NI 43-101 Technical Report
on the
Sugarloaf Peak Gold Project
La Paz County, Arizona

Prepared for

Arizona Metals Corp.

66 Wellington St W, Suite 4100
TD Bank Tower, Toronto, ON
Canada, M5K 1B7

Prepared by

HIGHLANDSgeoscience
geologic, resource and sustainability consultants
David S. Smith, MS, MBA, CPG
3803 NE 120th St.
Seattle WA 98125

ETHOS GEOLOGICAL
Scott Close, MSc, PGeo
820 North Wallace
Bozeman MT 59715

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1 SUMMARY

Introduction, Description, and Location

This technical report was commissioned by Arizona Metals Corporation for the Sugarloaf Peak project, located in La Paz County, Arizona, approximately 10 km west-southwest of Quartzsite, Arizona, on the eastern side of the Dome Rock Mountains in southwestern Arizona. The property is located in Sections 3, 4 and 5, T3N, R20W, and Sections 28 through 34, T4N, R20W, Meridian 14 (Gila and Salt River Meridian).

The property comprises 223 unpatented mineral claims (222 lode claims and 1 placer claims) covering approximately 1,785 hectares (4,412 acres). All claims are owned 100% by Arizona Metals Corporation. Several senior third-party claims fall within or adjacent to the project's claims. At present Arizona Metals does not view these third-party claims as material to the proposed exploration program. All claims are on federal public land administered by the U.S. Bureau of Land Management (BLM). According to the BLM all claims are in good standing.

History

The project has a long history, beginning in 1962 with porphyry-copper exploration by Congdon & Carey and Kerr- McGee through 1973. Gold exploration began in 1981 with a drilling program by Westworld Oil & Gas and continued through 1995 with work and drilling by Amselco, Cominco, and Arimetco. In 2006, principals of Arizona Gold Holdings acquired the project and optioned it to Riverside Resources in 2008. After conducting geologic mapping, sampling, and drilling in 2008 and 2009, Riverside optioned the project to Choice Gold Corporation in 2011. Choice Gold funded geologic mapping and sampling, induced-polarization and airborne magnetics geophysical surveys, and two stages of drilling. Choice Gold dropped its option in 2012 and returned the project to Riverside Resources. In 2014, Arizona Metals optioned the project from Riverside (under Arizona Metals' previous name Croesus Gold Corporation), and completed its 100% purchase of the project in March 2016. Exploration and drilling on the Sugarloaf Peak Project has culminated in identifying a large, zoned, gold-mineralized system in the central part of the property.

Geologic Setting and Mineralization

The Sugarloaf Peak property is located in the Jurassic magmatic arc complex of west-central Arizona, an extensive belt of Lower- to Middle-Jurassic metavolcanics and related plutons. Host rocks in the project area are known as the Dome Rock igneous suite, a sequence of 158-200 Ma metavolcanics, their volcaniclastic equivalents, coeval intrusions, and minor metasediments. Regional structure and tectonics include the Precambrian Goodman Fault zone, which shows a pronounced bifurcation into six strands on the project, four Mesozoic deformational events of both compressional an extensional nature, as well as Tertiary Basin-Range faulting. The project occurs in a region of large gold deposits (Mesquite, California, and Copperstone, Arizona) and a number of smaller mineral occurrences in the Dome Rock Mountains.

The main rock type at Sugarloaf Peak is altered rhyolite. This typically has a fine ash matrix with variable amounts of quartz and feldspar phenocrysts, lithic fragments, and lapilli. Rhyolite shows compositional layering, flame structures, and welding; this compositional layering has often been named "foliation" on the project, although it can easily be confused for true parallel alignment of metamorphic minerals. Thin sections reveal that very fine-grained sericite does display mineral-parallel foliation. Other host rocks to gold mineralization include dacite and andesite flows, and two intrusive units, the Middle Camp quartz monzonite and the Diablo alkali granite. All host rocks on the project appear to have been deformed and show variable amounts of foliation.

Located in the Central Zone of the project, gold mineralization consists of sheeted veins/veinlets and stockworks of quartz-pyrite±accessory vein minerals including specularite, tourmaline, and molybdenite in quartz-sericite-pyrite and argillic-altered host rocks. Pyrite is broadly disseminated in altered wall rocks adjacent to quartz-pyrite bearing veinlets, veins, and faults or shear zones. The main gold-mineralized zones identified both in drilling and on surface occur within zones of quartz-sericite-pyrite alteration, and argillic to advanced argillic alteration on surface. Historic and modern surface rock-chip samples have outlined a gold anomaly >200 ppb Au measuring approximately 2.5 km long accompanied by anomalous zinc, molybdenum, and lead. Statistical evaluations of Riverside drill data revealed a strong correlation between Au and Te (correlation coefficient of 0.78), and a weak Au correlation with As (R=0.47). Downhole multi-element plots from the Choice Gold drilling support these associations, and show a strong correlation between Au and Ag, Cu, Pb, Zn, Mo, Bi, Te, As, Sb, and Se in the gold mineralization.

Many past and current geologists consider the gold mineralization to be Jurassic in age, roughly 160-164 Ma, but I have seen no conclusive evidence for this, nor for the relative timing of mineralization and the numerous deformation events. Thin sections reveal that alteration sericite is generally moderately foliated, indicating that alteration and mineralization occurred before or during one of the four deformation events that have taken place in the host rocks.

The principal large-scale structural control on gold mineralization is considered to be the Goodman Fault system. On a smaller scale, quartz-pyrite veins appear to be the principal structural control on mineralization. Understanding more fully the structural controls on mineralization should be a goal for the project. Thrust faulting, foliation, and dikes may have played roles in localizing mineralization. Structural preparation in the area of gold mineralization is impressive. The project overlies a pronounced bifurcation of the Goodman Fault zone into six strands. In the same area, a left step in the fault system would create dilation receptive to mineralizing fluids during left-lateral motion. The presence of abundant veins of multiple generations, pervasive foliation, and several episodes of shearing and thrust faulting all contribute to an exceptionally complex structural setting and pervasive pathways for mineralizing fluids. Post-mineralization faulting may have partially dissected the mineralized system, and identifying these structures and their offsets may be important in outlining a resource.

The project also holds potential for alkaline porphyry copper-gold deposits in the west, north, and southeast parts of the project. Porphyry copper-gold style mineralization is prospective on the North and West Targets. The highest copper grades on the project—up to 0.67% Cu—occur on the North Target north of Interstate 10, where rock-chip sampling by Choice Gold returned widespread copper mineralization with up to 1.95 g/t Au. These samples occur in variably sheared and altered porphyritic granitoids with K-feldspar phenocrysts; monzonite porphyry; and latite porphyry intrusives. In the central mineralized zone south of Interstate 10, Cu forms a low-level anomaly (>100 ppm) that trends irregularly to the northwest, and which sits distinctly offset to the west-southwest of the main Au, Pb, Zn, and Mo anomaly. This offset, along with higher Bi, Te, As, and Sb to the west-southwest coincident with the Cu anomaly suggests that this portion of the project may be the deeper levels of a porphyry system.

The exploration model for the project is based on structural geology, rock-chip geochemistry, and geophysics, along with knowledge of metal zonation in orogenic gold, high-sulfidation epithermal systems, and porphyry copper-gold systems. The coincidence of Goodman Fault shears and other high-angle faults; gold, zinc, and molybdenum rock-chip anomalies; and geophysical IP chargeability high and magnetic low anomalies present the highest-quality exploration targets for gold. Porphyry copper-gold targets will be defined by a combination of exposed alteration and mineralization, anomalous pathfinder elements, and IP and magnetic anomalies.

Exploration

Exploration on the project has occurred in numerous phases from 1962 to the present. Exploration conducted includes geologic mapping; collection of at least 1,916 rock samples; structural reviews; an airborne magnetic survey; and an induced-polarization-resistivity survey. These samples and geophysical surveys outline the large gold-mineralized system that has been verified with drilling, and show several promising targets for additional exploration.

Drilling

One hundred six drill holes totaling approximately 15,780 m (51,772 ft) of core, rotary, and reverse circulation drilling have been completed on the property between 1963 and 2020 by operators in search of both gold and copper. Drilling has identified a large, relatively low-grade gold deposit exposed at surface over an area of approximately 1 km east-west and 500 m north-south. The deposit shows excellent expansion potential: the currently drilled area is open to the south, west, east, north, and at depth. Five target areas within and adjacent to the deposit are ready for fill-in and extension drilling. The drilled area is surrounded laterally by a strong surface gold anomaly and argillic/sericitic alteration, and underlain by deeper gold-bearing drill intercepts and many holes that ended in mineralization. Recent drill holes contain >300 ppb Au intercepts as deep as 200 meters, but many IP high chargeability anomalies at depth remain undrilled. Given the extent and grade of the currently drilled area and the lateral and depth indications, the potential for expanding the gold deposit is excellent. In particular, the prominent magnetic low that underlies gold mineralization continues to the west under alluvial cover, where it coincides with the western portion of the IP chargeability high anomaly. This presents a prime, untested exploration target.

Sample Preparation, Analysis, and Security

Sample preparation, analysis, and security for historical samples cannot be determined but in my opinion were suitable and results are generally reliable. Data verification and quality-control results were acceptable.

Data Verification

Exploration since 2008 has generally been carried out under exploration best practices and exploration results are acceptable my opinion.

Mineral Processing and Metallurgical Testing

Metallurgical test work on the project is limited. In 2009, Kinross performed 24-hour cyanide bottle-roll tests on 16 samples collected from outcrops on surface. Five of these samples were generally representative of gold mineralization in the core of the deposit; these averaged 0.42 g/t Au and 64% Au recovery. This is within the range of potentially economic recovery for an open-pit, heap-leach mining operation. In 2013, Agnico Eagle collected five samples of reverse-circulation cuttings and drill core. BLEG bottle-roll results ranged from 33% to 146%, likely as the result of relatively small sample size and coarse gold on the project. In 2021, Arizona Metals commissioned 12 cyanide bottle-roll tests, resulting in 95% Au recovery in oxide material and 72% Au recovery in sulfide material.

Mineral Resource and Mineral Reserve Estimates

There are no current gold resource estimates on the project. There are historic conceptual potential resource opinions on the project. The weighted average of all the drill intervals >0.3 g/t Au is 0.56 g/t Au; although low, this is still in the range of potentially economic mineralization. The deposit contains significantly higher-grade portions: 95 drill intervals exceed 1 g/t Au with a peak at 6.6 g/t Au. Finding additional higher-grade mineralization will be the key to developing an economically viable resource on the project. Several signs point to a strong, large system with very good potential; these include the large area of intense hydrothermal alteration, the high-grade intervals mentioned above, and long, lower-grade drill intercepts such as 100.6 meters of 0.42 g/t Au in hole SGR-12-09, 125 m of 0.39 g/t Au in hole SGR-12-10, and 137.6 meters grading 0.53 g/t Au in hole SP-20-01. I believe that the potential is very good for development of a significant, economically viable gold resource.

Current data on the project appears to be insufficient to calculate a current resource, mainly because of wide drill hole spacing, with averages about 150 m. Generating a current gold resource estimate will require infill, step-out, and depth extension drilling. It will also require thorough verification of all previous drill data; this may include twinning of historical holes, or drilling nearby holes to confirm grade continuity. Any further drilling on the project should be planned with the chosen Qualified Person to ensure that the appropriate data is generated for a current resource model.

Conclusion and Recommendations

It is my opinion that potential is excellent for development of a near-surface, bulk-mineable gold deposit of, and the potential is very good for discovery of porphyry copper-gold deposits. The project should be aggressively explored, with a program of drilling, geologic mapping, rock sampling, geochemical and analytical studies, and geophysical surveys. A budget estimate for this work on all the project targets is USD$8,680,000, comprising $5,231,500 in Phase 1 and $3,311,000 in Phase 2.

2 INTRODUCTION

This technical report on the Sugarloaf Peak property, an exploration-stage project in La Paz County, Arizona, was commissioned by Arizona Metals Corporation. The report is written to the requirements and standards of disclosure for mineral projects as stated in National Instrument 43-101. The principal author of this report, David Smith, is not independent of the company: he serves as Vice President of Exploration for Arizona Metals, is a company shareholder, and holds stock options in the company.

SOURCES OF INFORMATION

All sources of information used in this report are listed in the Reference section. These include published and unpublished geologic data, maps, and reports compiled from private, academic, and government sources.
I relied heavily on, and paraphrase throughout this report, four previous NI 43-101 reports on the project, written by Goldsmith (2008) and Smith (2011, 2016, 2019), and detailed reports on Choice Gold's work done by geologists Brad Peters and Rory Ritchie.

This report is a compilation of work done by many geologists over the project's history. I have relied on information and interpretations contained in publications and reports written by Stanley Keith as listed in the References section, principally in the sections Geological Setting and Mineralization, Deposit Types, and Interpretation. I have also drawn heavily from and paraphrased five previous NI 43-101 reports written by Locke Goldsmith (2008, 2011) and David Smith (2011, 2016, 2019), particularly the sections Geological Setting and Mineralization, Deposit Types, Interpretation, and portions of Rock-Chip Sampling and Data Verification.

I have also relied on detailed descriptions of Choice Gold's 2011-2012 exploration work written by geologists Brad Peters and Rory Ritchie. These writings have been incorporated throughout the report, into the sections History; Geological Setting and Mineralization; Exploration; Drilling; Sample Preparation, Analysis, and Security; Interpretation; and Recommendations.

The extent of reliance on these experts is for geologic details, descriptions, and interpretations. Mr. Keith had an ownership interest in the Sugarloaf Peak property as a principal of Arizona Gold Holdings LLC, a previous project vendor. During 2008 and 2011, Mr. Keith conducted the geological mapping and supervised the bedrock sampling for geochemistry. Mr. Goldsmith was an independent Qualified Person. Mr. Peters and Mr. Ritchie are independent geologic consultants.

A structural review by Telluris (2011) contributed to much of the content in the section Structural Controls on Mineralization. This report also relies on reports, technical data, and information from previous operators of the property, as listed in the References section. These sources were relied on for historical and background information in the sections History and Drilling, and the portions of Sample Preparation and Data Verification related to historical samples. I have not been able to verify the information contained in these reports but am of the opinion that they are generally accurate and reliable.

CURRENT PERSONAL INSPECTION

Author David Smith has made numerous personal inspections of the Sugarloaf Peak Project. The first was July 21-22, 2011, and included review of geologic mapping, bedrock sampling, regional geology, local infrastructure, permitting, and core storage. Data-verification samples were taken from drill core generated by Riverside Resources in 2009, and from outcrop locations sampled by Arizona Gold Holdings on behalf of Riverside and Choice Gold. The second personal inspection was August 10-18, 2011, during which I managed drilling and logged core as an independent consultant to Choice Gold Corp. The third personal inspection was during March 11-15, 2013, as Chief Geologist for the project vendor, Riverside Resources, during which I reviewed field geology, mineralization and alteration, drill-hole and mineral claim locations, and drill core and cuttings. My fourth personal inspection of the Sugarloaf Peak project was April 28-29, 2016; on this visit, I toured the project and visited the core and rotary drill sample storage facilities. My fifth and most recent personal inspection was on March 12, 2020, during which I visited permitted drill sites with a representative of the Bureau of Land Management.

Author Scott Close made the most recent personal inspection in June, 2021. The visit involved visiting the site and verifying the access, surficial geology, and drill hole locations and collars from the 2020 series drill program on June 2. On June 3, Scott Close visited the secure core storage facility in Ehrenburg, AZ, examined core from holes SP20-01 and SP20-02, and additionally verified the existence of older core from prior drill programs.

3 RELIANCE ON OTHER EXPERTS

As the Qualified Person for and author of this report, I am responsible for all items in the report. Two legal land-review reports by attorney John Lacy (2011a, 2011b) were used as the basis for the Property Description section. Determination of secure mineral title is solely the responsibility of Arizona Metals Corp.

4 PROPERTY DESCRIPTION AND LOCATION

PROPERTY LOCATION

The Sugarloaf Peak project is located in La Paz County, Arizona, approximately 10 km west-southwest of Quartzsite, Arizona, on the eastern side of the Dome Rock Mountains. The property is predominately to the west and northwest of the prominent landmark Sugarloaf Peak, along and to the south of Interstate Highway 10 in T3N, R20W Sections 3, 4 and 5, 6, 8, 9, 10, 11, and T4N, R20W Sections 28 through 35, Meridian 14 (Gila and Salt River Meridian). The project falls on the Middle Camp Mountain U.S. Geological Survey 7.5-minute topographic map. The approximate center of the property is at latitude 33.636 degrees north, longitude 114.328 degrees west, at UTM coordinates 748,000 E, 3,725,000 N (Zone 11, NAD83 datum).

PROPERTY DESCRIPTION

The property comprises 223 unpatented mineral claims (222 lode claims and 1 placer claim) covering approximately 1,785 hectares (4,412 acres; Figure 4.2) owned 100% by Arizona Metals Corporation. The CG series of claims was staked by Croesus Gold (previous name of Arizona Metals) in April, 2018; all other claims were acquired from Riverside Resources (see below). Table 4.1 summarizes the claims; full claim details are listed in Appendix 1.

MINERAL TITLE AND MINING LAW

Mineral rights for economic minerals and metals on public lands in the United States are governed by the General Mining Act of 1872. This law allows for unpatented mineral claims to be staked on public lands that are open to mineral entry and have not been designated for other specific uses. Unpatented mineral claims confer mineral rights to the owner, while surface rights remain under the administration of the appropriate government agencies. In the Sugarloaf Peak project area, mineral rights and permitting are administered by the Department of Interior, Bureau of Land Management (BLM), under the Federal Land Policy and Management Act of 1976.

According to the Bureau of Land Management web site, all claims are in good standing until August 31, 2021. Prior to the close of business on August 31, 2021, annual maintenance fees of $165 per claim must be paid to the BLM and fees of several dollars per claim to La Paz County. Determination of secure mineral title is solely the responsibility of Arizona Metals Corp.

A legal land review by Lacy (2011a) indicated several minor land-related legal issues to rectify, and analyzed the precedence of other mineral claims within the project boundaries. These issues included: minor but important claim transference and La Paz County filing issues related to the Purple and Sabaka placer claims and lode claims owned by Arizona Gold Holdings. According to Jeff Dare, Corporate Secretary of Riverside Resources, all of these issues have been resolved (personal communication, February 2013). Lacy (2011a) also notes pre-existing rights-of-way for roads, power lines, pipelines, and other utilities. In particular, portions of mining claims that overlap Interstate 10 are invalid, and any new claims in these areas should be staked outside I-10's right-of-way.

Several third-party claims fall within or adjacent to the project's claims. Those that are senior are the Roadrunner #15, Black Boar claim group, and SE claim group (Figure 4.2).The previous Choice-Riverside option agreement mentions one additional claim, the Dutch Star. According to Lacy (2011b) this claim appears to be invalid. As far as the author can determine, no judicial judgment has been reached on this claim, nor legal challenge launched by the Dutch Star owner. At present Arizona Metals does not view these third-party claims as material to the proposed exploration program.

Table 4.1 Summary of Project Claims

Claim Group	Number of Claims	Claim Type
M-1 – M-64 M-75 – M-85 M 86-A M-92 – M-110	95	Lode
P-1 – P-8	8	Lode
AGN-1 – AGN-41	41	Lode
Sabaka #1	1	Placer
SP-1 – SP-36	36	Lode
RR-1 – RR-4 RR-11 – RR-19 RR-23 – RR-31 RR-38 – RR-41 RR-54 – RR-57 RR-70 – RR-73 RR-110 – RR-113	38	Lode
CG-1 – CG-4	4	Lode
Total	**223**	

NATURE OF ARIZONA METALS'S INTEREST

Arizona Metals Corporation holds 100% ownership in the Sugarloaf Peak project. On December 17, 2014, Croesus Gold (previous name of Arizona Metals) signed an option agreement to purchase the project from Riverside Resources. This agreement was amended twice: Amendment 1 on December 18, 2015; and Amendment 2 on March 21, 2106. The final terms of the twice-amended agreement are as follows:

1. Cash purchase price of CAD$700,000
2. Reimbursement to Riverside of CAD$42,000 in mineral-title fees
3. Net smelter return royalty of 2% to Riverside

In March, 2016, Arizona Metals made the final cash payment and completed its purchase of the project (Riverside, 2016).

ENVIRONMENTAL LIABILITIES

As could be determined by the author of this report, the property is not known to be subject to any significant existing environmental liabilities.

PERMITTING

A Notice of Intent to Explore (NOI) to conduct drilling has been approved by BLM, covering 1.8 acres of disturbance at 26 drill sites. Drilling at additional locations must be approved by an amended NOI.

RISKS AND UNCERTAINTIES

The risks of the Sugarloaf Peak project are those that accompany all exploration projects: the challenge of defining a geologically continuous, economically viable metal resource. The project presents no other unique, significant risks.

The project has two uncertainties. First, the historical drill data has not been thoroughly verified with modern drilling. A subset of historical holes may need to be twinned in order to verify the data for inclusion in a current resource estimate. Nearby infill drill holes may suffice for verifying historical drilling. If necessary, verification twin holes should be distributed to duplicate some holes from Westworld, Cominco, and Amselco. Certain of Riverside Resources' 2009 and Choice Gold's 2011-2012 drill holes may be close enough to historical drill holes to allow data verification.

Second, the project straddles a major infrastructure corridor. The presence of Interstate 10, the natural gas pipeline, and other utilities present permitting and engineering issues that will have to be addressed as the project proceeds. It is conceivable that this infrastructure could limit the extent of mining. Alternatively, it is possible that engineering solutions could be devised; these could require legal, political, and permitting work and expense. This uncertainty is offset somewhat by the presence of utilities and infrastructure on the project, which will generally reduce infrastructure costs during project development.

To the extent known, there are no other significant factors and risks, other than noted in this technical report, that may affect access, title, or the right or ability to perform work on the property.

UTM DATUM

Workers on the project have used various UTM coordinate systems in the past, including NAD27, NAD83, and WGS84. In presenting location data in this report, I have noted which UTM datum was used. NAD27 has historically been used by the U.S. Geological Survey on their topographic maps, but most of the past work on the project was digitized using NAD83. When using location data on this project, workers should take care to verify the UTM datum. Current project maps and data are standardized to NAD83.

Figure 4.1 Project location map. From Goldsmith (2008).

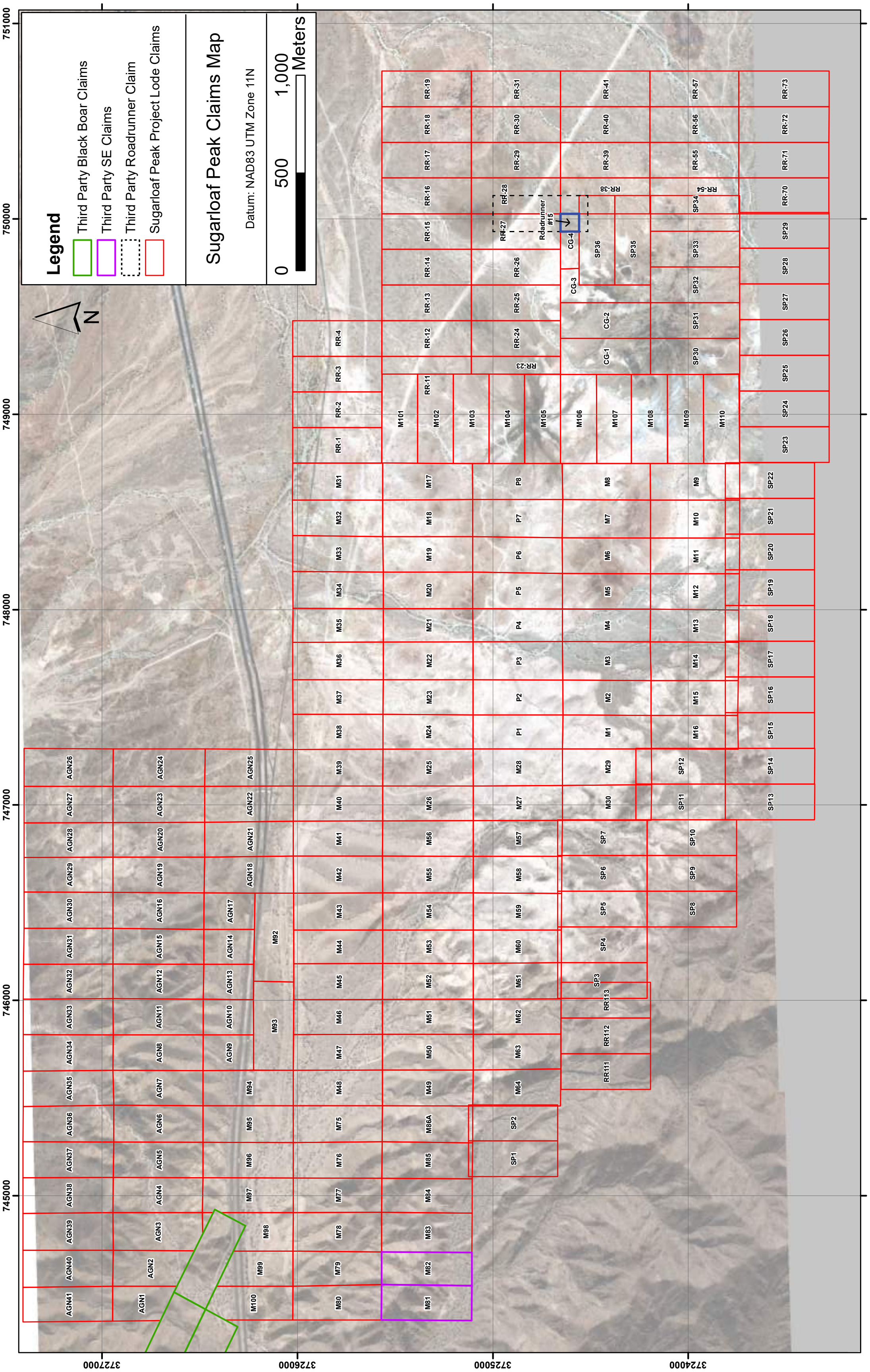


Figure 4.2 Property claim map.

5 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE, AND PHYSIOGRAPHY

ACCESSIBILITY

The project is easily accessible by road on Interstate Highway 10. Sporadically maintained dirt roads enter the claims from the Dome Rock exit from Interstate 10, and from the community of Quartzsite on roads that parallel the south margin of I-10.

The terrain in the Dome Rock Mountains is moderately rugged and serrated (Figure 5.1), reaching an elevation of 536 meters in elevation at Sugarloaf Peak. Topography on the project is varied: the lower-lying areas in the central portion of the project have sufficiently gentle topography to accommodate the interstate highway and other roads; Sugarloaf Peak and the flanks of the Dome Rock Mountains in the northern and southwestern parts of the project are moderately rugged but generally accommodating to drill roads. Outcrop exposure is good: ridges and many slopes show abundant bedrock exposures and other slopes and valleys are typically covered by varieties of weathered bedrock and alluvium. The gullies and stream beds are dry and gravel-filled. Vegetation is sparse, consisting of varieties of cactus and low brush. A sense of the overall geography, desert condition, and geological features is conveyed in Figure 5.1.

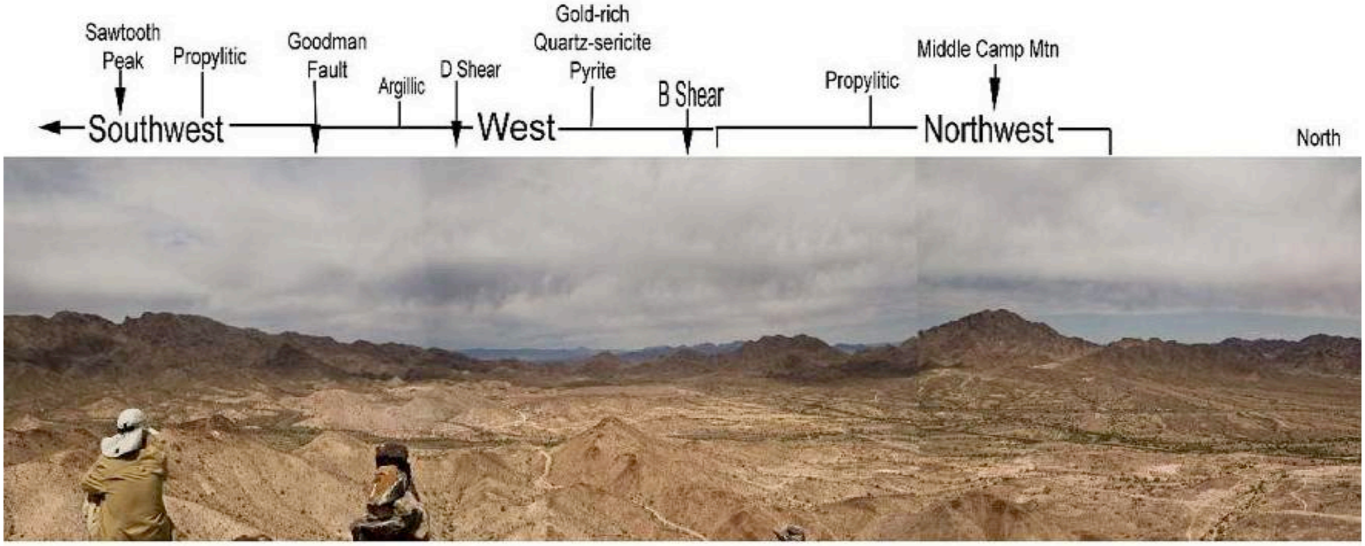


Figure 5.1 Panoramic view of project area, looking to northwest. From Goldsmith (2008).

CLIMATE

The climate of the project area is Sonoran desert, typified by very hot summers and mild winters. The area receives very little precipitation, averaging about 4.1 inches per year, as heavy periodic rain storms, generally in the winter months, and as late summer thunderstorms. Summers are very hot, usually consisting of many consecutive days of over 38ºC (100ºF); temperatures can exceed 45-50ºC (~113-122ºF). Winter temperatures generally range from 5-24ºC (40-75ºF). Access and work can generally continue year-round. Average temperature and precipitation for Quartzsite, Arizona, located approximately 10 km to the east-northeast of the project, are shown in Table 5.1 below. The length of the operating season is 12 months per year.

Table 5.1 Average Monthly Temperature and Precipitation, Quartzsite, Arizona

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average high temperature (°C)	31	33	36	41	44	49	51	50	47	42	35	31
Average low temperature (°C)	19	21	24	26	31	35	39	38	34	28	22	18
Average precipitation (mm)	130	130	79	41	10	10	51	150	89	79	41	71

Source: U.S. Climate Data (2011).

INFRASTRUCTURE AND LOCAL RESOURCES

The property is situated in west-central Arizona in an area with established infrastructure. Interstate Highway 10 crosses the project. The town of Blythe, California, is located about 26 km west of the project, and Parker, Arizona, is located approximately 68 km by road north of the project. Both towns have retail and service suppliers, a small airport, and hospital, police and other facilities. Basic services (food, fuel, hotel accommodation) are locally available in the towns of Quartzsite (10 km east of the project), Ehrenberg (19 km west), and Blythe (26 km west).

Railroad lines and a network of Interstate highways provide excellent transportation infrastructure throughout the project region. Domestic power is available in Quartzsite. A major interstate highway, Interstate 10, runs through the project, as do a natural-gas pipeline, telephone lines, and other utility lines. If an economically viable deposit is outlined at Sugarloaf Peak, this infrastructure may have to be addressed during production planning and design, depending on the location of ore and the resulting open-pit geometry. This is offset by the presence of utilities and infrastructure on the project, which will generally reduce infrastructure costs during project development.

Arizona has a long and rich mining history, and skilled miners and mining professionals reside throughout the state and are available for employment. There are no permanent dwellings on the claims. Surface rights for mining operations, waste disposal, tailings storage, plant site, and heap leach pads may be obtainable from the BLM, and there are sufficient areas of relatively flat-lying topography to accommodate these facilities. Permitting a mining operation in Arizona has been and continues to be a process with which local, state, and federal regulators are very familiar.

WATER

Groundwater is the most likely source of water for mining operations. Depth to groundwater is difficult to judge and will need to be investigated during mining studies. Dausinger (1983) reports depths to water in numerous wells in the area ranging from 34-46 m (111-152 feet) below surface in the early 1980s, including one well in T3N R20W Section 16, roughly 2.6 km south of the project, in which water was at a depth of 37 m (120 feet). Dausinger (1983) also reports that water was encountered in the Westworld drill holes: holes WW-1, 3, 4, 7, and 10 were "wet"; hole WW-3 hit water at 33-34 m (107-113 feet), and hole WW-10 at about 37 m (120 feet). Drillers estimated flows at about 10-30 gallons per minute.

At the Copperstone project, approximately 26 km north, production water is planned to come from wells in the Bouse Formation at depths of approximately 150 m (500 feet; Fayram, 2010). Possible other water sources may include the Bouse Canal and the Colorado River. Local hydrogeology, water rights, and permitting will need to be investigated to determine the best source of water for mining operations at Sugarloaf Peak.

6 HISTORY

The Dome Rock Mountains were one of the first sites where gold was discovered in Arizona in 1862. Numerous prospect pits, old shafts, adits, and rare arrastras (primitive gold-processing structures) are scattered throughout the mountain range both to the north and south of Sugarloaf Peak. Total estimated placer production from the 1860s to 1974 in the district was approximately 12,000 ounces gold and 1,500 ounces silver (MagmaChem, unpublished data). A number of small hard-rock mining activities from 1907 to 1971 (mainly 1934 to 1939) produced a reported 866 tons of ore containing about 320 ounces gold, 250 ounces silver, 61 tons lead, 9 tons zinc, and a small amount of copper (MagmaChem, unpublished data). Sugarloaf Peak is the site of a former surface and underground natroalunite (Al)-Pb-Mo-Bi-W-Sn mine that was discovered in 1929 (Heineman, 1935; Arizona Department of Mineral Resources historic data).

The modern history of the project since 1962 includes ownership and exploration by a number of companies, as outlined below. Beginning with Westworld in 1981, numerous companies and geologists have encountered anomalous gold mineralization on the project. Details of exploration work and drilling since 2008 are presented in Exploration and Drilling, below. Although several generations of project claims have been staked during the project's history, all the exploration described below occurred within or a short distance from the current project boundary.

CONGDON & CAREY, 1962-1971

Denver-based consulting company Congdon & Carey controlled the project from 1962 to 1971, in search of porphyry copper mineralization. During this time the company performed geologic mapping, geochemical sampling, and geophysics consisting of IP and air magnetics (Ahern, 1973). Congdon & Carey reportedly drilled >4,420 m (>14,500 feet) in 19 core holes with some rotary drilling (Dausinger, 1983; Ahern, 1973) to depths of 241-1,113 m (790-3,650 feet) in 1963-1965. Complete information remains for 12 of these holes and partial information for two holes. Original logs for the drill holes do not exist; the logs are labeled Kerr-McGee (Riverside, n.d.) but based on information in Dausinger (1983) and Ahern (1971), it appears that Kerr-McGee re-logged the Congdon & Carey holes in the early 1970s. The work by Congdon & Carey delineated a large copper-molybdenum anomaly about 2.6 square km in extent (Fieldman, 1964).

KERR-MCGEE, 1971-1973

Also seeking copper mineralization, Kerr-McGee Corporation worked on the project for two years during 1971-1973. The company re-logged and re-sampled Congdon & Carey core (Ahern, 1971) and performed geologic mapping and sampling (Dausinger, 1983). Kerr-McGee drilling involved 11 shallow reverse circulation or rotary holes in 1972 to depths of 21-30 m (70-100 feet), totaling 302 m (990 feet) of drilling (Riverside, n.d.).

PROJECT IDLE, 1974-1980

WESTWORLD, 1981-1983

Westworld Oil & Gas Corporation held the project from 1981-1983 and conducted the first exploration for gold on the project. Work included geologic mapping, collection of rock and soil samples (Dausinger, 1981?), and reverse circulation drilling. Drilling, conducted in 1983, included 764 m (2,505 feet) in 10 holes to maximum depth of 78 m (255 feet). As noted below in Drilling, several holes bottomed in mineralization. Dausinger (1981?, 1983) summarizes the general results of about 700 rock-sample gold assays taken on the project by Westworld and seven other companies, including Felmont Oil, Newmont Mining, Amax Exploration, Utah International, Atlas Minerals, Amoco, and Amselco. Samples from all companies returned anomalous gold results, with high values in the range of 3.33-10 ppm Au. Results from Atlas Minerals are included in the current project assay database (see Exploration, below). Goldsmith (2008) reports that geologist Norman Dausinger maintained the project claims until his death in 2004 or 2005.

Westworld's work resulted in finding "widespread disseminated gold mineralzation" in a broad surface anomaly 600-1,200 m wide and 2,100 m long (2,000-4,000 feet wide and 7,000 feet long), with drilling suggesting a conceptual potential resource of "about 100 million tons containing 1.5 million ounces gold and 25 million ounces silver" (Dausinger, 1983). This historical resource estimate is not has not been verified as a current mineral resource. None of the key assumptions, parameters, and methods used to prepare this historical resource estimate were reported, and no resource categories were used. Upgrading and verifying this historical resource estimate would require thorough verification of all previous drill data including verification drilling; additional drilling to define the limits of mineralization; and a thorough current resource calculation. A Qualified Person has not done sufficient work to classify it as a current mineral resource. Arizona Metals does not represent that this historical resource estimate is a current mineral resource and does not rely on it as a current mineral resource.

AMSELCO, 1984

No reports were available from Amselco's work, but drill logs are compiled in Riverside (n.d.) and Dausinger (1987) reports that that the company drilled 18 holes in 1984 (2,004 m or 6,575 feet of drilling), apparently in a joint venture with Westworld (Cousins, 1990). Goldsmith (2008) reports that the drilling method was reverse circulation. Based on Amselco's work, Dausinger (1987) revised his conceptual potential resource to 60 million tons at a grade of 0.02 opt Au and 0.30-0.50 opt Ag. This historical resource estimate has not been verified as a current mineral resource. None of the key assumptions, parameters, and methods used to prepare this historical resource estimate were reported, and no resource categories were used. Upgrading and verifying this historical resource estimate would require thorough verification of all previous drill data including verification drilling; additional drilling to define the limits of mineralization; and a thorough current resource calculation. A Qualified Person has not done sufficient work to classify it as a current mineral resource. Arizona Metals does not represent that this historical resource estimate is a current mineral resource and does not rely on it as a current mineral resource.

PROJECT IDLE, 1985-1988

COMINCO, 1989-1990

Cousins (1990) and Wahl (1989) report on the work done by Cominco in 1989-1990, which consisted of geologic mapping, 163 rock-chip samples, and drilling of 12 reverse circulation holes totaling 924 m (3,030 feet) in 1990. Cousins (1990) reports on mapping of individual volcanic units that helped in understanding faulting and structure, and postulates a post-deformation timing for gold mineralization (See Relative Timing of Mineralization and Deformation, below).

ARIMETCO, 1991-1995

No reports are available for this work. Goldsmith (2008) reports four drill holes; data from these holes is included in the current drill database.

PROJECT IDLE, 1996-2005

ARIZONA GOLD HOLDINGS, 2006-2008

In 2006, prospector Merrill Palmer staked claims on the project. In, 2007-2008, Palmer partnered with Penny Godfrey, geologist Stan Keith, Rick Russell, and Monte Swan to form Arizona Gold Holdings LLC, which subsequently enlarged the land holdings in 2008 (Goldsmith, 2008). Arizona Gold Holdings performed initial geologic investigations and surface sampling prior to its option agreement with Riverside Resources in April, 2008. From 2008 to 2011, Stan Keith's company MagmaChem Exploration performed exploration and geologic work on the project on behalf of Arizona Gold Holdings, Riverside Resources, and Choice Gold.

RIVERSIDE RESOURCES, 2008-2011

Beginning in 2008, Riverside Resources conducted a work program consisting of compiling data and historical information, geologic mapping, collecting approximately 370 surface rock samples, drilling, and producing a NI 43-101 report. Drilling consisted of 1,125 m (3,691 feet) of core in five holes to depths of 147-244 m (483-800 feet). Riverside produced several internal reports (Wainright, 2009a, 2009b), scanned and digitized historical drill data (Riverside, n.d.), and commissioned a geologic and structural evaluation of the project (Brozdonski and Daniels, 2010).

CHOICE GOLD, 2011-2012

Choice Gold optioned the project from Riverside in March 2011, and retroactively funded a geologic mapping and rock-chip sampling program by Stan Keith/MagmaChem (Keith 2011), a structural review by Telluris (2011), a Titan-24 induced-polarization geophysical survey (Quantec, 2011a, 2011b), and an air magnetics geophysical survey (Espinosa, 2011; EDCON-PRJ, 2011). Following this, Choice Gold conducted a diamond drill program from July to October 2011 consisting of six core drill holes totaling 2,012 m (6,602 feet). Choice Gold returned in the spring of 2012 with a reverse-circulation drilling program consisting of 13 holes totaling 1,262 m (4,140 feet). Choice Gold also did rock-chip sampling and mapping in the north, west, central and southeast portions of the property. A total of 149 rock samples were collected and analyzed. Mapping and prospecting in the north of the property focused on identifying copper-gold bearing structures and units with the potential for porphyry copper mineralization. Field work in the southeast portion of the project focused on a small outcrop of skarn mineralization in sediments that may indicate additional mineralization to the southeast. Choice Gold dropped its option in June 2012, and the project was returned 100% to Riverside Resources.

RIVERSIDE RESOURCES, 2013

After Choice Gold dropped its option, Riverside held the project and marketed it to various companies, while doing no work on the project.

ARIZONA METALS, 2014-PRESENT

In December 2014, Arizona Metals (under its previous name of Croesus Gold) signed an option agreement to purchase the project 100% from Riverside Resources, which was completed in March 2016 (see above). In 2020, Arizona Metals received approval for a Notice of Intent to Explore and subsequently drilled four exploration holes totaling 1,748 m (5,734 ft), followed by metallurgical testing of 12 composite drill samples.

7 GEOLOGICAL SETTING AND MINERALIZATION

REGIONAL GEOLOGY

Regional Lithology and Stratigraphy

The Sugarloaf Peak property is located in the central Dome Rock Mountains, in the Jurassic magmatic arc complex of west-central Arizona, an extensive belt of Lower- to Middle-Jurassic metavolcanics and related plutons (Figure 7.1). Host rocks in the project area are known as the Dome Rock igneous suite, a sequence of 158-200 Ma metavolcanics, their volcaniclastic equivalents, coeval intrusions, and minor metasediments. These rocks form the structurally lowest sequence in the west-central Arizona region Figure 7.2), and occur unconformably beneath the McCoy Mountains formation of Early to Late Cretaceous age (Tosdal et al., 1989; Tosdal and Stone, 1994).

In the project area, metavolcanics of the Dome Rock igneous suite have been divided into two units. The lower unit consists of a massive meta-latite tuff and flow unit (mainly the quartz albite schist of Crowl, 1979). This is overlain by a high-silica, probably high-K, meta-rhyolite unit (the quartz-K-feldspar schist of Crowl, 1979). The Dome Rock metavolcanics have been dated at between 161 and 200 Ma: the lower unit at ~200-180 Ma (by Lee Silver with U-Pb techniques as reported by Crowl, 1979), and the upper unit at 161±3 Ma (Boettcher et al., 2002).

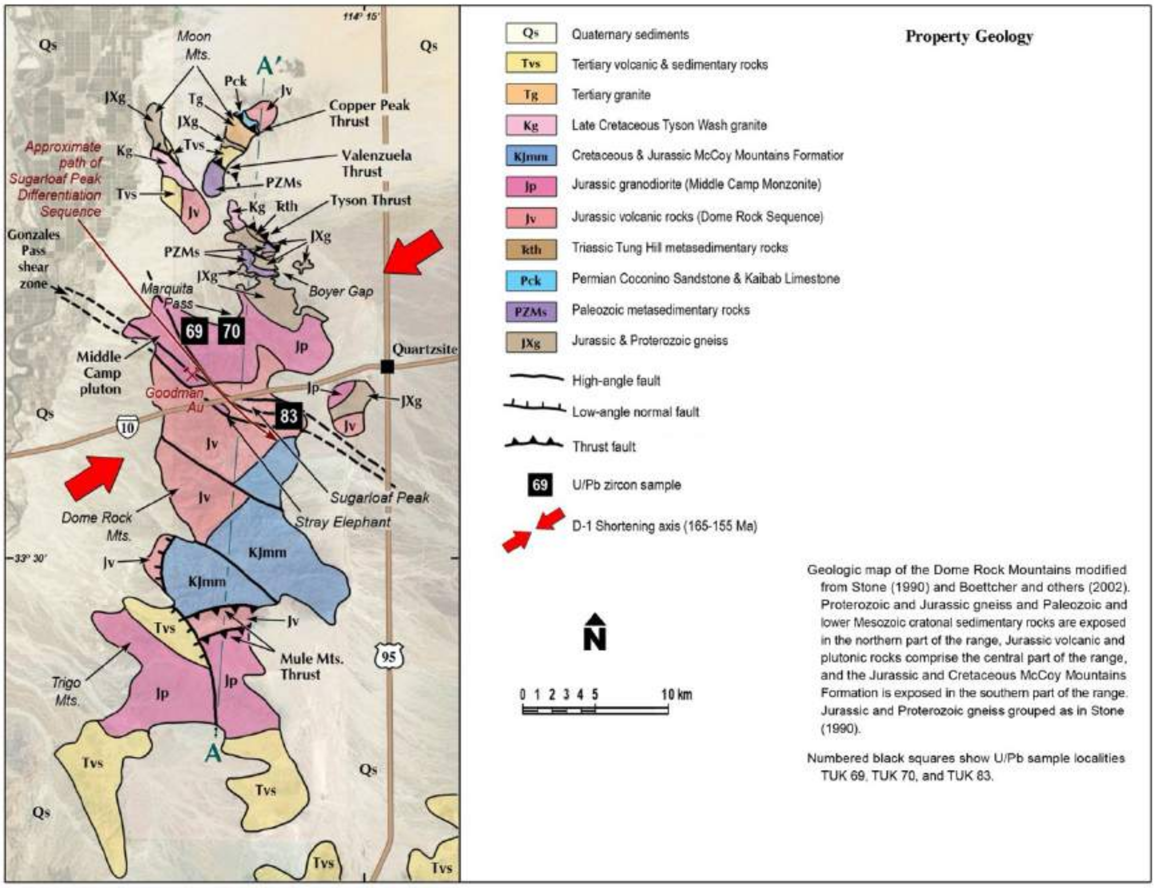
The Dome Rock metavolcanics have been intruded regionally and in the northern and western parts of the project area by plutons mainly of monzonite, quartz monzonite, syenodiorite, and alkali granite. Those plutons have regionally yielded U-Pb zircon ages between 165 and 158 Ma (Tosdal et al., 1989), and correlate with the regional Kitt Peak-Trigo Peaks super-unit of Tosdal et al., (1989). The emplacement ages of both the Middle Camp and Diablo quartz monzonite units are now well constrained by U-Pb zircon and sphene geochronometry. The Middle Camp quartz monzonite and a correlative 'granodiorite' unit that is widespread throughout the northern Dome Rock Mountains have yielded nearly concordant zircons and a sphene 206 Pb/238 U age of 162 ± 1 Ma from which a preferred emplacement age of 164 Ma has been obtained. Similarly, the Diablo alkali granite and its leucogranite correlatives in the northern Dome Rock Mountains have yielded slightly discordant zircons that constrain and inferred emplacement age to between 161 and 158 Ma.

