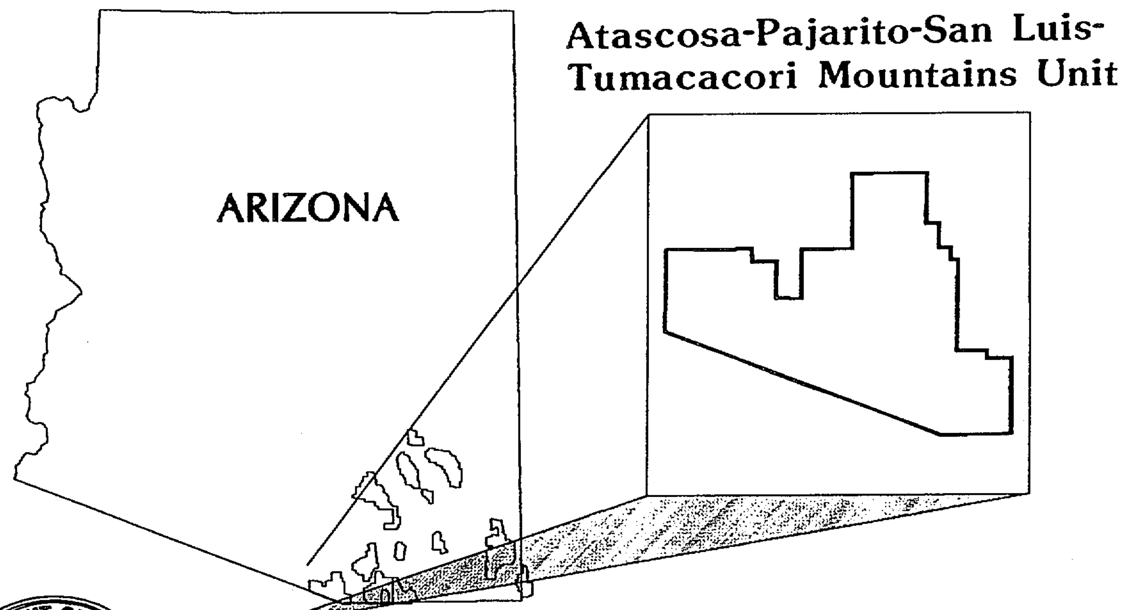
MLA 24-94

Mineral Land Assessment
Open File Report/1994

MINERAL APPRAISAL OF CORONADO NATIONAL FOREST, PART 13

Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit
Pima and Santa Cruz Counties, Arizona



U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

MINERAL APPRAISAL OF CORONADO NATIONAL FOREST
PART 13

ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT
PIMA AND SANTA CRUZ COUNTIES, ARIZONA

by

Staff
U.S. Bureau of Mines

MLA 24-94
1994

Intermountain Field Operations Center
Denver, Colorado

U. S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES
Rhea L. Graham, Director

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO.	2.	3. Recipient's Accession No.

4. Title and Subtitle

Mineral appraisal of Coronado National Forest, part 13, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit, Pima and Santa Cruz Counties, Arizona

5. Report Date

6.

7. Author(s)

Staff, U.S. Bureau of Mines

8. Performing Organization Rept. No.

9. Performing Organization Name and Address

U.S. Bureau of Mines
Intermountain Field Operations Center, Resource Evaluation Branch
Box 25086
Denver, CO 80225-0086

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.

(C)

(G)

12. Sponsoring Organization Name and Address

13. Type of Report & Period Covered

14.

15. Supplementary Notes

16. Abstract (Limit: 200 words)

This U.S. Bureau of Mines economic mineral assessment and inventory of mines and prospects concerns the 199,348-acre Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit of Coronado National Forest, Santa Cruz and Pima Counties, Arizona. Numerous mine maps, rock-chip sample assays, and detailed descriptions of mine and prospect sites are in this report. Nearly all the past mineral production value was derived from the Montana Mine (base- and precious-metal vein deposit, mined for 0.9 million short tons of lead, zinc, and silver ore). Few other mines produced over 1,000 short tons. Active mines are an intermittently worked opal mine, and a sand and gravel pit (1992 data); activity likely will continue. Economic analysis of mineral deposits suggests flat, low-grade, auriferous, refractory, siliceous deposits (possibly hot-spring deposits) as the most likely sites to experience mineral development in the future. Favorability for development is based primarily on potentially large tonnages present. Tonnages are too low to support gold mining currently (1994). Auriferous breccias and auriferous quartz-sulfide veins are unlikely to experience future development due to low tonnage. Intervening tuffaceous rocks should be evaluated for gold content; they are essentially unsampled. Future development of vein-type silver/base-metal deposits is unlikely due to limited tonnages.

17. Document Analysis a. Descriptors

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement:	19. Security Class (This Report)	21. No. of Pages
	20. Security Class (This Page)	22. Price

(See ANSI–Z39.18) *See Instructions on Reverse* **OPTIONAL FORM 272** (4–77)
(Formerly NTIS–35)
Department of Commerce

PREFACE

A January 1987 Interagency Agreement between the U.S. Bureau of Mines, U.S. Geological Survey, and the U.S. Dep. Agriculture, Forest Service describes the purpose, authority, and program operation for the forest-wide studies. The program is intended to assist the Forest Service in incorporating mineral resource data in forest plans as specified by the National Forest Management Act (1976) and Title 36, Chapter 2, Part 219, Code of Federal Regulations, and to augment the Bureau's mineral resource data base so that it can analyze and make available minerals information as required by the National Materials and Minerals Policy, Research and Development Act (1980). This report is based upon available information, extensive field investigations to verify or collect additional information, and contacts with mine operators and prospectors active on lands administered by the Coronado National Forest.

This open-file report summarizes the results of a U.S. Bureau of Mines forest-wide study. The report is preliminary and has not been edited or reviewed for conformity with the Bureau of Mines editorial standards. This study was conducted by personnel from the Resource Evaluation Branch, Intermountain Field Operations Center, P.O. Box 25086, Building 20, Denver Federal Center, Denver, CO 80225-0086.

CONTENTS

ILLUSTRATIONS

CONTENTS--contin.

Page

ILLUSTRATIONS--contin.

Figures

CONTENTS--contin.

Page

ILLUSTRATIONS--contin.

TABLES

COMPOSITE EXPLANATIONS

CONVERSION FACTORS

% to ppm	multiply % by 10,000
ppm to %	multiply ppm by 0.0001
ppm to ppb	multiply ppm by 1,000
ppb to ppm	multiply ppb by 0.001

USE OF CHEMICAL SYMBOLS TO ABBREVIATE NAMES OF ELEMENTS

See pages C-1 and D-1 for specific abbreviations.
Use in text with concentration amounts implies the elemental form of that material; e.g., 0.05% Cu represents five hundredths of one percent copper in elemental form, not as copper carbonate or oxide.

UNIT OF MEASURE ABBREVIATIONS USED IN THIS REPORT			
Unit	**Abbreviation**	**Unit**	**Abbreviation**
Acres	ac	Meter(s)	m
Centimeter(s)	cm	Mile(s)	mi
Cubic foot (feet)	ft^3	Part(s) per billion	ppb
Cubic yards	yd^3	Part(s) per million	ppm
Day	d	Percent	%
Degree(s)	°	Pound(s) (avoirdupois)	lb
Dollar(s) (U.S.)	$	Short ton(s) (2,000 lb)	st
Foot (feet)	ft	Short ton(s) per day	tpd or st/d
Gram(s)	g	Troy ounce(s)	oz
Greater than	>	Troy ounces per cubic yd	oz/yd^3
Inch(es)	in.	Troy ounces per short ton	oz/st
Less than	<	Year	yr

MINERAL APPRAISAL OF CORONADO NATIONAL FOREST, PART 13 ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT, PIMA AND SANTA CRUZ COUNTIES, ARIZONA

by Staff[1], U.S. Bureau of Mines

SUMMARY

This report is an economic mineral assessment and inventory of mines and prospects in the 199,348-ac Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit of Coronado National Forest, Pima and Santa Cruz Counties, Arizona. Collection of field data, including locating and mapping of mine and prospect workings and sampling of mineralized zones or occurrences, was done between 1990 and 1992. Deposits or areas most likely to experience future development are characterized in terms of their economics. This study is one part of a fifteen-part series of U.S. Bureau of Mines reports concerning mines and mineral deposits in Coronado National Forest, a series designed to assist Forest Service personnel in incorporation of mineral resource data into future land-use plans. Numerous mine maps, rock-chip sample assays, and detailed descriptions of mine and prospect sites are included in this report and attached appendixes.

Dominant rock types are Jurassic- to Tertiary-age volcanics and Tertiary-age sedimentary rocks. Large, Laramide-age, granitic intrusions are exposed in the west. An extensive fracture zone, dissecting the center of the area studied and the main mining districts, hosts nearly all base- and precious-metal deposition. A plutonic source for the majority of metal deposits in this fracture zone is suspected but has not been found. Nearly all the past mineral production value was derived from one mine, the Montana Mine, at which a base- and precious-metal vein deposit was exploited for nearly 0.9 million st of ore; lead, zinc, and silver are the major components of that production. Few other mines produced over 1,000 st of ore. One sand and gravel pit and an opal mine are the only active operations (1992 data). Economic analyses of mineral deposits, supplemented with the PREVAL modeling software package, point to flat, low-grade, auriferous, refractory, siliceous deposits as the most likely sites to experience mineral development in the future. Favorability for development is based primarily on potentially large tonnages present. Delineated tonnages are too low to support mining currently (1994). There is evidence that these sites are hot-spring type gold deposits. Auriferous breccias and auriferous quartz-sulfide veins are unlikely to experience future development due to low tonnage, although gold grades can, in limited areas of these deposit types, be quite high. Tuffaceous rocks in intervening areas between breccias may have significant gold content; sampling to date is essentially nil. Vein-type silver/base-metal deposits are hampered by small tonnages and low commodity prices. Continued small-scale development of opal, and sand and gravel is likely.

---

[1] Geologists, Resource Evaluation Branch, Intermountain Field Operations Center, Denver, CO.

INTRODUCTION

The following text focuses on localities in the Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit ("the Unit" or the "Forest Unit" for simplicity) at which future mineral exploration and/or development may occur, based on the results of U.S. Bureau of Mines (USBM) economic modeling, and consideration of available literature, assay data from USBM geochemical rock-chip samples, market conditions, commodity prices, status of domestic production and reserves, and foreign competition and sources. Additional detail on economic modeling, geology, and historical mining is in appendix A. Geochemical rock-chip sample descriptions are in appendix B and their assay results are in appendixes C and D. Samples from this Unit carry a "T" prefix. Numerous maps of mines and prospects follow the bibliography section. A few large mine maps are in map pockets in the back of this report. Inset maps, expanded-scale maps that detail intensely mined areas, were prepared for reader convenience. Plate 1, located in a map pocket, affords a quick reference to the locations of these inset maps, and the sample numbers/mine sites contained on them.

Geographic setting

This Forest Unit includes 199,348 ac, with about 80% in Santa Cruz County, AZ, and 20% in Pima County, AZ. The eastern two-thirds of the Unit encompasses the north-trending Tumacacori and Atascosa Mountains, and the east-trending Pajarito Mountains (pl. 1). Major physiographic features in the western one-third of the Unit are Cobre Ridge and the San Luis Mountains. Overall topographic elevations and relief are among the lowest in Coronado National Forest. The highest point in the Unit is Ramanote Peak (6,032 ft) in the Atascosa Mountains. Lowest elevations are in the east, where drainages from the Tumacacori Mountains cross the Forest boundary; elevations are slightly less than 3,600 ft. The Unit is within the Basin and Range physiographic province. The land supports primarily sparse desert vegetation. Climate is moderate in winter months, including some snowfall, and is typical of desert temperatures and conditions in the summer months.

Nearest towns are Nogales, AZ, 2 mi to the west, and Arivaca, AZ, 2 mi to the north. The entire southern boundary line is coincident with the International Border with Mexico (fig. 1). Main access routes are Arizona State Highway 289 and Forest Route 39; numerous Forest Routes and four-wheel-drive roads provide additional access (pl. 1). The Southern Pacific Railroad parallels Interstate 19 and is 1 mi to 5 mi east of the Unit. A few mineral patents are within the Unit, mostly near the old townsite of Ruby, AZ, and on lands south of Ruby. Some of the patents as well as a few unpatented mining claims in the Oro Blanco district have year-around residents. Collectively, 4,448 ac are either some type of private land (including mineral patents) or are State of Arizona land. Peña Blanca Lake, a popular recreation area, and the Pajarita Wilderness area are encompassed by the Forest Unit (pl. 1).

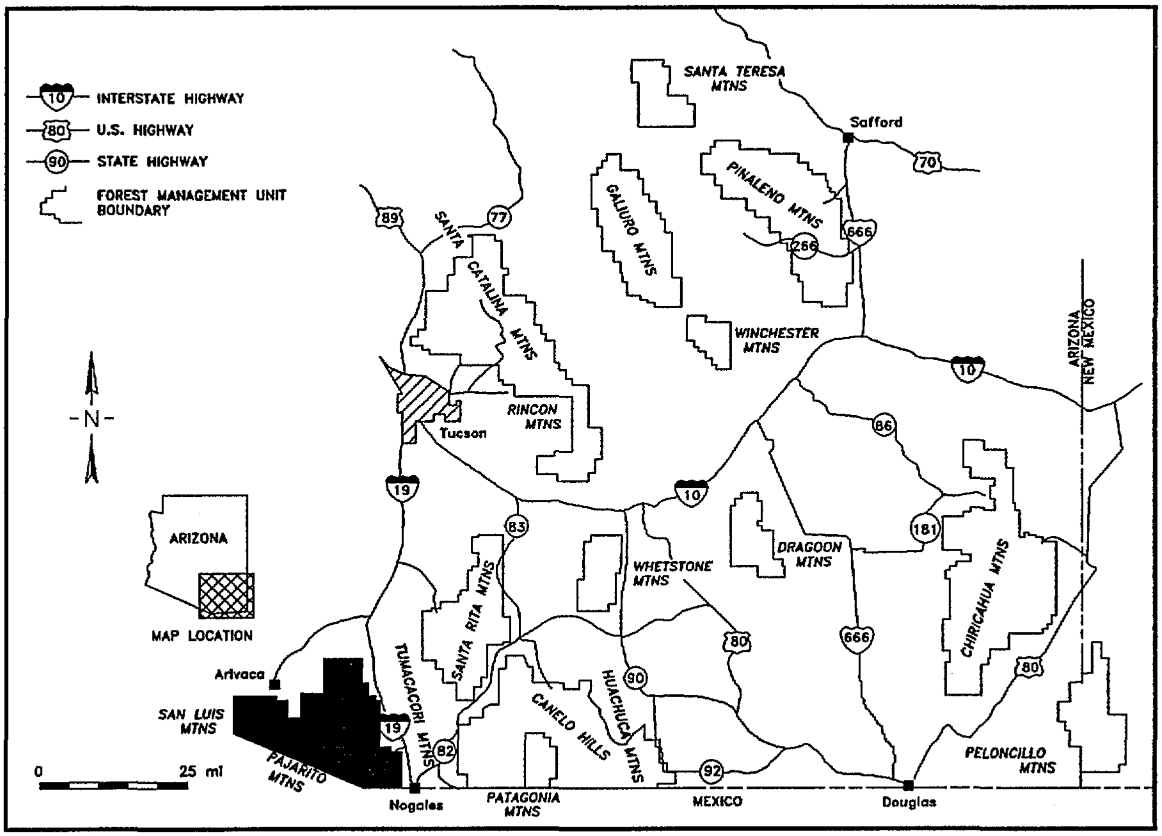


Figure 1.--Location map of the Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit, Coronado National Forest, Pima and Santa Cruz Counties, Arizona.

