

Geologic Mapping

MODERN FIELD MAPPING with ArcGIS Online®

By Roger Schulz, Geologist & Senior Data Manager, Big Rock Exploration

OVERVIEW

All field geologists have a very specific set of standard tools that have not changed for over a century. These tools always include a notebook, map, rock hammer, and compass. Big Rock Exploration has added to these time-honored tools and techniques with the help of modern technology. Though the standard field gear will never change, technology can be used to enhance the quality, efficacy, and quantity of data that is captured in the field. Big Rock utilizes a customizable digital mapping platform on numerous projects. Big Rock geologists are now able to digitally record their observations while sitting on an outcrop. These techniques, combined with traditional mapping, have benefitted clients with better quality data and more efficient map creation resulting in quicker identification of high quality resource targets.



Figure A shows a diagram representing the fluid data flow from the field to the office using ArcGIS Online as the Hub which allows for real-time data interaction
Figure credits: Big Rock Exploration © 2018



Figure B represents how ArcGIS Online can be used as the central data platform for data collection, analytics, mapping and more.
Figure credits: Big Rock Exploration © 2018

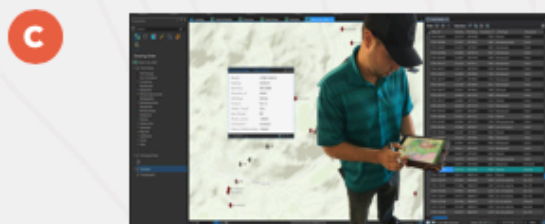


Figure C shows the user and user interface for the map interface and data collection features used in the field
Figure credits: Big Rock Exploration © 2018

TRADITIONAL METHODS

A traditional approach requires the field geologist to record everything at the outcrop in a notebook, then sit at a computer and type up their notes in spreadsheets, introducing potential for simple data entry errors. This lack of standard structure can make data entry and cleanup a cumbersome task that slows down the project, potentially resulting in the development of bad or unusable data. Big Rock's innovative digital data collection approach adds a simple and cost effective step for field geologists.

MODERN METHODS

Big Rock is currently utilizing a number of apps and a fleet of smart devices to digitally record data and supplement the field notes. Geologists can quickly fill out all the standardized data, in a matter of minutes using easy and intuitive forms. The smart device can link field photos with data entry, log location information using the internal GPS, and even "scan" field notes. The app will cache all data on the device when there is not an internet connection and will sync it when a connection is available.

VALUE ADDED RESULTS

The implementation of a mobile field collection application has cut down on data compilation time, has reduced errors, and has delivered a more consistent, reliable product to our clients. The use of classic tools of notebook, map, rock hammer, and compass will not change, but the modern geologist will also add a smart device to their arsenal to enhance traditional scientific methodologies and will, in turn, create a better product. Big Rock continues to innovate and provide our clients with the best value while enhancing the scientific integrity and transparency to Explore & Discover new resources!