Regional Structure and Tectonics

The Sugarloaf Peak project occurs in the Maria Tectonic Belt, an arcuate belt of large-scale folds and thrust faults that runs generally east-west through western Arizona and eastern California (Reynolds et al., 1986). Four periods of deformation can be identified in the Dome Rock Mountains. All of the rocks, mineralization, and alteration at Sugarloaf Peak property have been deformed by at least three of these deformational events.

Precambrian Structures

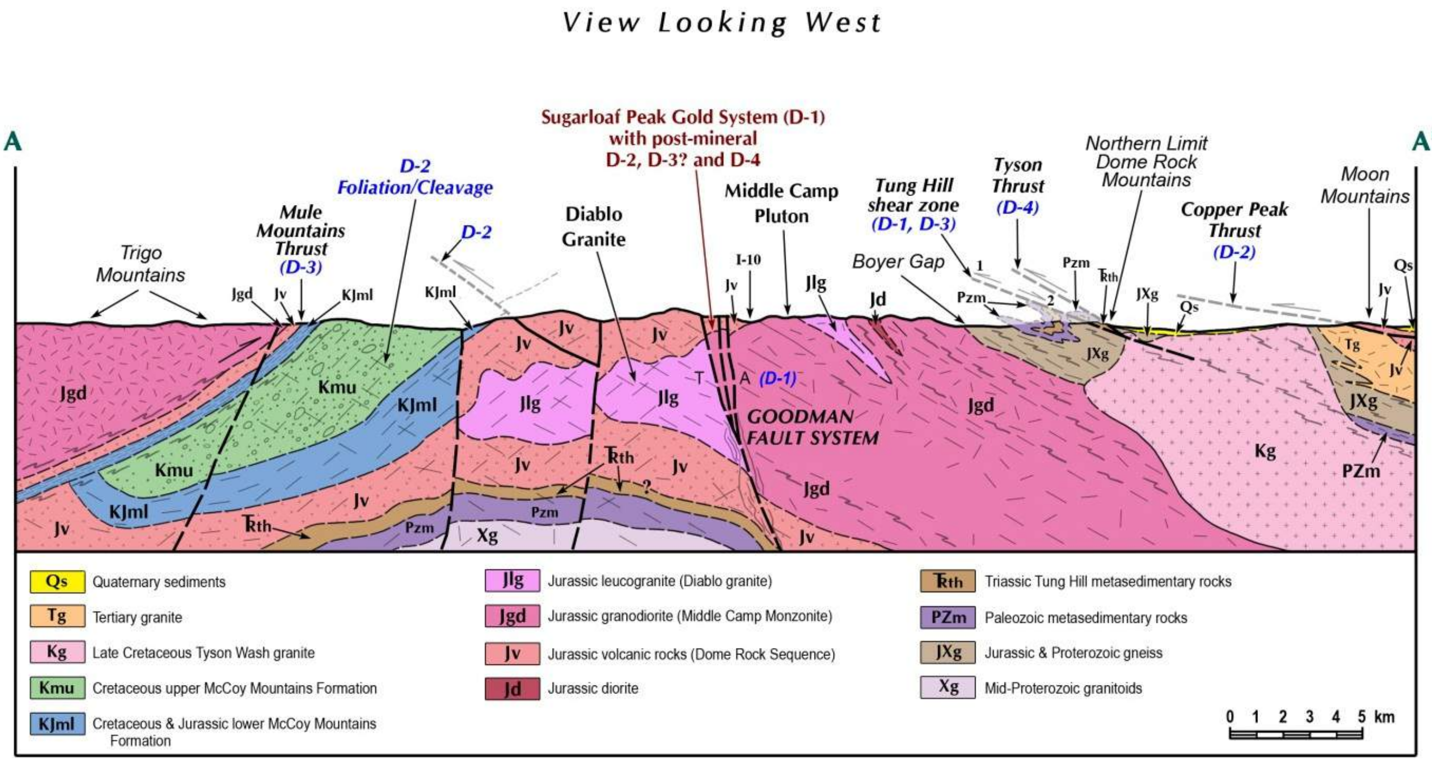
The principal structure on the Sugarloaf Peak property is the Goodman fault zone (see Goodman Fault System, below), a set of west-northwest striking high-angle faults that experienced a number of recurrent movements since their formation in the Precambrian circa 1400 Ma (Swan, 1976). The Goodman fault zone is a structural element in the central part of what can be viewed as a larger shear zone that contains other elements to the south (Stray Elephant fault) and north (at this time an un-named fault). The structure continues to the northwest as the Gonzales Pass shear zone. The Goodman fault zone and Gonzales Pass shear zone may be elements of the regionally continuous Texas Zone identified originally by Ransome (1910), which passes near several major world-class porphyry copper deposits in southeast Arizona, including the Pima District of Laramide age and the Bisbee/Warren District of early Jurassic age, possibly the same age as Sugarloaf Peak.



Geologic map of the Dome Rock Mountains modified from Stone (1990) and Boettcher and others (2002). Proterozoic and Jurassic gneiss and Paleozoic and lower Mesozoic cratonal sedimentary rocks are exposed in the northern part of the range, Jurassic volcanic and plutonic rocks comprise the central part of the range, and the Jurassic and Cretaceous McCoy Mountains Formation is exposed in the southern part of the range. Jurassic and Proterozoic gneiss grouped as in Stone (1990).

Numbered black squares show U/Pb sample localities TUK 69, TUK 70, and TUK 83.

Figure 7.1 Regional geologic map. From Goldsmith (2008).



Simplified cross section through the Dome Rock Mountains (modified from Boettcher and others, 2002) showing ~50 km long exposure of relatively unextended pre-Tertiary rocks south of the breakaway for the Whipple-Buckskin-Rawhide detachment system. D-4 north-dipping fabrics related to Maria Tectonic Belt intersect older south-dipping fabrics south of Interstate Highway 10. Late Cretaceous Mule Mountains thrust system (D-3) crosscuts north-dipping D-2 fabrics (Tosdal, 1990). Tyson Wash granite is not exposed along the Tung Hill shear zone; the contact between the two at depth is interpretive. Cross section incorporates the results of this study with previous work by Yeats (1985), Tosdal (1986, 1988, 1990), and Knapp (1989). Geologic contacts for Moon Mountains and area south of Boyer Gap from Stone (1990). Sugarloaf Peak gold system formed during late Jurassic D-1 deformation about 160 Ma.

Figure 7.2 Regional geologic cross section. From Goldsmith (2008).

Mesozoic Deformation

Host rocks on the Sugarloaf Peak project have seen four deformation events, all interpreted as thrusting during the Mesozoic, and designated D_1 to D_4. The D_1 deformation event is probably an element of the Nevadan orogeny; D_2 structures and fabrics can be assigned to the Sevier orogeny of Armstrong (1968); D_3 deformation is considered early Laramide in the sense of Keith and Wilt (1986); and D_4 is attributed to Late or Culminant Laramide Wilderness orogeny of Keith and Wilt (1986).

Deformation D_1

Deformation D_1 resulted in a large nappe-dimension northerly facing recumbent syncline as mapped by Boettcher et al. (2002), along with a relict S_1 foliation. D_1 appears to have occurred in Middle Jurassic time, between 160 and 164 Ma: the Middle Camp quartz monzonite, dated at 164 Ma, is cut by D_1 mylonite, but D_1 deformation has been intruded by the largely undeformed Jurassic alkali leucogranite sequence dated at ~160 Ma (Boettcher et al. 2002). Due to a pervasive overprinting by subsequent deformation, Boetttcher et al. (2002) were not able to determine a precise slip line for D_1 deformation. Its position within the eastern edge of the late Jurassic northwest trending magmatic arc would suggest a NE-SW slip line perpendicular to the arc axis.

Deformation D_2

D_2 deformation created up to kilometer-scale complex, tight to isoclinal F_2 folds with penetrative axial-planar S_2 foliation formed during upper greenschist- to lower amphibolite-grade M_2 metamorphism with SW-directed convergence (Boettcher et al., 2002). Boettcher et al (2002) give an age of about 110-86 Ma for D_2. Immediately south of the main project area, Crowl (1979) and Boettcher et al. (2002) have documented S_2 as a north-dipping foliation accompanying SSE-vergent folding and thrust faulting at or near the unconformity between the McCoy Mountains Formation and the Dome Rock metavolcanics. This appears to correlate with the foliation mapped in the project area, which is most likely S_2.

Deformation D_3

Boettcher et al. (2002) identify D_3 structures as open to tight folds of S_2 foliation, with NE-vergent subhorizontal to gently south-dipping axial planes as a result of NE-SW extension. They note "top-to-the-northeast shearing in northeast-dipping shear zones" resulting from reactivation of older, previously SW-vergent shear zones such as the Tung Hill shear zone north of the project. D_3 appears to have occurred between 86 and 70 Ma: south of the Sugarloaf Peak project area, the Mesozoic section and D_2 foliation have been structurally deformed and thermally perturbed by elements of the NNE-directed Mule Mountain thrust system between 79 and 70 Ma (Tosdal, 1991; Boettcher et al., 2002). In the northern Dome Rock Mountains, Boettcher et al. (2002) have described a northeast-directed protomylonite foliation that affects portions of the 86 Ma Tyson Wash pluton.

Deformation D_4

The Tank Pass Granite correlatives in the Harquavar and Granite Wash Mountains have been overprinted by a fourth event of regional southwest-directed thrusting and associated mylonization in the Cottonwood Pass area of the Harquavar Mountains and in the northwest Granite Wash Mountains and the eastern Harquahala Mountains. These events appear to be synkinematic with the emplacement of a 72 to 64 Ma regionally widespread peraluminous suite of muscovite-bearing granitoids and muscovite garnet-bearing aplogranites and pegmatites (Richard, et al., 1990; Buttram, personal communication with Stan Keith 2007) and are herein referred to as the D_4 deformation. D_4 is probably the main Laramide event in terms of magnitude of displacement and volume of peraluminous magmatism, and affected the entire southern California-Southern Arizona-SW New Mexico and Sonora region and is referred to as the Culminant Laramide Wilderness stratotectonic assemblage by Keith and Wilt (1986). In the northern Dome Rock Mountains, elements of what are assigned to the D_4 structural event have pervasively deformed D_1 structures: D_1 fabrics have been ductilely folded into an overturned syncline beneath the Tyson/Tung Hill thrust-shear zones in the Boyer Gap area (Boettcher et al., 2002), and fabric in the apparent cross-cutting Tyson Wash biotite granite contains NE-directed protomylonite fabric. In the project area, D_4 deformation may be represented by WSW-directed thrusting on a northerly striking fault north of Interstate 10. This structural zone contains Cu-Au mineralization that may have used the structure prior to D_4 deformation as evidenced by copper and alunite veining that has been deformed by probable D_4 fabric. Also, in an adit on the north side of Sugarloaf Peak, late stage, NE-striking alunite veins are folded and sheared by SW-directed deformation assigned to D_4.

Regional Mineral Occurrences

The Sugarloaf Peak project is located in a region of significant gold deposits. In particular, two major, modern past producing mines in the region, Mesquite and Copperstone, have seen recent exploration and resource expansions. The Copperstone Mine is located about 26 km north of the project and produced approximately 500,000 ounces and is planned to re-open in 2011 with additional reserves (Fayram, 2010). Mineralization consists of auriferous fine-grained quartz veins with earthy hematite and minor copper mineralization within potassic alteration in a quartz latite porphyry host rock. Mineralization appears to be in high-angle structures breaking out of a low-angle listric or detachment fault at depth.

At Mesquite, 90 km southwest of Sugarloaf Peak, Lambert et al (2010) reported a measured plus indicated resource of 4.83 million ounces gold. Combined with past production of 3.8 million ounces, the total resource at Mesquite was approximately 8.66 million ounces gold. Mineralization at Mesquite occurs as disseminated and vein-hosted gold in high-angle wrench faults and related fractures adjacent to the San Andreas fault, in dominantly gneissic host rocks.

In the Dome Rock Mountains, a number of smaller mines have been worked since the 1800s, and the area hosts a number of mineral occurrences as detailed in Goldsmith (2008); selected occurrences are paraphrased below from that report.

The Goodman Mine, about 5 km northwest of the project, was the most productive lode gold mine in the Dome Rock Mountains, producing about 11,000 tons of ore averaging about 0.33 opt Au and 0.02 opt Ag as spotty free gold and auriferous pyrite, with some copper and lead, in a lensing massive quartz vein with iron oxide in a long shear zone cutting Mesozoic quartz-epidote schist. Workings include numerous shafts and tunnels worked from 1860 through 1914 and intermittently through 1940.

The Julian Mine is about 6 km east of the project in the Middle Camp-Oro Fino District, and hosts spotty gold and silver mineralization with minor oxidized base metal sulfides in quartz veins and stringers along a fracture zone in Mesozoic granite, intruded by later pegmatite dikes. Workings include a shaft. The old mine was reworked from 1937 through 1940, producing a probable total of some 350 tons of ore averaging about 0.55 opt Au and 0.1 opt Ag.

The Yum Yum Mine produced about 176 tons of ore averaging about 1 opt Au, 0.2 opt Ag, as well as a few hundred pounds of copper, from 1936 through 1942 about 6 km ESE of Sugarloaf Peak, in the La Cholla mining district.

At the Copper Bottom Mine, also in the La Cholla district, about 8 km SW of the project, work was sporadic from the early 1910s through 1941 from tunnels and a shaft in mineralization consisting of high-grade streaks and pods of tetrahedrite and free gold in vein dikes of quartz along a strong shear or fault zone cutting metamorphosed Mesozoic limey sediments. The mine produced some 100 tons of ore averaging about 19% Cu, 1.6 opt Au and 27 opt Ag.

In the Weaver district, about 15 km southwest of the project, the Copper Giant Mine hosted gold-bearing quartz impregnated with primary and secondary copper minerals in lensing quartz fissure veins in Mesozoic schist having local thin beds of quartzite and marble. The mine was worked in the early 1900s and late 1950s and produced approximately 100 tons of ore averaging about 4% Cu, 0.2 opt Au, and 3 opt Ag.

PROPERTY GEOLOGY

To understand the geology and structural controls on the Sugarloaf Peak gold occurrence, the geology of the main gold anomaly was mapped at a scale of 1:5,000 by Stan Keith for Riverside Resources in 2008. A simplified version of the geologic map is shown in Figure 7.3. Alteration geology from the 2008 mapping program was also mapped as shown on Figure 7.4. Two cross sections are presented as Figure 7.5 and Figure 7.6. In 2011 and 2012, Choice Gold conducted additional mapping, reconnaissance prospecting and rock-chip sampling on the north side of Interstate 10, encompassing the northern third of the Sugarloaf Peak Property. Similar work was conducted on the western, central and southeast areas of the Property.

Property Lithology and Stratigraphy

Description and classification of rock types is based primarily on observations by Brad Peters and Rory Ritchie of drill core from the 2011 Choice Gold diamond drill program, the 2012 Choice Gold RC program, and re-logging of drill core from the 2009 Riverside Resources drill program. It was observed throughout this core that the strong apparent weathering at surface consistently decreased in intensity to a depth of approximately 15 m. This strong weathering has the potential to make it difficult to identify subtle variations in the pyroclastic deposits at surface.

The main rock types observed in drill core at Sugarloaf Peak are Jurassic pyroclastic rocks ranging from andesitic to rhyolitic compositions characterized by sparse to abundant crystal fragments, lithic clasts, various lapilli, and fine ash. Coherent volcanic rocks were also observed in drill core and were typically variably porphyritic massive andesites and dacites. Alteration mineralogy assisted in classifying these rocks: strong pervasive sericite alteration of the ash matrix was interpreted to have a more rhyolitic protolith whereas pervasive chlorite alteration was interpreted as representing a more intermediate composition protolith. This should be confirmed through lithogeochemical methods. Although not abundant, various dikes of latitic and andesitic compositions were observed in core. All volcanic rocks on the project are of Jurassic age, assigned to the Dome Rock igneous suite and dated at 161 to 200 Ma (Crowl, 1979; Boettcher et al., 2002). The principal units are described below; additional detail is available in Goldsmith (2008, 2011).

Rhyolite Tuff

As observed during Choice Gold's work, rhyolitic pyroclastic rocks are the main rock type on the property. They likely correlate with the upper rhyolitic unit of the Dome Rock volcanics described by previous workers (Crowl, 1979; Boettcher et al., 2002). These rocks typically have a fine ash matrix with variable amounts of quartz and feldspar phenocrysts, lithic fragments, and lapilli. They show compositional layering, flame structures, and welding; this compositional layering has often been named "foliation" on the project, although it does not always represent true parallel alignment of metamorphic minerals. Quartz crystals and the presence of a strongly sericite altered ash matrix typically identify rhyolite on the project.

Examples of rhyolitic pyroclastic units observed are as follows: 1) laminated, feldspar quartz crystal tuff; 2) massive, crystal lithic tuff; 3) coarse lithic lapilli crystal ash tuff. Pyroclastic units such as heterolithic agglomerates and coarse clastic units were not encountered in the core, suggesting moderate distance from the source volcanic center. Large lapilli sized fragments (5-10 cm) were encountered within various lapilli units composed primarily of pea-sized lapilli fragments.

Rhyolite is variably resistive depending of the degree of silica alteration. Some units observed in core with strong pervasive sericite and clay alteration/weathering were relatively soft when compared to similar units with strong silica alteration. Field mapping by Choice Gold of units previously described as quartz arenites and quartzites are re-interpreted as strongly to intensely silicified pyroclastic units. In these rocks, fine-grained quartz has completely replaced the matrix, but in numerous locations in the drill core and in the field, relict textures consistent with pyroclastic volcanic rocks were observed. In doing surface mapping prior to modern drilling, Stan Keith identified three types of rhyolite tuffs on the project: laminated, tabular, and massive. These units have been somewhat superseded by Choice Gold's observations of drill core and cuttings, but are presented here for completeness.

Keith described the *laminated rhyolite tuff* (LR) as a white to cream-colored, fine grained, typically millimeter-scale laminated, white feldspar-rich fine-ash rhyolite crystal tuff, with common feldspar crystals and rare quartz phenocrysts. It is recessive and typically crops out beneath more resistant units in stream cuts, and occupies broad southeasterly-trending major valleys characterized by low but lumpy relief, possibly reflecting variable alteration and structural preparation of the unit. It may originally have overlain the tabular rhyolite (TR) unit described below, with which it is transitional. The protolith is interpreted as a subaqueous fine-ash rhyolite tuff, probably a distal facies or fine-grained ash settled subaqueously during the waning stages of an eruptive cycle.

Keith's *tabular rhyolite tuff* (TR) is a white to pink, fine grained, saccharoidal to porcelanous, locally vesicular, feldspar crystal-rich rhyolite tuff with subordinate quartz phenocrysts and rare lapilli (?) up to several millimeters long. It typically fractures into tabular plates 0.75-2 inches thick. It is moderately resistant, and forms and caps low hills and certain dip slopes. The protolith is interpreted as a non-welded, subaqueous, feldspar crystal-rich rhyolite tuff. This unit shows variable welding, with a conchoidal fracture, and it may be transitional to the massive rhyolite tuff described below. Locally, it contains up to several percent fresh pyrite in quartz micro-fractures.

Keith's *massive welded rhyolite tuff* (MWR) is a grey to cream-colored, welded, devitrified rhyolite tuff with a fine-grained to aphanitic matrix containing typically abundant fine- to coarse-grained quartz phenocrysts. It is locally vesicular. Toward the margin (interpreted top) of the unit, it is transitional to *massive rhyolite tuff* (MR), which is less welded and contains clearly visible curved to angular devitrified shards and white feldspar crystals, in addition to abundant quartz phenocrysts. On weathered surfaces, the quartz phenocrysts stand out in bold relief imparting a small- scale knobby appearance to certain outcrops. Toward the upper margin of the unit, it is locally pyritic. Pyrite is contained within quartz phenocrysts and as discrete pyrite clasts, and also occurs in quartz-bearing micro-fractures.

Dacite Tuff

Dacitic pyroclastic rocks generally display similar variability in terms of abundances of various crystals and lithic fragments but tend to have quartz crystals that were sparse and exhibited and variably reabsorbed texture. Massive textured flow units with a variably weak porphyritic texture were more common within this grouping and occurred intermittently within various pyroclastic successions.

Andesite

Andesitic rocks were generally characterized by pervasive moderate to strong chlorite alteration and variably massive to porphyritic flows. Andesitic rocks were generally encountered at depth in holes below more felsic pyroclastic units. The andesite units appear to correlate with the lower Dome Rock unit of latite tuff described by previous workers (Crowl, 1979; Boettcher et al., 2002).

Middle Camp Quartz Monzonite

North of Interstate 10, the Dome Rock sequence is intruded by two major intrusive types. The oldest of these is a weakly foliated to strongly mylonitic, medium- to coarse-grained monzonite porphyry with accessory biotite and hornblende. This unit correlates with the Middle Camp quartz monzonite of Crowl (1979), which is the most widespread plutonic rock in the central Dome Rock Mountains. Emplacement ages for both the Middle Camp monzonite and the Diablo alkali granite (see below) are now well-constrained by U-Pb geochronometry: data for a number of zircon fractions yield a nearly concordant lower intercept age of ±164 Ma which is considered the preferred emplacement age by Boettcher et al (2002).

Diablo Alkali Granite

The Middle Camp quartz monzonite is intruded in numerous areas north of Interstate 10 by a fine- to medium-grained pinkish intrusive that corresponds with the Diablo quartz monzonite alkalic granite map unit of Crowl (1979). Based on petrographic observations, this rock is an alkali granite: dominantly xenographically granular, it contains micrographic intergrowths of quartz (up to 25%) alkali feldspar (up to 80%) and biotite (~2%). This is henceforth referred to as the Diablo alkali granite. This intrusive is considered a member of the Jurassic leucogranite unit by Boettcher et al. (2002); U-Pb data for the Diablo alkali granite and petrographically and paragenetically similar leucogranite plutons give a Late Jurassic age, no older than 161 Ma and no younger than 158 Ma, with a preferred emplacement age of 164 Ma (Boettcher et al, 2002).

It could be interpreted that the Diablo alkali granite is the source of at least some the Dome Rock metavolcanics in the project area. The emplacement age of the Diablo alkali granite and its correlatives is close to the age of the 161 ± 3 Ma Dome Rock rhyolitic tuff unit. Visual inspection of chemical data reveals an obvious strong geochemical similarity between the lower meta-latite/rhyolite unit of the Dome Rock metavolcanics and the Diablo alkali granite. The chemical similarities, together with a probable geochronologic correspondence, suggest a similar source with the Dome Rock metarhyolites (qa and qk units of Crowl, 1979) as possible volcanic expressions of the Diablo alkali granite and, with less certainty, the Middle Camp quartz monzonite pluton.

Alluvium and Gold Placers

The western part of the gold anomaly on the project is covered by a series of younger terrace gravels and older fanglomerates. The fanglomerate unit contains boulders and cobbles of all of the rocks described above, including altered rocks related to gold mineralization. The fanglomerate crops out in the western and northern parts of the project, where it may cover a significant portion of the bedrock gold anomaly. A prominent geomorphic surface developed between the fanglomerates and terrace gravels. Where this surface traverses the Sugarloaf Peak gold-bearing alteration, a number of alluvial placer concentrations have developed that have seen considerable gold placer activity since the early 1900s. Considerable placer potential may still exist at this contact to the west of the outcropping gold anomaly.

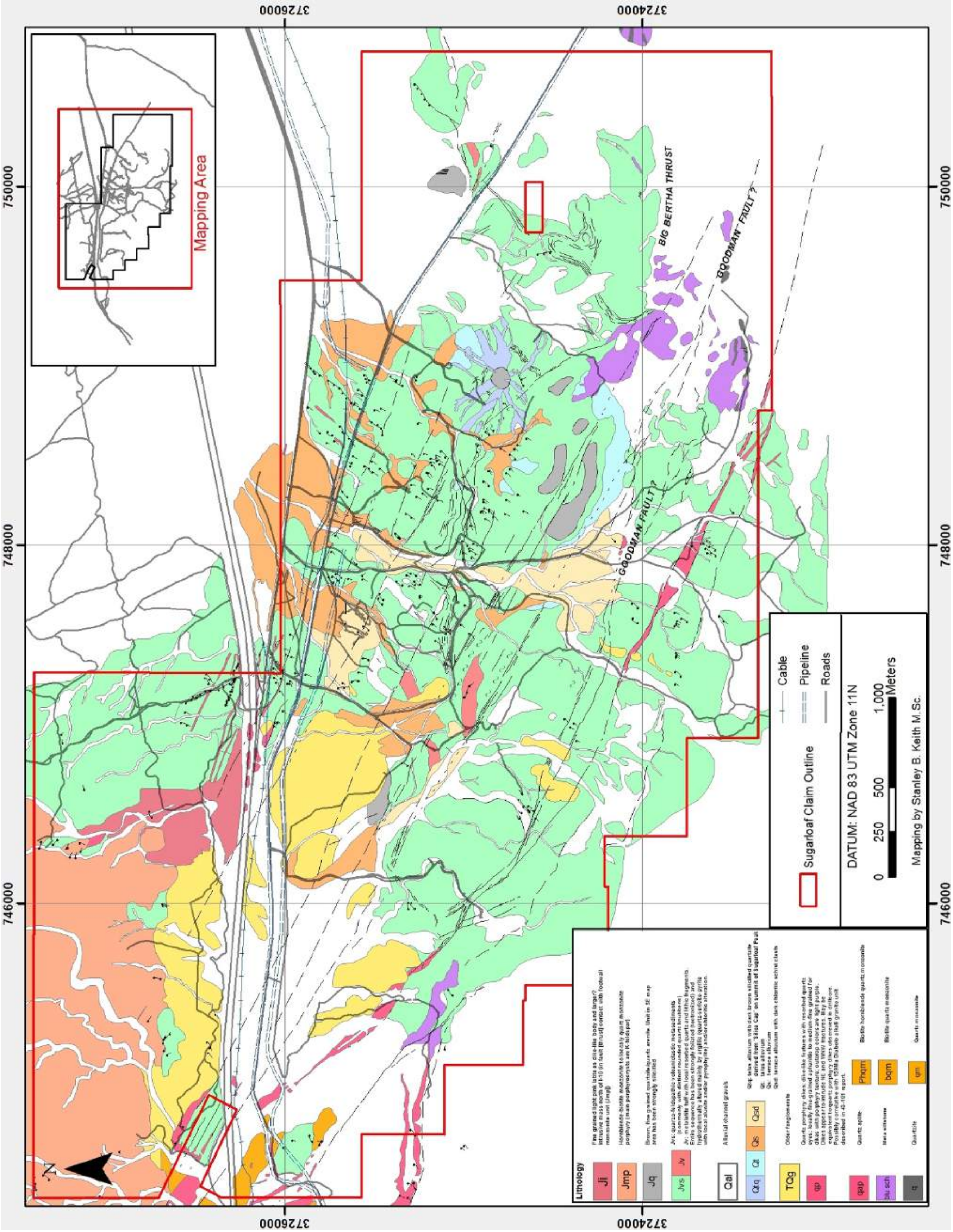


Figure 7.3 Project geologic map. Adapted from field mapping by Stan Keith, 2011.

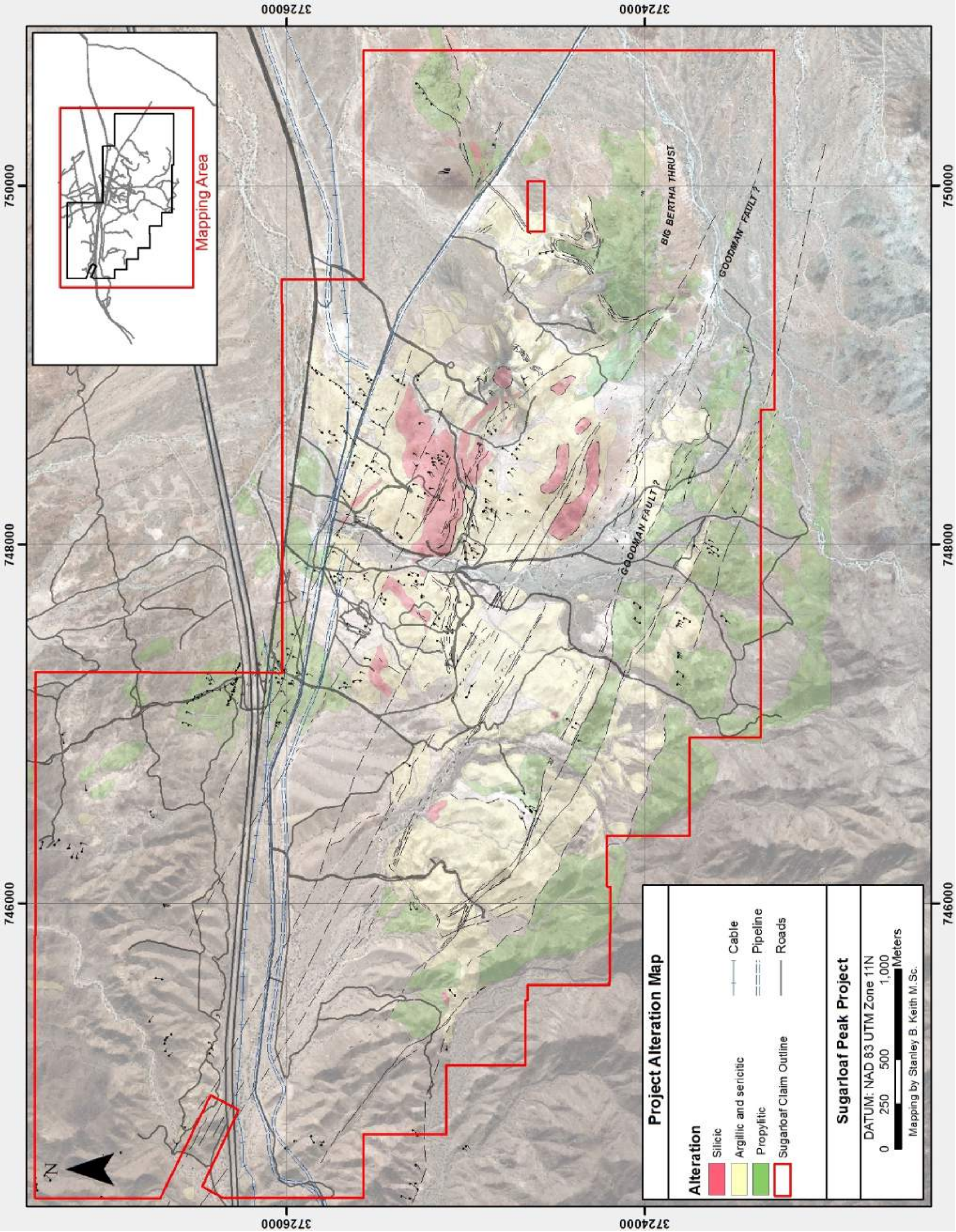


Figure 7.4 Project alteration map. Adapted from field mapping by Stan Keith, 2011.

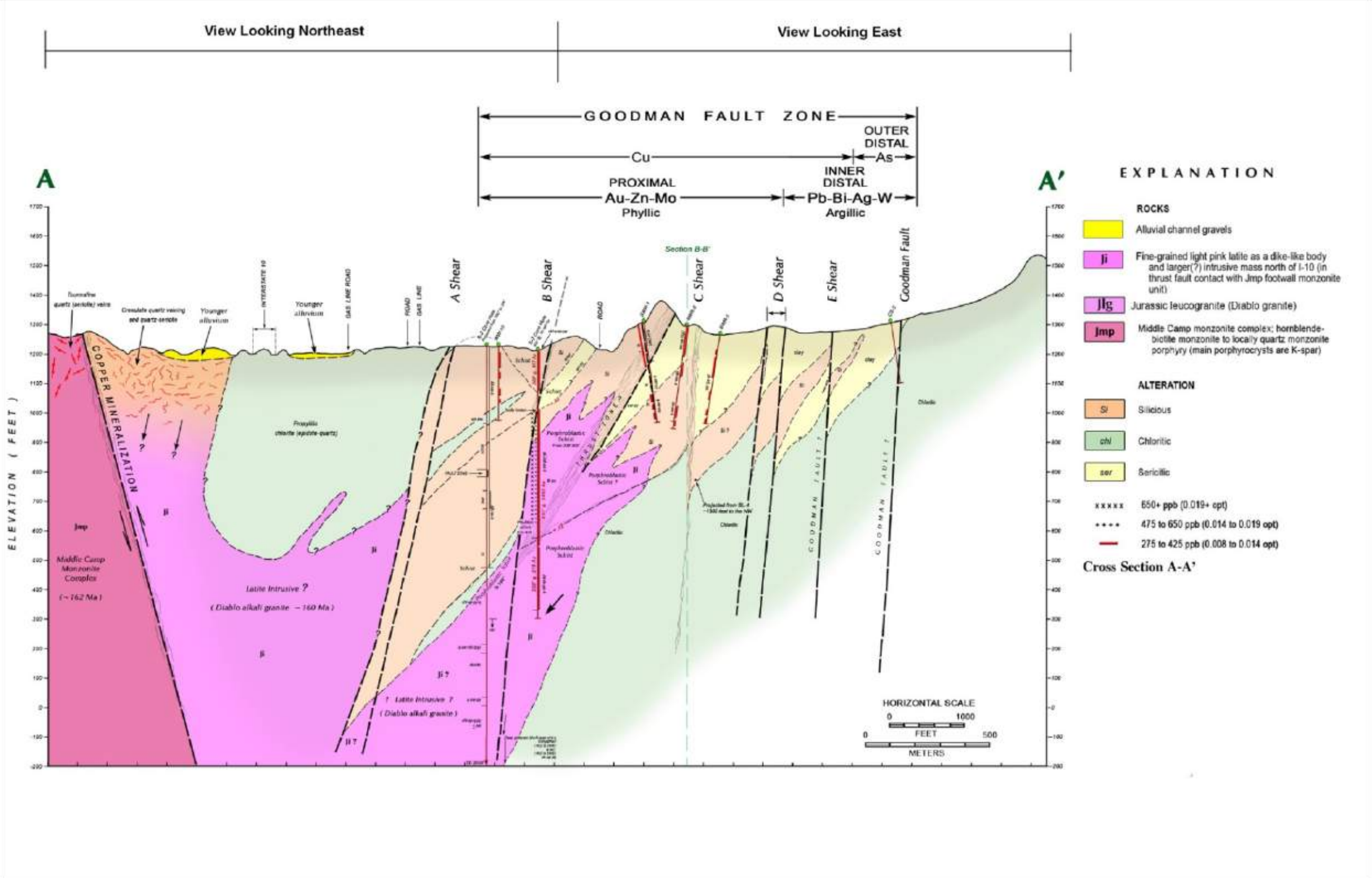


Figure 7.5 Project geologic cross section A-A'. From Goldsmith (2008).

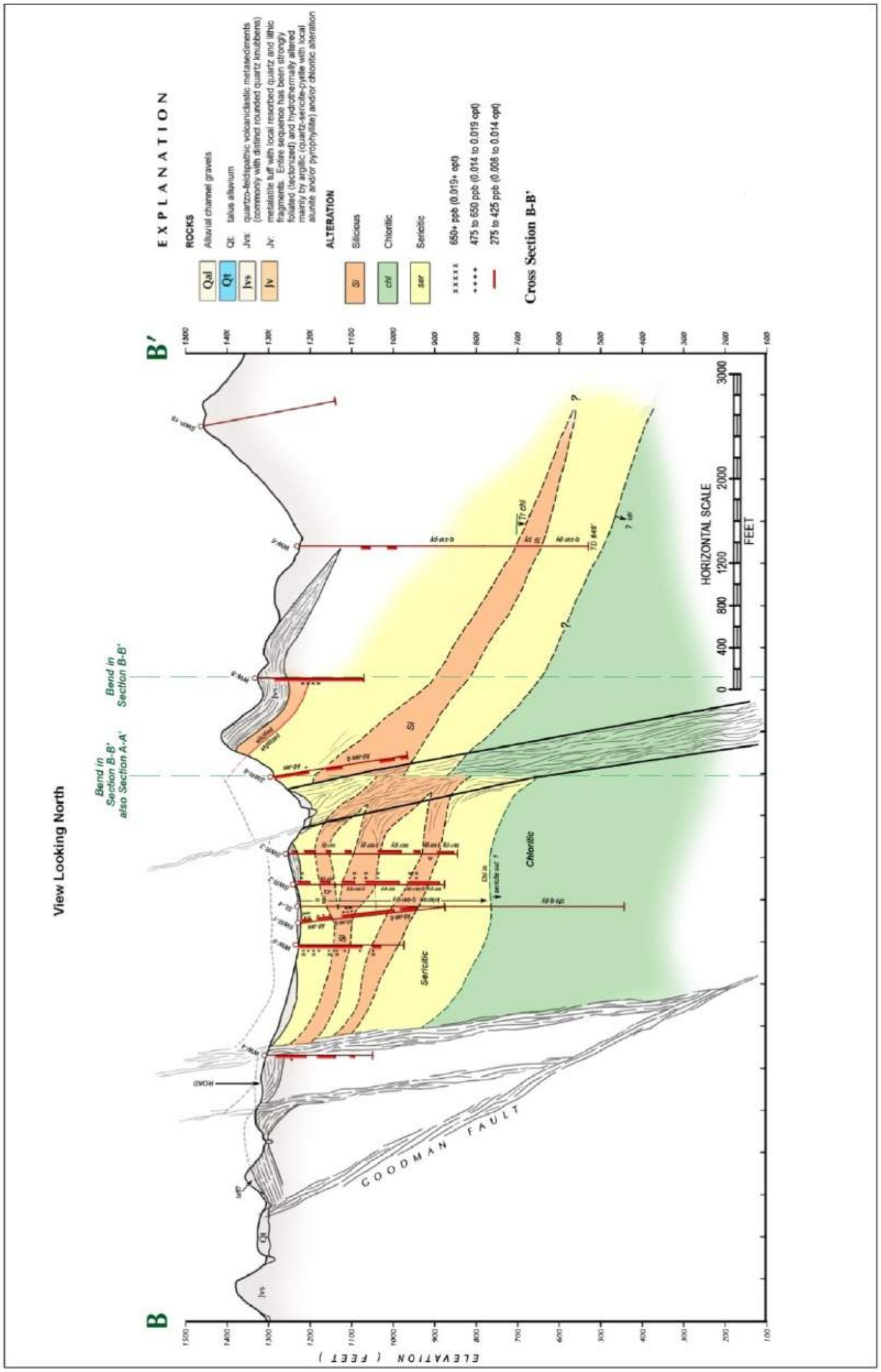


Figure 7.6 Project geologic cross section B-B′. From Goldsmith (2008).

Property Structure

Foliation

At surface, the entire project area contains a pronounced foliation (Figure 7.7). The following is paraphrased from Goldsmith (2008): *The foliation has obliterated primary bedding, and no unequivocal primary bedding or layering was observed in the area of detailed mapping. Foliation fabrics locally achieve a development that is intense enough to be referred to as paper schist, near what are inferred to be low-angle thrust zones and high-angle strike-slip fault zones. Steeply dipping zones of paper schist foliation striking WNW are interpreted to be elements of the Goodman Fault system. The age of the foliation has not yet been clearly determined, but is most likely a* D_2 *fabric.*

Thin sections from Choice Gold drill holes confirm the presence of foliation. In these thin sections, foliation is formed by ubiquitous alteration sericite. Figure 7.8 shows a photomicrograph from drill hole SGL-11-20, 24.7 m, that shows well-foliated alteration sericite wrapping around altered feldspar phenocrysts. This indicates that alteration—and coincident gold mineralization—formed before or during deformation. The few thin sections cut so far on the project do not provide enough evidence to determine which of the four deformations are responsible for the observed foliation. The degree of foliation is variable; as shown in Figure 7.9, alteration biotite on the margins of a quartz-pyrite vein shows no preferential alignment.

Foliation is best observed on surface, where weathering has formed a distinct parting in the host rocks. In drill holes and cuttings, the foliation in the fine-grained muscovite is difficult or impossible to see without thin sections. Much of the rock also displays primary welded-tuff layering: compositional layering, discontinuous fiamme structures, lithic fragments, and compositional layering wrapping around phenocrysts and lithic fragments (Figure 7.10). Layering is typically defined by ash layers, and tends to be more pronounced in rhyolitic units with abundant ash. It generally has an angle to core axis of between 50º-70º, which implies a generally moderate to steeply dipping foliation.

Figure 7.7 Foliation in sericite schist. Creek bed SE of Sugarloaf Peak.

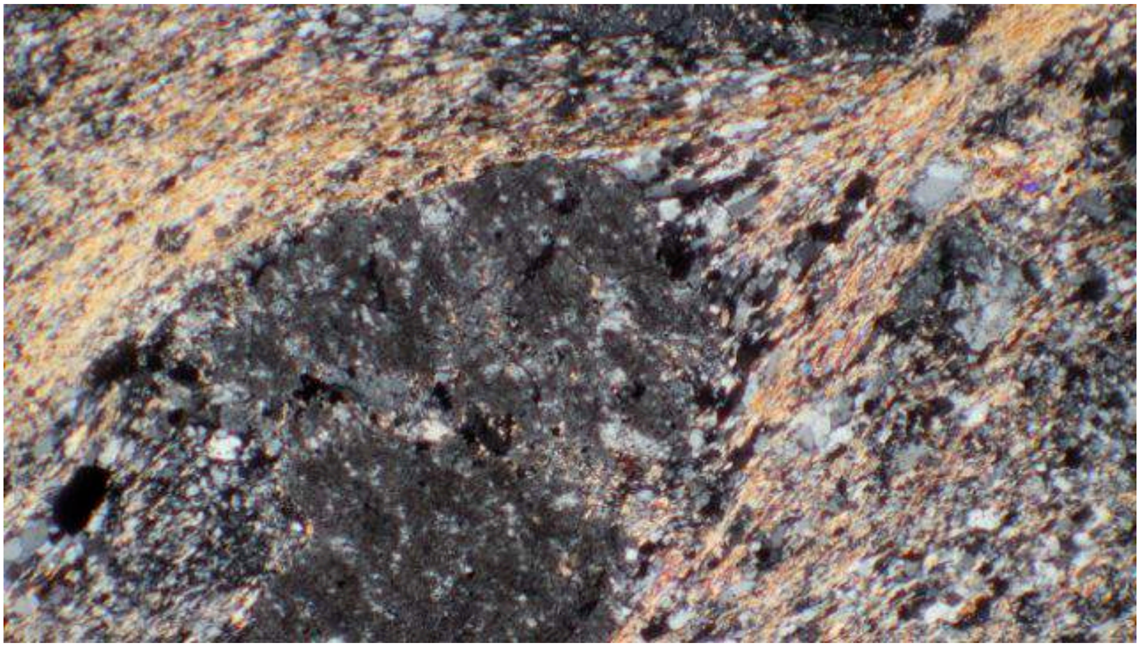


Figure 7.8 Foliation in alteration sericite. Drill hole SGL-11-02 24.7 meters. 40x, crossed polars.

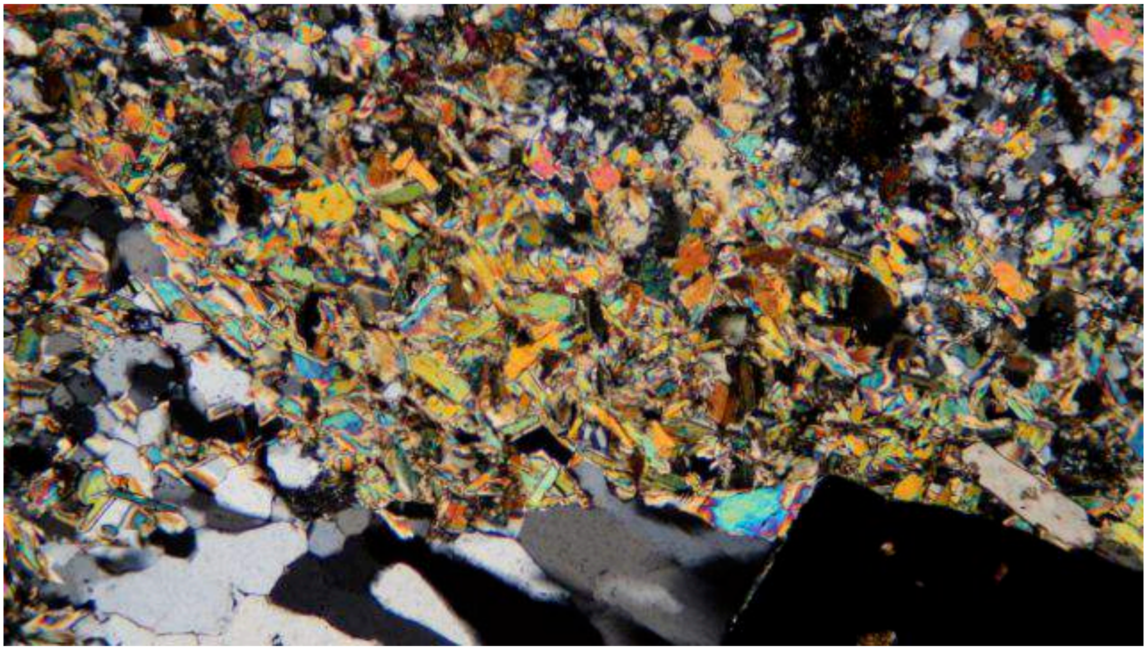


Figure 7.9 Lack of foliation in alteration biotite. Drill hole SGL-11-01 229 meters. 40x, crossed polars.

Figure 7.10 Compositional layering, fiamme, and welded textures in rhyolite.
Drill hole SGL-11-02, 9.1 m.

Faults

Several sets of faults cut the project and discussed below. Some past work has indicated that one or more generations of these faults controlled mineralization. However, faults intersected in Choice Gold's drilling typically did not contain increased gold values; instead, faults tended to be barren. These faults were gougy to blocky and strongly chlorite-altered and appear to cross-cut mineralization.

Goodman Fault System

A series of high-angle generally WNW-striking, steeply NNE-dipping faults are collectively referred to as the Goodman Fault system. The main strand of the Goodman Fault in its type area appears to be a single mylonitic shear zone that hosts the Goodman Mine about 5 km northwest of the project area.

