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February 8, 2008 BRO-02

Ms. Betty Schmucker
Supervising Scientist
Brown and Caldwell
9665 Chesapeake Dr., Ste. 201
San Diego, CA 92123

Subject: Due Diligence Assessment of the American Girl Mine Property

Dear Ms. Schmucker:

At your request, HELIX Environmental Planning, Inc. (HELIX) conducted a biological assessment of the American Girl Mine property, located northeast of the community of Ogilby in Imperial County, California. HELIX biologist Doug Allen performed a site reconnaissance on February 5, 2008 to evaluate the biological resources evident at that time and to identify any potential biological limitations for the proposed re-mining operation of the site.

PROPERTY LOCATION AND DESCRIPTION

The approximately 40-acre site is located in the southeastern portion of Imperial County, California (Figure 1). Specifically, the project site is located on the western edge of the Cargo Muchacho Mountains, approximately 3 miles northeast of the intersection of Ogilby Road (State Route 34) and American Girl Mine Road. The property is shown in Section 19, Township 15 South, and Range 19 East of U.S. Geological Survey 7.5-minute Ogilby quadrangle (Figure 2).

The project site is highly disturbed from past mining activities and currently consists of mostly abandoned mine spoils, tailings, a dirt road, and a small desert wash (Figure 3). The property is relatively flat with elevations on site ranging from approximately 493 to 621 feet above mean sea level. The surrounding land use to the north and east includes undeveloped slopes of the Cargo Muchacho Mountains, and to the south and west are abandoned mine spoils, pits, and dirt roads of the adjacent properties and the American Girl Mine.

BIOLOGICAL RESOURCES

Vegetation Communities

Sonoran Creosote Bush Scrub-Disturbed

The project site supports mostly disturbed Sonoran creosote bush scrub that has re-established on the abandoned mine spoils and tailings. Because of the disturbed

nature of the site, it has little to very low wildlife habitat quality. The plants are widely spaced over the open and uneven topography and provide little to no cover for animals. Plants observed include white bur-sage (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), ocotillo (*Fouquieria splendens*), creosote (*Larrea tridentate*), sweetbush (*Bebbia juncea*), and long-leaved sandpaper plant (*Petalonyx linearis*).

Desert Dry Wash Woodland

Desert dry wash is an open to dense, drought deciduous, microphyllous riparian thorn scrub woodland, typically less than 60 feet tall. The project site includes small areas of desert dry wash woodland along the wash in the southern portion of the property. Plants observed include ironwood (*Olneya tesota*), cat-claw acacia (*Acacia greggii*), blue palo verde (*Cercidium floridum*), creosote, brittlebush, and sweetbush.

Tamarisk Scrub

Tamarisk scrub is typically comprised of shrubs and/or small trees of exotic tamarisk species (*Tamarix* sp.), but may also contain willows (*Salix* spp.), salt bushes (*Atriplex* spp.), catclaw acacia, and salt grass (*Distichlis spicata)*. This habitat occurs along intermittent streams or washes in areas where high evaporation rates increase the salinity level of the soil. The tamarisk scrub on site occurs in a small wetland area in the northwest portion of the project site. Plants observed include athel (*Tamarix aphylla*), tamarisk (*T. ramosissima*), blue palo verde, and ironwood.

Disturbed Land

Disturbed habitat includes unvegetated or sparsely vegetated areas, particularly where the soil has been heavily compacted by prior development. Disturbed habitat is generally dominated by non-native weedy species that adapt to frequent disturbance or consists of dirt trails and roads. Within the project site, disturbed land consists of dirt roads.

Jurisdictional Resources

A formal wetland delineation was not conducted on the property. The site includes a desert wash in the southern portion and a small wetland area in the northwestern portion. The wash includes a bed and bank, shows sign of flow, and supports a small amount of desert dry wash woodland. The wetland area supports tamarisk scrub, and surface water was present during the field visit. This area is considered a jurisdictional wetland by the California Department of Fish and Game (CDFG); however, it is not U.S. Army Corps of Engineers (Corps) jurisdictional because it is an isolated wetland.

The CDFG considers desert dry wash woodland and wetlands to be sensitive habitat/biological resources. An initial assessment suggests that the wash dissipates into the desert floor to the southwest, but if the wash flows into other drainage features that may eventually drain into jurisdictional features, it is possible that the Corps could consider the wash jurisdictional and attempt to regulate it under Section 404 of the Clean Water Act. CDFG will consider the wash and wetland jurisdictional and attempt to regulate it under Section 1602 of the Fish and Game Code.

