



## COLORADO

Division of Reclamation,  
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215  
Denver, CO 80203

### MEMO

**DATE:** September 29, 2015

**TO:** Peter Hays  
Environmental Protection Specialist

**FROM:** Tyler O'Donnell *TVO*  
Environmental Protection Specialist

**RE:** **Climax Molybdenum Company, DRMS File No. M-1977-342, Henderson Mine,  
Closure Cost Estimate Review**

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### Introduction

The Division of Reclamation, Mining and Safety (Division) derives its costs for reclamation cost estimates from four main sources, the Cost Reference Guide for Construction Equipment (CRG), the Colorado Department of Transportation, Davis Bacon Minimum Wages, Colorado (CDOT), the Caterpillar Performance Handbook (CAT Handbook) and the RS Means Building Construction Cost Data and Site Work and Landscape Cost Data (Means). Davis Bacon Minimum Wages labor rates can be found here: [www.codot.gov/business/designsupport/2011-construction-specifications/2011-Specs/past-db-wages](http://www.codot.gov/business/designsupport/2011-construction-specifications/2011-Specs/past-db-wages).

The Division also uses additional data sources such as published seed prices (Pawnee Buttes Seed, Arkansas Valley Seeds, etc.) and the Division's Inactive Mine Reclamation Program (IMP). Data from these sources is entered into the Division's proprietary software, Colorado Integrated Reclamation Cost Estimating System (CIRCES). CIRCES is used to calculate all of the Division's reclamation cost estimates.

All of the hourly equipment costs for earthmoving tasks are derived from the CRG and CDOT. The Division inputs hourly ownership and operating costs from the CRG into CIRCES to provide a cost for the specific piece of equipment. The Division then adds a labor rate, from the published CDOT data, which gives a total, hourly cost for operating each piece of equipment. Production data for any given piece of equipment is derived from the CAT Handbook and incorporated into CIRCES. This hourly cost represents the cost to operate any given piece of equipment and does not include any costs required by the contractor (such as profit, liability insurance or contract performance bond costs).

In a situation where the Division forfeits a financial warranty and hires a contractor to perform the reclamation, the Division is required to pay the contractor Davis-Bacon Labor wages.



### **Conclusion**

As requested the closure cost estimate (estimate) provided by Climax Molybdenum Company (Operator) has been reviewed. All portions of the estimate were reviewed. With the best available information, it appears that all of the known reclamation tasks are adequately accounted for in the estimate.

During the review of the estimate, the hourly equipment costs and hourly labor costs provided by the Operator were compared to the Division's costs used in CIRCES. Table 4.1 and 4.2 from the Operator's estimate were re-created to contain the Division's current costs from CIRCES. Many of the Division's costs are greater than the costs provided by the Operator. The difference in costs stems from different sources of hourly equipment costs and hourly labor costs.

The Division requests the Operator recalculate the estimate using the latest available version of the CRG and the latest CDOT Davis-Bacon labor wages. Recalculating the estimate with the same sources as the Division will ensure that the estimate meets the standards traditionally imposed by the Division.

#### 4.1 EQUIPMENT UNIT RATES

TYPE OF EQUIPMENT	HOURLY OWNERSHIP COST	HOURLY OPERATING COST	ATTACHMENTS	Henderson TOTAL HOURLY COST	DRMS TOTAL HOURLY COST	Difference in Hourly Cost
Helicopter	\$1,000.00	\$0.00		\$1,000.00		
637G Scraper	\$100.89	\$217.17		\$318.06	\$345.67	\$27.61
D9T S/R Track Dozer (straight)	\$50.63	\$96.76		\$147.39	\$214.98	\$67.59
D9T S/R Track Dozer (ripper)	\$66.11	\$107.29	\$10.01	\$181.82	\$232.27	\$50.45
627G Scraper	\$52.32	\$126.37		\$178.69	\$253.47	\$74.78
D8T S/R Dozer (ripper)	\$58.26	\$71.48	\$6.80	\$135.45	\$184.73	\$49.28
D8T S/R Dozer (straight)	\$32.44	\$44.30		\$78.85	\$170.26	\$91.41
D8T Winch Dozer	\$55.06	\$73.40		\$128.46		
988H Loader	\$47.31	\$67.36		\$114.68	\$195.66	\$80.98
773E Rigid Frame Truck	\$45.28	\$54.72		\$100.00		
14H/M Motor Grader	\$36.83	\$39.87		\$76.70	\$111.77	\$35.07
14H/M Motor Grader	\$36.74	\$38.03	\$1.93	\$76.70	\$118.72	\$42.02
330DL Excavator with Thumb	\$38.68	\$41.37		\$80.06		
312CL Excavator	\$15.68	\$15.57		\$31.25		
613C WW (5000 gal water wagon)	\$22.37	\$36.73		\$59.09		
966H Wheel Loader	\$34.92	\$34.88		\$69.80	\$97.97	\$28.17
320CL/DL Excavator with Thumb	\$31.25	\$32.34		\$63.59		
Generic 12-18 cy truck	\$22.98	\$30.52		\$53.50	\$81.48	\$27.98
Generic 8-10 cy truck	\$14.27	\$21.23		\$35.50	\$59.89	\$24.39
Lube Truck	\$16.43	\$33.57		\$50.00	\$57.34	\$7.34
Fuel Truck	\$9.08	\$25.92		\$35.00	\$43.56	\$8.56
Flat Bed Truck	\$9.46	\$15.54		\$25.00	\$55.06	\$30.06
Mega MMP3 Mobile Fill Pump	\$6.93	\$13.88	\$0.03	\$20.83		
Pickup 0.75 Ton	\$3.87	\$5.13		\$9.00	\$15.25	\$6.25
Pickup 0.5 Ton	\$2.88	\$3.62		\$6.50	\$14.62	\$8.12

**Table 4.1:** Operator's equipment costs compared to the Division's costs. The Division's costs were taken from CIRCES, the costs in CIRCES were last updated with the 2014 CRG data.

<b>4.2 LABOR UNIT RATES</b>			
<b>WAGE CATEGORY</b>	<b>Henderson TOTAL / HOUR</b>	<b>DRMS TOTAL/HOUR</b>	<b>Difference</b>
Dozer Operator	\$37.92	\$38.85	\$0.93
Excavator Operator	\$37.92	\$38.83	\$0.91
Loader Operator	\$34.10	\$39.39	\$5.29
Scraper Operator	\$37.78	\$39.02	\$1.24
Grader Operator	\$36.31	\$38.23	\$1.92
Light Truck	\$33.67	\$25.66	-\$8.01
Water Trk. Driver	\$33.02	\$25.61	-\$7.41
Truck Driver (Haul)	\$32.92	\$32.44	-\$0.48
Truck Driver (Generic)	\$33.67	\$25.66	-\$8.01
Truck Driver (Flatbed)	\$33.67	\$25.61	-\$8.06
Truck Driver (Fuel/Lube Truck)	\$33.67	\$38.86	\$5.19
Laborer	\$24.25	\$25.66	\$1.41
Mechanic	\$38.17	\$38.20	\$0.03
Foreman	\$49.69	\$60.94	\$11.25

**Table 4.2:** Operator's Labor costs compared to the Division's costs. The Division's costs were taken from CIRCES, the costs in CIRCES were last updated with the 2014 CDOT Davis Bacon Minimum Wages.