

Table of Contents

5	Wildlife	5-1
5.1	Introduction and Background	5-1
5.2	Sampling Objectives.....	5-1
5.3	Sampling Frequency.....	5-2
5.4	List of Data to be Collected.....	5-2
5.5	Methods of Collection	5-2
5.6	Parameters to be Analyzed.....	5-2
5.7	Maps Showing Proposed Sampling Locations	5-3
5.8	Laboratory and Field Quality Assurance Plans	5-3
5.9	Discussion in Support of Sampling Proposal.....	5-3
5.10	Resources.....	5-3
5.11	References	5-4

List of Figures

Figure 5-1 Map of the Proposed Wildlife Transects and Site Strata

5 Wildlife

5.1 Introduction and Background

Baseline data has been collected at the Copper Flat project starting in the late 1970s by Quintana, followed by Rio Gold Mining Ltd (Rio Gold), Gold Express, and Alta Gold (related to the 1999 PFEIS). These data are relevant and provide insights for future permitting activity. The previously completed wildlife surveys and studies have been reviewed (SRK, 1997, and BLM, 1999). Relevant information from these previous baseline surveys have been researched and utilized to augment this current sampling process where appropriate. The Chihuahuan desert is a harsh environment home to many birds, reptiles, and mammals. While the actual wildlife diversity is much greater than the list below, some of the more common species are:

- black-chinned sparrow (*Spizella atrogularis*)
- brown thrasher (*Toxostoma rufum*)
- cactus wren (*Campylorhynchus brunneicapillus*)
- roadrunner (*Geococcyx californianus*)
- whiptail lizard (*Cnemidophorus* sp.)
- kangaroo rat (*Dipodomys* sp.)
- western diamondback rattlesnake (*Crotalus atrox*)
- jackrabbit (*Lepus californicus*)
- pronghorn antelope (*Antilocapra americana*)
- and coyote (*Canis latrans*)

Biologists surveyed the Copper Flat permit area on April 15, 2010, to identify migratory bird nests and sensitive habitat areas. This survey was conducted using methods required to fulfill Migratory Bird Treaty Act requirements for the proposed mining activities. During the field survey, numerous bird nests were observed. The most common nests found were cactus wren and brown thrasher nests. These birds build stick and grass nests in cholla cactus (*Opuntia imbricata*) and were common in the tailings pond area as well as around the existing pit.

5.2 Sampling Objectives

The sampling objectives for this project are:

1. Delineate and map current habitat, including disturbed areas.
2. Describe wildlife use of the area through measurements of:
 - a. Big game fecal pellet group counts for deer, elk, and antelope.
 - b. Call counts for birds and amphibians.
 - c. Trend routes for mammals.
 - d. Visual sighting transects for birds, mammals, and reptiles.
3. Complete a bird species inventory.

4. Complete a threatened or endangered species survey by comparing known records and habitat requirements with current field conditions to determine the likelihood of occurrence of all federal and state listed wildlife species.
5. Develop a list of species encountered during surveys or deemed likely to occur within the permit area. Species encountered will be given an estimate of relative abundance in the permit area.
6. Determine species distribution by habitat and season. Certain animals, especially birds, use specific habitats during different times of the year.
7. Enumerate other key habitat areas observed (e.g., cliffs, talus slopes, ponds, springs, known nests).

5.3 Sampling Frequency

Wildlife presence and activity surveys will occur twice per year. One survey will be conducted in December or January for overwintering birds (MMD 2010). Another survey will be conducted in late May or June during peak breeding season. Other groups of animals such as mammals, reptiles, and amphibians will also be recorded during the May/June surveys. Habitat features and characteristics will be noted during spring surveys.

5.4 List of Data to be Collected

Data to be collected will include:

1. Counts (sightings) of the various wildlife species including birds, reptiles, amphibians, and mammals.
2. Record signs of species (i.e. scat, feathers, burrows, bones, etc.).
3. Frequency—the number of transects and/or surveys a particular species is encountered.
4. Record key habitat features and characteristics suitable to various wildlife.
5. Survey for threatened or endangered species, including sightings, signs, and potential habitat encountered.