Discharge of fill into Waters of the U.S. is regulated by the Corps under Section 404 of the federal Clean Water Act (CWA). The California Regional Water Quality Control Board (RWQCB) provides certifications under Section 401 of the CWA. Impacts to any Corps jurisdictional areas require permits under Section 404 of the CWA.

In addition, the CDFG regulates impacts to rivers, streams, or lakes from which plants or wildlife derive benefit under Sections 1600-1616 of the California Fish and Game Code

RARE, ENDANGERED, OR SENSITIVE HABITATS AND SPECIES

Sensitive resources are those defined as (1) habitat area or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; and (2) species that have been given special recognition by federal, state, or local government agencies and organizations due to limited, declining, or threatened populations.

Listed Plant and Animal Species

One of the most significant concerns of biological due diligence is the potential presence of threatened or endangered (listed) species, which are protected by federal and state laws. No listed plant or animal species were observed on site during HELIX's February 5, 2008 site reconnaissance or are expected to occur because of the disturbed nature of the project site. Research indicates that listed species are not known to occur in the general vicinity of the site (CDFG California Natural Diversity Database [CNDDB] 2007).

Sensitive Habitats

Habitats considered sensitive by federal or state resource agencies are those that have been depleted, are naturally uncommon, or support sensitive species. One sensitive habitat occurs on site: desert dry wash woodland. The CDFG considers dry desert wash and wetlands as sensitive habitat; therefore, impacts would require mitigation.

Sensitive Plants

A list of plants observed on site is included as Attachment A. No sensitive plant species were observed during the site reconnaissance visit or are expected to occur because of the highly disturbed nature of the site. The CNDDB search revealed eight sensitive plant species known to occur in the general vicinity of the project site: Hardwood's milk-vetch (*Astragalus insularis* var. *hardwoodii*), Peirson's milk-vetch (*A. magdalenae* var. *peirsonii*), pink fairy-duster (*Callianda eriophylla*), Wiggin's croton (*Croton wigginsii*), glandular ditaxis (*Ditaxis claryana*), Algodones Dunes sunflower (*Helianthus niveus* ssp. *tephrodes*), giant Spanish-needle (*Palafoxia arida* var. *gigantea*), and sand food (*Pholisma sonorae*).

The site does not have appropriate habitat (desert dunes) to support Peirson's milk-vetch, Algodones Dunes sunflower, giant Spanish-needle, or sand food. Hardwood's milk-vetch, pink fairy-duster, Wiggin's croton, and glandular ditaxis were searched for but not observed on the project site.

Sensitive Animals

A list of animal species observed on site is included as Attachment B. No sensitive animal species were observed on site during the site visit; however, one CDFG Game Mammal species, Mule Deer (*Odocoileus hemionus*), was detected on the project site.

The CNDDB search revealed eight sensitive animal species known to occur in the general vicinity of the project site; Hardy' dune beetle (*Anomala hardyorum*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis californicus*), California leaf-nosed bat (*Macrotus californicus*), gila woodpecker (*Melanerpes uropyialis*), flat-tailed horned lizard (*Phrynosoma mcallii*), Andrew's dune scarab beetle (*Pseudotalpa andrewsi*), and Le Conte's thrasher (*Toxostoma lecontei*).

The site does not have appropriate habitat (desert dunes) to support Hardy' dune beetle or Andrew's dune scarab beetle. The site is too disturbed and lacks appropriate habitat to support the gila woodpecker, flat-tailed horned lizard, and Le Conte's thrasher.

Three sensitive bat species (the pallid bat, western mastiff bat, and California leaf-nosed bat) have been reported in the general vicinity of the project site. These three species do not roost on site because of a lack of suitable roosting habitat (caves, mines, rock cliffs); however, they may roost off site and forage over the site.

Desert Tortoise

The desert tortoise, a federally and state listed threatened species, is not known to occur in the project area (CNDDB 2007); however, the project site is within the

historic desert tortoise range and desert tortoise are known to occur north of the site. Because the project site is too disturbed and lacks appropriate burrowing and foraging habitat, desert tortoise are not expected to occur on the project site.

Raptors

The project site provides potential foraging habitat for raptors. Suitable habitat for tree-nesting or cliff-nesting raptors does not occur on site. The trees present on the property are not high enough to provide adequate protection for raptor nests.