Previous investigations

Past work completed in the Unit consists of several geologic mapping projects, which are cited in the geologic setting section of this report, and numerous economic mineral evaluations, undertaken as university thesis/dissertation work, or as assessments for mineral companies. Those works are cited at appropriate points throughout this report and within appendix A.

Methods of investigation

USBMs field investigation, from 1990 to 1992, was preceded by a literature search and review, from late 1988 through 1989. Literature data sources include published sources, university thesis/dissertation work, and unpublished sources: USBM Mineral Industry Location System (MILS); records of Arizona Department of Mines and Mineral Resources (ADMMR), Tucson and Phoenix, AZ; and the Anaconda Geological Document Collection, University of Wyoming, Laramie. Land status information was obtained from the U.S. Forest Service and Arizona Department of Revenue. Owners of mineral patents were contacted to request permission for USBM investigation of their properties and resultant publishing of mine and mineral resource data. If permission was denied or there was a non-response, patented mining claims were omitted from this study. This preliminary work and field work was conducted under the direction of Darwin K. Marjaniemi.

USBM field work consisted of inventorying mines and prospects in the Unit and gathering geologic data, including mapping of mines and prospects and collecting geochemical rock-chip samples, to create a database on which mineral resource assessments might be based. Most rock-chip samples (949 collected, in all) are from historically mined or prospected mineralized zones, but some of the samples are from outcrop localities and others are from mine dumps or tailings. Specific sampling methods employed are described at the beginning of appendix B. All of the rock-chip samples were comminuted and subjected to inductively coupled plasma and neutron activation analyses for specific elemental determinations. Specific elements determined, commercial laboratories used, and detection limits are listed at the beginning of appendixes C and D. The laboratory analytical data, along with other collected and compiled geologic data, are the basis of this mineral resource assessment. The USBM mine modeling and cost estimation system known as PREVAL was employed in the assessment of individual deposits. PREVAL methodologies and parameters are documented in Smith (1992).

Geologic and mineral setting and synopsis of mining

There has been no complete coverage of the Unit with detailed geologic mapping. Mapping and structural interpretations by Nelson (1963), Knight (1970), Keith and Theodore (1975), Drewes (1981) and Riggs (1985) are incorporated in fig. 2; these works encompass the main metallized areas of the Unit. Geology of the Tumacacori Mountains and other areas in the northeast part of the Forest Unit is mapped at a regional scale (Reynolds, 1988).

Most exposed rocks are of Jurassic, Cretaceous, and Tertiary ages, consisting dominantly of silicic and some mafic volcanic rocks (especially those of volcaniclastic origin) and sedimentary rocks deposited between volcanic episodes and as a result of crustal isostatic adjustments to major tectonism in the region. Jurassic-age granitoid intrusives are present in the south-central part of the Unit, around Ruby, AZ and to the south; Laramide-age granitic intrusives are in the westernmost part of the Unit (fig. 2).

Historically economic metal deposits were emplaced mainly along a 27-mi-long, northwest-trending collapse-structure type fault zone (fig. 2). That fault zone transects all important mining districts in the Unit, including Oro Blanco district (Cretaceous- to Tertiary-age base- and precious-metal sulfides, some non-sulfidic zones with native gold, and flat, siliceous zones with oxide and sulfidic components), the San Luis Mountains part of the Arivaca district (Tertiary-age base-metal deposits with some silver and gold content), and the Pajarito district (Cretaceous-age base-metal sulfide deposits). Historically worked deposits are mostly of the siliceous-vein type, although a few are siliceous breccia zones. A consensus among published work is that the mineralization is of hydrothermal origin formed on the mesothermal to epithermal pressure/temperature gradient. The nature of northeast-trending tensional (extensional) forces that caused the transecting northwest-trending collapse structure to form is detailed in Knight (1970, p. 91-106). Collapse into the tensional rift on both the northeast side and the southwest side by existing rock formations theoretically could have allowed formation of flat or very low-angle fracture zones which were eventually silicified, sulfidized, and metallized. Another interpretation of these flat or very low-angle structures is that they are hot-spring deposits, an interpretation detailed in the "mineral deposit appraisal" section. Regardless of the genetic interpretation, these flat or low-angle siliceous "beds" are the most likely locations in the Unit for future mineral exploration and development. They are low-grade gold deposits but have the potential for tonnages large enough to be economically mined in current (1994) markets.

Northeast-trending faults that mimic zones of weakness in Precambrian basement rocks (Knight, 1970, p. 97) also became hosts for post-faulting silicification and metallization. They are much less common than northwest-trending faults, so much so that a comparison of relative metal compositions is not thought to be meaningful.

Temporal identity of metallization is addressed in Keith and others (1983a). Oldest metallization is in the Pajarito district and the main part of the Oro Blanco district (late Cretaceous-age). Metallization to the northwest is progressively younger: the northwestern part of Oro Blanco district is middle Tertiary-age; the San Luis Mountains part of Arivaca district is late Tertiary-age. The metallizing source at the San Luis Mountains part of the

Arivaca district is most probably the granitic, Laramide intrusive rock about 3 mi to the west and southwest of the district, described by Keith (1975, p. 13, 89). The same source likely supplied metals to the small mine areas called "Easter" and "Cerro de Fresnal" (fig. 2). A metallizing source has not been identified for either the Oro Blanco or the Pajarito districts. It has been postulated that a plutonic source is present but concealed (Knight, 1970, p. 152-153). The presence of exposed, possibly metallizing, Laramide-age intrusive rocks in the western part of the Unit and near the northwest-trending collapse structure supports Knight's postulation of a similar metallizing source in the Oro Blanco and Pajarito districts.

The Unit has been explored for metals sporadically since the time of early Spanish explorers and settlers in the late 1600's but current (1992) work is small-scale in nature, limited to claim assessment. Details concerning the mining at specific sites are in appendix A. Composite, past metal production for the entire Forest Unit is essentially from only the Montana Mine, a base- and precious-metal vein deposit operated primarily between 1928 and 1940. The Montana Mine was worked for 97% of the entire historical metalliferous ore production from this Forest Unit, which is about 900,000 st of ore (table 1). Forty-two additional mines in the Unit produced base and precious metals from 1873 through 1968, and only 10 of these mines had production of more than 1,000 st of ore; Yellow Jacket Mine, with 13,200 st of gold-silver ore production, is the largest of these mines.

MINERAL DEPOSIT APPRAISAL

This appraisal focuses on gold, which historically has provided the largest dollar value of any commodity produced in the Unit (see table 1), and is geochemically nearly ubiquitous in the USBMs 949 rock-chip samples (see appendix D). However, gold concentrations in most of the samples are subeconomic.

The auriferous, flat and very low-angle, silicified zone (angles of dip as much as 30° but usually less than 20°) is the deposit type that affords the best possibilities for future mineral development. Although very low in gold grade, the deposit type offers possibilities for large tonnage that may make mining economic. Specific deposits are discussed below.

Another gold-bearing deposit type that, based on the total number of developed sites, accounts for the majority of historical development and mining, is the narrow, oxidized, precious-metal breccia zone. Most of these deposits display extensive silicification. Many were probably sulfide in mineralogic form initially, but were later altered and weathered so that they contain oxide gold minerals and/or native gold. That inference is based on limited mineralogic study in the Oro Blanco district (Wood and Yersavich, 1985), and on descriptions of structurally similar deposits in California (Silberman and others, no date, p. 13). Composite past production from these structures in the Forest Unit has been very small and remaining tonnage is low, usually in the range of 100,000 st to 10,000 st of ore or less. USBM mine

Table 1.--Metal production, Atascosa-Pajarito-San Luis-Tumacacori Unit.
[Production figures for the Yellow Jacket Mine are from unpublished sources identified in appendix A. Production figures for other areas are from Keith and others (1983b). NR = none reported.]

MINERALIZED AREA (DEPOSIT TYPE) PRODUCTION YEARS	ORE (st)	GOLD (OZ)	SILVER (OZ)	COPPER (LB)	LEAD (LB)	ZINC (LB)	OTHER PRODUCTION
Oro Blanco district, (except Yellow Jacket Mine) (quartz-sulfide vein, breccia) 1903-76	880,000	43,500	4,340,000	3,851,000	56,946,000	47,757,000	47,000 lb manganese, 45 lb uranium oxide
Yellow Jacket Mine (quartz-sulfide veins) 1800's through 1938	13,200	21,500	27,800	NR	NR	NR	NR
Arivaca district (quartz-sulfide veins) 1901-67	2,300	600	19,700	26,000	67,000	NR	NR
Pajarito district (sulfide veins) 1910-69	1,400	100	21,000	4,000	139,000	300	108 lb uranium oxide, 14 lb vanadium oxide
Total	896,900	65,700	4,408,500	3,881,000	57,152,000	47,757,300	47,000 lb manganese, 153 lb uranium oxide, 14 lb vanadium oxide
Total dollar value (mid-1994 commodity prices)	not calculated	$25.4 million ($387/oz)	$24.6 million ($5.55/oz)	$3.8 million ($0.98/lb)	$20 million (0.35/lb)	$22 million ($0.46/lb)	not calculated

and economic modeling of this type of deposit suggests that a "cutoff" tonnage and grade required to be economic to mine under 1994 economic conditions ($387/oz gold) is about 500,000 st at a grade of 0.5 oz Au/st. Few deposits of this type approach or exceed the cutoff grade, and none approach the cutoff tonnage. These deposits, therefore, are considered to be of little economic significance, and the USBM work is mainly a tabulation of the data gathered from the sites.

A single base- and precious-metal sulfide vein has accounted for nearly all the past mineral production tonnage and value from the Unit (the Montana vein). USBM modeling of that structure (now mined out) suggests that a structure with similar tonnage, grade, and commodities, if discovered today, would not be economical to mine. The known base- and precious-metal sulfide veins in the Unit, that have or may have remaining resources, are therefore considered to be of little economic consequence. USBM work is mainly a tabulation of these sites.

Flat and very-low angle silicified zones

A northwest trend of flat and very-low angle siliceous "beds" extends between the White Gold/West claims in the southeasternmost part of the Oro Blanco mining district (fig. 3), northwestward to the Austerlitz Mine, in the central part of the district. The trend consistently and substantially narrows from southeast to northwest. There is variance in the overall trend of these silicified zones with that of Knight's (1970) tensional-collapse fault zone that transects the Forest Unit (see geologic map, fig. 2, and discussion, p. 4-5). This variance of trend may be significant and suggestive of a different origin for the silicified zones.

Industry evaluation of one of the flat silicified zones, the Margarita Mine (see p. 9-10), classifies it as a hydrothermal, hot-spring type deposit (LaTeko, 1989). Although available specific data from the evaluation are sparse, repetition of auriferous, flat, silicified layers in the drilled section is reported (La Teko, 1989). This silicified layer repetition could be analogous to sinter zones in a hot-spring system, such as those described in Silberman (1982, p. 141) and Berger (1986, p. 144). Because of the gold content in the silicified zones, possible major economic significance of the zones is implied through the hot-spring deposit model. The micron-gold, disseminated deposits of the western states, primarily in the area of Carlin, NV, but also in locations in New Mexico, Utah, and Colorado, are hot-spring deposits (Silberman, 1982, p. 131). These deposits have been and continue to be the most significant deposits in the economically substantial U.S. gold-mining industry.

The pervasiveness of flat silicified zones in the Forest Unit (fig. 3) was recognized by the USBM upon examination of geologic mapping by Knight (1970, fig. 3) and prospecting data from Newfields Minerals (1986, 1987), La Teko (1989) and Santos (1988); no other literature addressing this trend is known. The main parts of the White Gold/West claims silicification (see p. 10-11) are distributed over a 9,400-ft by 4,500-ft area (fig. 3), and other prospects of the group are located about 3,700 ft to the west (pl. 1). Inclusion of the gold geochemical anomalies of the claim group (T. 23 S., R. 11 E., sec. 30) extends the overall gold area an additional 4,000 ft west (fig. 3). Other flat, silicified, auriferous deposits in the southern Oro Blanco district, mainly Margarita Mine and Austerlitz Mine, are smaller and more isolated compared to the White Gold/West claims, but the overall trend, between Austerlitz

Mine on the northern end and White Gold/West claims on the southern end, is 30,500-ft-long (fig. 3). Individual deposits are detailed below.

Pervasiveness of the occurrences, the sparseness of gold-content tests of them, to date, and the potential economic significance of this type of deposit all suggest that the area warrants additional prospecting for gold in the future.

Oro Blanco district deposit assessments

Margarita Mine

A series of flat, silicified zones both north of and including the Margarita Mine, drilled by La Teko Resources, Ltd. prior to 1986, is located between the surface and a 70-ft depth. In all, 245 holes were drilled, leading Newfields Minerals, Inc., Vancouver, British Columbia, to estimate a near-surface gold "reserve" amounting to 440,000 st of 0.072 oz Au/st. Overall auriferous resources were reported at 522,000 st with 0.046 oz Au/st (Newfields Minerals, 1986, p. 4-5; Newfields Minerals, 1987, p. 2; Walenga, 1988, p. 16A; La Teko, 1989, p. 1). The gold occurs as very-fine grained oxidized particles (precise size unknown by USBM) that were initially sulfide mineral grains (Keith, 1975, p. 64). No mining had taken place as of mid-1994, which may be a consequence of fluctuations in annual gold price averages. Gold's average price fell by 13% between 1988 and 1989 (Lucas, 1990, p. 70; Lucas, 1993, p. 72), a time when the property was being promoted.

Economics.--USBM mine and economic modeling of this property is based on the deposit characteristics cited above and reports of limited industry gold recovery testing. The PREVAL model used is open-pit mining, followed by grinding and processing of ore in a carbon-in-pulp (CIP) mill and finally, electrowinning of the gold. A general description of carbon recovery of leached gold is in Beatty (1994, p. 31). Mine and cost characteristics are as follows:

Mining, recovery:	Open-pit mine, 2 preproduction years, 5-year mine life, mining rate of 300 st/d, 440,000 st of 0.0723 oz Au/st; 90% mine recovery; Milling: grind, leach, CIP gold capture, electrowinning; 92% gold recovery at mill;
Capitalization:	$4.9 million, mine; $7.1 million, mill;
Costs:	$12/st ore to mine; $25/st ore to mill;
Gold price	$387/oz (mid-1994 price);
NPV[2]	-$18.4 million.

