

1765364 - R8 SDMS

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Division of Minerals and Geology



COLORADO DIVISION OF MINERALS AND GEOLOGY  
MINERALS PROGRAM INSPECTION REPORT  
PHONE: (303) 866-3567

The Division of Minerals and Geology has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance of the mining operation with the permit and the regulations of the Mined Land Reclamation Board. The report notes 1) Areas of successful compliance; 2) Problems and suggested corrective actions and/or 3) Possible violations to be considered for possible enforcement action by the Mined Land Reclamation Board. OPERATORS SHOULD READ THIS REPORT CAREFULLY BECAUSE IT MAY REQUIRE CORRECTIVE ACTION AND/OR RESPONSES TO THE DIVISION IN ORDER TO AVOID CONSIDERATION OF POSSIBLE ENFORCEMENT ACTION BY THE MINED LAND RECLAMATION BOARD.

MINE NAME: Gold King Mine OPERATOR: Gold King Mines Corporation  
COUNTY: San Juan MINERAL: Au, Ag, Cu, Pb, Zn TYPE OF OPERATION: 110-d Underground  
INSPECTOR(S): Wallace H. Erickson, Harry H. Posey  
MINE ID # OR PROSPECTING ID #: M-1986-013  
INSPECTION DATE: 4/8/04 DATE OF COMPLAINT: NA  
INSPECTOR'S INITIALS: WHE TIME OF DAY (MILITARY): 1200  
INSPECTION TYPE CODE<sup>(1)</sup>: SI POST INSP. CONTACTS<sup>(2)</sup>: NO  
JOINT INSP. AGENCY CODE<sup>(2)</sup>: NO REASON FOR INSP. CODE<sup>(3)</sup>: IE  
WEATHER CODE<sup>(4)</sup>: CL BOND CALCULATION TYPE<sup>(5)</sup>: BC  
OPERATOR REP. PRESENT: None Present

1. INSPECTION TYPE CODE - [CL-IN: IL=Illegal Operation, MI=Monitoring, MP=Mineral Prospect, SI=Surety-related, PR=Pre-operation]
2. POST INSPECTION CONTACTS AND JOINT INSPECTION AGENCY CODE - [CL-AG: NO=None, BL=BLM, CH=Colo. Dept. Health; CL=Land Board, CT=Citizen; CW=Wildlife, FS=Forest Service, HW=Hwy. Dept., LG=Local Government, SE=State Engr.]
3. REASON FOR INSPECTION CODE - [CL-RS: AG=Other Agency Request, CT=Citizen Complaint, IE=Normal I&E Program, HP=High Priority, PY=Priority]
4. WEATHER CODE - [CL-WE: CL=Cloudy, CR=Clear, IN=Inclement - prevented inspection, RN=Raining, SN=Snowing, WD=Windy]
5. BOND CALCULATION TYPE CODE - [BC=Complete Bond, BP=Partial Bond, NN=None]

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. IF PB OR PV IS INDICATED, YOU SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF YOUR PERMIT AND APPLICABLE RULES AND REGULATIONS. If PV is indicated, you will be notified under separate cover when the Mined Land Reclamation Board will consider possible enforcement action.

GENERAL INSPECTION TOPICS

(AR) RECORDS..... <u>Y</u>	(FN) FINANCIAL WARRANTY..... <u>PV</u>	(RD) ROADS..... <u>N</u>
(HB) HYDROLOGIC BALANCE..... <u>N</u>	(BG) BACKFILL & GRADING..... <u>N</u>	(EX) EXPLOSIVES..... <u>N</u>
(PW) PROCESSING WASTE/TAILINGS <u>N</u>	(SF) PROCESSING FACILITIES..... <u>N</u>	(TS) TOPSOIL..... <u>N</u>
(MP) GENL MINE PLAN COMPLIANCE. <u>PB</u>	(FW) FISH & WILDLIFE..... <u>N</u>	(RV) REVEGETATION..... <u>N</u>
(SM) SIGNS AND MARKERS..... <u>N</u>	(SP) STORM WATER MGT PLAN... <u>N</u>	(SB) COMPLETE INSP..... <u>N</u>
(ES) OVERBURDEN/DEV. WASTE..... <u>N</u>	(SC) EROSION/SEDIMENTATION.. <u>N</u>	(RS) RECL PLAN/COMP.... <u>PB</u>
(AT) ACID OR TOXIC MATERIALS..... <u>N</u>	(OD) OFF-SITE DAMAGE..... <u>N</u>	(ST) STIPULATIONS..... <u>NA</u>

Y=Inspected and Found in Compliance PV=Inspected and Possible Violations Noted PB=Inspected and Problems Noted  
N = Not Inspected NA = Not Applicable

ORIGINAL - Public File

DMG-014

MINE ID # OR PROSPECTING ID # M-1986-013  
INSPECTION DATE 4/8/04

INSPECTOR'S INITIALS WHE

### **OBSERVATIONS**

This inspection occurred to document the extent of affected lands and to review the cost of reclamation and corresponding amount of financial warranty required for the operation as of March 24, 2004, and to prepare information relative to a then-proposed April, 2004 Board hearing over loss of financial warranty.

The Gold King Mine is located approximately 8 miles north of Silverton, in the NW ¼ of Section 21, T42N, R7W, NMPM, San Juan County, Colorado. The permit is approved for 9.9 acres affected area for underground extraction of precious metals ore. DMG set a \$47,270 financial warranty, which covers surface reclamation. Affected lands will be reclaimed to support wildlife habitat post-mining land use.

The Gold King Mine is located at 12,000 feet elevation. DMG could not access the site due to snow depth and unplowed roads. DMG will return and conduct a complete inspection of all permit areas after snowmelt.

Operations have been in Temporary Cessation status since October 1, 1998. Therefore, activities at the permit area have been limited to maintenance and/or compliance activities since 1998, and installation of the pipeline from the Level 7 Gold King portal to the American Tunnel facility. DMG documents indicate that although the permit is approved for 9.9 acres affected area, mining activities have only affected 4.67 acres. The 4.67 acres includes four portals with associated access roads and waste rock stockpiles, all established prior to the DMG permit. The four portals include the Level 1 portal, highest elevation of Gold King Mine workings and utilized as ventilation and emergency escape; the Samson portal below; and the Level 7 portal, lowest elevation of Gold King workings and utilized as primary mine access. Some time after permit issuance but prior to 1995, the Level 7 portal caved and the operator drove a new portal (fourth portal) beside the old collapsed portal. Permit application documents indicate that all portal for the Gold King Mine were dry portals with no significant mine discharge, presumably due to drawn-down of the American Tunnel portal, which is lower in elevation than the Level 7 portal.