As this fault enters the project area, Stan Keith's mapping suggests that it splits into a number of splays, which he refers to as the A through E shears. These strike WNW, dip steeply northeast, and occur in the hangingwall of a well-developed shear to the south which is currently interpreted to be the extension of the main Goodman Fault. The Goodman Fault also coincides with a prominent alteration break between argillic alteration containing anomalous gold and chloritic alteration, which in general does not contain anomalous gold. To the south of the Goodman Fault, another prominent fault is present and is named the Stray Elephant Fault. This fault was taken (with minor modifications) from the district geologic map by Crowl (1979). The Goodman Fault system appears to have experienced several phases of movement based on kinematic indicators that indicate both left- and right-lateral slip; supporting evidence can be found in Goldsmith, 2008, and Smith, 2011a.

North- and Northwest-Striking Intermediate to High-Angle Faults

Mineralization north of Interstate 10 appears to be associated with N- to NW-striking high- angle faults (Figure 7.3). In this area, reconnaissance mapping has established the presence of at least three northerly trending intermediate- to steeply dipping faults that control copper-gold mineralization. The most continuous of these fault elements is a north-northeast trending fault that separates Diablo alkali granite from Middle Camp quartz monzonite. This fault dips 50-80° east and displays post-mineral reverse slip. WSW-directed shear fabrics that deform copper mineralization with local alunite filling fractures are well exposed. To the east of this fault zone, a NNW-striking steeply dipping zone of strong silicification is associated with brecciated Diablo alkali granite. North-south structural controls do not appear to be present to any degree in the area south of Interstate 10, which is dominated by WNW-striking steeply NE-dipping shear zones of the Goodman Fault system.

Basin-Range Faults

It is not known how extensive the Basin and Range extension and tilting is within the Sugarloaf Peak area but it is relatively subdued with respect to the strong extension and tilting evident in the valleys to the west and east. Nonetheless, there is evidence of strong brittle fracturing in the form of steep NNW (main faults) and ENE (transfer faults) structures and associated rotation of older brittle-ductile foliations, which indicate that some faulting and block tilting has occurred. This event appears to have controlled uplift and oxidation of the deposit and may in part account for some of the apparent tilt of the mineralization to the west (Telluris, 2011).

MINERALIZATION

Four types of mineralization occur on the Sugarloaf Peak project: 1) a large zone of disseminated gold in sericitized and silicified Dome Rock volcanic rocks; 2) potential porphyry copper-gold mineralization in moderate to high-angle veins and faults north of Interstate 10; 3) gold placer deposits in washes and benches along upper reaches of La Cholla Wash and its tributaries; and 4) natroalunite in schistose and porphyritic dacite intruding Mesozoic schist at Sugarloaf Peak.

The principal focus of current exploration is the large gold zone and low-grade, potentially bulk-mineable disseminated gold mineralization encountered on surface and in drill holes. This zone of surface mineralization is best depicted on Figure 7.6 (project alteration map) and Figure 9.2 (rock-chip sample results—Au). Porphyry copper-gold is a developing target that deserve further attention. Gold placers, base-metal credits, and natroalunite mineralization may contribute value to an eventual mining operation.

Gold Mineralization

Bedrock gold mineralization at Sugarloaf Peak consists of sheeted veins/veinlets and stockworks of quartz-pyrite ±minor accessory vein minerals including specularite, tourmaline, molybdenite, chalcopyrite, and pyrrhotite in sericite- and argillic-altered Dome Rock igneous suite host rocks (Figure 7.11). Pyrite is broadly disseminated in altered wall rocks adjacent to quartz-pyrite bearing structures. The main gold-mineralized zones identified both in drilling and on surface occur within zones of quartz-pyrite, accompanied by generally moderate to strong sericitic alteration and argillic to advanced argillic alteration. Drilling by Riverside and Choice Gold suggests that many mineralized zones are bounded by faults and occur with silica-pyrite-sericite±calcite alteration. Gold mineralization is generally low-grade (300-1,000 ppb Au) but potentially suitable for economically profitable open-pit mining.

Rock chip sampling by Choice Gold identified two additional areas within the property boundary with significant potential to host mineralizing systems. North of Interstate 10, highly anomalous values from rock chip sampling, combined with localized iron oxide breccias and the presence of magnetic anomalies makes this area worthy of addition follow-up work. In the southeast of the property a small skarnified outcrop with anomalous values from rock chip sampling also warrants further work.

Rock chip sampling in the northern portion of the property indicates the potential for an intrusion related copper-gold system related to alkalic magmatism. In addition to anomalous copper and gold values, numerous additional elements returned highly anomalous values including Mo, Ag, Te, Ce, La, U, and W. Highlights from rock-chip sampling in this area include 1.8 g/t gold and greater than 6% copper. Section 8 below includes more detailed descriptions of these additional targets.

Figure 7.11 Typical quartz-sericite-pyrite gold-bearing mineralization. Photo by the author, 2011.

The gold anomaly identified on surface is approximately 1.5 x 2.5 km in extent (Figure 7.6) and may extend under alluvial cover: reconnaissance mapping and sampling to the north and west of a large covered area reveals that sericitic alteration appears south of the covered area near the Goodman Fault on the south side of Gonzales Wash and with sheared pyritic gold-bearing quartz veins in the Goodman Fault at the west boundary of the Sugarloaf Peak claim group. If projected beneath the covered area, the gold-enriched zone measures approximately 3.5 km long (11,500 feet).

Drilling to date extends the >200 ppb surface gold anomaly to depth in a zone roughly 500 m wide by 1 km long (Figure 10.1). Significant drill results (Tables 10.2 - 10.4) indicate an average depth of about 75 meters for the near-surface intercepts grading ≥300 ppb Au over more than 3 meters (excluding deeper, isolated intercepts). Subsurface mineralization forms a broadly tabular, generally flat-lying zone immediately beneath the surface (Figure 7.12) that could potentially suit open-pit mining. In general, the near-surface drilled mineralization is open laterally and at depth, and is underlain by deeper anomalous intercepts in several drill holes.

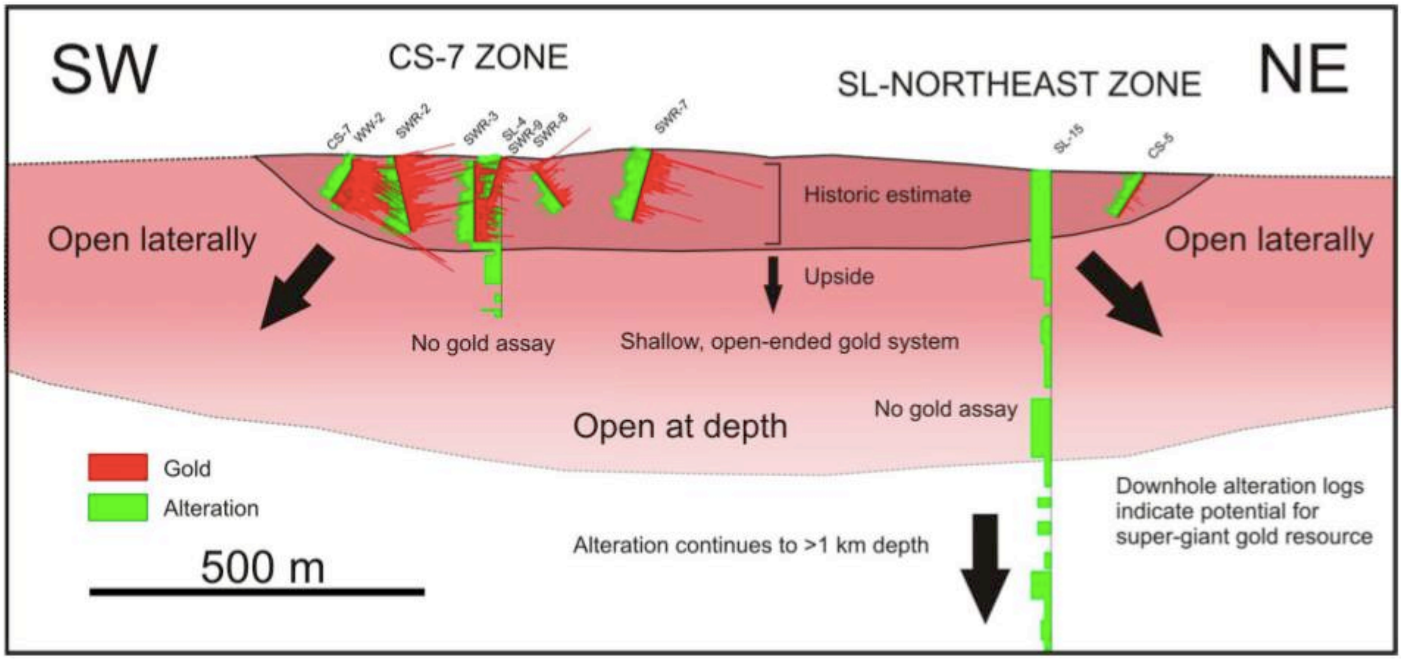


Figure 7.12 Conceptual depiction of historically drilled mineralization. From Wainright (2009a).

Gold Vein Types

A number of different types of veins exist on the project. These include:

- blue-grey layering-parallel metamorphic quartz veins
- quartz-pyrite veins
- quartz-specularite veins
- quartz-tourmaline/specularite veins, steeply dipping banded quartz-tourmaline veins and breccias, and zones of layering-parallel dark grey-blue quartz-tourmaline silicification
- quartz gash veins
- alunite veins

Preliminary crosscutting relations are evident in drill core and outcrop (Table 7.1, Figures 7.15, 7.16), but a comprehensive understanding of vein types and relative timing has not yet been achieved. Although it is clear that gold mineralization is roughly coincident with zones of quartz-pyrite veining, it is unclear which veins definitively carried gold. Current understanding of the principal vein types is described below.

Quartz-Pyrite Veins

In surface outcrops and particularly in drill holes, quartz-pyrite veins are exposed (Figures 7.11, 7.13). These veins range from sub-millimeter veinlets to several centimeters in width and contain clear quartz and individual subhedral pyrite crystals and groups of pyrite crystals up to 1 cm long. Quartz and pyrite are ubiquitous, and varying amounts of biotite, sericite, chlorite, calcite, epidote, and molybdenite are present, along with minor chalcopyrite and pyrrhotite (Payne, 2011). Quartz-pyrite veins clearly cut foliation and layering, and show a range of angular relations to foliation: they are parallel, sub-parallel, at moderate angles, and at high angles to foliation. Current data is insufficient to determine a preferred orientation.

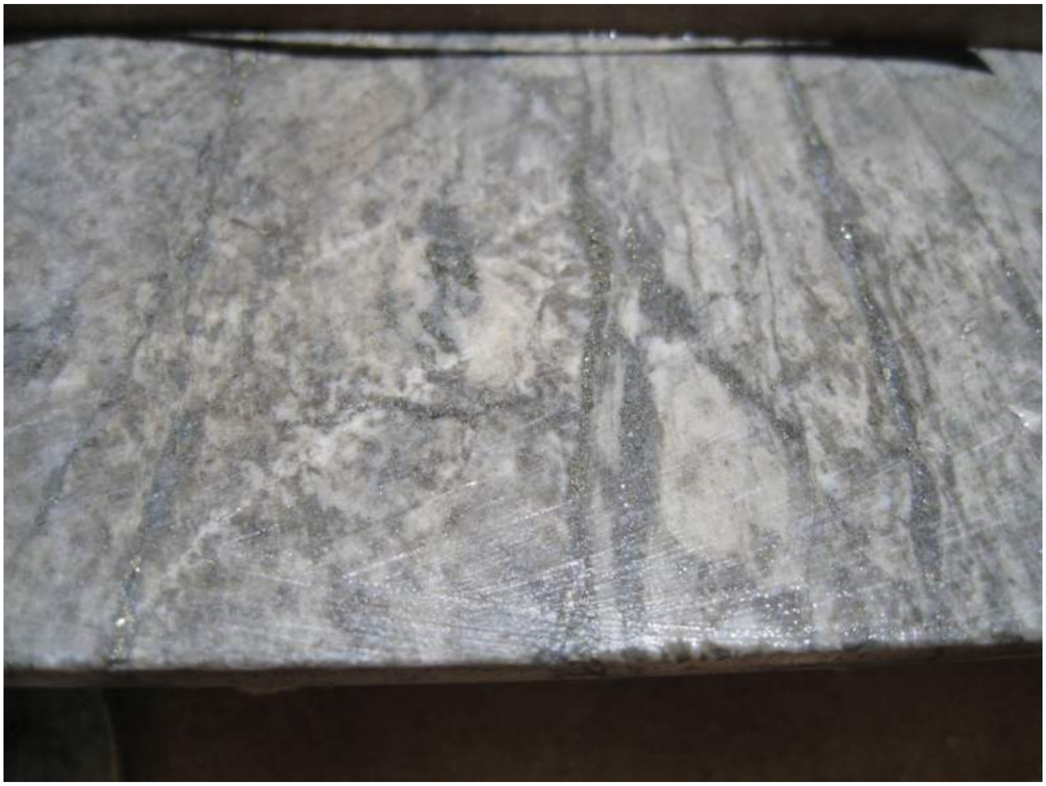


Figure 7.13 Quartz-pyrite veins accompanied by sericitic alteration. Photo by the author, 2011.

Quartz "Gash" Veins
A well-developed swarm of NE-striking and generally NW-dipping quartz veins (termed "gash" veins by Stan Keith and retained here) is widespread throughout the area of detailed mapping. Veins are mainly composed of quartz, although local concentrations of specular hematite and base-metal-bearing sulfides and sulfosalt minerals are present. Sulfide-bearing quartz veins are particularly well-developed at the Leadville prospect immediately SW of the SWR-4 drill site and in a highly-prospected quartz vein in the area immediately east of the ASP drill hole cluster (Figure 10.1). The NE-striking quartz gash veins are not evenly distributed throughout the project area, but are best developed in a zone between the B and D shears of the Goodman Fault system. In addition, the quartz gash veins as well as silicification may exhibit higher frequency and intensity with the B and C shears, particularly in the footwalls of these structures. The area of most abundant gash veins also appears to coincide with the currently identified gold mineralization and its polymetallic halo. This zone of quartz gash veining constitutes a 2,600-foot-wide zone that strikes WNW between Sugarloaf Peak and the La Cholla benchmark immediately south of the Dome Rock Interstate 10 interchange (Figure 7.3). This high density of quartz gash veins located near gold mineralization suggests a genetic link, but the principal control on gold mineralization has not yet been clearly identified. Stan Keith interprets the quartz gash veins in the project area as late mineral-related veins and not regional metamorphic quartz veins.

Alunite Veins
Alunite veining is especially common in the area around Sugarloaf Peak within the transition between the main gold anomaly and the pyrophyllite-bearing advanced argillic assemblage to the southeast and south of Sugarloaf Peak. Analyses of the alunite in the potential alunite resource at Sugarloaf Peak revealed that the alunite is mainly composed of the mineral natroalunite (Heineman, 1935). The alunite veins are mainly late and are a locally widespread feature throughout the sericitic and pyrophyllitic altered areas. In the area of the stockwork alunite deposit beneath Sugarloaf Peak, several generations of alunite veining are present (Figure 7.14).

In the immediate vicinity of Sugarloaf Peak, a stockwork-style deposit of alunite is present and has been the subject of several economic evaluations. The area of intense alunite stockwork veins contains local zones of the advanced argillic indicator mineral zunyite, which is developed as honey brown wedges 0.5 to 3 mm in diameter, along schistosity in the wallrocks. Current sampling of alunite veins has not revealed the presence of anomalous gold. However, sampling by the USGS of alunite veins at Sugarloaf Peak has revealed anomalous platinum and platinum group metals in several samples (Cress and Feldman, 1944). In particular, Cress and Feldman state, "A lens of schist in alunite from Sugarloaf Peak, Yuma County, Arizona, collected by L.S. Gardner of the Survey, assayed 1 oz of platinum per ton with traces of palladium and rhodium," (page 106). The presence of platinum and platinum group elements is not unexpected in the Ridgeway MQA47 model (see Deposit Types, below), as platinum and other PGE metals occur as accessories in many quartz alkalic base and precious metal-bearing models as well as magmatic segregates of various quartz alkalic peridotites. A select set of samples should be re-analyzed for platinum group metals to ascertain the distribution of platinum within the Sugarloaf Peak gold system.

According to Telluris (2011), the kinematic indicators related to alunite veins at both Sugarloaf Peak and at the main NNE drainage that cross-cuts the sequence to the NW indicate quite clearly that the alunite is much later than the alteration and foliation. The steep alunite veins typically show no fracturing or foliation, transect low-angle foliations, and appear to have formed in extensional conditions during a phase of ENE extension (i.e. Basin and Range in age). Telluris (2011) postulates a supergene origin for the alunite. Understanding the origin of the alunite on the project is key to the mineralization history and deposit type.

Figure 7.14 Alunite veins. From Goldsmith (2008).

Vein Crosscutting Relations

A comprehensive understanding of vein timing and mineral paragenesis has not yet been achieved, but preliminary observations indicate a complex structural system with multiple generations of veins. As described by Telluris (2011), alunite veins cut all other vein types on the project and are clearly late (Figure 7.14). Figure 7.16 shows one instance of complex vein history, with veins forming in the following order: 1) thin white fibrous quartz (?) vein at lower right, which is cut and offset by 2) quartz-pyrite veins that are in turn cut and offset by 3) thicker white fibrous quartz (?) vein at top left that has been cut and paralleled by 4) darker gray quartz vein. All four vein types cut volcanic layering. An accumulation of such observations will generate a comprehensive understanding the vein timing relations and mineral paragenesis, which are central to determining the fundamental controls on gold mineralization. Cataloguing the various types of veins on the project and their relative timing should be a priority for geologic study.

Table 7.1 Vein Types and Crosscutting Relations Observed

	Crosscutting Relations			
Vein Type		**Vein Type**	**Drill Hole**	**Depth (ft)**
qz-py	cuts	disseminated tm	SGL-11-02	578.5
qz-py-bi				
qz-py-chl	cuts	qz-py-ca	SGL-11-02	131.5
qz-py-ca	cuts	qz-py-ca-mb	SGL-11-02	334
	cuts	qz-py	SGL-11-02	518
qz-py-ca±chl				
qz-py-ca-mb				
qz-py-ca-ser				
qz-py-ca-ep				
py-chl				
bi-py				
qz-al	cuts	qz-py-ca	SLP-09-03	169.5
		qz-ca	SLP-09-03	169.5
qz-ca	cuts	qz-py-ca and qz-py-ca-chl	SGL-11-02	600
white milky qz	cuts	qz-py-ca	SLP-09-03	169.5
ser				
chl-ca	cuts	qz-py-ca	SGL-11-02	118
chl-py				
chl-ep				
ca-fl-mb-py				
ca	cuts	qz-py-ca-chl	SGL-11-02	256
	cuts	disseminated tm	SGL-11-02	578.5
gyp	cuts	ca-fl-mb-ca	SGL-11-02	183.3
	cuts	qz-py-ca	SLP-09-03	169.5
	cuts	qz-ca	SLP-09-03	169.5
	cuts	qz-al	SLP-09-03	169.5

Mineral abbreviations: al, alunite; bi, biotite; ca, calcite; chl, chlorite; ep, epidote; fl, fluorite; gyp, gypsum; mb, molybdenite; py, pyrite; qz, quartz; ser, sericite; tm, tourmaline (may also be actinolite)

Figure 7.15 Quartz-alunite (?) veins cutting quartz-pyrite veins. Drill hole SLP-009-01, 51.4 m; photo by the author, 2011.

Figure 7.16 Example of vein cross-cutting relations. At least four generations of veins are depicted. Drill hole SLP-009-01, 51.5 m; photo by the author, 2011.

Gold-Related Alteration

The Sugarloaf Peak gold system is contained within a conspicuous large area of alteration 2.5x4 km in extent. The various alteration facies recognized on surface during the mapping and indicated by historical data are compiled in Figure 7.4. The gold-related sericitic and argillic alteration pattern forms an ovoid shape elongate to the WNW-ESE within a district scale area of propylitic alteration. Alteration at Sugarloaf Peak appears to be like that of many other porphyry metal sequences, where the more abundant high-pH propylitic alteration resulted from fluids emanating from earlier, less-differentiated plutons, and lower-volume, low-pH sericitic and argillic assemblages representing alteration from fluid releases from more differentiated intrusive phases. The evolution from sericitic to argillic alteration within the Sugarloaf Peak alteration anomaly also reflects a progressive decrease in pH of the mineralizing fluids, with the zunyite-alunite stockwork deposit beneath Sugarloaf Peak and the pyrophyllite deposits to the east and south representing the lowest pH fluid. This also appears to coincide with a major change in sulfur and oxygen fugacities. High sulfur fugacity is represented by widespread pyrite that follows sericitic alteration. The presence of hematite-stable argillic alteration demonstrates more oxidized conditions and low sulfur fugacity.

Quartz-Sericite-Pyrite Alteration

The main gold occurrence appears to coincide with a large zone of quartz-sericite-pyrite alteration that pervasively affects rocks of the Dome Rock igneous suite. The area of sericitic alteration (and to the east, pyrophyllitic, advanced argillic alteration), is at least 5 km long and over 1.6 km wide. The alteration zone appears to pinch towards the west to a focal point at the entrance to Goodman Wash at the Colorado River Indian reservation boundary. The zone of sericitic alteration in drill holes ranges from 0 to at least 300 meters thick. The overall form is that of a large tabular body. Sericite alteration has been confirmed by thin section (Payne, 2011).

Importantly, the sericitic component of the alteration that begins to appear about 200 meters west of Sugarloaf Peak is consistently coincident with the >200 ppb gold anomaly (Figure 7.4). All of the >650 ppb Au values are contained within the sericitically altered central zone and appear to coincide with areas of strong silica-pyrite flooding. Within the area of sericitic alteration, pyrite is common as veinlet fillings and wall-rock disseminations, especially in areas of silica breccia. Current data suggests that the best gold values will be found in this rock type. Specular hematite is limited to late cross-cutting quartz veins.

Argillic Alteration

On surface, the central area of gold-related sericitic alteration is bounded on its east and north sides by a more clay-dominated zone of argillic (mainly to the south) and advanced argillic (mainly to the east) alteration.

The alteration boundary is in part fault-controlled, especially along its northern margin where a rapid transition from sericitic alteration to argillic alteration coincides with the steeply north-dipping D shear of the Goodman Fault system. The transition from sericitic alteration to advanced argillic alteration that occurs over a rapid gradation and coincides with a major northerly draining wash west of Sugarloaf Peak also coincides with the transition from the gold-rich zinc-molybdenum proximal assemblage to polymetallic and locally arsenic anomalous fringing assemblages to the south and southeast.

Argillic alteration is consistently coincident with the >70 ppb gold anomaly. However, in contrast to the sericitic zone, gold rarely exceeds 250 ppb in argillic alteration. Advanced argillic alteration in the vicinity of Sugarloaf Peak contains the diagnostic mineral zunyite, which is relatively frequent in the vicinity of the strong alunite stockwork vein complex on the north side of Sugarloaf Peak. Specularite is best developed in areas of argillic alteration to the south and east of the gold- related quartz-sericite zone. Specularite is mainly restricted to quartz veins but locally occurs as dissemination in areas of pervasive alteration. The argillic alteration facies also contains much less pyrite compared to the sericitic alteration facies.

A number of open cuts have prospected for commercial grade pyrophyllite in areas south and east of Sugarloaf Peak. The pyrophyllite is interpreted to be a late stage of advanced argillic alteration that represents (together with the alunite) the latest paragenetic stage in the Sugarloaf Peak gold system. In general, the pyrophyllite zones are devoid of gold with most samples containing less than 70 ppb Au (most are between less than detection limit and
30 ppb Au).

Observations by Choice Gold geologists Bard Peters and Rory Ritchie indicate that argillic alteration decreases down drill holes, roughly coincident with surface oxidation, and that little argillic alteration is seen in unweathered rock deeper in drill holes. This suggests that much of the argillic alteration seen on surface may be supergene in origin.

Propylitic Alteration

The gold–related argillic and especially sericitic alteration anomalies at Sugarloaf Peak are contained within a probable district-scale propylitic alteration anomaly. The propylitic alteration is mainly composed of chlorite with subordinate amounts of epidote and quartz. The chloritic alteration affects a large area of Dome Rock metavolcanics to the south and north of the Goodman Fault. It also affects the ferro-magnesium mineralogy of the Middle Camp monzonite unit north of Interstate 10; the chloritically altered quartz monzonite, however, appears to be cut by sericitically-altered Diablo alkali granite in exposures north of Interstate 10.

Biotite Alteration

One instance of biotite alteration was noted, in the thin section from drill hole SGL-11-01 at 229 meters (Figure 7.9). It is clearly more abundant on the margins of a quartz-pyrite-calcite vein, and is intergrown with epidote and calcite. Although accompanied by a generally propylitic assemblage and without K-feldspar, the presence of alteration biotite at depth is a possible sign of higher-temperature porphyry copper-gold style mineralization.

Mineralogical Associations with Gold

On surface, the >200 ppb gold contour correlates well with a large area of sericite and clay alteration. This alteration is widespread, obvious, clearly visible on satellite images, and contains the majority of anomalous gold rock-chip assays on the project. In a general sense, then, gold correlates well with sericite and clay on surface. In more detail, recent logging of Riverside core and Choice Gold core and RC cuttings shows a good correlation between elevated gold values and quartz-sericite-pyrite alteration. Downhole plots of quartz, sericite, pyrite, chlorite, epidote, and selected trace elements show that sericite and pyrite are present in almost all intervals with elevated gold, and silicification is often present (Figure 7.11). However, this is not a 1:1 correlation, and there are gold-rich intervals with little or no quartz-sericite-pyrite alteration, and sections of such alteration with little or no gold. Pyrite, though, is almost ubiquitous in >300 ppb Au intervals, and may be the best indicator of elevated gold on the project.

Additional analytical studies will help to refine the mineralogical associations with gold, and should be relatively inexpensive given the amount of modern drill core and cuttings on the project. Analytical studies should include Terraspec short-wave infrared analyses on all drill core and cuttings, and petrography. The goal of this work would be to more clearly identify the gold-bearing mineralization and alteration mineral assemblages.

Geochemical Associations with Gold

Basic statistical evaluations were done on the geochemical data from the Riverside drill data, as reported in Smith, 2011b. The most useful part of this work was evaluation of particular gold-mineralized intervals that were manually chosen for statistical analysis. The intent was to examine geochemical trends in isolated lengths of drill samples that displayed gold mineralization. The selected intervals display a strong correlation between Au and Te (R=0.78), and a weak Au correlation with As (R=0.47). In addition, visual comparison of the average compositions of these intervals reveals rough correlations between Au and Bi, Pb, S, Sb, Se, and Sn. At higher grades (above 500 ppb Au) these samples are moderately elevated in Zn, In, Cd, Bi, and Se, and show a 30% decrease in Na, likely due to destruction of plagioclase in the wall-rock alteration accompanying Au mineralization. When sorted by elevation, the average grades of Au, Cu, Mo, Sn, and Fe tended to increase with depth, suggesting that the Riverside drilling may have encountered narrower, higher-grade structures at greater depths.

Downhole multi-element plots from the Choice Gold drilling support these associations, and show a strong correlation between Au and Ag, Cu, Pb, Zn, Mo, Bi, Te, As, Sb, and Se (Figures 7.17, 7.18). Not all these elements are elevated in each gold-rich interval, but are to varying degrees anomalous where >300 ppb Au is present. In drill hole SGR-12-13, for example, the 1.5-m interval between 56.4 and 57.9 m depth (Figure 7.18) returned 1,290 ppb Au with anomalous Ag, Pb, Zn, Mo, Bi, Te, As, Sb, and Se. Copper is not anomalous in this interval but typically is high in many gold-rich intervals. Similar geochemistry is present in the deeper intervals at about 70 meters and 117 meters depth in hole SGR-12-13 (Figure 7.18).

More sophisticated geochemical methods should be applied to the combined Riverside-Choice drill data. This should include statistical analysis for major and trace-elemental correlations with gold and copper, lithogeochemical classifications of alteration and host rocks, Terraspec short-wave infrared analyses on all drill core and cuttings, and spatial analysis of geochemical trends and vectors. The intent of this work would be to refine the geochemical associations with gold and alteration patterns, which in turn will inform the understanding of the gold-bearing alteration and mineralization mineral assemblages, in particular to identify which vein set carries the highest-grade gold, allowing targeting toward higher-grade portions of the deposit.

Structural Controls on Gold Mineralization

The mineralization at Sugarloaf Peak sits in a complex structural environment. The Goodman Fault system (a Precambrian-aged fault with numerous splays), several generations of thrust faulting, a number of different types of veins, possibly mineralized dikes, and four identifiable generations of deformation contribute to the complexity of the structural setting. Although the specific phase of veining that introduced gold at Sugarloaf Peak is yet unclear, a number of general inferences can be made about the structural controls on mineralization at the project.

A combination of faults, volcanic layering, foliation, and veins appears to have formed fluid pathways sufficient for both vein-hosted and disseminated gold mineralization. According to Telluris (2011), in general there appears to be a progressive evolution from early ductile phyllonite fabrics through more ductile-brittle deformation during the mineralization, when slightly coarser foliation and minor veining were developed in conjunction with silicification through to more discrete conjugate shears (Telluris, 2011). During very late or perhaps post- mineralization phases, brittle conditions prevailed where late, massive, quartz-dominated tension gash veins were emplaced in local extensional features such as conjugate shears, NE tension gash veins orthogonal to regional compression, tensional zones between boudinaged dikes, and south-dipping strike-parallel tensional veins (Goldsmith, 2008).

Further geologic work, particularly core logging, should focus on identifying the principal structural controls on gold mineralization. Much of the following section of the report paraphrases the structural review of Telluris (2011).

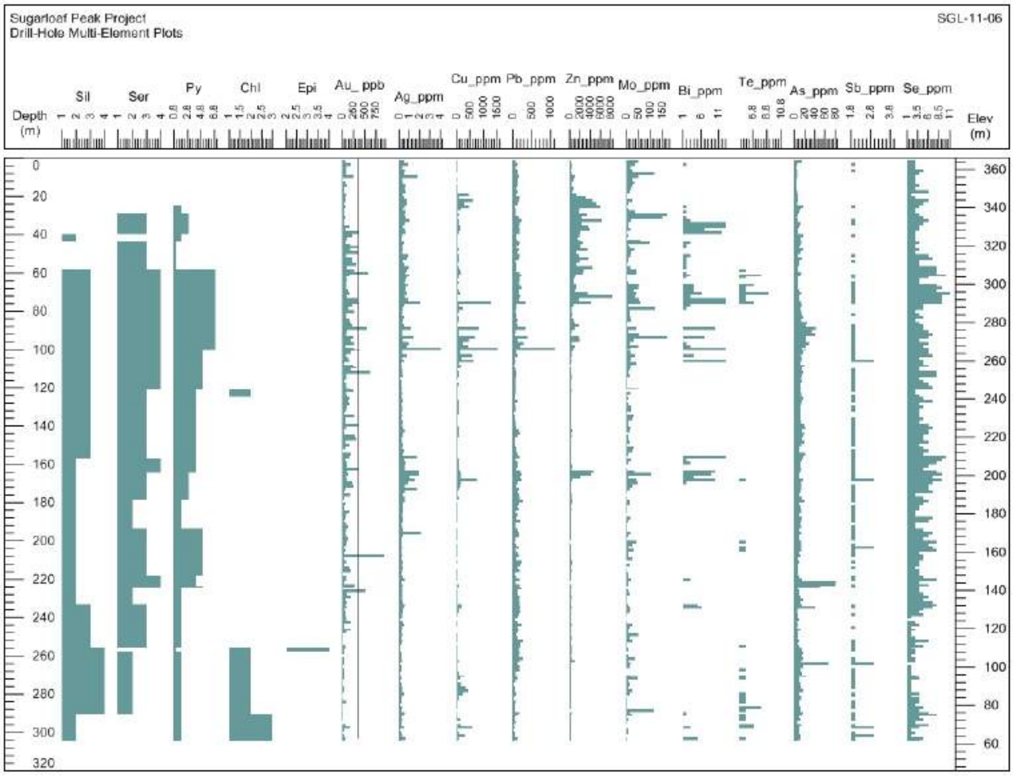


Figure 7.17 Multi-element graphic log, drill hole SGL-11-06.

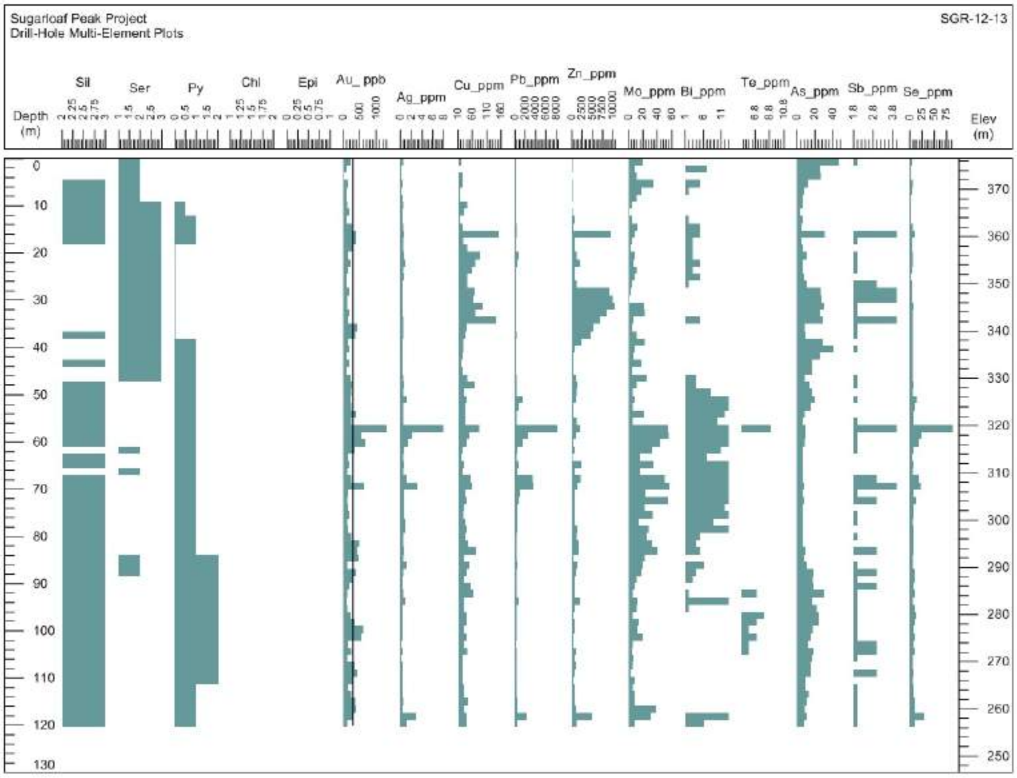


Figure 7.18 Multi-element graphic log, drill hole SGR-12-13.

Veins

It is clear that gold mineralization accompanies quartz-pyrite veins on the project. These are widely distributed on surface and in drilling, and that generally coincide with zones of anomalous Au. These have a number of variations, however, and identifying which vein mineral assemblage most closely controls high-grade gold mineralization will help identify higher-grade portions of the gold deposit.

Telluris (2011) envisions brittle-ductile shearing and fracturing controlling fluid flow in the form of low-angle shears, steeper foliation-parallel shears, and extensional veining. The presence of steeper shear zones sub-parallel to the main low-angle foliation appears to relate to the change in deformation conditions from ductile flattening to more active (and rapid) shortening and a change to more brittle-ductile conditions. Goldsmith (2008) surmises that the quartz gash veins may have played a role in fluid flow, although the timing of these veins relative to mineralization is still not clear.

Goodman Fault and Related Shears

The Goodman Fault system is a natural candidate as the principal large-scale control for gold mineralization at Sugarloaf Peak. The large area of sericitic and argillic alteration on the project coincides with a broadening of the Goodman Fault system into a 1.5-km-wide zone of NW-SE shearing along the Goodman Fault and its five mapped shears. The Precambrian age for this fault system, along with evidence for more recent right- and left-lateral movement establishes it as a long-lived system with good potential for channeling mineralizing fluids. The fault appears to be the main control on mineralization at the Goodman Mine, the main past producer in the project region, about 1.6 km west of Sugarloaf Peak.

Goldsmith (2008) postulates a detailed fluid-flow scenario along the Goodman Fault system, but Telluris (2011) sees little evidence that mineralization accompanied strike-slip movement along the Goodman Fault system, with no evidence such as stretching lineations or folding of the foliation that would be consistent with significant degrees of strike-slip motion. Thus, if the Goodman Fault played a role in channeling mineralizing fluids, it was likely a passive role as a pre-existing structure that influenced fluid flow.

Reverse and Thrust Faulting

Tony Starling states that all the kinematic indicators associated with sulfide mineralization at Sugarloaf Peak point to SW-directed reverse shear (Telluris, 2011). The kinematic indicators Starling saw in the core, and to a lesser extent on surface, all indicate NNE to NE compression, and interprets that SW-directed shearing could have created an overall mineralization geometry dipping gently to the north, following a SW-vergent thrust structure. However, this is not borne out in the drill results.

Volcanic Layering and Foliation

Volcanic layering and foliation may have served as a secondary control on mineralizing fluid flow. These planar fabrics in the Sugarloaf Peak anomaly appear to grossly control the geography of the argillic alteration, as well as the positioning of foliation-parallel to late-stage alunite veins, and may have exerted an important secondary pre-mineral control, in particular where they dip into the footwalls of the Goodman Fault system and its shear splays.

Dikes

Keith (2011) notes a possible link between dikes of Diablo alkali granite and gold mineralization. "The primary Diablo granite/rhyolite dike in drill hole SLP-09-03 displays primary high-angle foliation and corresponds with the thick 'discovery quality' gold-pyrite intercept encountered in the drill hole. A number of other dike occurrences also correspond with elevated gold-pyrite occurrences and it is now believed that gold introduction is closely associated with the emplacement of the Diablo granite circa 159 Ma."

Post-Mineral Faulting

Faulting that occurred after mineralization may have tilted and offset portions of the mineralized system. The steep ENE shears and gentle folding of the D_1-D_2 foliation may have contributed to the apparent tilting of the mineralization to the west (as suggested by the IP data) perhaps in conjunction with Basin and Range block rotation. Telluris (2011) may have identified a listric normal fault in the central portion of the project.

Relative Timing of Gold Mineralization and Deformation

The relative timing of gold mineralization and deformation, and therefore the age of mineralization, are not conclusive at Sugarloaf Peak. The recent consensus among Locke Goldsmith, Stan Keith, and Tony Starling/Telluris is that gold mineralization occurred during deformation events D_1 or D_2. However, at least one previous geologist considers the mineralization post-deformation. The author has not seen convincing evidence for either assertion.

Telluris (2011) states that the style of mineralization and shearing suggests that mineralization occurred during the latter stages of D_1. Goldsmith (2008) cites the orientation of quartz gash veins as supporting evidence for D_1 mineralization. According to Goldsmith (2008), elements of D_2 deform gold mineralization at Sugarloaf Peak, indicating pre- or early-D_2 mineralization. There is conflicting evidence about the age of the alunite veins: the alunite veins have been cut by younger faults, but the age of these structures is unclear, and have been assigned variously to D_3, D_4, and Basin-Range faulting (Goldsmith, 2008; Keith, 2011, Telluris, 2011). Thin sections confirm that alteration sericite formed before or during deformation, but do not reveal which of the four deformation events.

In contrast to the above, Cousins (1990) considers the gold mineralization to be post-deformation, noting that "most of the gold is post-metamorphic and concentrated in N60-70°W and N 20-30°E striking post-deformational structures," with "gold values up to 8 ppm associated with faults that are clearly post-metamorphic." He also refers to a general correlation of higher gold values with "post-deformational faults, quartz-cement breccias, and post-deformation silicification."

Goldsmith (2008) reports that in the project area, D_4 deformation may be represented by WSW-directed thrusting on a northerly striking fault north of Interstate 10. This structural zone contains Cu-Au mineralization that probably used the structure prior to D_4 deformation as evidenced by copper and alunite veining that has been deformed by probable D_4 fabric.

Other than the thin-section evidence for pre- or syn-deformation alteration, I have not encountered any clear geologic observations that would permit strong conclusions about the relative timing of mineralization and deformation. I agree with Telluris (2011) that understanding the structural evolution of the deposit will rely on better defining the styles and geometries of the various deformation events, the large- and small-scale structures that control mineralization, and the crosscutting relations between structural elements.

Age and Source of Gold Mineralization

Given the uncertainties of the relative timing of mineralization and deformation, it is difficult to give an accurate age of gold mineralization. Goldsmith (2008) assigns mineralization a Jurassic age based on U-Pb geochronology and stratigraphic relationships, with the Sugarloaf Peak gold system derived from a hydrothermal fluid fractionated from the Diablo Granite in the late Jurassic at about 160 Ma. It may be worthwhile to attempt K/Ar age-dating of sericite from the sericitic alteration.

There has been an attempt to directly date the natroalunite on Sugarloaf Peak by 40Ar/50Ar geochronometry. This found that the natroalunite was entirely composed of non-radiogenic atmospheric argon (Dick Tosdal personal communication with Stan Keith, October 2008). There are two possible interpretations of this information. Either the natroalunite formed very recently and has yet to generate any detectible radiogenic argon, or the radiogenic argon was degassed from natroalunite during one of several Sevier-Laramide thermal deformation and metamorphic episodes.

The unequivocal source of gold mineralization at Sugarloaf Peak has not been identified, but the Diablo alkali granite is one potential source. The gold and/or copper mineralization display a strong spatial preference for the Diablo alkali granite, and gold mineralization at Sugarloaf Peak may be a product of an incompatible fluid release from the Diablo pluton during its crystallization no younger than 158 Ma. Adjacent to the western part of the project area, the Diablo alkali granite is spatially associated with quartz-sericite-pyrite ± tourmaline alteration and copper mineralization, and with gold-copper veins and derived gold placers at Middle Camp Mountain and Marquitta Pass to the immediate north of the project area. Goldsmith (2008) presents a detailed scenario of the possible igneous and fluid-source evolution that created the Sugarloaf Peak gold mineralization.

The Sugarloaf Peak gold anomaly and the Diablo alkali granite intrusions may be a component of a larger porphyry metal system that accompanied emplacement of the above described late Jurassic intrusive suite at about 165–158 Ma. The copper mineralization north of Interstate 10 displays a spatial association with quartz monzonite variants of the Middle Camp pluton and could reflect incompatible (Cu-Au) hydrothermal fractionations from the Middle Camp intrusion circa 162 Ma. This event might have been accompanied by district-scale propylitic alteration that appears to pre-date sericitic and argillic alteration of the Sugarloaf Peak gold anomaly.

The Sugarloaf project also shows many characteristics of orogenic gold deposits and is on the northwestern end of the Mojave-Sonora Gold Belt, a long region of acknowledged orogenic gold deposits that stretches south and east into northern Mexico (see below). If the mineralization is orogenic in origin then fluids were likely sourced from deeper crustal levels during metamorphic dehydration reactions or from deep syn-orogenic magmas. Age dates on orogenic gold deposits in the Mojave-Sonora Gold Belt such as Herradura (61 Ma; Quintanar-Ruiz, 2008) and San Francisco (41 Ma; Perez-Segura, 1996) indicate formation during the Laramide Orogeny, a ~80 – 40 Ma compressional event in western North America, and a potential age range for Sugarloaf Peak mineralization.

Porphyry Copper-Gold Mineralization

The Sugarloaf Peak project shows potential for porphyry copper-gold mineralization. Less work has been done on these targets, but high-grade copper mineralization accompanied by gold and porphyry-style alteration have been identified in the North and West Targets on the project.

The highest copper grades on the project—up to 0.67% Cu—occur on the North Target north of Interstate 10, where rock-chip sampling by Choice Gold returned widespread copper mineralization with up to 1,954 ppb Au. These samples occur in variably sheared and altered porphyritic granitoids with K-feldspar phenocrysts, monzonite porphyry, and latite porphyry intrusives. Associated structures include roughly east-west trending, shallowly south-dipping localized shear zones; northeast- or northwest-trending, steeply-dipping quartz and quartz-tourmaline veins, and northwest-trending granite dikes.

In the central mineralized zone south of Interstate 10, Cu forms a low-level anomaly (>100 ppm) that trends irregularly to the northwest, and which sits distinctly offset to the west-southwest of the main Au, Pb, Zn, and Mo anomaly. Roughly coincident with the Cu anomaly are anomalous levels of Bi, Te, As, Sb, and Se. Although the separation between Cu and Pb-Zn-Mo is unexpected—these elements usually cluster together in porphyry systems—the change toward higher Bi, Te, As, and Sb to the west-southwest suggests that this portion of the project may be the deeper levels of a porphyry system.

Ahern (1973) notes that a "block of potassic alteration measuring 2,000 by 3,000 feet is exposed in the center of Section 31, Township 4 North, Range 20 West." This is in the West Target, in the area of Gonzalez Wash south of Interstate 10 in the western portion of the project. Similarly, the historic Stray Elephant project was described by Goldsmith (2008): "a supergene oxide copper resource of about 3.0 million tons of 0.7% Cu (mainly as chrysocolla) has been established by drilling at the Stray Elephant prospect about 500 meters west of the project land position. The oxide resource has been developed on underlying chalcopyrite-bearing quartz-sericite (tourmaline) veins (Crowl, 1979; Gustafson unpublished report)." Further evaluation of the Stray Elephant occurrence should be done.

Additionally, biotite alteration deep in drill hole SGL-11-01 could be porphyry-related (Figure 7.9). The Congden & Carey/Kerr McGee deep copper drilling program tested copper potential on the project, but these holes were to the north of the Au anomaly and therefore did not test the best porphyry potential. Instead, areas to the west, west-southwest, and north of the copper anomaly appear prospective for porphyry copper-gold style mineralization.

8 DEPOSIT TYPES

DEPOSIT TYPES

The Sugarloaf Peak is a large and complex project and displays characteristics of orogenic gold, high-sulfidation epithermal gold, and porphyry copper deposits.

Orogenic Gold Deposits

Sugarloaf Peak lies in the Mojave-Sonora Gold Belt, a belt of gold deposits that stretches from southern California to central Sonora, Mexico. Many of these deposits have recently been shown to be orogenic gold deposits, including Mesquite, California (8M ounces Au; Lambert et al, 2010), La Herradura, Sonora (~10M ounces Au), San Francisco, Sonora (4.4M ounces Au; Micon, 2011), and Noche Buena, Sonora. My recent work in this gold belt leads me to believe that Sugarloaf Peak may also be of orogenic origin: the tectonic setting, structural style, and mineralization and alteration types are all consistent with orogenic gold deposits and similar to other orogenic deposits in this region.

