

Implementation of an Enterprise Geographic Information System (GIS) for Abandoned Mine Land Reclamation Project Data Collection and Efficiency of Client Reporting¹

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Abstract: This presentation outlines the evolutionary journey of the data collection, reporting, and management for the Wyoming Abandoned Mine Land (AML) project through the implementation of an Enterprise Geographic Information System (GIS) architecture. Over an eighteen-month period, Brierley Associates made the transition from collecting and reporting data in an analog format to an advanced digital collection solution developed to increase operational efficiency of the project. The purpose of this implementation, the methodology used to bring this vision to fruition, and the challenging technical obstacles encountered throughout this transition provide the substance for this presentation. The former methods of record keeping, and planning left the program vulnerable to lost or unreadable documentation and was tedious for managing dynamic data management of AML mitigation construction projects. Transitioning from static maps and paper record keeping to the industry standard Esri Enterprise GIS made the reclamation project logistically manageable for detailed analysis, delivery, reporting, and data collection. Working with the latest versions of Esri's Arc Server, Portal, ArcGIS Field Maps, and Arc Pro, the Brierley team has a Commercial Off-The- Shelf (COTS) GIS solution for all phases of an AML project. This includes the planning phase, using multi-user versioned editing, offline mobile data collection in remote areas, attractive dynamic project tracking Dashboards, all the way to the final Construction Summary Report (CSR) published on the web in an interactive Story Map for the best public information tool possible. In addition, Brierley also houses a robust remote sensing program to more readily monitor and manage AML construction projects, which includes high-resolution products such as orthomosaic imagery, digital terrain and surface models, thermal imagery, and LiDAR imaging. Brierley views their recent integration of an Enterprise GIS coupled with supporting COTS software to manage AML project data as an industry leading solution.

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