41.85	 255		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODUC Average push distance: Unadjusted hourly production:	:	Cat Hand ) feet 400.0 LC Partly c	\$41.85	 255		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume: 6,0 Swell factor: 1.0 Loose volume: 6,0 Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODUC Average push distance: Unadjusted hourly production: Materials consistency of Average push gradient:	:	Cat Hand ) feet 400.0 LC Partly c et	\$41.85	 255		
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume:6,( Swell factor:1.( Loose volume:6,f Source of estimated vo Source of estimated vo Source of estimated sw factor: HOURLY PRODUC Average push distance: Unadjusted hourly production: Materials consistency of Average push gradient: Average site altitude:	:	Cat Hand ) feet 400.0 LC Partly c et /LCY	\$41.85			
Operator Cost/Hour Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUAN Initial Volume:	:	Cat Hand ) feet 400.0 LC Partly c et /LCY osed rock	\$41.85			

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:	608.16 LCY/hr
Adjusted fleet production:	608.16 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.328/LCY

Total job time:	<b>10.03</b> Hours
Total job cost:	\$1,999
°	

#### TRUCK/LOADER TEAM WORK

te: King Coal Mine		Permit Action: RN7			Permit/Job#:C1981035		
PROJECT IDEN	τιεις λ τιον						
	IIFICATION	-					
Task #: 017 Date: 5/4/20	17	State: Colorado County: La Plata			breviation: Nor Filename: C03	ne 35-017	
Date: 5/4/2017 County:			la		Thename. <u>Co.</u>	55-017	
	organization nan	ne: DRMS					
HOURLY EQUI	- PMFNT COS'	г		Shift bas	sis: <u>1 per day</u>		
<u>HOUKET EQUI</u>					sis. <u>1 per day</u>		
T	ruck Loader Tea		Equipment Descri eric 10-12 cy, 6x4			,	
1	ruck Louder rea		SOLETE - CAT 9				
Suppo	ort Equipment -L	oad Area: NA					
		Imp Area: NA					
Road Ma	intenance – Mote						
	-wa	ter Truck: NA					
Cost Breakdown:	Truck/Lo	ader Team	Support	Equipment	Maintenar	ce Equipment	
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck	
Utilization-machine:	100	100	NA	NA	NA	NA	
Winership cost/hour:	\$18.29	\$25.66	NA	NA	NA	NA	
Operating cost/hour:	\$39.97	\$32.31	NA	NA	NA	NA	
%Utilization-riper:	NA	0	NA	NA	NA	NA	
oper own. cost/hour:	NA	\$0.00	NA	NA	NA	NA	
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA	
Operator cost/hour:	\$0.00	\$41.20	NA	NA	NA	NA	
Unit Subtotals:	\$58.26	\$99.17	NA	NA	NA	NA	
Number of Units:	2	1	0	0	0	(	
Group Subtotals:	Work:	\$215.69	Support:	\$0.00	Maint:	\$0.00	
T. (.1. (	4 /1						
Total work team cos	t/nour: <u>\$215.09</u>	·					
MATERIAL QU	ANTITIES						
Initial volume:	871	CCY		factor: <u>1.429</u>			
Loose volume:	1,24	5 LCY					
Source of estimated volume:			acres, 6" depth				
Source of estimated swell factor:			Iandbook				
Material Purchase Cost: Total Cost:			)				

Truck Capacity:					
Truck Payload (weight) Basis:					
Material weight:	2,850	Pounds/LCY			
Description:	User Provided				
Rated Payload:	35,400	Pounds			
Payload Capacity:	12.42	LCY			
Truck Bed (volume) Basis:

10.00	LCY
12.00	LCY
11.00	LCY
12.00	LCY
	12.00 11.00

Final Truck Volume Based on Number of Loader Passes: 11.41 LCY

Site Altitude (ft.): 7500 feet

Loading Tool Capacity

		Bucket Size Class: NA
Rated Capacity:	3.900	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.803	LCY

#### Job Condition Corrections:

	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	f Loading Tool Passes Required to Fill	3	passes
Excavators and Front Shovels:	Truck:	5	
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): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -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:	-0.090	minutes
	Adjusted Loader Cycle Time:	0.393	minutes
	Net Load Time per Truck:	0.885	minutes

#### **Truck Cycle Time:**

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.885	Minutes	Adjusted for site altitude:	0.885	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

### Truck Travel (Haul & Return) Time: penetration 5 0

e

H

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

Haul Rou	te:					
Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	200.00	0.00	5.00	5.00	2218	0.158

	Return R	oute:				Haul Time:	0.158	minutes	3
	Seg #	1	Distance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
-	1	200.0	0	0.00	5.00	5.00	2814	0.097	]
					Total True	Return Time: ck Cycle Time:	0.097 2.540	minut	
	oading To Prod Unit Prod	uction	494.19	LCY/Hour		Adjusted for j	ob efficiency:	410.18	LCY/Hour
	0		269.47	LCY/Hour		Adjusted for j	ob efficiency:	223.66	LCY/Hour
Optima	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
						k team productio			Y/Hour
						r team productio			r/Hour
				Adjusted multipl	e truck/loade	r team productio	on: <b>410.</b>	<u>18</u> LC	Y/Hour
	JOB TI	ME AN	ND COST						
	Fleet	size:	1	Team(s)	7	Total job time:	3.03	H	lours
	Unit	cost:	\$0.526	/LCY	<b>-</b>	Total job cost:	\$655	5	

## MOTOR GRADER WORK

Task description:	King I - finish gra	ade post-lav	v refuse area (a	area #6)			
E: King Coal Mine	Perm	Permit Action: <u>RN7</u> Permit/Job#: <u>C1</u>					
PROJECT IDENTI	FICATION						
Task #: 018	State:	Colorado		Abbrev	iation:	None	
Date: 5/4/2017	County:	La Plata		File	ename:	C035-018	
User: JHB							
Agency or orga	anization name: DR	MS					
HOURLY EQUIPM	ENT COST						
Basic Machin	e: CAT 12M			Horsepower:		158	
Ripper Attachmer		per		Shift Basis:		er day	
11	D	L		Data Source:	-	CRG)	
Cost Breakdown:							
Orum	anshin Cost/Hours		\$28.02	Utilization %			
	ership Cost/Hour: erating Cost/Hour:		\$28.02 \$28.28	<u>NA</u> 100			
	ership Cost/Hour:		\$28.28	 NA			
	erating Cost/Hour:		\$0.00	0			
11 1	perator Cost/Hour:		\$28.90	NA			
-	al Unit Cost/Hour:		\$87.19				
<b>m</b> .		<b>40</b>	10				
I ota	l Fleet Cost/Hour:	\$87.	.19				
	a to be graded or ripped	-				acres	
Sour	ce of estimated acreage	e: <u>Section</u>	2.05.3 of perm	it application			
HOURLY PRODUC	<u>CTION</u>						
	Average Grader Spe		1.25	mph			
	Selected Applicati			luction Deration - 1.	.25		
	Selected Blade Ang		30	degrees			
Width	Effective Blade Leng of blade overlap per pa		10.40 2.00	feet feet			
	or ripping width per pa		8.40	feet			
	d Hourly Unit Producti		1.2727	acres/hour			
Job Condition Correctio	-			te Altitude: 7400 fe			
		Source					
Altitude Adj:	1.00	(CAT HB	,				
Job Efficiency:	0.85	(1sh/d, mo	<u>,                                     </u>				
Net Correction:	0.8500	multiplier					
	Adjusted Hourly Unit F	Production:	1.0818	acres/Hour			
	Adjusted Hourly Fleet F		1.0818	acres/Hour			
JOB TIME AND CO	<u>DST</u>						
Fleet size:	1 Grader(s)		Total job time	. 0.98		Hours	
Unit cost:\$8	0.60 per acre		Total job cost	: \$85			

## **REVEGETATION WORK**

Task description:		King I - revegeta	te refuse ar	rea (Area #6)			
ite:	te: King Coal Mine		Per	mit Action:	RN7	Permit/Job#:	C1981035
F	PROJECT	<u>IDENTIF</u>	<b>ICATION</b>				
	Task #:	019	State:	Colorado		Abbreviation:	None
	Date:	5/4/2017	County:	La Plata		Filename:	C035-019
	User:	JHB					

# Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

### **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

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

### **MULCHING and MISCELLANEOUS**

#### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		<b>Totals</b>	Nursery Stoc	k Cost / Acre	\$0.00
			-		•

## JOB TIME AND COST

	No. of Acres:	1.08	Cost /Acre	: \$885.70
Estimate	ed Failure Rate:	50%	Cost /Acre*	: \$68.76
*Selected Replanting	ng Work Items:	SEEDING		
Initial Job Cost:	\$956.56			
Reseeding Job Cost:	\$37.13			
Total Job Cost:	\$994			
Job Hours:	2.00			

# MOTOR GRADER WORK

Task description:	King I - finish grade	topsoil area		
King Coal Mine	Permit A	Action: <u>RN7</u>	Permit	/Job#: <u>C1981035</u>
PROJECT IDENT	<b>IFICATION</b>			
Task #:         020           Date:         5/4/2017           User:         JHB		lorado Plata	Abbreviat	
Agency or or	ganization name: DRMS			
HOURLY EQUIPM	<u>MENT COST</u>			
Basic Mach			Horsepower:	158
Ripper Attachm	ent: Multi-Shank Ripper		Shift Basis: Data Source:	1 per day (CRG)
Cost Breakdown:				(CRO)
			Utilization %	
	nership Cost/Hour:	\$28.02	NA	
	perating Cost/Hour:	\$28.28 \$1.99	100 NA	
	berating Cost/Hour:	\$0.00	0	
	perator Cost/Hour:	\$28.90	NA	
То	tal Unit Cost/Hour:	\$87.19		
Tot	al Fleet Cost/Hour:	\$87.19		
MATERIAL QUAN Total Ar	<b>NTITIES</b> ea to be graded or ripped:	2.00		acres
	urce of estimated acreage:	Section 2.05.3 of perm	nit application	uoros
HOURLY PRODU	CTION			
<u>HOURLI I KODU</u>	Average Grader Speed:	1.25	mph	
	Selected Application:		duction Deration - 1.25	5
	Selected Blade Angle:	30	degrees	
Wa	Effective Blade Length:	10.40	feet	
	h of blade overlap per pass: g or ripping width per pass:	8.40	feet feet	
	ed Hourly Unit Production:	1.2727	acres/hour	
Job Condition Correction	on Factors	S	ite Altitude: <u>7400</u> feet	
		Source		
Altitude Adj:		CAT HB)		
Job Efficiency:		sh/d, mod.)		
Net Correction:		ultiplier		
	Adjusted Hourly Unit Prod Adjusted Hourly Fleet Prod		acres/Hour acres/Hour	
JOB TIME AND C		<b>T</b> = 1 1 1 - 1	1.05	TT.
Fleet size:	1 Grader(s)	Total job time	e: <u>1.85</u>	Hours
Unit cost: \$	80.60 per acre	Total job cos	t: <b>\$161</b>	

# **REVEGETATION WORK**

Task description:		King I - revegetate borrow area						
Site:	te: King Coal Mine		Permit Action: <u>RN7</u> Permit/Jo		Permit/Job#:	C1981035		
Ī	PROJECT	<u>IDENTIFI</u>	CATION					
	Task #:	021	State:	Colorado		Abbreviation:	None	
	Date:	5/4/2017	County:	La Plata		Filename:	C035-021	_
	User:	JHB						
	Ag	ency or organi	zation name: DR	MS				

# **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials Cost/Acre	\$51.00

## Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

## **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

Application

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

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	<b>Total Mulch Application Cost/Acre</b>	\$99.32

# NURSERY STOCK PLANTING

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

### JOB TIME AND COST

No. of Acres:	2	Cost /Acre:	\$885.70
Estimated Failure Rate:		Cost /Acre*:	
*Selected Replanting Work Items:			+ • • • • •
1 0			
Initial Job Cost: <b>\$1,771.40</b>			

	+-,
Reseeding Job Cost:	\$68.76
Total Job Cost:	\$1,840
Job Hours:	4.00

# BOREHOLE SEALING WORK

: King Coa	King I - seal vent hole         ing Coal Mine       Permit Action:       RN7       Permit/Job#:       C19		rmit/Job#: <u>C1981035</u>	
PROJEC	<u>T IDENTIF</u>	FICATION		
	022	State: Colorado	Abbreviation:	None
Date:	5/4/2017 JHB	County: La Plata	Filename:	C035=022

# **UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal hole	Portland cement grout - 8 in. (labor, equip, materials)	7	100	100.00	LF	\$11.21	\$1,121.00
Bottom Plug	Stainless steel plug - 8 in. diameter borehole	7	100	1.00	EA	\$192.81	\$192.81
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	7	2	2.00	LF	\$1.77	\$3.54
Mark Hole	Borehole location/identification marker (EA, material cost only)	7	1	1.00	EA	\$3.67	\$3.67
drill rig	SCHRAMM T450WS	7	NA	1.00	hr	\$229.60	\$229.60

 Job Hours:
 8.00
 Total Cost:
 \$1,551.00

## BULLDOZER WORK

ask description:					
King Coal Mine	Pe	ermit Action:	RN7	Permit/Job#:	C1981035
<b>ROJECT IDENTIF</b>	<b>TICATION</b>				
Task #: 023	State:	Colorado		Abbreviation:	None
Date: $5/4/2017$	County:			Filename:	C035-023
User: JHB	County.	La Flata		T nenume.	0000 020
Agency or orga	nization name: <u>D</u>	DRMS			
IOURLY EQUIPMI	ENT COST				
	t D8T - 8SU				
Horsepower: 310			_		
1	mi-Universal		_		
VI	shank ripper		_		
	ber day		_		
	RG)		_		
	KO)		_		
ost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$83.81	NA		
Operating Cost/Hour:		\$66.17	100		
Ripper own.		\$7.55	NA		
Cost/Hour:					
Ripper op. Cost/Hour:		\$0.00	0		
		\$0.00 \$41.85	0 NA		
Ripper op. Cost/Hour:	\$199.38				
Ripper op. Cost/Hour: Operator Cost/Hour:	\$199.38 <b>\$199.38</b>				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour:					
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour:	\$199.38				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: IATERIAL QUANT	\$199.38 <u>FITIES</u>				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume:3,22	\$199.38 FITIES 26				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16	\$199.38 FITIES 26 55				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16	\$199.38 FITIES 26				
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16	\$199.38 FITIES 26 55 58 LCY				
Ripper op. Cost/Hour:         Operator Cost/Hour:         otal unit Cost/Hour:         otal Fleet Cost/Hour:         Initial Volume:         3,22         Swell factor:         1.16         Loose volume:         3,75	\$199.38 FITIES 26 55 58 LCY Ime: Operator	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: <b>IATERIAL QUANT</b> Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu	\$199.38 FITIES 26 55 58 LCY Ime: Operator	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel	\$199.38 FITIES 26 55 58 LCY Ime: Operator	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel	\$199.38 FITIES 26 55 58 LCY ume: Operato 11 Cat Han	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel actor: IOURLY PRODUC	\$199.38 <u>FITIES</u> 26 55 58 LCY ume: Operato 11 Cat Han <u>TION</u>	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUCC verage push distance:	\$199.38 FITIES 26 55 58 LCY ume: Operato 10 Cat Han TION 75 feet	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUCC verage push distance: nadjusted hourly	\$199.38 <u>FITIES</u> 26 55 58 LCY ume: Operato 11 Cat Han <u>TION</u>	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUCC verage push distance:	\$199.38 FITIES 26 55 58 LCY ume: Operato 10 Cat Han TION 75 feet	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel actor: IOURLY PRODUCC verage push distance: nadjusted hourly roduction:	\$199.38 FITIES 26 55 58 LCY III Operato: II Cat Han TION 75 feet 1,017.1 LC	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUCC verage push distance: nadjusted hourly	\$199.38 FITIES 26 55 58 LCY III Operato: II Cat Han TION 75 feet 1,017.1 LC	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: <u>3,22</u> Swell factor: <u>1.16</u> Loose volume: <u>3,75</u> ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de	\$199.38 <u>FITIES</u> 26 55 58 LCY ume: <u>Operato</u> 10 Cat Han <u>TION</u> <u>75 feet</u> 1,017.1 LC escription: <u>Comp</u>	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient:	\$199.38         ITTIES         26         55         58 LCY         ume:       Operator         11       Cat Han	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: <u>3,22</u> Swell factor: <u>1.16</u> Loose volume: <u>3,75</u> ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de	\$199.38 <u>FITIES</u> 26 55 58 LCY ume: <u>Operato</u> 10 Cat Han <u>TION</u> <u>75 feet</u> 1,017.1 LC escription: <u>Comp</u>	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient: verage site altitude:	\$199.38         FITIES         26         55         58 LCY         ume:       Operator         11       Cat Han         TION       75 feet         1,017.1 LC         escription:       Comp         0 %       7,400 feet	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient:	\$199.38         ITTIES         26         55         58 LCY         ume:       Operator         11       Cat Han	\$41.85	NA		
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient: verage push gradient: verage site altitude: Iaterial weight:	\$199.38         FITIES         26         55         58 LCY         nme:       Operato:         11       Cat Han         TION         75 feet         1,017.1 LC         escription:       Comp         0 %         7,400 feet         2,900 lbs/LCY	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient: verage site altitude: Iaterial weight: /eight description:	\$199.38         ITTIES         26         55         58 LCY         ume:       Operator         11       Cat Han         TION       75 feet         1,017.1 LC         escription:       Comp         0 %       7,400 feet         2,900 lbs/LCY       Decomposed roct	\$41.85			
Ripper op. Cost/Hour: Operator Cost/Hour: otal unit Cost/Hour: otal Fleet Cost/Hour: Initial Volume: 3,22 Swell factor: 1.16 Loose volume: 3,75 ource of estimated volu ource of estimated volu ource of estimated swel actor: IOURLY PRODUC verage push distance: nadjusted hourly roduction: Iaterials consistency de verage push gradient: verage push gradient: verage site altitude: Iaterial weight:	\$199.38         FITIES         26         55         58 LCY         ume:       Operator         11       Cat Han         TION         75 feet         1,017.1 LC         escription:       Comp         0 %         7,400 feet         2,900 lbs/LCY         Decomposed roci         n Factor	\$41.85			

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:	361.48 LCY/hr
Adjusted fleet production:	<b>361.48</b> LCY/hr

## JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.552/LCY

Total job time:	10.40 Hours
Total job cost:	\$2,073

# **REVEGETATION WORK**

Г	ask descrip	otion:	King I - revegetate east and west ponds (Area #6)				
Site:	King Coa	al Mine	Perm	nit Action:	RN7	Permit/Job#:	C1981035
Ī	PROJECI Task #:	<u>CIDENTIFI</u>	CATION State:	Colorado		Abbreviation:	None
	Date:	5/4/2017	County:	La Plata		Filename:	C035-025
	User:	JHB		Du Tiutu		- Inchannet	0000 020
	Ag	ency or organi	ization name: DRI	MS			

## **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

## Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

### **TILLING**

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

Application

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

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

### Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	Total Mulch Application Cost/Acre	\$99.32

# NURSERY STOCK PLANTING

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

### JOB TIME AND COST

No. of Acres:	1.86	Cost /Acre:	\$885.70
Estimated Failure Rate:	50%	Cost /Acre*:	\$68.76
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:			

milia 300 Cost.	Ψ1,047.40
Reseeding Job Cost:	\$63.95
Total Job Cost:	\$1,711
Job Hours:	4.00

# SITE MAINTENANCE

King Coal Mine		Perm	it Action:	RN7	Pe	rmit/Job#: <u>C1981035</u>
<u>PROJE</u>	CT IDENTIE	<b>FICATION</b>				
Toole #1	032	State: C	Colorado		Abbreviation:	None
Task #:	002					
Date:	5/4/2017	County: L	.a Plata		Filename:	C035-032

# UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
D3 Dozer	8.00	Cat D3K LGP - 3P	24.00	EA	\$81.57	\$1,957.68
12M Grader	8.00	CAT 12M	24.00	EA	\$95.88	\$2,301.12