[2] NPV is "net present value", calculated at a 15% rate of return (ROR), using the PREVAL economic modeling software.

The 440,000 st part of the property is not estimated to be economic. Low gold grade, low deposit tonnage, and the current (mid-1994) gold price, $387/oz, are major factors affecting the economics. *It is notable that some mining companies may already possess much or all of the infrastructure needs. If so, such companies might mine the property economically at much lower tonnages and possibly lower grades (compare NPV to the modeled capital costs).* In reality, mill operating costs would probably be somewhat different from the USBM model (p. 9) because carbon-in-leach (CIL) would likely be used in place of CIP. Preference of CIL is due to lower costs and the process' demonstrated utility at numerous micron-gold, disseminated deposits. However, the PREVAL software program does not offer a grind-ore/CIL model and the costs and infrastructure associated with the CIP process are considered sufficiently representative for this estimate. There are no definitive data to characterize typical gold recoveries as significantly different between CIL and CIP methods.

Modeling the hypothetical development of the entire known resource block on the property (522,000 st at 0.04 oz Au/st) was not attempted because of the significant decrease in gold grade (from 0.07 oz Au/st to 0.04 oz/st) as lower grade material is incorporated to increase overall resource tonnage. At the current price of gold, the deposit would be a break-even economic venture if approximately 32.5 million st of 0.0723 oz Au/st ore were discovered.

Gold recovery.--Pre-leach grinding to combat refractoriness is considered an essential part of successfully leaching the gold from the Margarita property and perhaps all of the flat/low-angle siliceous zones in the Forest Unit. USBM has no detailed data concerning gold mineralogy of the deposit, but the industry-demonstrated need to grind the resource-bearing rock in order to attain a 92% gold recovery (Newfields Minerals, 1986, p. 1) strongly suggests some element of refractoriness in the resource. Likely causes of that refractoriness are locking of gold in silica (size-dependent refractoriness), encapsulation of gold in sulfide mineral grains, and possibly formation of mineral-barrier coatings on gold grains. The 92% recovery level might be considered technically ideal. In practice, it is not unusual for recoveries to fall to percentages as low as 70 to 75% in similar milling and recovery processes. Attaining the high levels of gold recovery will be a key ingredient to mining profitability in low-grade properties such as the Margarita. It appears that further testing of recovery processes is warranted prior to any future development.

White Gold/West claims

The White Gold/West claims property includes a block of 121 mining claims, which were staked and drilled by Copperfields Mining Co. with 47 air-trac exploratory holes sometime prior to 1982. Options have also been held by Tenneco, Inc., Houston, TX, Echo Bay Mines, Ltd., Denver, CO, NCA Minerals Corp., Vancouver, British Columbia, and Goldstar

Mining Co., Yerington, NV. The latter sank an additional 42 percussion exploratory drill holes in the property sometime after 1982 (Santos, 1988, p. 1).

Geologic data available to USBM are very limited; the silicified zones encompassed by the claims were not examined in the field. The gold host is apparently a very-low angle silicic and calcic stockwork zone between an overlying brecciated tuff (Montana Peak Formation) and an underlying sequence of clastic sedimentary rocks (Oro Blanco Formation). Gold mineralization is apparently between the surface and 175-ft depths (Knight, 1970, fig. 3; Santos, 1988, p. 2-4). Assessment of auriferous breccia on the adjoining California mineral patent (fig. 3, T. 23 S., R. 11 E., N. ctr. sec. 20) by Wood and Yersavich (1985) led to their conclusion that the presence of oxide and silicic gold mineralization at the California Tunnel, Dos Amigos Mine, Oro Blanco Mine, and Tres Amigos Mine suggests remobilization of sulfidized gold by a later epithermal system which is concealed at depth, and *that this concealed system should be an exploration target*. Those conclusions support a hot-spring gold-deposit model.

Three prospects within the White Gold/West claims have delineated resources (fig. 3), but quantitative resource estimates are available for only the Central zone (fig. 3): 1 million st at 0.033 oz Au/st (with a 0.010 oz/st cutoff), and 0.4 million st with 0.050 oz Au/st (with a 0.020 oz/st cutoff) (Santos, 1988, p. 2). A comparison of USBM modeling results at the Margarita property (p. 9-10) to descriptive data of the Central zone prospect demonstrates clearly that the Central zone prospect is also substantially subeconomic, due to low tonnage and grade, and likelihood of some element of refractoriness in the gold-bearing rock. It is clear that more tons of higher-grade gold must be delineated for property viability. There are numerous sites within the White Gold/West claims at which additional tonnage may be found; there are 16 prospects, two other zones with delineated resources (quantities, grades, unknown to USBM) and two geochemical anomaly areas (fig. 3). What is known about those sites is summarized in table 2.

<u>Other Oro Blanco district flat/low-angle silicified zones</u>

Fifteen other flat silicified zones are located on fig. 3; eleven were sampled, but most USBM samples are from faults or veins through the flat silica zones and are therefore *not representative* of the potentially high-tonnage parts of the deposit. Gold is typically elevated in the veins or faults, which are of inconsequentially low tonnage compared to the overall deposit. Most favorable of the zones may be the Old Glory Mine, with a favorable combination of grade and possible tonnage, and the zone with sample sites T437-444, based on what is known about silica zone thickness and gold concentrations there (see table 2).

Table 2.--Descriptions of flat and low-angle, auriferous, siliceous zones in Oro Blanco district.

Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
White Gold/West claims and geochemical anomalies (data from Santos, 1988).		
Central zone prospect; no samples; fig. 3	1 million st of 0.033 oz Au/st; 0.4 million st of 0.050 Au/st	Not economic to mine at 1994 gold price ($387/oz) due to low tonnage and grade.
Delineated deposit, E. end of West Extension prospect; no samples; fig. 3	No data	Apparently resources have been estimated. Site has been drilled.
Delineated deposit, between South prospect and Station G prospect; no samples; fig. 3	No data	Apparently resources have been estimated. Site has been drilled.
Pedro prospect, no samples, fig. 3	Flat, siliceous and calcic stockwork zone between overlying tuff and underlying clastic sedimentary rocks. Main zone is about 125-ft-deep, but is exposed in outcrop on hillside.	Further drilling could delineate 1 million st+ deposit. One drill hole (135-ft total) has gold mineralization throughout with the lowest as five 5-ft intervals <0.010 oz Au/st and a high zone of 0.017 oz Au/st (45-ft to 115-ft depths). Outcrop sampling by Goldstar Mining Co.: 10-rock chip samples; 4 with <0.010 oz Au/st, 2 with trace Au; maximum 0.050 oz Au/st.
Dale/Two prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after one hole drilled. No data.
Two prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after one hole drilled. No data.
Northwest central prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after one hole drilled. No data.
Southeast central prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after two holes drilled. No data.
South prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after two holes drilled. No data.
Northwest south prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after one hole drilled. No data.

Table 2.--Descriptions of flat and low-angle, auriferous, siliceous zones in Oro Blanco district.		
Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
White Gold/West claims prospects and geochemical anomalies (data from Santos, 1988).		
Station G prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co.; no drilling. No data.
West extension prospect; no samples; fig. 3	One drill hole contains 0.052 oz Au/st in 25-ft-thick zone between depths of 100 ft and 125 ft; gold occurs in contact zone between Sidewinder quartz monzonite and siltstone [Oro Blanco Formation].	A "priority" drill target of Goldstar Mining Co. after eight holes drilled; more drilling was recommended to delineate this site.
Section Corner Hill prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after three holes drilled. No data.
West Silica Hill prospect; no samples; fig. 3	Geochemical samples of silicified area have maximum 0.030 oz Au/st.	A "priority" drill target of Goldstar Mining Co.; no drilling. No data.
Cemetery Hill prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after two holes drilled. No data.
Pedro south prospect; no samples; fig. 3	No data	A "priority" drill target of Goldstar Mining Co. after two holes drilled. No data.
Hill-of-gold prospect; no samples; fig. 3	Surface geochemical rock-chip samples have gold (maximum 0.131 oz Au/st. Maximum drill depths of 200 ft reveal 15-ft zone of 0.053 oz Au/st near the topographic surface.	A "priority" drill target of Goldstar Mining Co. after three holes drilled. No data.
White Tail prospect; no samples; pl. 1	Silicified stockwork zone associated with tuff breccia: 30 ft of 0.026 oz Au/st in one hole (95-ft to 125-ft depths); another hole 500 ft away is barren.	A "priority" drill target of Goldstar Mining Co. after four holes drilled. No data.
Schumaker Spring prospect; no samples; pl. 1	Near-surface gold in angled hole (10 ft of 0.021 oz Au/st).	USBM interpretation of Santos (1988) drill data (see column to left) and stratigraphic relationships in the area suggests possibilities for gold metallization deeper in the system, below the stockwork horizon.

Table 2.--Descriptions of flat and low-angle, auriferous, siliceous zones in Oro Blanco district.

Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
White Gold/West claims prospects and geochemical anomalies [data from Santos (1988)].		
Sentinel Peak geochemical anomaly; no samples; see fig. 3 for peak location; precise anomaly location not known	[Pervasive rock unit is Oro Blanco Formation.]	No data
Boundary Tank geochemical anomaly; samples T752-758 from this general area; fig. 3; precise geochemical anomaly boundary not known	Extensive, silicified & iron-stained area on surface has as much as 0.021 oz Au/st (Goldstar Mining Co.). USBM field work identified silicified zones (apparently horizontal?) in Oro Blanco Formation conglomeratic tuff. USBM samples T752-758 all contain gold.	Two USBM samples of silicified, conglomeratic tuff of Oro Blanco Formation contain 0.017 oz Au/st (over a 20-ft-thick interval) and <0.0001 oz Au/st, which are low gold concentrations. USBM samples of veining, both siliceous and calcic types, have higher gold concentrations: 0.002 oz Au/st to 0.06 oz Au/st. There is no mapping of this siliceous zone, preventing assessment.
Other properties		
Ragnaroc Mine; no samples; fig. 3	One flat silica zone mapped on property (Knight, 1970, fig. 3). Also contains base- and precious-metal sulfide veins.	On three mineral patents; not examined by USBM. No data that permit resource estimates. Production was 100 st (Keith, 1975, p. 69), which may all have been from supergene enrichment zones in the flat silica zones or from sulfide veins on the property.
Austerlitz Mine and associated mining claims; samples T245-282; fig. 3	Both sulfide veins and flat silica zones supplied higher grades of gold, but almost all the mined ore (3,800 st) from one flat silica zone. Silica zones are altered Cobre Ridge Tuff (overlain by Oro Blanco Formation) (Knight, 1970, p. 131). Oxidation of mineralization has been key to economic viability. Mining dates from pre-Spanish occupation time. Mining for over three centuries was supported just by surficial deposits (Schermehorn, 1907, p. 1). At least 11 small, flat silica zones (some detailed on fig. 3) (Knight, 1970, fig. 18-19). All USBM samples contain gold (appendix D).	Mine was not accessed by USBM. Crawford portal gate was locked; Camphius portal not found, possibly caved. Small size of flat silica zones in immediate vicinity of main mine workings and very low historical production from them suggests insufficient tonnage to support modern mining efforts (1 million st or more) there. An assessment by Larry Drake and Partners (1968, p. 2), which included underground examination and sampling concluded that sufficient tonnage for a large mining company is not present. Grades may also be insufficient, even for a low-tonnage heap-leach operation. Samples from the Crawford stope (the productive flat silica zone in this mine), circa 1935, have a weighted average of 0.1 oz Au/st and 8.8 oz Ag/st in 12 samples, and 0.07 oz Au/st with 4.0 oz Ag/st in another group of 43 samples (Stone, 1960?, p. 1-2). At least one flat silica zone to the south, T267-282, apparently occupies a large surface area and has appreciable gold content (maximum of 0.365 oz Au/st and approximate average in range of 0.1 oz to 0.2 oz Au/st, in 8 samples from the flat zone). More detailed mapping and measurements needed for resource estimate. Silica zone T264 (0.16 oz Au/st) not mapped; no assessment possible.
Black Peak Mine group, northern part; samples T315-317; fig. 3.	Silicified Cobre Ridge Tuff to the north end and narrow, massive silica zone on south end; relation between the two areas not known.	Zone thicknesses unknown, precluding tonnage estimates. Reported dimensions suggest low tonnage. Gold present in all USBM samples, but in concentrations too low for mining: 0.003 oz Au/st, maximum.

Table 2.--Descriptions of flat and low-angle, auriferous, siliceous zones in Oro Blanco district.

Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
Unnamed zone; samples T322-323; fig. 3; *workings here are apparently the Loma de Manganese property*	Zone, as shown on fig. 3, mapped by Knight (1970, fig. 3), but probably extends N. to site T322. Thickness, true extent of zone not known. USBM samples contain gold: T322 is very low (0.001 oz Au/st), but T323 contains 0.055 oz Au/st.	Absence of thickness data prevents tonnage estimation. More sampling of this zone is warranted, based on gold content of sample T323.
Unnamed zone; samples T341-342; fig. 3	Massive silica zone mapped by Knight (1970, fig. 3); at least 4-ft-thick. Both USBM samples contain low amounts of gold.	Absence of certainty about true thickness prevents tonnage estimates. Low gold concentrations in very limited, high-grade type sampling detected a maximum of 0.004 oz Au/st, which is too low for economic consideration.
Unnamed silicified zone; samples T379-394; fig. 3	Oriented about N. 75° E., NW. 16° (Knight, 1970, fig. 3), occurs in Cobre Ridge Tuff and Sidewinder quartz monzonite. All USBM samples from the zone contain gold.	Seven samples of silicified Cobre Ridge Tuff (T379, 381, 384, 387, 388, 390, 391, appendix B) contain between 0.002 oz Au/st and 0.06 oz Au/st. The highest grade sample (T381) is from a pyritic and hematitic zone. Samples from veins within the Cobre Ridge Tuff have much higher gold concentrations. Seven samples (two uncertain but probably are from veins), (T380, 382, 383, 385, 386, 389, 392, appendix B) of vein material within the tuff contain between 0.006 oz Au/st and 0.017 oz Au/st. The silicified zone also extends into Sidewinder quartz monzonite rocks; samples T394-395 from that formation contain 0.046 oz Au/st to 0.11 oz Au/st. Sampling and data on silicified zone thickness are too sparse to support resource estimates.
Margarita Mine and surrounding gold resource zone, samples T395-396, 399-409	Within Cobre Ridge Tuff and Sidewinder quartz monzonite. Important part is the drilled gold resource zone (fig. 3); USBM samples from the southeasternmost extent of that zone, at the Margarita Mine (samples T400-409), all contain gold.	Overall gold resource is 522,000 st at 0.046 oz Au/st; modeling of open-pit mining and CIP recovery of a smaller, higher-grade zone (440,000 st at 0.072 oz Au/st) suggests the tonnage is too low to support economic mining at mid-1994 gold price ($387/oz).
Unnamed zone; samples T419-425; fig. 3, 9	Field observations indicate the mapped silica zone (Knight, 1970, fig. 3) extends farther to the E. (to sites T424-425); no mapping done to verify this. Much of this zone is dense, silicified and/or brecciated Cobre Ridge Tuff. Thickness 8-ft to >35-ft.	No samples from the massive silica zone, only faults and veins, which prevents grade estimation. Lack of detailed mapping of massive silica zone prevents tonnage estimates. All USBM samples contain low concentrations of gold; no gold concentrations above 0.48 oz Au/st detected and the average is below 0.02 oz Au/st, from faults and veins, which usually will have more gold than enclosing, massive silica. The USBM PREVAL hot-spring gold model suggests that these concentrations are too low for economic recovery.
Unnamed zones; samples T426-436, and T437-444; fig. 3, 4-5	Massive silica zone T426-436 mapped by Knight (1970, fig. 3). Only sample T435, which is sulfidized to some degree, suggests the grade of the zone. Massive zone of silicification of Cobre Ridge Tuff, T437-444, mapped by Knight (1970, fig. 3). All USBM samples contain gold.	Silica zone T426-436: lack of measurements and samples prevents grade and tonnage estimates. Gold grade of sample T435 (0.602 oz Au/st) is only sample of the massive silica zone; others are from smaller structures within massive silica. Silica zone T437-444: samples T437-438 suggest possible gold grade (0.13 oz Au/st and 0.46 oz Au/st). Reported 50-ft thickness at site T438 is encouraging, but variance in thickness at the other locality (T437, 5-ft?) shows more mapping and measurement is needed for tonnage estimation. Samples T439-444 do not reflect data about the massive silica zone itself, but rather structures within the silica zone.

