

Barry W. King

Selected Work Experience:

Newmont Mining Corporation June 14 – August 14
OP/UG Engineering Intern

- ⇒ Completed daily reports for an underground mine
- ⇒ Automated the process of importing stope CMS data into Vulcan
- ⇒ Improved a truck usage spreadsheet to allow for multiple truck types and expanded to a life-of-mine time horizon
- ⇒ Constructed multiple dump plans for multiple pit operation

Newmont Mining Corporation June 13 – August 13
Mine Optimization/Engineer Intern

- ⇒ Worked on detailed benchmarking of major gold mining corporations
- ⇒ Created template for mine engineering process flow map
- ⇒ Helped improve analysis for potential block caving operations
- ⇒ Collaborated with a variety of engineers on improving the accuracy of the transition model

MetalTek International June 11 – July 12
Rotational Engineer

- ⇒ Altered deoxidation process for nickel based castings to reduce oxides
- ⇒ Improved melt procedures to control process variation
- ⇒ Performed solidification simulation of current and existing castings
- ⇒ Lead engineer for the first castings made with 3D printed ceramic cores at MetalTek

Skills:

Software: SolidWorks, Matlab, Python, C++, CPLEX, Vulcan, Minemax, CPLEX, AMPL, and MS Project

Safety Training: Open Pit and Underground MSHA 5000-23 New Miner Training

Education:

PhD Student **GPA: 3.72**
Operations Research - Focusing on Mine Scheduling
Colorado School of Mines

- ⇒ **Primary Research Focus:** Develop a mining model that can aid in determining which areas of the ore body to mine via open pit or underground mining methods
- ⇒ Created a generic integer program for underground mine scheduling that accounts for the duration of each activity
- ⇒ Implemented multiple algorithms for variable and precedence reduction
- ⇒ Designed a heuristic for sill pillar placement in an underground mine

B.S. Materials Engineering **GPA:3.78**
Iowa State University
Focus: Metallurgy

Published Work & Presentations:

Open Pit to Underground: Optimizing the Transition

Authors: B.W. King

Presentation: SME Annual Meeting, Salt Lake City, UT, Feb 23-26, 2014

Transitioning from Open Pit to Underground Mining

Authors: B.W. King

Presentation: INFORMS Annual Meeting, MSP, MN, Oct 6-9, 2013

Transformation Diagram Determination Using Impact Testing

Authors: B.W. King and L.S. Chumbley

Journal: International Journal of Materials Engineering (11 - 26 - 2011)

Clarity of Microstamped Identifiers as a Function of Primer Hardness and Type of Firearm Action

Authors: L.S. Chumbley, T. Grieve, B. King, and D. Eisenmann

Journal: AFTE Journal (Spring 2012)