



## BASELINE BIOLOGICAL AND CULTURAL RESOURCE SURVEYS

**Client:** Barrick Gold  
**Location:** Golden Sunlight Mine, Whitehall, Montana

GANDA has been providing baseline studies for Barrick Gold at their Golden Sunlight Mine near Whitehall since 2011. We conducted wildlife, vegetation, cultural resources and soils surveys. Wildlife work included bird point counts; raptor nest surveys; owl surveys; and winter track, remote camera, and DNA hair-snare surveys to evaluate the presence of sensitive carnivore species. GANDA botanists evaluated wetlands and mapped vegetation communities, noxious weeds and sensitive plant species habitat. We conducted soil sampling to verify Natural Resources Conservation Service maps of the area and to evaluate soil suitability for reclamation.

Cultural resources work consisted of obtaining, reviewing and evaluating all available cultural resource property information for areas of proposed disturbance. We conducted Class III pedestrian surveys in areas not covered under previous surveys. We prepared a Cultural Resources Management Plan to summarize the results of our research, and to present options for future monitoring and treatment of significant cultural resource properties.

## MIDAS GOLD MINE WINTER CARNIVORE SURVEYS

**Client:** Midas Gold Inc.  
**Location:** Stibnite, Idaho



GANDA was hired to conduct baseline studies for the Midas Gold Golden Meadows Project. GANDA provided data gathering and analysis on winter carnivore species presence on lands contained within Midas Gold's proposed mine expansion and the associated new infrastructure corridors. Target species for this study were wolverine, fisher, and lynx. GANDA deployed 28 camera and hair-snare stations over the remote and mountainous survey area. Carnivore species detected were wolverine, red fox, and marten. Based on tracks in several drainages, and photos from several camera trap sites, the presence of two wolverines (one male, one female) has also been confirmed in the ongoing survey.



## BIOLOGICAL RESOURCE SURVEYS

**Client:** Rio Tinto Borax  
**Location:** California and Nevada



GANDA has been conducting on-site biological resource surveys for the Borax division of the Rio Tinto group in California and Nevada since 1998. To date, GANDA has been issued approximately 55 purchase orders totaling \$1.4 million. Types of surveys completed have included: 1) surveys in support of permitting desert lands for use as overburden disposal sites; 2) surveys of facility sites including water wells, boric acid ponds, and tailings ponds; 3) sampling of pre-use vegetation conditions and of revegetation plots to provide baseline data for eventual mine restoration, as required by California's

Surface Mining and Reclamation Act; and 4) surveys for wildlife in abandoned underground mines prior to the closure of the mines.



## BUTTE HIGHLANDS JOINT VENTURE GOLD MINE EIS

**Client:** Montana Dept. of Environmental Quality via HydroSolutions, Inc.

**Location:** Silver Bow County, Montana

GANDA prepared biological and cultural resources sections of the EIS for the Butte Highlands underground gold mine, a proposed mine in the mountains south of Butte. We have responded to scoping and reviewed technical information, including the Hard Rock Operating Permit Application for Butte Highlands Joint Venture. GANDA

evaluated cultural resources in this historic mining area, vegetation including special status plants and noxious weeds, and wildlife including birds, mammals and amphibians. We are evaluating primary, secondary, and cumulative impacts that may occur from development of this mine and its haul road.

## BIOLOGICAL AND CULTURAL RESOURCES CONSTRAINTS ANALYSIS

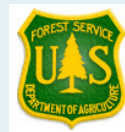
**Client:** Blue Mountain Minerals  
**Location:** Kern County, California



GANDA was contracted by Blue Mountain Minerals to conduct a confidential overview survey of biological and cultural resources of a site in southeastern Kern County. The site contains an existing operating limestone mine. Blue Mountain Minerals was considering purchasing the site and expanding its mining capacity, and part of the company's assessment of profitability was to evaluate environmental permitting constraints to construction, operation, and expansion. GANDA conducted reconnaissance-level surveys for biological and cultural resources on-site, which included review of available literature and databases. The biology report focused on threatened, endangered, and sensitive species of plants and wildlife, as well as wetlands, Waters of the U.S., and streambeds that may come under the jurisdiction of the U.S. Army Corps of Engineers and the California Department of Fish and Game. The cultural report presented results of database surveys and contacts with knowledgeable people in the region regarding cultural resources onsite. The reports also included recommendations and cost estimates for future permitting.

## ENVIRONMENTAL ANALYSES OF PLACER AND LODE EXPLORATION AND MINING ACTIVITIES

**Client:** U.S. Forest Service  
**Location:** Coeur d'Alene River Ranger District, Idaho



GANDA performed the field work, research and consultation necessary to write all documents required for NEPA review of two mining permits in the Coeur d'Alene River Ranger District. GANDA prepared compliance documents including specialist reports, Biological Assessments, Biological Evaluations, and Environmental Assessments. Although the contract covered two mines, the areas and practices were completely independent as were the sets of documents. The Golden Eagle permit was for a small placer operation and the Silver Strand permit was for a larger, commercial lode operation on an existing mine site. Issues included slope stability, bat protection, sensitive aquatic and terrestrial species, water quality, road use, and permitting.