Job Hours: 24.00

Total Cost: \$4,258.80

## EQUIPMENT MOBILIZATION/DEMOBILIZATION

: King Coal Mine	Permit A	Action: RN7	Permit/Jo	b#: <u>C1981035</u>
PROJECT IDENTIFIC.	ATION			
Task #: 050	State: Col	lorado	Abbreviation	: None
Date: 5/4/2017	County: La	Plata	Filename	: C035-050
User: JHB				
Agency or organiza	ation name: DRMS			
EQUIPMENT TRANSP	ORT RIG COST			
			Shift basis:	1 per day
			Shift basis: Cost Data Source:	1 per day CRG Data
	Description: GENE	PIC ON HIGHW	Cost Data Source:	CRG Data
Truck Tractor E	Description: GENE	RIC ON-HIGHW	Cost Data Source:	CRG Data
Truck Tractor E	-		Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006)	CRG Data
	-		Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006) OOSENECK, DROP DECK E	CRG Data
Truck Tractor E	-		Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006)	CRG Data
Truck Tractor E	-		Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006) OOSENECK, DROP DECK E	CRG Data
Truck Tractor E Truck Trailer E <u>Cost Breakdown:</u>	-		Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006) OOSENECK, DROP DECK E	CRG Data
Truck Tractor E Truck Trailer E	Description: GENER	RIC FOLDING G	Cost Data Source: AY TRUCK TRACTOR, 6X4 400 HP (2ND HALF, 2006) OOSENECK, DROP DECK E (25T, 50T, AND 100T)	CRG Data
Truck Tractor E Truck Trailer E <u>Cost Breakdown:</u> Available Rig Capacities	Description: GENER 0-25 Tons r: \$16.63	RIC FOLDING G	Cost Data Source:	CRG Data
Truck Tractor E Truck Trailer E <u>Cost Breakdown:</u> Available Rig Capacities Ownership Cost/Hou	Description: GENER 0-25 Tons r: \$16.63 r: \$44.38	RIC FOLDING G 26-50 Tons \$18.37	Cost Data Source:	CRG Data
Truck Tractor E Truck Trailer E <u>Cost Breakdown:</u> <u>Available Rig Capacities</u> Ownership Cost/Hou Operating Cost/Hou	0-25 Tons           r:         \$16.63           r:         \$44.38           r:         \$27.66	RIC FOLDING G 26-50 Tons \$18.37 \$46.13	Cost Data Source:	CRG Data

### **NON ROADABLE EQUIPMENT:**

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)				fleet		
Cat D8T - 8SU	47.71	\$62.67	\$117.55	2	\$360.44	\$235.10	\$0.00
CAT 938H	16.34	\$21.63	\$88.67	2	\$220.60	\$177.34	\$0.00
CAT 12M	16.01	\$24.98	\$88.67	1	\$113.65	\$88.67	\$0.00
CAT 825H	36.08	\$62.10	\$117.55	1	\$179.65	\$117.55	\$0.00
Drill/Broadcast	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$0.00
Seeder with							
Tractor							
Power Mulcher	6.00	\$7.03	\$88.67	1	\$95.70	\$88.67	\$0.00
(Reinco M90)							
GENERIC 3.0 in	0.00	\$17.72	\$88.67	1	\$106.39	\$88.67	\$250.00
1, 700 ft. capy.							
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	1	-1	1	1		1	

 Subtotals:
 \$1,204.69
 \$884.67
 \$250.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 10-12 cy, 6x4	\$101.68	2	\$203.36	\$203.36
Water Tanker, 2,500 Gal.	\$29.67	1	\$29.67	\$29.67
		Subtotals:	\$233.03	\$233.03

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	DURANGO	
Total one-way travel distance:	20.00	miles
Average Travel Speed:	40.00	mph
Total Non-Roadable Mob/Demob Cost *	\$9,817.50 \$233.03	

Transportation Cycle Time:

Haul Time (Hours):	Non-Roadable Equipment	Roadable Equipment 0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	4.00	1.00

### JOB TIME AND COST

Total job time: **8.00** Hours

Total job cost: \$10,051

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

ite: King Coal Mine          PROJECT IDENTIFICA         Task #:       051         Date:       5/4/2017         User:       JHB         Agency or organizati		ermit Action: <u>RN7</u>	Permit/Job#:	C1981035
Task #:     051       Date:     5/4/2017       User:     JHB	TION			
Date: 5/4/2017 User: JHB				
A gangy or organizati	State: County:		Abbreviation: Filename:	None C035-051
EQUIPMENT TRANSPO		DRMS		
				per day RG Data
Truck Tractor De	scription:	GENERIC ON-HIGHWAY 400	TRUCK TRACTOR, 6X4, D HP (2ND HALF, 2006)	IESEL POWERED,
Truck Trailer De	scription: (	GENERIC FOLDING GOOS (2	ENECK, DROP DECK EQU 25T, 50T, AND 100T)	JIPMENT TRAILER
Cost Breakdown: Available Rig Capacities				

0-25 Tons	26-50 Tons	51+ Tons
\$16.63	\$18.37	\$22.33
\$44.38	\$46.13	\$50.07
\$27.66	\$27.66	\$27.66
\$0.00	\$25.39	\$25.39
\$88.67	\$117.55	\$125.45
	\$16.63 \$44.38 \$27.66 \$0.00	\$16.63         \$18.37           \$44.38         \$46.13           \$27.66         \$27.66           \$0.00         \$25.39

### **NON ROADABLE EQUIPMENT:**

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D3K LGP - 3P	9.20	\$13.24	\$88.67	3	\$305.74	\$266.01	\$0.00
CAT 12M	16.01	\$24.98	\$88.67	3	\$340.94	\$266.01	\$0.00

Subtotals: \$646.68 \$532.02 \$0.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 2,500 Gal.	\$29.67	3	\$89.01	\$89.01
		Subtotals:	\$89.01	\$89.01

### **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	DURANGO 20.00 40.00	miles mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	\$5,058.78	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$89.01	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	4.00	1.00

## JOB TIME AND COST

Total job time:	8.00	Hours

Total job cost: \$5,148

# EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task descri	iption:	Kin	g I&II - mobiliz	e for second p	ond cleanir	ıg			
: King Co	al Mine		Permit	Action: RN7	,	Pe	ermit/Job#	: <u>C198</u>	31035
<b>PROJEC</b>	<u>T IDENTI</u>	FICAT	ION						
Task #:	052		State: C	Colorado		Abbr	eviation:	None	
Date: User:	5/4/2017 JHB		County: L	a Plata		F	ilename:	C035-	052
	gency or org	ganizatior	n name: DRMS	S					
<u>EQUIPM</u>	ENT TRA	NSPOR	<u>AT RIG COST</u>						
						Shift ba Cost Data Sou		1 per da CRG Da	
	Truck Trac	ctor Desc	ription: GEN	ERIC ON-HIG		RUCK TRACTO	, ,	DIESEL	POWERED,
	<b>T</b> 1 <b>T</b>					P (2ND HALF,	,		
	Truck Tra	iller Desc	ription: GEN	ERIC FOLDIN		NECK, DROP I F, 50T, AND 10		UIPMEI	NI IRAILER
Cost Break	<u>down:</u>				(				
Available	Rig Capacit	ties	0-25 Tons	26-50 Ton	s 5	l+ Tons			
	nership Cost		\$16.63	\$18.37		\$22.33			
Op	erating Cost	/Hour:	\$44.38	\$46.13		\$50.07			
	perator Cost		\$27.66	\$27.66		\$27.66			
	Helper Cost	t/Hour:	\$0.00	\$25.39		\$25.39			
Tot	al Unit Cost	/Hour:	\$88.67	\$117.55	9	5125.45			
NON RO	ADABLE	EQUIP	MENT:						
Machine	W	/eight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return '		DOT Permit
Description		nit	Cost/hr/unit	Cost/hr/unit	Siza	Cost/hr/	Cost/hr/	fleet	Cost/ fleet

Machine	Weight/	Owner ship	Haul Rig	Fleet	Haul Trip	Return Trip	DOT Permit
Description	Unit	Cost/hr/ unit	Cost/hr/unit	Size	Cost/hr/	Cost/hr/ fleet	Cost/ fleet
	(TONS)				fleet		
CAT 938H	16.34	\$21.63	\$88.67	2	\$220.60	\$177.34	\$0.00
Cat 312D L 9'-2"	14.83	\$20.89	\$88.67	1	\$109.56	\$88.67	\$0.00
Stick							
				~		*****	<b>*</b> • • • •
				Subtotals:	\$330.16	\$266.01	\$0.00

### **ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Generic 10-12 cy, 6x4	\$101.68	2	\$203.36	\$203.36
		Subtotals:	\$203.36	\$203.36

## **EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region: Total one-way travel distance: Average Travel Speed:	DURANGO 20.00 40.00	miles mph
Total Non-Roadable Mob/Demob Cost *	\$2,577.13	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	\$203.36	

## Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.50	0.50
Return Time (Hours):	0.50	0.50
Loading Time (Hours):	2.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	4.00	1.00

# JOB TIME AND COST

Total job time: **8.00** Hours

Total job cost: \$2,780

# SITE MAINTENANCE

King C	oal Mine	Pe	ermit Action: <u>RN7</u>	Pe	rmit/Job#: <u>C1981035</u>
	CT IDENTI				
Task #:	060	State:	Colorado	Abbreviation:	None
		Carrietari	Lo Dioto	Filename:	C035-060
Date:	5/4/2017	County:	La Plata	Thename.	C033-000

## UNIT COSTS

Maintenance Item	Hours per Year	Menu Selection	Quantity	Unit	Unit Cost	Total Cost
D3 Dozer	8.00	Cat D3K LGP - 3P	24.00	EA	\$81.57	\$1,957.68
12M Grader	8.00	CAT 12M	24.00	EA	\$95.88	\$2,301.12

Job Hours: 24.00

Total Cost: \$4,258.80

# **REVEGETATION WORK**

Task description:	Weed Control over liability period					
King Coal Mine	Permit A	Permit/Job#	: <u>C1981035</u>			
PROJECT IDENTIFI	<u>CATION</u>					
Task #: 062		orado		Abbreviation:	None	
Date:         5/4/2017           User:         JHB	County: La	Plata		Filename:	C035-062	
Agency or organi	ization name: DRMS					
<b>FERTILIZING</b>						
Materials						
Description		Units / Acre	Unit	Cost / Unit	Cost /Acre	
				\$	\$	
				Total Fertilizer Materials Cost/Acre	\$0.00	
Application					<u> </u>	
Description					Cost /Acre	
					\$	
		Total	Fertilizer A	pplication Cost/Acre	\$0.00	
TILLING						
Description					Cost /Acre	
					\$	
			Тс	otal Tilling Cost/Acre	\$0.00	

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

## **MULCHING and MISCELLANEOUS**

<b>Aaterials</b>	Tinita /			
Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
	5.00		\$0.00	\$0.00
<b>Total Mulch Materials Cost/Acre</b>				\$0.00

## Application

Application		
Description		Cost /Acre
Weed spray, hand, non-aquatic area, nox. [DMG]		\$180.00
	Total Mulch Application Cost/Acre	\$180.00

### **NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
		Totals 2	Nursery Stoc	k Cost / Acre	\$0.00

## JOB TIME AND COST

	No. of Acres:	17.5	Cost /Acre:	\$180.00
Estimate	ed Failure Rate:	0%	Cost /Acre*:	\$0.00
*Selected Replanting	ng Work Items:	NONE		
Initial Job Cost: Reseeding Job Cost: Total Job Cost: Job Hours:	\$0.00 \$3,150			

## HYDRAULIC EXCAVATOR WORK

Task description:	Clean sediment ponds (two	o cleanings)		
King Coal Mine	Permit Action	: _ RN7	Permit/Job#:	C1981035
PROJECT IDENTIFI	<b>CATION</b>			
Task #:         064           Date:         5/5/2017           User:         JHB	County: Colorada	0	Abbreviation: Filename:	None C035-064
Agency or organ	ization name: DRMS			
HOURLY EQUIPME	NT COST			
	Cat 312D L 9'-2" Stick ROPS Cab	Weigh Shif	t (MT): 1 t Basis: 1 p	90 3.48 er day CRG)
Cost Breakdown:				
Ownership Cost/H Operating Cost/H Operator Cost/H Total Unit Cost/H	our: \$19.81 our: \$37.79	Utilization % NA 100 NA		
Total Fleet Cost/I	Hour: \$78.70			
Loose volume: <b>7</b> ,	453 CCY 324 LCY		1.135	
	f estimated volume: <u>2 pond</u> imated swell factor: Cat Ha	cleanings, 2 ac ft per cleandbook	inout	
	ad bucket, swing loaded, dum	Condition Description:	AVERAGE AVERAGE 0.256	minutes
Load Bucket Capacity		Buc	ket Size Class: M	edium
Rated Capacity: Bucket Fill Factor: Adjusted Capacity:	0.850 Hard, t			
Job Condition Correction	Factors	Site Altitu	ude: <u>7500</u> feet	
Ac	Sour1.00(CAT)0.83(1 shift)0.83multipliljusted Hourly Unit Productionljusted Hourly Unit Productionjusted Hourly Fleet Production	HB) <u>day)</u> er 135.47 LC n: 112.44 LC	CY/Hour CY/Hour CY/Hour	
JOB TIME AND COS	<u>T</u>			
Fleet size: 1	Excavator	Total job time:	65.14	Hours

Unit cost	st:	\$0.700 /	LCY TRUCK/	LOA	Total job co DER TEAM W		126	
Tel Level		17. 11						
Task descript		King II			rom ponds to Ki			
Site: King Coal	l Mine		Permit	t Actio	on: <u>RN7</u>		Permit/Job#: C	21981035
PROJECT	' IDENT	TIFICATION	I					
Task #:	065		_	Colora	do	46	breviation: No	<b>n</b> 0
Date:	5/5/201	7		La Plat		A0		)35-065
User:	JHB			<u>Ju 1 1u</u>				
Age	ency or o	rganization nar	ne: DRM	S				
8-	)	8						
HOURLY	EQUIP	MENT COS	<u>Γ</u>			Shift bas	sis: <u>1 per day</u>	
					Equipment Descri			
	Tr	uck Loader Tea			eric 12-18 cy, 6x4			
	Suppor	t Equipment -L	-Loader:	NA NA	OLETE - CAT 9	38H		
	Suppor		ump Area:		OLETE - CAT 9	38H		
R	Road Mai	ntenance – Mot		NA				
		-Wa	ater Truck:	NA				
Cost Deve led	1	TT 1/1			<b>C</b>		Malatan	Б
<u>Cost Breakd</u>	<u>10wn</u> :	Truck	ader Team Loader		Load Area	Equipment Dump Area	Motor Grader	nce Equipmer Water Truc
%Utilization-mach	hine	100		100	NA	100	NA	]
Ownership cost/h		\$22.16	\$2	5.66	NA	\$25.66	NA	]
Operating cost/h		\$42.40		2.31	NA	\$32.31	NA	
%Utilization-r		NA	φυ.	0	NA	NA	NA	]
Ripper own. cost/h	-	NA	\$	0.00	NA	\$0.00	NA	1
Ripper op. cost/h		NA	\$	0.00	NA	\$0.00	NA	1
Operator cost/h		\$30.37		1.20	NA	\$41.20	NA	1
Unit Subto	otals:	\$94.93	\$9	9.17	NA	\$99.17	NA	]
Number of U	Jnits:	6		1	0	1	0	
Group Subto	otals:	Work:	\$668.75		Support:	\$99.17	Maint:	\$0.00
		/hour: <u>\$767.92</u>	2					
<u>MATERIA</u>	AL QUA	<u>NTITIES</u>						
Initial v		6,453	<u> </u>	CCY	Swell	factor: <u>1.000</u>		
Loose v		6,45.		LCY				
		ce of estimated		_	d cleanings, 2 ac	ft each cleanout		
2		f estimated swe Material Purch		Cat H \$0.00	andbook			<u> </u>
			otal Cost:	\$0.00				<u> </u>
HOURLY	Y PROL	<b>DUCTION</b>						
Truck Capa	city:							
Truck Payloa		nt) Basis:						
	aterial we	eight: 2,700			Pounds/LCY			
	Descrip		Wet excava	ated				
-								
	ated Pay				Pounds LCY			

#### Truck Bed (volume) Basis:

12.00	LCY
18.00	LCY
15.00	LCY
18.00	LCY
	18.00 15.00

 Final Truck Volume Based on Number of Loader Passes:
 15.21
 LCY

#### Loading Tool Capacity

		Bucket Size Class: NA
Rated Capacity:	3.900	LCY (heaped)
Bucket Fill Factor:	0.975	Loose material - mixed moist aggregates (95-100%) 0.975
Adjusted Capacity:	3.803	LCY

#### Job Condition Corrections:

Site Altitude (ft.): 7500 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	r of Loading Tool Passes Required to Fill	4	passes
Excavators and Front Shovels:	Truck:		
Machine Cycle Time vs. Job Condition Ratin	ig: NA		

Track Loaders – Material Description:

Cycle Time Elements (min.):

Load:	NA	Maneuver:	NA	Dump:	0.100
-		-		-	

NA

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): 0.483 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material 1/8" to 3/4" diameter -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:	Nominal target 0.00	0.000	(Cat HB)
	Net Cycle Time Adjustment:	-0.080	minutes
	Adjusted Loader Cycle Time:	0.403	minutes
	Net Load Time per Truck:	1.308	minutes

#### **Truck Cycle Time:**

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	1.308	Minutes	Adjusted for site altitude:	1.308	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

(min)

<u>Truck Tra</u> penetratio	<u>vel (Haul &amp; Return) 7</u> on 5.0	<u>Fime:</u>	Road Conditio	n: <u>Rutted dirt,</u>	little maintena	nce, no water,	<u>2" tire</u>
Haul Rou	te:						
Seg #	Haul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
_	(Ft)		(%)	(%)	(fpm)	Time	

[	1	1056	0.00	11.50	5.00	16.50	690	15.314	]
						Haul Time:	15.314	minutes	3
	Return R	oute:							
ſ	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	]
	-	(Ft)			(%)	(%)	(fpm)	Time	
							_	(min)	4
	1	1056	0.00	-11.50	5.00	-6.50	2938	3.705	
						Return Time:	3.705	minut	es
					Total Tru	ck Cycle Time:	21.727	minut	es
	oading To Prod Unit Prod	uction	504.90	LCY/Hour		Adjusted for j	job efficiency:	419.06	LCY/Hour
			42.00	LCY/Hour		Adjusted for j	job efficiency:	34.86	LCY/Hour
Optima	al No. of T	rucks:	12	Truck(s)		Selected Num	ber of Trucks:	6	Truck(s)
				Adjuste	d hourly truc	k team productio	on: 209.	18 LC	Y/Hour
				Adjusted singl	le truck/loade	r team production	on: 209.	18 LC	Y/Hour
				Adjusted multipl	le truck/loade	r team production	on: 209.	18 LCY	Y/Hour
				•		-			
	JOB TI	ME AI	ND COST						
	Fleet	size:	1	Team(s)	r	Fotal job time:	30.8	5 H	lours
	Unit	cost:	\$3.671	/LCY		Total job cost:	\$23,6	90	

## SAFEGUARDING UNDERGROUND OPENINGS

Task des	cription:	Seal Mine Op	oenings				
King C	oal Mine	P	ermit Action:	RN7	Pe	ermit/Job#:	C1981035
<u>PROJE</u>	CT IDENTI	FICATION					
Task #: Date:	100	State:	Colorado		Abbreviation:	None	<u> </u>
User:	JHB	County.					·
	King C PROJE Task #: Date:	Task #: 100 Date: 5/5/2017	King Coal Mine       P         PROJECT IDENTIFICATION       P         Task #:       100       State:         Date:       5/5/2017       County:	King Coal Mine       Permit Action:         PROJECT IDENTIFICATION       Providence         Task #:       100       State:       Colorado         Date:       5/5/2017       County:       La Plata	King Coal Mine       Permit Action:       RN7         PROJECT IDENTIFICATION       RN7         Task #:       100       State:       Colorado         Date:       5/5/2017       County:       La Plata	King Coal Mine       Permit Action:       RN7       Pe         PROJECT IDENTIFICATION       State:       Colorado       Abbreviation:         Task #:       100       State:       Colorado       Abbreviation:         Date:       5/5/2017       County:       La Plata       Filename:	King Coal Mine       Permit Action:       RN7       Permit/Job#:         PROJECT IDENTIFICATION       Task #:       100       State:       Colorado       Abbreviation:       None         Date:       5/5/2017       County:       La Plata       Filename:       C035-100