Table 2.--Descriptions of flat and low-angle, auriferous, siliceous zones in Oro Blanco district.

Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
Three unnamed zones, NE. 1/4, SE. 1/4, sec. 7 and NW. 1/4, SW. 1/4, sec. 8, T. 23 S., R. 11 E.; fig. 3	Mapped by Knight (1970, fig. 3). Not examined by USBM.	No data.
Old Glory Mine; samples T450-468; fig. 3, 6-7	Three massive silica zones mapped by Knight (1970, fig. 3). Zone T451-459 is largest of the three; a high-grade sample contains 0.65 oz Au/st (T459).	Zone T451-459 contains an average of about 0.06 oz Au/st, which is economically interesting, but likely subeconomic, based on USBM PREVAL modeling of other properties. The samples all are from the Old Glory open pit area, where sampled thicknesses are large and fairly consistent, but total thickness is not known. Mapping and sampling outward from the pit will be needed to assess grade and tonnage of the overall silica zone. Silicified tuff, about 300 ft to the S. (T464-465, fig. 3) has much lower gold content (0.006 ppm and 0.19 ppm Au); no mapping of that zone is known. The southernmost silica zone on the Old Glory mineral patent group is also silicified tuff, sampled at site T467 only. Gold content there is 0.04 oz Au/st, which is too low for economic development. No thickness data are known for the southernmost zone.
Unnamed zone; samples T469-472; fig. 3, 8	Mapped by Knight (1970, fig. 3) but no thickness data are known. This silica zone is silicified Cobre Ridge Tuff.	Essentially no data, which precludes tonnage and resource estimates. Only two samples are indicative of gold grade in a possibly large area of silicified tuff: T471 (0.19 ppm Au) and T472 (0.029 ppm Au), which is very low grade.

Auriferous breccias (Oro Blanco district)

Auriferous breccias in the Forest Unit have been incompletely defined, but most apparently are confined to fracture zones[3] and thus are "vein-like" structures for the purposes of mining, a physical characteristic that usually limits the possible tonnage available for mining. Further, the structures would have to be mined by underground methods, which increases costs. The breccias are considered to be favorable conduits for the post-breccia metallization by offering high permeability zones for oxidizing and metallizing fluids, processes evinced by the presence of drusy quartz and mineral-oxide crusts in the breccias. Areas with definite post-brecciation silicification have slightly higher gold content, based on limited testing (see appendix A, p. A34-35). An economically positive characteristic of these auriferous breccias is that they do not contain sulfide minerals, but instead contain small particles of free gold. This free gold is recoverable at higher recovery rates, and more cost effective methods than would be possible for gold in sulfide minerals. A heap-leach/CIL method may be applicable. The USBM model for a economic "break-even" auriferous breccia structure is as follows:

Overall tonnage:	500,000 st
Grade:	0.5 oz Au/st
Breccia:	10-ft width; steep dip (70°).
Mining, recovery:	Shrinkage stope mine, 3 preproduction years, 5-year mine life, mining rate of 380 st/d 90% mine recovery. Heap leach of gold with adsorption of gold in CIL mill; 76% gold recovery at mill.
Capitalization:	$7.2 million, mine; $5.5 million, mill.
Costs:	$30/st ore to mine; $10/st ore to mill.
Gold price	$387/oz (mid-1994 price).

Of the 11 auriferous breccia structures identified in the Forest Unit, none meet the tonnage and grade requirements. The few that exceed or approach the grade requirements are very low in tonnage. The auriferous breccias are summarized in table 3. For the purposes of comparison, the U.S. average (as of 1991) of tonnage and grade for all types of underground, primary gold mines is 3.5 million st at 0.22 oz Au/st (Slater and Ward, 1994, p. 19).

The Oro Blanco Mine overall fracture zone and the mine itself may warrant additional study and sampling because of favorable grade/strike length combination. Other breccia-hosting fractures that may warrant additional sampling are those containing the Smuggler Gulch Mine, Sorrel Top Mine, and Tres Amigos Mine zones, all of which are parallel and in close proximity to each other (fig. 3). Auriferous mineralization extending into the full 11 ft

[3] Breccia perimeters are described as sometimes "smooth, planar walls"; post-brecciation shearing within the breccia zones has also been described (Wood and Yersavich (1985).

Table 3.--Descriptions of auriferous breccia structures in Oro Blanco district		
Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
Cramer Mine; sample T611-615; fig. 3, 10	Breccia within a NW.-striking fault zone through Cobre Ridge Tuff, mapped by Knight (1970, fig. 3) as 750-ft long.	Average breccia zone width, depth, strike length unknown, preventing tonnage estimation. Report of "spotty" metallization (Keith, 1975, p. 63), lack of continuity of the breccia in the mine (fig. 10), and very low historically mined tonnage (130 st) all suggest that no resources will be found here. USBM samples average about 0.006 oz Au/st or less; maximum detected is 0.02 oz Au/st.
Dos Amigos Mine & California Tunnel, samples T709-720, fig. 3, 11	Two NW.-striking breccias in Oro Blanco Formation conglomerate and sills of Sidewinder quartz monzonite. Oxide and native gold in fine particles, usually <100-mesh size in all lithologies. Areas of fault-breccia intersections, oxide zones, and areas with intense quartz veining are favorable for gold. All USBM samples contain gold.	Dos Amigos Mine breccia was mapped along strike by Knight (1970, fig. 3); width appears to be narrow (<2-ft), but down-dip extent is unknown. No tonnage estimate can be made. California Tunnel breccia was not examined by USBM. It is at least 620-ft-long; width, down-dip extent are unknown. Grades in both breccias appear too low for economic consideration. Average of about 0.02 oz to 0.03 oz Au/st in the Dos Amigos breccia, with two samples near 0.1 oz Au/st (0.118 oz and 0.127 oz). Average of about 0.04 oz to 0.05 oz Au/st in the California Tunnel breccia, with four samples approaching 0.1 oz Au/st (highest grades are 0.126 oz Au/st, maximum, at portal, where supergene enrichment is possible and 2.67 oz Au/st inside the tunnel at oxidized contact of conglomerate and intrusive) (Wood and Yersavich, 1985).
Grubstake Mine, samples T675-687, fig. 3, 12	Knight (1970, fig. 3) mapped a 1,100-ft-long fracture zone (see fig. 3, this report), which cuts volcanic rocks of the Oro Blanco Formation and some intrusions of the Sidewinder quartz monzonite. Twenty-five of 26 USBM samples contain low concentrations of gold. Only three samples exceed 1 ppm Au (0.03 oz Au/st), and two of those are high-grade samples from dumps, while the third is from a breccia/intrusive rock contact.	Low gold concentrations in USBM samples eliminates economic interest. More data are in appendix A, p. A42.
Jarillas Mine, samples T161-165, pl. 1	Within the main, NW.-trending fault zone through the Oro Blanco district. Host rock is Tertiary-age volcanics. Silicified zones with some abundant oxidized copper minerals and manganese. Gold in all USBM samples.	The site is problematic to categorize because it was opened primarily for copper silicate, oxide, and carbonate. Presence of non-vein silicification, shearing (though brecciation is not specifically reported) and location in the Oro Blanco district (albeit on the northernmost perimeter) were used as primary factors in classification of this site with the auriferous breccias. Gold is in low concentrations; none approach 1 ppm Au (0.03 oz Au/st). As much as 1% Cu is present. No data are available to suggest a large structure (and thus economically significant tonnage) at this site.
Monarch Mine, samples T726-727, fig. 3	Lensing fissure in tuff, a few inches to a few feet in width, but mostly very narrow. Finely crystalline quartz containing fine to medium native gold and silver with iron and manganese oxides (Keith, 1975, p. 68).	No mapping of zone prevents tonnage estimates. Gold concentrations in the two USBM samples are very low (about 0.006 oz Au/st), which does not encourage further study.

Table 3.--Descriptions of auriferous breccia structures in Oro Blanco district		
Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
Oro Blanco Mine, samples T599-609, fig. 3, 13	Two, subparallel fractures (fig. 3), that dip towards each other, host four separate, subparallel auriferous breccias, that have been sheared. Maximum known dimensions on the breccias are 800 ft along strike, 250 ft down dip, and 95-ft widths. Typically, though, they are much narrower (3-ft to 6-ft). Data not available concerning mineralogy.	Sparse sampling limits resource estimation. On the North vein, 125-ft-level, a 3,800 st inferred resource of 0.4 oz Au/st is estimated; about 34,000 st of inferred resources may exist between the Parallel and South veins on the 125-ft level, but grade is uncertain and may be 0.1 oz to 0.3 oz Au/st or may be one-tenth that amount. Openness of the workings and vertical and lateral extent of the various breccias suggest that additional rock-chip sampling could be achieved and may be warranted for the vein. Reported gold grades are encouraging, but available data are too sparse to support economic modeling.
San Juan Mine, samples T656-658, fig. 3	A fissure zone through [volcanic] conglomerate contains fine-grained gold and silver, sparse copper oxides in finely crystalline quartz (Keith, 1975, p. 68).	Not mapped, but narrow structural widths (a few inches to 1.2-ft-wide) at sampled sites suggest a structure too narrow to mine economically, even though gold content is high in two of the three samples (0.76 oz and 0.38 oz Au/st). Array of the workings suggest this breccia parallels the Sorrel Top Mine breccia and the Tres Amigos Mine breccia.
Tres Amigos Mine, samples T662-674, fig. 3, 14	A persistent NW.-trending fracture breccia, laterally and vertically, cuts tuff; igneous intrusive rocks also occupy the fracture zone. At least some parts of the strike length and down-dip extent of the zone do not have metallized breccia. 675-ft of the breccia along strike were examined by the USBM in any detail.	High amounts of gold in USBM breccia samples, limited to 675-ft strike length on main adit level; no evidence of continuity of breccia or gold more than a few tens of feet above or below main level. Inferred, subeconomic resources estimated on main adit level: 18,500 st of breccia, with weighted average grades of 0.31 oz Au/st and 0.55 oz Ag/st (eight rock chip samples); also, 48,400 st of auriferous wallrock (footwall) with 0.085 oz Au/st and 0.55 oz Ag/st (D. K. Marjaniemi, USBM, written commun., 1994). These tonnages are too low for economic development, according to the USBM deposit model. The entire vein system (with wallrock) might contain a maximum of 800,000 st of rock, the auriferous content of which cannot be verified through sampling to date. Additional sampling, particularly on other levels of the mine, may increase the estimateable resource tonnage but the maximum tonnage available is probably close to the cutoff tonnage of the USBM PREVAL auriferous breccia model.
Smuggler Gulch Mine group, samples T570-574; 579-580, fig. 3, 15, 16	NW.-trending, NE.-dipping auriferous breccia through rhyolite, with acid, igneous intrusions also in the fracture zone. Previous workers reported 0.06 oz to 0.63 oz Au/st over 240-ft strike length and about 130-ft dip slope extent, in a 5.7-ft-wide breccia (see appendix A). Essentially no data on gold mineralogy in the literature. It was recovered by cyanidation, so is likely in oxidized or native forms.	Knight (1970, fig. 3) maps the fracture that hosts this breccia as 2,250-ft-long. USBM examination limited to 240-ft along strike; within that strike length, the breccia may have contained about 14,500-st of rock (based on literature, appendix A), but extensive stoping has occurred in that same zone (fig. 15), so the remaining tonnage is less than 14,500 st. Tonnages this low are below the cutoff level of the USBM PREVAL model for this type of deposit. More extensive sampling of the structure along strike may allow delineation of higher quantities of auriferous rock, but the overall thinness of the zone (less than 6 ft) suggests that economic quantities of auriferous rock may not be encountered.

Table 3.--Descriptions of auriferous breccia structures in Oro Blanco district

Site name, USBM sample nos., fig. nos.	Geology/resources	Assessment
Sorrel Top Mine, samples T659-661, fig. 3.	Auriferous breccia that parallels the Tres Amigos Mine breccia. Only a small part of this extensive zone was examined.	Knight (1970, fig. 3), mapped the NW.-trending fracture zone that hosts the Sorrel Top auriferous breccia for 3,600 ft along strike. USBM examination limited to 50 ft along strike length, at adit T660-661; down-dip extent is unknown. Sorrel Top shaft depth of 250-ft may be indicative of a minimum dip slope extent of the breccia, but data are too sparse to state that definitively. No breccia tonnage estimates or conclusions about continuity of gold mineralization can be made with available data. Maximum gold content in USBM samples is 0.26 oz Au/st (in-place breccia). Rock-chip samples T660 and T661 average 0.12 oz/st gold and 1.1 oz/st silver for average sample length of 4.5 ft (D. K. Marjaniemi, USBM, written commun., 1994).
Triangle Mine, samples T728-731, 735, fig. 3	Auriferous breccia (N. 25° W., NE. dip) through tuff. If an extension of the Tres Amigos Mine or Sorrel Top Mine breccias, it is offset by the extensive, NE.-trending fault in this area (fig. 3). Gold in all USBM samples.	Breccia zone mapped between sites T728 and T735 (fig. 3), a 400-ft strike length; widths vary from 3 ft to 7 ft. Down-dip extent, total strike length unknown. No tonnage or grade estimates possible with available data. Gold content ranges from 0.05 oz Au/st in in-place samples, to 0.28 oz Au/st in high-grade samples from dumps. Gold content is apparently subeconomic for mid-1994 market conditions, although mapping of this breccia, relative to the Sorrel Top and Tres Amigos structures, may be warranted to better know the overall tonnage of these auriferous breccias that are in close proximity to each other.

of sampled wallrock at the Tres Amigos Mine (0.085 oz Au/st) is particularly favorable. This suggests that the tuff in the intervening areas between these three breccia zones should be examined for gold content. Study of that intervening rock could eventually lead to the delineation of large tonnage, low-grade zones that are large enough to support modern mining methods for gold. If it is determined that all gold resources are limited to only the narrow breccia zones themselves, future economic development is much less likely, due the need to mine these narrow structures by costly underground methods, rather than open-pit development.