During 1995 the first of three hydrologic bulkheads was constructed by Sunnyside Gold Corporation in the American Tunnel. The mine pool created behind the bulkhead in the American Tunnel reached the same approximate elevation as the Level 7 Gold King portal. DMG records indicate mine drainage from the Gold King Level 7 portal beginning in late 1995. Permit documents indicate that the original permittee for the Gold King Mine did not anticipate flooding of the Gold King Mine from the American Tunnel mine pool due to the absence of man-made connection in the underground workings between the two mines. Permit documents indicate that underground workings for the Gold King Mine do not approach the workings for the American Tunnel closer than 500 feet.

In May 2001, Water Quality Control Division (WQCD) issued Colorado Discharge Permit System (CDPS) CO-0027529 to Gold King Mines Corporation for the Level 7 portal discharge. In October 2002, Gold King installed a 3,500-foot pipeline from the Level 7 portal to the water treatment facility at American Tunnel, to convey the mine drainage to the treatment facility. In January 2003, ownership of the water treatment facility and the associated WQCD permit was transferred to Gold King Mines Corporation. Currently, DMG is reviewing a new permit application, submitted by Gold King Mines Corporation, to bring the American Tunnel water treatment facility under a new reclamation plan. The reclamation permit for the American Tunnel water treatment facility will be a separate permit and independent from the Gold King Mine permit.

The pipeline from the Level 7 portal to the water treatment facility was originally installed to ensure compliance with the WQCD discharge permit issued first to Sunnyside Gold and transferred to Gold King Mines. The DMG did not ask for and Gold King Mines did not submit plans for adding the pipeline to the Gold King permit. However, upon further review, DMG is requiring that the pipeline be added to the Gold King permit and that bond be established for its maintenance, even though it is anticipated that this structure may remain after mining and reclamation have been completed. As of the date of this inspection DMG has not received the pipeline revision to the Gold King reclamation plan.

DMG has reviewed the current cost of reclamation totaling \$47,119. Therefore, the existing \$47,270 financial

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warranty appears sufficient to ensure reclamation. Copy of DMG's April 30, 2004 reclamation cost estimation, totaling \$47,119, is enclosed. Specific reclamation tasks and their costs are itemized in the enclosed 12 pages of summaries, calculations and data sheets.

The existing financial warranty does not include reclamation maintenance costs associated with the pipeline from the Level 7 portal to the American Tunnel water treatment plant because the existing reclamation plan pre-dates the pipeline and did not anticipate such pipeline. Reclamation maintenance cost for the pipeline will be included during the review of the pipeline revision when submitted by Gold King Mines Corporation. It is anticipated that DMG will calculate reclamation maintenance costs after a site visit, which will take place after snowmelt this season.

The previously existing \$47,270 financial warranty was in the form of corporate surety bond 400JY8370 with St. Paul Fire & Marine Insurance Company in the amount of \$42,000; and corporate surety bond 052480G080A with Travelers Indemnity Company, in the amount of \$5,000; and cash bond CA-86013, in the amount of \$270.

On March 24, 2004, the corporate surety bond 400JY8370, in the amount of \$42,000, canceled. During the April 28, 2004 Board meeting, the Board found Gold King Mines Corporation in violation of its permit conditions and of the Act and Rules for failure to maintain the financial warranty. The notice of violation for failure to maintain the financial warranty, MV-2004-024, will order Gold King Mines Corporation to replace the canceled bond within 30 days from the signature date of the Board Order. If Gold King Mines Corporation does not comply with the Board Order, DMG will pursue revocation of the permit and forfeiture of the entire \$47,270 financial warranty.

Pursuant to Minerals Rules and Regulations, a copy of this report is being forwarded to St. Paul Fire & Marine Insurance Company to document the extent of affected lands on the date of expiration of the bond.

Responses to this inspection report should be directed to the Division of Minerals and Geology, 701 Camino del Rio, Room 125, Durango, Colorado 81301, Attn: Wally Erickson, phone no. 970-247-5469.

I & E Contact Address

NAME Stephen C. Fearn  
OPERATOR Gold King Mines Corporation  
STREET P.O. Box 299  
CITY/STATE/ZIP Silverton, CO 81433

cc: Harry Posey, DMG

- ☐ CE
- ☐ BL
- ☐ FS
- ☐ HW
- ☐ HMWMD (CH)
- ☐ SE
- ☒ WQCD, Greg Brand, District Engineer
- ☒ St. Paul Fire & Marine Insurance Co.,  
Kelley Blake

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The following problems (PB) and/or possible violations (PV) (and suggested corrective actions) were identified during this inspection. The problems should be corrected by the dates given, or they will become possible violations. The possible violations should be corrected by the dates given to reduce their severity when considered by the Mined Land Reclamation Board. The inspector noted on the previous page should be notified of all corrective actions taken.

**PROBLEMS/POSSIBLE VIOLATIONS**  
**AND**  
**CORRECTIVE ACTIONS**

**CORRECTION**  
**DATE**

To Be Determined  
PB or PV: PV  
TOPIC(S): FW

→ →

1. On March 24, 2004, the corporate surety bond 400JY8370, in the amount of \$42,000, canceled. During the April 28, 2004 Board meeting, the Board found Gold King Mines Corporation in violation of its permit conditions and of the Act and Rules for failure to maintain the financial warranty. The Board Order containing the notice of violation for failure to maintain the financial warranty, MV-2004-024, will order Gold King Mines Corporation to replace the canceled bond within 30 days from the signature date of the Board Order. If Gold King Mines Corporation does not comply with the Board Order, DMG will pursue revocation of the permit and forfeiture of the entire \$47,270 financial warranty.

**CORRECTIVE ACTION:** Comply with the corrective actions specified in the Board Order for MV-1004-024.

2. In October 2002, Gold King installed a 3,500-foot pipeline from the Level 7 portal to the water treatment facility at American Tunnel. The pipeline was originally installed to ensure compliance with the WQCD discharge permit. DMG did not ask for and Gold King Mines did not submit plans for adding the pipeline to the Gold King permit. Upon further review, DMG is requiring that the pipeline be added to the Gold King permit and that bond be established for its maintenance, even though it is anticipated that this structure may remain after mining and reclamation have been completed.

June 7, 2004  
PB or PV: PB  
TOPIC(S): MP  
RS →

**CORRECTIVE ACTION:** Within 30 days of the signature date of this inspection report, by June 7, 2004, submit either an amendment to the existing 110-d permit OR submit a conversion application, converting the existing 110-d permit to a 112-d permit, which includes all portions of the pipeline into the Gold King permit. The new permit application shall provide full engineering plans and materials utilized for the pipeline. The new permit application shall include cost estimation addressing maintenance of the pipeline for a five-year period, including replacement of portions or the entire pipeline during winter conditions, as well as final removal of the pipeline and reclamation of lands affected by the pipeline.