CONCLUSION

The scope of HELIX's analysis is the evaluation of potential issues related to biological resources that could have a significant effect on your ability to re-mine the American Girl Mine property. There are issues we have not considered (such as cultural resources, paleontological resources, hazardous materials, water quality, noise, and geology) because they are outside the scope of our analyses. Based on the site investigation and a review of documents provided by Brown and Caldwell and the wildlife agencies, the following conclusions for the site have been reached:

- Wetland permitting would only be required if the Corps or CDFG consider the wash and the wetland area to be jurisdictional and impacts are proposed for these areas. Our preliminary field investigation indicates that Corps jurisdictional wetland and non-wetland Waters of the U.S. do not occur on site; however, potential jurisdictional wetland and Waters of the State do occur on site. Impacts to the wash will require a 1602 Streambed Alteration Agreement. A wetland delineation will be required to determine if the wash is Corps jurisdictional. If a significant nexus exists and the wash is jurisdictional, a Corps Section 404 Permit and RWQCB Section 401 Certification will also be required for any proposed impacts.

- Mitigation would most likely be required for impacts to desert dry wash vegetation in the form of land acquisition compensation at a ratio of 1:1 to 3:1.

- Mitigation would be required for impacts to CDFG wetlands. The CDFG has a no-net-loss policy for wetlands and would require mitigation at a minimum ratio of 3:1, including a minimum ratio of 1:1 for wetland creation.

- Because the project site is within the historic range of the desert tortoise and the desert tortoise is known to occur north of the project site, the U.S. Fish and Wildlife Service (USFWS) may require (although very unlikely) a presence/absence survey. This would be determined by the USFWS and CDFG.

If you have any questions regarding this letter report or if we can be of additional service, please call Dr. Derek Langsford or me at (619) 462-1515.

Sincerely,

Doug Allen
Biologist

Enclosures:

Figure	1	Regional Location Map
	2	Project Location Map
	3	Aerial Photograph
Attachment	A	Plant Species Observed
	B	Animal Species Observed
	C	Site Photos

LITERATURE CITED AND/OR MATERIALS REVIEWED

California Department of Fish and Game (CDFG) California Natural Diversity Database (CNDDB). 2007. Special Animals (848 taxa). State of California, The Resources Agency, Department of Fish and Game, Biogeographic Data Branch, California Natural Diversity Database. URL: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf. October.

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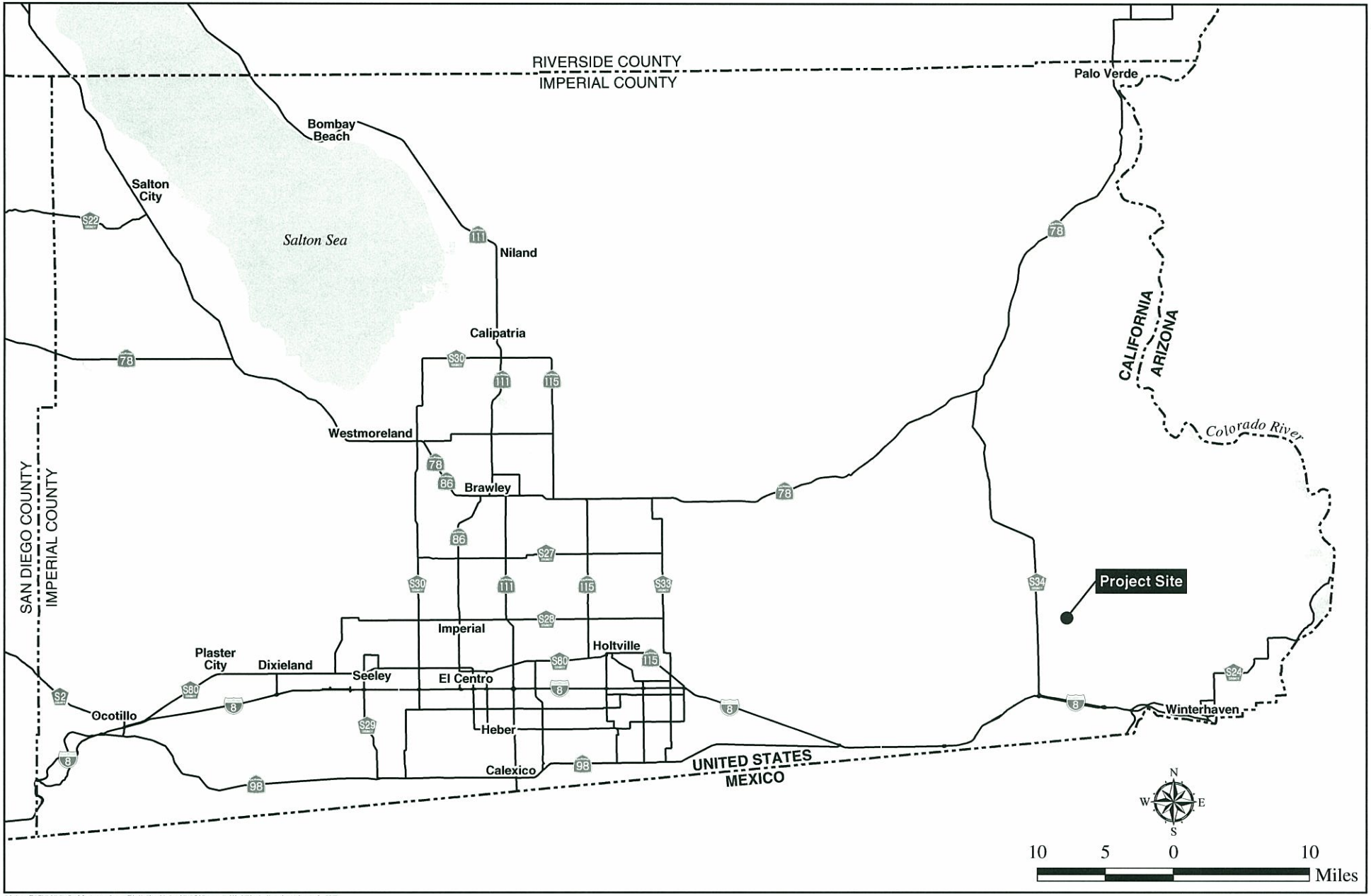
Bureau of Land Management (BLM), Interior. 2000. Draft Environmental Impact Report/Environmental Impact Statement on the Proposed Expansion of the Existing Mesquite Gold Mine. August 8, 2000