Auriferous quartz-sulfide veins

Oro Blanco & Arivaca districts

Application of PREVAL modeling to the known characteristics of the Montana Mine deposit, the only quartz-sulfide vein deposit in the Forest Unit from which appreciable tonnage was mined (0.9 million st), demonstrates that deposits of this type, size, and grade would not be economic under mid-1994 economic conditions, and suggests that exploration for new deposits of that type is not warranted. The PREVAL model for the Montana Mine:

3 preproduction development years
6 year mine life
Cut-and-fill mining method, operating at 500 st/day (5 st/day waste)
Mine operation 260 days/year
85% ore recovery and 5% dilution
Grades of:
- 0.06 oz Au/st
- 5 oz Ag/st
- 3.5% Pb
- 3.5% Zn
- 0.3% Cu

Vein extent to 700-ft depth; 20-ft average width; dip 50°
Mine capital cost: $21.9 million
Mine operating cost: $45/st
Three-product flotation milling (for Cu/Pb/Zn)
Mill operation at 370 st/day; 350 day/year
Mill recovery:
- 76% Au
- 80% Ag
- 90% Pb
- 90% Zn
- 91% Cu

Mill capital cost: $5.5 million
Mill operating cost: $24/st
Transportation:
- Lead concentrate (to El Paso, TX), 40 mi by truck and 364 mi by rail
- Zinc concentrate (to Bartlesville, OK), 150 mi by truck and 1,020 mi by rail
- Copper concentrate (to San Manuel, AZ), 124 mi by truck

Annual transportation charge (total): $0.54 million
Annual smelter charge: $2.0 million
Annual refinery charge: $0.28 million
NPV: negative $38.2 million at a 15% ROR[4].

---

[4] "rate of return"

If a deposit the same size and grade as the Montana Mine were discovered in the Forest Unit and mined today (1994), it would not be economically viable. With that knowledge, the remaining quartz-sulfide vein deposits in the Forest unit were not given further consideration. The deposits, described in further detail in appendix A, are listed below:

Oro Blanco district (fig. 3, 27)

Black Copper Queen Mine & Reich prospect	samples T623-628, fig. 3
Black Peak Mine group	T315-318; T373-377, fig. 3
Brick Mine	T295-300; T326-330, fig. 3, 17, 18
Brown Bird (Blue Wing) Mine group	T343-347, fig. 3, 19
Rubiana Mine group	T331-337, fig. 3
Commodore Mine	no samples, fig. 3
El Oro Mine vein	T503-545, fig. 3, 20
Nil Desperadum Mine vein	T491-502; T546-553, fig. 3, 21
Idaho Mine group	T301-314, fig. 3, 22, 23
Ostrich Mine	T197-206, fig. 27
Silver Top prospect	T360-372, fig. 3
Warsaw Mine group	T620-622, fig. 3
Yellow Jacket Mine	no samples, fig. 27, 28

Arivaca district (San Luis Mountains part), fig. 30

Conejo Mine	samples T92-100, T102, fig. 30
Contact Mine(?)	samples T135-136, T140-145, fig. 30, 32
Deer Mine	samples T49-65, fig. 30, 33
Edwards Mine/Edwards patent	samples T129-130, fig. 30
Hole-in-the-rock Mine/Sturges patent	samples T146-158, fig. 30
M. C. M. Mine group(?)	samples T107-115, fig. 30
Payoff Mine	samples T131-134, T137-139, fig. 30
Silver Bar No. 4 Mine	no samples, pl. 1
Silver Crown Mine(?)	samples T116-121, fig. 30.

Some of these sites may warrant further examination for gold if the price rises significantly.

Pajarito district

Pajarito district workings and other workings in the Pajarito Mountains (pl. 1, fig. 35) expose thin, northeast-trending fault zones with gouge and some silica. Metallization is mostly oxidized lead-silver sulfides. Moderate to high lead and silver concentrations are present, but in very low tonnages. The composite production for the entire district is estimated at 1,000 st of ore that yielded 41,000 oz Ag, 159 st Pb, 2.5 st Cu, 216 oz Au, and a few pounds of Zn; also a small amount of uranium (Keith, 1975, p. 72). The most favorable gold concentrations encountered by USBM sampling is at one of the narrowest structures and lowest tonnage sites, the Sunset Mine. Small deposit size, dominance of silver and lead at the deposits, and generally very low gold concentrations in the sites all suggest the Pajarito district and adjoining areas will not see future exploration or development interest. Riggs

(1985, p. 89) concurs, concluding that there is little possibility of finding ore-grade mineralization in this district. Individual sites are detailed further in appendix A:

Big Steve Mine	samples T843-845, fig. 35
Morning and Evening Mine group	samples T776-783, fig. 35, 36
Penasco group	samples T888-892, pl. 1
Saint Patrick Mine	samples T768-775, T786-802, fig. 35, 37
Sunset Mine group	samples T816-833, fig. 35
Unnamed prospects	samples T803-815, fig. 35
Unnamed prospects	samples T834-842, fig. 35, 38
Unnamed workings in Alamo Canyon	samples T856-869, pl. 1
Unnamed workings, Pajarito Mountains	samples T881-887, pl. 1
White Oak Mine	samples T846-855, fig. 35, 39, 40.

Gold placers

Locations of known gold placers in the Forest Unit are shown on fig. 3 (California Gulch placer) and pl. 1 (all other placers). USBM did not undertake mapping and sampling of the placers. Literature and other available data, which are sparse, are summarized here. Composite production is small and no resources can be estimated with available data. More information on these placer sites is presented in appendix A (p. A10, A26, A74)

California Gulch gold placers, in the Oro Blanco district (fig. 3, southeast part of map), have been mined historically for as much as 1,000 oz of gold/silver amalgam. Sources of gold are the flat silica deposits of the White Gold/West claims. Numerous auriferous breccia deposits and quartz-sulfide veins within 1 mi to the north and northwest of the placer area shown on fig. 3 are also likely contributors of gold to these placers. No placer workings were visible to USBM field crews (1991 data).

Alamo Gulch placers (pl. 1) have been mined historically for "several hundred oz of gold-silver amalgam". Panned-concentrate samples reported in literature are mostly barren; three with gold contain a maximum of $1.35/yd^3 (see appendix A, p. A10-11), at the current (1994) price of gold, $387/oz. This is roughly one-third the amount of gold required to break even, financially, and may not be representative of dry areas, where the lack of water either drives up production costs or lessens recovery. Reported presence of "considerable" clay in the placer and induration of gravels (see appendix A, p. A10-11) will also lessen recovery of gold. Source of the gold could be a composite of auriferous vein and breccia sources from the northern and western parts of the Oro Blanco district.

The historically named "San Luis Wash gold placers" have been mined for 50 oz of gold, mainly during the 1930's, when the increase in gold's price from $20.67/oz to $35/oz spurred attempts at production on many properties in the U.S. that had not been mined much previously. The area of the worked placers is approximated on pl. 1. The drainage is actually *not* San Luis Wash, but is Alamito Wash, Fresnal Wash, and their tributaries. Probable gold source is the "Easter metallic mineral district" (see fig. 2).

Significant quantities of gravels have accumulated along the northern boundary of the Forest Unit adjacent to the workings of the Big Red tungsten prospect (pl. 1, T29-44). No testing or historical records document the presence of any gold there. Part of the sediments in this area are derived from the "Easter metallic mineral district" (fig. 2). Parts of Fraguita Wash and the unnamed, north-flowing drainage that shares a headwaters area with Fraguita Wash (see pl. 1 and fig. 30) have drainage channels as much as 100-ft-wide in which gravel accumulations were observed; gravel depths were not determined. There is no testing or historical data to document the presence of any gold there. Auriferous quartz-sulfide veins of Arivaca district (fig. 30) contribute sediments to these drainages.

Another area in which some placer gold may be found is the ruins of the old El Oro Mine mill (fig. 3) and downstream (southeast) from that point in Holden Canyon. Source of the gold is the old mill site of the El Oro Mine (fig. 3), from which an estimated 1,000 oz of gold was lost due to unsatisfactory milling techniques applied at the works in the 1890's (see appendix A, p. A38-41). Size of the gold particles that were lost is unknown; they may be too small and too dispersed over time in Holden Canyon to be recoverable.

It is not considered likely that attempts will be made in the near future to exploit the gold placers and possible placer gold sites mentioned above. Low gold grade (in extremely limited testing), and absence of significant quantities of water are major contributing factors to that conclusion. However, absence of testing and mapping of the gravels and determination of their depths prevent a definitive statement on the mineral resource assessment relative to these placers. Any mining operations that might eventually be developed would likely be small, with low production rates and small overall output of gold.

Metallization associated with Laramide intrusions, San Luis Mountains

Gold and tungsten metallization in the San Luis Mountains part of the Forest Unit (pl. 1) is associated with large intrusions of Laramide, granitic rock (fig. 2). The gold grades encountered are too low for economic consideration because they are hosted in narrow quartz veins. Composite production is 115 st of gold and base-metal ore. Tungsten production also has been very small: a combined 52 st of tungsten ore was produced from the sites, including about 1.5 st of high grade, hand-picked WO_3 concentrates from lodes, and a small amount of tungsten from a placer. Tungsten production in the U.S. is essentially nil due to intense foreign competition; market conditions are detailed further in Chatman (1994, p. 19-20). The combination of apparent small deposit size and poor market conditions led to the USBM decision to not consider these sites further.

These mine and prospect sites, which are detailed further in appendix A, include:

Border Mine Group, or "Cerro de Fresnal metallic mineral district"	samples T1-4, pl. 1
Easter Mine group/ Mountainview tungsten prospect, or "Easter Metallic mineral district"	samples T18-28, fig. 41
San Luis Wash Tungsten placers	no samples, pl. 1.

Miscellaneous metalliferous occurrences

Tumacacori Mountains

Scattered prospect groups in the Tumacacori Mountains (samples T909-942, pl. 1 and fig. 42) have been excavated in search of copper, gold, silver, and, in some instances, platinum. Sites are discussed in more detail in appendix A.

Prospects on the perimeter of the Forest Unit (fig. 42, T909-926) are excavated on quartz veins associated with a Jurassic-age granite body and surrounding rhyolite (D. K. Marjaniemi, USBM, written commun., 1994). Three samples from these sites contain in excess of 1% copper (Cu), an amount that does not warrant economic interest in narrow vein structures. A few of the samples contain elevated silver, gold, lead, and zinc, but in concentrations that are far below that of economic interest (appendix C, D).

The Diablo claims (T927-930) are staked on a 30-ft-wide and 1,500-ft fault zone with siliceous dikes and basaltic dikes. They have been investigated for copper, gold, silver, and platinum and apparently do contain subeconomic, low quantities of all four metals (see appendix A, p. A33). Quartz veins in the vicinity (T931-32, pl 1) are not significantly metallized. Other sites (T933-940, pl. 1) in the Tumacacori Mountains are excavated in Tertiary-age, acidic, siliceous, volcanic rocks, usually on fractures. They are among the most barren prospects, with regard to metals, in the entire Forest Unit.

Atascosa Mountains

Metalliferous prospects in the Atascosa Mountains are few in number and mainly at the southern part of the range, near the Pajarita Wilderness (samples T900-903, T943, pl. 1). Most (T900-903) are excavated in tuff or rhyolite. One (T943) is in intrusive rock (quartz monzonite or quartz diorite). All are essentially barren of economic concentrations of metals.

Non-metallic minerals

Sand and gravel

The Forest Unit contains sand and gravel deposits that may contain developable resources, based on geology and proximity to markets and transportation routes, including Nogales, Rio Rico, and Arivaca, AZ, Interstate 19, State Highway 289, and Forest Route 39 (fig. 43). Table 4 summarizes the geology of these areas and lists some factors related to the appraisal of the deposits.

Table 4.--Sand and gravel deposits, Atascosa-Pajarito-San Luis-Tumacacori Unit, Coronado National Forest.

AREA (FIG. 43)	GEOLOGIC DESCRIPTION	REFERENCE	APPRAISAL/PROBLEMS
Bear Valley	Miocene to Pliocene sedimentary rocks and Quaternary surficial deposits. Quaternary alluvium in major canyons such as Sycamore Canyon.	Reynolds (1988)	Best deposits likely to be in Sycamore Canyon and tributaries.
Cemetery Tank	Quaternary alluvium, including pediment and stream deposits.	Knight (1970)	Composition unknown.
Eastern foothills of Atascosa and Tumacacori Mountains	Quaternary surficial deposits, including alluvium.	Reynolds (1988)	Poor or non-existent road development in major part. Size and composition of deposits unknown.
Ruby Tank	Quaternary alluvium, including pediment and stream deposits.	Knight (1970, fig. 3)	Composition unknown.
Pena Blanca Canyon and tributaries	Quaternary sand and gravel.	Drewes (1981, plate 8)	Recreational area - not likely to be developed.
Walker and Calabasas Canyons and their tributaries	Quaternary sand and gravel.	Drewes (1981, plate 8), extended to the north on basis of topography	Currently producing aggregate, screened sand, and leach rock. Shipping to Rio Rico (8 mi) and Nogales (11 mi).
Pesquiera, Alamo, Potrero, and Mariposa Canyons and their tributaries	Quaternary sand and gravel.	Drewes (1981, plate 8), extended to north on basis of topography	Poor or non-existent road development in upper canyons. Wells in lower canyons (community well in Potrero Canyon).
Yellow Jacket Wash	Quaternary alluvium and gravel.	Keith and Theodore (1975)	Major wash containing well-indurated volcanic materials. 3 mi to Arivaca.

Sand and gravel deposits are abundant in major canyons and stream valleys in the southeastern part of the Tumacacori Unit. Aggregate and screened sand are produced from the Clarke pit (fig. 43) in Calabasas Canyon at a rate of 21,500 yd^3/yr (as of 1992) and shipped to Rio Rico and Nogales, which are 8 mi and 11 mi distant, respectively. This production is 14% of the total production of construction sand and gravel in Santa Cruz County (USBM data, 1992). An unquantified amount of material is mined from Walker Canyon (fig. 43).

Usage of sand and gravel deposits in the lower parts of Pesquiera, Alamo, Potrero, and Mariposa Canyons (nearest to the Forest boundary and 2 to 6 mi from Nogales) may be complicated, if not prohibited, by the presence of water wells in these canyons. Yellow Jacket Wash, in the northwestern part of the Tumacacori Unit, has sand and gravel deposits that can be used in the developing Arivaca area or for upgrading the northwestern part of Forest Route 39, should that occur. The sand and gravel deposits in Walker and Calabasas Canyons could likewise be used for improvements in State Highway 289. Sycamore Canyon (in the Bear Valley area, fig. 43) is the most likely source for sand and gravel in the central part of Forest Route 39. Areas identified in the San Luis Mountains as possibly containing gold placers (pl. 1) may also be a source of gravels that could be sold following gold extraction. Further details are in the "gold placers" section of this report.