Orogenic gold deposits form near or soon after peak metamorphism in collisional metamorphic terranes of all ages. Displaying strong structural control in 2nd- and 3rd-order brittle faults and ductile shear zones as quartz-dominated stockworks, breccias, sheeted veins, vein arrays, replacements, and disseminations, most deposits formed at greenschist facies (250-350°C, 1-3 kbar, 2-20 km deep) in compressional-transpressional settings at convergent plate margins near 1st-order deep crustal fault zones with complex structural histories, especially where these faults change direction (Goldfarb et al, 2005; Groves et al, 1998). Orogenic gold systems can be huge—with the largest up to 2-10 km long, 1 km wide, and 2-3 km deep—and contain some of the planet's largest concentrations of gold, such as deposits in the Kalgoorlie district, Australia (39M ounces), and the Timmins (64M oz) and Kirkland Lake (24M oz) districts in the Canadian Shield.

Ore occurs in quartz veins and altered wall rock, with generally high gold:silver ratios and high fineness, accompanied by 2-5% sulfides. Historically, high-grade veins were exploited (5-30 g/t), but many deposits comprise large volumes of lower-grade, bulk-mineable ore. Alteration consistently adds CO_2, S, K, H_2O, SiO_2 to wall rocks in the form of carbonates (ankerite, calcite, dolomite), sulfides (pyrite, arsenopyrite, pyrrhotite), and silicates (muscovite, biotite, K-feldspar, albite, and chlorite); scheelite and tourmaline are common, and at higher metamorphic grades amphibole, diopside, and other skarn-like replacement minerals occur. The typical geochemical signature is elevated As, B, Bi, Hg, Sb, Te, and W, with generally low Cu, Pb, and Zn. Gold was transported as sulfide complexes in reduced, near-neutral metamorphic fluids of high CO_2 and low salinity and deposited by pressure decreases during episodic seismic events (leading to the characteristic banded quartz veins) or by desulfidation reactions with wall rocks.

High-Sulfidation Epithermal Deposits

Based on current understanding, the Sugarloaf Peak gold mineralization also shows characteristics of the high-sulfidation epithermal precious metal deposit type, principally the large amount of alunite on the project. Using the classification scheme derived by Stan Keith of MagmaChem Exploration, the Sugarloaf Peak mineralization is a member of the Ridgeway Type MQA37, a quartz alkalic gold-quartz-alunite epithermal stockwork deposit model. The Ridgeway type is a specific type of high-sulfidation gold model that differs from the more classic Goldfield/El Indio type. The Ridgeway deposit type lacks copper and arsenic-rich enargite-bearing gold-silver veins and does not display systematic proximal toxic metal geochemistry (arsenic, antimony, thallium and mercury). Unlike the Goldfield/El Indio model, the Ridgeway Type model contains abundant specular hematite (especially in later stage alteration and veining). Preliminary geochemistry suggests that molybdenum, bismuth, copper (at low levels), lead, silver, arsenic, uranium, zinc, and rare earths will be systematically anomalous in different parts of the system. Gold-zinc and molybdenum follow quartz-sericite-pyrite in proximal zones whereas lead, silver, arsenic (low levels), uranium, and rare earths are distributed in more distal portions of the system, especially in late stage veins and distal alteration. The molybdenum correlation is similar to the Golden Sunlight member of the Ridgeway model. The Ridgeway type lacks silver and is therefore different from the silver-dominated high-sulfidation epithermal Julcani Type (MAC20) model. The Ridgeway type also lacks a strong central tungsten anomaly with peripheral silver-dominated base metal veins. If anything, tungsten distribution may follow bismuth and lead distribution in the distal argillic halo assemblage.

Like the El Indio-type model, which has a proven similarity with deep porphyry copper-gold- molybdenum mineralization at Lapanto in the Philippines, and the El Salvador district in Chile, the Ridgeway type of epithermal gold system may have a connection to deeper porphyry copper roots lateral to the epithermal gold mineralization. A possible deep, more porphyry-copper-like environment may exist north of I-10, where tourmaline-bearing quartz sericite veins occur near copper showings in a west-directed thrust fault. This is supported by apparent porphyry-copper mineralization at the Stray Elephant prospect about 500 meters west of the project (Crowl, 1979).

Porphyry Copper-Gold Deposits

Jurassic magmatism and related hydrothermal systems formed across much of southwestern North America, ranging from calc-alkaline and oxidized to relatively alkaline compositions. Porphyry copper-gold deposits of Jurassic age are known, but are fewer than those of Cretaceous to Cenozoic age (Barton et al., 2011). The Sugarloaf Peak property is located within an extensive belt of Lower- to Middle-Jurassic metavolcanics and related plutons. The youngest plutonic rock mapped on the property, the ~160 Ma Diablo alkali granite and coeval high-K felsic pyroclastics located to the south and southeast, could be conducive to Cu±Au±Mo alkalic to subalkalic porphyry mineralization.

Alkalic porphyry deposits represent a particularly Au-rich variety of porphyry copper deposits that are generally higher grade in Cu and Au than those formed from calc-alkaline magmatism. Although tonnages are generally lower than calc-alkaline deposits, they can still be substantial in size. The Grasberg deposit in Indonesia, is such an example, with a resource greater than 2.5 billion tonnes grading 1.1% Cu and 1.04 g.t Au (Freeport-McMoran Copper and Gold Inc., Annual Report 2000). Potassic ± magnetite alteration dominates proximal to intrusive centers, while propylitic and/or sodic (albite-pyrite) alteration assemblages are peripheral to, and locally overprint, the potassic alteration. Advanced argillic alteration is lacking in most cases (Chamberlain, 2007).

EXPLORATION MODEL

The exploration model for Sugarloaf Peak is based on the current understanding of the Goodman Fault zone as the principal large-scale control on the flow of gold-mineralizing fluids, along with knowledge of metal zonation in orogenic gold, high-sulfidation epithermal gold, and porphyry copper-gold systems. There are three principal components of the exploration model: structural geology, geochemistry, and geophysics. The coincidence of Goodman Fault shears and other high-angle faults; gold, copper, zinc, and molybdenum anomalies; and IP and magnetic anomalies present the highest-quality exploration targets. The exploration model is discussed below and shown in Figures 8.1 and 8.2.

Goldsmith (2008) presents a detailed scenario of the possible igneous and fluid-source evolution that created the Sugarloaf Peak gold mineralization. Goldsmith (2008) also surmises that the geologic setting of the central Dome Rock Mountains is designed to accommodate the presence of a potential "super giant" porphyry metal system. The left step in the Gonzales shear zone and Goodman Fault in the Central Zone of the project would have created a large dilatant zone on the order of almost 6.5 km long during left-lateral motion that could have resulted from NE-SW compression during deformation D_1. This large area of low pressure would have focused migration of magma and volatiles. The currently identified gold system may be underlain by porphyry-copper and/or porphyry-gold mineralization. Keith (2011) presents a preliminary gold-porphyry exploration model.

Structure

The identification of favorable controlling structures is the best guide to gold mineralization on the project. Structural preparation in the area of gold mineralization is impressive. The project overlies a pronounced expansion of the Goodman Fault zone from one principal structure east and west of the project to six strands within the project boundaries (the Goodman Fault plus shears A through E). The Goodman Fault zone also displays a left step that would create dilation during left-lateral motion receptive to mineralizing fluids, and Goldsmith (2008) interprets that such motion has occurred. The presence of abundant veins of multiple generations, volcanic layering, foliation, and several episodes of shearing and thrust faulting all contribute to an exceptionally complex structural setting and pervasive pathways for mineralizing fluids. Post-mineralization faulting may have partially dissected the mineralized system, and identifying these structures and their offsets will be important in outlining a resource.

Keith (2011) uses the location of Goodman fault shears and the presence of Diablo alkali granite dikes as guides to exploration targets. In particular, he focuses on the B and C shears as locations of preferred gold drill targets. He also states that gold mineralization in the B, C, and D shears appears to dive under alluvium to the west and presents this as an exploration target that could significantly enlarge the size of the known mineralized system.

Geochemistry

Zinc and Mo show the strongest correlation with Au in surface rock-chip samples; the coincidence of anomalies in these three metals form high-priority gold exploration targets. In addition, drill results show strong correlations between Au and Ag, Cu, Pb, Zn, Mo, Bi, Te, As, Sb, and Se; anomalies in these elements also form high-priority gold exploration targets. Copper exploration targets are outlined principally by rock-chip geochemical results high in Cu, Au, Pb, Mo, Te, and Se in the North Target, where results suggest potential for porphyry copper-gold mineralization.

Geophysics

As discussed below and presented in Quantec (2011), the IP survey on the project produced a number of chargeability, resistivity, and magnetotelluric anomalies. The IP anomalies appear to identify the disseminated pyrite and silicic alteration that accompanies gold. When combined with structural interpretations, geochemical data, and aeromagnetic anomalies, the IP anomalies present excellent, high-quality exploration targets. These targets are detailed in Quantec (2011a).

The airborne magnetic survey also found magnetic-low anomalies coincident with the surface sericite and clay alteration and appear to indicate the destruction of magnetite by hydrothermal processes. Espinoza (2011) notes that “the known alteration and mineralization coincides with areas of low magnetic values,” with a recommendation to “focus the drilling efforts on low magnetic areas.” The prominent magnetic low that underlies the gold mineralization on the project continues to the west under cover, where it is coincident with the western portion of the IP anomaly (Figures 9.14-9.16). This presents a prime exploration target.

The air magnetics survey also identified two prominent magnetic highs. The first, north of the highway and in the northeast portion of the project, coincides with anomalous copper samples taken in the eastern part of the North Target. The second magnetic high is located just south of the Intersate highway on the western edge of the project, where Ahern (1973) noted the presence of porphyry-style potassic alteration on the project’s West Target. Both of these magnetic highs present porphyry copper-gold exploration potential.

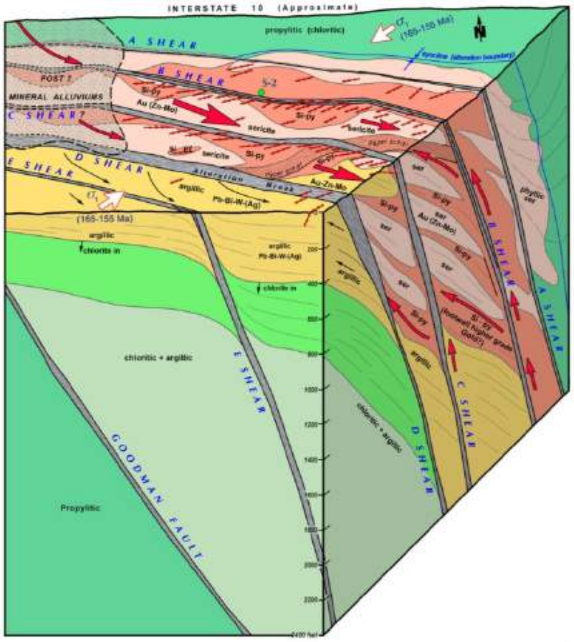


Figure 8.1 Schematic exploration model of Goldsmith (2008).

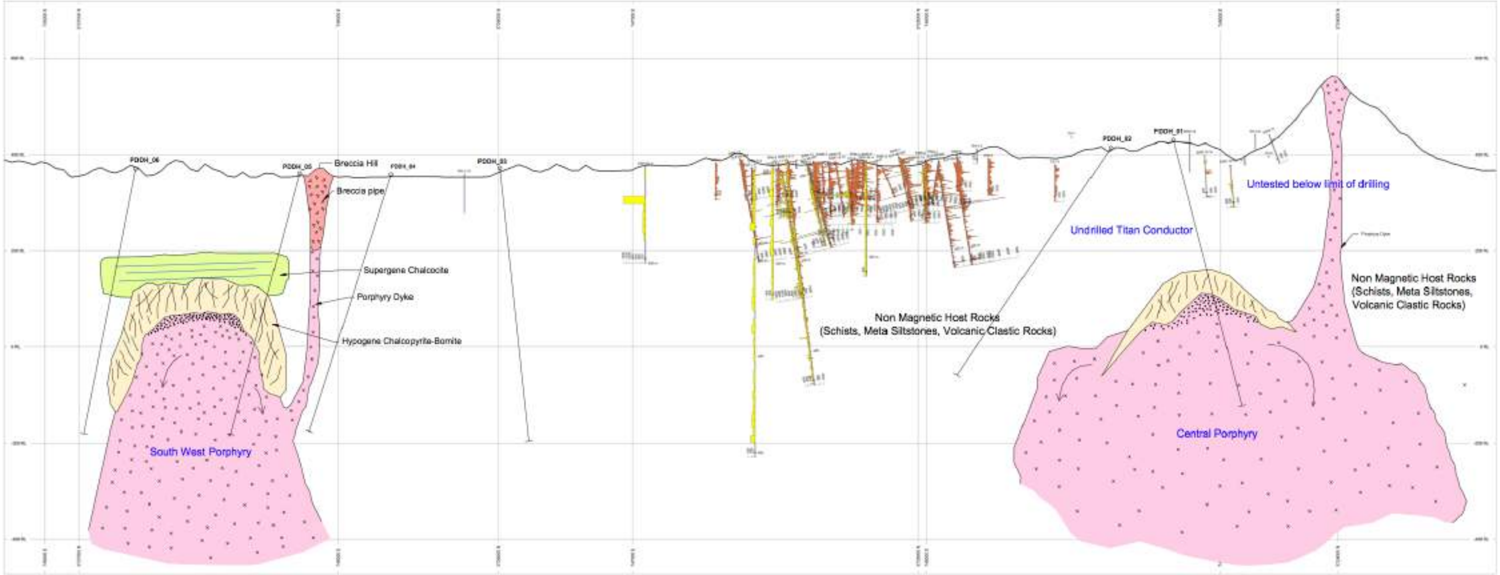


Figure 8.2 Schematic exploration model incorporating porphyry potential.

9 EXPLORATION

EXPLORATION SUMMARY

Historical exploration work conducted on the property is outlined in History, above. Recent exploration conducted between 2008 and present is described below.

Riverside Resources Exploration, 2008-2011

Beginning in 2008, Riverside Resources conducted a work program consisting of compiling data and historical information, geologic mapping, collecting approximately 370 surface rock samples, drilling, and producing a NI 43-101 report. Drilling consisted of 1,125 m (3,691 feet) of core in five holes to depths of 147-24 m (483-800 feet), as discussed in the section on Drilling, below. Riverside produced several internal reports (Wainright, 2009a, 2009b), scanned and digitized historical drill data (Riverside, n.d.), and commissioned a geologic and structural evaluation of the project (Brozdonski and Daniels, 2010).

Choice Gold Exploration, 2011-2012

Work performed or funded by Choice Gold included: 1) geologic mapping and rock-chip sampling by Stan Keith/MamaChem (Keith, 2011); 2) a structural review by Telluris (2011); 3) a Titan-24 induced-polarization geophysical survey (Quantec, 2011a, 2011b); 4) an airborne magnetic geophysical survey (Espinoza, 2011; EDCON-PRJ, 2011); 5) a 6-hole 6,602-foot (2012.29-meter) diamond drill program; 6) a 13-hole 1262-meter (4,140-foot) reverse-circulation drill program; 7) re-logging of the drill core from the 2009 Riverside drilling program and; 8) a 149 rock-chip sample and mapping program.

Exploration, 2012-Present

Between Choice Gold's final work in 2012 and present, minimal exploration work has been conducted on the project: Riverside Resources conducted no exploration during this period (Greg Myers/Riverside, personal communication, 2016), and Arizona Metals collected a combined total of 15 rock and stream-sediment samples on the project.

GEOLOGIC MAPPING AND STRUCTURAL REVIEWS

Three phases of geologic mapping have been conducted on the project. The first two phases were done by Stan Keith as a contractor for Riverside in 2008 and Choice Gold in 2011. Results of Keith's geologic mapping are discussed throughout the report, shown on Figures 7.3 and 7.4, and most recently reported in Keith (2011). The third phase of mapping was conducted in 2011-2012 by Brigitte Dejou of Choice Gold, and Brad Peters and Rory Ritchie as contractors to Choice Gold.

In April-May, 2011, Tony Starling of Telluris Consulting visited the project to perform a review of the project's structural geology. Telluris' interpretations (Telluris, 2011) are discussed throughout the report, most significantly in Structural Controls on Mineralization, above. A geological and structural evaluation was also done by Brozdowski and Daniels (2010) for Riverside Resources.

The different phases of mapping have generated two different opinions on the nature of the host rocks to mineralization at Sugarloaf Peak. Stan Keith described the host rocks as intensely altered and deformed metasedimentary rocks and intrusives. Mapping by Tony Starling of Telluris Consulting described the rocks as predominantly quartz porphyritic intrusive rocks. Results from the 2009 Riverside program describe rock intersected in drill core as predominantly sericite schist.

Mapping for Choice Gold, geologists Brigitte Dejou, Brad Peters, and Rory Ritchie had a different opinion, and described the predominant rock type as pyroclastic in nature, ranging from rhyolitic to andesitic in composition. Porphyritic flows were observed intermittently in the drill core and tended to be of more intermediate compositions. The author's observations are more consistent with the opinions of Dejou, Peters, and Ritchie: host rocks at Sugarloaf Peak appear to be a sequence of variably welded volcanic rocks with compositional layering and variable—but not widespread—degrees of mineral-parallel metamorphic foliation.

ROCK-CHIP SAMPLING

Several generations of surface rock sampling have contributed to a current database of approximately 1,916 samples on the project. According to currently available information, this consists of 380 samples taken for Choice Gold, 321 samples on behalf of Riverside, and 1,215 historical samples (Table 9.1).

A summary of sample information is given in Table 9.1. Sample locations are shown on Figure 9.1, and the results of analyses for selected elements are shown on Figures 9.2-9.12. Relatively complete sample descriptions are available for the Riverside and Choice Gold samples, but details on historical samples are variable.

Analysis results for selected elements are shown on Figures 9.2 through 9.7 and discussed below, as paraphrased from Goldsmith (2008) and updated with more recent data. These geochemical patterns should be considered preliminary, and because of generally sparse data have been contoured by hand. Detailed statistical analysis and mathematical contouring will require more comprehensive sampling across the entire land position. Nevertheless, the existing geochemical analyses document a robust geochemically-zoned epithermal gold system that may project under shallow alluvial cover to the west and east.

The most recent rock-chip sampling conducted by Choice Gold focused on four primary areas: 1) north of the Interstate highway; 2) the western portion of the property; 3) the central zone where the majority of historic work has taken place and; 4) the southeastern portion of the property where skarn mineralization was observed. Of the 149 rock samples taken during this phase of work, five samples returned values greater than 1 g/t Au, 27 samples returned values between 100 and 999 ppb Au, and seven samples returned values greater than 1% Cu. Results indicate that the area to the north of the highway is prospective for porphyry copper-gold mineralization. Rock chip sampling in the central and western areas of the property where the majority of the historic work has taken place generally supported the results of previous sampling programs with sporadic elevated and high gold values. Geochemical results are described in the sections below.

Table 9.1 Summary of Rock-Chip Sampling Data

Sample ID From	Sample ID To	Samples (n)	Date	Sampler	Company	Lab
Arizona Metals						
292732	292744	13	2017	David Lajack	Arizona Metals	ALS Minerals
Choice Gold						
LC-001	LC-139	146	2011	Lori Caroll/MagmaChem	Choice Gold	Skyline, Actlabs
LC-200	LC-277	68	2011	Lori Caroll/MagmaChem	Choice Gold	Skyline, Actlabs
TS-SLP-001	TS-SLP-017	17	2011	Tony Starling/Telluris	Choice Gold	Skyline, Actlabs
19801 19851 19930 19964	19825 19924 19950 20000	149	2011-2012	Brigitte Dejou, Brad Peters, Rory Ritchie	Choice Gold	American Assay
Riverside						
SGL-1	SGL-16	16	--	Kinross	Riverside	--
SO-2251	SO-2452	199	2009	Greg McKenzie	Riverside	--
SL-01	SL-106	106	2008	Monte & Dawson Swan/MagmaChem	Riverside	Jacobs, Actlabs
Historical						
SL-1501	SL-1919	49	--	Monte Swan/MagmaChem	Arizona Gold	--
AGN-120	AGN-143	24	2008	Merrill Palmer	Arizona Gold	Jacobs, Actlabs
JM-SUG-1001	JM-SUG-1002	2	2008	Merrill Palmer	Arizona Gold	Jacobs, Actlabs
AZG-100	AZG-111, 108A	13	2007	Merrill Palmer	Arizona Gold	Jacobs, Actlabs
1	1049	1,049	1989	--	Cominco	--
SP-29-1	SP-76-1	78	1983	Jim Allen	Atlas Minerals	--
Total		**1,916**				

ROCK-CHIP GEOCHEMICAL RESULTS

The results of rock-chip sampling on the project are discussed below and presented in map form for selected elements in Figures 9.2 – 9.12 below.

Gold

Gold—Central Zone

Gold is best developed in a geochemical anomaly to the west-northwest of Sugarloaf Peak (Figure 9.2). The main anomaly, where gold exceeds 200 ppb, is approximately 2.5 km long and generally coincides with the distribution of sericitic alteration. This area of strongly anomalous gold is bounded on the south by the E shear of the Goodman Fault system and an alteration break to strong alunite veining across a prominent wash on the west side of Sugarloaf Peak. Within the >200 ppb gold anomaly, very strongly anomalous gold values >500 ppb Au are located along with silica-pyrite mineralization in the vicinity of the A, B, and C shears of the Goodman Fault system.

The >200 ppb gold anomaly is closed on its east and southwest sides, but is open to the west where it passes beneath shallow post-mineral alluvium, and open to the north. Reconnaissance sampling of sericitically-altered material south of Gonzales Wash and examination of prospect pits in the Goodman Fault indicate that the gold-related sericitic alteration emerges to the south and west of the alluvial cover sequence.

The main area of historic drilling is in the central part of the gold anomaly within the 500 ppb gold contour. The area of outcropping 200 ppb gold anomaly as it is currently known is considerably larger than the area that was drilled, and a significant portion of it has not been tested by drilling, in particular to the north and west. Several other >200 ppb gold anomalies that have not been drilled occur to the southeast, the north, and the west of the main drilling area. The extent of these anomalies is uncertain because of the widely spaced distribution of the samples, especially in areas to the west.

Gold—North Target

Rock-chip sampling in the north of the property returned numerous anomalous samples for gold. Anomalous gold values were clustered in the northeast and central portions of the northern zone with the highest values coming from samples collected in central portion where numerous anomalous copper samples were also collected along the contact between porphyritic intrusives with K-feldspar phenocrysts, and andesitic volcanic rocks.

The highest gold value from the northern area of the property was sample number **19995** (1,954 ppb Au). This sample was collected from a 10-cm quartz vein with coarse crystals of calcite, chrysocolla, and malachite, and hematite veining. The orientation of the vein was 045/85 (right-hand rule). The sample was collected along a ridge that roughly coincides with a contact between granites and volcanics. Copper returned 5282 ppm but other than a moderately anomalous 26 ppm molybdenum, all other values were subdued. Numerous other samples proximal to this contact returned elevated copper values.

The second highest gold value from the north side of the highway was from sample number **19902**. This sample was collected from in an area of minor historic diggings and a small pit, approximately 50 meters north of the property boundary. Subcrop material was sampled from a quartz vein with associated copper mineralization and granite dikes cutting andesitic volcanic rocks. This sample returned 1.8 g/t Au, 2.6% Cu, 15 ppm, Mo and 69 ppm U, the highest uranium value obtained from Choice Gold rock-chip sampling.

Sample number **19904** returned 676 ppb gold from a quartz vein with malachite cutting sheared andesites. Coincident elevated values include 1.12% Cu, 1,788 ppm Mo, 1.04% Pb, 2 ppm Ag, 102 ppm Te, and 914 ppm V. This sample was collected within the property boundary approximately 242 m south of sample number 19902.

In the northwest area of the northern zone several samples returned elevated gold values. Sample **19973** (486 ppb Au) was collected from a small (1-m) patch of strongly argillic altered granitic bedrock associated with a localized shear. Low-angle shearing oriented 215/42 (rhr) was observed in the area with associated alteration and mafic to intermediate dikes or sills. Associated elevated values include 7.2 ppm Ag, 25.6% Fe (highest value from 2011-2012), 837 ppm Co, 1,273 ppm Cu, 50 ppm Mo, and 35 ppm Te.

Sample **19976** (303 ppb Au) was collected from a 40-cm wide quartz vein oriented 038/45 (rhr) with visible iron and copper oxides. This sample returned the highest copper value of 67,200 ppm in addition to 95 ppm

Mo, 63 ppm Ag, 136 ppm Hg, 35 ppm Co, 350 ppm Bi, 20 ppm U, and 239 ppm Te. This sample was collected approximately 40 m north of the property boundary.

Sample **19977** was collected within the property boundary immediately to the south of sample number 19976. This sample returned 213 ppm Au and 95.7 ppm Ag, 460 ppm Bi, 47,100 ppm Cu, 27 ppm Co, 198 ppm Hg, and 269 ppm Te. The sample was taken from a hematite-stained quartz vein with visible copper oxides and an unidentified opaque metallic mineral; this mineral dissolved in hydrochloric acid.

Silver

Silver is not systematically strongly anomalous in surface samples taken from Sugarloaf Peak. Scattered anomalies of silver >1 ppm are present east and south of the main gold anomaly. In general silver does not exceed 3 ppm and in only a few samples silver is strongly anomalous above 30 ppm, where silver appears to be associated with late base metal-bearing quartz veins.

Silver—North Target

A number of samples in the north zone returned elevated silver levels including samples 19976 and 19977 which returned 63 ppm and 95.7 ppm Ag, respectively. Other than sample numbers 19920 (37.6 ppm Ag) and 19921 (226 ppm Ag) which were collected from historic workings near the southwest property boundary, sample numbers 19976 and 19977 are the only multi-ounce silver values returned from the Choice Gold 2011 and 2012 rock-chip sampling program. These samples were collected near the northwest corner of the property where numerous additional samples returned elevated levels of copper, molybdenum and gold.

As mentioned above, sample number 19977 also retuned elevated levels of Au (213 ppb), Bi, Cu, Hg, and Te, and 19976 returned anomalous Au, Cu, Hg, Mo, Te, and U. In the central and northeast portions of the north zone silver values were slightly anomalous but tended to range from detection level to 3.3 ppm. A lack of arsenic and antimony accompanying high silver values suggests the nature of silver mineralogy may be silver sulfides rather than silver sulfosalts in this area. The argentite-acanthite silver sulfide group is possible as this group does dissolve in hydrochloric acid.

Copper

Copper—Central Zone and West Target

In the central mineralized zone south of Interstate 10, Cu forms a low-level anomaly (>100 ppm) that trends irregularly to the northwest, and which sits distinctly offset to the west-southwest of the main Au, Pb, Zn, and Mo anomaly. Roughly coincident with the Cu anomaly are anomalous levels of Bi, Te, As, Sb, and Se. Although the separation between Cu and Pb-Zn-Mo is unexpected—these elements usually cluster together in porphyry systems—the change toward higher Bi, Te, As, and Sb to the west-southwest suggests that this portion of the project may be the deeper levels of a porphyry system. If so, then the mineralization at Sugarloaf Peak may be a tilted porphyry-epithermal system with its gold-rich top to the east, and its deeper levels to the west or possibly north. This system may in turn have been dissected by faults with some right-lateral motion.

This concept is corroborated by Ahern (1973), who suggests that Sugarloaf Peak is a tilted porphyry system, and who notes that a "block of potassic alteration measuring 2,000 by 3,000 feet is exposed in the center of Section 31, Township 4 North, Range 20 West." This is in the West Target, in the area of Gonzalez Wash south of Interstate 10 in the western portion of the project. The Congden & Carey/Kerr McGee deep copper drilling program tested copper potential on the project, but these holes were to the north of the Au anomaly and therefore did not test the tilted porphyry concept. Instead, areas to the west, west-southwest, and north of the copper anomaly appear prospective for porphyry-copper style mineralization. Although sparse, several rock-chip samples on the West Target carry anomalous levels of copper.

Alternatively, the paucity of copper coincident with anomalous Au, Pb, Zn, and Mo in the Central Zone could be the result of surface leaching of copper. Lower pH generated by oxidizing pyrite may have leached copper from rocks more effectively in the core of the Central Zone than elsewhere. However, re-precipitated copper minerals are not noted in drill holes, arguing against this process.

Copper—North Target

The most enriched copper anomaly on the project occurs north of Interstate 10 where it is locally associated with monzonite porphyry in latite porphyry intrusives (Figure 9.4) and locally associated with quartz tourmaline veins. This anomaly may also indicate the presence of a deeper porphyry copper system beneath and lateral to the higher-level epithermal gold system south of Interstate 10. Rock chip sampling done by Choice Gold in the north area of the property returned widespread copper mineralization. Elevated copper values were encountered in the northwest, central and northeast areas of the North Target, with numerous additional elements returning significantly elevated values.

The highest copper values came from samples **19976** (67,200 ppm Cu) and **19977** (47,100 ppm Cu). Both of these samples were collected where previous diggings have exposed iron and copper oxide stained quartz veins. Seventy-one meters to the south of 19977, sample number **19978** returned 15,300 ppm Cu. This sample also returned 304 ppm Ti and 24 ppm U. All of these samples were collected from variably sheared and altered K-spar phyric granitoids.

Further to the south along the western margin of the property boundary several additional samples returned elevated copper values including sample numbers 19981 (2,774 ppm Cu) and 19973 (1,273 ppm Cu). These samples were collected from variably altered granites with associated roughly east-west trending, shallowly south-dipping localized shear zones. Quartz veins associated with mineralization tended to be northeast-striking and steeply dipping to the east.

In the central portion of the North Target a number of samples returned elevated copper values ranging from 1,207 ppm to 8,560 ppm copper. This area is also the location of the highest gold value (1,954 ppb Au) on the north side of the highway. Sampling in this area focused on a ridge that loosely defines a contact between volcanic and intrusive rocks. The granites are strongly silica-altered with K-feldspar phenocrysts and roughly east-west trending localized shear zones. Volcanic rocks were similarly silicified and sheared. Mineralized veins that were sampled were either northeast- or northwest-trending and associated with east-west directed shearing.

In the northeast and eastern portions of the North Target, additional samples returned elevated copper values. Most notably, immediately to the north of the property boundary, sample **19902** returned 26,300 ppm Cu from a quartz vein in an area where northwest-trending granite dikes were observed cutting andesitic volcanic rocks. Values of 1,836 ppb Au and 69 ppm U also occurred in this sample.

Further to the south, within the property boundary, additional samples returned elevated copper values, including sample number 19904 which contained 11,200 ppm Cu in addition to 1,788 ppm Mo (the highest value in the Choice Gold 2011-2012 sampling), 676 ppb Au, 10,400 ppm Pb, 44 ppm Se, 102 ppm Te, 33 ppm U, and 914 ppm V. Additional samples in this area returned 6,250 ppm Cu (sample 19905), 4,750 ppm Cu (19913), 911 ppm Cu (19906) and 791 ppm Cu (19903). This is also the area where the third-highest La value of 38 ppm and second-highest Ce value of 69 ppm were collected from sample number 19971.

Lead

Lead forms a prominent >200 ppm anomaly closely coincident with the main gold anomaly (Figure 9.5). Several other anomalous lead values occur along the southwest margin of the gold anomaly where it rapidly changes to chloritic alteration across west-northwest striking faults. Galena was locally observed in late-stage quartz veins. As noted above, several highly anomalous Pb values occur in the North Target.

Zinc

Zinc geographically correlates with gold (Figure 9.6). A roughly crescent-shaped zinc anomaly where zinc exceeds 200 ppm coincides with the drilled resource area. However, the combined zinc and gold anomalies within this crescent-shaped area extend to the east and west of the currently drilled anomaly. Like gold, the zinc anomaly may project beneath the gravel cover to the west. Zinc is strongly anomalous at the >200 ppm level in the vicinity of the B and C shears, which adds additional credibility to the status of these shears as exploration targets for higher-grade gold. The geologic correspondence of zinc with gold is considerably different than the standard Goldfield/El Indio model where gold is strongly correlated with copper and arsenic. Small amounts of sphalerite were noted in quartz veins that also contain anomalous gold. Hence, sphalerite may be a guide to gold mineralization.

Molybdenum

Like zinc, molybdenum also shows a strong correlation with gold and correlates well with the higher-grade gold anomaly at molybdenum levels above 50 ppm (Figure 9.7). Anomalies of molybdenum are also present to the west and north. As do gold and zinc, elevated molybdenum coincides strongly with the area of silicification and quartz-sericite alteration. Of particular interest is the E-W trending area of strong molybdenum enrichment between the A and B shears.

At the North Target, the highest value for molybdenum (1,788 ppm) was collected from a quartz vein with visible copper oxides trending southeast and dipping 50^{o} to the southwest within sheared sericite-silica altered andesites, where the orientation of shearing was roughly the same as the orientation of the mineralized quartz vein, sample number 19904. Additional anomalous molybdenum values were returned from samples collected in the northwest portion of the North Target. Samples 19979 and 19976 returned 190 ppm and 95 ppm molybdenum, respectively, and also contained elevated copper values.

Bismuth and Tellurium

Bismuth displays widespread anomalous values >6 ppm Bi. These occur in the core of the Central Zone, coincident with the Central Zone copper rock-chip anomaly, and in the North Target. On the north side of the highway there appears to be a strong correlation between elevated copper and bismuth values. Rock samples collected from the west and north-central parts of the North Target with bismuth values greater than 300 ppm yielded copper values ranging from 1.1% to 6.7% Cu. Elevated bismuth values also show a correlation with Hg, Mo, Pb, U, V and Te. Tellurium shows a similar pattern, although higher values are generally absent from the core of the Central Zone, and instead coincide with the Central Zone copper anomaly and high copper values in the North Target.

Arsenic, Antimony, and Selenium

These elements show generally similar distributions in rock-chip samples on the project, with anomalous values (As > 46 ppm, Sb and Se > 6 ppm) overlying the Central Zone copper anomaly and occurring in the North Target along with high Cu, with the addition of anomalous Se values in the core Central Zone gold anomaly.

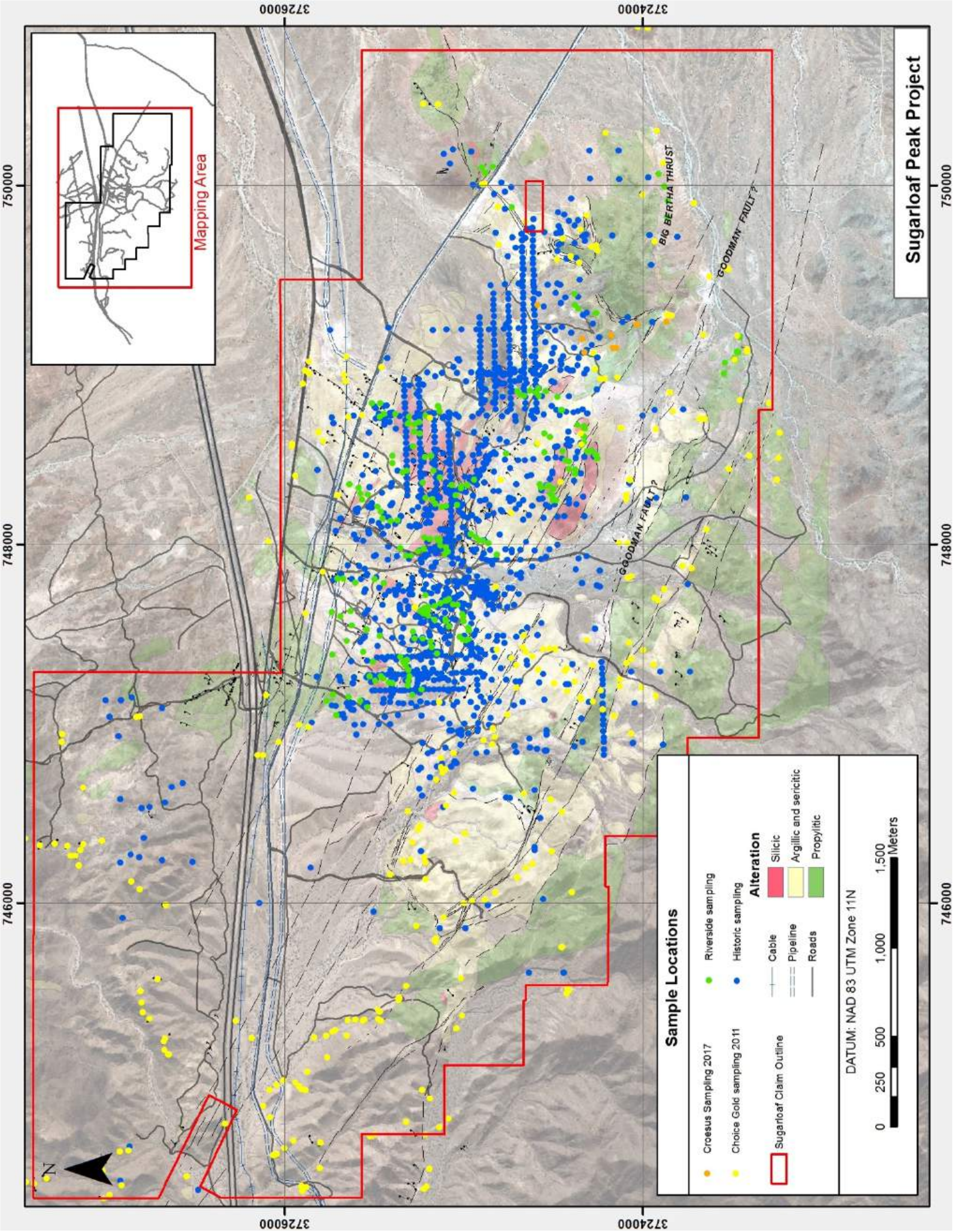


Figure 9.1 Rock-chip sample locations.

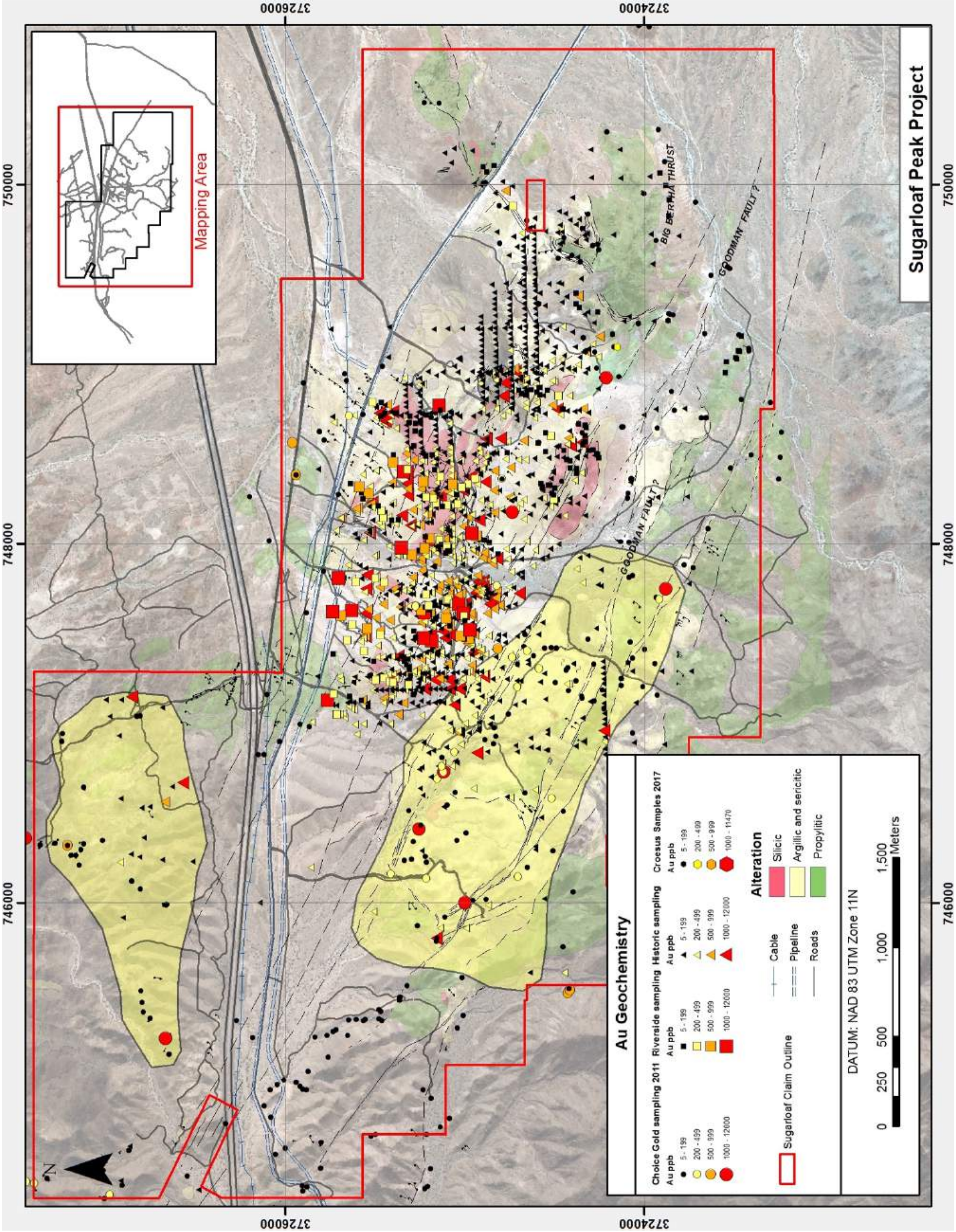


Figure 9.2 Rock-chip sample results—Au.

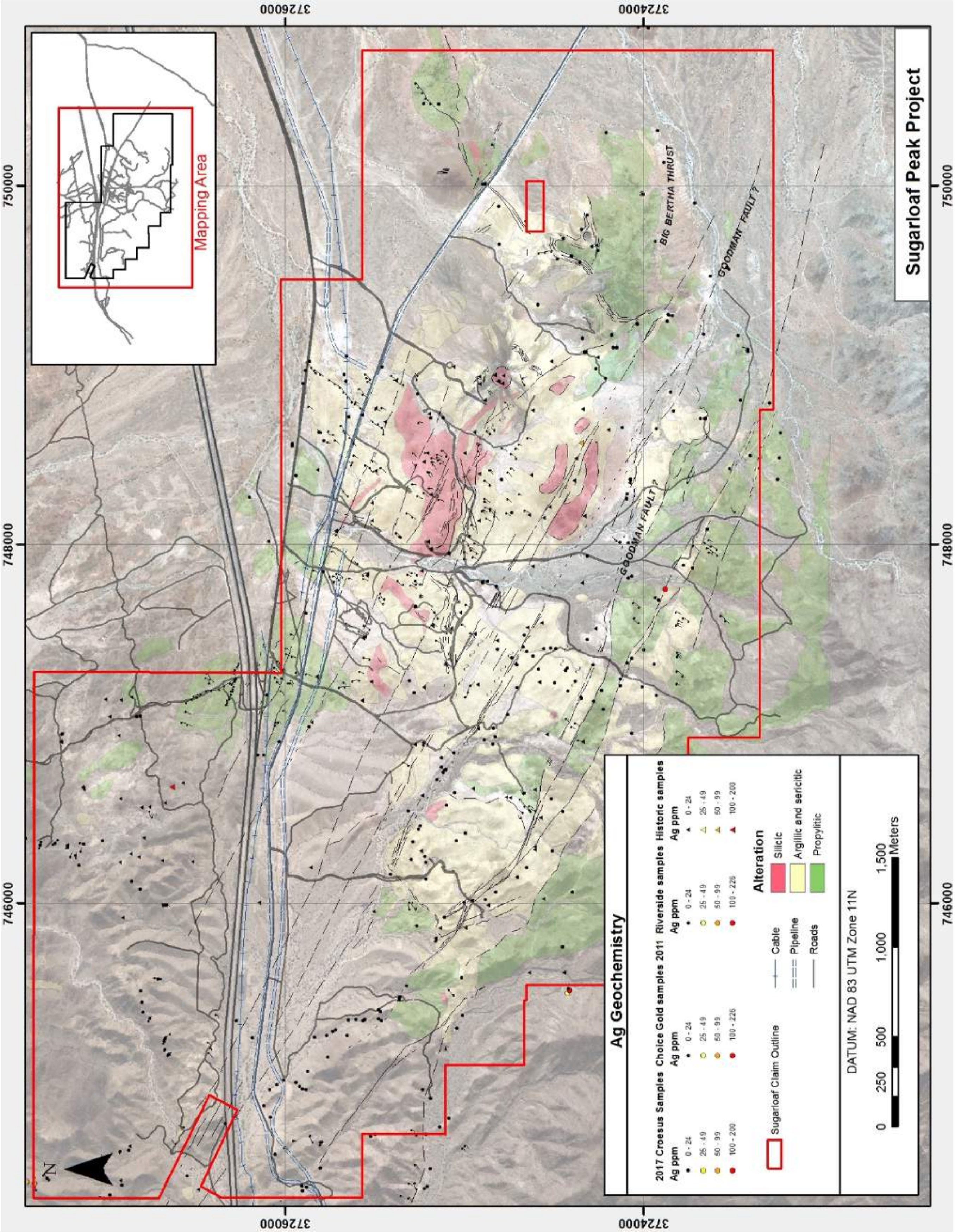


Figure 9.3 Rock-chip sample results—Ag.