Attachment: DMG's 4/30/04 reclamation cost estimation totaling \$47,119; and  
Certificate of Service

**CIRCES Cost Estimating Software**  
**COST SUMMARY FORM**

## PROJECT IDENTIFICATION

Date : 30-Apr-2004

User : WHE

Permit or job no. : **M-1986-013**

Abbreviation : none

Filename : **M013-000**

**Site : Gold King Mine**

**State : Colorado**

**County : San Juan**

Agency or organization name : *DMG*

**Permit or job action :** *Routine 110-d bond update*

### TASK LIST (DIRECT COSTS)

[illegible]

SUBTOTALS:	94.29	\$36,838
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\* includes inflation factor adjustment of : NA %

TOTAL DIRECT COST *	\$36,838
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### INDIRECT COSTS

**OVERHEAD AND PROFIT -**

Liability insurance :	1.55	% of direct	total =	\$571
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Performance bond : 1.05 % of direct total = \$387

Job superintendent : 47.14 hrs\*...\$/hr: \$35.00 total = \$1,650

Profit :	10.00	% of direct	total =	\$3,684
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\* assume net hours = 50% of task hours

**TOTAL O & P = \$6,292**

**LEGAL - ENGINEERING - PROJECT MANAGEMENT -**

**CONTRACT AMOUNT (direct + O & P) = \$43.130**

**Financial warranty processing (legal/related costs) :** **total =**

Engineering work and/or contract/bid preparation :	4.25	% of cntr.	NA	total =	\$1,833
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Reclamation management and/or administration :	5.00	% of cntr.	NA	total =	\$2,156
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CONTINGENCY -	NA*	NA	total =	NA
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\* contingencies accounted for at task level

**TOTAL INDIRECT COST = \$10,281**

**TOTAL BOND AMOUNT (direct + Indirect) = \$47,119**

**Total Cost : \$7,469**

**CIRCES Cost Estimating Software**  
**BULLDOZER WORK**

**PROJECT IDENTIFICATION**

Task # : 002 State : Colorado Permit/job# : M-1986-013  
Date : 04/30/2004 County : San Juan Abbreviation : none  
User : WHE Site : Gold King Mine Filename : M013-002

Agency or organization name : DMG

Permit or other job action : Routine 110-d bond update

Task description : Rip & grade 4.67 acres for positive drainage

**HOURLY EQUIPMENT COST**

Basic machine : Cat D8R Series II - 8SU

Horsepower : 310

Blade type : Semi-Universal

Attachment no. 1 : ROPS Cab

Shift basis : 1 per day

Attachment no. 2 : 3-shank ripper

Data source : (CRG)

Cost Breakdown :		Utilization %
Ownership cost/hour :	<u>\$49.85</u>	<u>NA</u>
Operating cost/hour :	<u>\$66.44</u>	<u>100</u>
Ripper op. cost/hour :	<u>\$3.51</u>	<u>50</u>
Operator cost/hour :	<u>\$31.83</u>	<u>NA</u>
Total unit cost/hour :	<u>\$151.64</u>	Total fleet cost/hour : <u>\$151.64</u>

**MATERIAL QUANTITIES**

Initial Swell Loose  
volume : 15,068 LCY factor : NA volume : 15,068 LCY

Source of estimated volume : (4.67ac)(43560sf/ac)(2'D)/27 = 15,068.5 cy

Source of estimated swell factor : NA

**HOURLY PRODUCTION**

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

Material consistency description :  
Compacted fill or embankment

Average push gradient : 0.00 % (pos)  
Average site altitude : 12,000 feet

Material weight : 2,900 lbs/LCY

Weight description :

Decomposed rock - 50% Rock, 50% Earth

**Job Condition Correction Factors**

		Source
Operator skill :	<u>0.75</u>	<u>(avg.)</u>
Material consistency :	<u>0.90</u>	<u>(Cat HB)</u>
Dozing method :	<u>1.00</u>	<u>(gen.)</u>
Visibility :	<u>1.00</u>	<u>(avg.)</u>
Job efficiency :	<u>0.83</u>	<u>(1shift/day)</u>
Spoil pile :	<u>0.80</u>	<u>(rnd-rl)</u>
Push gradient :	<u>1.00</u>	<u>(Cat HB)</u>
Altitude :	<u>0.94</u>	<u>(Cat HB)</u>
Material weight :	<u>0.79</u>	<u>(Cat HB)</u>
Blade type :	<u>1.00</u>	<u>(S/SU/U)</u>
Net correction :	<u>0.33</u>	

Adjusted unit production : 467.63 LCY/hr

Adjusted fleet production : 467.63 LCY/hr

**JOB TIME AND COST**

Fleet size : 1 Dozer(s)

Total job time : 32.22 Hours

Unit cost : \$0.324 /LCY

Total job cost : \$4,886

**CIRCES Cost Estimating Software****TRUCK/LOADER TEAM WORK****PROJECT IDENTIFICATION**

Agency or organization name : DMG

Task # : 003 State : Colorado Permit/job # : M-1986-013

Date : 04/30/2004 County : San Juan Abbreviation : none

User : WHE Site : Gold King Mine Filename : M013-003

Permit or other job action : Routine 110-d bond update

Task description : Haul and place earthen cover over waste rock dumps

**HOURLY EQUIPMENT COST**

Shift basis : 1 per day

		Equipment Description				
Truck/loader team -Truck :		Generic 10-12 cy, 6x4				
-Loader :		Cat 322C L				
Support equipment -Load area :		NA				
-Dump area :		Cat D8R Series II - 8SU				
Road maintenance -Motor grader :		NA				
-Water truck :		NA				
Cost Breakdown :		Truck/Loader Work Team		Support Equipment		Road Maintenance Equipment
		Truck	Loading Tool	Load Area	Dump Area	Motor Grader Water Truck
Import data filename :		truck2	excavate	NA	dazer	NA NA
% Utilization-machine :		88	100	NA	50	NA NA
-Ripper attachment :		NA	NA	NA	NA	NA NA
Ownership cost/hour :		\$18.52	\$28.63	NA	\$43.83	NA NA
Operating cost/hour :		\$19.32	\$33.28	NA	\$33.22	NA NA
Ripper op. cost/hour :		NA	NA	NA	\$0.00	NA NA
Operator cost/hour :		\$21.72	\$32.02	NA	\$31.83	NA NA
Unit subtotals :		\$57.56	\$93.92	NA	\$108.88	NA NA
Number of units :		4	1	0	1	0 0
Group subtotals :		Work :	\$324.16	Support :	\$108.88	Maintenance : \$0.00

Total work team cost/hour : \$433.04

**MATERIAL QUANTITIES**

Initial Swell Loose  
volume : 6,324 LCY factor : NA volume : 6,324 LCY

Source of quantity take-off : (1.96ac)/(43560sf/ac)/(2'D)/27 = 6324.3 cy

Source of estimated swell factor : NA

Material purchase cost : \$0.00 /LCY Total cost : \$0

**HOURLY PRODUCTION****Truck Capacity :**

Truck Payload (weight) Basis :		Truck Bed (volume) Basis :	
Material weight :	2,650 pounds/LCY	Struck volume :	10.00 LCY
Descr. : <u>Decomposed rock - 25% rock, 75% earth</u>		Heaped volume :	12.00 LCY
Rated payload :	35,400 pounds	Average volume :	11.00 LCY
Payload capacity :	13.36 LCY	Adjusted volume* :	12.00 LCY
Final truck volume based on number of loader passes :			11.22 LCY