### UNIT COSTS

Opening Description	Dimensions	Closure Method	Quantity	Unit	Unit Cost	Total Cost
Portal 1 seal	200	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	200.00	SF	\$105.56	\$21,112.00
Portal 1 drain pipe	165	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	165.00	LF	\$9.56	\$1,577.40
Portal 1 backfill	185	Adit closure - backfilling (per cu. yd.)	185.00	CY	\$27.00	\$4,995.00
Portal 2 seal	200	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	200.00	SF	\$105.56	\$21,112.00
Portal 2 drain pipe	165	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	165.00	LF	\$9.56	\$1,577.40
Portal 2 backfill	185	Adit closure - backfilling (per cu. yd.)	185.00	CY	\$27.00	\$4,995.00
Portal 3 seal	200	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	200.00	SF	\$105.56	\$21,112.00
Portal 3 drain pipe	165	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	165.00	LF	\$9.56	\$1,577.40
Portal 3 backfill	185	Adit closure - backfilling (per cu. yd.)	185.00	CY	\$27.00	\$4,995.00
Portal 4 seal	200	Adit closure - bulkhead seal, >= 36 sq. ft. (per sq. ft.)	200.00	SF	\$105.56	\$21,112.00
Portal 4 drain pipe	165	PVC drain pipe, 6 in. diameter (per ln. ft. incl. mat. & labor)	165.00	LF	\$9.56	\$1,577.40
Portal 4 backfill	185	Adit closure - backfilling (per cu. yd.)	185.00	CY	\$27.00	\$4,995.00

Job Hours: 32.00

Total Cost: \$110,737.60

# DEMOLITION WORK

	Task des	scription:	King II structural demolitie	on			
Site:	King C	Coal Mine	Permit Action:	RN7	Pe	rmit/Job#:	C1981035
	<u>PROJE</u>	CT IDENTIFI	CATION				
	Task #:	200	State: Colorado		Abbreviation:	None	
	Date:	5/5/2017	County: La Plata		Filename:	C035-200	)
	User:	JHB					
		Agency or organ	ization name: DRMS				

### UNIT COSTS

### Location adjustment: 94.00

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Water storage tank	100k gal	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	13,333.00	CF	\$0.20	\$2,666.60
water storage tank slab	24' diam, .75 thick	Demo. and on- site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	613.00	SF	\$0.87	\$532.70
water storage tank	37k gal	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	7,933.00	CF	\$0.20	\$1,586.60
water storage tank slab	32x14x.5	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	448.00	SF	\$0.65	\$292.10
Main pump house	14x10x12.67	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	1,774.00	CF	\$0.20	\$354.80
Shop equipment wash pad slab	20x25x.75	Demo. and on- site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	1,250.00	SF	\$0.87	\$1,086.25
shop equipment wash pad footers	2x1	Demo. and on- site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	150.00	LF	\$2.61	\$391.50
Shop building	60x50x16	Bldg. (SN) demo./on-site disposal in	48,000.00	CF	\$0.20	\$9,600.00

		excavated pit - Max. 10,000 ft. haul				
shop building slab	60x50x.75	Demo. and on- site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	3,000.00	SF	\$0.87	\$2,607.00
shop building footers	2x1	Demo. and on- site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	220.00	LF	\$2.61	\$574.20
Mine fan	28.6x25x10.5	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	7,508.00	CF	\$0.20	\$1,501.60
mine fan slab	4x8x6	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	192.00	SF	\$1.30	\$250.18
Retaining wall adjacent to fan	1x60x8	Wall, concrete, demolition only, average reinforcing - 12 in. thick	480.00	SF	\$1.28	\$614.40
retaining wall footers	7x1	Demo. and on- site disposal in excavated pit, 2.0 ft. x 3 ft Max. 200 ft. push	60.00	LF	\$2.82	\$169.20
Fan portal	30x20x8	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,800.00	CF	\$0.20	\$960.00
fan portal slab	30x20	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	600.00	SF	\$1.30	\$781.80
fan portal footers	.75x4	Demo. and on- site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft. push	100.00	LF	\$5.86	\$586.00
Travelway portal	30x20x8	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,800.00	CF	\$0.20	\$960.00
travelway portal	14x1	Demo. and on-	60.00	LF	\$2.82	\$169.20

footers		site disposal in excavated pit, 2.0 ft. x 3 ft Max. 200 ft. push				
Portal Motor Control Center (MCC)	14x10x12.67	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	1,774.00	CF	\$0.20	\$354.80
MCC slab	14x10	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	140.00	SF	\$0.65	\$91.28
MCC footers	1x2	Demo. and on- site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	48.00	LF	\$2.61	\$125.28
Rock dust storage silo	11' diam x 40'	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,799.00	CF	\$0.22	\$835.78
rock dust storage silo slab	12x12	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	144.00	SF	\$1.30	\$187.63
rock dust storage silo footers	2x2	Demo. and on- site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft. push	2.00	LF	\$5.86	\$11.72
Concrete retaining wall #2	70x2x4	Wall, block, demolition only, 12 in. thick - Horizontal reinforcing	560.00	SF	\$1.06	\$593.60
Exec. offices/Parts warehouse/Bath house bldgs	150x60x34	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	306,000.00	CF	\$0.23	\$69,156.00
offices/warehouse/bath house slab	150x60	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	9,000.00	SF	\$0.65	\$5,868.00
offices/warehouse/bath house footers	1x4	Demo. and on- site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft.	420.00	LF	\$5.86	\$2,461.20

		push				
Covered storage building	80x20x18.5	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	29,600.00	CF	\$0.20	\$5,920.00
storage building slab	80x26	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	2,080.00	SF	\$0.65	\$1,356.16
storage building footers	1x4	Demo. and on- site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft. push	260.00	LF	\$5.86	\$1,523.60
Main septic system tank	4000 gal	Excavate and load tank onto trailer, non- leaking - 3,000 gal. to 5,000 gal.	1.00	EA	\$571.50	\$571.50
Fuel storage building and apron	45x25x20	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	22,500.00	CF	\$0.20	\$4,500.00
fuel storage building slab	45x27	Demo. and on- site disposal in excavated pit, 8 in. thick - Max. 200 ft. push	1,215.00	SF	\$0.87	\$1,055.84
fuel storage building footers	1x4	Demo. and on- site disposal in excavated pit, 1.5 ft. x 3 ft Max. 200 ft. push	140.00	LF	\$5.86	\$820.40
Belt portal	15x20x10	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,000.00	CF	\$0.20	\$600.00
belt portal footers	1x2	Demo. and on- site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	30.00	LF	\$2.61	\$78.30
Return portal	15x20x10	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	3,000.00	CF	\$0.20	\$600.00
return portal footers	1x2	Demo. and on- site disposal in	30.00	LF	\$3.91	\$117.30

Belt portal pump house	20x14x10	excavated pit, 1.5 ft. x 2 ft Max. 200 ft. push Bldg. (SC) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	2,800.00	CF	\$0.25	\$708.40
belt portal pump house slab	20x14	Demo. and on- site disposal in excavated pit, 10 in. thick - Max. 200 ft. push	280.00	SF	\$1.09	\$304.08
belt portal pump house footer	2x1	Demo. and on- site disposal in excavated pit, 1.0 ft. x 2 ft Max. 200 ft. push	68.00	LF	\$2.61	\$177.48
Electrical substation	19x14x10	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	2,660.00	CF	\$0.20	\$532.00
electircal substation slab	19x14	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	266.00	SF	\$0.65	\$173.43
Electrical substation slabs	35x35	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	1,225.00	SF	\$0.65	\$798.70
Main dumpster pad	20x8	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	160.00	SF	\$0.65	\$104.32
Slope conveyor (box truss section)	8x8	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	240.00	LF	\$44.51	\$10,682.16
Slope conveyor (non- box truss section)	4x4	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	110.00	LF	\$44.51	\$4,895.99
Magnet Dumpster Pad #1	8x8	Demo. and on- site disposal in excavated pit, 6 in. thick - Max.	64.00	SF	\$0.65	\$41.73
		200 ft. push				
--	---------------	--	-----------	----	---------	-------------
Coal Stack Tube #1 Head House	14.5x12x25	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,350.00	CF	\$0.23	\$983.10
Magnet Dumpster Pad #2	8x8	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	64.00	SF	\$0.65	\$41.73
Raw Coal Conveyor	4x4	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	177.00	LF	\$44.51	\$7,878.09
Crushing/Screening structure	28x25x53	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	37,100.00	CF	\$0.23	\$8,384.60
crushing/screening slab	40x30	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	7,200.00	SF	\$0.65	\$4,694.40
Crushing/Screening Pile Caps	6 - 4x6.5x3.5	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	546.00	SF	\$1.30	\$711.44
Crushing/screening pile footers	1.5x1.5	Demo. and on- site disposal in excavated pit, 1.5 ft. x 2 ft Max. 200 ft. push	24.00	LF	\$3.91	\$93.84
Lump conveyor (radial stacker belt)	3x3	OBSOLETE- Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	100.00	LF	\$17.60	\$1,760.00
Stoker conveyor (radial stacker belt)	3x3	OBSOLETE- Conveyor, overland, including supports - 5 ft. W x 6 ft. H housing	100.00	LF	\$17.60	\$1,760.00
Crushed coal storage conveyor	4x8x320	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	320.00	LF	\$44.51	\$14,242.88

crushed coal storage conveyor slab	7.75x6	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	47.00	SF	\$1.30	\$61.24
crushed coal storage conveyor footers	4x4	Demo. and on- site disposal in excavated pit, 2.0 ft. x 3 ft Max. 200 ft. push	6.00	LF	\$2.82	\$16.92
Coal Stack Tube #2 Head House	14.5x12x25	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,350.00	CF	\$0.23	\$983.10
Cross-Belt Coal Sampler	20x20	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	400.00	SF	\$0.65	\$260.80
Truck Loadout Conveyor	4x8x260	OBSOLETE- Conveyor, elevated, including supports - 5 ft. W x 6 ft. H housing	260.00	LF	\$44.51	\$11,572.34
Truck Loadout & Bins	30x15x30	Bldg. (MN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	13,500.00	CF	\$0.23	\$3,051.00
truck loadout & bins slab	6.5x3.5x4	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	273.00	SF	\$1.30	\$355.72
truck loadout & bins footers	2x4	Demo. and on- site disposal in excavated pit, 2.0 ft. x 3 ft Max. 200 ft. push	24.00	LF	\$2.82	\$67.68
Truck scale	120x20x2	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 10,000 ft. haul	4,800.00	CF	\$0.20	\$960.00
truck scale slab	150x16	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	2,400.00	SF	\$1.30	\$3,127.20
Coal sales building	20x12x10	Bldg. (SN) demo./on-site disposal in	2,400.00	CF	\$0.20	\$480.00

		excavated pit - Max. 10,000 ft. haul				
coal sales slab 20x12		Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 50 ft. push	240.00	SF	\$0.64	\$152.88
Coal Sales Building Septic System Tank	6x10x5	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	300.00	CF	\$0.19	\$58.20
Main Motor Control Center (Main MCC)	21x16.67x10	Bldg. (SN) demo./on-site disposal in excavated pit - Max. 200 ft. push	3,501.00	CF	\$0.19	\$679.19
Main MCC slab	21x20	Demo. and on- site disposal in excavated pit, 6 in. thick - Max. 200 ft. push	420.00	SF	\$0.65	\$273.84
Main MCC footers	1.5x2	Demo. and on- site disposal in excavated pit, 1.5 ft. x 2 ft Max. 200 ft. push	84.00	LF	\$3.91	\$328.44
Cattle guard	8x24x.5	Demo. and on- site disposal in excavated pit, 12 in. thick - Max. 200 ft. push	96.00	SF	\$1.30	\$125.09
Culvert C-1	48"	Pipe, corrugated metal (CMP) - 48 in. diameter pipe	81.00	LF	\$14.56	\$1,179.28
Culvert C-2	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	48.00	LF	\$6.47	\$310.66
Culvert C-2A	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	48.00	LF	\$4.98	\$238.94
Culvert C-3 (double)	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	120.00	LF	\$6.47	\$776.64
Culvert C-5A	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	63.00	LF	\$6.47	\$407.74
Culvert C-5B	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	40.00	LF	\$6.47	\$258.88

Culvert C-6	24"	Pipe, corrugated metal (CMP) - 24 in. diameter	90.00	LF	\$6.47	\$582.48
Culvert C-7	24"	pipe Pipe, corrugated metal (CMP) -	203.00	LF	\$6.47	\$1,313.82
		24 in. diameter pipe				
Culvert C-8	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	58.00	LF	\$6.47	\$375.38
Culvert C-9	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	201.00	LF	\$6.47	\$1,300.87
Culvert C-10	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	158.00	LF	\$6.47	\$1,022.58
Culvert C-11	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	82.00	LF	\$6.47	\$530.70
West Clearwater Culvert	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	220.00	LF	\$6.47	\$1,423.84
Culvert C-14	18"	Pipe, corrugated metal (CMP) - 18 in. diameter pipe	40.00	LF	\$4.98	\$199.12
Culvert C-14A	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	40.00	LF	\$6.47	\$258.88
Culvert C-14B	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	12.00	LF	\$6.47	\$77.66
Culvert C-15	15"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	60.00	LF	\$6.47	\$388.32
Pond primary spillway	24"	Pipe, corrugated metal (CMP) - 24 in. diameter pipe	120.00	LF	\$6.47	\$776.64
Pond emergency spillway	36"	Pipe, corrugated metal (CMP) - 36 in. diameter pipe	120.00	LF	\$10.09	\$1,210.92
Material and debris removal	NA	Loading and 2 mile haul, no salvage - Machine loading	200.00	CY	\$17.70	\$3,540.00
Remove/dispose of signs and markers	NA	USER PROVIDED ITEM	1.00	EA	\$500.00	\$500.00

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
Job Hours:	140.00	(unadjusted):	\$220,707.88	location):	\$207,465.41

# TRUCK/LOADER TEAM WORK

Task description:       King II - Haul coal waste rock to King I waste pile										
Site: King Coal Mine		Permit Actio	on: <u>RN7</u>		Permit/Job#: <u>C</u>	1981035				
PROJECT IDEN	NTIFICATION	[								
Task #: 300		State: Colora		Abl	previation: No					
Date: $5/8/2$	017 0	County: La Plat	ta		Filename: C0	35-300				
User: JHB										
Agency or organization name: DRMS										
HOURLY EQUIPMENT COST Shift basis: <u>1 per day</u>										
Equipment Description										
Truck Loader Team -Truck: Generic 12-18 cy, 6x4										
-Loader: OBSOLETE - CAT 938H										
Supp	ort Equipment -L			2011						
Dood M	-Du laintenance –Moto		SOLETE - CAT 9	38H						
Koad IV		ter Truck: NA								
	- <b>v</b> a	ter Huck. IVA								
Cost Breakdown:	Truck/Loa	ader Team	Support	Equipment	Maintena	nce Equipment				
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck				
%Utilization-machine:	100	100	NA	100	NA	NA				
Ownership cost/hour:	\$22.16	\$25.66	NA	\$25.66	NA	NA				
Operating cost/hour:	\$42.40	\$32.31	NA	\$32.31	NA	NA				
%Utilization-riper:	NA	0	NA	NA	NA	NA				
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA				
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA				
Operator cost/hour:	\$30.37	\$41.20	NA	\$41.20	NA	NA				
Unit Subtotals:	\$94.93	\$99.17	NA	\$99.17	NA	NA				
Number of Units:	1	1	0	1	0	0				
Group Subtotals:	Work:	\$194.10	Support:	\$99.17	Maint:	\$0.00				

Total work team cost/hour: \$293.27

#### **MATERIAL QUANTITIES**

Initial volume:	37	CCY	Swell factor:	1.000	
Loose volume:	37	LCY			-
Sour	ce of estimated volume:	Assume 100 s	sf x 10 ft high		
Source of	f estimated swell factor:	Cat Handboo	k		
	Material Purchase Cost:	\$0.00			
	Total Cost:	\$0.00			

# HOURLY PRODUCTION

<u>Truck Capacity:</u> Truck Payload (weight) Bas						
Material weight:	2,900	Pounds	s/LCY			
Description:	User Provide					
Rated Payload: Payload Capacity:	50,300 17.34	Pounds LCY	S			
Fayload Capacity.	17.34					
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:	18.00	LCY				
Average Volume:	15.00	LCY				
Adjusted Volume: _	17.34	LCY				
Fina	ll Truck Volum	e Based on Number of	Loader Passes:	15.21	LCY	
Loading Tool Capacity						
	2 000		Buc	ket Size Class: <u>N</u>	A	_
Rated Capacity:	3.900	LCY (heaped)			0.075	
Bucket Fill Factor:	0.975		mixed moist ag	gregates (95-100%)	0.975	
Adjusted Capacity:	3.803	LCY				
Job Condition Correction		<del></del>	te Altitude (ft.):	7 <u>500</u> feet		
A 1.1. 1	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HE	,		
Job Efficiency:	0.830	0.830	(CAT HE	5)		
Loading Tool Cycle Time	<u>:</u>	Number of Loading Te	ool Passes Requi	ired to Fill Truck:	4 p	asses
Excavators and Front Shov	els:					
Machine Cycle Time Selected Value						
Track Loaders -	- Material Desc	ription:				
Cycle Time Elements (min.)		<u> </u>				
Load: NA	N	Maneuver: NA		Dump: 0.100		
Wheel and Track Loaders	- Unadjusted B	asic Loader Cycle Tin	ne (load, dump, 1	maneuver): 0	.483 minu	ites
Cycle Time Factors				Factor (min.)	Source	_
Material:		" to 3/4" diameter -0.0	2	-0.020	(Cat HB)	_
Stockpile:	Dumped by			0.020	(Cat HB)	
Truck Ownership:		vnership of trucks and	loaders -0.04	-0.040	(Cat HB)	_
Operation:		eration -0.04		-0.040	(Cat HB)	_
Dump Target:	Nominal tar		A directory of the	0.000	(Cat HB)	_
		Net Cycle Tim Adjusted Loade		-0.080	_ minutes	
			me per Truck:	0.403 1.308	minutes	
<u>Truck Cycle Time:</u>						
Truck Exchange Tim	e: 0.50	Minutes	Adjusted	for site altitude:	0.500	Minut
Truck Load Tim	e: 1.308	Minutes	Adjusted	for site altitude:	1.308	Minut
k Maneuver and Dump Tim	e: 0.90	Minutes	Adjusted	for site altitude:	0.900	Minut

Truck Travel (Haul & Return) Time: penetration 5.0

	Haul Rou	te:							
	Seg #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time	
-	1	10560.0	0	11.50	5.00	16.50	690	(min) 15.314	
	1	10500.0	0	11.50	5.00	10.50	090	13.314	
						Haul Time:	15.314	minut	es
r	Return Ro			1					
	Seg #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
-		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	10560.0	0	-11.50	5.00	-6.50	2938	3.705	
						Return Time:	3.705	min	utes
					Total Truc	ck Cycle Time:	21.727	min	utes
т	oading Too	Junit							
L	0	uction	504.90	LCY/Hour		Adjusted for j	ob efficiency:	419.0	6 LCY/Hour
Truck	Unit Produ	uction					-		
			42.00	LCY/Hour		Adjusted for j	ob efficiency:	34.86	5 LCY/Hour
Optima	al No. of T	rucks:	12	Truck(s)	s) Selected Numbe		ber of Trucks:	1	Truck(s)
				Adjuste	d hourly truck	team production	on: 34.8	36 LO	CY/Hour
				Adjusted singl	e truck/loader	team production	on: 34.8	36 LO	CY/Hour
				Adjusted multipl	e truck/loader	team production	on: 34.8	86 LO	CY/Hour
JOB TIME AND COST									
	Fleet	size:	1	Team(s)	Т	otal job time:	1.06	j	Hours
	Unit	cost:	\$8.412	/LCY	1	Total job cost:	\$31	l	