Transportation costs will be the major consideration in the event of any future attempts to delineate resources or to develop any of the deposits. Phillips (1992, p. 33) reports the average mine value of sand and gravel in Arizona (for 1990) as $3.30/st. Transportation costs are $0.14 per ton-mile (USBM data, June 1992; for tractor-trailer). A haulage distance of 1 mi to 2 mi is optimum. Haulage distances of 20 mi (costing $2.80/st) are close to the maximum that could be endured for a viable deposit.

Opal at the Scorpio claims

Surficial exposures of both common variety opal and precious opal (i.e., that with a play of colors) occur in and have been produced from one area in the Atascosa Mountains known as the Scorpio claims or Jay-R Mine. The general area of opal occurrence is outlined on pl. 1. Opaline material occurs as 0.25-in.- to 3-in.-thick veins with quite variant orientations, and as lenses and pockets, as much as 1-ft-thick, hosted in glassy rhyolite or silicified tuff. The olive-green color of the host rock can be used as a field identifier of the most highly opaline areas. Opal found to date is either blue or white in color, and may be capped at the surface by either crystalline quartz or by chalcedony. A resource of 28,800 st of common opal and 9,200 oz (avoirdupois) of precious opal is estimated in a 1,500-ft by 500-ft area projected to a depth of 200 ft (in 11.5 million st of rock; precise location not known by USBM). (See Hammons, 1972.) Hammons' reported commodity prices[5] suggest this much rock could contain $16.5 million in opaline material (in-place value), or about $1.40/st.

Mining on the Scorpio claims has been via shallow open pits, from which USBM field data suggest that about 1,000 st of opal-bearing rock have been removed. No production figures are available, but extrapolation of Hammons (1972) grade estimates [0.25% (apparently by volume) of the rhyolite/tuff host rock for common opal and 0.0000025%

---

[5] Hammons (1972) reports prices of $250/oz for precious opal and $0.25/lb for common opal. These values are still reasonable estimates under 1994 market conditions. Value of precious stones is subject to subjective values such as consumer tastes.

(apparently by volume) of the host rock for precious opal), provides that 5,000 lb of common opal and less than 1 oz of precious opal may have been produced. This production would be valued at < $2,000, total, utilizing Hammons' (1972) concentration estimates and commodity prices[6]. Examination of the site in 1991 suggests that some drilling is done, although it may all have been for blast holes. The rock is blasted and removed from shallow pits by relatively simple rock-moving equipment, such as a bulldozer or backhoe. It appears that visual examination of the resultant loose blocks followed by hand-cobbing is utilized as the mining method.

Economic evaluation of a precious or semiprecious stone prospect is imprecise due to the highly variant prices that the commodity may bring. Further, the economic advantages of large-scale mining techniques cannot be used advantageously. High-cost, small-scale, labor intensive methods will probably have to be utilized at this site should the deposit be exploited further. There appears to be little to no margin for profit, even if cost-effective, large-scale rock excavation techniques could be employed. USBM PREVAL estimates of the application of cost-optimum open-pit excavation techniques at the site (Hammons' resource zone, described above) are that the operation would cost $1.16/st, if operated at a rate of 3,600 st/d, just to excavate the rock. This is a relatively low mining cost, but in comparison with the projected in-place value of the rock ($1.40/st, see above), it is apparent that 80% of the in-place value of the rock will be expended on just removing it from an open pit. This leaves an insufficient margin to pay for the labor-intensive beneficiation described above. Detailed mapping of the green rhyolite/tuff, followed by drilling to find and estimate volumes of high-densities of opaline vein zones is an approach that will allow more precise assessment, and allow development of ways to reduce mining costs. The site is not likely to become a large, high-tonnage operation.

CONCLUSIONS

Gold is the main commodity of interest in the Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit. Auriferous, sulfidic, flat or low-angle silica zones, which may be hot-spring type gold deposits, occur over a large area in the Oro Blanco district. Grades are sufficient to elicit current (1994) economic interest, but insufficient tonnages have been delineated to make mining viable. This type of deposit is the most likely to experience future exploration and possibly development for gold because of the possibilities for large, economic tonnages in the deposits. Few of the deposits are well delineated; many have not been drilled or have been drilled over only very limited depth and area. Resources have been estimated by industry at only the Margarita deposit and part of the White Gold/West claims. Further evaluation of some of the deposits may be warranted, with more extensive mapping, and sampling in more detail, than was attempted in this USBM reconnaissance-level study.

Traditionally mined gold deposits in this Forest Unit, vein-like oxide- and native-gold-breccias, and quartz-sulfide veins, are not likely to experience future development due to low tonnages. It should be noted, though, that USBM data, particularly those which would permit precise delineation of resources, are sparse. Mine and economic models were developed by USBM with the PREVAL estimation software package to determine economic cutoff grades and tonnages for these vein and vein-like deposits. Few approach cutoff grades and none reach cutoff tonnages. Considerable data on individual sites have been tabulated in this report by USBM which may be of interest to future exploration efforts. Gold is nearly ubiquitous in USBM samples, though seldom in economic concentrations.

Tuffaceous rocks in the intervening areas between auriferous breccias should be examined for gold content. Study of that intervening rock could eventually lead to the delineation of large tonnage, low-grade zones that are large enough to support modern mining methods for gold. Very limited sampling at the Tres Amigos mine indicates as much as 0.085 oz Au/st in tuffaceous wallrock.

It should be noted that a price increase in gold to the mid-$400/oz range could significantly improve economic viability of the hypothesized hot-spring gold deposits and possibly at some of the auriferous breccia deposits. Indications are, however, that gold price will probably remain more stable, and not reach highs of the late 1980's.

Two non-metallic commodities, opal (common and precious) and sand and gravel are mined (1992 data) and will probably continue to be developed within the Forest Unit boundary on a small scale.

REFERENCES CITED

Includes citations in appendixes and on figures.

ABBREVIATIONS USED: ADMMR is Arizona Dep. Mines and Mineral Resources, Phoenix, AZ; AGDC is Anaconda Geological Document Collection, Laramie, WY; AZMILS is Arizona Mineral Industry Location System data, by Deitz and Associates.

Anderson, R. Y., and Kurtz, E. B., Jr., 1955, Biogeochemical reconnaissance of the Annie Laurie uranium prospect, Santa Cruz County, Arizona: Economic Geology, v. 50, p. 227-232.

Arizona Bureau of Mines, 1951, Oro Blanco or Ruby district, in Arizona zinc and lead deposits, part II, with sections on geology, structural deformation, and ore deposits by G.M. Fowler: Arizona Bureau of Mines Bulletin 158, p. 41-49.

Beatty, R. L., 1994, Extruded carbon; gold adsorption, applications, and attrition: Engineering and Mining Journal, v. 15, No. 6, p. 30-35.

Berger, B. R., 1986, Descriptive model of hot-spring Au-Ag, *in* Cox, D. P., and Singer, D. A., eds., Mineral deposit models: U.S. Geological Survey Bulletin 1693, p. 143-144.

Chatman, M. L., 1994, Mineral appraisal of Coronado National Forest, part 11, Whetstone Mountains Unit, Cochise and Pima Counties, Arizona: U.S. Bureau of Mines Open File Report MLA 2-94, 53 p., 4 appendixes, 1 pl.

Drake, Larry, and Partners, 1968, Austerlitz Group, Au-Ag prospect, Oro Blanco district, Santa Cruz County, State of Arizona, U.S.A.: unpub. geologic consultation, AGDC document no. 9616.05, 6 p.

Drewes, Harald, 1981, Tectonics of southeastern Arizona: U.S. Geological Survey Professional Paper 1144, 96 p.

Fairchild, D. H., 1938, [untitled]: unpub. letter to Reconstruction Finance Corporation, April 1, 1938, including plan map and longitudinal section of mine workings, ADMMR files, Phoenix, AZ.

Fowler, G. M., 1938, Montana Mine, Ruby, in Some Arizona ore deposits: Arizona Bureau of Mines Bulletin 145, p. 119-124.

Freshman, W. C., 1947, Report on the Montana Mine and some adjoining properties, Oro Blanco mining district near Ruby, Santa Cruz County, Arizona, accompanied by Sketch map showing surface geology, Montana Mines and adjacent area, and Assay plan maps of 660-ft and 770-ft levels: AGDC files.

REFERENCES CITED

Hammons, Lee, 1972, A preliminary valuation report [Scorpio claims]: unpub. geologic consultation, ADMMR files, Phoenix, AZ, 3 p.

Irwin, G. W., 1955, [untitled] map and section of White Oak Mine: unpub., ADMMR files, Phoenix, AZ.

Keith, Stanton B., 1974, Index of mining properties in Pima County, Arizona: Arizona Bureau of Mines Bulletin 189, 156 p.

Keith, Stanton B., 1975, Index of mining properties in Santa Cruz County, Arizona: Arizona Bureau of Mines Bulletin 191, 94 p.

Keith, Stanley, B., Gest, D. E., and DeWitt, Ed, 1983a, Metallic mineral districts of Arizona: Arizona Bureau of Geology and Mineral Technology Map 18, scale 1:1,000,000.

Keith, Stanley B., Gest, D. E., DeWitt, Ed, Toll, N. W., and Everson, B. A., 1983b, Metallic mineral districts and production in Arizona: Arizona Bureau of Geology and Mineral Technology Bulletin 194, 58 p.

Keith, W. J., and Theodore, T. G., 1975, Reconnaissance geologic map of the Arivaca quadrangle, Arizona: U.S. Geological Survey Miscellaneous Field Studies Map MF-678, scale 1:63,360.

Knight, L. H., Jr., 1970, Structure and mineralization of the Oro Blanco mining district, Santa Cruz County, Arizona: Ph.D. dissertation, University of Arizona, Tucson, 172 p.

La Teko Resources, Ltd., 1989, 1989 annual report, no pagination.

Lucas, J. M., 1990, Gold, *a ch. in* Mineral Commodity Summaries 1990: U.S. Bureau of Mines, p. 70-71.

Lucas, J. M., 1993, Gold, *a ch. in* Mineral Commodity Summaries 1993: U.S. Bureau of Mines, p. 72-73.

Moon, E. E., 1917, Profile of the Yellow Jacket Mine: unpub. AGDC files.

Nelson, F. J., 1963, The geology of the Pena Blanca and Walker Canyon area, Santa Cruz County, Arizona: M.S. thesis, University of Arizona, Tucson, 82 p.

Newfields Minerals, Inc., 1986, Annual report 1986: 16 p.

Newfields Minerals, Inc., 1987, News release: 2 p.

REFERENCES CITED

Phillips, K. A., 1992, Mineral economics of industrial minerals in southeastern Arizona, in Houser, B. B., ed., Industrial minerals of the Tucson area and San Pedro Valley, southeastern Arizona: Tucson, Arizona Geological Society, Arizona Geological Society Field Trip Guidebook, April 4 and 5, 1992.

Pye, W. D., 1977, [untitled]: unpub. maps and assays from the Idaho Mine, ADMMR files, Phoenix, AZ.

Reynolds, S. J., 1988, Geologic map of Arizona: Arizona Geological Survey Map 26, scale 1:1,000,000.

Riggs, N. R., 1985, Stratigraphy, structure, and mineralization of the Pajarito Mountains, Santa Cruz County, Arizona: M.S. thesis, University of Arizona, Tucson, 102 p., 1:12,000-scale. (Fig. 3 is published as Arizona Bureau of Geology and Mineral Technology Miscellaneous Map MM-85-A.)

Santos, J. W., 1988, White Gold project, Santa Cruz County, Arizona: unpub. correspondence from Goldstar Mining Co., Yearington, NV, to NCA Minerals Corp., Vancouver, British Columbia, 3 p.

Schermehorn, F. S., 1907, Austerlitz group of mines: unpub. geologic consultation, AGDC document 9616.05, 11 p.

Silberman, M. L., 1982, Hot-spring, large tonnage, low-grade gold deposits, *in* Erickson, R. L., complier, Characteristics of mineral deposit occurrences: U.S. Geological Survey, Open-file report 82-795, p. 131-143.

Silberman, M. L., Giles, D. A., and Graubard-Smith, Cinda, no date, Characteristics of gold deposits in northern Sonora, Mexico: preliminary U.S. Geological Survey manuscript, circa mid-1980's, 21 p.

Slater, C. L., and Ward, D. A., 1994, Trends in U.S. gold reserves, production, and grade: Engineering and Mining Journal, v. 15, No. 6, p. 17-21.

Smith, R. C., 1992, PREVAL: Prefeasibility software program for evaluating mineral properties: U.S. Bureau of Mines IC 9307, 35 p.

Stone, E. A., 1960?, Austerlitz Mine property, analysis of sample records: unpub. geologic assessment, AGDC document (no number recorded), 4 p.

REFERENCES CITED

Walenga, Karen, 1988, Canadian firm says it will develop Santa Cruz gold mine: Southwestern Pay Dirt, July 1988, p. 16A.

Wenrich, K. J., Chenoweth, W. L., Finch, W. I., and Scarborough, R. B., 1989, Uranium in Arizona in Jenney, J.P., and Reynolds, S.J., Geologic evolution of Arizona: Arizona Geological Society Digest 17, p. 759-794.

Wilson, E. D., Cunningham, J. B., Butler, G. M., 1967, Arizona lode gold mines and gold mining (revised): Arizona Bureau of Geology and Mineral Technology Bulletin 137, 261 p.

Wood, John, and Yersavich, Dan, 1985, Geologic report on the Amigo claim group in the Oro Blanco mining district, Santa Cruz County, Arizona: unpub. geologic consultation, no paginization.

Wright, R. J., 1951, Annie Laurie prospect, Santa Cruz County, Arizona: U.S. Atomic Energy Comm. RMO-677, 8 p.

EXPLANATION OF SYMBOLS FOR REPORT FIGURES AND PLATES, INCLUDING:
Inset maps at various scales and 1:126,720-scale plates.

APPROXIMATE BOUNDARY OF THE FOREST MANAGEMENT AREA

APPROXIMATE BOUNDARY OF WILDERNESS

NATIONAL MONUMENT BOUNDARY

6000 — TOPOGRAPHIC CONTOUR–Showing elevation in feet above sea level

STATE LINE

COUNTY LINE

PRIMARY SECONDARY ROADS

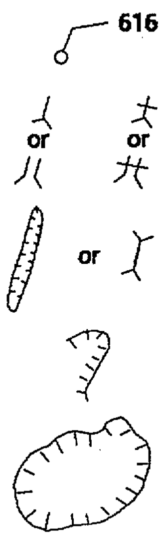
UNIMPROVED ROADS TRAILS

INTERMITTENT STREAMS

GRID TICK MARK

PATENTED MINING CLAIM

SURFACE OPENINGS–Showing sample number(s); symbols may represent more than one working. Also, VARIOUS REPRESENTATIONS OF SAMPLE SITES:



Rock sample locality–Showing sample number

Adit open (left); Adit, inaccessible (right)

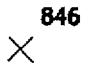
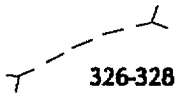
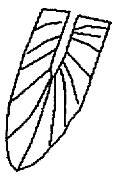
Trench

Opencut

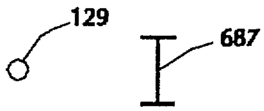
Glory hole, open pit, or quarry

EXPLANATION OF SYMBOLS FOR REPORT FIGURES AND PLATES, INCLUDING:
Inset maps at various scales and 1:126,720-scale plates–Continued.