\* truck volume adjusted to not exceed rated payload or heaped volume

**Loading Tool Capacity :**

Rated capacity (nom. heaped) : 1.700 LCY  
 Descr. : Other - rock/dirt mixtures ( 100-120% )  
 Bucket fill factor : 1.100  
 Adjusted bucket capacity : 1.870 LCY

**Job Condition Corrections :**

		Site altitude (ft.) : 12,000	
		Truck	Loader Source
Altitude adj. :	0.890	1.000	(Cat HB)
Job efficiency :	0.830	0.830	(1 shift/day)
Net correction :	0.739	0.830	



## Truck/Loader Team Work cont'd

Task #: 003

sheet 2 of 2

**Loading Tool Cycle Time :**

Number of loading tool passes required to fill truck : 6 passes

Excavators and front shovels - machine cycle time vs. job condition rating : AVERAGE

- selected value within basic rating : AVERAGE

Truck loaders - material descr. : NA

- cycle time elements (min.) : Load : NA Maneuver : NA Dump : 0.100

Wheel and track loaders - unadjusted basic loader cycle time ( load, maneuver, and dump ) NA minutes

Cycle Time Factors	Loading Condition Description	Factor (min.)	Source
Material	NA	NA	NA
Stockpile	NA	NA	NA
Truck ownership	NA	NA	NA
Operation	NA	NA	NA
Dump target	NA	NA	NA

Net cycle time adjustment : NA minutes

Adjusted loader cycle time (total time per loader pass) : 0.293 minutes

Net load time per truck\* : 1.565 minutes

**Truck Cycle Time :**

\* bulk of 1st loader cycle completed during truck exchange if adj. loader cycle time &lt; exchange time

Truck exchange time \*\*: 0.50 minutes..... Adjusted for site altitude : 0.562 minutes

Truck load time : 1.565 minutes..... Adjusted for site altitude : 1.565 minutes

Truck maneuver and dump time : 0.90 minutes..... Adjusted for site altitude : 1.011 minutes

\*\* set at 0 if exchange time &lt; adj. loader cycle time (truck exchange completed during 1st loader cycle)

Truck travel (haul &amp; return) time: Road condition : Rutted dirt, little maintenance, no water, 2" tire penetration

Haul route :

Road segment #	Haul distance (feet)	Grade res. (%)	Rolling res. (%)	Total resistance (%)	Speed (feet/minute)	Travel time * (minutes)
1	3,000	5.00	5.00	10.00	1068	2.838

Return route : Haul time \*\*: 3.189 minutes

Road segment #	Haul distance (feet)	Grade res. (%)	Rolling res. (%)	Total resistance (%)	Speed (feet/minute)	Travel time * (minutes)
1	3,000	-5.00	5.00	0.00	2938	1.060

\* travel time shown for each segment includes acceleration/deceleration adjustment

Return time \*\*: 1.191 minutes

\*\* total haul and return time shown includes altitude adjustment

Total truck cycle time : 7.518 minutes

Loading tool unit production : 318.53 LCY/hour..... Adjusted for job efficiency : 262.72 LCY/hour

Truck unit production : 89.54 LCY/hour..... Adjusted for job efficiency : 74.32 LCY/hour

Optimal no. trucks/loading tool : 4 trucks..... Selected no. trucks/loader : 4 trucks

Adjusted hourly truck team production : 297.27 LCY/hr

Adjusted hourly single truck/loader team production : 262.72 LCY/hr

Adjusted hourly multiple truck/loader team production : 262.72 LCY/hr

**JOB TIME AND COST**

Fleet size : 1 Team(s)

Total job time : 24.07 Hours

Unit cost : \$1,648 /LCY

Total job cost : \$10,424

### PROJECT IDENTIFICATION

Task no. : 004  
Date : 30-Apr-2004  
Time : W/E

Abbreviation: none

Filename: M213-024

Task description: Revegetate 6 acres affected lands

## FERTILIZING

	DESCRIPTION (data source)	UNITS / ACRE	UNIT	COST / UNIT	COST / ACRE
Masterfile	- item no. 1: Hydrated lime (MEANS 04060 400 0010)	3.00	ton	\$228.00	\$684.00
	- item no. 2: 10-34-0, 18-48-0, 5-10-5 (DMG survey data)	200.00	pound	\$0.23	\$43.39
	- item no. 3:				

**TOTAL FERTILIZER MATERIALS COST / ACRE : \$729.39**

### Application

- method no. 1 : Tractor applier (MEANS 02920 340 4050)
- method no. 2 : Tractor towed sprayer (MEANS 02920 340 4150)

TOTAL FERTILIZER APPLICATION COST / ACRE:	\$54.02
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## TILING

- method no. 1 : Disc harrowing, 6" deep (MEANS 02920 340 8100)
- method no. 2 :

**TOTAL TILLING COST / ACRE: \$68.82**

## SEEDING

SEEDING		RATE - PLS	NATIVE OR	WARM / COOL	SEEDS	COST
Seed Mixture: COMMON NAME - VARIETY	SCIENTIFIC NAME	LBS / ACRE	INTRODUCED	SEASON	PER SQ. FT.	PLS / ACRE
GRASSES, RUSHES and SEDGES:						
* NOTE: Table values on drill seed basis. Totals are doubled if any seeding method other than drill seeding is used.						
Alpine Bluegrass	<i>Poa alpina</i>	0.20	Native	Cool	4.6	\$2.18
Smooth Brome - Manchester	<i>Bromus inermis</i>	1.70	Introduced	Cool	5.7	\$4.03
Alpine Fescue	<i>Festuca brachyphylla</i>	0.17	Native	Cool	5.1	\$36.64
Slender Wheatgrass - Pryor	<i>Agropyron treshychaudum</i>	1.40	Native	Cool	5.1	\$7.59
Timothy, Alpine - Native	<i>Phleum alpinum</i>	0.25	Native	Cool	7.5	\$4.74
Meadow Fescue - Garrison	<i>Alopecurus pratensis</i>	0.30	Introduced	Cool	4.0	\$15.96
Needlegrass, Green - Lpdom	<i>Stipa viridula</i>	1.00	Native	Cool	4.2	\$12.32

**FORMS:**

[illegible]

## SHRUBS AND TREES (road):

[illegible]

\* TOTAL REEFS / SQ. FT. :

\* TOTAL POUNDS PLB / ACRE: 10.04

\* TOTAL SEED MIX COST / ACRE: \$167.32

Seed application - method : Broadcast seeding / DMG contract data

<b>TOTAL SEED APPLICATION COST / ACRE:</b>	<b>\$187.00</b>
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## MULCHING and MISCELLANEOUS