BLM. 1997. Imperial Project, Imperial County, California, Draft Environmental Impact Statement/Environmental Impact Report. State Clearinghouse No. 95041025. November 1997.



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Regional Location Map

AMERICAN GIRL MINE

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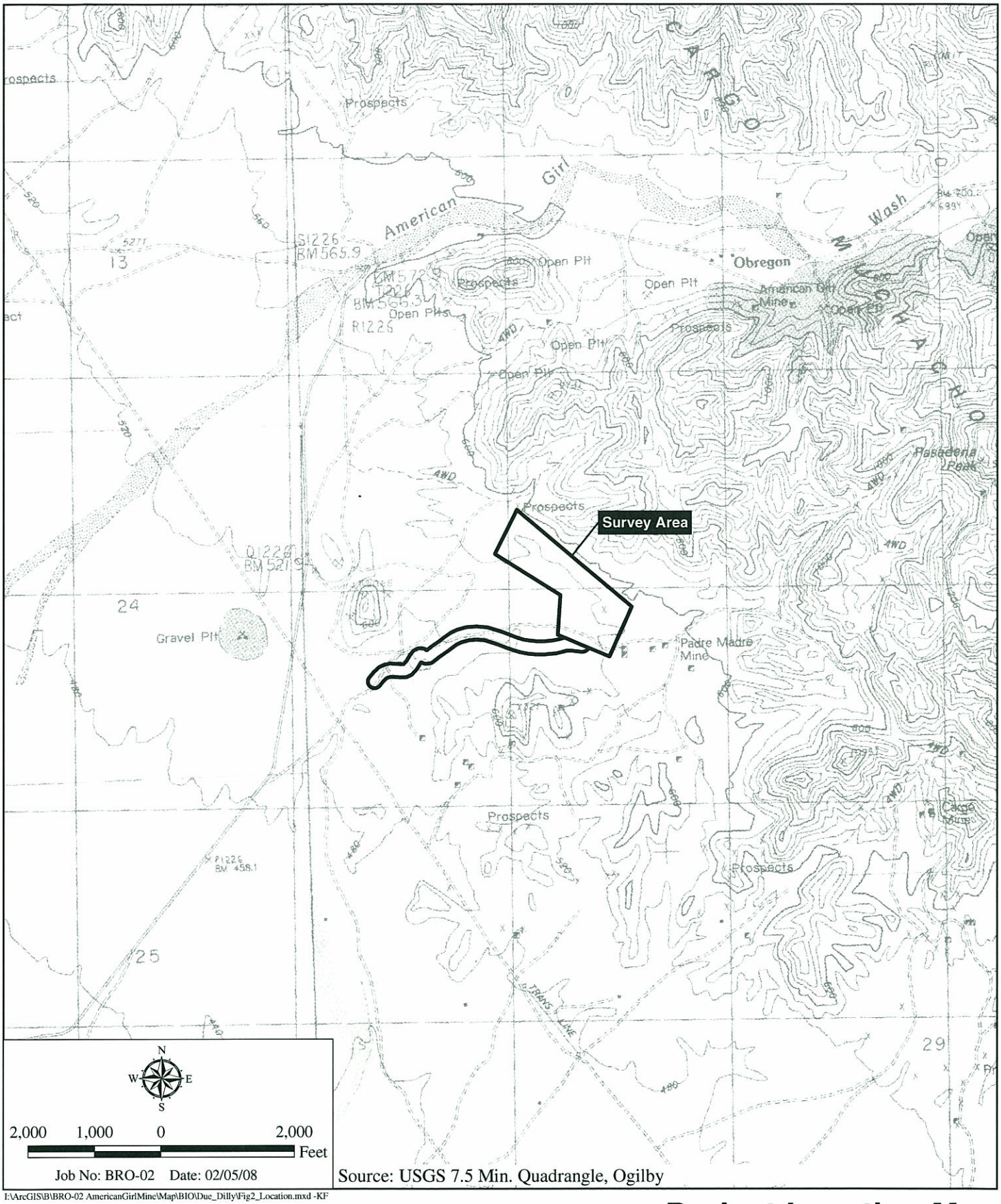
Figure 1