5.5 Methods of Collection

Data will be collected through visual/pedestrian transect surveys to identify nests, burrows, fecal pellets, and other pertinent signs of wildlife. These transects will consist of parallel lines spaced between 100 to 300 meters apart and oriented to capture the entire sampling unit. Smaller sampling units or strata, such as the tailings dam and pit will be surveyed with a closer transect spacing (approximately 100 meters). In larger sampling strata, such as the tailings pile and undisturbed areas, transect spacing will be greater (between 200 to 300 meters). As deemed necessary, these surveys will also be conducted during late evening and early morning to identify potential diurnally active animals and bat roosts, through direct observation or by listening for calls. Some of these wildlife surveys may include "time-constraint" surveys. A "time-constraint" technique uses a controlled or closely monitored amount of time to walk a transect line or survey area to record the total number of occurrences of particular species, such as a horned lizard for example. Such surveys are completed at specific times of the day when target species are more active.

5.6 Parameters to be Analyzed

Parameters to be analyzed include:

1. Bird nest density and distribution.

2. Density of observed avian species.
3. Relative abundance and distribution by habitat and season.
4. Density and distribution of wildlife indicators (e.g. fecal pellet counts) and occurrences (sightings) of wildlife.
5. Acreages and maps of key habitat areas for various wildlife species.
6. Threatened and endangered species survey results.

These parameters will be summarized and evaluated by individual species. Mobile or transient species, referring to those species without fixed habitat needs (such as those without nests or burrows) will similarly be tabulated and analyzed to determine abundance and frequency of occurrence.

5.7 Maps Showing Proposed Sampling Locations

Figure 5.1 shows a map of the sampling areas. These same areas will be surveyed for wildlife activity using the walking transects described above (Section 5.5). Transect spacing will vary as described based on the size of the sampling areas.

5.8 Laboratory and Field Quality Assurance Plans

Biologists will have a minimum of a BA/BS in Biology and five to ten years of field experience conducting a wide variety of animal surveys ranging from reptiles and amphibians, to birds, mammals, insects, and other invertebrates. This includes experience in recognizing and identifying signs of wildlife. All findings and results will be reviewed by senior scientists.

5.9 Discussion in Support of Sampling Proposal

Most of the protocol specific surveys for wildlife involve threatened and endangered species, or species with a "sensitive" status. Although our surveys will assess for the potential occurrence of threatened, endangered, or sensitive species, we are not anticipating that these will occur. Consequently, much of the sampling and analysis plan for wildlife is of a generalized nature. The intent of the sampling and analysis plan for wildlife is to obtain general or basic information on species presence and habitat use within the permitted area of the mine. All qualitative information will be included in the findings. Some of the information gathered will be of a quantitative nature and thus serve as a basis in which to monitor trends in wildlife use of these areas. The sampling approach will be revised if threatened, endangered, or sensitive species are suspected to occur