MISCELLANEOUS		DESCRIPTION (data source)	UNITS / ACRE	UNIT	COST / UNIT	COST / ACRE
Materials	- Item no. 1:	Straw, delivered (DMG survey data)	2.00	ton	\$98.50	\$173.00
	- Item no. 2:					
	- Item no. 8:					
	- Item no. 4:					

**TOTAL MULCH MATERIALS COST / ACRE: \$172.00**

## Application

- method no. 1: Power mulcher (MEANS 02910 500 0350)
- method no. 2: Crimping, with tractor (DAG survey data)
- method no. 3:

**TOTAL MULCH APPLICATION COST / ACRE: \$100.97**

### NURSERY STOCK PLANTING

[illegible]

**TOTAL NURSERY STOCK COST / ACRE: \$0.00**

**JOB COST**

No. of acres :	4.87
Estimated failure rate (percent) :	25.00%
* Selected replanting work items :	FT 3 M

Cost / acre :	<u>\$1,482.01</u>
Cost / acre*:	\$1,482.01

INITIAL JOB COST: \$1,835.68

REPAIRING JOB COST:	\$1,739.42
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<b>TOTAL JOB COST:</b>	<b>\$4.692</b>
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### PROJECT IDENTIFICATION

Permit or other job action : Routine 110-D Bond Update

Task description : Haul reclamation equipment to and from job site

Cost data source: CRC Data

	Available rig capacities:	0-25 Tons	26-50 Tons	51+ Tons
<b>Cost Breakdown:</b>	Ownership cost/hour:	\$24.34	\$28.99	\$39.09
	Operating cost/hour:	\$28.49	\$30.27	\$34.34
	Operator cost/hour:	\$27.07	\$27.07	\$27.07
	Helper cost/hour:	\$0.00	\$23.78	\$23.78
	Total Unit Cost/hour:	\$79.90	\$108.11	\$118.28

Total job time : 10.00 hours  
Total job cost : \$4,927

## CIRCES Cost Estimating Software

### EQUIPMENT COST AND PERFORMANCE DATA WORKSHEET

Machine make and model : Cat D8R Series II - 8SU

**Dozer blade type :**

**Attachment No. 1 : Dozer blade**

Attachment No. 2 : 3-5 shank ripper

CRG data update : Third Quarter, 2003

CECG data update : Second Quarter, 2003

Labor data update: 08-13-03

#### DATA SOURCE :

**Base costs :**

**Cost Reference Guide (CRG)**

Adjusted costs : Contractors Equipment Cost Guide (CECG)

Operator costs : Colorado Department of Transportation

Labor overhead : Colorado Department of Transportation

Specifications : Caterpillar Performance Handbook

BASE COSTS (CRG data)	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFO	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	O.E.C.
				Labor	Parts	Labor	Parts				
Basic Machine	\$21.67	\$5.07	\$8.78	\$8.04	\$12.49	\$8.72	\$12.08	\$17.15	\$4.63	\$0.00	\$2.01
Attachment no. 1	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Attachment no. 2	\$3.73	\$0.81	\$0.87	\$1.01	\$1.22	\$1.85	\$1.22	\$0.00	\$0.32	\$0.00	\$1.02

**COST ADJUSTMENT FACTORS (CECG data)**

Factor Description	Base Value	Adj. Value	Multipier
Acquisition cost :	\$462,015.00	\$385,332.60	0.769
Economic life hours - Base Machine :	13,245	10,458	1.267
Attachment no. 1 :	11,000	11,000	1.000
Attachment no. 2 :	8,200	8,200	1.000
Annual use hours :	2,112	1,525	1.385
Mechanic's labor cost :	\$35.46	\$25.36	0.715
Fuel cost per gallon - gasoline :	\$1.56	\$1.56	1.000
-diesel :	\$1.51	\$1.51	1.000
Lube cost :	\$4.63	\$4.63	1.000
Tire life hours :	0	0	1.000
Tire factor :	0.000	0.000	1.000
Tire cost :	\$0.00	\$0.00	1.000

  

ACQUISITION COST BREAKDOWN		
Cost Elements (CECG)	Factor	Adj. Cost
Base purchase price :		\$462,015.00
Less dealer discount :	0.142	\$65,606.13
Plus freight :	0.020	\$9,240.30
Plus dealer charges : *	0.005	\$2,310.08
* estimated		
Adjusted purchase price :		\$407,959.24
Plus taxes : Sales Tax @ 3% :	3.00%	\$12,238.78
BAMA Tax @ 2% :	2.00%	\$8,159.18
Less tire cost :		\$0.00
Less salvage value :	17.90%	\$73,024.70
Net acquisition cost :		\$355,332.50

### ADJUSTED COSTS

ADJUSTED COSTS	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	G.E.C.
Acquisition cost	\$19.77	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EconLife Machine and Attach. No. 1	\$25.04	NA	NA	\$7.63	\$13.82	\$9.51	\$15.27	NA	NA	NA	NA
-Attachment No. 2			NA	\$1.29	\$1.55	\$2.34	\$1.55	NA	NA	NA	NA
Annual usage	\$27.57	\$9.11	\$13.39	NA	NA	NA	NA	NA	NA	NA	NA
Double shifts	\$20.53	\$4.56	\$6.68	NA	NA	NA	NA	NA	NA	NA	NA
Triple shifts	\$18.39	\$3.00	\$4.45	NA	NA	NA	NA	NA	NA	NA	NA
Mach. Har. Machine and Attach. No. 1	NA	NA	NA	\$5.47	NA	\$9.09	NA	NA	NA	NA	NA
-Attachment No. 2	NA	NA	NA	\$0.92	NA	\$1.68	NA	NA	NA	NA	NA
FuelTube Machine and Attach. No. 1	NA	NA	NA	NA	NA	NA	NA	\$17.15	\$4.63	\$0.00	\$2.01
Attachment No. 2	NA	NA	NA	NA	NA	NA	NA	\$0.00	\$0.32	\$0.00	\$1.02

	UNIT	QTY	UNIT PRICE	TOTAL
ADJUSTED COST SUBTOTALS				

ADJUSTED COST SUBTOTALS	Ownership Costs			Overhaul and Operating Costs								
	Depreciation	CFC	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	G.E.C.	
				Labor	Parts	Labor	Parts					
Basic Machine and Attachments No. 1 and No. 2 :				Basic Machine and Attachment No. 1 :								
	Single shifts :	\$27.37	\$9.11	\$13.36	\$5.47	\$15.62	\$9.00	\$15.27	\$17.15	\$4.63	\$0.00	\$2.01
	Double shifts :	\$20.53	\$4.88	\$6.69	Attachment:							
	Tripla shifts :	\$18.26	\$3.03	\$4.45	\$9.92	\$1.55	\$1.69	\$1.53	\$0.00	\$0.32	\$0.00	\$1.02