Source: USGS 7.5 Min. Quadrangle, Ogilby

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Project Location Map

AMERICAN GIRL MINE

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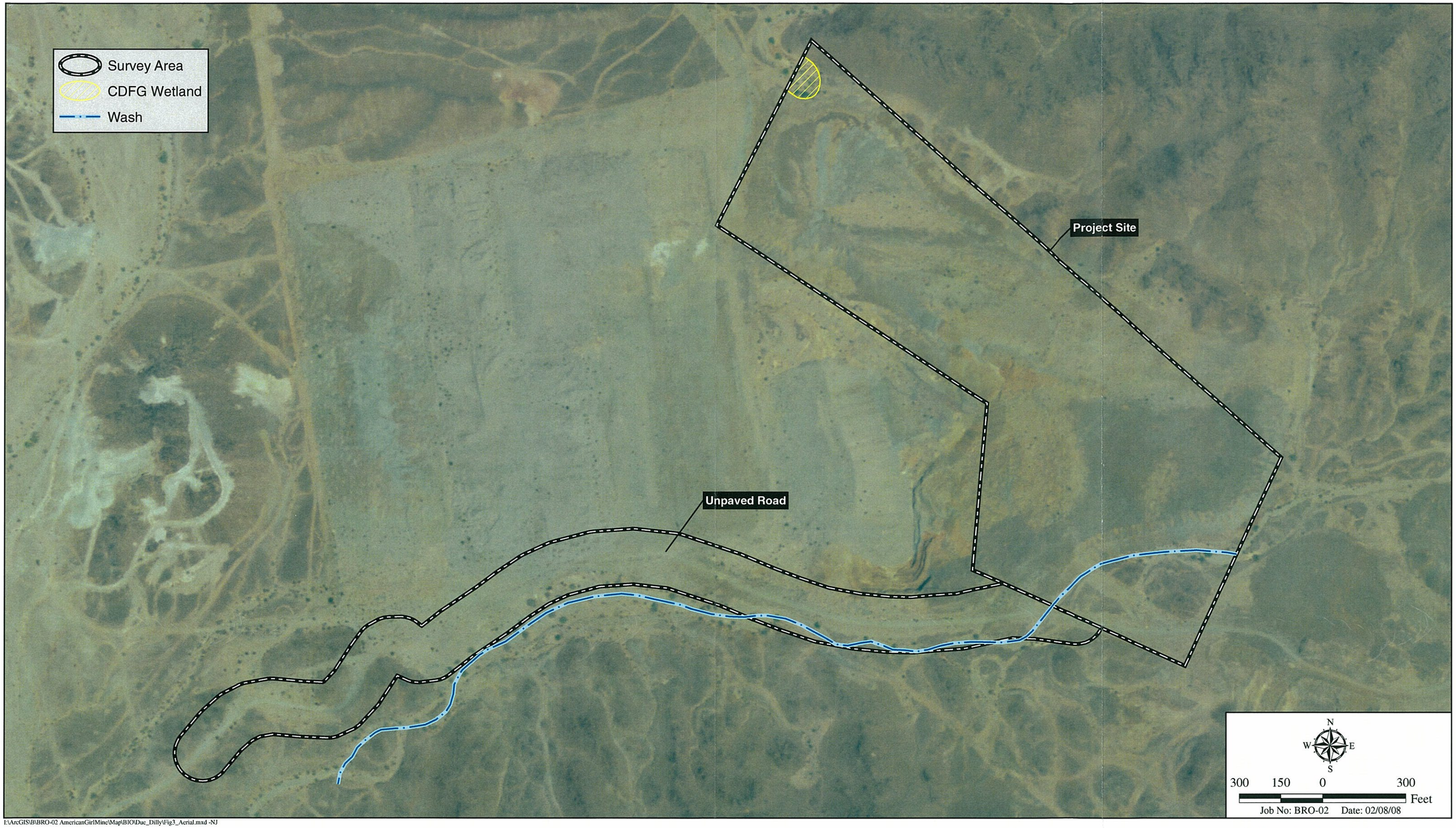
Figure 2