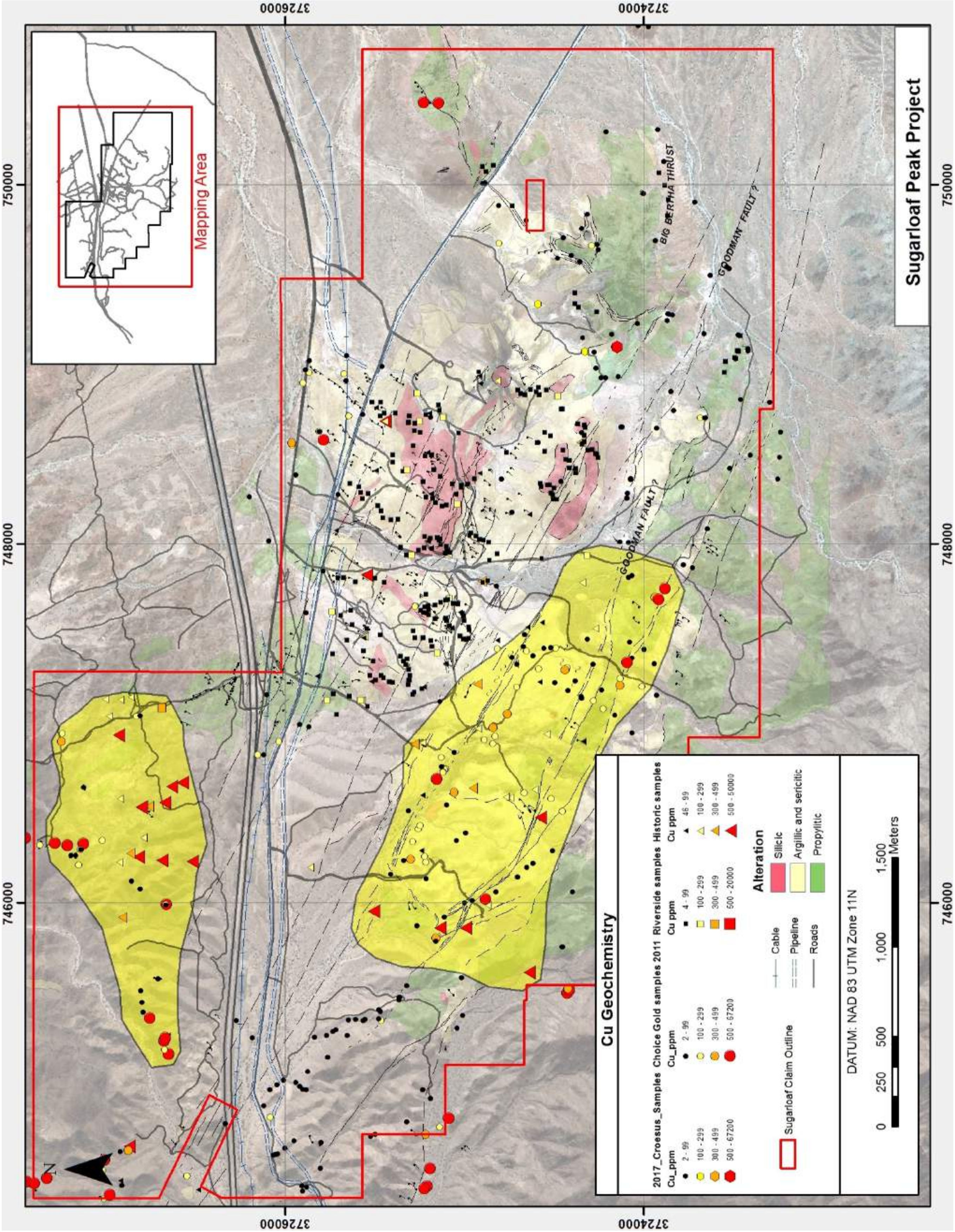


Figure 9.4 Rock-chip sample results—Cu.

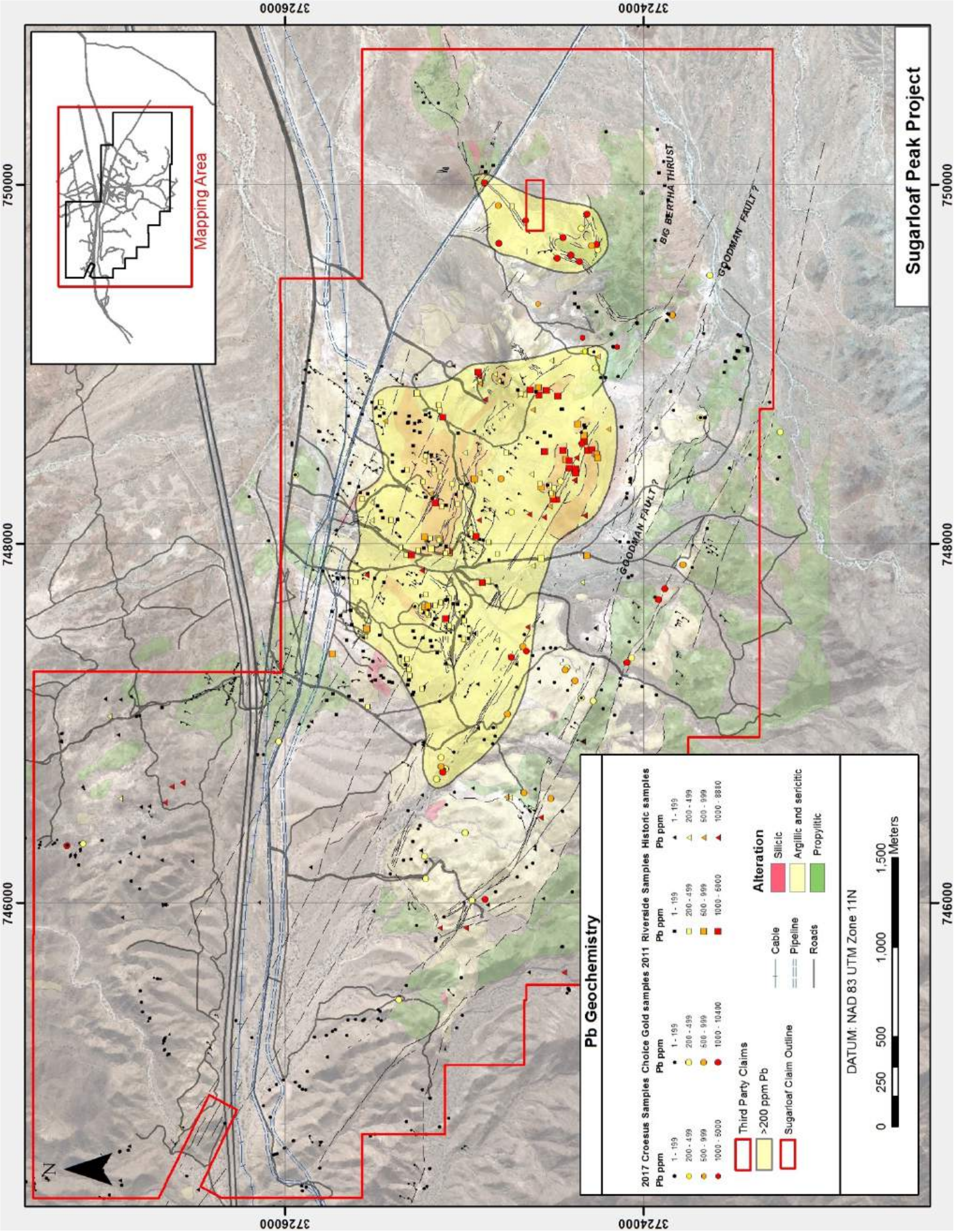


Figure 9.5 Rock-chip sample results—Pb.

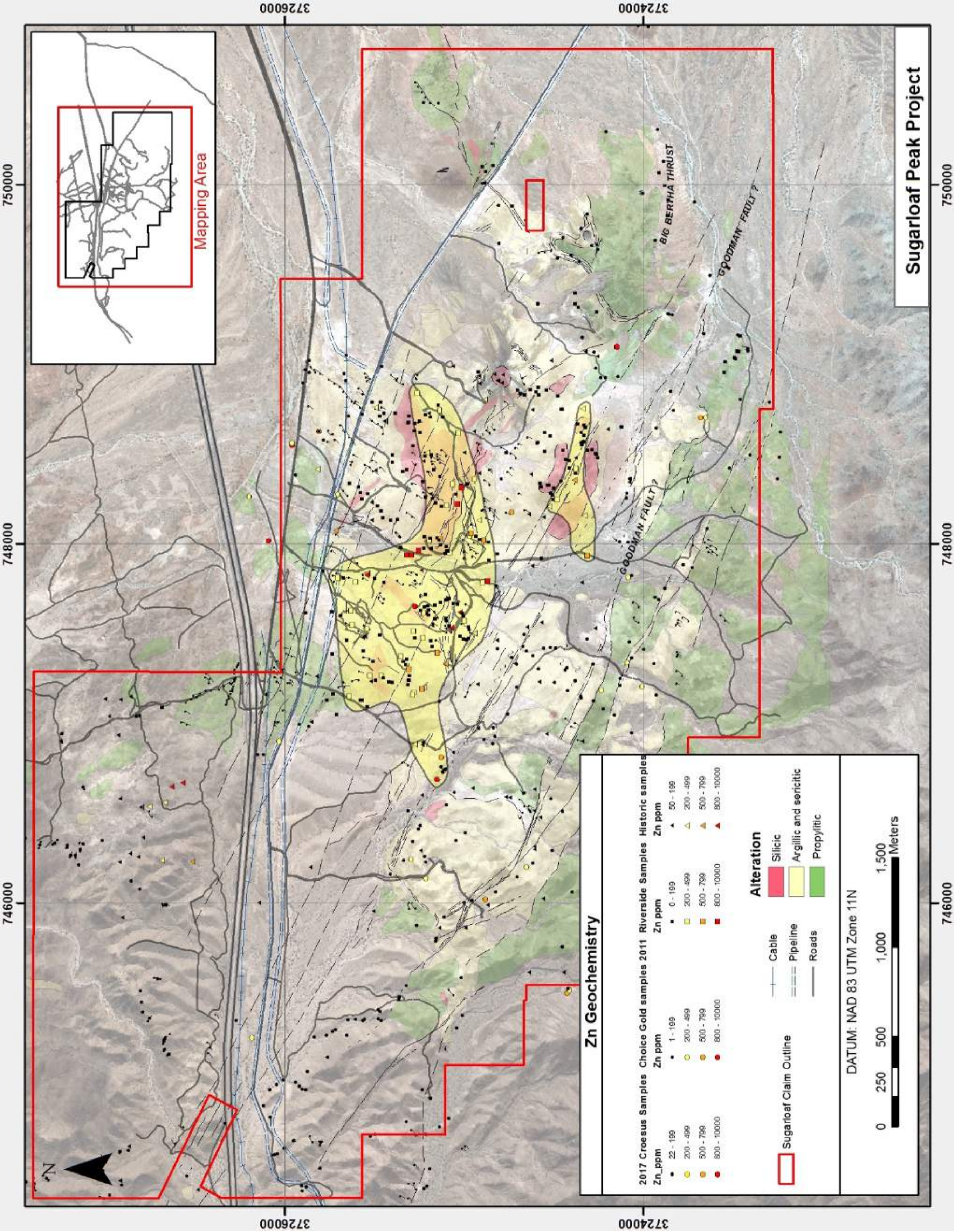


Figure 9.6 Rock-chip sample results—Zn.

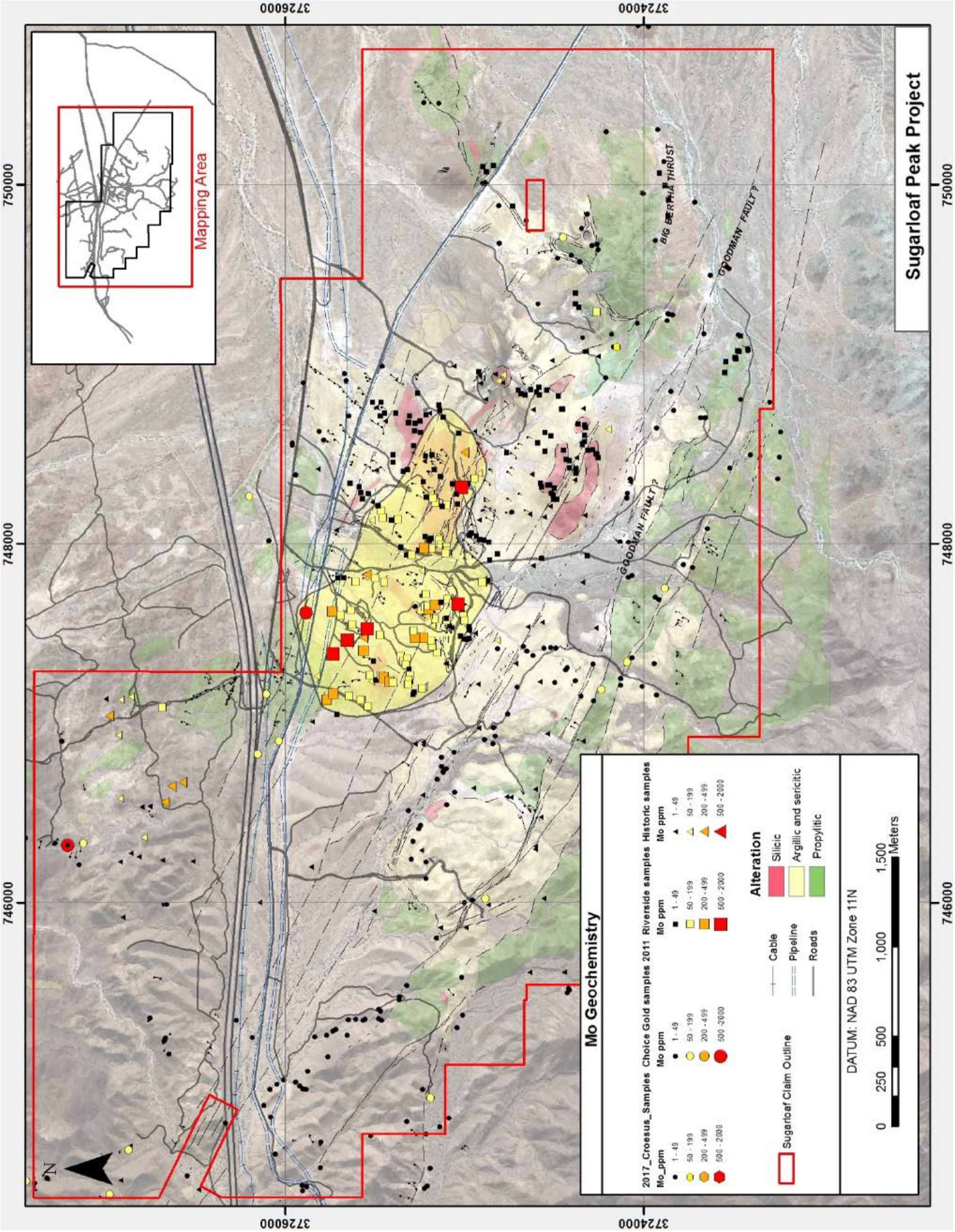


Figure 9.7 Rock-chip sample results—Mo.

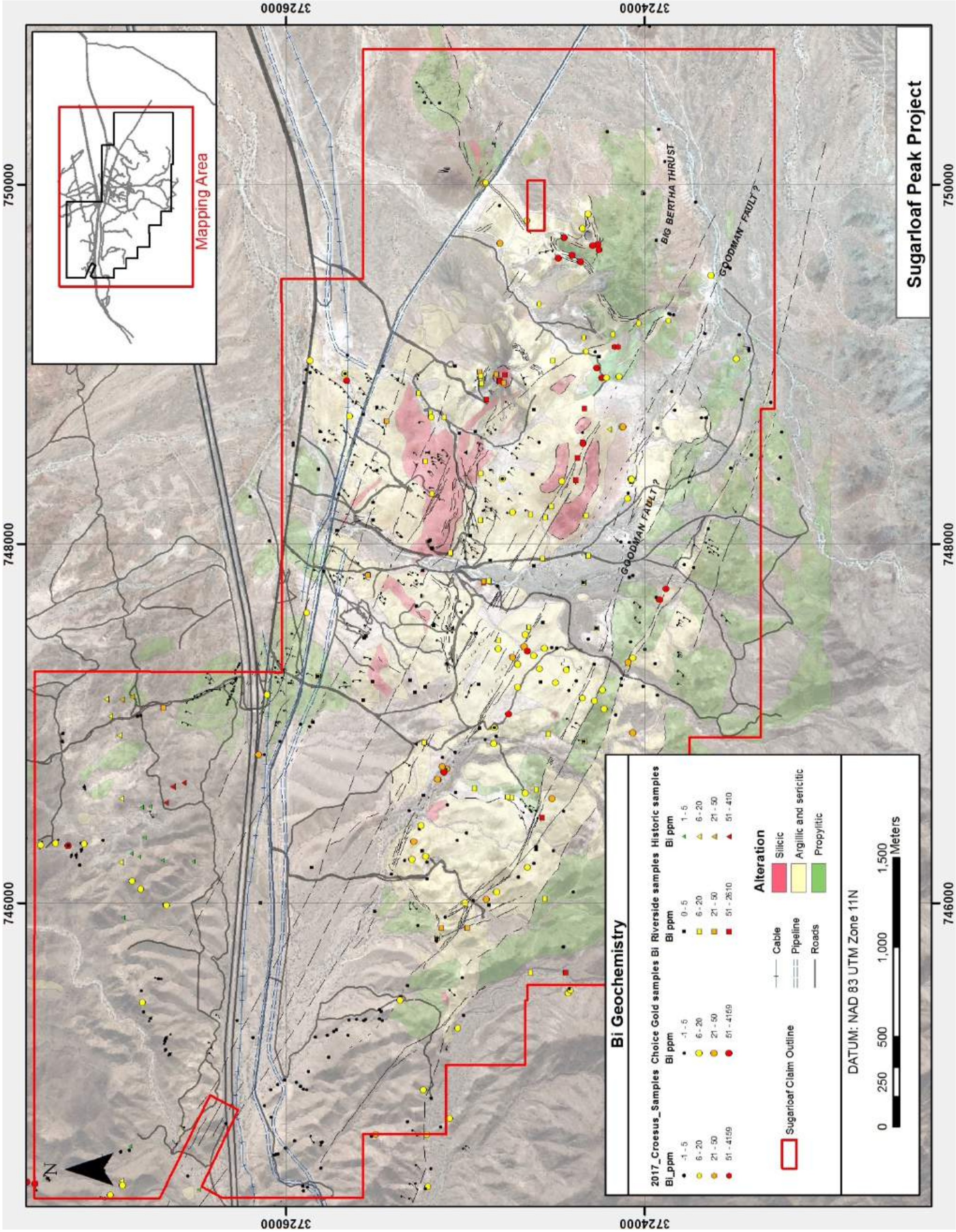


Figure 9.8 Rock-chip sample results—Bi.

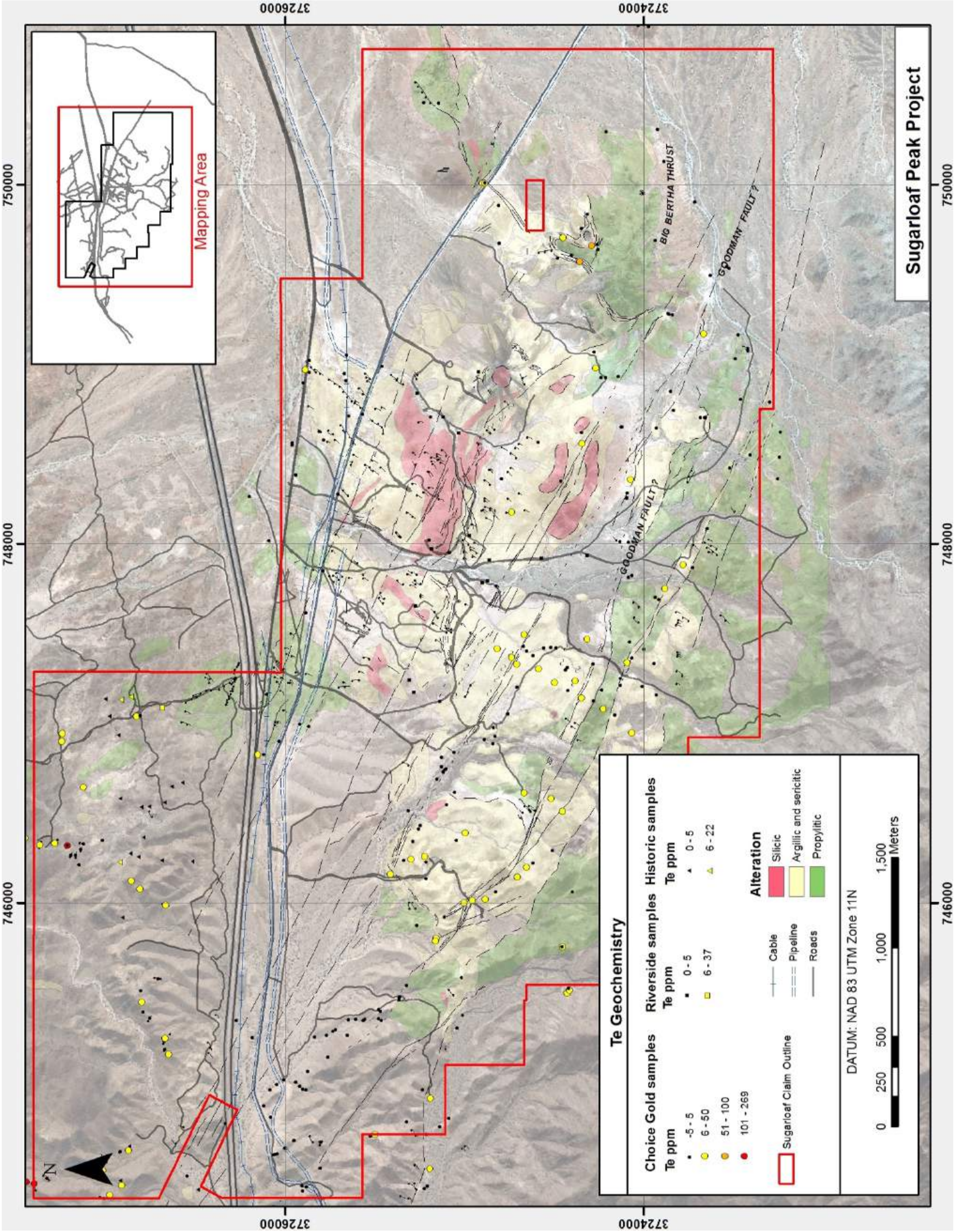


Figure 9.9 Rock-chip sample results—Te.

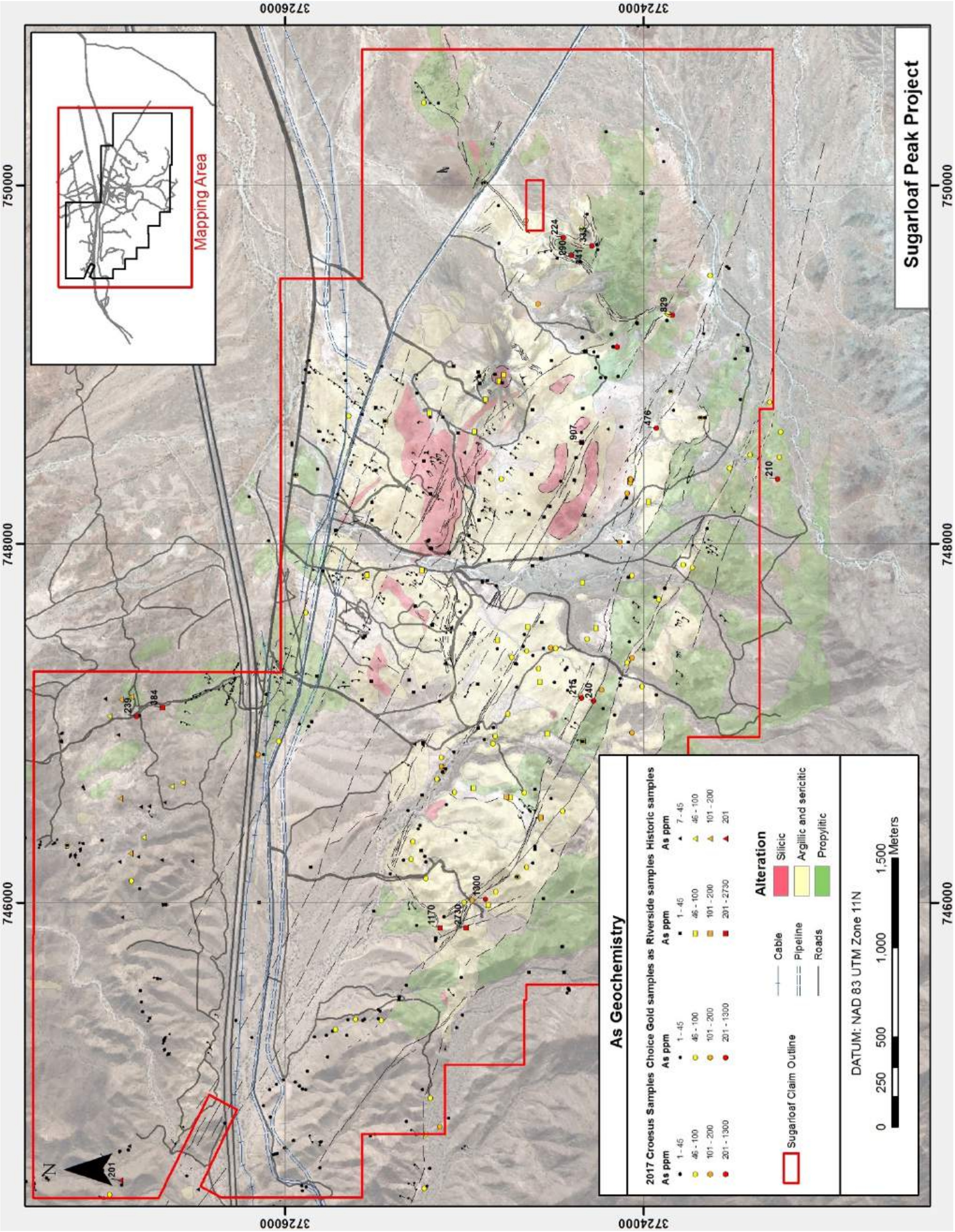


Figure 9.10 Rock-chip sample results—As.

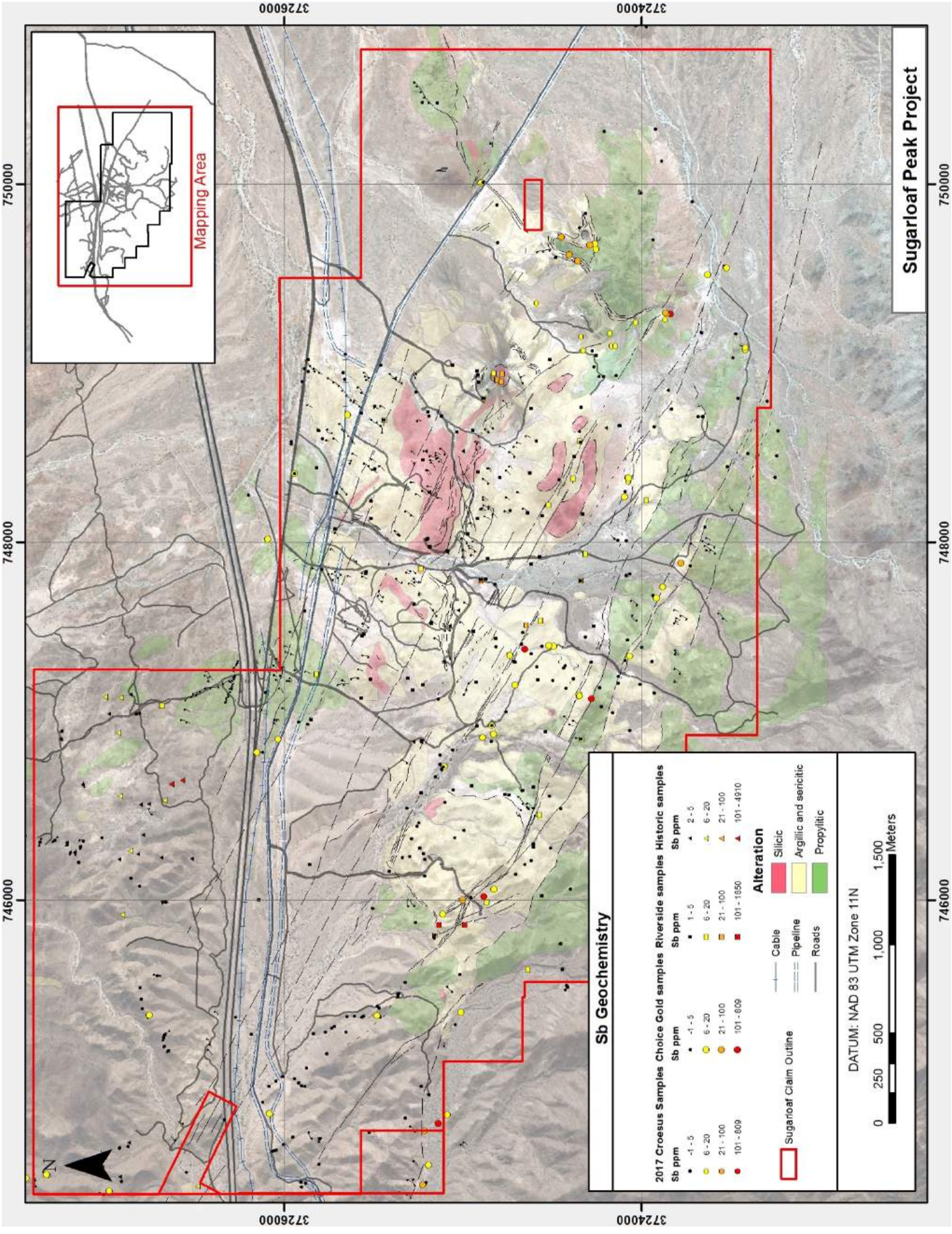


Figure 9.11 Rock-chip sample results—Sb.

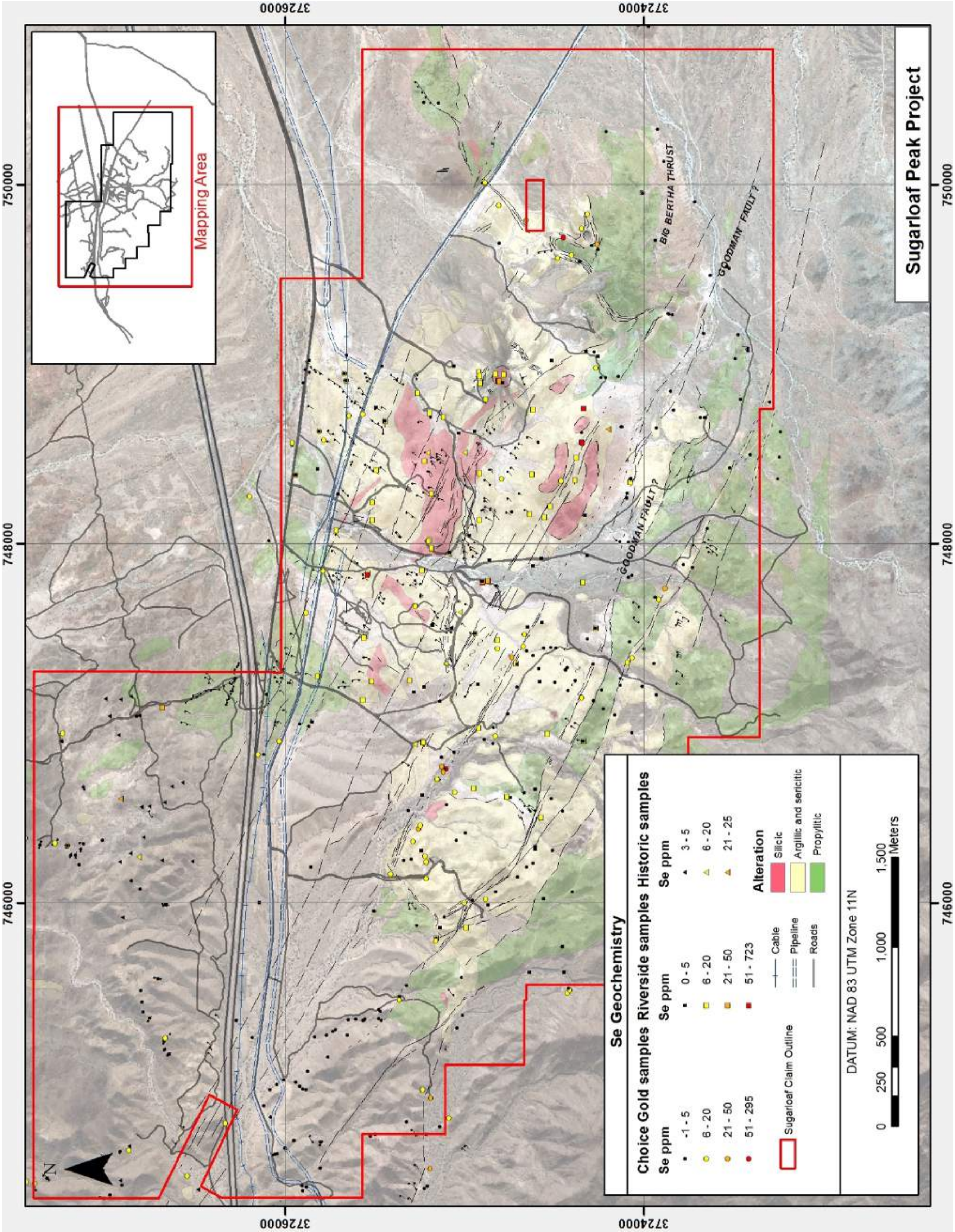


Figure 9.12 Rock-chip sample results—Se.

TITAN IP GEOPHYSICAL SURVEY

A Titan-24 system induced polarization (IP), direct current resistivity (DC), and magnetotelluric (MT) survey was conducted on the Sugarloaf Peak property by Quantec Geoscience Ltd. of Toronto, Ontario, Canada (Quantec, 2011a). The principal objective of the Titan-24 survey was to identify and classify the most significant anomalies and potential drill targets, and interpretation of principal structures. IP, DC, and MT anomalies have been interpreted as chargeability highs reflecting gold-related pyrite mineralization and coincident resistivity lows reflecting related hydrothermal alteration, principally silicification.

IP chargeability data by these methods should be capable of providing direct indications of distribution of gold-related pyrite mineralization of Sugarloaf Peak type to depths of 500-750 m, and DC resistivity data should be capable of delineating to similar depths hydrothermal alteration accompanying this mineralization. MT resistivity data may allow interpretations of structure, alteration, and related mineralization to depths of up to 1500 m.

The survey included seven cross lines oriented at azimuth 25° across the apparent strike of mineralization and one perpendicular profile line (Figure 9.13). Total survey line coverage was 21.3 km. A pole-dipole configuration with 100 m dipoles was used on all lines (except line 4200E with a 100 m dipole-dipole configuration) for recovery of IP and DC data. MT data was collected with the same dipole arrays plus another set of 100 m dipoles oriented perpendicular to the profile.

Results show very good correlation with the area of the historic resource established on the project by drilling. From west to east, the strong IP anomalies are discussed briefly below; more detail and pseudosections can be found in Quantec, 2011a.

- **Line 2200E:** 22Eip2 is a strong anomaly at 1700N, 400 m depth that correlates with DC and MT resistivity lows and with an anomaly on the 2000N profile line.
- **Line 2700E:** Two strong IP chargeability anomalies have been interpreted on this line. 27Eip1 is a strong, high amplitude, first-priority target anomaly at 2050N, 250 m depth, clearly associated with a more conductive DC, MT zone and with an anomaly on the 2000N profile line. 27Eip2 is a strong, first-priority target anomaly at 1600N, 420 m depth, that appears to be a deep extension of the 27Eip1 anomaly.
- **Line 3200E:** 32Eip1 is a strong, high-amplitude chargeability anomaly centered at 2000N (extending from 1650N to 2250N), 300 m depth that shows good correlation with the anomaly on the 2000N profile line.
- **Line 3700E:** Two strong chargeability anomalies have been interpreted. 37Eip1 is a strong anomaly at 1700N, depth 400 m, that is associated with DC and MT resistivity gradients. 37Eip2 is a strong, high amplitude anomaly at 2200N, depth 250 m, that is associated with more conductive DC and MT results.
- **Line 4200E:** 42Eip3 is a strong anomaly at 2000N, 350 m depth associated with more conductive DC and MT results.
- **Profile Line 2000N:** This profile shows good correlations with the principal IP chargeability anomalies noted on the cross lines. The profile line highlights the large IP chargeability anomaly that extends from approximately 1000E to 4200E with a high amplitude zone between 2800N and 3800E.

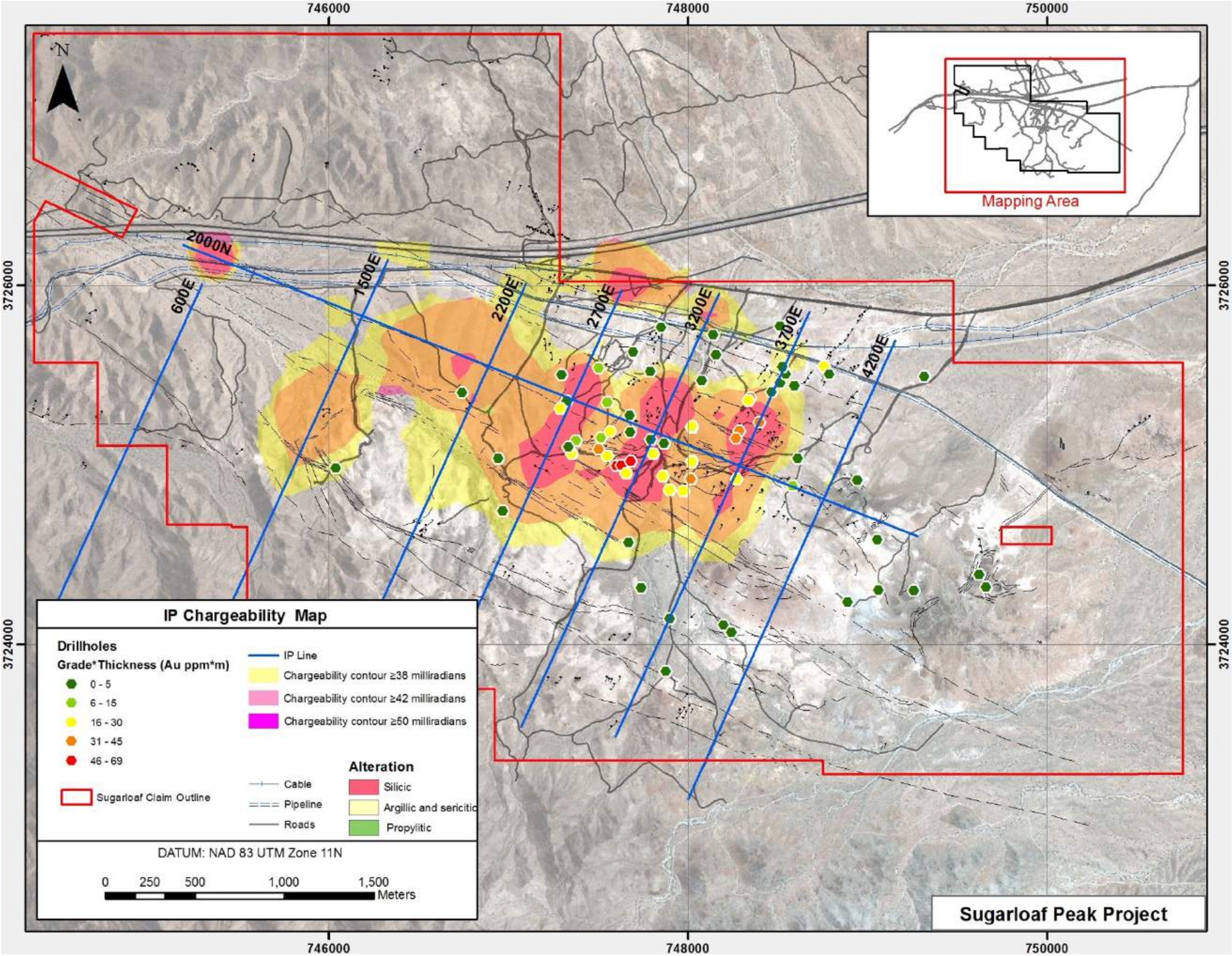


Figure 9.13 IP chargeability.

AIRBORNE MAGNETIC SURVEY

High-resolution magnetic data was collected by EDCON-PRJ, Inc. of Denver, Colorado using a light-sport class aircraft along a total of 588 line kilometers, consisting of 93 north-south lines spaced at 100-m intervals and 13 east-west tie lines spaced at 400-m intervals, over an area that included the entire Sugarloaf Peak claim block (EDCON-PRJ, 2011). The high-resolution magnetic data was interpreted by Dr. Sergio Espinosa of IRBA Geosciences of Vancouver, Canada with results presented in a report dated May, 2011 (Espinosa, 2011). During his interpretations, Espinosa interacted with Riverside Resources geologists in their Vancouver office in order to integrate geologic information with magnetic results. Total magnetic intensity data was converted to a reduced to the pole (RtP) image with 10 nT contour intervals using International Geomagnetic Reference Field (IGRF) and diurnal variation corrections.

Espinosa performed a three-dimensional data inversion calculation on the magnetic data that corresponds with an 8-square-kilometer area that includes the area of mapped gold mineralization and alteration in the center of the survey area and the center of the Choice Gold claim block. Espinosa noted that high magnetic susceptibility anomalies to the north and along the west margin of the 8-square-kilometer area that correspond well with mapped intrusive complexes, and that WNW linear magnetic features coincide well with mapped structures. The principal result of the magnetic interpretation is the close correlation of low magnetic susceptibility anomalous areas with mapped gold mineralization and alteration (Figure 9.14). Espinosa concluded that drilling should remain focused on areas of anomalous low magnetic susceptibility. It is presumed that these anomalous lows reflect destruction of magnetite by mineralizing and altering hydrothermal fluids.

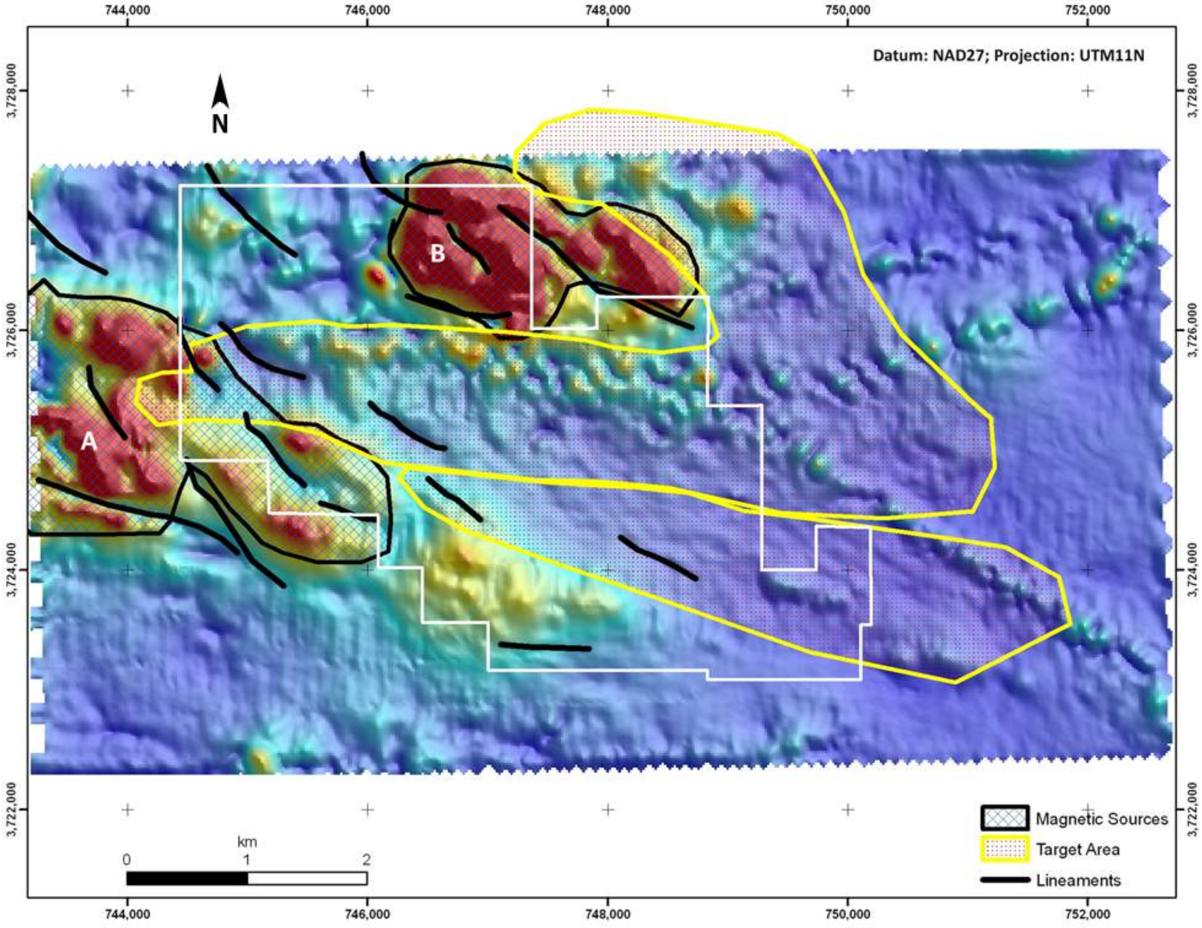


Figure 9.14 Air magnetics survey with magnetic interpretations. From Espinosa (2011).

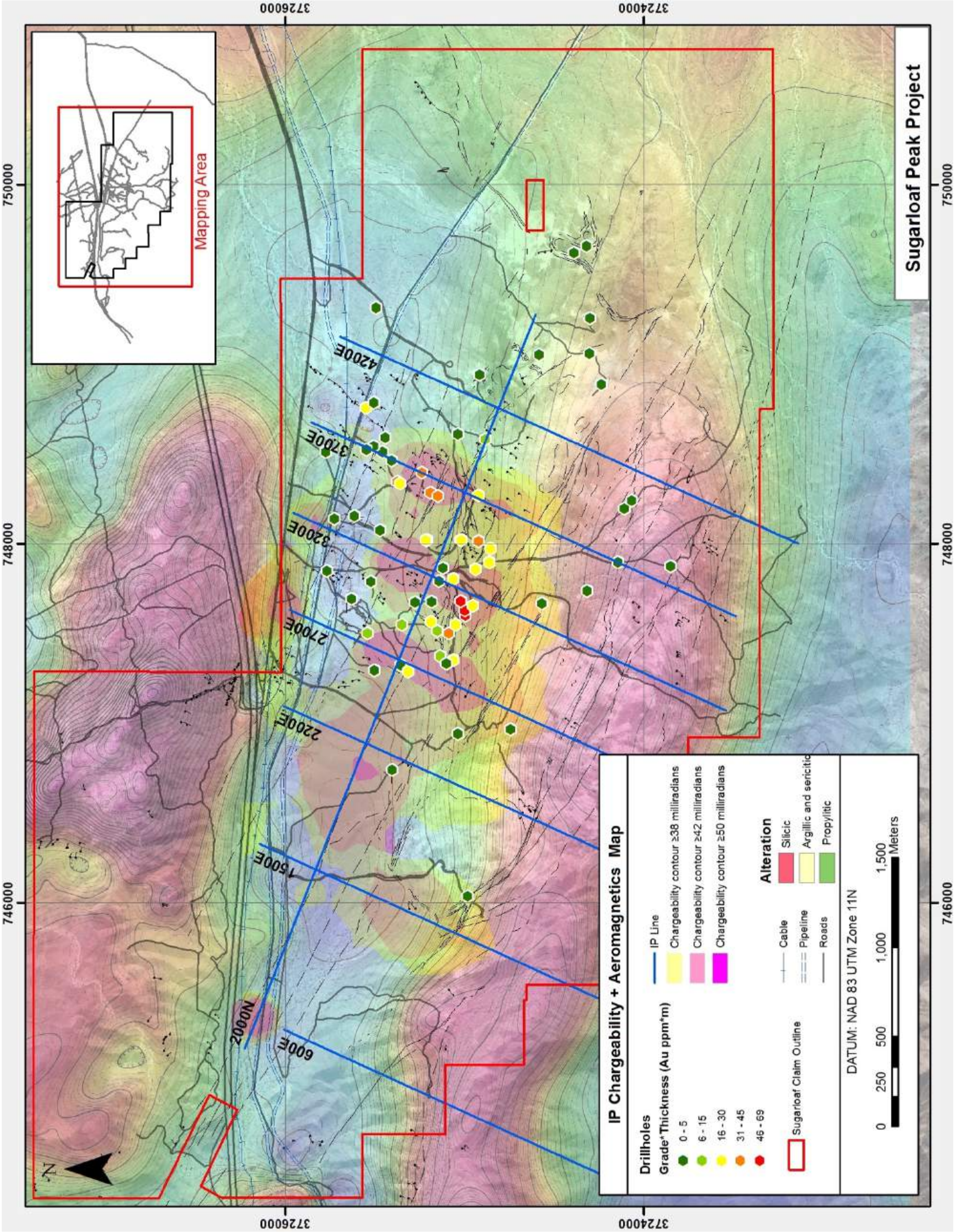


Figure 9.15. Combined geophysics: aeromagnetic reduced-to-pole data and IP chargeability anomalies. The coincident mag low and chargeability high under cover west of the drilled area presents a prime exploration target.