### HOURLY OPERATOR WAGES

HOURLY OPERATOR WAGES	Base Rate	Fringe Benefits	F.I.C.A.	Unempl.	Wk.Comp.	Total (\$/hr)	Shift Differential	Teamsters labor zone : 2
			7.70%	6.20%	12.50%			
Doozer operator (< 70hp)	\$20.62	\$5.77	\$1.59	\$1.26	\$2.58	\$31.63	Day : \$0.00	Two shift per day average : \$0.15
Doozer operator (>= 70hp)	\$20.62	\$5.77	\$1.59	\$1.26	\$2.58	\$31.63	Swing : \$0.30	Three shift per day average : \$0.25
Mechanic	\$16.74	\$4.20	\$1.29	\$1.04	\$2.06	\$25.33	Night : \$0.45	

### HOURLY EQUIPMENT COST SUMMARY

HOURLY EQUIPMENT COST SUMMARY	Ownership	Operating and Overhaul		Operator	Total
		Machine	Attachments		Cost/hr (\$)
Single shifts	\$49.85	\$68.44	\$7.02	\$31.83	\$156.15
Double shifts	\$31.77	\$68.44	\$7.02	\$31.08	\$197.21
Triple shifts	\$25.74	\$68.44	\$7.02	\$32.08	\$131.29

### EQUIPMENT PERFORMANCE DATA

EQUIPMENT PERFORMANCE DATA		Struck Capacity (cy)	Heaped Capacity (cy)	Weight (UST)	Weight (MT)	Length (ft)	Width (ft)	Height (ft)	Min. turning circle (ft)	Horsepower (hp)	Fuel type
Description	Type										
Cat D8R Series II - 8SU	Powershift	NA	NA	41.75	NA	22.67	8.67	11.50	NA	310.00	Diesel
Dozer blade	Semi-Universal	NA	11.40	5.42	NA	NA	12.92	5.54	NA	NA	NA
3-5 shank ripper	Adj. Parallelism	NA	NA	5.37	NA	NA	NA	NA	NA	NA	NA

Travel speeds (mph):	1st (or max.)	2nd	3rd	4th	5th	6th	7th	8th	Minimum dump clearance (ft.)	Max. dump height (ft.)
Forward	2.2	3.9	6.7	NA	NA	NA	NA	NA		
Reverse	2.9	5.0	8.9	NA	NA	NA	NA	NA	NA	NA

Loader bucket type or compactor drum type	Compaction	Maximum vertical	Max. horiz.	Excavator bucket capacity (cu)			Lift capacity (lbs)		Max.dig./rip	Shank	No.
	width/inch (ft.)	reach height (ft.)	reach (ft.)	small	medium	large	optimal	max. reach	depth (ft.)	sprocket	shafts
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2-8 ft.	4 KPS	9

# CIRCES Cost Estimating Software

## EQUIPMENT COST AND PERFORMANCE DATA WORKSHEET

## DATA SOURCES :

Machine make and model : Cat 322C L

Dozer blade type :

Attachment no. 1 : ROPS Cab

Attachment no. 2 : NA

CRG data update : Third Quarter, 2003

CECG data update : Second Quarter, 2003

Labor data update : 09-13-03

Base costs : Cost Reference Guide (CRG)

Adjusted costs : Contractors Equipment Cost Guide (CECG)

Operator costs : Colorado Department of Transportation

Labor overhead : Colorado Department of Transportation

Specifications : Caterpillar Performance Handbook

BASE COSTS (CRG data)	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	G.E.C.
Machine :	\$18.48	\$3.57	\$3.64	\$5.04	\$5.18	\$8.21	\$5.90	\$10.65	\$3.17	\$0.00	\$0.65
Attachment no. 1 :	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Attachment no. 2 :	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

## COST ADJUSTMENT FACTORS (CECG data)

Factor Description	Base Value	Adj. Value	Multiplier
Acquisition cost :	\$258,644.00	\$198,807.82	0.779
Economic life hours :	9,250	9,210	1.004
Attachment no. 1 :	NA	NA	1.000
Attachment no. 2 :	NA	NA	1.000
Annual use hours :	2,112	1,420	1.487
Mechanic's labor cost :	\$35.48	\$26.38	0.715
Fuel cost per gallon - gasoline :	\$1.68	\$1.58	1.000
-diesel :	\$1.51	\$1.51	1.000
Lube cost :	\$2.68	\$2.68	1.000
Tire life hours :	NA	NA	1.000
Tire factor :	NA	NA	1.000
Tire cost :	NA	NA	1.000

ACQUISITION COST BREAKDOWN		
Cost Elements (CECG)	Factor	Adj. Cost
Base purchase price :		\$258,644.00
Less dealer discount :	0.083	\$20,887.89
Plus freight :	0.028	\$5,672.74
Plus dealer charges : *	0.005	\$1,293.22
* estimated		
Adjusted purchase price :		\$240,732.07
Plus taxes : Sales @ 9% :	3.00%	\$7,221.98
SMM @ 2% :	2.00%	\$4,814.64
Less tire cost :		\$0.00
Less salvage value :	22.00%	\$52,981.08
Net acquisition cost :		\$188,807.82

ADJUSTED COSTS	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	G.E.C.
Acquisition cost :	\$12.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Econ. life -Machine and Attach. no. 1 :	\$12.09	NA	NA	\$5.08	\$5.20	\$8.24	\$5.32	NA	NA	NA	NA
-Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Annual usage :	\$17.90	\$5.31	\$5.41	NA	NA	NA	NA	NA	NA	NA	NA
Double shifts :	\$13.43	\$2.65	\$2.71	NA	NA	NA	NA	NA	NA	NA	NA
Triple shifts :	\$11.94	\$1.77	\$1.80	NA	NA	NA	NA	NA	NA	NA	NA
Mech. lbr. -Machine and Attach. No. 1 :	NA	NA	NA	\$3.62	NA	\$4.48	NA	NA	NA	NA	NA
-Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fuel/lube -Machine and Attach. No. 1 :	NA	NA	NA	NA	NA	NA	NA	\$10.65	\$3.17	\$0.00	\$0.65
Attachment no. 2 :	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

ADJUSTED COST SUBTOTALS	Ownership Costs			Overhaul and Operating Costs							
	Depreciation	CFC	Overhead	Overhaul		Field Repair		Fuel	Lube	Tires	G.E.C.
Basic Machine and attachments No. 1 and No. 2 :											
Single shifts :	\$17.90	\$5.31	\$5.41	\$3.62	\$5.20	\$4.48	\$5.32	\$10.65	\$3.17	\$0.00	\$0.65
Double shifts :	\$13.43	\$2.65	\$2.71	NA	NA	NA	NA	NA	NA	NA	NA
Triple shifts :	\$11.94	\$1.77	\$1.80	NA	NA	NA	NA	NA	NA	NA	NA