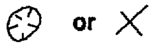
SURFACE OPENINGS–Showing sample number(s);
symbols may represent more than one working. Also,
VARIOUS REPRESENTATIONS OF SAMPLE SITES–Continued:

	Prospect (pit, opencut, or small trench)
	Tunnel
	Mine or quarry (active, left; inactive, right)
	Placer mine or gravel pit (active, left; inactive, right)
	Shaft, open to surface (left); Shaft, inclined (right)
	Shaft, water filled (left); Shaft, caved (right)
	Shaft, reclaimed
	Mine dump
	Drill hole collar
	Land or mineral monument

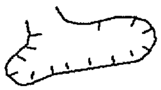
EXPLANATION OF SYMBOLS FOR REPORT FIGURES, INCLUDING:
Features of detailed mine maps, both surface and underground, at various scales (larger than 1:24,000).



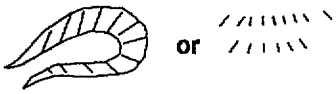
ROCK SAMPLE LOCALITY–Showing sample number



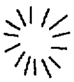
PITS



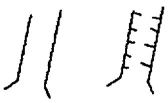
OPENCUT



DUMPS



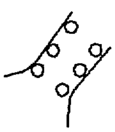
STOCKPILE



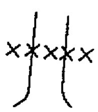
ADIT PORTAL (left);
ADIT PORTAL WITH TRENCH OR OPEN CUT (right)

LEVEL WORKING–Dashed and/or queried where uncertain

INCLINED WORKING–Showing degree of inclination, chevrons pointing down; queried where uncertain or inaccessible



TIMBERED (Vertical timbers and/or lagging)



CAVED

RUBBLE (BACKFALL) FILLED, MUCK-FILLED, OR BACKFILLED WORKING–Queried where uncertain or inaccessible

EXPLANATION OF SYMBOLS FOR REPORT FIGURES, INCLUDING:
Features of detailed mine maps, both surface and underground,
at various scales (larger than 1:24,000)—Continued.

STEP DOWN IN SILL—Showing drop in feet; hachures on down side

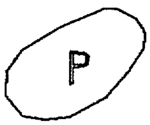
RAISE, head (left); RAISE, foot (right)

RAISE GOING UP AND WINZE GOING DOWN

WINZE—Noted if water filled

MANWAY (left); CHUTE (right)

SHAFT, open at surface (left);
SHAFT, bottom (right)

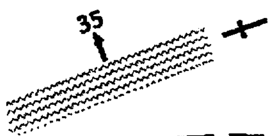


PILLAR

GEOLOGIC SYMBOLS

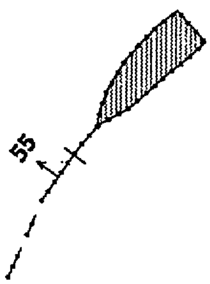
Strike and dip of bedding

Fault—Showing strike and dip (inclined or vertical, degrees); dashed where approximate



Fault zone or shear zone—Showing strike and dip (inclined or vertical, degrees); dashed where approximate

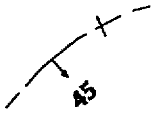
Thrust fault—Sawteeth on upthrown side



Vein—Showing strike and dip (inclined or vertical, degrees); dashed where approximate

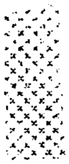
EXPLANATION OF SYMBOLS FOR REPORT FIGURES, INCLUDING:
Features of detailed mine maps, both surface and underground,
at various scales (larger than 1:24,000)--Continued.

GEOLOGIC SYMBOLS--Continued

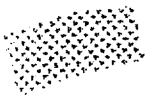


Contact--Showing strike and dip (inclined or vertical, degrees); dashed where approximate

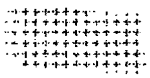
Dike--Showing strike and dip (inclined or vertical, degrees); dashed where approximate



Shattered zones



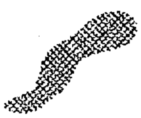
Brecciated zones



Igneous rock zone or structure

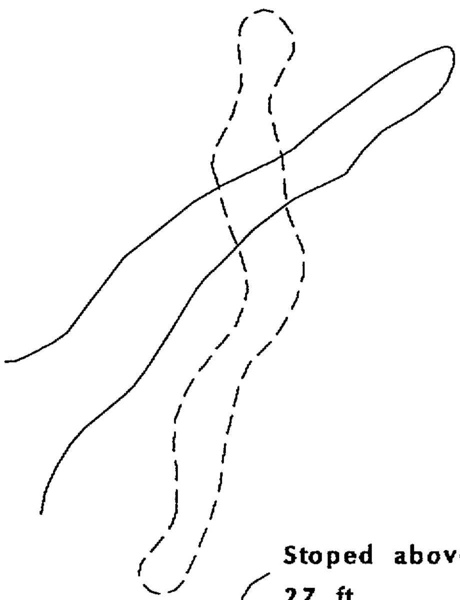
Mineralized zone, disseminated

Mineralized zone, localized

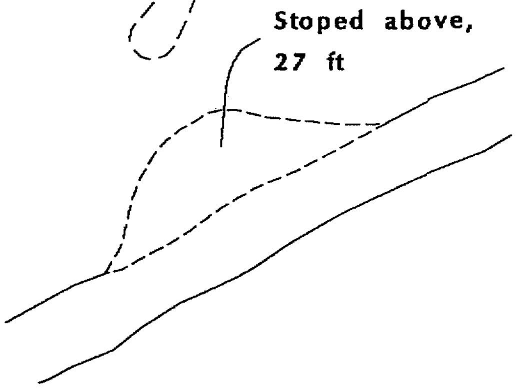


Zone containing resources

EXPLANATION OF SYMBOLS FOR REPORT FIGURES, INCLUDING:
Features of detailed mine maps, both surface and underground,
at various scales (larger than 1:24,000)--Continued.



Multiple level workings



Stope

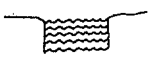
Symbols for vertical cross-section maps

Crosscut

Drift into facing wall

Drift into removed wall

Drift into facing and removed wall



Water-filled winze

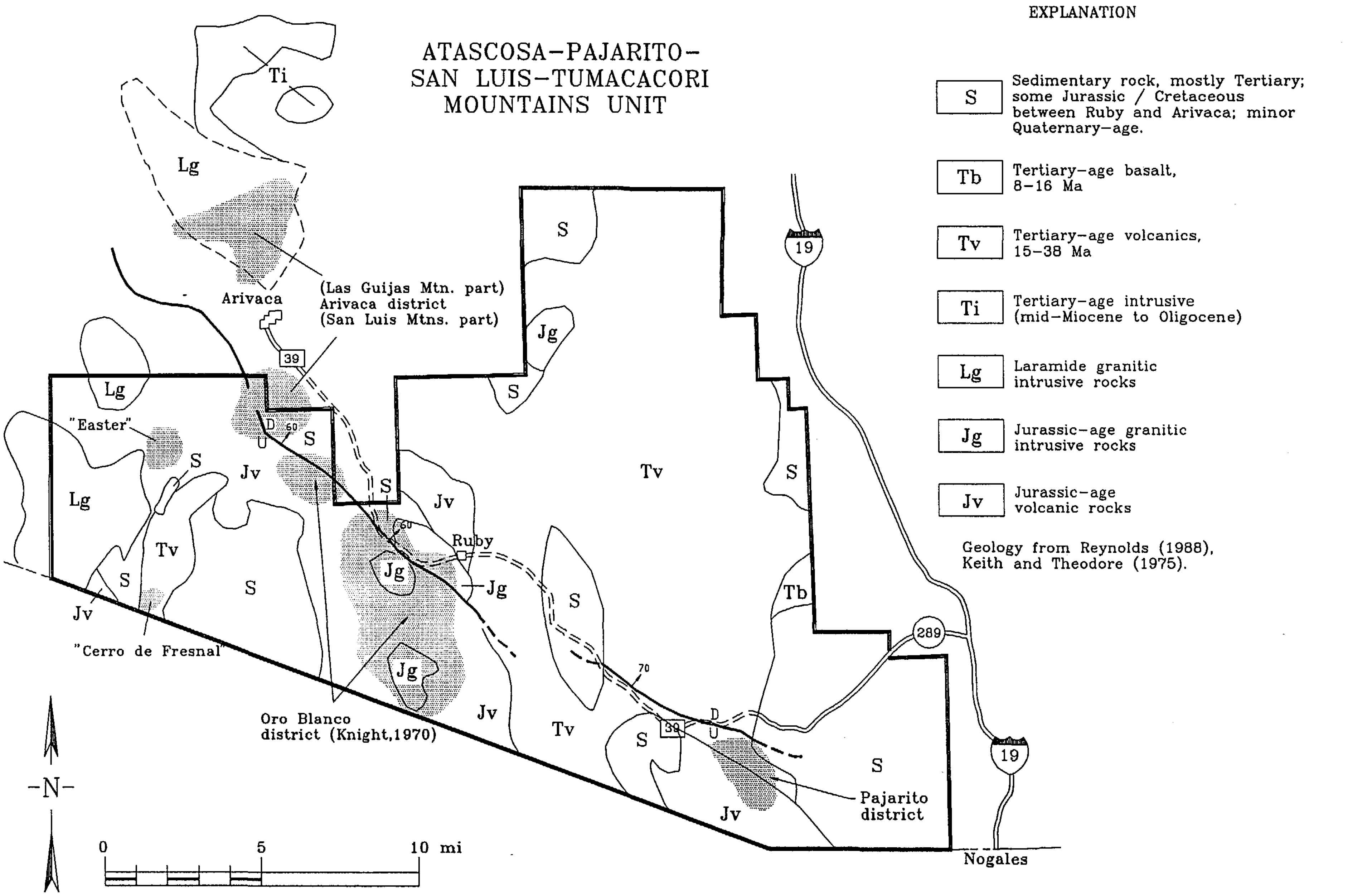


Figure 2.-- Generalized geologic map of the study area, showing mining districts (stipple pattern) and the major, northwest-trending fault zone that transects the area.

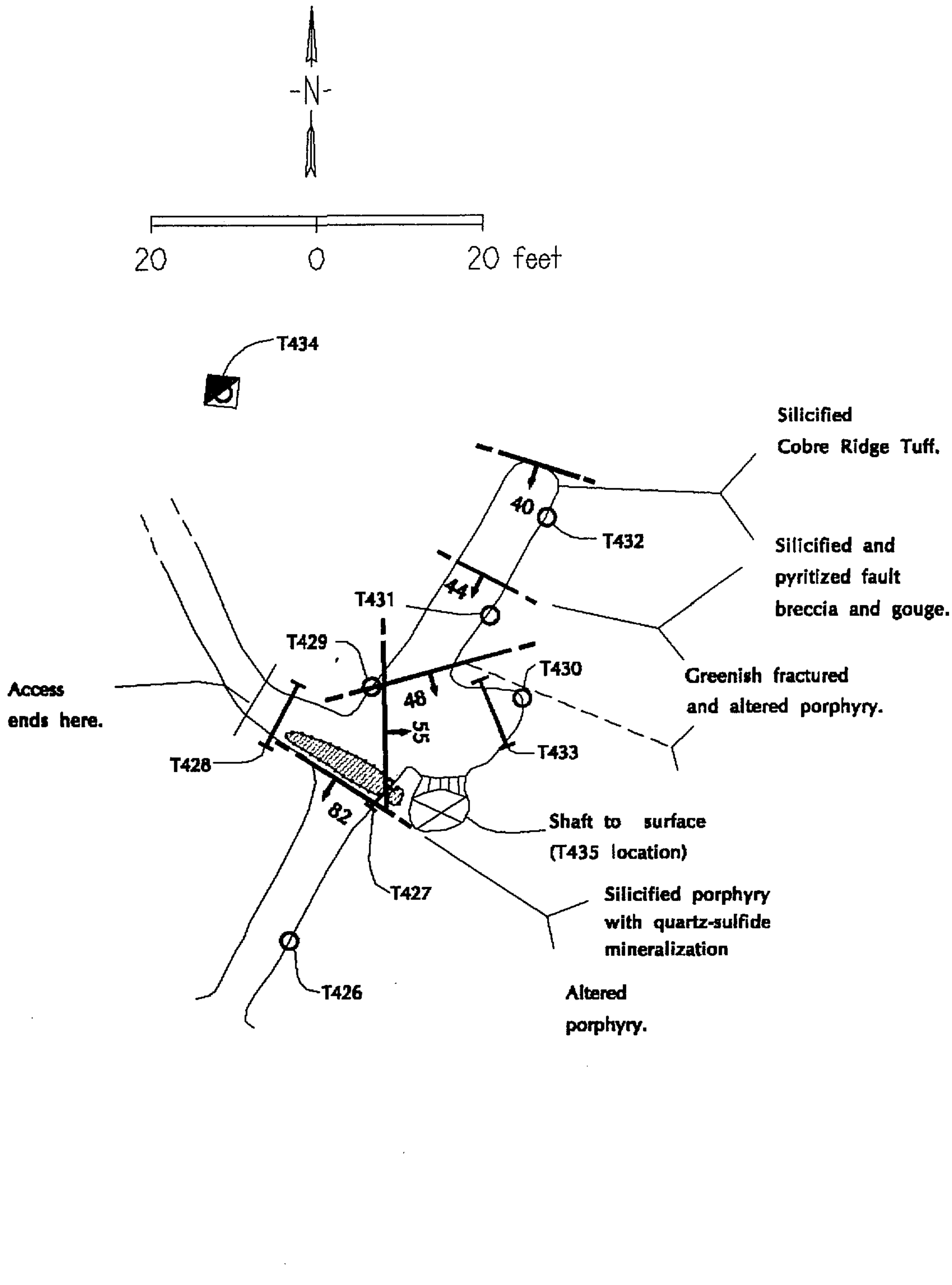


Figure 4. Prospect in low-angle silicified zone, with sample localities, T426-434, Oro Blanco district.