10 DRILLING

One hundred six drill holes totaling approximately 15,787 m (51,794 m) of core, rotary, and reverse circulation drilling have been completed on the property between 1963 and 2020 by operators in search of both gold and copper. Much of the data from the drilling is available: Figure 10.1 shows the location of all past exploration drill holes and Table 10.1 lists all known drill hole collar locations and details.

As indicated on surface and confirmed in drill holes, two main alteration types occur with gold mineralization at Sugarloaf Peak. The higher-grade gold mineralization appears to accompany quartz-sericite-pyrite alteration, whereas lower gold grades are distributed over much larger volumes of propylitic alteration. These two rock types occur throughout the drilled block.

Significant results are discussed below for the different generations of drilling, and a preliminary integration of the drill results is presented below in Drilling Interpretation.

HISTORICAL COPPER DRILLING, 1963-1973

Two companies, Congdon & Carey and Kerr-McGee, drilled for copper mineralization between 1963 and 1972. In 1963-1965 Congdon & Carey reportedly drilled >4,420 meters (14,500 ft) in 19 core holes with some rotary drilling (Dausinger, 1983; Ahern, 1973) to depths of 240-1,113 meters, as shown in drill logs that were apparently produced in the early 1970s by re-logging of core done by Kerr-McGee. Information for only 12 holes is currently available. The work by Congdon & Carey delineated a large copper-molybdenum anomaly about 260 hectares in extent (Fieldman, 1964). Also seeking copper mineralization, Kerr-McGee Corporation drilled 14 shallow reverse circulation or rotary holes in 1972 to depths of 20-30 meters, totaling 409 meters of drilling (Riverside, n.d.). No significant copper mineralization was encountered, with all samples testing below 995 ppm (0.0995%) Cu.

HISTORICAL GOLD DRILLING, 1981-1995

Four companies performed gold exploration drilling in the pre-43-101 era, during 1981 through 1995. Drill-hole locations are listed in Table 10.1 and shown on Figure 10.1. Significant results (≥300 ppb Au over >3 meters) are summarized below. Most holes contain additional mineralized intervals at lower grades or shorter intervals. True widths are not known, but the stated intervals are likely to be close to true widths because of the pervasive veining, stockwork, and dissemination of mineralization in the generally flat-lying mineralized zone cut by vertical or steeply dipping drill holes.

In 1983, Westworld drilled 764 meters of reverse circulation in 10 vertical holes to a maximum depth of 78 meters. Four holes—WW-1, 2, 5, and 8—ended in mineralization. In 1984, Amselco drilled 18 reverse circulation holes totaling 2,004 meters with a number of >300 ppb Au intervals, some up to 30 meters long, in 10 of the 18 holes. In 1990, Cominco drilled 929 meters in 13 reverse circulation holes; results included one interval of 88 meters grading 783 ppb Au. Arimetco drilled four holes sometime between 1991 and 1995 totaling 581 meters without significant gold assays.

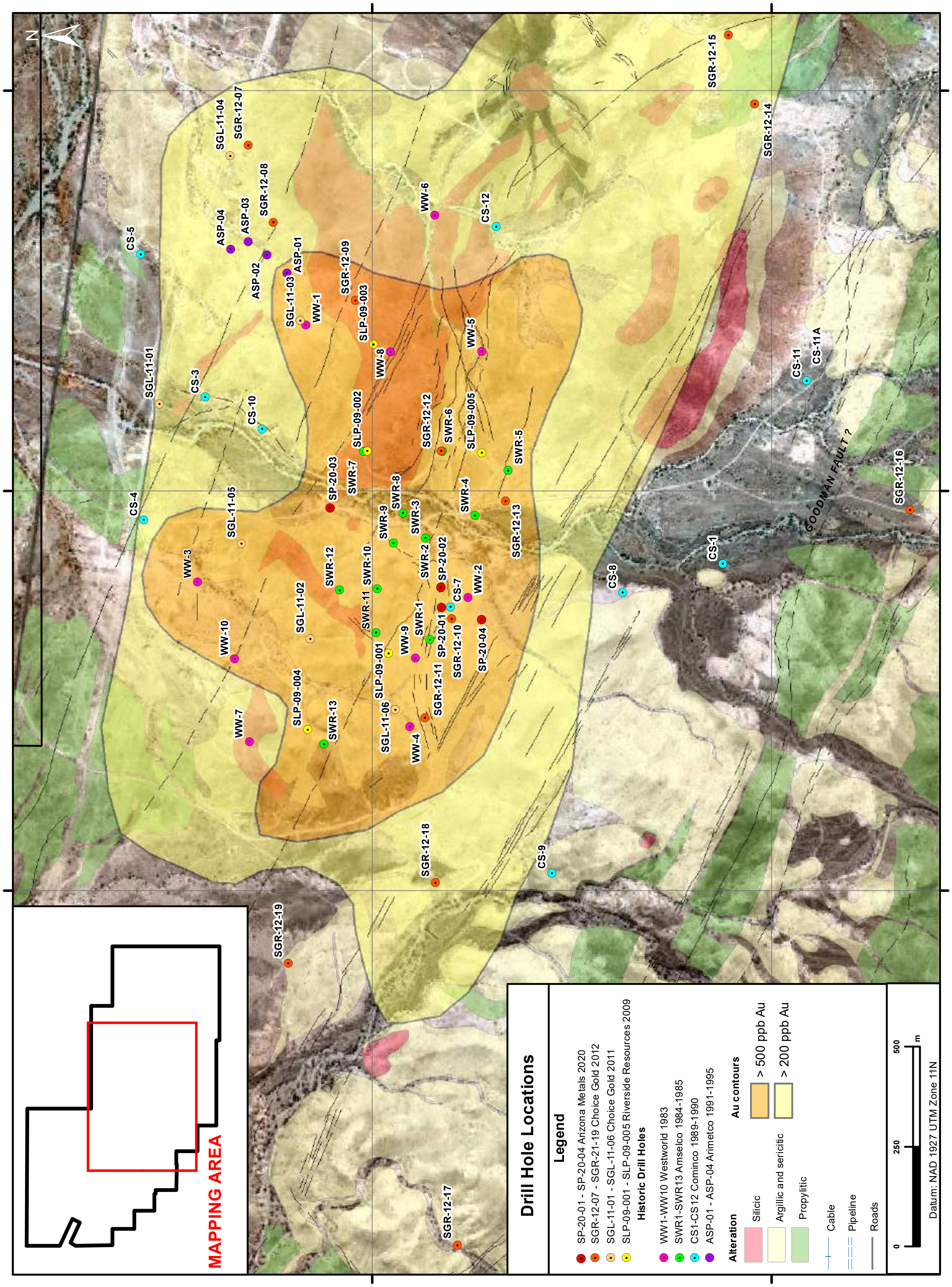


Figure 10.1 Project drill-hole locations.

Table 10.1 Drill-Hole Collar Table

Hole ID	Method	UTM NAD83 East	UTM NAD83 North	Elev (m)	Depth (m)	Az	Dip
Congdon & Carey, 1963-65							
S-1	Core	748550	3725440	370	609.6	0	-90
SL-1	Core				594.4		
S-2	Core	747622	3725552	373	274.3	0	-90
S-3	Core	747441	3725425	380	609.6	0	-90
SL-4	Core	747800	3725130	387	240.8	0	-90
SL-5	Core	747019	3725614	374	200.6	0	-90
SL-6	Core	748840	3725120	379	212.1	0	-90
SL-7	Rotary	748005	3725919	365	354.8	0	-90
S-8	Core	749090	3727130	367	304.8	0	-90
S-10	Core	749450	3726280	351	167.6	0	-90
SL-13	Rotary/Core	748980	3726840	364	274.3		
SL-15	Rotary/Core	748415	3725673	366	1112.5	0	-90
Kerr-McGee, 1972							
V-1	RC/Rotary?	747516	3726103	370	30.5	0	-90
V-2	RC/Rotary?	747110	3725077	381	24.4	0	-90
V-3	RC/Rotary?	748231	3726006	359	24.4	0	-90
V-4	RC/Rotary?	748570	3725370	376	24.4	0	-90
V-5	RC/Rotary?	748170	3724860	411	30.5	0	-90
V-6	RC/Rotary?	748645	3725951	358	30.5	0	-90
V-7	RC/Rotary?	749280	3725300	379	30.5	0	-90
V-8	RC/Rotary?	749190	3724300	440	30.5	0	-90
V-9	RC/Rotary?	749860	3725970	340	30.5	0	-90
V-10	RC/Rotary?	749672	3724736	363	21.3	0	-90
V-11	RC/Rotary?	749920	3724444	375	24.4	0	-90
V-12	RC/Rotary?	745000	3726000	338	27.4	0	-90
V-14	RC/Rotary?	745420	3725950	338	0.0	0	-90
V-15	RC/Rotary?	746260	3725840	358	80.2	0	-90
Westworld, 1983							
WW-1	RC	748337	3725360	376	76.2	0	-90
WW-2	RC	747655	3724955	384	76.2	0	-90
WW-3	RC	747694	3725631	367	76.2	0	-90
WW-4	RC	747333	3725101	378	76.2	0	-90
WW-5	RC	748271	3724921	391	76.2	0	-90
WW-6	RC	748611	3725038	379	76.2	0	-90
WW-7	RC	747295	3725502	382	76.2	0	-90
WW-8	RC	748269	3725149	399	76.2	0	-90
WW-9	RC	747503	3725087	385	76.2	0	-90
WW-10	RC	747502	3725539	372	76.2	0	-90
Amselco, 1984							
SWR-1	RC	747551	3725051	385	121.9	45	-70
SWR-2	RC	747680	3725022	388	121.9	0	-70(?)
SWR-3	RC	747805	3725061	381	121.9	0	-90
SWR-4	RC	747860	3724937	376	121.9	180	-70
SWR-5	RC	747974	3724855	387	103.6	0	-60(?)
SWR-6	RC	748021	3725019	388	120.4	30	-60
SWR-7	RC	748021	3725216	395	121.9	170	-60
SWR-8	RC	747867	3725118	375	91.4	90	-45
SWR-9	RC	747792	3725141	387	121.9	200	-70
SWR-10	RC	747677	3725182	385	121.9	160	-70
SWR-11	RC	747568	3725185	383	121.9	150	-70
SWR-12	RC	747674	3725275	384	91.4	200	-70
SWR-13	RC	747289	3725315	390	91.4	160	-70
SWR-14	RC	748944	3724915	441	225.6	180	-40
SWR-15	RC	749662	3724321	435	76.2	290	-50

Table 10.1 Drill-Hole Collar Table

Hole ID	Method	UTM NAD83 East	UTM NAD83 North	Elev (m)	Depth (m)	Az	Dip
SWR-16	RC	749622	3724390	441	76.2	90	-50
SWR-17	RC	749260	3724300	440	76.2	150	-50
SWR-18	RC	749056	3724584	440	76.2	0	-90
Cominco, 1990							
CS-1	RC	747740	3724317	388	79.3	210	-45
CS-2	RC	747899	3724146	403	91.4	210	-45
CS-3	RC	748156	3725613	367	91.4	60	-45
CS-4	RC	747849	3725766	367	91.4	70	-45
CS-5	RC	748513	3725774	360	91.4	180	-45
CS-6	RC	749316	3725492	356	30.5	200	-45
CS-7	RC	747632	3724999	385	91.4	180	-45
CS-8	RC	747668	3724568	389	12.2	20	-45
CS-9	RC	746967	3724745	395	91.4	20	-45
CS-10	RC	748077	3725470	369	91.4	200	-45
CS-11	RC	748197	3724108	400	32.0	15	-45
CS-11A	RC	748241	3724069	400	59.4	20	-45
CS-12	RC	748583	3724885	378	76.2	220	-45
Arimetco, 1991-95							
ASP-01		748467	3725407	368	160.0	0	-90
ASP-02		748512	3725457	368	140.2	0	-90
ASP-03		748545	3725504	366	134.1	0	-90
ASP-04		748526	3725548	365	146.3	0	-90
Riverside, 2009							
SLP-09-01	Core	747516	3725153	379	243.8	180	-45
SLP-09-02	Core	748022	3725209	391	147.2	180	-45
SLP-09-03	Core	748288	3725191	382	245.1	180	-60
SLP-09-04	Core	747325	3725356	387	245.1	180	-60
SLP-09-05	Core	748017	3724923	376	243.8	180	-60
Choice Gold, 2011-2012							
SGL-11-01	Core	748139	3725726	372	304.9	200	-60
SGL-11-02	Core	747552	3725350	366	473.8	170	-70
SGL-11-03	Core	748347	3725374	360	318.6	160	-60
SGL-11-04	Core	748759	3725549	368	304.9	190	-65
SGL-11-05	Core	747790	3725522	349	304.9	85	-60
SGL-11-06	Core	747375	3725136	366	304.9	180	-60
SGR-12-07	RC	748786	3725504	361	45.7	190	-50
SGR-12-08	RC	748593	3725442	368	91.5	180	-70
SGR-12-09	RC	748398	3725236	377	100.6	180	-65
SGR-12-10	RC	747603	3724995	372	125.0	180	-70
SGR-12-11	RC	747355	3725064	387	120.4	180	-80
SGR-12-12	RC	748021	3725022	378	85.4	180	-75
SGR-12-13	RC	747897	3724861	377	120.4	180	-80
SGR-12-14	RC	748890	3724237	398	100.6	205	-60
SGR-12-15	RC	749062	3724303	377	100.6	195	-60
SGR-12-16	RC	747875	3723850	409	115.0	180	-70
SGR-12-17	RC	746037	3724981	395	100.6	190	-80
SGR-12-18	RC	746942	3725035	396	54.9	180	-50
SGR-12-19	RC	746740	3725404	394	100.6	190	-80
Arizona Metals, 2020							
SP-20-01	Core	747630	3725020	387	226.8	180	-45
SP-20-02	Core	747680	3725022	388	368.8	0	-70
SP-20-03	Core	747880	3725300	375	571.5	0	-90
SP-20-04	Core	747600	3724920	388	580.6	54	-57

Note: Pre-Riverside drill collars were digitized from georeferenced historic maps; Riverside drill collars located in the field with hand-held GPS

Table 10.2 Significant Gold Results from Historical Drilling

Hole No.	Au (ppb)	Length (m)	Depth From (m)	Depth To (m)
Westworld				
WW-1	531	18.3	10.7	29.0
WW-1	764	10.7	38.1	48.8
WW-1	617	4.6	73.2	77.7
WW-2	630	16.8	4.6	21.3
WW-2	557	12.2	64.0	76.2
WW-4	771	6.1	10.7	16.8
WW-5	446	15.2	4.6	19.8
WW-5	362	33.5	42.7	76.2
WW-7	360	9.1	27.4	36.6
WW-8	543	65.5	10.7	76.2
WW-9	574	56.4	0.0	56.4
WW-9	1183	9.2	62.5	71.6
WW-10	339	13.7	4.6	18.3
WW-10	369	6.1	45.7	51.8
Amselco				
SWR-1	777	4.6	0.0	4.6
SWR-1	661	10.7	13.7	24.4
SWR-1	585	19.8	42.7	62.5
SWR-1	377	4.6	79.2	83.8
SWR-1	446	4.6	106.7	111.3
SWR-2	519	65.5	1.5	67.1
SWR-2	471	35.1	82.3	117.4
SWR-3	529	13.7	10.7	24.4
SWR-3	337	16.7	54.9	71.6
SWR-3	368	10.7	111.3	121.9
SWR-4	480	4.6	9.1	13.7
SWR-4	391	7.6	18.3	25.9
SWR-4	617	18.3	30.5	48.8
SWR-4	469	4.6	53.3	57.9
SWR-4	527	12.2	82.3	94.5
SWR-5	776	12.2	33.5	45.7
SWR-5	594	9.1	53.3	62.5
SWR-5	1260	6.1	68.6	74.7
SWR-6	576	22.9	6.1	29.0
SWR-6	594	6.1	44.2	50.3
SWR-6	354	4.6	103.6	108.2
SWR-7	716	12.2	6.1	18.3
SWR-7	372	21.3	21.3	42.7
SWR-7	489	12.2	50.3	62.5
SWR-7	403	12.2	89.9	102.1
SWR-10	377	7.6	51.8	59.4
SWR-11	596	19.8	41.1	61.0
SWR-11	329	7.6	71.6	79.2
SWR-11	497	9.1	111.3	120.4
SWR-13	502	30.5	10.7	41.1
Cominco				
CS-4	434	4.6	50.3	54.9
CS-7	783	88.4	3.0	91.4
CS-10	394	6.1	35.1	41.1
CS-12	418	7.6	6.1	13.7
CS-12	403	6.1	19.8	25.9

RIVERSIDE DRILLING, 2009

In 2009, Riverside Resources drilled 5 core holes on the project for a total of 1,125 meters. This drilling was performed according to modern exploration best practices and was well documented, as described below. Drill-hole details are listed in Table 10.1 and hole locations shown on Figure 10.1. Significant results (greater than approximately 350 ppm Au over >3 meters) are summarized in Table 10.1 and discussed below. Most holes contain additional mineralized intervals at lower grades or shorter intervals. True thicknesses are not known, but the stated intervals are likely to be close to true widths because of the pervasive veining, stockwork, and dissemination of mineralization in the generally flat-lying mineralized zone cut by vertical or steeply inclined drill holes.

The details of Riverside's drilling and sampling procedures are described in detail in Nuñez-Othón (2010) and summarized below. Drill holes were located with a handheld GPS receiver. Core was logged for geology, recovery, and rock-quality designation, and photographed. The recovery for all drill holes averaged 89% and is acceptable. Average rock-quality designation is lower at 66%, but is understandable because the mineralized zones are generally altered, fault-related, or close to fault zones. Core was sawn in half with a gas-powered core saw, and samples sent to Inspectorate of America Laboratories in Reno, Nevada. Downhole surveys were completed for each drill hole at 6, 61, and 244 m (bottom) except in SLP-09-02, which was abandoned. All surveys were acceptable with no significant variation in inclination or azimuth.

SLP-09-01

This drill hole contains a short oxidation zone from 2 to 7.6 m that has a gold value of 647 ppb Au over 5.5 m, in a mineralogy of jarosite-goethite, strong argillic alteration, and alunite veinlets. In the rest of the hole, mineralization is hosted mainly in or near stockworks, frequently bounded by faults. Mineralized intervals contain between 3-15% sulfides within sericitic alteration related to stockwork structures and sheeted quartz-pyrite veinlets. The stockwork zone contains quartz-pyrite veinlets of at least four different stages:

- Quartz + pyrite ± chlorite
- Quartz + pyrite ± chalcopyrite (rare)
- Quartz + pyrite ± molybdenite and tourmaline (erratic)
- Quartz + pyrite + calcite

SLP-09-02

A mixed zone of oxides and sulfides from 1.2-18.9 m has a thickness of 17.7 m with a weighted average value of 402 ppb Au, including a high value of 1,268 ppb Au over 1.5 m. This zone has a mineralogy of goethite + jarosite + hematite within a sheeted veinlet zone of pyrite + quartz, related to fault zones at the upper and lower margins of this mineralized interval. This hole was abandoned at 147.2 m.

Table 10.1 Significant Gold Results from Riverside Resources Drilling

Hole No.	Au (ppb)	Length (m)	Depth From (m)	Depth To (m)
SLP-09-01	659	5.4	2.1	7.5
SLP-09-01	380	17.4	57.8	75.1
SLP-09-01	442	3.5	214.1	217.6
SLP-09-02	516	17.7	1.2	18.9
SLP-09-03	547	4.0	0.0	4.0
SLP-09-03	311	13.6	25.9	39.4
SLP-09-03	508	52.7	65.2	117.5
SLP-09-03	477	9.2	173.6	182.8
SLP-09-04	874	3.3	186.3	189.6
SLP-09-05	320	11.2	19.5	30.7
SLP-09-05	472	3.5	43.6	47.1
SLP-09-05	402	61.9	97.8	159.7
SLP-09-05	380	8.3	172.5	180.9

SLP-09-03
This drill hole has an oxidation zone with a thickness of 10.7 m in a fractured/faulted zone with moderate sericitic alteration. Oxidation minerals are jarosite > goethite > hematite >> MnOx. The remainder of the mineralized intervals consist of sheeted pyrite + quartz (minor) veinlets, and lesser stockworks of quartz + pyrite, sometimes fault-related. These intervals are located inside a sulfide zone with weak propylitic to moderate sericitic alteration. The gold values have a range of 201-839 ppb Au, with one sample of 2,409 ppb Au over 0.7 m.

SLP-09-04
The oxidation zone is from 0-6.7 m (41-230 ppb Au), containing hematite > goethite + jarosite. The mixed zone from 6.7-24 m is hosted in a fault zone and has a thickness of 17.4 m with values between 30-1,184 ppb Au. Associated oxides are jarosite > goethite > hematite. Sulfide content varies from trace to 10%. Gold values are erratic in this drill hole. Most of the values are hosted in sheeted veinlets of pyrite + quartz and scarce quartz veins in mixed sulfides and oxides in the first few feet of the drill hole. This drill hole cut few mineralized values apparently because of displacement by a regional shear/fault with NW strike and near-vertical dip that crosses all of the drill area.

SLP-09-05
The oxidized zone from surface to 14.9 m has low and erratic Au values ≤473 ppb Au. Oxide mineralogy association is low-moderate jarosite > goethite >> hematite. In the sulfide zone the gold values are hosted in sheeted veinlets of pyrite + quartz, with tourmaline (erratic), molybdenite (scarce), and quartz + pyrite veinlets. Most of the areas of mineralization have fault-bounded edges or truncations and appear to be structurally controlled.

CHOICE GOLD DRILLING, 2011 & 2012

In 2011, Choice Gold drilled six diamond drill holes totaling 2,012 m. In 2012, the company drilled 13 reverse-circulation holes totaling 1,262 m. This drilling was performed according to modern exploration best practices and was well documented, as described below. Significant results (greater than approximately 300 ppb gold over 3 meters) are summarized in Table 10.2 and discussed below. Hole locations are shown on Figure 10.1. True widths are not known, but the stated intervals are likely to be close to true widths due to pervasive veining, stockwork, and dissemination of mineralization in the generally flat-lying mineralized zone but by vertical or steeply inclined drill holes.

Choice Gold drill holes were located with a handheld GPS receiver. Core was logged for geology, recovery, and rock-quality designation, and photographed. Core was sawn in half with a gas-powered core saw, and samples sent to American Assay Laboratories in Sparks, Nevada.

SGL-11-01
Three zones grading better than 300 ppb gold over 3.0 m were encountered (Table 10.2). Lithologies encountered include foliated dacite, porphyries, and various volcanic rocks. Alteration mineralogy consisted primarily of sericite, pyrite, carbonate and chlorite.

SGL-11-02
Five zones grading better than 300 ppb gold over 3 m were encountered (Table 10.2). Lithologies were described as porphyritic rhyolite welded tuffs towards the top of the hole, transitioning to more intermediate compositions, such as dacitic tuffs further downhole. Sericite is the dominant alteration mineral. Pyrite was ubiquitous but variable and ranged from trace to semi-massive and massive.

SGL-11-03
Seven zones grading better than 300 ppb gold over 3.048 m (10 ft) were encountered (Table 10.2). Two of these intervals were greater than 30 m thick, and another two were greater than 10 m thick. An interval at the top of the hole to a depth of 11.6 m contained 347 ppb Au in an interval of strong surface oxidation in

rhyodacitic tuffs. Anomalous gold grades further downhole occurred in strongly silicified and sericite-altered rhyodacitic lapilli lithic crystal tuffs.

Table 10.2 Significant Results from Choice Gold Drilling

Hole No.	Au (ppb)	Length (m)	Depth From (m)	Depth To (m)
Diamond Drilling				
SGL-11-01	317	3.0	9.1	12.2
SGL-11-01	324	4.0	75.3	79.3
SGL-11-01	323	3.7	225.6	229.2
SGL-11-02	316	3.0	45.7	48.8
SGL-11-02	301	4.9	56.1	59.4
SGL-11-02	300	3.0	85.3	88.4
SGL-11-02	329	4.0	96.0	100.6
SGL-11-02	313	3.2	169.0	172.2
SGL-11-03	347	11.6	0.0	11.6
SGL-11-03	313	12.2	80.8	93.0
SGL-11-03	334	33.5	97.5	131.1
SGL-11-03	312	33.8	144.8	178.6
SGL-11-03	304	6.1	195.1	201.2
SGL-11-03	311	7.6	259.1	266.7
SGL-11-03	318	4.6	274.3	278.9
SGL-11-04	1256	14.7	4.1	18.8
SGL-11-05	389	3.0	280.4	283.5
SGL-11-06	303	3.0	38.1	41.2
SGL-11-06	306	4.6	45.7	50.3
SGL-11-06	390	3.4	58.2	61.6
SGL-11-06	304	4.7	73.0	77.7
SGL-11-06	325	4.6	85.3	89.9
SGL-11-06	371	4.6	108.2	112.8
SGL-11-06	313	3.0	225.6	228.6
SGL-11-06	369	4.4	207.3	211.7
RC Drilling				
SGR-12-07	1042	4.6	33.5	38.1
SGR-12-09	424	100.6	0.0	100.6 (EOH)
SGR-12-10	397	125.0	0.0	125.0 (EOH)
SGR-12-11	329	41.2	0.0	41.2
SGR-12-11	321	6.1	62.5	68.6
SGR-12-11	321	7.6	86.9	94.5
SGR-12-11	392	3.0	105.2	108.2
SGR-12-12	301	6.1	0.0	6.1
SGR-12-12	333	6.1	13.7	19.8
SGR-12-12	302	4.6	35.1	39.6
SGR-12-12	309	9.1	48.8	57.9
SGR-12-13	313	7.6	13.7	21.3
SGR-12-13	316	4.6	33.5	38.1
SGR-12-13	379	24.4	45.7	70.1
SGR-12-13	307	13.7	77.7	91.4
SGR-12-13	323	22.9	96.0	118.9
SGR-12-14	400	9.1	35.1	44.2
SGR-12-14	441	3.0	97.5	100.5 (EOH)

SGL-11-04

Although only one zone grading better than 300 ppb gold over 3 m was encountered in this hole, this interval graded 1,256 ppb Au over 14.5 meters in the oxide zone at the top of the hole (Table 10.2). The interval from 14.6-15.2 m graded 5,983 ppb Au in an apparent gougy and hematite-oxidized fault in lithic crystal tuffs. Only trace sulfides were visible in this interval due to oxidation. The interval from 11.6-13.3 m graded 2,983 ppb Au and in the same gougy fault encountered at the top of the hole. A large fault zone approximately 30 m in length was located between 183-213 m but no significant gold values were encountered within or adjacent to this structure.

SGL-11-05
One zone grading better than 300 ppb gold over 3 m was encountered in this hole (Table 10.2). Gold mineralization was occurs in a medium grey andesitic lithic tuff with increased silica-pyrite-sericite alteration. This interval is in a gougy to blocky, large, and strong fault zone with up to 5% pyrite locally. Lithologies in the core were generally rhyolitic crystal tuffs transitioning down into dacitic pyroclastics. Massive and porphyritic andesites were encountered at depths starting around 154 m before grading to more pyroclastics at the end of the hole.

SGL-11-06
Eight zones grading better than 300 ppb gold over 3 m were encountered in this hole (Table 10.2). Over a 74.7 m interval from 38.1 m to 112.8 m gold values averaged 211 ppb. Visible gold was observed in the core at a depth of 107.38 m as a 1-mm bleb in a quartz-fluorite-calcite vein at 45° TCA that included 3% chalcopyrite.

SGR-12-07
This drill hole contains an oxidation zone to a depth of over 30 m with strong iron oxides to a depth of 7.6 m with moderate iron oxides to 26.2 m. A 4.6-m intersection from 33.5 m to 38.1 m yielded 1,042 ppb Au in strongly chlorite-clay-altered gougy and faulted dacite tuffs with 20% clear to milky quartz crystals. Gold mineralization accompanied an observed increase in pyrite and clay alteration. Various tuffs ranging from rhyolitic to dacitic in composition characterized this hole.

SGR-12-08
Gold values are sporadic in this hole, with anomalous values ranging from 201 to 302 ppb Au over 1.6-m intervals. Various tuffs ranging from rhyolitic to dacitic compositions were encountered in this hole.

SGR-12-09
Oxidation to a depth of approximately 9.84 m was encountered and was composed primarily of clays and iron oxides. Other than a short interval of rhyolitic crystal tuffs at the top of the hole, this hole was logged as moderately silicified rhyodacitic crystal tuffs. The length of the hole was 100.6 m with an average gold grade of 424 ppb Au for the entire hole. Two intervals returned grades greater than 1 g/t Au: 1,094 ppb Au from 78.7 - 80.4 m, and 1,018 ppb Au from 90.2 to 91.9 m. Sulfides consisted primarily of pyrite, whose abundance graded from 3% at the top of the hole to 6% at the bottom of the hole with silica alteration remaining relatively consistent throughout. The hole was ended at a predetermined depth of 108.26 m; the hole ended in mineralization.

SGR-12-10
Oxidation to a depth of 13.1 m was encountered with strong iron oxides at surface to a depth of 3 m. The most consistent gold values occurred towards the top of the hole with the top 58 m grading 522 ppb Au. The highest grading interval occurred between 60.7 and 62.3 m with 3,304 ppb Au over the 1.5-m interval. The average gold grade is 397 ppb Au over the entire 124.96 m hole, and the hole ended in gold-anomalous mineralization. Similar to SGR-12-09, the lithologies encountered were primarily rhyodacitic crystal tuffs with a more rhyolitic unit at the top of the hole and a number of short, more dacitic tuff intervals scattered throughout. Pyrite was encountered throughout the hole with estimated percentage ranging from trace at surface to 2% at depth, with silica alteration ranging from weak to moderate.

SGR-12-11
The highest concentration of elevated gold values was at the top of the hole with the upper 41.15 m averaging 329 ppb Au. Three additional zones grading better than 300 ppb gold over 3 m were encountered, as listed in Table 10.2. A variety of volcanic tuffs ranging from rhyolitic to dacitic in composition were encountered throughout this hole.

SGR-12-12

Four intervals grading better than 300 ppb gold over 3 meters were encountered (Table 10.2). The hole was logged as rhyolitic volcanic tuffs and was ended at a predetermined depth of 91.8 m.

SGR-12-13

Five zones grading better than 300 ppb gold over 3 m were encountered, (Table 10.2), with two intervals greater than 20 m. Lithologies encountered were rhyodacitic volcanic tuffs with a thin rhyolitic unit at the top of the hole.

SGR-12-14

Minimal weathering and oxidation was observed at the top of this hole, which was collared in a "blueschist" unit where a 11.6 g/t gold grab sample was reportedly collected by geologist Brigitte Dejou. The "blueschist" unit is described as a glaucophane-sericite altered crystal ash tuff. Two intervals grading better than 300 ppb Au over 3 m were encountered (Table 10.4). Hematitic alteration was encountered throughout the hole but appeared to increase towards the bottom of the hole where strong hematite alteration was observed.

SGR-12-15

Gold grades encountered in this hole were of little significance and the lithology encountered was the "blueschist" unit. The hole was ended at a predetermined depth of 108.26 m (330').

SGR-12-16

Strong oxidation to a depth of 22.9 m was encountered with significant iron oxides. Gold grades were insignificant throughout the hole. This hole contained alternating intervals of rhyodacitic pyroclastics and dacitic volcaniclastics.

SGR-12-17

Strong argillic alteration was observed at 68.9 m and at the bottom of the hole. No significant gold values were encountered. This hole contained alternating intervals of rhyodacitic pyroclastics and dacitic volcaniclastics at the upper third of the hole and dacitic volcaniclastics for the bottom third.

SGR-12-18

One interval grading better than 300 ppb gold was encountered from 28.96 to 33.53 m, running 418 ppb Au over 4.57 m. This anomalous gold interval occurred at a contact/transition between rhyolitic tuffs at the top of the hole and tuffs of a more rhyodacitic composition. Lithologies became increasingly intermediate in composition moving down the hole with dacitic volcanic tuffs at the bottom of the hole. The hole was ended prematurely at a depth 59.1 m due to caving problems.

SGR-12-19

SGR-12-19 drilled through 21.32 m of overburden before encountering strongly hematized rhyodacitic crystal tuffs. Iron oxides were predominant throughout the hole, but gold grades were of little significance.

ARIZONA METALS DRILLING, 2020

In 2020, Arizona Metals Corp. drilled four core holes totaling 1,748 m (5,734 ft). Drill-hole details are shown in Table 10.1 and hole locations are shown on Figure 10.1. This drilling was commissioned by Arizona Metals and supervised in the field by an independent contractor, Ethos Geological of Bozeman, Montana. Significant results (greater than approximately 300 ppb gold over 3 meters) are summarized in Table 10.2 and discussed below. True widths are not known, but the stated intervals are likely to be close to true widths due to pervasive veining, stockwork, and dissemination of mineralization in the generally flat-lying mineralized zone but by vertical or steeply inclined drill holes. Arizona Metals drill holes were located with a handheld GPS receiver. Core was logged for geology, recovery, and rock-quality designation, and photographed. Core was sawn with an electric core saw, and samples sent to ALS Minerals Laboratory in Reno, Nevada. Subsequently, composite samples were sent to Kappes, Cassiday, and Associates in Reno, Nevada, for metallurgical testing.

SP-20-01

This hole was a twin of historic hole CS-7, drilled by Cominco in 1990. The hole was mineralized from surface, returning 137.6 m @ 0.53 g/t Au, with a deeper interval grading 0.32 g/t Au over 38.8 m from 179.7 m. A foliated ash-matrix dacite tuff was oxidized to 12.8 m, below which the same host rock extended to 61.8 m, underlain by an alternating sequence of foliated fine-grained rhyolite tuff and foliated dacite tuff. Sericite-quartz-pyrite and clay alteration were pervasive to 200.5 m, where the same alteration decreased in intensity but was still present to the bottom of the hole at 226.8 m. Mineralization consisted of variable densities of quartz-pyrite veinlets, quartz-pyrite stockwork, and disseminated pyrite, with more intense veining and abundant pyrite correlating with the presence of gold.

SP-20-02

Arizona Metals' hole 2 twinned historic hole SWR-2 drilled by Amselco in 1984. This hole was mineralized throughout its length; in addition to the 119.8 m from surface grading 0.34 g/t Au, numerous intervals above 0.2 g/t Au were scattered to a depth of 358.2 m. Oxidized to 15.8 m, this hole is dominated by foliated dacite and rhyolite tuffs similar to those in SP-20-01. Alteration consisted of pervasive quartz-sericite-pyrite alteration through the entire hole. Veinlet mineralization was present throughout the hole.

SP-20-03

This hole was intended to test a large IP (induced polarization) chargeability-resistivity anomaly not previously drilled. A broad halo of low-grade mineralization extended to 178 m downhole. Pyrite-bearing veinlets accompanied by pervasive to patchy sericitic alteration were present throughout the hole, but no compelling mineralization was intersected.

SP-20-04

This hole was also a test of a large untested IP chargeability-resistivity anomaly. It showed consistent gold mineralization to a depth of 396.5 m, grading 0.22 g/t Au over 393.5 m from 3.1 m depth. Quartz-pyrite veinlets with sericitic alteration were present to a depth of about 400 m, below which 2-10% disseminated pyrite likely explains the IP chargeability anomaly.

Table 10.3 Significant Gold Results from Arizona Metals Drilling

Hole ID	Au (g/t)	Length (m)	From (m)	To (m)
SP-20-01	0.53	137.6	0.0	137.6
including	0.62	98.8	0.0	98.8
including	0.90	29.9	43.5	73.5
SP-20-01	0.32	38.8	179.7	218.5
SP-20-02	0.34	119.8	0.0	119.8
including	0.39	16.8	6.7	23.5
including	0.44	21.6	29.4	51.1
including	0.37	13.7	65.5	79.2
including	0.41	34.8	85.0	119.8
SP-20-03	0.12	166.7	11.3	178.0
SP-20-04	0.22	393.5	3.1	396.5
including	0.31	122.4	3.1	125.4
including	0.43	18.7	42.4	61.1

DRILLING INTERPRETATION

Drilling has identified a large, relatively low-grade gold deposit exposed at surface over an area of approximately 1 km east-west and 500 m north-south. Figure 10.2 is a grade-thickness product map of all holes on the project. This map was prepared by first calculating all the significant drill intervals (>300 ppb Au and >3 m in length) and then multiplying the grade of those intervals (in ppm) by their length (in meters) and summing the result for each drill hole. The mapped results give a general idea of the amount of >300 ppb mineralization in each drill hole. As this map shows, the holes with the greatest thicknesses of mineralization correlate very well with the large area of surface sericitic-argillic alteration in the center of the project, and with anomalous Au, Pb, Zn, and Mo in surface rock-chip samples.

The best holes form a roughly arcuate concave-north zone in the southern portion of the >500 ppb Au rock-chip anomaly. Two centers of higher-grade mineralization cluster in the south-central part of the deposit (at drill holes SGR-12-10, SWR-2, CS-7, WW-9, SP-20-01, and SP-20-02) and in the northeast part of the deposit (at holes SLP-09-03, SGR-12-09, WW-1, and WW-8).

The deposit currently has a relatively low grade; the weighted average of all the drill intervals >300 ppb Au is 0.58 g/t Au. Although low, this is still in the range of potentially economic mineralization. The deposit contains significantly higher-grade portions: 114 drill intervals exceed 1 g/t Au with a peak at 6.6 g/t Au. Finding additional higher-grade mineralization will be the key to developing an economically viable resource on the project.

Regardless of the current grade of the deposit, several signs point to a strong, large system with very good potential for developing an economically viable gold deposit. The extent of surface alteration is impressive, measuring approximately 2x4 km in extent; alteration of this magnitude signals a large hydrothermal system with significant strength. The strength of the system is also shown by intervals of high grade—up to 6.6 g/t Au—and by long intervals of lower-grade mineralization. For example, drill hole SGR-12-09 had a weighted average of 0.42 g/t Au over its entire 100.6-m length. This hole is in the northeast corner of the deposit, where mineralization is open to the north and east. Similarly, hole SGR-12-10 had a weighted average of 0.39 g/t Au over its entire 125-m length, and SP-20-01 graded 0.53 g/t Au over 137.6 m.

The gold deposit shows ample room for expansion; it is open in a gap in the center, to the south, east, and north, and open in many places at depth. A gap in the center of the deposit, Target C-1 (see Figure 17.2), roughly 200x500 in extent, sits between good drill holes: to the east of SGR-12-12 and west of WW-5. To the south, no holes have been drilled south of the string of relatively good holes between SGR-12-11 and WW-5. This is a >1-km area where the deposit has not been tested, here named Target C-2. To the north, an area remains untested between SLP-09-2 and CS-10 (Target C-3). And to the east, Target C-4 comprises a zone of undrilled ground between WW-8, SLP-09-003, and SGR-12-09 on the west (some of the best holes on the project) and WW-6 on the east (Target C-4).

The gold deposit is also open in many places at depth. Table 10.5 lists the 37 drill holes that ended with anomalous gold values >100 ppb Au. Eleven of these holes ended in >300 ppb Au; these include some of the better holes on the project. As shown on Figure 10.3, these holes are all within the >500 ppb Au surface rock-chip anomaly. The final depths of these 11 holes fall within about 60 meters of each other vertically, at depths of 76 – 122 meters below surface, indicating that mineralization below these holes would still be within the reach of open-pit mining. In addition, many IP chargeability anomalies at depth remain untested. These results indicate very good potential for expanding the deposit at depth.

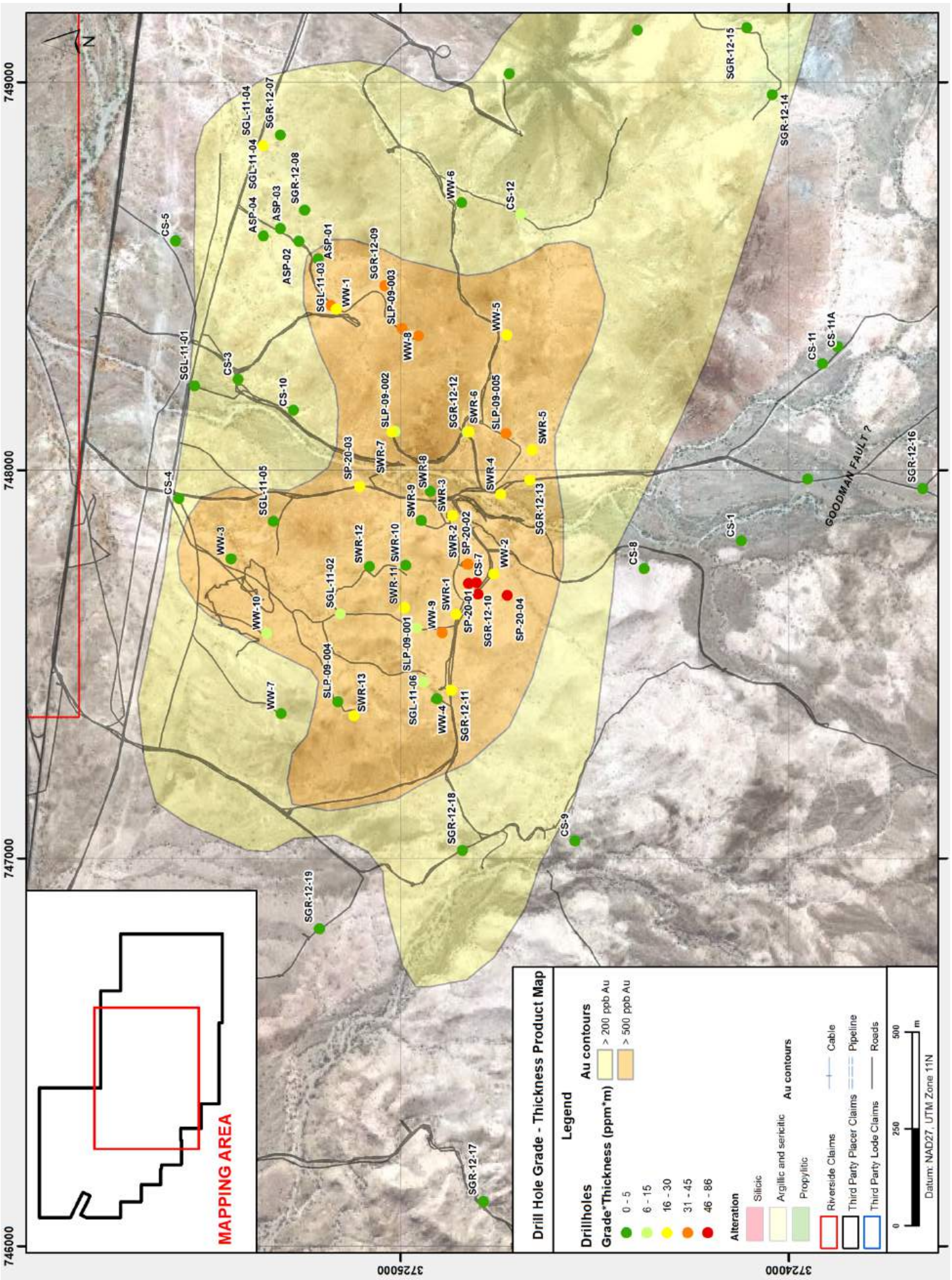


Figure 10.2 Grade-thickness product map, Au in drill holes.

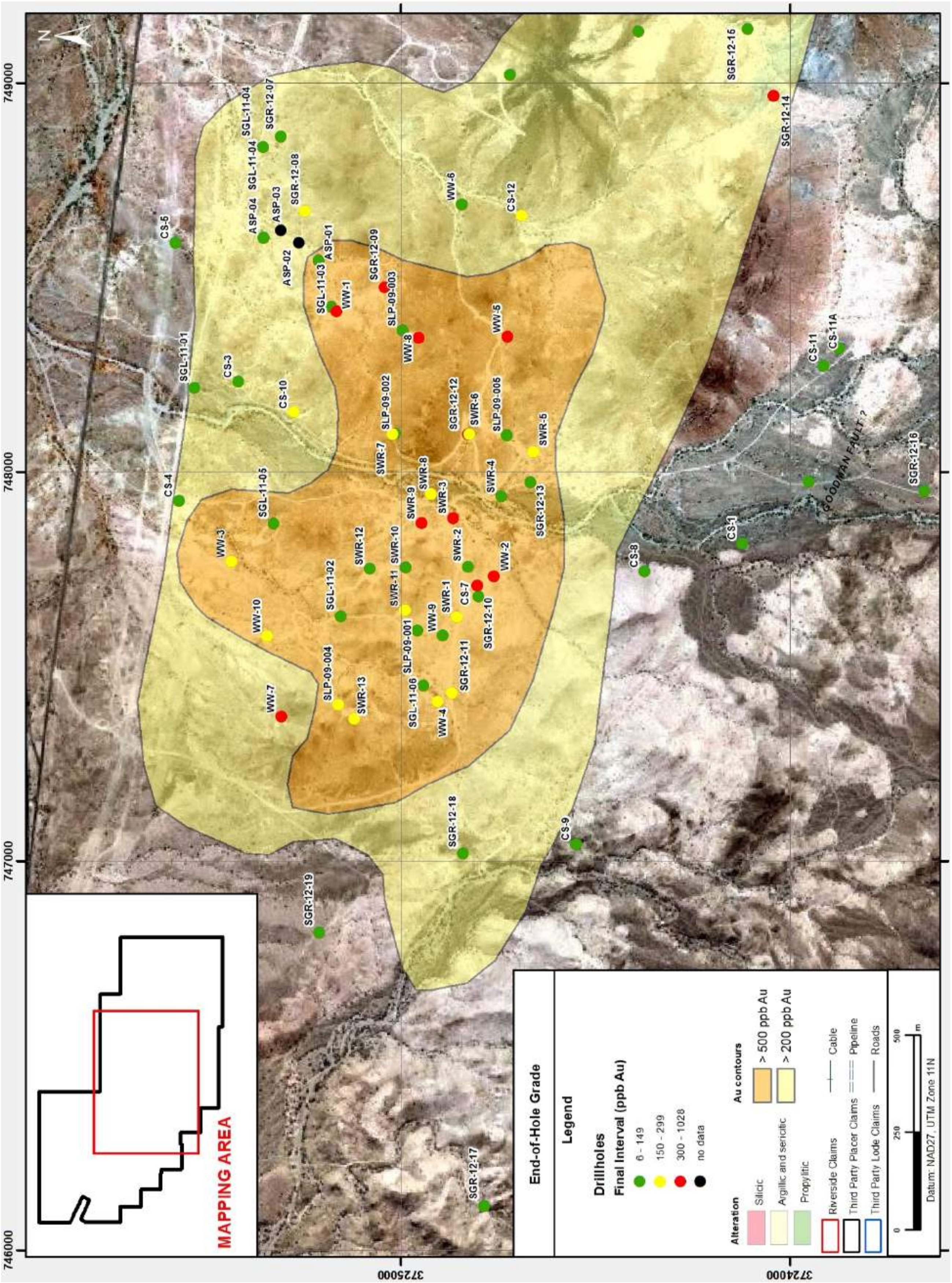


Figure 10.3 End-of-hole grade, ppb Au.