HOURLY OPERATOR WAGES	Base Rate	Fringe Benefits	F.I.C.A.	Unempl.	Wk.Comp.	Total (\$/hr)	Shift Differential	Teamsters labor zone :
			7.70%	0.20%	12.50%			2
Excavator - under .75cy :	\$20.77	\$5.77	\$1.60	\$1.29	\$2.60	\$32.02	Day :	Two shift per day average : \$0.18
Excavator - .75cy and over :	\$20.77	\$5.77	\$1.60	\$1.29	\$2.60	\$32.02	Swing :	Three shift per day average : \$0.28
Mechanic :	\$18.74	\$4.20	\$1.39	\$1.04	\$2.09	\$28.36	Night :	\$0.45

HOURLY EQUIPMENT COST SUMMARY	Ownership	Operating and Overhaul		Operator	Total Cost/hr (\$)
	Machine	Attachments			
Single shifts :	\$28.63	\$33.28	NA	\$32.02	\$93.93
Double shifts :	\$18.79	\$33.28	NA	\$32.17	\$84.24
Triple shifts :	\$15.31	\$33.28	NA	\$32.27	\$81.06

EQUIPMENT PERFORMANCE DATA											
Description	Type	Struck Capacity (cy)	Heaped Capacity (cy)	Weight (LST)	Weight (MT)	Length (ft.)	Width (ft.)	Height (ft.)	Min. turning circle (ft.)	Horsepower (Hp)	Fuel type
Cat 322C L	Track	NA	NA	26,68	24.18	30.63	9.33	9.83	NA	162.00	Diesel
ROPS Cab	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Travel speeds (mph) :											
	1st (or max.)	2nd	3rd	4th	5th	6th	7th	8th	Min. dump clear. (ft)	Max. dump ht. (ft)	
Forward :	3.4	NA	NA	NA	NA	NA	NA	NA			
Reverse :	3.4	NA	NA	NA	NA	NA	NA	NA		19.58	

Loader bucket type or compactor drum type											
	Compaction width per pass (ft.)	Maximum vertical reach height (ft)	Max. horizontal reach (ft)	Excavator bucket capacity (cy)		Lift capacity (lbs)		Maximum dig/tip depth (ft)		Shank spacing	Number of shanks
NA	NA	30.08	29.62	small	medium	large	optimum	max. reach			
				1.05	1.44	1.70	22,500	7,950	18.42	NA	NA

**CIRCES Cost Estimating Software**

**EQUIPMENT COST AND PERFORMANCE DATA WORKSHEET**

Machine make and model : Generic 10-12 cy. 8x4

**Dozer blade type :**

Attachment no. 1 : NA

Attachment no. 2 : NA

CRG data update : Second Quarter, 2003

CECG data update : Second Quarter, 2003

Labor data update : 06-13-03

**DATA SOURCES :**

**Base costs : Cost Reference Guide (CRG)**

Adjusted costs : Contractors Equipment Cost Guide (CECG)

Operator costs : Colorado Department of Transportation

Labor overhead : Colorado Department of Transportation

Specifications : Caterpillar Performance Handbook

[illegible]

**COST ADJUSTMENT FACTORS (CECG data)**

Factor Description	Base Value	Adj. Value	Multplier
Acquisition cost :	\$107,350.00	\$87,919.66	0.819
Economic life hours :	8,800	10,100	0.870
Attachment no. 1 :	NA	NA	1.000
Attachment no. 2 :	NA	NA	1.000
Annual use hours :	2,112	1,150	1.837
Mechanic's labor cost :	\$35.49	\$24.80	0.699
Fuel cost per gallon - gasoline :	\$1.44	\$1.44	1.000
-diesel :	\$1.49	\$1.49	1.000
Lube cost :	\$1.74	\$1.74	1.000
Tire life hours :	3,000	2,600	1.200
Tire factor :	NA	0.058	1.000
Tire cost :	\$4,950.00	\$5,604.25	1.189

  

ACQUISITION COST BREAKDOWN		
Cost Elements (CEC3)	Factor	Adj. Cost
Base purchase price :		\$107,350.00
Less dealer discount :	0.100	\$10,735.00
Plus freight :	0.015	\$1,610.25
Plus dealer charges :*	0.005	\$536.75
* estimated		
Adjusted purchase price :		\$98,762.00
Plus taxes : Sales @ 3% :	3.00%	\$2,962.86
SMM @ 2% :	2.00%	\$1,975.24
Less tire cost :		\$5,604.25
Less salvage value :	10.00%	\$9,876.20
Net acquisition cost :		\$87,919.66

## ADJUSTED COSTS

[illegible]

**ADJUSTED COST SUBTOTALS**

[illegible]

### HOURLY OPERATOR WAGES

Job Title	Hourly Rate	Fringe Benefits	Total Compensation			Shift Differential	Teamsters labor zone			
			Hourly Rate	Fringe Benefits	Total Compensation		Two shift per day average	Three shift per day average		
Truck Driver, 07- 14 cy	\$14.15	\$3.63	\$1.09	\$0.88	\$1.77	\$21.72	Day	\$0.00	Two shift per day average	\$0.16
NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Swing	\$0.30	Three shift per day average	\$0.25
Truck Mechanic	\$15.97	\$4.61	\$1.23	\$0.99	\$2.00	\$24.80	Night	\$0.48		

### HOURLY EQUIPMENT COST SUMMARY

	Operator	Machine	Attachment	Operator	Total
					Cost/hr. (\$)
Single shift	\$16.52	\$21.88	NA	\$21.72	\$60.10
Double shift	\$11.09	\$21.88	NA	\$21.87	\$54.78
Triple shift	\$9.20	\$21.88	NA	\$21.97	\$53.03

## EQUIPMENT PERFORMANCE DATA

[illegible][illegible][illegible]

### CIRCES Cost Estimating Software

### EQUIPMENT COST AND PERFORMANCE DATA WORKSHEET

Machine make and model : Flatbed Truck, 4x2, 30K GVW

**Dozer blade type :**

Attachment No. 1 : N/A

Attachment No. 2 : NA

CRG data update : 2003 CRG, 3000 CECO

CECG data update : Second Quarter, 2009

Labor data update : 08-13-08

**DATA SOURCES :**

**Base costs :**

### Cost Reference Guide (CRG)

Adjusted costs : Contractors Equipment Cost Guide (CECG)

Operator costs : Colorado Department of Transportation

**Labor overhead : Colorado Department of Transportation**

**Specifications : Caterpillar Performance Handbook**

[illegible]

**COST ADJUSTMENT FACTORS (CECG data)**

Factor Description	Base Value	Adj. Value	Multiplier
Acquisition cost	\$57,578.00	\$48,378.38	0.840
Economic life hours - Base Machine	10,350	8,000	1.294
Attachment no. 1	NA	NA	1.000
Attachment no. 2	NA	NA	1.000
Annual use hours	2,112	1,350	1.600
Mechanic's labor cost	\$35.49	\$24.80	0.698
Fuel cost per gallon - gasoline	\$1.44	\$1.44	1.000
-diesel	\$1.49	\$1.49	1.000
Lube cost	\$0.98	\$0.98	1.000
Tire life hours	1,800	2,000	0.900
Tire factor	NA	0.058	1.000
Tire cost	\$1,494.00	\$3,308.41	2.205