## BULLDOZER RIPPING WORK

Task description:	King II - Rip coa	l sales area				
Site: King Coal Mine	Peri	mit Action:	RN7	Pe	ermit/Job#:	C1981035
PROJECT IDENTIFI	<b>ICATION</b>					
Task #: 301	State:	Colorado		Abbr	eviation:	None
Date: 5/8/2017	County:	La Plata		F	Filename:	C035-301
User: JHB						
Agency or organ	ization name: DR	MS				
HOURLY EQUIPME	<u>ENT COST</u>					
Basic Machine	: Cat D8T - 8SU			Horsepower:		310
Ripper Attachment	: 3-Shank Ripper			Shift Basis:	1 p	er day
				Data Source:	(0	CRG)
Cost Breakdown:						
				Utilization %		
Owner	rship Cost/Hour:		\$83.81	NA		
	ating Cost/Hour:		\$66.17	100		
Ripper Owner	rship Cost/Hour:		\$7.55	NA		
Ripper Opera	ating Cost/Hour:		\$7.21	100		
Ope	rator Cost/Hour:		\$41.85	NA		
Total	Unit Cost/Hour:		\$206.59			
Total	Fleet Cost/Hour:	\$20	6.59			

	MATERIAL (	<u>)UANTITIES</u>	Sel	Selected estimating method: Area							
	Alternate Method	<u>ls:</u>									
Seismic:	NA		Bank Volume: NA		BCY	NA					
Area:	0.80	acres	Rip Depth (ft):	2.00	Volume: 2,581		BCY or CC				
	Source of estimated quantity: Map King II-007										
	HOURLY PR	<b>ODUCTION</b>									
	Seismic:										
		Seis	mic Velocity:	NA	feet/second						
	Area:										
		Average Ri	pping Depth:	1.00	mph						
		Average Ri	pping Width:	7.08	degrees						
		Average Rip	ping Length:	50.00	feet						
		Average	Dozer Speed:	88.00	feet						
		Average Ma	neuver Time:	0.25	feet						
			per unit area:	0.596	acres/hour						
	Job Condition Co	orrection Factors									
	Un	adjusted Hourly Uni	t Production:	0.596	Acres/hr						
			Site Altitude:	7,400	feet						
			Altitude Adj:	1.00	(CAT HB)						
		Jo	b Efficiency:	0.83	(1 shift/day)						
		Ne	et Correction:	0.83	multiplier						
		Adjusted Hou	rly Unit Production:	0.49	Acres/hr						
		Adjusted Hou	rly Fleet Production:	0.49	Acres/hr						
	JOB TIME AN	ND COST									
	Fleet size:	G	rader(s)	Total job time:	1.62	Н	ours				
	Unit cost:	\$417.652 Po	er acre	Total job cost:	\$334						

## TRUCK/LOADER TEAM WORK

Task description:   King II - Haul gravel from coal sales, portals, rd/wtr tank										
Site: King Coal Mine	e	Permit Activ	on: <u>RN7</u>		Permit/Job#:	C1981035				
PROJECT IDE	NTIFICATION									
Task #: 302		State: Colora	ado	Abl	breviation: N	one				
Date: 5/8/2	017	County: La Pla	ta		Filename: C	035-302				
User: JHB										
Agency or organization name: DRMS										
HOURLY EQUIPMENT COST Shift basis: <u>1 per day</u>										
Equipment Description										
Truck Loader Team -Truck: Generic 10-12 cy, 6x4										
-Loader: OBSOLETE - CAT 938H										
Supp	Support Equipment -Load Area: NA -Dump Area: OBSOLETE - CAT 938H									
Road M	Iaintenance – Moto		JOLETE - CAT J	5611						
		ter Truck: NA								
Cost Breakdown:		ader Team		Equipment		ance Equipment				
	Truck	Loader	Load Area	Dump Area	Motor Grader	Water Truck				
%Utilization-machine:	100	100	NA	100	NA	NA				
Ownership cost/hour:	\$18.29	\$25.66	NA	\$25.66	NA	NA				
Operating cost/hour:	\$39.97	\$32.31	NA	\$32.31	NA	. NA				
%Utilization-riper:	NA	0	NA	NA	NA	NA				
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA				
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	NA	NA				
Operator cost/hour:	\$0.00	\$41.20	NA	\$41.20	NA	NA				
Unit Subtotals:	\$58.26	\$99.17	NA	\$99.17	NA	NA				
Number of Units:	2	1	0	1	0	0				
Group Subtotals:	Work:	\$215.69	Support:	\$99.17	Maint:	\$0.00				

Total work team cost/hour: \$314.86

#### **MATERIAL QUANTITIES**

Initial volume:	4,604		CCY	Swell factor:	1.060	
Loose volume:		4,880	LCY			
Sour	ce of estin	mated volume:	Operator's est	timate PR-8		
Source of estimated swell factor:		d swell factor:	Cat Handbook	ĸ		
Material Purchase Cost:		\$0.00				
		Total Cost:	\$0.00			

## **HOURLY PRODUCTION**

Truck Capacity: Truck Payload (weight) Ba	isis.						
Material weight:	2,850		Pounds/LCY				
Description:	User Provided						
Rated Payload:	35,400		Pounds				
Payload Capacity:			LCY				
Fruck Bed (volume) Basis	:						
Struck Volume:	10.00	LCY					
Heaped Volume:	12.00	LCY					
Average Volume:	11.00	LCY					
Adjusted Volume:	12.00	LCY					
Fin	al Truck Volum	ne Based on Nu	umber of Loade	r Passes:	11.41	LCY	
Loading Tool Capacity				Duck	et Size Class: N	٨	
Rated Capacity:	3.900	LCY (he	eaped)	DUCK	et Size Class. <u>N</u>	A	-
Bucket Fill Factor:	0.975	Loose m	naterial - mixed	l moist agg	regates (95-100%)	0.975	
Adjusted Capacity:	3.803	LCY					
ob Condition Correction	ns:		Site Altit	ude (ft.): <u>7</u>	<u>500</u> feet		
	Truck	Load		Source			
Altitude Adj:	1.000	1.000		(CAT HB)			
Job Efficiency:	0.830	0.830	0	(CAT HB)	)		
Net Correction:	0.830	0.83	0				
Loading Tool Cycle Tim	e:	Number of Lo	bading Tool Pas	sses Requi	red to Fill	2 pa	isses
Excavators and Front Sho	vels:		-	-	Truck:	3	
Machine Cycle Time Selected Value	vs. Job Conditi e within this Ba	· · _	NA NA				
Track Loaders	- Material Desc	cription:					
Cycle Time Elements (min		I					
Load: NA		Maneuver:	NA		Dump: 0.100		
Wheel and Track Loader	s - Unadjusted I	Basic Loader C	ycle Time (load	d, dump, m	aneuver):0.	483 minu	tes
Cycle Time Factors	S				Factor (min.)	Source	
Material		8" to 3/4" diam			-0.020	(Cat HB)	_
Stockpile			0 ft. high or les		0.010	(Cat HB)	_
Truck Ownership		1	cks and loaders	s -0.04	-0.040	(Cat HB)	_
Operation		peration -0.04			-0.040	(Cat HB)	_
Dump Target	: Nominal tai				0.000	(Cat HB)	_
			ycle Time Adju		-0.090	minutes	
			ed Loader Cycl		0.393	minutes	
		Net	Load Time per	Truck:	0.885	minutes	
<u> Fruck Cycle Time:</u>							
Truck Exchange Tir	me: 0.50	Minutes		Adjusted f	for site altitude:	0.500	Minu

Truck Load Time:	0.885	Minutes	Adjusted for site altitude:	0.885	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes
-		_			-

<u>Truck Travel (Haul & Return) Time:</u> penetration 5.0

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

	Haul Rou	te:							
	Seg #	Haul Di (Ft)	stance	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)	
	1	1120.00	)	2.00	5.00	7.00	1568	0.747	
						Haul Time:	0.747	min	utes
F	Return Ro	1		<b>a a a b</b>				<b>T</b> 1	
	Seg #	Haul Di	stance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
-		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	1120.00	)	-2.00	5.00	3.00	2874	0.415	
					Total Tru	Return Time: ck Cycle Time:	0.415		inutes inutes
т	a din a Tak	1							
		uction	494.19	LCY/Hour		Adjusted for j	ob efficiency:	410	.18 LCY/Hour
Truck	Unit Produ	uction	198.56	LCY/Hour		Adjusted for j	ob efficiency:	164	.81 LCY/Hour
Optima	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
				Adjuste	d hourly truck	k team production	on: 329.	62	LCY/Hour
				Adjusted singl	e truck/loade	r team productio	on: 329.	62	LCY/Hour
				Adjusted multipl				62	LCY/Hour
						-			
	JOB TI	ME AND	O COST						
	Fleet	size:	1	Team(s)	1	Fotal job time:	14.8	1	Hours
	Unit	cost:	\$0.955	/LCY	,	Total job cost:	\$4,66	2	-

# TRUCK/LOADER TEAM WORK

Task description:	King II	- Haul office fill	to portal cuts/acc	c rd/wtr tank		
Site: King Coal Min	e		Permit/Job#:	C1981035		
PROJECT IDE	NTIFICATION	<u>I</u>				
Task #: 303		State: Colora	Abl	previation:	None	
		County: La Pla	ita		Filename:	C035-303
User: JHB						
Agency of	or organization nam	ne: DRMS				
HOURLY EQU	UIPMENT COST	<u>r</u>		Shift bas	is: <u>1 per day</u>	
			Equipment Descri	ption		
	Truck Loader Tea		neric 12-18 cy, 6x4			
			SOLETE - CAT 9	38H		
Sup	port Equipment -L			2011		
Road N	-Di Maintenance –Mote		SOLETE - CAT 9	38H		
Koau 1		ter Truck: NA				
<u>Cost Breakdown</u>	Truck/Los	ader Team		Equipment		enance Equipment
	Truck	Loader	Load Area	Dump Area	Motor Grad	ler Water Truck
%Utilization-machine:	100	100	NA	100	N	NA NA
Ownership cost/hour:	\$22.16	\$25.66	NA	\$25.66	N	NA NA
Operating cost/hour:	\$42.40	\$32.31	NA	\$32.31	N	NA NA
%Utilization-riper:	NA	0	NA	NA	N	IA NA
Ripper own. cost/hour:	NA	\$0.00	NA	\$0.00	N	IA NA
Ripper op. cost/hour:	NA	\$0.00	NA	\$0.00	N	NA NA
Operator cost/hour:	\$30.37	\$41.20	NA	\$41.20	N	NA NA
Unit Subtotals:	\$94.93	\$99.17	NA	\$99.17	N	IA NA
Number of Units:	2	1	0	1		0 0
Group Subtotals:	Work:	\$289.03	Support:	\$99.17	Mai	nt: \$0.00
Total work team c	ost/hour: <u>\$388.20</u>	)				

## **MATERIAL QUANTITIES**

Initial volume: Loose volume:	18,217 <b>21,223</b>	CCY Swell factor: <u>1.165</u> LCY	
Source of estimated volume:		Map King II-007: portal 18148 yds, fan port/wtr tank 4673 yd	
Source o	f estimated swell factor:	Cat Handbook	
Material Purchase Cost:		\$0.00	
	Total Cost:	\$0.00	

# HOURLY PRODUCTION

Mat	<u>sis:</u>	D.	I. CV			
Material weight: Description:	2,700 User Provide		ds/LCY			
Rated Payload:	50,300	Pound	10			
Payload Capacity:	18.63	LCY	15			
Tujioud Cupuchiji	10.00	201				
Truck Bed (volume) Basis:						
Struck Volume:	12.00	LCY				
Heaped Volume:	18.00	LCY				
Average Volume:	15.00	LCY				
Adjusted Volume:	18.00	LCY				
Fina	al Truck Volum	e Based on Number of	f Loader Passes:	15.21	LCY	
Loading Tool Capacity						
	2 000		Buc	ket Size Class: <u>N</u>	A	
Rated Capacity:	3.900	LCY (heaped)	mixed mainter	gregates (95-100%)	0.075	
Bucket Fill Factor:	0.975		- mixed moist ag	gregates (95-100%)	0.975	
Adjusted Capacity:	3.803	LCY				
Job Condition Correction			ite Altitude (ft.):			
	Truck	Loader	Source			
Altitude Adj:	1.000	1.000	(CAT HB	,		
Job Efficiency:	0.830	0.830	(CAT HB	3)		
Net Correction:	0.830	0.830		. 1 / 1711		
Loading Tool Cycle Time		Number of Loading T	l ool Passes Requi	Truck:	4 pas	sses
Excavators and Front Show Machine Cycle Time Salacted Value						
Track Loaders -		ē				
Cycle Time Elements (min.		inpuon.				
Load: NA		Maneuver: NA		Dump: 0.100		
Wheel and Track Loaders	- Unadjusted B	Sasic Loader Cycle In	me (load, dump, 1	maneuver): 0	.483 minut	es
Wheel and Track Loaders Cycle Time Factors		-		maneuver): 0 Factor (min.)	.483 minut Source	es
Cycle Time Factors Material:	Material 1/8	3" to 3/4" diameter -0.0		Factor (min.) -0.020	Source (Cat HB)	es
Cycle Time Factors Material: Stockpile:	Material 1/8 Dumped by	8" to 3/4" diameter -0.0 truck 0.02	02	Factor (min.) -0.020 0.020	Source (Cat HB) (Cat HB)	es
Cycle Time Factors Material: Stockpile: Truck Ownership:	Material 1/8 Dumped by Common ov	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and	02	Factor (min.) -0.020 0.020 -0.040	Source(Cat HB)(Cat HB)(Cat HB)	es
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material 1/8 Dumped by Common ov Constant op	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04	02	Factor (min.) -0.020 0.020 -0.040 -0.040	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB)	es
Cycle Time Factors Material: Stockpile: Truck Ownership:	Material 1/8 Dumped by Common ov Constant op	3" to 3/4" diameter -0. truck 0.02 wnership of trucks and eration -0.04 get 0.00	02 1 loaders -0.04	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	es
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material 1/8 Dumped by Common ov Constant op	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04 get 0.00 Net Cycle Tin	02 1 loaders -0.04 me Adjustment:	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes	es
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material 1/8 Dumped by Common ov Constant op	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04 get 0.00 Net Cycle Tim Adjusted Load	02 1 loaders -0.04	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB)	es
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	Material 1/8 Dumped by Common ov Constant op	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04 get 0.00 Net Cycle Tim Adjusted Load	02 1 loaders -0.04 ne Adjustment: ler Cycle Time:	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 <b>0.403</b>	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	es
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target:	Material 1/8 Dumped by Common ov Constant op Nominal tar	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04 get 0.00 Net Cycle Tim Adjusted Load	02 I loaders -0.04 me Adjustment: ler Cycle Time: Time per Truck:	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 <b>0.403</b>	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes	Minut
Cycle Time Factors Material: Stockpile: Truck Ownership: Operation: Dump Target: Truck Cycle Time:	Material 1/8 Dumped by Common ov Constant op Nominal tar	3" to 3/4" diameter -0.0 truck 0.02 wnership of trucks and eration -0.04 get 0.00 Net Cycle Tin Adjusted Load Net Load T	02 1 loaders -0.04 ne Adjustment: ler Cycle Time: Time per Truck: Adjusted	Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.403 1.308	Source (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) (Cat HB) minutes minutes minutes	

Truck Travel (Haul & Return) Time: penetration 5.0

	Haul Rou	ite:							
	Seg #		Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
		(Ft)			(%)	(%)	(fpm)	Time (min)	
-	1	490.0	0	3.00	5.00	8.00	1381	0.397	
L						Haul Time:	0.397	minut	tes
	Return Re	oute:				-			
	Seg #	Haul	Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
-		(Ft)			(%)	(%)	(fpm)	Time (min)	
	1	490.0	0	-3.00	5.00	2.00	2905	0.204	
						Return Time:	0.204	min	utes
					Total Tru	ck Cycle Time:	3.309	min	utes
L	oading Too	ol unit							
	Prod	uction	504.90	LCY/Hour		Adjusted for j	ob efficiency:	419.0	6 LCY/Hour
Truck	Unit Prod	uction	075.00				1 60 1	220.0	
			275.83	LCY/Hour		Adjusted for j	ob efficiency:	228.9	4 LCY/Hour
Optima	al No. of T	rucks:	2	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
				Adjuste	d hourly trucl	k team productio	on: 457.	89 L	CY/Hour
						r team productio		06 L	CY/Hour
				Adjusted multipl	e truck/loade	r team productio	on: <b>419.</b>	<u>06</u> L	CY/Hour
	JOB TI	ME AN	ID COST						
	Fleet	size:	1	Team(s)	]	Fotal job time:	50.64	4	Hours
	Unit	cost:	\$0.926	/LCY	,	Total job cost:	\$19,6	60	

#### BULLDOZER WORK

Task description:	King	King II - grade portal cuts, access roads, water tank pad						
: King Coal Mine		Per	nit Action:	RN7	Permit/Job#:	C1981035		
PROJECT IDENT	IFICATI(	<u>ON</u>						
Task #: 304		State:	Colorado		Abbreviation:	None		
Date: 5/8/2017	1	County:	La Plata		Filename:	C035-304		
User: JHB		2			-			
Agency or or	ganization	name: DR	MS					
	0							
HOURLY EQUIPM								
	Cat D8T - 8	SU		_				
	310 Semi-Unive			_				
· · ·	Senn-Onive S-shank ripp			_				
	l per day	Jei		_				
	CRG)			_				
Cost Breakdown:	endy			_				
				Utilization %				
Ownership Cost/Hou			\$83.81	NA				
Operating Cost/Hou			\$66.17	100				
Ripper ow Cost/Hou			\$7.55	NA				
Ripper op. Cost/Hou			\$0.00	0				
Operator Cost/Hou			\$41.85	NA				
Swell factor: 1.	5,562 165							
Loose volume: 19	9,295 LCY		_					
Source of estimated vo	olume:	Map King	II-007C					
Source of estimated sy factor:	vell	Cat Hand	book					
HOURLY PRODU	CTION							
Average push distance	:	50 feet						
Unadjusted hourly production:	-	1,400.0 LC	ſ/hr					
Materials consistency	description	: <u>Consoli</u>	dated stockp	ile 1.0				
Average push gradient	: 5%							
Average site altitude:	7,500	feet						
Material weight:	2,900	lbs/LCY						
Weight description:	Decor	nposed rock	- 50% Rock,	50% Earth				
Job Condition Correct				Source				
	or Skill:		750	(AVG.)				
Material cons			000	(CAT HB)				
Dozing			000	(GEN.)				
V	isibility:	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:	499.24 LCY/hr
Adjusted fleet production:	<b>499.24</b> LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.399/LCY