Table 10.5 End-of-Hole Grade >100 ppb Au

Hole ID	Final Interval (ppb Au)	Average of Final Three Intervals (ppb Au)	EOH Depth (m)	EOH Elevation (m)
WW-2	1028	743	76.2	307.8
WW-5	686	480	76.2	314.8
SGR-12-14	581	299	100.6	297.3
WW-1	480	617	77.7	298.3
SGR-12-09	464	255	100.6	275.9
CS-7	446	492	91.4	293.6
SWR-9	377	263	121.9	265.1
WW-8	343	343	76.2	322.8
WW-7	343	172	76.2	305.8
SWR-3	309	275	121.9	259.1
SGR-12-12	304	247	85.3	293.0
SWR-5	240	263	103.6	283.4
SWR-13	240	171	91.4	298.6
SWR-1	206	183	121.9	263.1
SWR-6	206	183	120.4	267.6
SWR-8	206	183	91.4	283.6
SWR-7	206	171	121.9	273.1
SGR-12-08	201	207	91.4	276.5
SLP-09-004	191	84	245.0	142.0
SWR-11	171	514	121.9	261.1
WW-3	171	240	76.2	290.8
WW-10	171	137	76.2	295.8
CS-10	171	114	91.4	277.6
WW-4	171	114	76.2	301.8
CS-12	171	103	76.2	301.8
SGR-12-11	160	121	120.4	266.8
SGR-12-10	146	211	125.0	247.0
SGL-11-04	146	211	304.8	62.9
SLP-09-001	138	106	243.8	135.2
SWR-4	137	194	121.9	254.1
CS-4	137	137	91.4	275.6
SWR-10	137	137	121.9	263.1
SLP-09-005	128	127	243.8	132.2
SGR-12-13	125	271	120.4	256.1
SGR-12-19	113	104	100.6	293.6
SWR-14	103	149	225.6	215.5
SWR-2	103	80	121.9	266.1

11 SAMPLE PREPARATION, ANALYSIS, AND SECURITY

The current project database includes results from four categories of samples: 1) 1,215 historical rock-chip samples; 2) 2,546 historical gold-exploration drill samples; 3) 701 rock-chip samples taken by consultants or other companies on behalf of Riverside Resources and Choice Gold; 4) 964 core samples from holes drilled by Riverside; 5) 2,261 core and RC drill samples taken by Choice Gold; and 6) 1,452 core drill samples taken by Arizona Metals. Sample preparation, analysis, and security for these five types of samples are discussed below.

HISTORICAL ROCK-CHIP AND DRILL SAMPLES

Historical rock-chip and drill samples were taken between 1963 and 1995. Locations and gold assay results are known for these samples, but information related to sample preparation, analysis, and security is limited to historical reports and a few lab assay certificates. For historical samples, sample preparation methods, quality control methods, sample splitting and reduction methods before shipment to labs, and security measures are unknown. At the time of the analyses, Choice Gold had no relationship with the laboratories known to have been used for historical samples (Skyline Labs of Tucson, Arizona; Jacobs Assay Office of Tucson, Arizona; and ActLabs of Ancaster, Ontario). Because of the generally consistent levels of gold in these samples (up to a maximum of about 3 ppm) by many different samplers at different times, work by reputable and reliable companies such as Cominco, the author is of the opinion that sampling and analytical procedures were appropriate and the results generally reliable. Although the author cannot verify proper sample preparation, analysis, and security for historical samples, he has no reason to suspect that results are other than recorded.

RIVERSIDE ROCK-CHIP SAMPLES

During 2008 and 2009, approximately 321 rock samples were taken by consultants or companies on behalf of Riverside Resources (Table 9.1). Greg McKenzie, an independent consultant for Riverside, took 199 samples. These samples were subject to no sample preparation nor sample splitting and reduction methods before shipment to the lab. No quality-control samples were sent from the field, and security measures are unknown. These samples were submitted for fire assay and multi-element analysis to Activation Labs of Ancaster, Ontario, a lab certified to ISO 17025 and CAN-P-1579, with no relationship to Choice Gold.

An additional 106 surface rock-chip samples were taken under the supervision of Stan Keith of MagmaChem Exploration. As a principal of Arizona Gold Holdings, the Sugarloaf Peak project vendor, Mr. Keith is not independent. These samples were subject to no sample preparation nor sample splitting and reduction methods before shipment to the lab. No quality-control samples were sent from the field, and security measures are unknown. These samples were submitted to Jacobs Assay Office of Tucson, Arizona, for fire assay. Jacobs Assay Office is a registered assayer in the State of Arizona but holds no ISO certification. These samples were also submitted to Activation Labs of Ancaster, Ontario, (an independent lab certified to ISO 17025 and CAN-P-1579) for multi-element analysis by ICP and ICP-MS. Choice Gold has no relationship with either lab.

RIVERSIDE DRILLING

Riverside's 2009 drilling program was done according to modern exploration best practices, and supervised by an independent geologist. Full quality-control details can be found in Nuñez-Othón (2010). The drilling generated 964 drill samples plus an additional 50 QA/QC samples. In the opinion of the author, sampling, security, and analytical procedures were adequate.

Drill-sample preparation onsite consisted of cutting core lengthwise with a diamond-blade saw. Samples were bagged and kept in secure storage until shipped to the laboratory. No aspect of sample preparation was conducted by an employee, officer, director, or associate of Riverside or Choice Gold. Samples were analyzed by Inspectorate Labs of Sparks, Nevada, an independent lab certified to ISO 9001-2008 with no relationship to Choice Gold. Samples were analyzed for Au (fire assay with AA finish) and a 50-element package (ICPMS). Inspectorate's internal quality-control samples returned acceptable results.

Quality control samples were submitted by Riverside with drill samples for analysis, including blank and blind standards. All results of QA/QC control fall within acceptable limits. Riverside included 45 samples of blank material. Unfortunately, this material was a local pulp, which cannot be certified to be sterile: analytical results for these samples were all very low but four samples assayed above the detection limit of 5 ppb, with one sample testing above the accepted limit of three times the detection limit. Nevertheless, the blank samples did not reveal any systematic contamination in the drill samples. Riverside included five samples of one commercial certified gold-only standard with drill samples. Riverside renumbered and repackaged the five standards and inserted them into the sample sequence as blind standards. The data set is small but the results are good: all standard reference material is in the field of ±2 standard deviations and is acceptable for this study. Analyses of the blank and standard reference material can be found in Nuñez-Othón (2010). Both Inspectorate and Riverside standard reference material comparisons demonstrate that analyses were within acceptable limits.

CHOICE GOLD ROCK-CHIP SAMPLES

In early 2011, 235 rock-chip samples were taken under the supervision of Stan Keith/MagmaChem and by Tony Starling/Telluris as funded by Choice Gold. Mr. Starling is an independent consultant; Mr. Keith is not independent and is a principal of Arizona Gold Holdings, the project vendor. Samples taken by both geologists were prepared and analyzed similarly: they were subject to no sample preparation nor sample splitting and reduction methods before shipment to the lab; no quality-control samples were sent from the field, and security measures are unknown. Samples were shipped to the labs by commercial carrier.

Samples were analyzed for Au by fire assay at Skyline Labs, an independent lab in Tucson, Arizona, that is ISO-17025 certified. Activation Labs of Ancaster, Ontario, (an independent lab certified to ISO 17025 and CAN-P-1579) performed whole-rock and 45 trace-element analyses by ICP and ICP-MS methods. Choice Gold has no relationship with either lab. No quality-control samples were submitted by the geologists; results of internal lab quality control analyses are acceptable. In the author's opinion, sample preparation, analysis, and security for these samples are satisfactory.

In September and October of 2011, a total of 136 rock samples were collected by Choice Gold geologists, and nine rock samples were collected by the same geologists in March of 2012. Quality control samples were generally not inserted in surface sampling sequences, but these samples were generally included with batches of drill samples that contained quality-control samples. Rock samples were shipped by commercial carrier to American Assay Laboratories in Sparks, NV, where they were analyzed for ICP multi-element analysis and 30-g fire assay with ICP-AES finish. Results of any inserted quality control analyses were acceptable, as were internal lab QA/QC analyses.

CHOICE GOLD DRILLING

Choice Gold Diamond Drilling

Between July and September of 2011, Choice Gold contracted Brown Drilling of Kingman, AZ, to drill six HQ-sized diamond drill holes. Two 12-hour shifts, each consisting of one driller and two helpers, ensured continuous drilling over the contract period. Core was placed by the helpers into lidded waxed cardboard core boxes, and depth footage blocks were typically inserted at 5-foot intervals. Core was delivered by the drillers to the Choice Gold field office in Ehrenberg, AZ once every 24 hours.

Core was logged by Choice Gold geologists at the Choice Gold field office. All holes were sampled in their entirety. Sampled intervals were marked by geologists and sample tags were inserted, with sample lengths typically measuring between 0.6-1.5 m. Core was cut in half along a prescribed line with a rock saw operated by locally-hired staff, and one half was inserted into a poly bag with a corresponding sample tag. Core sample duplicates were produced by quartering the sampled half, and were inserted into the sample sequence roughly one in every 20 samples. Blank samples and certified reference standard samples were also inserted into the sampling at a rate of nor per 20 samples; 1.0 and 1.5 g/t certified Au reference standards were used. Samples were shipped to American Assay Laboratories Inc. in Sparks, NV, USA, for ICP multi-element analysis and 30-g fire assay with ICP-AES finish. Upon receipt of analytical results, quality-control analysis on the data was performed by the Choice Gold exploration manager. All analytical results were deemed acceptable. American Assay Laboratories does not have ISO certification, but participates in CANMET PTP-MAL certification analyses twice a year.

Choice Gold 2011 Infill Sampling of Riverside Drilling

In October of 2011, Choice Gold geologists relogged the core from the Riverside Resources 2009 drill campaign, in an effort to standardize lithologies with Choice Gold drill logs. In the process, all core that was previously not sampled by Riverside was cut and sampled by Choice Gold – notably sections of drill hole SLP-09-02. Quality control and quality assurance procedures followed were the same as those outlined above. All analytical results were deemed acceptable.

Choice Gold 2012 RC Drilling

Choice Gold contracted Brown Drilling in February 2012 to drill 13 13-cm-diameter reverse-circulation (RC) holes, which were completed by March 2012. Samples were collected as 5-foot intervals and catalogued, and tags were inserted by Choice Gold geologists at the drill site. Drilled material went through a rotary splitter and was split roughly in half. One-half of each interval was sent to American Assay Laboratories in Sparks, NV, for ICP multi-element analysis and 30-g fire assay with ICP-AES finish. The other half was stored at the Choice Gold field office, where it is available for future data verification. Reference standards and blank material were inserted into the sample sequence at a rate of roughly one per 20 samples. Duplicates were split at the Choice Gold field office by geologists, using a manual splitter, a process which was performed at a rate of roughly one per 20 samples. QC data was analyzed and verified by the Choice Gold Exploration Manager upon reception from the lab. All reference samples, blanks, and duplicates were deemed to fall within acceptable levels.

HISTORICAL DATA VERIFICATION SAMPLES

During his personal examination of the project in June 2011, previous author Smith (2011, 2019) took 11 data verification samples on the project, from both outcrop and drill core. Results are presented in Data Verification, below. These samples were subject to no sample preparation nor sample splitting and reduction methods before shipment to the lab. Quality-control measures consisted of including a blank (CDN-BL-9) and a standard (CDN-GS-1H) in the samples suite; both were from CDN Resource Laboratories of Vancouver, B.C. Sample security was ensured by keeping all verification samples under direct control between collection and shipment to the lab by commercial carrier. Although Riverside and Choice Gold have both had access to the drill core since drilling, these verification sample locations for both drill core and surface samples were unknown prior to my site visit, and no opportunity for sample tampering was available. Data verification samples were assayed by American Assay Labs, of Sparks, Nevada, an independent lab and a "reputable" laboratory under the Mineral Exploration Best Practices Guidelines, whose results were accepted by all Canadian stock exchanges. Analysis consisted of 30-gram fire assay for Au and Ag with atomic absorption finish. QA/QC samples both submitted by the author and inserted by the lab returned acceptable results. Neither Riverside Resources nor Choice Gold had a relationship with this lab.

ARIZONA METALS DRILLING

All of Arizona Metals' drill sample assay results have been independently monitored through a quality assurance/quality control ("QA/QC") protocol which includes the insertion of blind standard reference materials and blanks at regular intervals. Logging and sampling were completed at Arizona Metals' core handling facilities located in Quartzite, Arizona, by independent contractors. Drill core was diamond sawn on site and drill-core samples were securely transported to ALS Laboratories' ("ALS") sample preparation facility in Tucson, Arizona. Sample pulps were sent to ALS's labs in Vancouver, Canada, for analysis. Gold content was determined by fire assay of a 30-gram charge with ICP finish (ALS method Au-AA23). Silver and 47 other elements were analyzed by ICP methods with four-acid digestion (ALS method ME-MS61).
ALS Laboratories is independent of Arizona Metals Corp. and its Vancouver facility is ISO 17025 accredited. ALS also performed its own internal QA/QC procedures to assure the accuracy and integrity of results. Parameters for ALS' internal and Arizona Metals' external blind quality control samples were acceptable for the samples analyzed. Arizona Metals is not aware of any drilling, sampling, recovery, or other factors that could materially affect the accuracy or reliability of the data referred to herein.

12 DATA VERIFICATION

HISTORICAL ROCK-CHIP AND DRILL SAMPLES

A substantial historical database for surface and drill-derived gold assays is available for the Sugarloaf Peak project. Surface sampling has been done by numerous companies over several decades (Table 10.1), and six drill campaigns took place before the creation of NI 43-101.

Because of the large number of historical surface and drill samples, the variability of sampling documentation, the lack of drill core or cuttings, the lack of surface sample pulps or rejects, and the disintegration of surface sample markings, no verification samples could be taken for the historic drilling or surface sampling. Data verification on these results consisted of spot-checking original assay certificates (where available) with the recently reconstructed databases; no errors were found. Riverside Resources invested considerable effort in combining all available historical assays into the current project database, and during this work cross-checked database values with original assay certificates, results lists, and drill logs.

The distribution of results the various historic sampling programs are consistent with the range of gold grades returned by the Riverside and Choice drilling and recent surface rock-chip sampling programs. Except for those samples that have assay certificates, although individual historical assays cannot be verified, the long history of potentially ore-grade gold assay results on the project by numerous unrelated parties, and the consistency of those results, indicates the presence of the gold-bearing hydrothermal system on the project, as verified by subsequent drilling and sampling by Riverside and Choice Gold. Subject to the issues noted above in Section 11 for historical samples, it is my opinion that the historical rock-chip and drill sample results are adequate for the purposes of this report. However, it may be necessary to perform verification drilling on a subset of the Amselco, Cominco, and Arimetco drill holes in order to verify their data and allow for a current resource calculation. (Assay certificates are available for the Westworld drill holes.)

Histogram plots of gold grades from the Amselco and Westworld drill programs (Figure 12.1 and Figure 12.2) indicate that care should be taken during reverse-circulation drilling, and suggest the need for data-verification twin drilling of selected historical drill holes. The Amselco data shows a significantly lower-grade distribution than the Westworld data. It appears that the Amselco drill results are shifted at least one major population group towards lower gold grades: the main population of Amselco data falls in the same range as that considered to be at sub-ore geochemical levels in the Westworld data. In the Westworld data, a 300 ppb cutoff grade appears to statistically describe moderately anomalous and potentially economic gold values. In contrast, in the Amselco data a 100 ppb cutoff statistically describes anomalous gold grades. In the Amselco data, 70% of the results fall above the 100 ppb cutoff and average 300 ppb, whereas in the Westworld data, 38% of the results fall above the 300 ppb cutoff and average 500 ppb. This points to a possible sampling or analytical issue with the Amselco data. As a result, the Amselco data may significantly under-represent the gold mineralization in those drill holes. It may be necessary to verify the Amselco and Westworld drill data by twinning a subset of these holes.

RIVERSIDE ROCK-CHIP SAMPLES

My verification of Riverside's rock-chip samples consisted of cross-checks between assay certificates and project database values; no errors were found. Notwithstanding Stan Keith's status as a non-independent geologist, given the general agreement with historical results and the labs used, it is my opinion that the Riverside rock-chip sample results are adequate for the purposes of this report.

RIVERSIDE DRILLING AND CHOICE GOLD ROCK-CHIP SAMPLES

Previous author Smith (2011, 2016, 2019) took six data verification samples of Riverside drill core and five verification samples from Choice Gold surface sample sites (Table 12.1). Results of the verification samples are shown in Table 12.1, below. Smith's verification samples of drill core agree reasonably well with the original assay values and demonstrate the presence of gold on the Sugarloaf Peak project. This data has been verified and is suitable for the purposes of this report.

Smith's verification samples of outcrop did not agree well with the original values, and are systematically lower by factors of 2 to 15 (Table 12.1). This is likely attributable to variations in sampling. First, although original sample tags were found in the field, no precise markings of sample extents were made by Stan Keith's samplers, and neither Mr. Keith nor his samplers were present during verification sampling to advise on exact sample locations and extents. As a result, verification samples attempted to duplicate written descriptions of the samples but likely varied somewhat from the original rock sampled. Second, these results may show a bias in the original sampling toward vein or higher-grade material and therefore may not be representative of the overall bulk gold grade at the sampled locations. At three sample sites (19951, 19952, 19955) Smith removed high-grade bias by taking channel samples.

Additional data verification was done by examining Riverside drill core and cross-checking assay certificates with the project database; no errors were found.

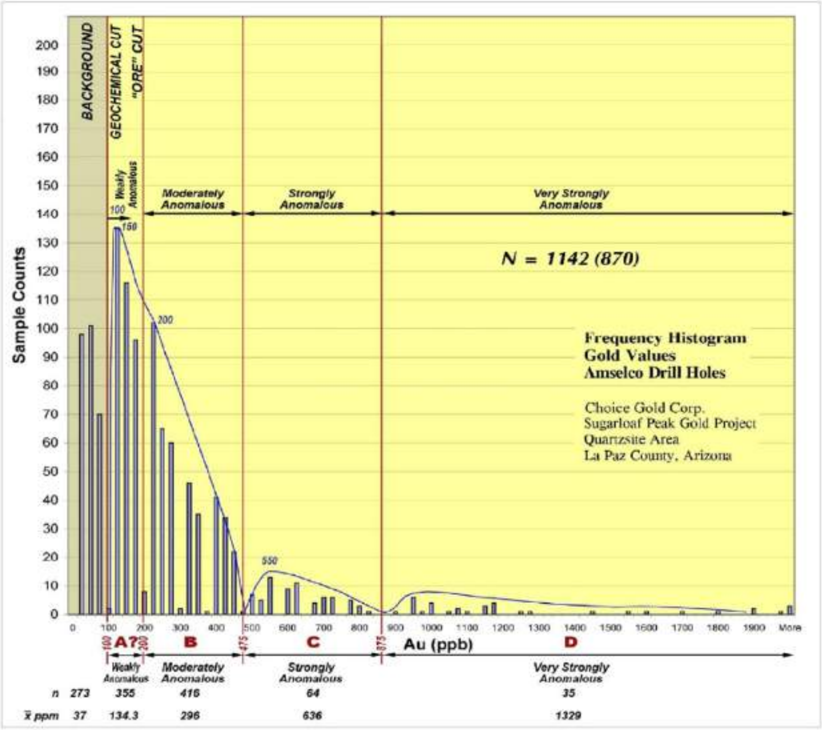


Figure 12.1 Frequency histogram of gold values, Amselco drill holes. From Goldsmith (2008).

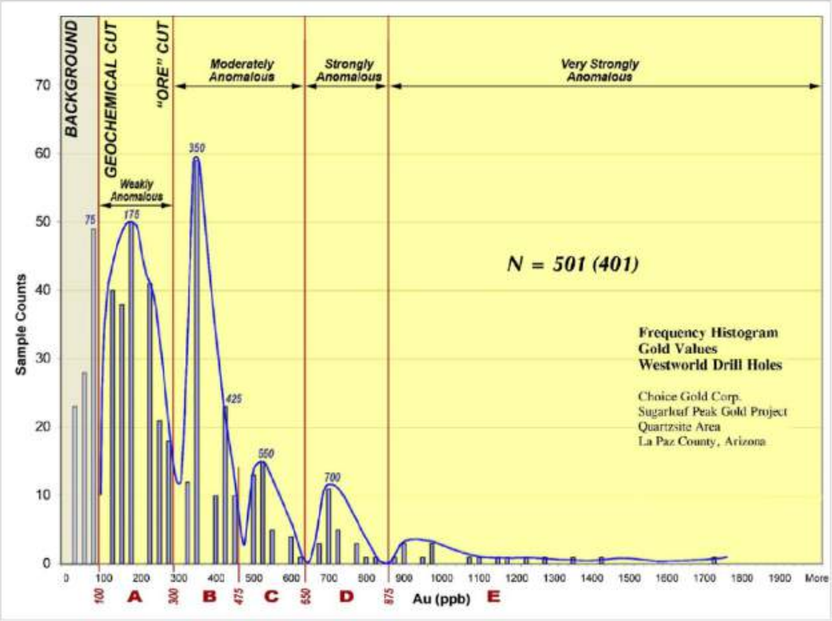


Figure 12.2 Frequency histogram of gold values, Westworld drill holes. From Goldsmith (2008).

Five samples are insufficient to provide thorough verification of the several hundred surface rock-chip samples taken on the project. In spite of the discrepancies, Smith's verification samples contain anomalous gold and demonstrate the presence of gold mineralization on the project. In the author's opinion, the difference between verification and original assay values are not a cause for concern, given the good agreement between verification and drill samples, the long history of favorable gold assays by numerous workers over many years in the same ranges as the recent rock-chip samples, and the sampling variations mentioned above. Surface rock-chip data generated by Choice Gold appear to be adequate for the purposes of this report.

CHOICE GOLD DRILLING

Verification of Choice Gold's drill samples consisted of cross-checks between assay certificates and project database values; no errors were found.

Table 12.1 Data Verification Sample Results

Highlands Sample ID	Original Sample ID	Highlands Assay (Au ppb)	Original Assay (Au ppb)	Sample Type	Location
19951	LC-064M	283	673	Outcrop	UTM NAD83 748386E / 3725942N
19952	LC-070M	46	365	Outcrop	UTM NAD83 748714E / 3725645N
19953	LC-206M	70	484	Outcrop	UTM NAD83 747403E / 3724655N
19954	LC-124M	49	268	Outcrop	UTM NAD83 746760E / 3725130N
19955	LC-115M LC-115V	112	1713	Outcrop	UTM NAD83 746731E / 3725121N
19956	591882	1482	1894	Drill core	SLP-09-05, 104.7-105.6 m
19957	591729	812	800	Drill core	SLP-09-04, 188.4-189 m
19958	591419	834	1108	Drill core	SLP-09-03, 96.8-97.8 m
19959	591287	112	552	Drill core	SLP-09-02, 6.2-7.0 m
19960	591054	532	851	Drill core	SLP-09-01 50.9-51.4 m
19961	591542	810	699	Drill core	SLP-09-03, 231-231.7 m
19962	--	10	<10	Blank	CDN Resource Labs blank CDN-BL-9
19963	--	880	972	Standard	CDN Resource Labs standard CDN-GS-1H

Note: Original assays listed for LC-115M and LC-115V are averages of both sample results.

ARIZONA METALS DRILLING

Verification of Arizona Metals' drill data was done by company personnel and consisted of reviewing drill logs; checking blind QAQC assay results against the standard reference materials' acceptable ranges; collating sample IDs, drill-hole IDs, and depths with laboratory sample results; and cross-checking the database for errors. No errors were found.

13 MINERAL PROCESSING AND METALLURGICAL TESTING

MINERAL PROCESSING

To the best of my knowledge, no mineral processing work has been performed on the project.

METALLURGICAL TESTING

Kinross Gold, 2009

Limited metallurgical test work was done by Kinross Gold Corp. in 2009 during the company's evaluation of the project for possible acquisition. Kinross took 16 samples spread across the central gold zone of the project, with one sample falling north of highway I-70 (Table 13.1, Figure 13.1). Florin Analytical of Reno, Nevada, performed 24-hour cold cyanide bottle roll tests with AAS finish, supported by fire assay with AAS finish to determine head grades.

Gold recoveries ranged from 0-73%, with an overall average of 51%. However, these samples are not all representative of potentially ore-grade mineralization: if one assumes a mining cutoff grade of 200 ppb, 11 of the 16 samples tested would be waste. Nine of these "waste" samples fall outside the core of the deposit, and one consisted of white "bull" quartz vein material, which generally carries little Au on the project.

The five samples grading >200 ppb Au averaged 418 ppb Au head grade and 64% Au recovery. This is within the range of potentially economic recovery for an open-pit, heap-leach mining operation.

These samples do not constitute a representative metallurgical sampling program, and in the author's opinion do not accurately represent the style and types of mineralization on the project: 16 samples are too few to fully reflect the deposit's mineralization; sample sizes are not known, but likely were not representative bulk samples; QAQC practices and results are not known, and samples were taken from surface outcrops only and do not include drill core. As a result, this testing is of limited use in predicting the project's eventual metallurgical recoveries. Any future metallurgical testing work should be comprehensive, and representative of the project's mineralization.

Table 13.1 Kinross preliminary cyanide bottle-roll test results

Sample ID	UTM NAD83 East	UTM NAD83 North	Head Grade Au (ppb)	Cyanide Soluble Au (ppb)	Au Recovery (%)
SGL-16	747787	3724899	665	340	51%
SGL-5	748021	3725195	542	330	61%
SGL-11	748047	3724974	329	240	73%
SGL-4	747974	3725182	302	200	66%
SGL-15	747795	3724870	254	180	71%
SGL-8	747088	3726684	165	90	55%
SGL-3	747951	3725085	165	40	24%
SGL-9	748842	3725263	130	60	46%
SGL-7	747243	3725308	100	30	30%
SGL-14	747922	3724573	96	40	42%
SGL-1	748958	3724921	89	<20	--
SGL-2	748709	3725119	69	<20	--
SGL-13	747937	3724317	62	20	32%
SGL-10	748618	3725035	58	34	58%
SGL-12	747912	3724863	55	<20	--
SGL-6	747174	3725281	48	<20	--
Overall average			196		51%
Average >200 ppb			418		64%

Agnico Eagle Mines, 2013

In 2013, Agnico Eagle Mines collected five samples from drill core and cuttings and submitted them for metallurgical testing. Three samples were duplicates of Choice Gold reverse-circulation drill samples; these were split onsite with a riffle splitter. Two samples were one-quarter splits of HQ drill core cut by diamond saw from the remaining half core.

Agnico Eagle submitted the samples to American Assay Labs in Reno, Nevada for BLEG (bulk-leach extractable gold) testing. The results are listed in Table 13.2. The Agnico Eagle data indicate BLEG recoveries between 40% and 205% of the fire assay results, averaging 101% overall. Recovery for the two sulfide samples averaged 78%. Recovery for the three mixed sulfide/oxide samples averaged 117%. Noting the high recovery of the sulfide-rich sample from SGR-12-13, Agnico Eagle's geologist stated that "the gold in the intervals we tested was not necessarily tied up in the sulfides" (Agnico Eagle, 2013). Agnico Eagle's assays ranged from 23% to 111% of the original fire assays. The wide variability of the assays and BLEG results is likely a combination of the relatively small sample size and the occurrence of coarse free gold on the project.

As with Kinross' metallurgical sampling, the Agnico Eagle samples do not constitute a representative metallurgical sampling program, and my opinion do not fully represent the style and types of mineralization on the project: samples were too few to fully reflect the deposit's mineralization; and sample sizes were small. As a result, this testing is of limited use in predicting the project's eventual metallurgical recoveries. Any future metallurgical testing work should be comprehensive, and representative of the project's mineralization.

Table 13.2 Agnico Eagle preliminary BLEG bottle-roll test results

Hole ID	Sample Type	From (m)	To (m)	From (ft)	To (ft)	Original Assay (g/t Au)	Agnico Assay (g/t Au)	Agnico Bottle Roll (g/t Au)	Agnico Recovery (%)	Ox/Sulf	Original Sample ID	Agnico Sample ID
SGR-12-09	RC cuttings	12.2	13.7	40	45	0.679	0.202	0.187	**93%**	Mixed	16683	SGR-12-09 16683M
SGR-12-10	RC cuttings	24.4	25.9	80	85	0.452	0.276	0.145	**53%**	Mixed	16766	SGR-12-10 16766
SGR-12-13	RC cuttings	68.6	70.1	225	230	0.633	0.194	0.226	**116%**	Sulfide	17044	SGR-12-13 17044
SLP-09-01	Core	132.9	133.5	436	438	0.563	0.624	0.251	**40%**	Sulfide	591155	SLP-09-01 132.9-133.5*
SLP-09-02	Core	8.5	10.1	27.9	33.1	0.486	0.111	0.227	**205%**	Mixed	591289	SLP-09-02 8.5-10.1
									101%	Overall average		
									117%	Mixed average		
									78%	Sulfide average		
Notes:												
Assay and BLEG results are the average of two analyses												
Lab mislabeled sample SLP-09-01 132.9-133.5 as SLP-09-**02** 132.9-133.5												

Arizona Metals, 2021

Twelve composite samples from Arizona Metals' 2020 drilling program(Table 13.3) were subject to 96-hour cyanide bottle roll tests. Recovery in oxide material averaged 95% Au, and sulfide recoveries averaged 72% Au. Drill hole SP-20-01 intersected 137 m of 0.53 g/t gold from surface, including, 99 m of 0.62 g/t gold, and 30 m of 0.90 g/t gold. Gold recoveries in this hole averaged 76%, from surface to a down-hole depth of 137 m (vertical depth of 97 m). Recoveries reached 95% in oxidized zones.

Drill hole SP-20-02 intersected 119.8 m of 0.34 g/t gold from surface, including 21.6 m of 0.44 g/t gold, and 34.8 m of 0.41 g/t gold. Gold recoveries in this hole also averaged 76%, from surface to a down-hole depth of 119.8 m (vertical depth of 111 m). Recoveries reached 94% in oxidized zones.

Samples were composited from ¼ PQ-size (8.5-cm diameter) drill core in storage at the company's facility in Ehrenberg, Arizona, and shipped by commercial carrier to Kappes, Cassiday, and Associates' laboratory in Reno, Nevada. Samples were prepared by crushing to 80% passing 0.15 mm. One kilogram of ground sample was combined with 1.5 liters of sodium cyanide solution at a target concentration of 1 gram cyanide per liter of water in 2.5-liter bottles, and rolled for the duration of the 96-hour tests. Head and tail assays were performed by fire assay, and solution analyses were done by atomic absorption spectrometry, monitored at intervals of 2 to 24 hours. Kappes, Cassiday, and Associates is independent of Arizona Metals Corp.

Table 13.3 Arizona Metals cyanide bottle-roll test results

Sample I.D.	Hole	From meters	To meters	Length, meters	Type	Target p80 Size, mm	Head Average, gms Au/MT	Calculated Head, gms Au/MT	Extracted, gms Au/MT	Avg. Tails, gms Au/MT	Au Extracted, %	Leach Time, hours	Consumption NaCN, kg/MT	Addition $Ca(OH)_2$, kg/MT
SP-MET-01	SP-20-01	0.0	12.8	12.8	Oxide	0.15	0.453	0.795	0.754	0.041	95%	96	0.35	4.03
SP-MET-02	SP-20-01	12.8	20.0	7.2	Sulfide	0.15	1.107	0.716	0.556	0.159	78%	96	0.56	4.00
SP-MET-03	SP-20-01	20.0	43.5	23.5	Sulfide	0.15	0.456	0.475	0.352	0.123	74%	96	0.41	1.50
SP-MET-04	SP-20-01	43.5	49.1	5.6	Sulfide	0.15	1.142	1.221	0.959	0.262	79%	96	0.17	1.00
SP-MET-05	SP-20-01	49.1	63.1	14.0	Sulfide	0.15	0.962	0.776	0.576	0.201	74%	96	0.10	1.01
SP-MET-06	SP-20-01	63.1	73.5	10.4	Sulfide	0.15	1.089	1.050	0.714	0.336	68%	96	0.28	0.50
SP-MET-07	SP-20-01	73.5	98.8	25.3	Sulfide	0.15	0.561	0.541	0.380	0.161	70%	96	0.22	0.50
SP-MET-08	SP-20-01	107.3	137.6	30.3	Sulfide	0.15	0.314	0.338	0.243	0.094	72%	96	0.25	0.75
SP-MET-09	SP-20-02	6.7	15.8	9.1	Oxide	0.15	0.447	0.430	0.403	0.027	94%	96	0.73	3.75
SP-MET-10	SP-20-02	29.4	51.1	21.7	Sulfide	0.15	0.459	0.443	0.293	0.149	66%	96	0.46	1.25
SP-MET-11	SP-20-02	65.5	79.2	13.7	Sulfide	0.15	0.386	0.355	0.216	0.139	61%	96	0.30	0.50
SP-MET-12	SP-20-02	85.0	119.8	34.8	Sulfide	0.15	0.318	0.337	0.274	0.063	81%	96	0.25	0.75

14 MINERAL RESOURCE AND MINERAL RESERVE ESTIMATES

There are no current gold resource estimates for the Sugarloaf Peak property. There are conceptual potential resource opinions on the project, as described below.

Geologist Norman Dausinger, who was involved with the project from 1981 through 2004 or 2005, gave two conceptual potential resource opinions of "about 100 million tons containing 1.5 million ounces gold and 25 million ounces silver," (Dausinger, 1983), and 60 million tons at a grade of 0.02 opt Au and 0.30-0.50 opt Ag (Dausinger 1987). These potential resource opinions have not been verified as a current mineral resources. None of the key assumptions, parameters, and methods used to prepare the conceptual potential resource opinions were reported, and no resource categories were used. No more recent estimates or data are available as of the effective date of this report. A Qualfied Person has not done sufficient work to classify these conceptual potential resource opinions as current mineral resources. Arizona Metals does not represent that these conceptual potential resource opinions are current mineral resources, and does not rely on them as a current mineral resources.

The deposit currently has a relatively low grade; the weighted average of all the drill intervals >0.3 g/t Au is 0.58 g/t Au. Although low, this is still in the range of potentially economic mineralization. The deposit contains significantly higher-grade portions: 114 drill intervals exceed 1 g/t Au with a peak at 6.6 g/t Au. Finding additional higher-grade mineralization will be the key to developing an economically viable resource on the project.

Current data on the project may be sufficient to calculate a current resource. An independent resource consultant should be hired to review the data and make recommendations for further work, if necessary, or to proceed with the resource estimate. Generating a current resource estimate will require thorough verification of previous drill data; this may include twinning of historical holes, or drilling nearby holes to confirm grade continuity. Any further drilling on the project should be planned with the chosen resource Qualified Person to ensure that the appropriate data is generated for a current resource model.

15 ADJACENT PROPERTIES

There are no adjacent properties as defined by NI 43-101. Mineral occurrences in the area are discussed above, in Regional Mineral Occurrences.

16 OTHER RELEVANT DATA AND INFORMATION

A major interstate highway, Interstate 10, runs through the project, as do a natural-gas pipeline, telephone lines, and other utility lines. If the gold deposit at Sugarloaf Peak becomes economically viable, this infrastructure may have to be addressed during production planning and design, depending on the location of ore and the resulting open-pit geometry.

17 INTERPRETATION AND CONCLUSIONS

INTERPRETATION

Relevant Results

The relevant results on the Sugarloaf Peak project have been generated by geologic mapping, core and RC cutting logging, surface rock-chip sampling, geophysics, and drilling.

Gold mineralization consists of sheeted veins/veinlets and stockworks of quartz-pyrite±accessory vein minerals including specularite, tourmaline, and molybdenite in quartz-sericite-pyrite and argillic-altered host rocks. Pyrite is broadly disseminated in altered wall rocks adjacent to quartz-pyrite bearing veinlets, veins, and faults or shear zones. The main gold-mineralized zones identified both in drilling and on surface occur within zones of quartz-sericite-pyrite, and argillic to advanced argillic alteration on surface.

Historic and modern surface rock-chip samples have outlined a gold anomaly >200 ppb Au measuring approximately 2.5 km long accompanied by anomalous zinc, molybdenum, and lead. Underlying this surface gold anomaly is an area of roughly 500 m wide by 1 km long and averaging about 75 meters deep containing significant drill-hole intercepts, which outline the currently known deposit. This deposit is open to the south, east, north, and at depth, and shows very good potential for expansion in these directions. The deposit is generally low-grade, and developing an economically viable resource will rely on intersecting higher-grade mineralization.

The deposit currently has a relatively low grade; the weighted average of all the drill intervals >0.3 g/t Au is 0.58 g/t Au. Although low, this is still in the range of potentially economic mineralization. The deposit contains significantly higher-grade portions: 114 drill intervals exceed 1 g/t Au with a peak at 6.6 g/t Au. Finding additional higher-grade mineralization will be the key to developing an economically viable resource on the project.

Signs point to a strong, large system with very good potential for developing an economically viable gold deposit. The extent of surface alteration is impressive, measuring approximately 2x4 km in extent; alteration of this magnitude signals a large hydrothermal system with significant strength. The strength of the system is also shown by intervals of high grade—up to 6.6 g/t Au—and by long intervals of lower-grade mineralization. For example, drill hole SGR-12-09 had a weighted average of 0.42 g/t Au over its entire 100.6-m length; this hole is in the northeast corner of the deposit, where mineralization is open to the north and east. Similarly, hole SGR-12-10 had a weighted average of 0.39 g/t over its entire 125-m length, and SP-20-01 graded 0.53 g/t Au over 137.6 m.

Geophysical results are excellent, showing strong IP chargeability high and aeromagnetic low anomalies generally coincident with gold mineralization. In particular, the prominent magnetic low that underlies the gold mineralization on the project continues to the west under alluvial cover, where it coincides with the western portion of the IP chargeability high anomaly (Figures 9.14-9.16). This presents a prime, untested exploration target. Additional IP high chargeability anomalies remain undrilled at depth below the drilled area.

Geologic mapping and surface sampling of the northwestern and southeastern portions of the Sugarloaf Peak property by Choice Gold in 2011 and 2012, along with the interpretation of airborne magnetic geophysical surveys, resulted in new porphyry copper-gold targets in these areas.

The North Target has potential for alkalic porphyry copper-gold deposits. The presence of Fe-oxide and alkali alteration, hydrothermal breccias, anomalous polymetallic values in surface samples and geophysical magnetic-high anomalies indicates the potential for this deposit type. Similarly, the West Target has historical mention of potassic alteration and several rock-chip samples anomalous in copper.

Exploration Targets and Potential

The Sugarloaf Peak project currently has four principal exploration targets, as discussed below and shown on Figures 17.1 and 17.2.

Central Zone—High-Sulfidation Gold

The Central Zone of the Sugarloaf Peak project (Figure 17.1) shows very good potential for a near-surface, bulk-mineable gold deposit. Drilling has identified a broadly tabular, near-surface zone measuring roughly 500 m wide by 1,000 m long delineated by numerous drill holes with significant gold intercepts (>300 ppb Au over >3 m). Significant intercepts in these holes occur as deep as 213 m, but form a generally coherent zone that averages about 75 m deep. These significant gold intercepts have a weighted average of 560 ppb Au.

The currently drilled area is open to the south, west, east, north, and at depth. Figure 17.2 shows five target areas for fill-in and extension drilling on the gold deposit. The drilled area is surrounded laterally by a strong surface gold anomaly and argillic/sericitic alteration, and underlain by deeper gold-bearing drill intercepts and many holes that ended in mineralization. Recent drill holes contain >300 ppb Au intercepts as deep as 200 meters, but many IP high chargeability anomalies at depth remain undrilled. Given the extent and grade of the currently drilled area and the lateral and depth indications, the potential for expanding the gold deposit is very good.

The airborne magnetic survey found that magnetic-low anomalies coincide with the surface sericite and clay alteration and appear to indicate the destruction of magnetite by hydrothermal processes. Espinoza (2011) notes that “the known alteration and mineralization coincides with areas of low magnetic values,” with a recommendation to “focus the drilling efforts on low magnetic areas.” The prominent magnetic low that underlies the gold mineralization on the project continues to the west under alluvial cover, where it is coincident with the western portion of the IP chargeability high anomaly (Figures 9.14-9.16). This presents a prime, untested exploration target.

North and West Targets—Porphyry Copper-Gold Potential

The currently identified gold system may be underlain by porphyry copper-gold mineralization. Keith (2011) presents a preliminary gold-porphyry exploration model. Goldsmith (2008) surmises that the geologic setting of the central Dome Rock Mountains is designed to accommodate the presence of a potential “super-giant” porphyry metal system.

The potential for discovery of a concealed porphyry copper-gold deposit on the Sugarloaf Peak property is good. The Diablo alkali granite (~160 Ma) has been mapped north of Interstate 10, where it contacts the Middle Camp Monzonite (~162 Ma; Keith, 2011). The final stage of igneous activity in the Dome Rock Igneous Suite is represented by the Diablo Alkali granite and co-magmatic felsic pyroclastics to the south (Boettcher et al. 2002). The location of the mapped intrusives seems to coincide with a strong, property-scale magnetic-high anomaly, and magnetite alteration is common in the vicinity at surface. This could represent a potentially mineralized, alkalic to sub-alkalic porphyry Cu-Au±Mo system. The margins of the intrusives, especially where they contact cogenetic volcanics and pyroclastics, and/or zones of structural complexity within or proximal to the intrusives, should be considered as conceptual targets.

Several rock samples taken in the area of the northernmost magnetic anomalies were anomalous for a variety of elements, including Cu, Au, Ag, and numerous porphyry pathfinder elements. Anomalous polymetallic sample sites warrant further investigation, and should be interpreted within the context of the magnetic anomalies in the area.

In the mineralized Central Zone south of Interstate 10, Cu forms a low-level anomaly (>100 ppm) that trends irregularly to the northwest, and which sits distinctly offset to the west-southwest of the main Au, Pb, Zn, and Mo anomaly. Roughly coincident with the Cu anomaly are anomalous levels of Bi, Te, As, Sb, and Se. Although the separation between Cu and Pb-Zn-Mo is unexpected—these elements usually cluster together in porphyry systems—the change toward higher Bi, Te, As, and Sb to the west-southwest suggests that this portion of the project may be the deeper levels of a porphyry system. This system may in turn have been dissected by faults with some right-lateral motion.

Ahern (1973), notes that a "block of potassic alteration measuring 2,000 by 3,000 feet is exposed in the center of Section 31, Township 4 North, Range 20 West." This is on the West Target in the area of Gonzalez Wash, south of Interstate 10 in the western portion of the project. The Congden & Carey/Kerr McGee deep copper drilling program tested copper potential on the project, but these holes were to the north of the Au anomaly and therefore did not test the porphyry potential. Instead, areas to the west, west-southwest, and north of the copper anomaly appear prospective for porphyry copper-gold mineralization.

The possibility of porphyry copper-gold deposits on the North and West Targets adds significant potential to the Sugarloaf Peak project. These areas have seen no historical drilling, and limited grassroots exploration. Exploration potential is good for porphyry copper-gold deposits on these targets, and could result in the discovery of one or more low- to medium-grade, large, bulk-tonnage deposits.

RISKS AND UNCERTAINTIES

Risks and uncertainties are discussed above in Property Description. To the extent known, there are no other significant factors and risks, other than noted in this technical report, that may affect access, title, or the right or ability to perform work on the property.

CONCLUSIONS

Considerable work on the Sugarloaf Peak Project has been done over the past 53 years, culminating in identifying a large gold-mineralized system. Located in the Central Zone of the project, gold mineralization consists of sheeted veins/veinlets and stockworks of quartz-pyrite±accessory vein minerals including specularite, tourmaline, and molybdenite in quartz-sericite-pyrite and argillic-altered host rocks. Pyrite is broadly disseminated in altered wall rocks adjacent to quartz-pyrite bearing veinlets, veins, and faults or shear zones. The main gold-mineralized zones identified both in drilling and on surface occur within zones of quartz-sericite-pyrite alteration, and argillic to advanced argillic alteration on surface. Historic and modern surface rock-chip samples have outlined a gold anomaly >200 ppb Au measuring approximately 2.5 km long accompanied by anomalous zinc, molybdenum, and lead. Statistical evaluations of Riverside drill data revealed a strong correlation between Au and Te (correlation coefficient of 0.78), and a weak Au correlation with As (R=0.47). Downhole multi-element plots from the Choice Gold drilling support these associations, and show a strong correlation between Au and Ag, Cu, Pb, Zn, Mo, Bi, Te, As, Sb, and Se in the gold mineralization.

Many past and current geologists consider the gold mineralization to be Jurassic in age, roughly 160-164 Ma, but the author has seen no conclusive evidence for this, nor for the relative timing of mineralization and the numerous deformation events. Thin sections reveal that alteration sericite is generally moderately foliated, indicating that alteration and mineralization occurred before or during one of the four deformation events that have taken place in the host rocks.

The principal large-scale structural control on gold mineralization is considered to be the Goodman Fault system. On a smaller scale, quartz-pyrite veins appear to be the principal structural control on mineralization. Understanding more fully the structural controls on mineralization should be a goal for the project. Thrust faulting, foliation, and dikes may have played roles in localizing mineralization. Structural preparation in the area of gold mineralization is impressive. The project overlies a pronounced bifurcation of the Goodman Fault zone into six strands. In the same area, a left step in the fault system would create dilation receptive to mineralizing fluids during left-lateral motion. The presence of abundant veins of multiple generations, pervasive foliation, and several episodes of shearing and thrust faulting all contribute to an exceptionally complex structural setting and pervasive pathways for mineralizing fluids. Post-mineralization faulting may have partially dissected the mineralized system, and identifying these structures and their offsets may be important in outlining a resource.