5.10 Resources

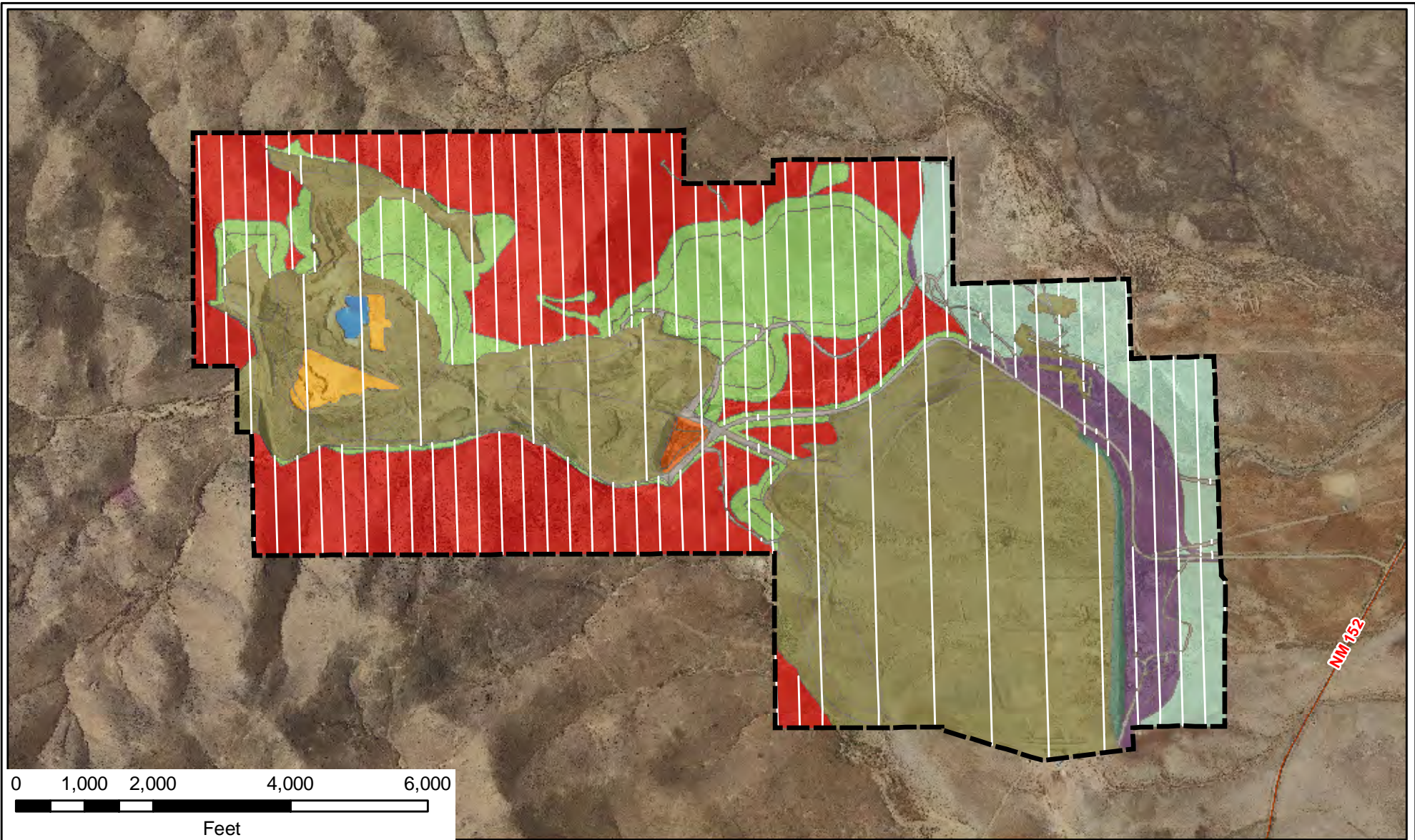
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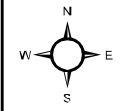
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- Steffen Robertson and Kirsten, Inc. (SRK), Southwest Rangeland Services, and Adrian Brown, 1997, Copper Flat Mine project monitoring plans: SRK Project 68607.

Figure



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 Feet



Mine Boundary:
 Tom Van Bebber
 Strata/transects:
 Parametrix
 Imagery Information:
 -USGS 7.5-Minutes County DOQQ mosaic
 Sierra County, 2009
 Projection Information:
 -New Mexico State Plane West, NAD 1927



Legend	
	Proposed Mine Permit Boundary
	Proposed Wildlife Transect Survey Locations
	Access Road
	Baseline Proposed Disturbance - Hills
	Baseline No Proposed Disturbance - Gravelly
	Baseline No Proposed Disturbance - Hills
	Baseline Proposed Disturbance - Gravelly
	Pit
	Pit Lake
	Saltcedar
	Tailings Dam
	Tailings Pile

Figure 5-1
Map of the Proposed Wildlife
Transects and Site Strata
 New Mexico Copper Corporation