Total job time:	38.65 Hours
Total job cost:	\$7,705

## COMPACTION WORK

Task description:	King II-Compa	ict fill on porta	l cuts/access	rd/water tank pad	
King Coal Mine	Pe	ermit Action:	RN7	Perr	mit/Job#: <u>C1981035</u>
PROJECT IDENTIFIC	CATION				
Task #:         305           Date:         5/8/2017           User:         JHB	State: County:			Abbrev File	iation: None ename: C035-305
Agency or organiz	zation name:	ORMS			
HOURLY EQUIPMEN	T COST				
Basic Machine:	CAT 825H		_	Horsepower:	354
Compactor Type:	Soil - tamping	foot	_	Shift Basis: Data Source:	1 per day (CRG)
Cost Breakdown:					(0110)
	hin Cast/Harm	¢102	01	Utilization %	
	hip Cost/Hour: ing Cost/Hour:	\$103. \$74.5		NA 100	
	tor Cost/Hour:	\$26.3		NA	
Total U	nit Cost/Hour:	\$203.	90		
Total F	eet Cost/Hour:	\$203.	90		
MATERIAL QUANTI	TIES				
Loose volume:		2,821	LCY	Shrinl	kage factor: 0.750
Compacted volume:	17	,116	CCY		C
	e of estimated vo		302 and 303		
Source of estin	mated shrinkage f	factor: <u>Cat H</u>	andbook		
HOURLY PRODUCTI	ON		Unadjust	ed hourly production	$\mathbf{n} = (\mathbf{W} \mathbf{x} \mathbf{S} \mathbf{x} \mathbf{L} \mathbf{x} \mathbf{C}) / $
	acted width per p		7.34	feet	
	ge Compactor Sp thickness of each		5.00	mph inches	
-	Conversion Cons		16.3		2in./27cu.ft.)
	er of machine pa		5	passes	
*	l Hourly Unit Pro		1,196.42	CCY/hour	
Job Condition Correction F	actors		Site Altit	ude: <u>7,300</u> feet	
Altitude Adj:	1.00	Source (CAT HB)	1		
Job Efficiency:	0.83	(1 shift/day			
Net Correction:	0.8300	multiplier	/		
Adi	usted Hourly Uni	it Production.	993.03	CCY/Hour	
	usted Hourly Flee		993.03	CCY/Hour	
JOB TIME AND COST	<u>C</u>				
Fleet size: 1	Compac	tor(s)	То	tal job time:	<b>17.24</b> Hour

## BULLDOZER RIPPING WORK

	Fask descrip	otion:	King II - Rip po	ortal, access	rd., coal sales	areas		
Site:	King Coa	Cing Coal Mine         Permit A		rmit Action:	RN7	P	ermit/Job#:	C1981035
]	PROJECT	<u> IDENTIFIC</u>	ATION					
	Task #:	306	State:	Colorado		Abb	reviation:	None
	Date:	5/8/2017	County:	La Plata		]	Filename:	C035-306
	User:	JHB					-	
	Ag	ency or organiz	ation name: D	RMS				
]	HOURLY	EQUIPMEN	T COST					
	В	asic Machine:	Cat D8T - 8SU			Horsepower:		310
	Rippe	er Attachment:	3-Shank Ripper	r		Shift Basis:		er day
						Data Source:	(C	CRG)
(	Cost Breakd	lown:						
-						Utilization %		
		Ownersh	nip Cost/Hour:		\$83.81	NA		
		Operati	ng Cost/Hour:		\$66.17	100	_	
		Ripper Ownersh	nip Cost/Hour:		\$7.55	NA	_	
		Ripper Operati	ng Cost/Hour:		\$7.21	100	_	
		Operat	tor Cost/Hour:		\$41.85	NA	_	
		Total U	nit Cost/Hour:		\$206.59			
		Total Fle	eet Cost/Hour:	\$20	6.59			

	MATERIAL QUA	NTITIES	Sel	ected estimating m	ethod: A	rea		
	Alternate Methods:							
Seismic:	NA		Bank Volume:	NA	BCY		NA	
Area:	16.98	acres	Rip Depth (ft):	2.00	Volume:	54,789		BCY or CCY
	So	urce of estimat	ed quantity: Page 2	.05.3-3				
	HOURLY PRODU	UCTION						
	Seismic:							
		Sei	smic Velocity:	NA	feet/s	second		
	Area:							
		Average I	Ripping Depth:	1.00	mph			
		Average F	Ripping Width:	7.08	degre	ees		
		Average R	ipping Length:	50.00	feet			
		Average	Dozer Speed:	88.00	feet			
		Average M	aneuver Time:	0.25	feet			
		Production	n per unit area:	0.596	acres	/hour		
	Job Condition Correc	tion Factors						
	Unadju	sted Hourly U	nit Production:	0.596	Acres	s/hr		
			Site Altitude:	7,400	feet			
			Altitude Adj:	1.00	(CAT	Г HB)		
		J	ob Efficiency:	0.83	(1 shi	ift/day)		
		Ν	let Correction:	0.83	multi	plier		
		Adjusted Ho	ourly Unit Production:	0.49	Acres/hr			
		Adjusted Ho	urly Fleet Production:	0.49	Acres/hr			
	JOB TIME AND	COST						
	Fleet size:	1	Grader(s)	Total job time:		34.33	Hou	rs
	Unit cost:\$	417.652	Per acre	Total job cost:		\$7,092		

MATERIAL QUANTITIES

## BULLDOZER WORK

Task description:	King II - grade p	ortal cuts, a	access roads, water tank	pad	
: King Coal Mine	Aine Permit Action:		Midterm Review No. 7	Permit/Job#:	C1981035
PROJECT IDENTI	FICATION				
Task #: 307	State:	Colorado		Abbreviation:	None
Date: 2/11/201		La Plata		Filename:	C035-307
User: SLB					
Agency or org	ganization name:	RMS			
HOURLY EQUIPM	<u>IENT COST</u>				
Basic Machine: C	at D8T - 8SU				
· ·	10		_		
	emi-Universal		_		
	-shank ripper		_		
	per day		_		
	CRG)		_		
Cost Breakdown:			Utilization %		
Ownership Cost/Hour		\$83.81	NA		
Operating Cost/Hour		\$66.17	100		
Ripper own Cost/Hour		\$7.55	NA		
Ripper op. Cost/Hour		\$0.00	0		
Operator Cost/Hour		\$41.85	NA		
Swell factor: 1.0	,789 000				
Loose volume: 54	<b>,789</b> LCY	_			
Source of estimated vo	lume: Page 2.05	.3-3, 16.98 a	ic x 2' depth		
Source of estimated sw			1		
factor:					
HOURLY PRODU	CTION				
Average push distance:	50 feet				
Unadjusted hourly	1,400.0 LC	Y/hr			
production:	1,100.0 LC	_ , •••			
-					
Materials consistency of	lescription: Consol	idated stockp	bile 1.0		
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 Correcti	on Factor		Source		
Operato		750	(AVG.)		
Material const		000	(CAT HB)		
Dozing r		000	(GEN.)		
Vi	sibility: 1	000	(AVG.)		

Job efficier	J	830	(1 SHIFT/DAY)	)	
Spoil p	·	800	(FND-RF)		
Push gradi		903	(CAT HB)		
Altitu		000	(CAT HB)		
Material Wei	ght: 0.7	793	(CAT HB)		
Blade ty	ype:1.0	000	(PAT)		
Net correct	tion: 0.3566				
Adjusted unit production: Adjusted fleet production:	499.24 LCY/hr 499.24 LCY/hr				
JOB TIME AND COS	<u>T</u>				
	Dozer(s) 0.399/LCY				
	09.74 Hours 21,880				
	<u>I</u>	BULLDOZI	ER WORK		
Task description:	King II - remove	east and we	est cleanwater ditches		
te: King Coal Mine		nit Action:		Permit/Job#:	C1981035
		-			
PROJECT IDENTIFI	<u>CATION</u>				
PROJECT IDENTIFIC Task #: 308	CATION State:	Colorado		Abbreviation:	None
Task #:         308           Date:         5/8/2017		Colorado La Plata		Abbreviation: Filename:	None C035-308
Task #: 308	State:			-	
Task #:       308         Date:       5/8/2017         User:       JHB	State:County:	La Plata		-	
Task #:308Date:5/8/2017User:JHBAgency or organi	County:	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB	County:	La Plata		-	
Task #: 308 Date: 5/8/2017 User: JHB Agency or organi	County:	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat II         Horsepower:       310	State: County: zation name: <u>DR</u> <u>NT COST</u> D8T - 8SU	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi	State:         County:         zation name:       DR         NT COST         D8T - 8SU         i-Universal	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha	State: County: Zation name: DR NT COST D8T - 8SU	La Plata		-	
Task #:308Date:5/8/2017User:JHBAgency or organiHOURLY EQUIPMENBasic Machine:Cat EHorsepower:310Blade Type:SemiAttachment:3-shaShift Basis:1 per	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper	La Plata		-	
Task #:308Date:5/8/2017User:JHBAgency or organiHOURLY EQUIPMENBasic Machine:Cat IHorsepower:310Blade Type:SemiAttachment:3-shaShift Basis:1 perData Source:(CRC)	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper	La Plata		-	
Task #:308Date:5/8/2017User:JHBAgency or organiHOURLY EQUIPMENBasic Machine:Cat EHorsepower:310Blade Type:SemiAttachment:3-shaShift Basis:1 perData Source:(CRCCost Breakdown:	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper	La Plata MS		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRO         Cost Breakdown:       Ownership Cost/Hour:	State: County: Zation name: DR NT COST O8T - 8SU i-Universal ank ripper	La Plata		-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Ownership Cost/Hour:         Operating Cost/Hour:       Ripper own.	State: County: Zation name: DR NT COST O8T - 8SU i-Universal ank ripper	La Plata MS \$83.81 \$66.17	NA 100	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:	State: County: Zation name: DR NT COST O8T - 8SU i-Universal ank ripper	La Plata MS \$83.81 \$66.17 \$7.55	NA 100 NA	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi         HOURLY EQUIPMEN         Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Operating Cost/Hour:         Ripper own.       Cost/Hour:         Ripper op. Cost/Hour:	State: County: Zation name: DR NT COST O8T - 8SU i-Universal ank ripper	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:	State: County: Zation name: DR NT COST O8T - 8SU i-Universal ank ripper	La Plata MS \$83.81 \$66.17 \$7.55	NA 100 NA	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Cost/Hour:         Operating Cost/Hour:       Ripper own.         Cost/Hour:       Cost/Hour:         Operator Cost/Hour:       Operator Cost/Hour:	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper day G)	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Operating Cost/Hour:         Ripper own.       Cost/Hour:         Ripper op. Cost/Hour:       -	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper day G) \$199.38	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Ownership Cost/Hour:         Operating Cost/Hour:       Ripper own.         Cost/Hour:       Cost/Hour:         Operator Cost/Hour:       Total unit Cost/Hour:         Total Fleet Cost/Hour:       Total Fleet Cost/Hour:	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper day G) \$199.38 \$199.38	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Ownership Cost/Hour:         Ownership Cost/Hour:       Ripper own.         Ripper op. Cost/Hour:       Cost/Hour:         Total unit Cost/Hour:       Total Unit Cost/Hour:         MATERIAL QUANTI       MATERIAL QUANTI	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper day G) S) S) S) S) S) S) S) S) S) S) S) S) S)	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	
Task #:       308         Date:       5/8/2017         User:       JHB         Agency or organi <b>HOURLY EQUIPMEN</b> Basic Machine:       Cat I         Horsepower:       310         Blade Type:       Semi         Attachment:       3-sha         Shift Basis:       1 per         Data Source:       (CRC         Cost Breakdown:       Ownership Cost/Hour:         Operating Cost/Hour:       Ripper own.         Cost/Hour:       Cost/Hour:         Operator Cost/Hour:       Total unit Cost/Hour:         Total Fleet Cost/Hour:       Total Fleet Cost/Hour:	State: County: Zation name: DR NT COST D8T - 8SU i-Universal ank ripper day G) \$199.38 \$199.38 \$199.38 S	La Plata MS \$83.81 \$66.17 \$7.55 \$0.00	NA 100 NA 0	-	

Source of estimated volume:

West:4x3x2480 - East: 10x3x1920

Source of estimated swell	Cat Handbook	
factor:		

#### **HOURLY PRODUCTION**

Average push distance: Unadjusted hourly production:	50 feet 1,400.0 LCY/hr	_
Materials consistency descrip	ion: Consolidated stockpile	1.0
Average push gradient:5Average site altitude:7,	% 500 feet	
Material weight:2,	000 lbs/LCY	
Weight description:	ecomposed rock - 50% Rock, 50	% Earth
Job Condition Correction Fac	tor	Source
Operator Skill		(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:	499.24 LCY/hr	
Adjusted fleet production:	<b>499.24</b> LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.399/LCY
Total job time:	<b>8.62</b> Hours
Total job cost:	\$1,718

## BULLDOZER WORK

<b>••••</b>	0	g II - construct drainage channel in Cochrane Canyon				
King Coal Mine		Peri	nit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDEN	TIFICATIO	<u>ON</u>				
Task #: 309 Date: 5/8/20	17	State: County:	Colorado La Plata		Abbreviation: Filename:	None C035-309
User: JHB						
Agency or o	organization	name: DR	MS			
HOURLY EQUIE	PMENT CO	<u>DST</u>				
Basic Machine:	Cat D8T - 8	SU		_		
Horsepower:	310 Semi-Unive	•col		_		
Blade Type:	3-shank ripp			-		
Shift Basis:	1 per day			_		
Data Source:	(CRG)			-		
Cost Breakdown:			1	Utilization %		
Ownership Cost/Ho	our:		\$83.81	NA		
Operating Cost/Ho			\$66.17	100		
Ripper or Cost/Ho	wn.		\$7.55	NA		
Ripper op. Cost/Ho			\$0.00	0		
Operator Cost/Ho			\$41.85	NA		
Total Fleet Cost/Hou MATERIAL QUA		38				
MATERIAL QUA Initial Volume: Swell factor:	ANTITIES 2,133 1.000	38				
MATERIAL QUA Initial Volume: Swell factor:	<b>ANTITIES</b> 2,133 1.000 <b>2,133</b> LCY volume:			t-Mining X-Section Plan	<u>.</u>	
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell	Mp King ;		t-Mining X-Section Plan		
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION	Mp King ;	book	t-Mining X-Section Plan		
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce:	Mp King Cat Hand 50 feet 1,400.0 LCY	book Z/hr	t-Mining X-Section Plan		
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0 %	<u>Mp King</u> Cat Handl 50 feet 1,400.0 LCY : <u>Partly c</u>	book Z/hr			
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated of Source of estimated of factor: HOURLY PROD Average push distance Unadjusted hourly production: Materials consistence Average push gradie	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0 % :7,500	<u>Mp King</u> Cat Handl 50 feet 1,400.0 LCY : <u>Partly c</u>	book Z/hr			
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0 % :7,500 2,900	Mp King Cat Handl 50 feet 1,400.0 LCY : Partly c feet	oook //hr onsolidated : 	stockpile 1.1		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated of Source of estimated of factor: MOURLY PROD Average push distand Unadjusted hourly production: Materials consistency Average push gradie Average push gradie Average site altitude Material weight: Weight description: Job Condition Correct	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0 % :7,500 2,900 Decon ction Factor	Mp King Cat Handl 50 feet 1,400.0 LCY : Partly c feet lbs/LCY nposed rock	oook //hr onsolidated : - 50% Rock,	stockpile 1.1 50% Earth		
MATERIAL QUA Initial Volume:	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0% :7,500 2,900 Decon ction Factor ator Skill:	Mp King Cat Handl 50 feet 1,400.0 LCY : Partly c feet lbs/LCY nposed rock 0.	2000k 7/hr onsolidated a 	stockpile 1.1 50% Earth <u>Source</u> (AVG.)		
MATERIAL QUA Initial Volume: Swell factor: Loose volume: Source of estimated of Source of estimated of factor: HOURLY PROD Average push distand Unadjusted hourly production: Materials consistency Average push gradie Average site altitude Material weight: Weight description: Job Condition Correct Oper. Material con	ANTITIES 2,133 1.000 2,133 LCY volume: swell UCTION ce: y description nt:0% :7,500 2,900 Decon ction Factor ator Skill:	<u>Mp King</u> Cat Handl 50 feet 1,400.0 LCY : <u>Partly c</u> feet lbs/LCY nposed rock 0. 1.	oook //hr onsolidated : - 50% Rock,	stockpile 1.1 50% Earth		

Job effici	ency: 0	830	(1 SHIFT/DAY)		
		800	(FND-RF)		
Push grad		000	(CAT HB)		
•		000	(CAT HB)		
Material We		793	(CAT HB)		
Blade	-	000	(PAT)		
2			(111)		
Net correc	ction: 0.4344				
Adjusted unit production					
Adjusted fleet production	608.16 LCY/hr				
JOB TIME AND CO	<u>ST</u>				
Fleet size:	1 Dozer(s)				
	\$0.328/LCY				
Total job time:	<b>3.51</b> Hours				
	\$699				
		BULLDOZ	FR WORK		
		DOLLDOL			
Task description:	King II - constru	ict channel i	n office drainage		
e: King Coal Mine	Per	mit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDENTIF	ICATION				
Task #: 310	State:	Colorado		Abbreviation:	None
Date: $5/8/2017$	County:	La Plata		Filename:	C035-310
User: JHB				-	
Agency or organ	nization name: DR	RMS			
HOURLY EQUIPME	INT COST				
Basic Machine: Cat Horsepower: 310	D8T - 8SU		_		
	ni-Universal		_		
	nank ripper		_		
	er day		_		
Data Source: (CR			_		
Cost Breakdown:					
			Utilization %		
Ownership Cost/Hour:		\$83.81	NA		
Operating Cost/Hour:		\$66.17	100		
Ripper own.		\$7.55	NA		
Cost/Hour: Rinner on Cost/Hour:		\$0.00	0		
Ripper op. Cost/Hour: Operator Cost/Hour:		\$0.00 \$41.85			
-		ψ+1.03	NA		
Total unit Cost/Hour:	\$199.38				
Total Fleet Cost/Hour:	\$199.38				
MATERIAL QUANT	TTIES				
Initial Volume: 2,75					
$\frac{1}{2,75}$	6				
Swell factor: 1.00					

Source of estimated volume: Mp King II-011A, Post-Mining X-Section Plan,

Source of estimated swell factor:	10x3x2480 Cat Handbook	
HOURLY PRODUCTION		
Average push distance: Unadjusted hourly production:	50 feet 1,400.0 LCY/hr	-
Materials consistency description	n: Partly consolidated stoc	kpile 1.1
Average push gradient:0 %Average site altitude:7,500Material weight:2,900	) feet ) lbs/LCY	
Weight description:Deco	mposed rock - 50% Rock, 509	% Earth
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:	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: 60	8.16 LCY/hr	
Adjusted fleet production: <b>60</b>	8.16 LCY/hr	

Fleet size:	1 Dozer(s)
Unit cost:	\$0.328/LCY
Total job time: Total job cost:	<b>4.53</b> Hours <b>\$904</b>