The project also holds potential for alkaline porphyry copper-gold deposits in the west, north, and southeast parts of the project. Porphyry copper-gold style mineralization is prospective on the North and West Targets. The highest copper grades on the project—up to 0.67% Cu—occur on the North Target north of Interstate 10, where rock-chip sampling by Choice Gold returned widespread copper mineralization with up to 1,954 ppb Au. In the central mineralized zone south of Interstate 10, Cu forms a low-level anomaly (>100 ppm) that trends irregularly to the northwest, and which sits distinctly offset to the west-southwest of the main Au, Pb, Zn, and Mo anomaly. This offset, along with higher Bi, Te, As, and Sb to the west-southwest coincident with the Cu anomaly suggests that this portion of the project may be the deeper levels of a porphyry system.

The exploration model for the project is based on structural geology, rock-chip geochemistry, and geophysics, along with knowledge of metal zonation in high-sulfidation epithermal systems and porphyry copper-gold systems. The coincidence of Goodman Fault shears and other high-angle faults; gold, zinc, and molybdenum rock-chip anomalies; and geophysical IP chargeability high and magnetic low anomalies present the highest-quality exploration targets for gold. Porphyry copper-gold targets will be defined by a combination of exposed alteration and mineralization, anomalous pathfinder elements, and IP and magnetic anomalies.

One hundred six drill holes totaling approximately 15,780 m (51,772 ft) of core, rotary, and reverse circulation drilling have been completed on the property between 1963 and 2020 by operators in search of both gold and copper. Drilling has identified a large, relatively low-grade gold deposit exposed at surface over an area of approximately 1 km east-west and 500 m north-south.

The deposit shows excellent expansion potential: the currently drilled area is open to the south, west, east, north, and at depth. Five target areas within and adjacent to the deposit are ready for fill-in and extension drilling. The drilled area is surrounded laterally by a strong surface gold anomaly and argillic/sericitic alteration, and underlain by deeper gold-bearing drill intercepts and many holes that ended in mineralization. Recent drill holes contain >0.30 g/t Au intercepts as deep as 200 meters, but many IP high chargeability anomalies at depth remain undrilled. Given the extent and grade of the currently drilled area and the lateral and depth indications, the potential for expanding the gold deposit is excellent. In particular, the prominent magnetic low that underlies gold mineralization continues to the west under alluvial cover, where it coincides with the western portion of the IP chargeability high anomaly. This presents a prime untested exploration target.

Sample preparation, analysis, and security for historical samples cannot be determined but in my opinion were suitable and results are generally reliable. With the exception of surface assays (data verification samples were considerably lower than the originals), data verification and quality-control results were acceptable. Exploration since 2008 has generally been carried out under exploration best practices and exploration results are acceptable my opinion.

Metallurgical test work on the project is limited, consisting of: 1) 24-hour cyanide bottle-roll tests on 16 samples performed by Kinross; 2) cyanide BLEG leach testing on five samples done by Agnico Eagle; and 3) 96-hour bottle-roll tests by Arizona Metals. Five of the Kinross samples were generally representative of gold mineralization in the core of the deposit; these averaged 418 ppb Au and 64% Au recovery. This is within the range of potentially economic recovery for an open-pit, heap-leach mining operation. The Agnico Eagle recoveries ranged between 33% and 146% Au. Arizona Metals' samples were composite samples from recent drill holes and representative of both oxide and sulfide mineralization on the project; oxide recoveries averaged 95% Au, and sulfide recoveries averaged 72% Au.

There are no current gold resource estimates on the project. There are conceptual potential resource opinions on the project. The deposit currently has a relatively low grade; the weighted average of all the drill intervals >0.30 g/t Au is 0.58 g/t Au. Although generally low in grade, this is still in the range of potentially economic mineralization. The deposit contains significantly higher-grade portions: 114 drill intervals exceed 1 g/t Au with a peak at 6.6 g/t Au. Finding additional higher-grade mineralization will be the key to developing an economically viable resource on the project. Several signs point to a strong, large system with very good potential; these include the large area of intense hydrothermal alteration, the high-grade intervals mentioned above, and long, lower-grade drill intercepts such as 100.6 meters of 0.42 g/t Au in hole SGR-12-09, 125 m of 0.39 g/t Au in hole SGR-12-10, and and SP-20-01 graded 0.53 g/t Au over 137.6 m.

Generating a current gold resource estimate for the project will likely require infill, step-out, and depth extension drilling. It will also require verification of previous drill data; this may include twinning of historical holes, or drilling nearby holes to confirm grade continuity. Any further drilling on the project should be planned with the chosen resource consultant to ensure that the appropriate data is generated for a current resource model.

It is my opinion that potential is excellent for development of a near-surface, bulk-mineable gold deposit, and the potential is very good for discovery of porphyry copper-gold deposits. The project should be aggressively explored.

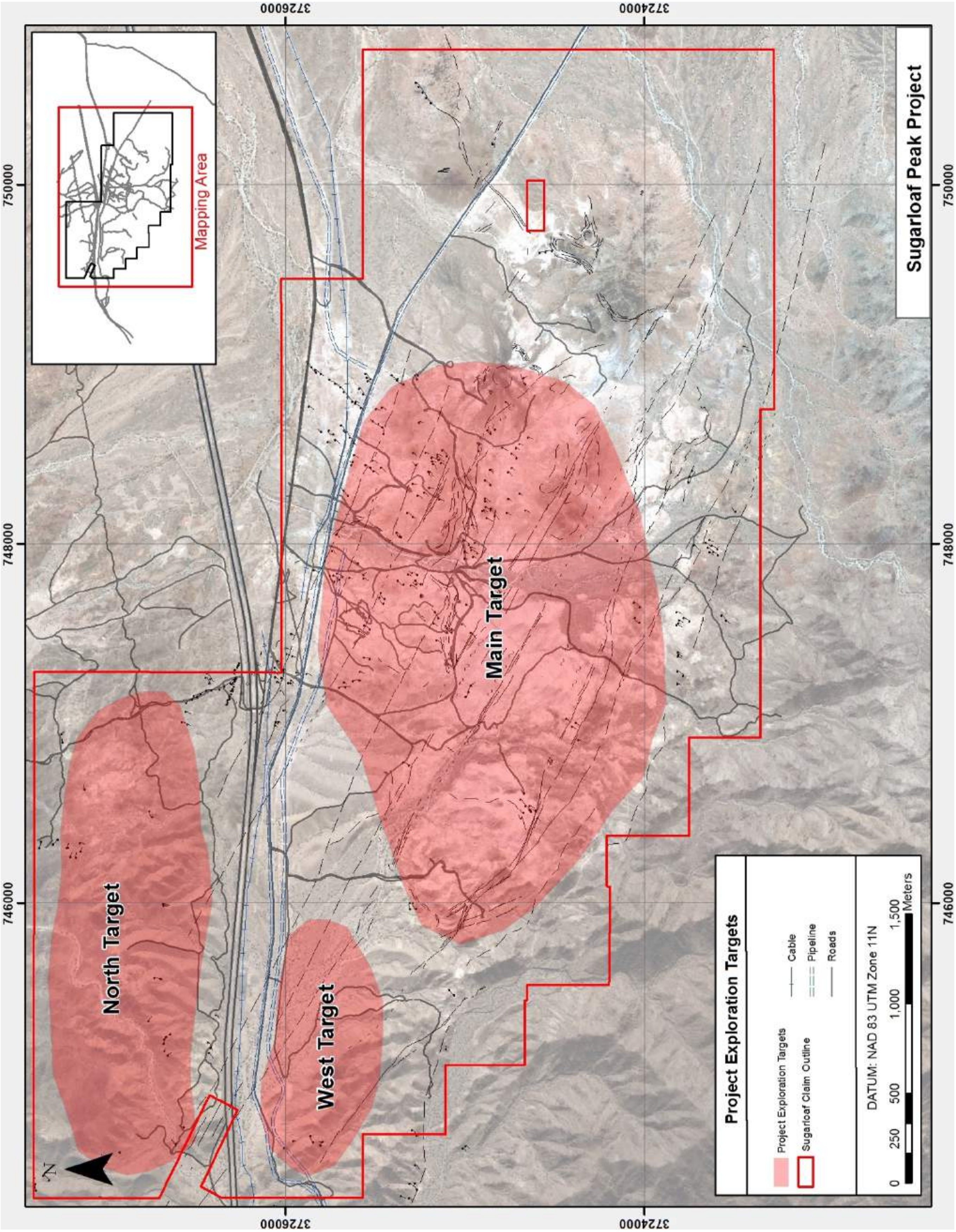


Figure 17.1 Project exploration targets.

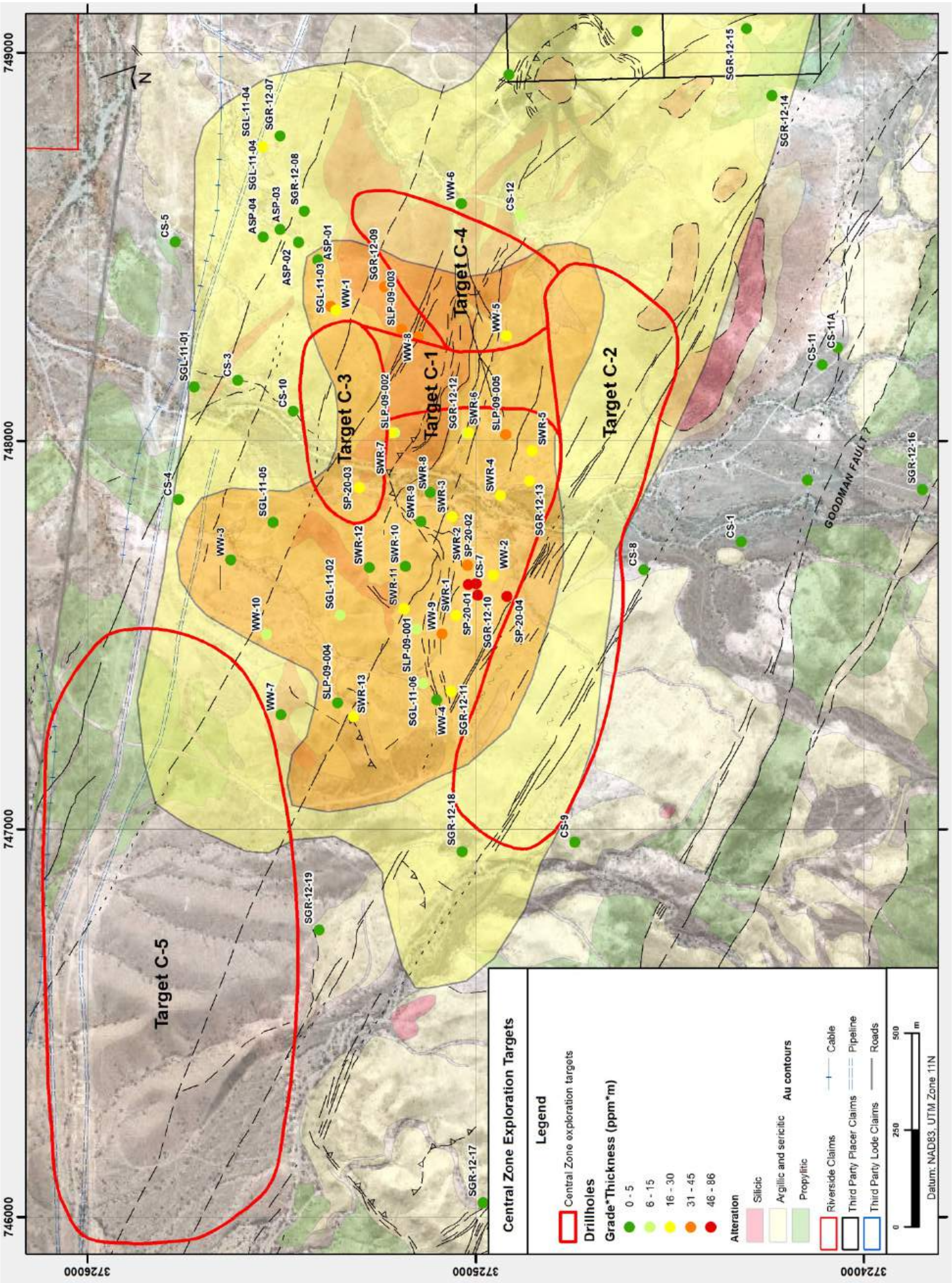


Figure 17.2 Central Zone drill targets.

18 RECOMMENDATIONS

The Sugarloaf Peak project is worthy of additional exploration focused on defining an economically viable, open-pitable gold resource on the project, as outlined below.

PHASE 1 EXPLORATION PROGRAM

Central Zone

1. **Data Review and Organization.** The project has been worked since the early 1960s, during which time a large amount of data and numerous reports have been generated. This information should be thoroughly reviewed, and all surface rock-chip and drill data carefully validated back to original source documents and compiled in preparation for 3D modeling.
2. **3D Deposit Model.** Once the data has been validated, a comprehensive 3D model of the deposit should be made in order to fully visualize the geology, alteration, mineralization, grade, and vectoring in the deposit. This should include an inexpensive yet detailed topography survey.
3. **Drilling.** A drilling program should be conducted on the Central Zone in order to fill in holes in the deposit, extend mineralization laterally, and verify historic drilling. This drilling is ready to proceed, and is not contingent on other work recommended below. The proposed drill program is recommended to consist of 30,000 m of reverse circulation drilling in 100 holes to an average depth of 300 m, generally arranged in a grid pattern to result in approximately 100-m drill hole spacing throughout the deposit (Figure 18.1). Twenty-two of these hole locations are currently permitted.
4. **Detailed Geologic and Analytical Studies.** Concurrent with the RC drilling recommended above, further studies should be done to more fully characterize the gold mineralization and alteration, and to look for zoning in the gold deposit in order to vector toward higher-grade portions of the deposit. This work would supplement the drilling recommended above, but the Phase 1 drilling program is not contingent on results of these detailed geologic and analytical studies. The principal questions of this work are: What are the structural controls on mineralization (vein types that carried the gold, their preferred orientation, location of feeder zones)? What are the mineralogic associations with gold (which alteration minerals indicate higher grade, which minerals and what changes in their compositions can give vectors to higher grade)? What are the geochemical associations with gold (which pathfinders are most closely tied to gold, which can give vectors to higher grade)? This work should consist of:
   - A. Re-examination of drill core and cuttings to understand the cross-cutting relations among vein types and vein-to-core angles of different vein types. This work will help to understand the geologic history of the system and a better idea of mineralizing vein geometry within the deposit.
   - B. Additional thin sections and petrography from samples throughout the drilled area to more fully understand the host rock types, mineralization and alteration mineralogy, and structures. In particular, petrography will help to identify mineral assemblages in the numerous vein types.
   - C. Detailed geochemistry on specific vein types to more fully characterize the trace element associations of gold mineralization and to help identify the vein type(s) that carried gold. This will entail detailed, small-scale sampling of individual veins (if large enough) or zones of abundant veining or stockwork, and multi-element analyses. This should include examining statistical correlations between gold, trace elements, and alteration minerals.
   - D. Geochemical review of all past data, including statistical analyses of element associations and groupings, evaluation of ratios and zoning in trace and major pathfinder elements, and lithogeochemical evaluations to characterize host rocks and alteration assemblages.
   - E. Additional rock-chip sampling on a regular grid covering the Central Zone; analysis should include Terraspec short-wave infrared analyses and multi-element analyses suitable for trace-element vectoring. The intent of this work is to supplement previous irregularly spaced rock-chip samples with

a comprehensive grid and analyses appropriate to identify and map the surface distribution and zoning patterns of trace elements, alteration minerals, and alteration mineral chemistry. This should also include sampling of unmineralized host rocks in order to determine their background geochemistry.

F. Terraspec analyses of drill core and cuttings to identify and map the depth distribution and zoning patterns of alteration minerals and alteration mineral chemistry. If necessary, additional multi-element analyses should be done using the same method as that used for surface samples.

5. **Geophysical Studies.** A geophysical consultant should review the results and provide an updated re-interpretation of the integrated air magnetics and induced polarization data. If necessary, additional ground magnetics, IP, and radiometrics should be done.

North and West Targets

1. **Geologic Mapping and Rock-Chip Sampling.** Detailed geologic mapping should be completed in order to better constrain the geologic units and their contacts, to identify faults and/or shear zones that might impart a structural control on potential mineralization, to further evaluate the known mineralization, and to prospect for additional showings of alteration and mineralization on the North and West Targets. About 500 rock-chip samples should be taken on a semi-regular grid spacing (100 meters suggested) over both targets; analyses should include gold, the same multi-element package done on Central Zone samples, and Terraspec analyses in order to accurately map alteration mineralogy.

2. **Geochemical and Analytical Studies.** Along with mapping and sampling, sufficient analytical studies should be done to determine alteration and mineralization mineral assemblages, trace-element signatures, nature of host rocks, and vectors toward mineralization. This work should include thin sections, Terraspec analyses, statistical analyses, and geochemical data processing.

3. **Geophysical Surveys.** A ground magnetic-radiometric survey should be completed over the North Target, particularly in the northeast part of the target, to refine the current aeromagnetic anomaly. A total of roughly 30 line-km at 100-m spacing would cover the entire survey area. A similar survey should be done on the West Target to refine the known aeromagnetic anomaly; about 16 line-km should cover this target. Magnetic anomalies will aid by supplementing geological mapping data, as well as delineating magnetite alteration that could signal porphyry copper-gold mineralization; radiometric data will help map porphyry-related potassic and sericitic alteration outside the area of Terraspec analyses. Based on the results of the work above, an induced polarization survey should be planned and conducted over the North and West Targets. Chargeability high anomalies will identify sulfide minerals in mineralization; resistivity anomalies will aid in identifying and outlining intrusions and areas of alteration. Coincident geophysical anomalies should be considered high-priority targets.

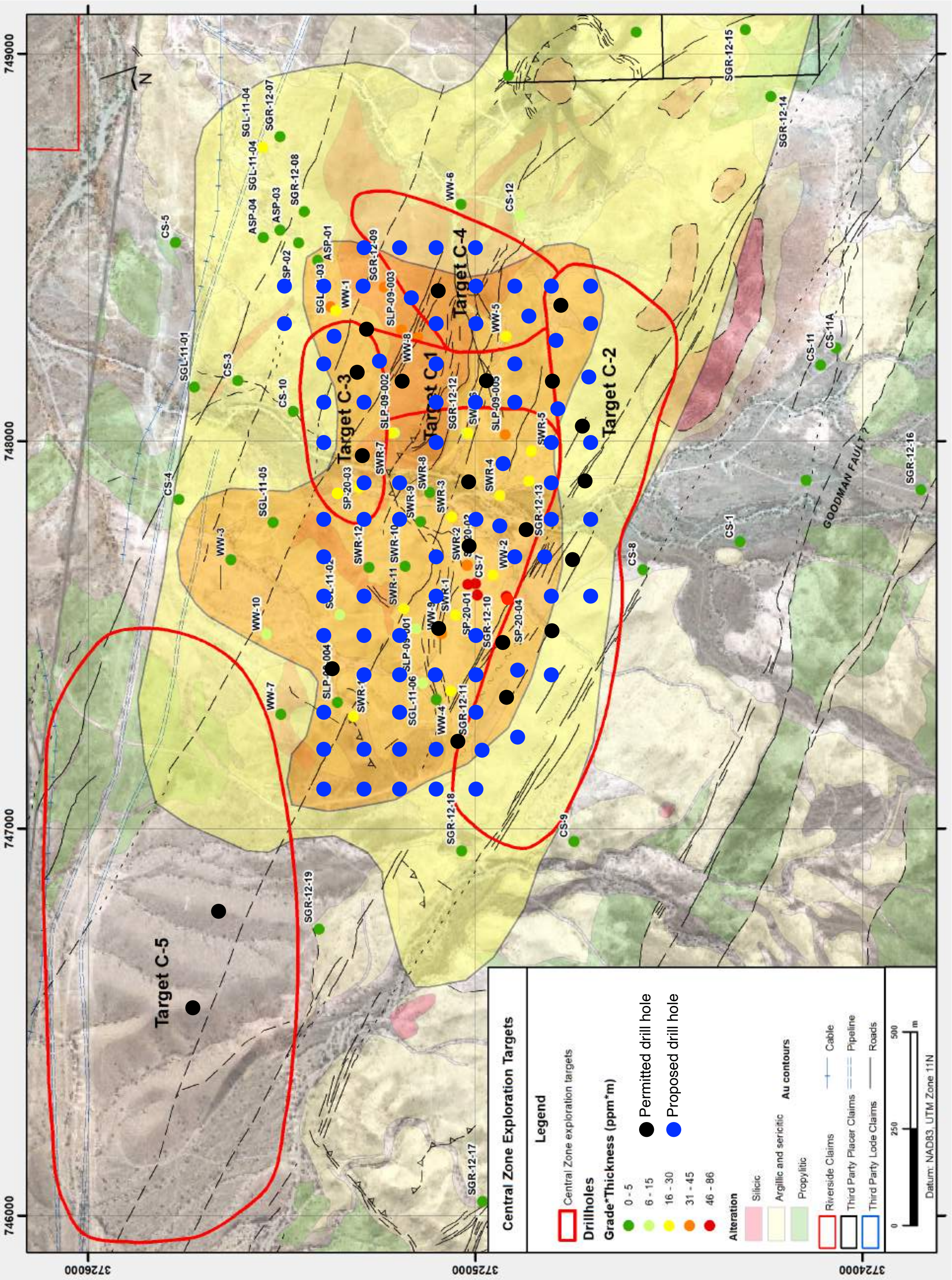


Figure 18.1 Proposed Phase 1 drill-hole locations

PHASE 2 EXPLORATION PROGRAM

If results of Phase 1 exploration are sufficiently encouraging, I recommend a second phase of drilling in the Central Zone and on other drill targets generated during Phase 1. It is anticipated that this would consist of approximately 20,000 m of reverse-circulation drilling, along with a current resource estimate.

EXPLORATION BUDGET

Table 18.1 presents an estimated budget for the exploration work outlined above.

Table 18.1 Estimated Project Budget

	Qty	Unit	Rate	Total
Phase 1				
Central Zone				
Data review and organization		lump sum	$ 10,000	$ 10,000
3D deposit modeling		lump sum	$ 25,000	$ 25,000
RC drilling (all-in cost)	30,000	meters	$ 150	$ 4,500,000
Resource calculation		lump sum	$ 40,000	$ 40,000
Detailed geological and analytical studies		lump sum	$ 80,000	$ 80,000
Geophysical studies (desktop review and reinterpretation)		lump sum	$ 10,000	$ 10,000
Permitting		lump sum	$ 100,000	$ 100,000
Contingency			10%	$ 466,500
Central Zone subtotal				**$ 5,231,500**
North and West Targets				
Geologic mapping and rock sampling		lump sum	$ 50,000	$ 50,000
Geochemical and analytical studies		lump sum	$ 15,000	$ 15,000
Geophysical surveys		lump sum	$ 60,000	$ 60,000
Contingency			10%	$ 12,500
North and West Zones subtotal				**$ 137,500**
Phase 1 Total			**USD**	**$ 5,369,000**
Phase 2				
RC drilling (all-in cost)	20,000	meters	$ 150	$ 3,000,000
Update resource calculation		lump sum	$ 10,000	$ 10,000
Contingency			10%	$ 301,000
Phase 2 Total			**USD**	**$ 3,311,000**
Grand Total			**USD**	**$ 8,680,000**

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20 CERTIFICATE OF QUALIFIED PERSON

I, David S. Smith, MS, MBA, CPG, do hereby certify that:

1. I am a consulting exploration geologist with Highlands Geoscience LLC, located at 3803 NE 120th St., Seattle, Washington, 98125, USA.
2. This certificate applies to "43-101 Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," effective date June 4, 2021.
3. I am a Qualified Person as defined by and for the purposes of National Instrument 43-101 by virtue of my education, experience, and certification as Certified Professional Geologist No. 11405 with the American Institute of Professional Geologists. I have B.Sc. and M.Sc. degrees in geology with M.Sc. studies and published research on gold deposits, and I have 25 years of experience in minerals exploration focused on gold and precious metals in the southwestern United States. My experience includes project management, drilling program design and management, exploration program design and management, drilling supervision, permitting management, project evaluation and acquisition, 43-101 and JORC reports, advanced geologic studies and interpretation, management of resource estimates and economic studies. My deposit-type experience includes orogenic gold, intrusion-related gold, epithermal gold, IOCG, porphyry copper, skarn, hydrothermal magnetite, stratiform silver-lead-zinc, Mississippi Valley zinc, VMS, and evaporite lithium.
4. My most recent personal inspection of the Sugarloaf Peak property was March 12, 2020.
5. I am responsible for the entire report "43-101 Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona."
6. I am not independent of Arizona Metals Corporation. I serve as Vice President of Exploration, am a company shareholder, and hold stock options in the company.
7. My prior involvement with the Sugarloaf Peak project was: 1) completion of "Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," effective date July 19, 2011; 2) 2) completion of "Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," effective date May 2, 2016; 3) an eight-day visit to log core and manage drilling in August, 2011; 4) three years as previous Chief Geologist for previous project owner Riverside Resources; 5) five personal inspections between 2011 and 2020; 6) completion of "Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," effective date May 29, 2019; 7) management of Arizona Metals' 2020 drill program.
8. I have read National Instrument 43-101 and the entire report "Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," which has been prepared in compliance with NI 43-101.
9. As of the effective date of the report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated June 16, 2021, Seattle, Washington

11405
DAVID S. SMITH

David S. Smith, MS, MBA, CPG

21 CERTIFICATE OF QUALIFIED PERSON

I, Scott Close, M.Sc., P.Geo., do hereby certify that:

1. I am a consulting exploration geologist with Ethos Geological LLC, located at 820 North Wallace, Bozeman, MT, 59715, USA.
2. This certificate applies to "43-101 Technical Report on the Sugarloaf Peak Gold Project, La Paz County, Arizona," effective date June 4, 2021.
3. I am a Qualified Person as defined by and for the purposes of National Instrument 43-101 by virtue of my education, experience, and certification as a P.Geo. through the EGBC, the Association of Professional Engineers and Geoscientists of the Province of British Columbia.
4. My most recent personal inspection of the Sugarloaf Peak property was June 2 and 3, 2021.
5. I am responsible for those portions of Section 1 of the Technical Report pertaining to the most recent personal site inspection.
6. I am independent of Arizona Metals Corporation.
7. My prior involvement with the Sugarloaf Peak project was remote management of Ethos Geological staff during Arizona Metals' 2020 drill program on the project.
8. I have read National Instrument 43-101 and the Technical Report has been prepared in compliance with NI 43-101.
9. As of the effective date of the report, to the best of my knowledge, information, and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

Dated June 7, 2021, Bozeman, Montana

Scott Close, M.Sc., P.Geo.

APPENDIX 1—PROJECT MINERAL CLAIMS

Claim Name	BLM Serial No.	Claim Type	Location Date	Township	Range	Section
M-1	AMC371849	LODE	2/16/06	3N	20W	4 NW
M-2	AMC371850	LODE	2/16/06	3N	20W	4 NW
M-3	AMC371851	LODE	2/16/06	3N	20W	4 NE NW
M-4	AMC371852	LODE	2/16/06	3N	20W	4 NE
M-5	AMC371853	LODE	2/16/06	3N	20W	4 NE
M-6	AMC371854	LODE	2/16/06	3N	20W	4 NE
M-7	AMC371855	LODE	2/16/06	3N	20W	3 NW, 4 NE
M-8	AMC371856	LODE	2/16/06	3N	20W	3 NW
M-9	AMC371857	LODE	2/16/06	3N	20W	3 NW SW
M-10	AMC371858	LODE	2/16/06	3N	20W	3 NW SW, 4 NE SE
M-11	AMC371859	LODE	2/16/06	3N	20W	4 NE SE
M-12	AMC371860	LODE	2/16/06	3N	20W	4 NE SE
M-13	AMC371861	LODE	2/16/06	3N	20W	4 NE SE
M-14	AMC371862	LODE	2/16/06	3N	20W	4 NE NW SW SE
M-15	AMC371863	LODE	2/16/06	3N	20W	4 NW SW
M-16	AMC371864	LODE	2/16/06	3N	20W	4 NW SW
M-17	AMC371865	LODE	2/16/06	4N	20W	34 SW
M-18	AMC371866	LODE	2/16/06	4N	20W	33 SE, 34 SW
M-19	AMC371867	LODE	2/16/06	4N	20W	33 SE
M-20	AMC371868	LODE	2/16/06	4N	20W	33 SE
M-21	AMC371869	LODE	2/16/06	4N	20W	33 SE
M-22	AMC371870	LODE	2/16/06	4N	20W	33 SW SE
M-23	AMC371871	LODE	2/16/06	4N	20W	33 SW
M-24	AMC371872	LODE	2/16/06	4N	20W	33 SW
M-25	AMC371873	LODE	2/16/06	4N	20W	33 SW
M-26	AMC371874	LODE	2/16/06	4N	20W	33 SW
M-27	AMC371875	LODE	2/16/06	3N	20W	4 NW, 33 SW
M-28	AMC371876	LODE	2/16/06	3N 4N	20W 20W	4 NW 33 SW
M-29	AMC371877	LODE	2/16/06	3N	20W	4 NW
M-30	AMC371878	LODE	2/16/06	3N	20W	4 NW
M-31	AMC381029	LODE	12/19/06	4N	20W	34 NW SW
M-32	AMC381030	LODE	12/19/06	4N	20W	33 NE SE, 34 NW SW
M-33	AMC381031	LODE	12/19/06	4N	20W	33 NE SE
M-34	AMC381032	LODE	12/19/06	4N	20W	33 NE SE
M-35	AMC381033	LODE	12/19/06	4N	20W	33 NE SE
M-36	AMC381034	LODE	12/19/06	4N	20W	33 NE SE
M-37	AMC381035	LODE	12/19/06	4N	20W	33 NW SW
M-38	AMC381036	LODE	12/19/06	4N	20W	33 NW SW
M-39	AMC381037	LODE	12/19/06	4N	20W	33 NW SW
M-40	AMC381038	LODE	12/19/06	4N	20W	33 NW SW
M-41	AMC381039	LODE	12/19/06	4N	20W	32 NE SE, 33 NW SW
M-42	AMC381040	LODE	12/19/06	4N	20W	32 NE SE
M-43	AMC381041	LODE	12/19/06	4N	20W	32 NE SE
M-44	AMC381042	LODE	12/19/06	4N	20W	32 NE SE
M-45	AMC381043	LODE	12/19/06	4N	20W	32 NE NW SW SE
M-46	AMC381044	LODE	12/19/06	4N	20W	32 NW SW
M-47	AMC381045	LODE	12/19/06	4N	20W	32 NW SW
M-48	AMC381046	LODE	12/19/06	4N	20W	32 NW SW
M-49	AMC381047	LODE	12/19/06	4N	20W	32 SW
M-50	AMC381048	LODE	12/19/06	4N	20W	32 SW
M-51	AMC381049	LODE	12/19/06	4N	20W	32 SW
M-52	AMC381050	LODE	12/19/06	4N	20W	32 SW SE
M-53	AMC381051	LODE	12/19/06	4N	20W	32 SE
M-54	AMC381052	LODE	12/19/06	4N	20W	32 SE

Claim Name	BLM Serial No.	Claim Type	Location Date	Township	Range	Section
M-55	AMC381053	LODE	12/19/06	4N	20W	32 SE
M-56	AMC381054	LODE	12/19/06	4N	20W	32 SE, 33 SW
M-57	AMC381055	LODE	12/19/06	3N	20W	4 NW, 5 NE
				4N	20W	32 SE, 33 SW
M-58	AMC381056	LODE	12/19/06	3N	20W	5 NE
				4N	20W	32 SE
M-59	AMC381057	LODE	12/19/06	3N	20W	5 NE
				4N	20W	32 SE
M-60	AMC381058	LODE	12/19/06	3N	20W	5 NE
				4N	20W	32 SE
M-61	AMC381059	LODE	12/19/06	3N	20W	5 NE NW
				4N	20W	32 SW SE
M-62	AMC381060	LODE	12/19/06	3N	20W	5 NW
				4N	20W	32 SW
M-63	AMC381061	LODE	12/19/06	3N	20W	5 NW
				4N	20W	32 SW
M-64	AMC381062	LODE	12/19/06	3N	20W	5 NW
				4N	20W	32 SW
M-75	AMC381063	LODE	12/19/06	4N	20W	32 NW SW
M-76	AMC381064	LODE	12/19/06	4N	20W	31 NE SE, 32 NW SW
M-77	AMC381065	LODE	12/19/06	4N	20W	31 NE SE
M-78	AMC381066	LODE	12/19/06	4N	20W	31 NE SE
M-79	AMC381067	LODE	12/19/06	4N	20W	31 NE SE
M-80	AMC381068	LODE	12/19/06	4N	20W	31 NE NW SW SE
M-81	AMC381069	LODE	12/19/06	4N	20W	31 SW SE
M-82	AMC381070	LODE	12/19/06	4N	20W	31 SE
M-83	AMC381071	LODE	12/19/06	4N	20W	31 SE
M-84	AMC381072	LODE	12/19/06	4N	20W	31 SE
M-85	AMC381073	LODE	12/19/06	4N	20W	31 SE, 32 SW
M-86A	AMC392087	LODE	5/10/08	4N	20W	32 SW
M-92	AMC381080	LODE	12/19/06	4N	20W	32 NE
M-93	AMC381081	LODE	12/19/06	4N	20W	32 NE NW
M-94	AMC381082	LODE	12/19/06	4N	20W	32 NW
M-95	AMC381083	LODE	12/19/06	4N	20W	32 NW
M-96	AMC381084	LODE	12/19/06	4N	20W	31 NE, 32 NW
M-97	AMC381085	LODE	12/19/06	4N	20W	31 NE
M-98	AMC381086	LODE	12/19/06	4N	20W	31 NE
M-99	AMC381087	LODE	12/19/06	4N	20W	31 NE
M-100	AMC381088	LODE	12/19/06	4N	20W	31 NE NW
M-101	AMC391037	LODE	2/1/08	4N	20W	34 SW
M-102	AMC391038	LODE	2/1/08	4N	20W	34 SW
M-103	AMC391039	LODE	2/1/08	3N	20W	3 NW
				4N	20W	34 SW
M-104	AMC391040	LODE	2/1/08	3N	20W	3 NW
M-105	AMC391041	LODE	2/1/08	3N	20W	3 NW
M-106	AMC391042	LODE	2/1/08	3N	20W	3 NW
M-107	AMC391043	LODE	2/1/08	3N	20W	3 NW
M-108	AMC391044	LODE	2/1/08	3N	20W	3 NW SW
M-109	AMC391045	LODE	2/1/08	3N	20W	3 SW
M-110	AMC391046	LODE	2/1/08	3N	20W	3 SW
P #1	AMC375430	LODE	9/1/06	3N	20W	4 NW
				4N	20W	33 SW
P #2	AMC375431	LODE	9/1/06	3N	20W	4 NW
				4N	20W	33 SW
P #3	AMC375432	LODE	9/1/06	3N	20W	4 NE NW
				4N	20W	33 SW SE

Claim Name	BLM Serial No.	Claim Type	Location Date	Township	Range	Section
P #4	AMC375433	LODE	9/1/06	3N 4N	20W 20W	4 NE 33 SE
P #5	AMC375434	LODE	9/1/06	3N 4N	20W 20W	4 NE 33 SE
P #6	AMC375435	LODE	9/1/06	3N 4N	20W 20W	4 NE 33 SE
P #7	AMC375436	LODE	9/1/06	3N 4N	20W 20W	3 NW, 4 NE 33 SE, 34 SW
P #8	AMC375437	LODE	9/1/06	3N 4N	20W 20W	3 NW 34 SW
AGN#1	AMC392088	LODE	3/7/08	4N	20W	30 SW SE, 31 NE NW
AGN#2	AMC392089	LODE	3/7/08	4N	20W	30 SE, 31 NE
AGN#3	AMC392090	LODE	3/7/08	4N	20W	30 SE, 31 NE
AGN#4	AMC392091	LODE	3/7/08	4N	20W	30 SE, 31 NE
AGN#5	AMC392092	LODE	3/7/08	4N	20W	29 SW, 30 SE, 31 NE, 32 NW
AGN#6	AMC392093	LODE	3/7/08	4N	20W	29 SW, 32 NW
AGN#7	AMC392094	LODE	3/7/08	4N	20W	29 SW, 32 NW
AGN#8	AMC392095	LODE	3/7/08	4N	20W	29 SW, 32 NW
AGN#9	AMC392096	LODE	3/7/08	4N	20W	32 NW
AGN#10	AMC392097	LODE	3/7/08	4N	20W	32 NW
AGN#11	AMC392098	LODE	3/7/08	4N	20W	29 SW, 32 NW
AGN#12	AMC392099	LODE	3/7/08	4N	20W	29 SW SE, 32 NE NW
AGN#13	AMC392100	LODE	3/7/08	4N	20W	32 NE NW
AGN#14	AMC392101	LODE	3/7/08	4N	20W	32 NE
AGN#15	AMC392102	LODE	3/7/08	4N	20W	29 SE, 32 NE
AGN#16	AMC392103	LODE	3/7/08	4N	20W	29 SE, 32 NE
AGN#17	AMC392104	LODE	3/7/08	4N	20W	32 NE
AGN#18	AMC392105	LODE	3/7/08	4N	20W	32 NE
AGN#19	AMC392106	LODE	3/7/08	4N	20W	29 SE, 32 NE
AGN#20	AMC392107	LODE	3/7/08	4N	20W	28 SW, 29 SE, 32 NE, 33 NW
AGN#21	AMC392108	LODE	3/7/08	4N	20W	32 NE, 33 NW
AGN#22	AMC392109	LODE	3/7/08	4N	20W	33 NW
AGN#23	AMC392110	LODE	3/7/08	4N	20W	28 SW, 33 NW
AGN#24	AMC392111	LODE	3/7/08	4N	20W	28 SW, 33 NW
AGN#25	AMC392112	LODE	3/7/08	4N	20W	33 NW
AGN#26	AMC392113	LODE	3/7/08	4N	20W	28 SW
AGN#27	AMC392114	LODE	3/7/08	4N	20W	28 SW
AGN#28	AMC392115	LODE	3/7/08	4N	20W	28 SW, 29 SE
AGN#29	AMC392116	LODE	3/7/08	4N	20W	29 SE
AGN#30	AMC392117	LODE	3/7/08	4N	20W	30 NE SE
AGN#31	AMC392118	LODE	3/7/08	4N	20W	30 NE SE
AGN#32	AMC392119	LODE	3/7/08	4N	20W	29 NE NW SW SE
AGN#33	AMC392120	LODE	3/7/08	4N	20W	29 NW SW
AGN#34	AMC392121	LODE	3/7/08	4N	20W	29 NW SW
AGN#35	AMC392122	LODE	3/7/08	4N	20W	29 NW SW
AGN#36	AMC392123	LODE	3/7/08	4N	20W	29 NW SW
AGN#37	AMC392124	LODE	3/7/08	4N	20W	29 NW SW, 30 NE SE
AGN#38	AMC392125	LODE	3/7/08	4N	20W	30 NE SE
AGN#39	AMC392126	LODE	3/7/08	4N	20W	30 NE SE
AGN#40	AMC392127	LODE	3/7/08	4N	20W	30 NE SE
AGN#41	AMC392128	LODE	3/7/08	4N	20W	30 NE NW SW SE
SABAKA #1	AMC368411	PLACER	11/11/05	4N	20W	32 NE SE, 33NW SW
SP1	AMC396470	LODE	4/9/09	3N 4N	20W 20W	5 NW, 6 NE 31 SE, 32 SW
SP2	AMC396471	LODE	4/9/09	3N 4N	20W 20W	5 NW, 6 NE 32 SW
SP3	AMC396472	LODE	4/9/09	3N	20W	5 NE NW SW SE

Claim Name	BLM Serial No.	Claim Type	Location Date	Township	Range	Section
SP4	AMC396473	LODE	4/9/09	3N	20W	5 NE SE
SP5	AMC396474	LODE	4/9/09	3N	20W	5 NE SE
SP6	AMC396475	LODE	4/9/09	3N	20W	5 NE SE
SP7	AMC396476	LODE	4/9/09	3N	20W	4 NW SW, 5 NE SE
SP8	AMC396477	LODE	4/9/09	3N	20W	5 SE
SP9	AMC396478	LODE	4/9/09	3N	20W	5 SE
SP10	AMC396479	LODE	4/9/09	3N	20W	4 SW, 5 SE
SP11	AMC396480	LODE	4/9/09	3N	20W	4 SW
SP12	AMC396481	LODE	4/9/09	3N	20W	4 SW
SP13	AMC396482	LODE	4/9/09	3N	20W	4 SW, 8 NE, 9 NW
SP14	AMC396483	LODE	4/9/09	3N	20W	4 SW, 9 NW
SP15	AMC396484	LODE	4/9/09	3N	20W	4 SW, 9 NW
SP16	AMC396485	LODE	4/9/09	3N	20W	4 SW, 9 NW
SP17	AMC396486	LODE	4/9/09	3N	20W	4 SW SE, 9 NE NW
SP18	AMC396487	LODE	4/9/09	3N	20W	4 SE, 9 NE
SP19	AMC396488	LODE	4/9/09	3N	20W	4 SE, 9 NE
SP20	AMC396489	LODE	4/9/09	3N	20W	4 SE, 9 NE
SP21	AMC396490	LODE	4/9/09	3N	20W	3 SW, 4 SE, 9 NE, 10 NW
SP22	AMC396491	LODE	4/9/09	3N	20W	3 SW, 10 NW
SP23	AMC396492	LODE	4/9/09	3N	20W	3 SW, 10 NW
SP24	AMC396493	LODE	4/9/09	3N	20W	3 SW, 10 NW
SP25	AMC396494	LODE	4/9/09	3N	20W	3 SW, 10 NW
SP26	AMC396495	LODE	4/9/09	3N	20W	3 SW SE, 10 NE NW
SP27	AMC396496	LODE	4/9/09	3N	20W	3 SE, 10 NE
SP28	AMC396497	LODE	4/9/09	3N	20W	3 SE, 10 NE
SP29	AMC396498	LODE	4/9/09	3N	20W	3 SE, 10 NE
SP30	AMC396499	LODE	4/8/09	3N	20W	3 SW SE
SP31	AMC396500	LODE	4/8/09	3N	20W	3 SE
SP32	AMC396501	LODE	4/8/09	3N	20W	3 SE
SP33	AMC396502	LODE	4/8/09	3N	20W	3 SE
SP34	AMC396503	LODE	4/8/09	3N	20W	3 SE
SP35	AMC396504	LODE	4/8/09	3N	20W	2 SW, 3 SE
SP36	AMC396505	LODE	4/8/09	3N	20W	2 NW SW, 3 NE SE
RR #1	AMC407284	LODE	4/14/11	4N	20W	34 NW SW
RR #2	AMC407285	LODE	4/14/11	4N	20W	34 NW SW
RR #3	AMC407286	LODE	4/14/11	4N	20W	34 NE NW SW SE
RR #4	AMC407287	LODE	4/14/11	4N	20W	34 NE SE
RR #11	AMC407294	LODE	4/14/11	4N	20W	34 SW SE
RR #12	AMC407295	LODE	4/14/11	4N	20W	34 SE
RR #13	AMC407296	LODE	4/14/11	4N	20W	34 SE
RR #14	AMC407297	LODE	4/14/11	4N	20W	34 SE
RR #15	AMC407298	LODE	4/14/11	4N	20W	34 SE
RR #16	AMC407299	LODE	4/14/11	4N	20W	34 SE, 35 SW
RR #17	AMC407300	LODE	4/14/11	4N	20W	35 SW
RR #18	AMC407301	LODE	4/14/11	4N	20W	35 SW
RR #19	AMC407302	LODE	4/14/11	4N	20W	35 SW
RR #23	AMC407306	LODE	4/14/11	3N	20W	3 NE NW
				4N	20W	34 SW SE
RR #24	AMC407307	LODE	4/14/11	3N	20W	3 NE
				4N	20W	34 SE
RR #25	AMC407308	LODE	4/14/11	3N	20W	3 NE
				4N	20W	34 SE
RR #26	AMC407309	LODE	4/14/11	3N	20W	3 NE
				4N	20W	34 SE
RR #27	AMC407310	LODE	4/13/11	3N	20W	3 NE
				4N	20W	34 SE

Claim Name	BLM Serial No.	Claim Type	Location Date	Township	Range	Section
RR #28	AMC407311	LODE	4/13/11	3N 4N	20W 20W	2 NW, 3 NE 34 SE, 35 SW
RR #29	AMC407312	LODE	4/13/11	3N 4N	20W 20W	2 NW 35 SW
RR #30	AMC407313	LODE	4/13/11	3N	20W	2 NW
RR #31	AMC407314	LODE	4/13/11	3N	20W	2 NW
RR #38	AMC407321	LODE	4/11/11	3N	20W	2 NW SW, 3 NE SE
RR #39	AMC407322	LODE	4/11/11	3N	20W	2 NW SW
RR #40	AMC407323	LODE	4/11/11	3N	20W	2 NW SW
RR #41	AMC407324	LODE	4/11/11	3N	20W	2 NW SW
RR #54	AMC407337	LODE	4/11/11	3N	20W	2 SW, 3 SE
RR #55	AMC407338	LODE	4/11/11	3N	20W	2 SW
RR #56	AMC407339	LODE	4/11/11	3N	20W	2 SW
RR #57	AMC407340	LODE	4/11/11	3N	20W	2 SW
RR #70	AMC407353	LODE	4/6/11	3N	20W	10 NE, 11 NW
RR #71	AMC407354	LODE	4/6/11	3N	20W	11 NW
RR #72	AMC407355	LODE	4/6/11	3N	20W	11 NW
RR #73	AMC407356	LODE	4/6/11	3N	20W	11 NW
RR #110	AMC407391	LODE	4/9/11	3N	20W	5 NW SW
RR #111	AMC407392	LODE	4/9/11	3N	20W	5 NW SW
RR #112	AMC407393	LODE	4/9/11	3N	20W	5 NW SW
RR #113	AMC407394	LODE	4/9/11	3N	20W	5 NW SW
CG-1	AMC451753	LODE	4/18/18	3N	20W	3 NW NE SW SE
CG-2	AMC451754	LODE	4/18/18	3N	20W	3 NE SE
CG-3	AMC451755	LODE	4/18/18	3N	20W	3 NE SE
CG-4	AMC451756	LODE	4/18/18	3N	20W	3 NE