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Aerial Photograph

AMERICAN GIRL MINE

Figure 3

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Attachment A
PLANT SPECIES OBSERVED – AMERICAN GIRL MINE

COMMON NAME	SCIENTIFIC NAME	FAMILY
DICOTYLEDONS		
Asclepiadaceae	*Asclepias* sp.	milkweed
Asteraceae	*Ambrosia dumosa*	white-bur-weed
	Bebbia juncea	sweetbush
	Encelia farinosa	brittlebush
	Filago sp.*	filago
	Peucephyllum schottii	pygmy-cedar
Boraginaceae	*Cryptantha* sp.	cryptantha
Brassicaceae	*Brassica* sp.*	mustard
Cactaceae	*Opuntia basilaris*	beavertail cactus
	Opuntia sp.	cholla
Chenopodiaceae	*Atriplex canescens*	fourwing saltbush
Euphorbiaceae	*Chamaesyce albomarginata*	rattlesnake weed
Fabaceae	*Acacia greggii*	catclaw acacia
	Cercidium floridum	blue palo verde
	Olneya tesota	ironwood
Fouquieriaceae	*Fouquieria splendens*	ocotillo
Hydrophyllaceae	*Phacelia* sp.	phacelia
Loasaceae	*Petalonyx linearis*	narrow-leaf sandpaperplant
Malvaceae	*Sphaeralcea ambigua*	apricot mallow
Nyctaginaceae	*Allionia incarnata*	trailing four o'clock
Onagraceae	*Camissonia* sp.	sun cup
Plantaginaceae	*Plantago patagonica*	desert plantain
Papaveraceae	*Eschscholzia minutiflora*	poppy
Tamaricaceae	*Tamarix aphylla*	athel
	Tamarix ramosissima	tamarisk
Zygophyllaceae	*Larrea tridentata*	creosote bush
MONOCOTYLEDONE		
Poaceae	*Achnatherum coronatum*	giant stipa
	*Vulpia myuros**	fescue

*Non-native species

Attachment B
ANIMAL SPECIES OBSERVED – AMERICAN GIRL MINE

FAMILY	SCIENTIFIC NAME	COMMON NAME
INVERTEBRATES		
Formicidae	*Pogonomyrex* spp.	harvester ant
Nymphalinae	*Vanessa cardui*	painted lady butterfly
VERTEBRATES		
Reptile		
Phrynosomatidae	*Uta stansburiana*	side-blotched lizard
Birds		
Columbidae	*Zenaida macroura*	mourning dove
Fringillidae	*Carduelis psaltria*	lesser goldfinch
Troglodytidae	*Salpinctes obsoletus*	rock wren
Mammals		
Leporidae	*Lepus californicus deserticola*	black-tailed jack rabbit
Canidae	*Canis latrans*	coyote
Cervidae	*Odocoileus hemionus*†	mule deer

† Denotes sensitive or listed species

Photo 1. General view of project site looking west along American Girl Mine Road.

Photo 2. General view of desert wash looking east. Note: tire tracks in foreground.

Site Photos

AMERICAN GIRL MINE

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Photo 3. General view of project site looking northeast towards slopes of Cargo Muchacho Mountains.

Photo 4. General view of the northwestern portion of the project site.

Photo 5. Wetland area in the northwestern portion of the project site.

Photo 6. General view of desert wash, south of American Girl Mine Road, looking west. Note: tire tracks in foreground.