## BULLDOZER WORK

King Coal Mine	Permit Action: _ F	RN7	Permit/Job#	C1981035
	ATION			
PROJECT IDENTIFIC	AHON			
Task #: 311	State: Colorado		Abbreviation:	None
Date: <u>5/8/2017</u>	County: La Plata		Filename:	C035-311
User: JHB				
Agency or organiz	ation name: DRMS			
HOURLY EQUIPMEN				
	8T - 8SU			
Horsepower: 310				
	Universal			
	nk ripper			
Shift Basis: 1 per o				
Data Source: (CRG	)			
Cost Breakdown:	1	TT-11		
	<b>\$02.01</b>	<u>Utilization %</u>		
Ownership Cost/Hour:	\$83.81	NA		
Operating Cost/Hour:	\$66.17	100		
Ripper own. Cost/Hour:	\$7.55	NA		
Ripper op. Cost/Hour:	\$0.00	0		
Operator Cost/Hour:	\$41.85	NA		
Total unit Cost/Hour:	\$199.38 \$199.38			
Total unit Cost/Hour:	\$199.38			
Total unit Cost/Hour:	\$199.38			
Total unit Cost/Hour: 2 Total Fleet Cost/Hour: 2 MATERIAL QUANTIT Initial Volume: 9,993 Swell factor: 1.125	\$199.38 <u>FIES</u>			
Total unit Cost/Hour:       9         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242	\$199.38 <u>FIES</u> LCY			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume	\$199.38 <u>FIES</u> <u>LCY</u> :: Pond design			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell	\$199.38 <u>FIES</u> LCY			
Total unit Cost/Hour: 2 Total Fleet Cost/Hour: 2 MATERIAL QUANTIT Initial Volume: 9,993 Swell factor: 1.125	\$199.38 <u>FIES</u> <u>LCY</u> :: Pond design			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook			
Total unit Cost/Hour:       9         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u>			
Total unit Cost/Hour:       1         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION         Average push distance:	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u> <u>50 feet</u>			
Total unit Cost/Hour:       9         Total Fleet Cost/Hour:       9         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u>			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       9         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u> <u>50 feet</u> 1,400.0 LCY/hr	   pckpile 1.1		
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT       1         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       Source of estimated swell         factor:       1         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:         Materials consistency descr	\$199.38 <u> FIES</u> <u> LCY</u> :: Pond design <u> Cat Handbook</u> <u> 50 feet</u> 1,400.0 LCY/hr <u> iption: Partly consolidated sto</u>	   ockpile 1.1		
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT       1         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       Source of estimated swell         factor:       1         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:         Materials consistency descr         Average push gradient:	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u> <u>50 feet</u> 1,400.0 LCY/hr iption: <u>Partly consolidated sto</u> 0 %			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       2         MATERIAL QUANTIT       1         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       Source of estimated swell         factor:       1         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:         Materials consistency descr         Average push gradient:	\$199.38 <u> FIES</u> <u> LCY</u> :: Pond design <u> Cat Handbook</u> <u> 50 feet</u> 1,400.0 LCY/hr <u> iption: Partly consolidated sto</u>	 		
Total unit Cost/Hour:       1         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       Source of estimated volume         Source of estimated volume       Source of estimated swell         factor:       HOURLY PRODUCTION         Average push distance:       Unadjusted hourly         production:       Materials consistency descr         Average push gradient:       0         Average site altitude:       0	\$199.38 <u>FIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook <u>ON</u> <u>50 feet</u> 1,400.0 LCY/hr iption: <u>Partly consolidated sto</u> 0 %	   pckpile 1.1		
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       9         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:         Materials consistency descr         Average site altitude:         Material weight:	\$199.38 <u>FIES</u> <u>LCY</u> :: Pond design Cat Handbook <u>ON</u> <u>50 feet</u> 1,400.0 LCY/hr iption: Partly consolidated sto 0 % 7,500 feet			
Total unit Cost/Hour:       2         Total Fleet Cost/Hour:       9         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume         Source of estimated swell         factor:         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly         production:         Materials consistency descr         Average site altitude:         Material weight:	\$199.38 <u>CIES</u> <u>LCY</u> ::       Pond design         Cat Handbook         ON			
Total unit Cost/Hour:       1         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       5         Source of estimated volume       5         Source of estimated swell       6         factor:       1         HOURLY PRODUCTION       1         Average push distance:       1         Unadjusted hourly       1         production:       1         Materials consistency descr       1         Average push gradient:       1         Average site altitude:       1         Material weight:       1         Weight description:       1	\$199.38 <b>CIES</b> LCY :: Pond design Cat Handbook ON <u>50 feet</u> 1,400.0 LCY/hr iption: Partly consolidated store 0 % 7,500 feet 2,900 lbs/LCY User Provided actor			
Total unit Cost/Hour:       1         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       Source of estimated volume         Source of estimated volume       Source of estimated swell         factor:       HOURLY PRODUCTION         Average push distance:       Unadjusted hourly         production:       Materials consistency description:         Average push gradient:       0         Average site altitude:       1         Weight description:       1         Job Condition Correction Figure Correcti	\$199.38 <u>CIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook         ON	Source		
Total unit Cost/Hour:       1         Total Fleet Cost/Hour:       9         MATERIAL QUANTIT         Initial Volume:       9,993         Swell factor:       1.125         Loose volume:       11,242         Source of estimated volume       11,242         Source of estimated volume       Source of estimated swell         factor:       1         HOURLY PRODUCTION       Materials consistency descr         Average push distance:       1         Unadjusted hourly       1         production:       1         Materials consistency descr       1         Average push gradient:       1         Average site altitude:       1         Material weight:       1         Weight description:       1         Job Condition Correction Factor       1	\$199.38 <u>CIES</u> <u>LCY</u> :: <u>Pond design</u> Cat Handbook	Source (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:	608.16 LCY/hr
Adjusted fleet production:	608.16 LCY/hr

Fleet size:	1 Dozer(s)
Unit cost:	\$0.328/LCY

Total job time:	18.49 Hours
Total job cost:	\$3,686

## BULLDOZER RIPPING WORK

Task description:	King II - Rip coa	al sales area				
Site: King Coal Mine	Per	mit Action:	RN7	P	ermit/Job#:	C1981035
PROJECT IDENTIFI	<b>CATION</b>					
Task #: 312	State:	Colorado		Abbr	eviation:	None
Date: 5/8/2017	County:	La Plata		F	Filename:	C035-312
User: JHB						
Agency or organ	ization name: DR	RMS				
HOURLY EQUIPME	NT COST					
Basic Machine:	Cat D8T - 8SU			Horsepower:		310
Ripper Attachment:	3-Shank Ripper			Shift Basis:	1 p	er day
				Data Source:	(0	CRG)
Cost Breakdown:						
				Utilization %		
Owner	ship Cost/Hour:		\$83.81	NA		
	ting Cost/Hour:		\$66.17	100		
Ripper Owner	ship Cost/Hour:		\$7.55	NA		
Ripper Opera	ting Cost/Hour:		\$7.21	100		
Oper	ator Cost/Hour:		\$41.85	NA		
Total	Unit Cost/Hour:		\$206.59			
Total F	Fleet Cost/Hour:	\$20	6.59			

	MATERIAL Q	UANTITIES	Sel	ected estimating me	ethod: Area		
	Alternate Methods	<u>3:</u>					
Seismic:	NA		Bank Volume:	NA	BCY	NA	
Area:	1.70	acres	Rip Depth (ft):	2.00	Volume: 5,485		BCY or CCY
		Source of estimat	ed quantity: <u>Map K</u>	ing II-007			
	HOURLY PRO	DUCTION					
	Seismic:						
		Seis	smic Velocity:	NA	feet/second		
	Area:						
		Average R	ipping Depth:	1.00	mph		
			ipping Width:	7.08	degrees		
		Average Ri	pping Length:	50.00	feet		
		Average	Dozer Speed:	88.00	feet		
		Average Ma	aneuver Time:	0.25	feet		
		Production	per unit area:	0.596	acres/hour		
	Job Condition Cor	rection Factors					
	Una	djusted Hourly Ur	it Production:	0.596	Acres/hr		
			Site Altitude:	7,400	feet		
			Altitude Adj:	1.00	(CAT HB)		
		J	ob Efficiency:	0.83	(1 shift/day)		
		N	et Correction:	0.83	multiplier		
			urly Unit Production:	0.49	Acres/hr		
		Adjusted Hor	urly Fleet Production:	0.49	Acres/hr		
	JOB TIME AN	D COST					
	Fleet size:	1 (	Grader(s)	Total job time:	3.44	Но	ırs
	Unit cost:	\$417.652 H	Per acre	Total job cost:	\$710		
			<u>BULLDOZ</u>	<u>ER WORK</u>			

Task description:	Kin	S II Oluati				
King Coal Mine		Peri	mit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDEN	TIFICAT	ION				
Task #:         313           Date:         5/8/20           User:         JHB		State: County:	Colorado La Plata		Abbreviation: Filename:	None C035-313
Agency or	organization	name: DR	RMS			
HOURLY EQUI	PMENT C	<u>OST</u>				
Basic Machine:	Cat D8T -	8SU		_		
Horsepower:	310					
Blade Type:	Semi-Univ	ersal				
Attachment:	3-shank rip	oper				
Shift Basis:	1 per day	•				
Data Source:	(CRG)			_		
				_		
Cost Breakdown:			I	TT-11 .1 .0/		
			<b>*</b> • • • • •	Utilization %		
Ownership Cost/H			\$83.81	NA		
Operating Cost/H			\$66.17	100		
Ripper o Cost/H			\$7.55	NA		
C031/ П	lour:		\$0.00	0		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho	ır: \$199		\$41.85	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou	ur: \$199 our: <b>\$199</b> (ANTITIES) 5,485 1.330	.38	\$41.85	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: _	ur: \$199 ur: <b>\$199</b> ANTITIES	.38	\$41.85	NA		
Ripper op. Cost/H Operator Cost/Hou Total unit Cost/Hou Total Fleet Cost/Ho <u>MATERIAL QU</u> Initial Volume: Swell factor:	ur: \$199 ur: <b>\$199</b> <b>ANTITIES</b> 5,485 1.330 <b>7,295</b> LCY volume:	<u>.38</u>	  x 2' depth	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL OU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated	ur: \$199 ur: <b>\$199</b> ANTITIES 5,485 1.330 <b>7,295</b> LCY volume: swell	.38 5 	  x 2' depth	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated factor: HOURLY PROI Average push distar	ur: \$199 ur: \$199 ANTITIES 5,485 1.330 7,295 LCY volume: swell DUCTION	.38 	x 2' depth book	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated factor: HOURLY PROI	ur: \$199 ur: \$199 ANTITIES 5,485 1.330 7,295 LCY volume: swell DUCTION	.38 	x 2' depth book	NA		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROI Average push distar Unadjusted hourly	ur: \$199 ur: \$199 <b>ANTITIES</b> 5,485 1.330 <b>7,295</b> LCY volume: swell <b>DUCTION</b> nce:	.38 	x 2' depth book			
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated Source of estimated factor: HOURLY PROI Average push distan Unadjusted hourly production: Materials consistence	ur: \$199 ur: \$199 <b>ANTITIES</b> 5,485 1.330 <b>7,295</b> LCY volume: swell <b>DUCTION</b> nce: cy description	.38 	 x 2' depth book Y/hr			
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROI Average push distar Unadjusted hourly production:	ur: \$199 ur: \$199 <b>ANTITIES</b> 5,485 1.330 7,295 LCY volume: swell DUCTION nce: cy description ent: 0 %	.38 	 x 2' depth book Y/hr			
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume:	ur: $\$199$ yur: $\$199$ ANTITIES         5,485         1.330         7,295 LCY         volume:         swell         DUCTION         nce:         cy description         ent:       0 %         e:       7,500	.38 	 x 2' depth book Y/hr			
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROI Average push distan Unadjusted hourly production: Materials consistence Average push gradia	ur:       \$199         ur:       \$199 $$199$ \$199 $$2,485$ 1.330 $7,295$ LCY       \$200         volume:       \$well <b>DUCTION</b> \$100         nce:       \$100         cy description       \$100         ent: $0 \%$ $2,900$ \$2,900	.38 	 x 2' depth book Y/hr idated stockp	   pile 1.0		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROI Average push distar Unadjusted hourly production: Materials consistence Average push gradid Average site altitude	ur: $\$199$ yur: $\$199$ ANTITIES $5,485$ 1.330 $7,295$ LCY         volume:       swell         DUCTION $6$ nce: $0$ %         e: $7,500$ 2,900       Deco	.38 .38 .38 .38 .38 .38 .38 .38	 x 2' depth book Y/hr idated stockp	   pile 1.0		
Ripper op. Cost/H Operator Cost/H Total unit Cost/Hou Total Fleet Cost/Hou MATERIAL QU Initial Volume: Swell factor: Loose volume: Source of estimated factor: HOURLY PROI Average push distar Unadjusted hourly production: Materials consistence Average push gradin Average push gradin Average site altitud Material weight: Weight description: Job Condition Correct	ur: $\$199$ yur: $\$199$ ANTITIES $5,485$ 1.330 $7,295$ LCY         volume:       swell         DUCTION $6$ nce: $0$ %         e: $7,500$ 2,900       Deco	.38 	 x 2' depth book Y/hr idated stockp	  bile 1.0		

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: 0.3949

Adjusted unit production:	552.86 LCY/hr
Adjusted fleet production:	<b>552.86</b> LCY/hr

Fleet size:	1 Dozer(s)	
Unit cost:	\$0.361/LCY	
al job time:	13.20 Hours	
al job cost:	\$2,631	

Total job time:	13.20 Hours
Total job cost:	\$2,631
# MISCELLANEOUS TRUCK WORK

	ription:	Water truck for dust	control		
: King C	oal Mine	Permit Actio	n: <u>RN7</u>	Permit/Job#:	C1981035
<b>PROJEC</b>	T IDENTIFI	<u>CATION</u>			
Task #: Date: User:	314 5/8/2017 JHB	State: Color County: La Pla		Abbreviation: Filename:	None C035-314
Agency	y or organizati				
Make Att	achment 1:	Vater Tanker, 2,500 G	al.	Horsepow Shift Bas	is: 1 per day
La	achment 2: bor Unit 1: bor Unit 2:	anker Driver - 1 rear	axle	Weig	ht:5.25 (US Tons
Cost Brea	kdown:				
		<b>\$7</b> .00	Utilization %		
Opera Oper	ship Cost/Hour ting Cost/Hour ator Cost/Hour	r: \$14.74 r: \$21.39	NA           100           NA		
Opera Oper Total U	ting Cost/Hou	r: \$14.74 r: \$21.39 r: \$44.01	100		
Opera Oper Total U Total I	ting Cost/Hour ator Cost/Hour Jnit Cost/Hour	r: \$14.74 r: \$21.39 r: \$44.01 ur: \$44.01	100		
Opera Oper Total U Total I	ting Cost/Hour ator Cost/Hour Jnit Cost/Hour Fleet Cost/Hou IE AND COS	r: \$14.74 r: \$21.39 r: \$44.01 ur: \$44.01	100	240.00	Hours

# TRUCK/LOADER TEAM WORK

Task description:	King II	- distribute to	psoil fro	m Cochran	e stockpile			
Site: King Coal Mine	Permit A	ction: <u>I</u>	RN7		Permit/Job#:	C198103	5	
PROJECT IDEN	NTIFICATION							
Task #: 401		State: Col	lorado		Abl	previation:	None	
Date: 5/8/2	017	County: La	Plata			Filename:	C035-401	
User: JHB								
Agency of	r organization nan	ne: DRMS						
HOURLY EQU	IPMENT COST	<u>r</u>			Shift bas	is: <u>1 per day</u>		
				ment Descri				
r	Truck Loader Tea			2-18 cy, 6x4				_
				TE - CAT 9	38H			_
Supp	ort Equipment -L		NA DECLET		2011			
Pood M	-Dt Iaintenance –Moto		VA	<u> ГЕ - САТ 9</u>	38H			_
Road IV.			NA NA					—
								_
Cost Breakdown:	Truck/Loa	ader Team		Support l	Equipment	Mainte	enance Equ	ipment
	Truck	Loader	Loa	d Area	Dump Area	Motor Grade	er Wate	r Truck
%Utilization-machine:	100	10	00	NA	100	N	A	NA
Ownership cost/hour:	\$22.16	\$25.6	i6	NA	\$25.66	N	A	NA
Operating cost/hour:	\$42.40	\$32.3	1	NA	\$32.31	N	A	NA
%Utilization-riper:	NA		0	NA	NA	N	A	NA
Ripper own. cost/hour:	NA	\$0.0	0	NA	\$0.00	N	A	NA
Ripper op. cost/hour:	NA	\$0.0	0	NA	\$0.00	N	A	NA
Operator cost/hour:	\$30.37	\$41.2	20	NA	\$41.20	N	A	NA
Unit Subtotals:	\$94.93	\$99.1	7	NA	\$99.17	N	A	NA
Number of Units:	2		1	0	1		0	0
Group Subtotals:	Work:	\$289.03		Support:	\$99.17	Mair	nt: \$0.00	

Total work team cost/hour: \$388.20

# **MATERIAL QUANTITIES**

Initial volume: Loose volume:	27,699 <b>33,654</b>	CCY     Swell factor: 1.215       LCY	
Sour	ce of estimated volume:	22.36 ac - 1.5 ponds	
Source of	f estimated swell factor:	Cat Handbook	
	Material Purchase Cost:	\$0.00	
	Total Cost:	\$0.00	

# HOURLY PRODUCTION

Truck Payload (weight) Ba	isis:						
Material weight:	1,600		Pounds/L	CY			
Description:	Top Soil						
Rated Payload:	50,300		Pounds				
Payload Capacity:	31.44		LCY				
Truck Bed (volume) Basis:	<u>.</u>						
Struck Volume:	12.00	LCY					
Heaped Volume:	18.00	LCY					
Average Volume:	15.00	LCY					
Adjusted Volume:	18.00	LCY					
Fin	al Truck Volum	e Based on Nun	nber of Lo	ader Passes:	15.21	LCY	
loading Tool Capacity				_			
Data d Cana altan	2 000	LCV (here		Buc	ket Size Class:	NA	
Rated Capacity: Bucket Fill Factor:	<u>3.900</u> 0.975	LCY (hea	1 /	vad maist a-	gregates (95-100	0%)0075	
Adjusted Capacity:	<u> </u>	LOOSE IIIA	ueriai - m	ixed moist ag	gregates (95-100	%)0.973	
Aujusieu Capacity.	5.005						
ob Condition Correction	<u>15:</u>		Site A	Altitude (ft.): <u>'</u>	7 <u>500</u> feet		
	Truck	Loader	r	Source			
Altitude Adj:	1.000	1.000		(CAT HB			
Job Efficiency:	0.830	0.830		(CAT HB	5)		
Jet Correction:	0.830	0.830					
Loading Tool Cycle Time	<u>e:</u>	Number of Loa	ding Tool	Passes Requi		4	passes
Excavators and Front Show	vels:				Truck:	•	
		on Rating N	Δ		Truck:		
Machine Cycle Time	vs. Job Conditi				Truck:		
Machine Cycle Time Selected Value	vs. Job Conditie within this Bas	sic Rating: N.			Truck:		
Machine Cycle Time Selected Value Track Loaders	vs. Job Conditi e within this Bas – Material Desc	sic Rating: N.			Truck:		
Machine Cycle Time Selected Value Track Loaders	vs. Job Conditi e within this Bas – Material Desc .):	sic Rating: N.	A			100	
Selected Value Track Loaders Cycle Time Elements (min	vs. Job Conditi e within this Bas – Material Desc .):	sic Rating: <u>N</u> eription:	A	load, dump, r	Dump: 0.1		 
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: <u>NA</u>	vs. Job Conditi e within this Bas – Material Desc .):  s - Unadjusted F	sic Rating: <u>N</u> eription:	A	load, dump, r	Dump: 0.1	0.483	
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: <u>NA</u> Wheel and Track Loaders	vs. Job Conditi e within this Bas – Material Desc .): 	sic Rating: <u>N</u> eription:	A A cle Time (	load, dump, r	 Dump:0.1 naneuver):	0.483	rce
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: <u>NA</u> Wheel and Track Loaders Cycle Time Factors	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted E s Material 1/8 : Dumped by	sic Rating: N. cription: Maneuver: Basic Loader Cyd 3" to 3/4" diame truck 0.02	A A cle Time ( ter -0.02		Dump: 0.1 naneuver): Factor (min.)	100 0.483	rce HB)
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: <u>NA</u> Wheel and Track Loaders <u>Cycle Time Factors</u> Material:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s : Material 1/8 : Dumped by	sic Rating: N. cription: Maneuver: Basic Loader Cyo 3" to 3/4" diame	A A cle Time ( ter -0.02		Dump: 0.1 naneuver): Factor (min.) -0.020	100 0.483 0 Sour (Cat 1	rce HB) HB)
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership Operation:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: Basic Loader Cya 3" to 3/4" diame truck 0.02 wnership of truc peration -0.04	A A cle Time ( ter -0.02		Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040	0.483 0 Sour (Cat 1 (Cat 1	rce HB) HB) HB)
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: Basic Loader Cyd 3" to 3/4" diame truck 0.02 wnership of truc peration -0.04 get 0.00	A cle Time ( ter -0.02 ks and loa	ders -0.04	Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040 0.000	100 0.483 0 Sour (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1) (Cat 1)	rce HB) HB) HB) HB) HB)
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership Operation:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: N Basic Loader Cy 3" to 3/4" diame truck 0.02 wnership of truck peration -0.04 reget 0.00 Net Cyc	A cle Time ( ter -0.02 ks and loa	ders -0.04	Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080	100 0.483 0 Sour (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1) (Cat 1) (Cat 1) (Cat 1)	rce HB) HB) HB) HB) HB) HB) ttes
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership: Operation:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: N Basic Loader Cyd 3" to 3/4" diame truck 0.02 wnership of truc veration -0.04 get 0.00 Net Cyc Adjusted	A Cle Time ( ter -0.02 ks and loa cle Time A I Loader C	ders -0.04 Adjustment: Cycle Time:	Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.403	100 0.483 0 Sour (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1) (Cat 1) (Cat 1) (Cat 1) (Cat 1)	rce HB) HB) HB) HB) HB) ttes ttes ttes
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: NA Wheel and Track Loaders Cycle Time Factors Material: Stockpile: Truck Ownership Operation:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: N Basic Loader Cyd 3" to 3/4" diame truck 0.02 wnership of truc veration -0.04 get 0.00 Net Cyc Adjusted	A Cle Time ( ter -0.02 ks and loa cle Time A I Loader C	ders -0.04	Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080	100 0.483 0 Sour (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1) (Cat 1) (Cat 1) (Cat 1)	rce HB) HB) HB) HB) HB) ttes ttes ttes
Machine Cycle Time Selected Value Track Loaders Cycle Time Elements (min Load: <u>NA</u> Wheel and Track Loaders <u>Cycle Time Factors</u> <u>Material:</u> <u>Stockpile:</u> <u>Truck Ownership</u> Operation:	vs. Job Conditie e within this Bas – Material Desc .): s - Unadjusted F s 	sic Rating: N. cription: Maneuver: N Basic Loader Cyd 3" to 3/4" diame truck 0.02 wnership of truc veration -0.04 get 0.00 Net Cyc Adjusted	A Cle Time ( ter -0.02 ks and loa cle Time A I Loader C	ders -0.04 Adjustment: Cycle Time:	Dump: 0.1 naneuver): Factor (min.) -0.020 0.020 -0.040 -0.040 0.000 -0.080 0.403	100 0.483 0 Sour (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1 (Cat 1) (Cat 1) (Cat 1) (Cat 1) (Cat 1)	rce HB) HB) HB) HB) HB) ttes ttes