### ACQUISITION COST BREAKDOWN

Cost Elements (CECG)	Factor	Adj. Cost
Base purchase price :		\$57,576.00
Less dealer discount :	0.022	\$1,268.67
Plus freight :	0.015	\$863.64
Plus dealer charges : *	0.005	\$287.88
* estimated		
Adjusted purchase price :		\$57,460.85
Plus taxes : Sales Tax @ 3% :	3.00%	\$1,723.83
SNM Tax @ 2% :	2.00%	\$1,149.22
Less tire cost :		\$3,339.41
Less salvage value :	15.00%	\$8,619.13
Net acquisition cost :		\$48,375.38

### ADJUSTED COSTS

[illegible]

ADJUSTED COST SUBTOTALS	
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[illegible]

### HOURLY OPERATOR WAGES

HOURLY OPERATOR WAGES	Base	Fringe	F.I.C.A.	Unempl.	Wt.Comp.	Total	Shift Differential	Teamsters labor zone	2	
	Rate	Benefits	7.70%	6.20%	12.50%	(\$/hr)				
Flatbed Driver - 1 rear axle	\$14.24	\$3.77	\$1.10	\$0.88	\$1.78	\$21.77	Day	\$0.00	Two shift per day average	\$0.15
	NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Swing	\$2.30	Three shift per day average	\$0.25
Truck Mechanic	\$15.97	\$4.81	\$1.23	\$0.89	\$2.00	\$24.80	Night	\$0.45		

### HOURLY EQUIPMENT COST SUMMARY

HOURLY EQUIPMENT COST SUMMARY	Ownership	Operating and Overhaul		Operator	Total Cost/hr (\$)
		Machine	Attachments		
Single shifts	\$9.07	\$13.98	NA	\$21.77	\$45.83
Double shifts	\$6.57	\$13.98	NA	\$21.62	\$41.28
Triple shifts	\$4.48	\$13.98	NA	\$22.02	\$40.48

### EQUIPMENT PERFORMANCE DATA

[illegible][illegible][illegible]

**CIRCES Cost Estimating Software**

## EQUIPMENT COST AND PERFORMANCE DATA WORKSHEET

Machine make and model : *Light Duty Pickup, 4x4, 3/4 T.*

**Dozer blade type :**

Attachment No. 1 : ~~NA~~

Attachment No. 2 : NA

**CRC data update : 2Q03 CRC, 3Q03 CECG**

CECG data update : Second Quarter, 2003

Labor data update : 08-13-03

**DATA SOURCES :**

Base costs : Cost Reference Guide (CRG)

**Adjusted costs : Contractors Equipment Cost Guide (CECG)**

Operator code : Colorado Department of Transportation

Labor overhead : Colorado Department of Transportation

Specifications : Caterpillar Performance Handbook

[illegible]

## COST ADJUSTMENT FACTORS (CECG data)

Factor Description	Base Value	Adj. Value	Multiplier
Acquisition cost :	\$23,677.00	\$17,885.37	0.765
Economic life hours - Base Machine :	7,000	9,000	0.778
Attachment no. 1 :	NA	NA	1.000
Attachment no. 2 :	NA	NA	1.000
Annual use hours :	2,112	2,000	1.058
Mechanic's labor cost :	\$33.48	\$24.80	0.699
Fuel cost per gallon - gasoline :	\$1.44	\$1.44	1.000
-diesel :	\$1.49	\$1.49	1.000
Lube cost :	\$0.39	\$0.39	1.000
Tire life hours :	1,800	1,650	1.091
Tire factor :	NA	0.025	1.000
Tire cost :	\$702.00	\$591.03	0.843

ACQUISITION COST BREAKDOWN		
Cost Elements (CECG)	Factor	Adj. Cost
Base purchase price :		\$23,677.00
Less dealer discount :	0.150	\$3,551.55
Plus freight :	0.018	\$333.15
Plus dealer charges : *	0.005	\$118.39
* estimated		
Adjusted purchase price :		\$20,508.99
Plus taxes : Sales Tax @ 3% :	3.00%	\$617.97
SMM Tax @ 2% :	2.00%	\$411.00
Less tire cost :		\$591.03
Less salvage value :	15.30%	\$3,151.65
Net acquisition cost :		\$17,885.37

## ADJUSTED COSTS

[illegible]

**ADJUSTED COST SUBTOTALS**

[illegible]

### HOURLY OPERATOR WAGES

HOURLY OPERATOR WAGES	Base Rate	Fringe Benefits	F.I.C.A.	Unempl.	Wk.Comp.	Total (\$/hr)	Shift Differential	Teamsters labor zone : 2
			7.70%	0.20%	12.50%			
Foreman	\$17.74	\$4.20	\$1.37	\$1.10	\$2.22	\$26.62	Day : \$0.00	Two shift per day average : \$0.15
NA	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	Swing : \$0.50	Three shift per day average : \$0.25
Truck Mechanic	\$15.97	\$4.51	\$1.23	\$0.99	\$2.00	\$24.80	Night : \$0.45	

### HOURLY EQUIPMENT COST SUMMARY

HOURLY EQUIPMENT COST SUMMARY	Ownership	Operating and Overhaul		Operator	Total
		Machine	Attachments		Cost/hr (\$)
Single shifts	\$2.65	\$4.60	NA	\$26.62	\$33.87
Double shifts	\$1.95	\$4.50	NA	\$26.77	\$33.22
Triple shifts	\$1.65	\$4.50	NA	\$26.87	\$33.02

## EQUIPMENT PERFORMANCE DATA

[illegible][illegible]

Loader bucket type or Compactor drum type	Compaction width/pass (ft.)	Maximum vertical reach height (ft.)	Max. horiz. reach (ft.)	Excavator bucket capacity (cy)			Lift capacity (lbs)		Max. dig/rip depth (ft.)	Shank spacing	No. shanks
NA	NA	NA	NA	small	medium	large	optimal	max. reach	NA	NA	NA
				NA	NA	NA	NA	NA			



## CERTIFICATE OF SERVICE

I, Wallace H. Erickson, hereby certify that on this 7<sup>th</sup> day of May, 2004, I deposited a true copy of the foregoing (description of document) DMG's inspection report, signature date May 7, 2004, generated from the April 8, 2004 inspection of the Gold King Mine, Permit No. M-1986-013, and DMG's April 30, 2004 reclamation cost estimation for the Gold King Mine totaling \$47,119, in the United States Mail, postage paid, addressed to the following:

Stephen C. Fearn  
Gold King Mines Corporation  
P.O. Box 299  
Silverton, CO 81433

Gregory Brand, District Engineer  
Colorado Department of Public Health & Environment  
Water Quality Control Division  
P.O. Box 140  
Durango, CO 81302

St. Paul Fire & Marine Insurance Company  
Attn.: Ms. Kelley Blake  
2000 S. Colorado Blvd., Ste. 2-280  
Denver, CO 80222

  
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Signature