Understanding how each heap leach operational consideration affects recovery is the key to optimizing a system. Dynamic system heap leach modeling is an effective way to optimize a mining project’s performance throughout its life to maximize recovery, minimize costs and optimize performance. From upfront design, through operations, to closure, it can bring value to every phase of your project. Heap leach modelling breaks down an operation into discretized sections, to refine the analysis congruent with the accuracy of available data. Each discretized zone (cube) is quantified with the metal content based on loading plans, then analyzed for extraction as a function of time based on the dynamic leaching applied. Leaching algorithms, based on modified metallurgical testing methods, are created by through an examination of hydrodynamic and kinetic responses of a heap by geological alteration to identify optimal leaching patterns. Overall heap leach design can then be modified based on a number of conditions such as lift height, irrigation rate, total solution contact, remaining recoverable ounces and or even used in conjunction with a mine plan to affect the overall schedule and cut-off grade.

Dr. Gow has over 8 years of experience in hands-on metallurgical testing, equipment design and manufacturing, with a focus in mineral processing feasibility. His experience includes design and due-diligence of metallurgical testing campaigns for processes including comminution, gravity, flotation and leaching of base and precious metals. This includes a focus on process development for whole circuit gold/silver processing (CIC/CIL/CIP) operations, including carbon adsorption and recovery methodologies. He routinely conducts metallurgical pilot and plant audit campaigns domestically and internationally.