Truck Load Time:	1.308	Minutes	Adjusted for site altitude:	1.308	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

<u>Truck Travel (Haul & Return) Time:</u> penetration 4.0

Road Condition: <u>Rutted dirt, little maintenance, no water, 1" tire</u>

Haul	l Route:							
Seg		aul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(F	<sup>r</sup> t)		(%)	(%)	(fpm)	Time (min)	
1	20	00.00	2.00	4.00	6.00	1855	1.158	
					Haul Time:	1.158	minutes	
	Irn Route							
Seg	# H	aul Distance	Grade (%)	Roll. Res	Total Res	Velocity	Travel	
	(F	,		(%)	(%)	(fpm)	Time (min)	
1	20	00.00	-2.00	4.00	2.00	2905	0.723	
					Return Time:	0.723	minutes	
				Total True	ck Cycle Time:	4.589	minutes	
Loading	g Tool ui	nit						
	Productio		LCY/Hour		Adjusted for j	job efficiency:	419.06	LCY/Hour
Truck Unit	Production							
		198.89	LCY/Hour		Adjusted for j	job efficiency:	165.08	LCY/Hour
Optimal No.	of Truck	s: <u>3</u>	Truck(s)		Selected Num	ber of Trucks:	2	Truck(s)
			Adjusted	d hourly truck	k team productio	on: 330.	15 LCY/H	Hour
			Adjusted singl	e truck/loade	r team productio	on: 330.	15 LCY/H	Hour
			Adjusted multipl	e truck/loade	r team productio	on: 330.	15 LCY/F	Hour
JOE	B TIME	AND COST						
I	Fleet size	:1	Team(s)	Т	Fotal job time:	101.9	B Hou	irs
	Unit cost	: \$1.176	/LCY		Total job cost:	\$39,57	71	

# MOTOR GRADER WORK

Task description:	King II - finish grade tops	oil area		
: King Coal Mine	Permit Action	:: <u>RN7</u>	Peri	mit/Job#: <u>C1981035</u>
PROJECT IDENTI	<b><u>FICATION</u></b>			
Task #: 402	State: Colorado	n	Abbrev	viation: None
Date: 5/8/2017	County: La Plata			ename: C035-402
User: JHB	·			
Agency or orga	nization name: DRMS			
HOURLY EQUIPM	ENT COST			
Basic Machin	e: CAT 12M		Horsepower:	158
Ripper Attachmer			Shift Basis:	1 per day
rupper ruuennier			Data Source:	(CRG)
C (D 11				
Cost Breakdown:		1	Litilization 0/	
Own	ership Cost/Hour:	\$28.02	Utilization % NA	
	rating Cost/Hour:	\$28.28	100	
	ership Cost/Hour:	\$1.99	NA	
	rating Cost/Hour:	\$0.00	0	
Op	erator Cost/Hour:	\$28.90	NA	
Tota	l Unit Cost/Hour:	\$87.19		
Tota	Fleet Cost/Hour: \$	87.19		
MATERIAL QUAN Total Area	to be graded or ripped:22.30	6		acres
Sour	ce of estimated acreage: Section	ion 2.05.3 of perm	nit application	
HOURLY PRODUC	TION			
	Average Grader Speed:	1.25	mph	
	Selected Application:		luction Deration - 1	.25
	Selected Blade Angle:	30	degrees	
XX 7' 1.1	Effective Blade Length:	10.40	feet	
	of blade overlap per pass:	2.00 8.40	feet	
	or ripping width per pass: d Hourly Unit Production:	1.2727	feet acres/hour	
Job Condition Correctio	-		te Altitude: <u>7400</u> fe	
	Sour			
Altitude Adj:	1.00 (CAT )			
Job Efficiency:	0.85 (1sh/d, r			
Net Correction:	0.8500 multipli	ier		
	Adjusted Hourly Unit Production	n: 1.0818	acres/Hour	
	djusted Hourly Fleet Production		acres/Hour	
-	,			
JOB TIME AND CO	<u>ost</u>			
Fleet size:	1 Grader(s)	Total job time	: 20.67	Hours
Unit cost: \$8	0.60 per acre	Total job cost	\$1,802	

# **REVEGETATION WORK**

Task description: e: <b>King Coal Mine</b>		King II revegetate Rangeland Areas (19.36 acres)         Permit Action:       RN7		Permit/Job#:	C1981035	
PROJECT	<b>[ IDENTIF</b> ]	CATION				
Task #: Date:	403 5/8/2017		olorado 1 Plata		Abbreviation: Filename:	None C035-403

# **FERTILIZING**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials	
			Cost/Acre	\$51.00

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

# TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.60	9.79	\$8.70
Indian Ricegrass - Native	1.45	4.69	\$10.15
Mountain Brome - Bromar	1.74	2.80	\$7.57
Sideoats Grama - Butte	1.00	3.28	\$9.67
Burnett, Small (or Little) - Delar	2.90	3.66	\$7.25
Slender Wheatgrass - Native	1.24	4.53	\$3.50
Western Wheatgrass - Native	2.18	5.51	\$15.26
Globemallow, Scarlet (or copper)	0.44	4.98	\$59.62
Totals Seed Mix	11.55	39.24	\$121.72

# Application

Description		Cost /Acre
Drill Seeding (DRMS Survey Cost)		\$232.00
	Total Seed Application Cost/Acre	\$232.00

# **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

# Application

Description		Cost /Acre
Crimping, with tractor {DMG survey data}		\$66.02
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	<b>Total Mulch Application Cost/Acre</b>	\$165.34

# NURSERY STOCK PLANTING

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

### JOB TIME AND COST

	No. of Acres:	19.36	Cost /Acre:	\$1,236.68
Estimate	ed Failure Rate:	50%	Cost /Acre*:	\$1,236.68
*Selected Replanti	ng Work Items:	FERTILIZING,SE	EDING, MULCHING	
Initial Job Cost:	\$23,942.12			
Reseeding Job Cost:	\$11,971.06			
Total Job Cost:	\$35,913			
Job Hours:	20.00			

# **REVEGETATION WORK**

Task description: <u>Ki</u> n te: King Coal Mine				Permit/Job#:	C1981035	
PROJECT	<b>IDENTIF</b>	CATION				
<b>T</b> 1 //	404	State: Co	olorado		Abbreviation:	None
Task #:	-				-	
Task #: Date:	5/9/2017		Plata		Filename:	C035-404

# **FERTILIZING**

### Materials Units / Description Cost / Unit Cost /Acre Unit Acre 10-34-0, 18-46-0, 5-10-5 150.00 pound \$0.34 \$51.00 **Total Fertilizer** Materials \$51.00 Cost/Acre

### Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

# TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bitterbrush, Antelope	8.71	2.68	\$169.85
Blue Grama - Native	0.60	9.79	\$8.70
Indian Ricegrass - Native	1.45	4.69	\$10.15
Mountain Brome - Bromar	1.74	2.80	\$7.57
Sideoats Grama - Butte	1.00	3.28	\$9.67
Burnett, Small (or Little) - Delar	2.90	3.66	\$7.25
Slender Wheatgrass - Native	1.24	4.53	\$3.50
Mahogany, Mountain	4.84	6.56	\$178.16
Western Wheatgrass - Native	2.18	5.51	\$15.26
Globemallow, Scarlet (or copper)	0.44	4.98	\$59.62
Sumac, Skunkbrush	4.36	2.04	\$91.56
Winter Fat	1.94	4.94	\$39.77

	<b>Totals Seed Mix</b>	31.40	55.46	\$601.05
Application				
Description				Cost /Acre
Drill Seeding (DRMS Survey Cost)				\$232.00

Total Seed Application Cost/Acre \$232.00

### **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

# Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	\$66.02
Power mulcher (MEANS 32 91 13.16 0350)	\$99.32
Total Mulch App	lication Cost/Acre \$165.34

# **NURSERY STOCK PLANTING**

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

# JOB TIME AND COST

	No. of Acres:	3	Cost /Acre:	\$1,716.01
Estimate	ed Failure Rate:	50%	Cost /Acre*:	\$1,716.01
*Selected Replanti	ng Work Items:	FERTILIZING,SE	EDING, MULCHING	
Initial Job Cost:	\$5,148.03			
Reseeding Job Cost:	\$2,574.02			
Total Job Cost:				
Job Hours:	3.00			

# **REVEGETATION WORK**

Tas	sk descrip	otion:	King II-seed wate	er line corri	idor (0.47 ac)			
Site: 1	King Coa	l Mine	Pern	nit Action:	RN7	Permit/Job#:	C1981035	
PR	ROJECT	<u>IDENTIF</u>	ICATION					
	Task #:	406	State:	Colorado		Abbreviation:	None	
	Date:	5/9/2017	County:	La Plata		Filename:	C035-406	
	User:	JHB						
FF	Age E <b>RTILIZ</b>		ization name: <u>DR</u>	MS				

Materials				
Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
10-34-0, 18-46-0, 5-10-5	150.00	pound	\$0.34	\$51.00
			Total Fertilizer Materials Cost/Acre	\$51.00

# Application

Description		Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)		\$144.62
	Total Fertilizer Application Cost/Acre	\$144.62

# TILLING

Description	Cost /Acre
	\$
Total Tilling Cost/Acre	\$0.00

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Bluebunch Wheatgrass - Secar	1.74	5.59	\$13.35
Switchgrass - Pathfinder	0.75	6.70	\$7.48
Mountain Brome - Bromar	1.82	2.92	\$7.92
Burnett, Small (or Little) - Delar	2.61	3.30	\$6.53
Sheep Fescue - Bighorn	0.31	4.84	\$1.47
Thickspike Wheatgrass - Critana	1.16	4.10	\$6.66
Western Wheatgrass - Native	2.54	6.41	\$17.78
Flax, Lewis Blue	0.46	3.05	\$7.59
Totals Seed Mix	11.39	36.92	\$68.76

### Application

Description		Cost /Acre
Tractor spreader (MEANS 32 92 19.14 0100)		\$548.86
	Total Seed Application Cost/Acre	\$548.86

# **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

# Application

Description		Cost /Acre
Power mulcher (MEANS 32 91 13.16 0350)		\$99.32
	<b>Total Mulch Application Cost/Acre</b>	\$99.32

# **NURSERY STOCK PLANTING**

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

# JOB TIME AND COST

No. of Acres:	0.47	Cost /Acre:	\$1,434.56
Estimated Failure Rate:	50%	Cost /Acre*:	\$617.62
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost: \$674.24			

Initial Job Cost:	\$674.24
Reseeding Job Cost:	\$145.14
Total Job Cost:	\$819
Job Hours:	1.25

# BOREHOLE SEALING WORK

,	Task description:	Seal Boreho	oles CO-14-01 tl	hrough CO-14-09			
Site:	Site: King Coal Mine		Coal Mine Permit Action: RN7		Permit/Job#:		C1981035
<u>PROJE</u>	CT IDENTIFICATION	<u>N</u>					
Task #: Date:		State: County:	Colorado La Plata		Abbreviation: Filename:	Non C03	e 5-409
User:		e o unity i				000	
	Agency or organizat	ion name:	DRMS				

# **UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Bottom Plugs	Stainless steel plug - 6 in. diameter borehole	6	NA	18.00	EA	\$140.75	\$2,533.50
Seal Holes	Portland cement grout ( Bag, material cost only94 lb. bag)	6	27	27.45	bag	\$10.55	\$289.60
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	6	14.14	14.14	LF	\$1.77	\$25.03
Hole Marker	Borehole location/identification marker (EA, material cost only)	NA	NA	9.00	EA	\$3.67	\$33.03
Drill Rig Time	GENERIC 3.0 in 1, 700 ft. capy.	NA	NA	36.00	EA	\$26.04	\$937.44
Water Truck Time	Water Tanker, 2,500 Gal.	NA	NA	36.00	EA	\$22.62	\$814.32

 Job Hours:
 36.00
 Total Cost:
 \$4,633.00

# BULLDOZER WORK

Task description:	Regrade dr	ill pads and	pits CO-14-01 th	rough CO-14-09		
te: King Coal Mine		Permit Act	ion: <u>RN7</u>	Permit/Job#:	C1981035	
PROJECT IDENTI	FICATION					
Task #: 410		State:	Colorado		Abbreviation:	None
Date: 5/9/201	7	County:	La Plata		Filename:	C035-410
User: JHB						
Agency	or organization n	name: DR	MS			
<b>HOURLY EQUIPM</b>	IENT COST					
Basic Machine:	Cat D5K XL - 5	(D				
Horsepower:	96					
Blade Type:	Power Angle Ti	lt				
Attachment:	NA					
Shift Basis:	1 per day					
Data Source:	(CRG)					
Cost Breakdown:				<u>Utilization %</u>		
Ownership Cost/H	Jour.		\$22.82	NA		
Operating Cost/H			\$22.47	100		
Ripper own. Cost/H			\$0.00	NA		
Ripper op. Cost/H			\$0.00	0		
Operator Cost/H			\$41.85	NA		
Total unit Cost/Hour:	\$87.14					
Total Fleet Cost/Hour:	\$87.14					
<u>MATERIAL QUAN</u>	TITIES					
	833					
	1.165					
Loose volume:	971 LCY					
Source of estimated vol Source of estimated swe		9 pads, 50' Cat Handbo	x 50', 1' depth ook			
HOURLY PRODUC	CTION					
Average push distance:		0 feet				
Unadjusted hourly prod		64.3 LCY/hr				
Materials consistency d	escription:	Consolid	ated stockpile 1.0			
Average push gradient: Average site altitude:	0 % 7,500 fee	t				
Material weight:	2,900 lbs	/LCY				
Weight description:	Decompo	osed rock - 5	0% Rock, 50% Ea	rth		
Job Condition Correction				Source		
	erator Skill:		750	(AVG.)		
	consistency:		000	(CAT HB)		
Doz	ving method:		000	(GEN.)		
T_1	Visibility:		000	(AVG.)		
JOI	b efficiency:		830	(1 SHIFT/DAY)		
	Spoil pile:	0.	600	(FND-SF)		

Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.2962

Adjusted unit production:	137.53 LCY/hr
Adjusted fleet production:	137.53 LCY/hr

# JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.634/LCY

Total job time:7.06 HoursTotal job cost:\$615

# BULLDOZER WORK

Task description: <b>Re</b>	eplace topsoil on CO-14-01 through C	CO-14-09 disturbance		_
King Coal Mine	Permit Action: <u>RN7</u>	Permit/Job#:	C1981035	
PROJECT IDENTIFICAT	<u> TION</u>			
Task #:       411         Date:       5/9/2017         User:       JHB	State:     Colorado       County:     La Plata	A	bbreviation: Filename:	None C035-411
Agency or orga	nization name: DRMS			
HOURLY EQUIPMENT				
Basic Machine: Cat D Horsepower: 96	5K XL - 5P			
1	Angle Tilt			
Attachment: NA				
Shift Basis: 1 per	day			
Data Source: (CRG	)			
Cost Breakdown:		Utilization %		
Ownership Cost/Hour:	\$22.82	NA		
Operating Cost/Hour:	\$22.47	100		
Ripper own. Cost/Hour:	\$0.00	NA		
Ripper op. Cost/Hour:	\$0.00	0		
	\$41.85	NA		
Operator Cost/Hour: Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE	\$87.14 \$87.14 ES			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE Initial Volume: _417	\$87.14			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE	\$87.14 <u>ES</u>			
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANTITIE</u> Initial Volume: <u>417</u> Swell factor: <u>1.125</u>	\$87.14 E <u>S</u> EY			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE Initial Volume: 417 Swell factor: 1.125 Loose volume: 469 LC	\$87.14 <u>ES</u> <u>'Y</u> _9 pads, 50' x 50', 0.5' depth			
Total unit Cost/Hour: Total Fleet Cost/Hour: <u>MATERIAL QUANTITIE</u> Initial Volume: 417 Swell factor: 1.125 Loose volume: 469 LC Source of estimated volume:	\$87.14 <u>ES</u> <u>Y</u> <u>9 pads, 50' x 50', 0.5' depth</u> Cat Handbook			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE Initial Volume: 417 Swell factor: 1.125 Loose volume: 469 LC Source of estimated volume: Source of estimated swell factor HOURLY PRODUCTION	\$87.14 <u>ES</u> <u>Y</u> <u>9 pads, 50' x 50', 0.5' depth</u> Cat Handbook			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE Initial Volume: 417 Swell factor: 1.125 Loose volume: 469 LC Source of estimated volume: Source of estimated swell factor HOURLY PRODUCTION Average push distance:	\$87.14 <u>ES</u> <u>9 pads, 50' x 50', 0.5' depth</u> or: <u>Cat Handbook</u> <u>50 feet</u>			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:       417         Swell factor:       1.125         Loose volume:       469 LC         Source of estimated volume:       Source of estimated swell factor	\$87.14 <u>ES</u> <u>9 pads, 50' x 50', 0.5' depth</u> <u>0 Cat Handbook</u> <u>50 feet</u> <u>464.3 LCY/hr</u>			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Volume:         417         Swell factor:         1.125         Loose volume:         469 LC         Source of estimated volume:         Source of estimated swell factor         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly production:	\$87.14 <u>ES</u> <u>9 pads, 50' x 50', 0.5' depth</u> <u>0 Cat Handbook</u> <u>50 feet</u> <u>464.3 LCY/hr</u>			
Total unit Cost/Hour: Total Fleet Cost/Hour: MATERIAL QUANTITIE Initial Volume: 417 Swell factor: 1.125 Loose volume: 469 LC Source of estimated volume: Source of estimated swell factor HOURLY PRODUCTION Average push distance: Unadjusted hourly production: Materials consistency descripti Average push gradient:	\$87.14 ES 2Y 9 pads, 50' x 50', 0.5' depth Cat Handbook N 50 feet 464.3 LCY/hr on: Consolidated stockpile 1.4 0 %			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:       417         Swell factor:       1.125         Loose volume:       469 LC         Source of estimated volume:       Source of estimated swell factor         HOURLY PRODUCTION       Average push distance:         Unadjusted hourly production:       Materials consistency descripti         Average push gradient:	\$87.14 ES Y 9 pads, 50' x 50', 0.5' depth Cat Handbook V 50 feet 464.3 LCY/hr on: Consolidated stockpile 1.0 0 % 7,500 feet			
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:         417         Swell factor:         1.125         Loose volume:         469 LC         Source of estimated volume:         Source of estimated volume:         Source of estimated swell factor         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly production:         Materials consistency descripti         Average site altitude:         Material weight:         Weight description:         Job Condition Correction Factor	\$87.14 ES Y Pr: 9 pads, 50' x 50', 0.5' depth Cat Handbook N 50 feet 464.3 LCY/hr on: Consolidated stockpile 1.0 0 % 7,500 feet 2,550 lbs/LCY Earth - Dry packed Dr	 0 <u></u> <u></u> <u></u>		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:       417         Swell factor:       1.125         Loose volume:       469 LC         Source of estimated volume:       Source of estimated volume:         Source of estimated swell factor       HOURLY PRODUCTION         Average push distance:       Unadjusted hourly production:         Materials consistency descripti       Average push gradient:         Average site altitude:	\$87.14 ES 	 0 <u>Source</u> (AVG.)		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:         417         Swell factor:         1.125         Loose volume:         469 LC         Source of estimated volume:         Source of estimated volume:         Source of estimated swell factor         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly production:         Materials consistency descripti         Average site altitude:         Material weight:         Weight description:         Job Condition Correction Factor	\$87.14         ES $2Y$ $9$ pads, 50' x 50', 0.5' depth         Cat Handbook $464.3$ LCY/hr         on:       Consolidated stockpile 1.0 $0\%$ $7,500$ feet $2,550$ lbs/LCY         Earth - Dry packed $0.750$ ency: $1.000$	 0 <u></u> <u></u> <u></u>		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         MATERIAL QUANTITIE         Initial Volume:       417         Swell factor:       1.125         Loose volume:       469 LC         Source of estimated volume:       Source of estimated volume:         Source of estimated swell factor       HOURLY PRODUCTION         Average push distance:       Unadjusted hourly production:         Materials consistency descripti       Average push gradient:         Average site altitude:	\$87.14         ES $2Y$ 9 pads, 50' x 50', 0.5' depth         Cat Handbook $464.3 LCY/hr$ on:       Consolidated stockpile 1.4         0 %         7,500 feet         2,550 lbs/LCY         Earth - Dry packed         Or         Skill:       0.750         ency:       1.000	0 <u>Source</u> (AVG.) (CAT HB)		
Total unit Cost/Hour:         Total Fleet Cost/Hour:         Initial Volume:         417         Swell factor:         1.125         Loose volume:         469 LC         Source of estimated volume:         Source of estimated swell factor         HOURLY PRODUCTION         Average push distance:         Unadjusted hourly production:         Materials consistency descripti         Average push gradient:         Average site altitude:         Material weight:         Using met	\$87.14         ES $2Y$ $9$ pads, 50' x 50', 0.5' depth         Cat Handbook $M$ $50$ feet $464.3$ LCY/hr         on:       Consolidated stockpile 1.4 $0\%$ $7,500$ feet $2,550$ lbs/LCY         Earth - Dry packed $0$ $0.750$ ency: $1.000$ thod: $1.000$	 0  0  (AVG.)  (CAT HB)  (GEN.)		

Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.902	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3369

Adjusted unit production:	156.42 LCY/hr
Adjusted fleet production:	156.42 LCY/hr

# JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.557/LCY

Total job time:3.00 HoursTotal job cost:\$261

# **REVEGETATION WORK**

Task description: King II		King II-Broadcast seed	CO-14-01 thru CO-	09 disturbance	
Site: King Coal Mine		Permit Act	ion: RN7	Permit/Job#: C1981035	
PROJECT I Task #:	<b>DENTIFIC</b> 412	CATION State:	Colorado	Abbreviation:	None
Date:	5/9/2017	County:	La Plata	Abbrevitation. Filename:	C035-412
User:	JHB	County.	Du Thuu		0000 112
	Agency or o	organization name: DR	MS		

# **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
Bluebunch Wheatgrass - Secar	3.48	11.18	\$26.69
Switchgrass - Pathfinder	1.50	13.40	\$14.96
Mountain Brome - Bromar	3.64	5.85	\$15.83
Burnett, Small (or Little) - Delar	5.22	6.59	\$13.05
Sheep Fescue - Bighorn	0.62	9.68	\$2.93
Thickspike Wheatgrass - Critana	2.32	8.20	\$13.32
Western Wheatgrass - Native	5.08	12.83	\$35.56
Flax, Lewis Blue	0.92	6.10	\$15.18
Totals Seed Mix	22.78	73.83	\$137.52

Application

Description	Cost /Acre	
Broadcast seeding [DMG]	\$267.22	
Total See	Application Cost/Acre \$267.22	

# **MULCHING and MISCELLANEOUS**

### Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	\$261.00	\$522.00
Total Mulch Materials Cost/Acre				\$522.00

# Application

Description		Cost /Acre
Hand spread, 1" deep (MEANS 32 91 13.16 0200)		\$3,097.60
	Total Mulch Application Cost/Acre	\$3,097.60

# **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:	0.52	Cost /Acre:	\$4,024.34
Estimate	ed Failure Rate:	50%	Cost /Acre*:	\$404.74
*Selected Replanti	*Selected Replanting Work Items:			
Initial Job Cost:	\$2,092.66			
Reseeding Job Cost:	\$105.23			
Total Job Cost:	\$2,198			
Job Hours:	9.00			

# BOREHOLE SEALING WORK

	Task description:	King II - se	al downgradien	t monitoring well			
Site:	King Coal Mine		Permit Action:	RN7	Permit/.	Job#:	C1981035
<u>PROJE</u>	CT IDENTIFICATION	N					
Task #: Date:	· · · · · · · · · · · · · · · · · · ·	State: County:	Colorado La Plata		Abbreviation: Filename:	Non	e 5-500
User		County.			Filename.		3-300
	Agency or organizat	ion name:	DRMS				

# **UNIT COSTS**

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Seal Hole	Granular bentonite (Bag, material cost only50 lb. bag)	4	15	10.00	bag	\$18.60	\$186.00
Cut Casing	Exposed casing removal - Calculate Circumference in Linear Feet	4	1.05	1.05	LF	\$1.77	\$1.86
Mark Hole	Borehole location/identification marker (EA, material cost only)	4	1	1.00	EA	\$3.67	\$3.67
Drill Rig Time	GENERIC 3.0 in 1, 700 ft. capy.	4	15	4.00	EA	\$26.04	\$104.16
Water Truck Time	Water Tanker, 2,500 Gal.	4	15	4.00	EA	\$22.62	\$90.48

Job Hours: 4.00

Total Cost: \$386.00

# BOREHOLE SEALING WORK

Т	ask description:	Plug and Se	eal MW-1, 2, 3 a	and 4 Cluster	rs (12 Wells) TR26		
Site:	King Coal Mine		Permit Action:	RN7	Permit/	Job#: C1981035	
<u>PROJEC</u>	CT IDENTIFICATIO	<u>N</u>					
Task #: Date: User:	501 5/9/2017 JHB	State: County:	Colorado La Plata		Abbreviation: Filename:	None C035-501	
	Agency or organiza	tion name:	DRMS				

# UNIT COSTS

Borehole Description	Sealing/Item Method	Diameter	Length	Quantity	Unit	Unit Cost	Total Cost
Install Plugs, Cliffhouse SS, 4 x 6" wells	PVC plug - 6 in. diameter borehole	6	NA	4.00	EA	\$54.14	\$216.56
Install Plugs, "A: Coal Seam and Menefee Interburden, 8 x 2" Wells	PVC plug - 2 in. diameter borehole	2	NA	8.00	EA	\$21.67	\$173.36
Seal Wells	Portland cement grout ( Bag, material cost only94 lb. bag)	4x6" & 8x2"	1031	68.00	bag	\$10.55	\$717.40
Cut Casings	Exposed casing removal - Calculate Circumference in Linear Feet	7"	4 x 7"	7.30	LF	\$1.77	\$12.92
Cut Casings	Exposed casing removal - Calculate Circumference in Linear Feet	6"	8x6"	12.60	LF	\$1.77	\$22.30
Install Markers	Borehole location/identification marker (EA, material cost only)	NA	NA	12.00	EA	\$3.67	\$44.04
Drill Rig	ATLAS COPCO ROC D7-11,4.0 in.	NA	NA	53.00	EA	\$130.16	\$6,898.48
Water Truck	Water Tanker, 2,500 Gal.	NA	NA	53.00	EA	\$22.62	\$1,198.86

Job Hours: 53.00

Total Cost: \$9,284.00

# **DEMOLITION WORK**

Т	Task description:	Remove MW-1,2,3,4 Well	Clusters Cem	nent Pads/Poles TR26	
Site:	King Coal Mine	Permit Action:	RN7	Permit/Jo	ob#: <u>C1981035</u>
<u>PROJE(</u>	CT IDENTIFICAT	ION			
Task #: Date:	502 5/10/2017	State: <u>Colorado</u> County: La Plata			None C035-502
User:	JHB				0000-002
	Agency or organ	ization name: DRMS			
UNIT CO	OSTS			Location adjust	tment: 93.10 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Cement Pads	3'x3'x4"	Demo. and on-site	72.00	SF	\$0.40	\$28.66
3'x3'x4" Pads x 6	Pad/well	disposal in existing				
Pads		pit, 4 in. thick - Max.				
		50 ft. push				
4" x 6' Steel poles	48(4" dia. X	Pipe, steel, welded	288.00	LF	\$1.16	\$334.08
	6' poles)	connections - 4 in.				
		diameter pipe				
disposal of poles	48 poles	Dump fees - Rubbish	2.10	CY	\$9.45	\$19.85
		only				

				<b>Total Cost</b>	
		Subtotal		(adjusted for	
Job Hours:	0.00	(unadjusted):	\$382.59	location):	\$356.19

# BULLDOZER WORK

Task description:	Regrade drill pa	ds and pits (	MW-1, 2, 3, 4)		
: King Coal Mine	Per	mit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDENTIF	ICATION				
Task #: 503	State:	Colorado		Abbreviation:	None
Date: $5/10/2017$	County:	La Plata		Filename:	C035-503
User: JHB	County:			T nonune.	0000 000
Agency or orga	nization name: DF	RMS			
HOURLY EQUIPMI	ENT COST				
	D6T XL		_		
Horsepower: 185			_		
	ni-Universal		_		
	hank ripper		_		
	er day		_		
Data Source: (CI	RG)		_		
Cost Breakdown:					
COSt Divardo will.			Utilization %		
Ownership Cost/Hour:		\$46.87	NA		
Operating Cost/Hour:		\$41.52	100		
Ripper own.					
Cost/Hour:		\$3.40	NA		
Ripper op. Cost/Hour:		\$1.00	50		
Operator Cost/Hour:		\$41.85	NA		
MATERIAL QUANT Initial Volume: 370 Swell factor: 1.16					
	LCY				
Loose volume. 431					
Source of estimated volu Source of estimated swel factor:		s, 50' x50', 1 book	' depth		
HOURLY PRODUC	TION				
Average nuch diston	50 feet				
Average push distance: Unadjusted hourly	444.6 LCY	hr			
production:	444.0 LUY/	111			
Materials consistency de	scription: Compa	cted fill or en	nbankment 0.9		
	-		nounkinent 0.7		
Average push gradient:	0 %				
Average site altitude:	7,500 feet				
Material weight:	2,900 lbs/LCY				
Weight description:	Decomposed rock	- 50% Rock,	50% Earth		
Job Condition Correction	Factor		Source		
<u>Operator</u>		750	(AVG.)		
Material consist		.900	(CAT HB))		
iviateriai consisi	U	.700	(САТ ПВ))		

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)

Adjusted unit production:	158.01 LCY/hr
Adjusted fleet production:	158.01 LCY/hr

# JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.852/LCY

Total job time:2.73 HoursTotal job cost:\$367

# BULLDOZER WORK

King Coal Mine		Permit Action:	RN7	Permit/Job#:	C1981035
PROJECT IDENI	<b>TIFICATION</b>				
Task #: 504		State: Colorado		Abbreviation:	None
Date: $5/10/20$		ounty: La Plata		Filename:	C035-504
User: JHB					
Agency or o	rganization name	: DRMS			
HOURLY EQUIP	MENT COST				
Basic Machine:	Cat D6T XL				
Horsepower:	185				
Blade Type:	Semi-Universal				
Attachment:	NA				
Shift Basis:	1 per day				
	(CRG)				
			_		
Cost Breakdown:			TT/11 .1 0/		
		<b>6460</b>	<u>Utilization %</u>		
Ownership Cost/Ho		\$46.87	NA		
Operating Cost/Ho		\$41.52	100		
Ripper ow Cost/Hot		\$0.00	NA		
Ripper op. Cost/Ho		\$0.00	0		
Operator Cost/Hot		\$41.85			
Operator Cost/Ho	ui	\$41.03	NA		
Total Fleet Cost/Hour					
MATERIAL QUA Initial Volume: _5	NTITIES				
MATERIAL QUA Initial Volume: _5	NTITIES				
MATERIAL QUA Initial Volume: 5 Swell factor: 1	NTITIES				
MATERIAL QUA Initial Volume: 5 Swell factor: 1	.NTITIES 339 .000 39 LCY rolume: De	epths from Section 2 tt Handbook	2.04.9		
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s	INTITIES           339           .000           339 LCY           rolume:         Define Ca           well         Ca		2.04.9		
MATERIAL QUA Initial Volume: 5 Swell factor: 1 Loose volume: 5 Source of estimated v Source of estimated s factor: HOURLY PRODU	NTITIES 339 .000 339 LCY rolume: De well Ca UCTION	tt Handbook	2.04.9		
MATERIAL QUA Initial Volume: 5 Swell factor: 1 Loose volume: 5 Source of estimated v Source of estimated s factor:	INTITIES           339           .000           339 LCY           rolume:         De           well         Ca           UCTION           e:         _50 fe	tt Handbook	2.04.9		
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly	NTITIES           339           .000           339 LCY           rolume:         De           well         Ca           UCTION           e:         _50 fe           _444.	tt Handbook			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency	NTITIES           339           .000           339 LCY           rolume:         Dewell           well         Ca           UCTION           e:         50 fewer           444.	eet 6 LCY/hr			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency         Average push gradier	NTITIES           339           .000           339 LCY           rolume:         Dewell           well         Ca           UCTION           e:         50 fe           444.           r           description:           nt:         0 %	eet 6 LCY/hr			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency	NTITIES           339           .000           339 LCY           rolume:         Dewell           well         Ca           UCTION           e:         50 fe           444.           r           description:           nt:         0 %	eet 6 LCY/hr			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency         Average push gradier	NTITIES           339           .000           339 LCY           rolume:         Dewell           well         Ca           UCTION           e:         50 fe           444.           r           description:           nt:         0 %	eet 6 LCY/hr Partly consolidated			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency         Average push gradier         Average site altitude:         Material weight:	$\frac{\text{NTITIES}}{339}$ $\frac{39}{339}$ $\frac{39}{339}$ $\frac{539}{200}$ $\frac{50}{6}$ $\frac{50}{6}$ $\frac{50}{6}$ $\frac{50}{6}$ $\frac{444}{4}$ $\frac{50}{6}$ $\frac{6}{6}$ $\frac{6}{6}$ $\frac{6}{6}$ $\frac{6}{6}$	eet 6 LCY/hr Partly consolidated			
MATERIAL QUA Initial Volume: 5 Swell factor: 1 Loose volume: 5 Source of estimated v Source of estimated s factor: HOURLY PRODU Average push distanc Unadjusted hourly production: Materials consistency Average push gradier Average site altitude:	$\frac{\text{NTITIES}}{339}$ $\frac{339}{339 \text{ LCY}}$ $\frac{\text{JCY}}{\text{rolume:} \underline{De}}{2000}$ $\frac{\text{JCTION}}{100}$ $\frac{\text{JCTION}}{100}$ $\frac{1000}{100}$ $\frac{1000}{100}$ $\frac{1000}{100}$ $\frac{1000}{100}$	eet 6 LCY/hr Partly consolidated			
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency         Average push gradier         Average site altitude:         Material weight:         Weight description:         Job Condition Correct	$\frac{\text{NTITIES}}{339}$ $\frac{339}{339 \text{ LCY}}$ $\frac{339 \text{ LCY}}{339 \text{ LCY}}$ $\frac{\text{Journe: Dewell Ca}}{444}$ $\frac{\text{JCTION}}{444}$ $\frac{\text{JCTION}}{444}$ $\frac{1,600 \text{ lbs/L}}{1,600 \text{ lbs/L}}$ $\frac{1,600 \text{ lbs/L}}{100 \text{ Factor}}$	eet 6 LCY/hr Partly consolidated CY	stockpile 1.1		
MATERIAL QUA         Initial Volume:       5         Swell factor:       1         Loose volume:       5         Source of estimated v         Source of estimated v         Source of estimated s         factor:         HOURLY PRODU         Average push distanc         Unadjusted hourly         production:         Materials consistency         Average push gradier         Average site altitude:         Material weight:         Weight description:         Job Condition Correct	$\begin{array}{c} \underline{\textbf{NTITIES}} \\ \underline{339} \\ \underline{.000} \\ \underline{339} \\ \underline{\text{LCY}} \\ \underline{\textbf{rolume:}} \\ \underline{\textbf{De}} \\ \underline{\textbf{vell}} \\ \hline \textbf{Ca} \\ \underline{\textbf{VCTION}} \\ \underline{\textbf{e:}} \\ \underline{50 \text{ fe}} \\ \underline{444.} \\ \underline{\textbf{rop}} \\ \underline{\textbf{description:}} \\ \underline{\textbf{not}} \\ \underline{0,050 \text{ feet}} \\ \underline{1,600 \text{ lbs/L}} \\ \underline{\textbf{Top Soil}} \\ \underline{\textbf{tion Factor}} \\ \underline{\textbf{tor Skill:}} \\ \underline{\textbf{tor Skill:}} \\ \underline{\textbf{not}} \\ \textbf{constant of the set of$	eet 6 LCY/hr Partly consolidated	stockpile 1.1		

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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Adjusted unit production:	350.21 LCY/hr
Adjusted fleet production:	350.21 LCY/hr

# JOB TIME AND COST

Fleet size:	1 Dozer(s)
Unit cost:	\$0.372/LCY

Total job time:1.54 HoursTotal job cost:\$200

# **REVEGETATION WORK**

PROJECT IDENTIFICA			
	TION		
Task #:         505           Date:         5/10/2017           User:         JHB	State: Colorado County: La Plata	 Abbreviation: Filename:	None C035-505
Agency or organizat	ion name: DRMS	 	

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
Hand raking (MEANS 32 91 13.23 0250)	\$1,328.58
Total Tilling Cost/Acre	\$1,328.58

# **SEEDING**

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	1.20	19.59	\$19.50
Indian Ricegrass - Paloma	2.90	9.39	\$28.28
Bitterbrush, Antelope	17.42	5.36	\$339.69
Mountain Brome - Bromar	3.48	5.59	\$15.14
Sideoats Grama - Butte	2.00	6.57	\$19.34
Burnett, Small (or Little) - Delar	5.80	7.32	\$14.50
Slender Wheatgrass - San Luis	2.48	9.05	\$8.04
Mahogany, Mountain	9.68	13.11	\$356.32
Western Wheatgrass - Arriba	4.36	11.01	\$35.23
Globemallow, Scarlet (or copper)	0.88	9.96	\$119.24
Sumac, Skunkbrush	8.72	4.08	\$183.12
Winter Fat	3.88	9.89	\$79.54
		110.92	\$1,217.93

CIRCES Cost Estimating Software

Totals Seed Mix 62.80
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# Application Cost /Acre Description \$267.22 Broadcast seeding [DMG] \$267.22 Total Seed Application Cost/Acre

# **MULCHING and MISCELLANEOUS**

### Materials

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

# Application

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

### **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 Act	es: 1	Cost /Acre:	\$2,813.73
Estimated Failure Ra	ate: 20%	Cost /Acre*:	\$1,485.15
*Selected Replanting Work Iter	ms: SEEDING	· ·	·
Initial Job Cost: \$2,813.73			
Reseeding Job Cost: \$297.03			
Total Job Cost: \$3,111			
Job Hours: <b>1.00</b>			