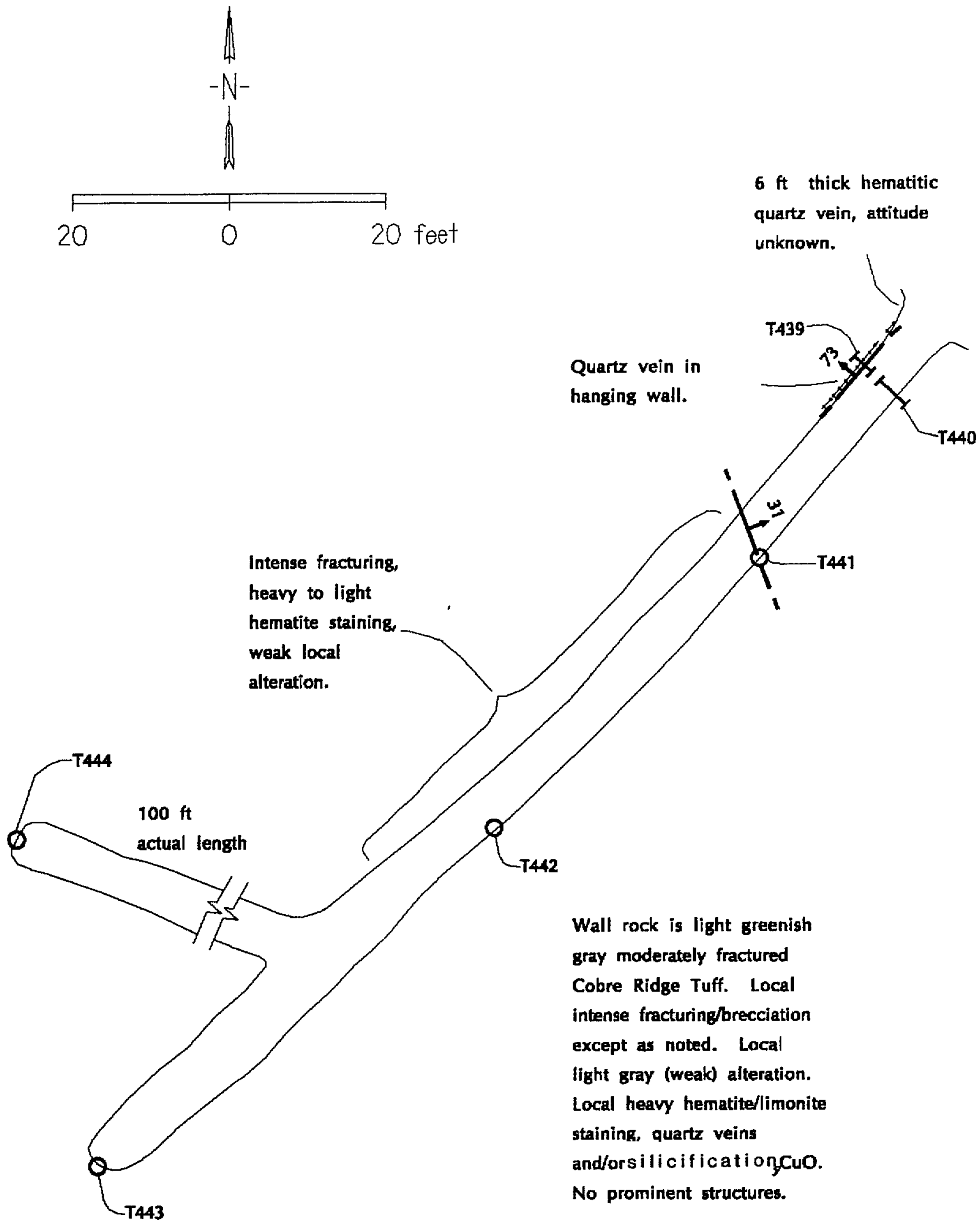


Figure 5. Unnamed prospect, with sample localities T439-444, Oro Blanco district.

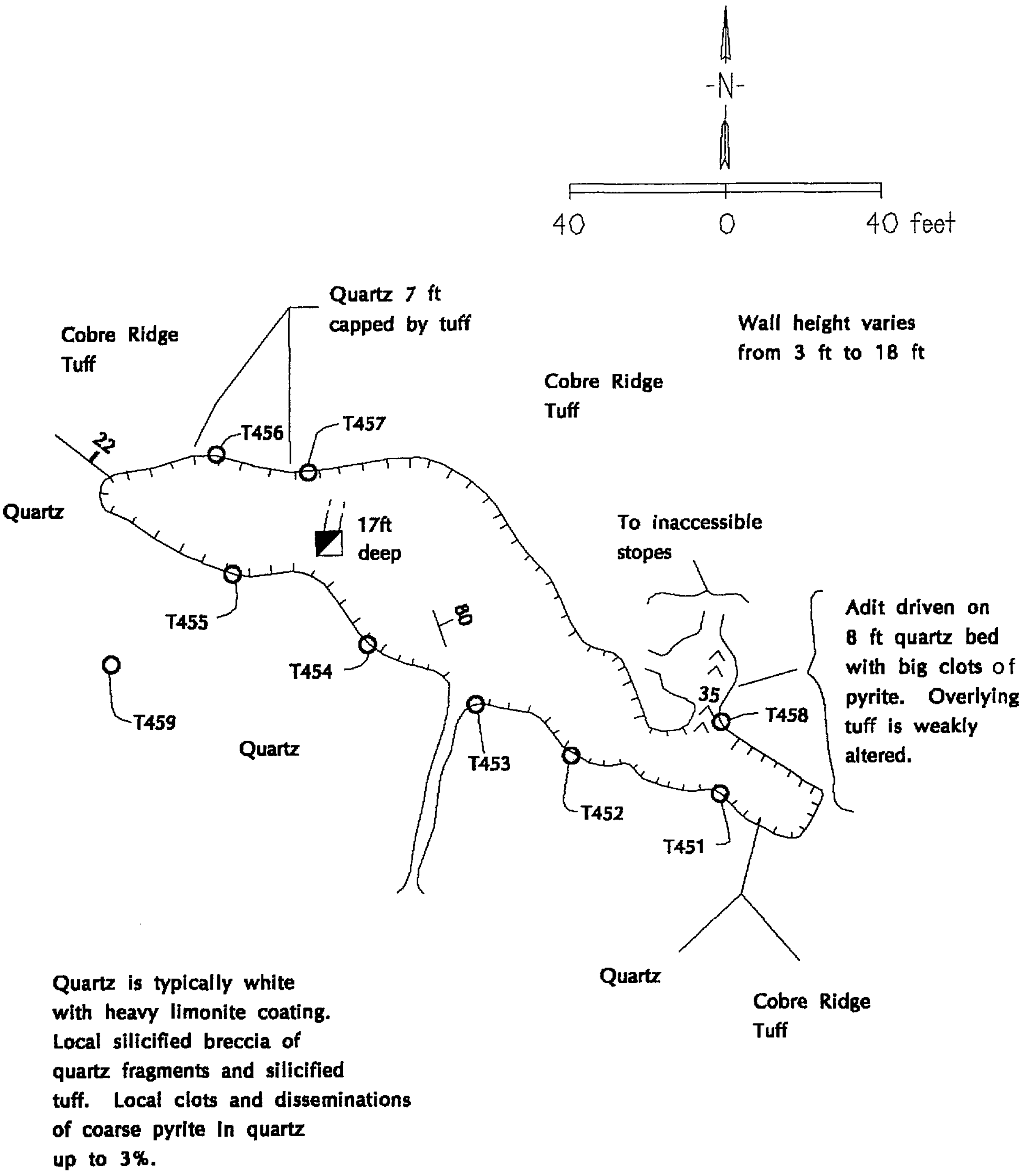


Figure 6. Part of Old Glory Mine, with sample localities T451-459, Oro Blanco district.

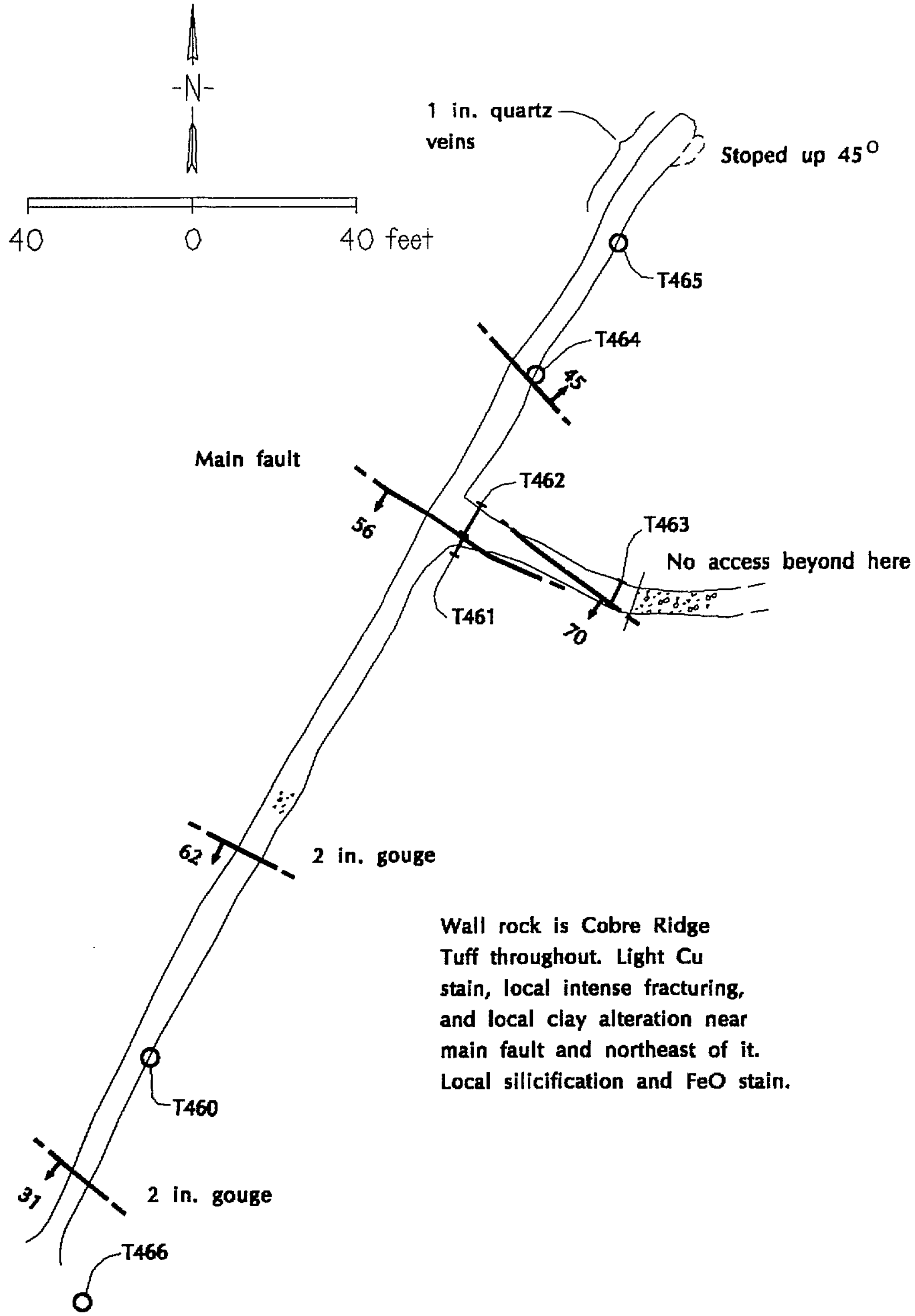


Figure 7. Part of Old Glory Mine, with sample localities T460-466, Oro Blanco district.

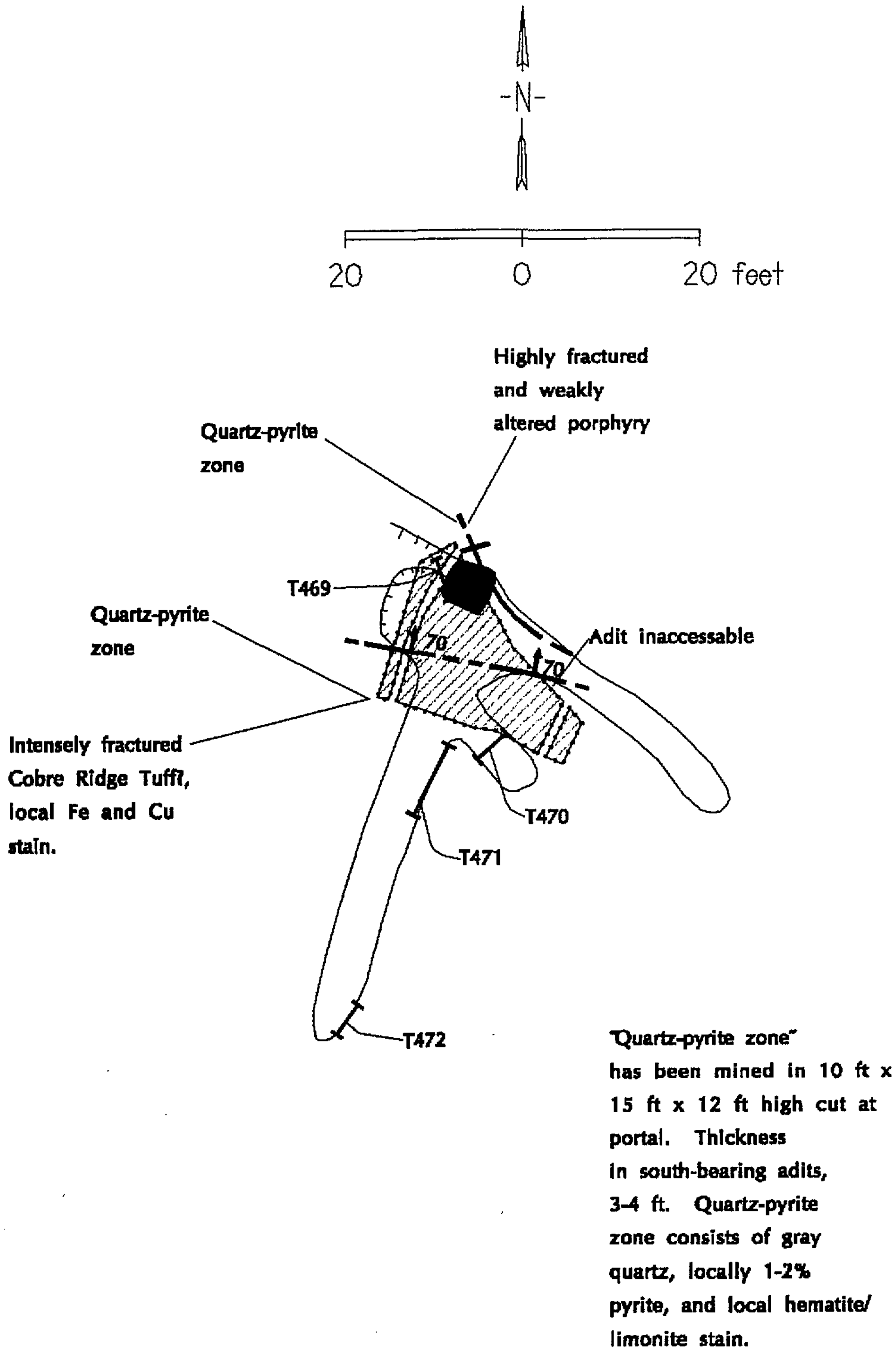


Figure 8. Unnamed prospect, with sample localities T469-472. Oro Blanco district.

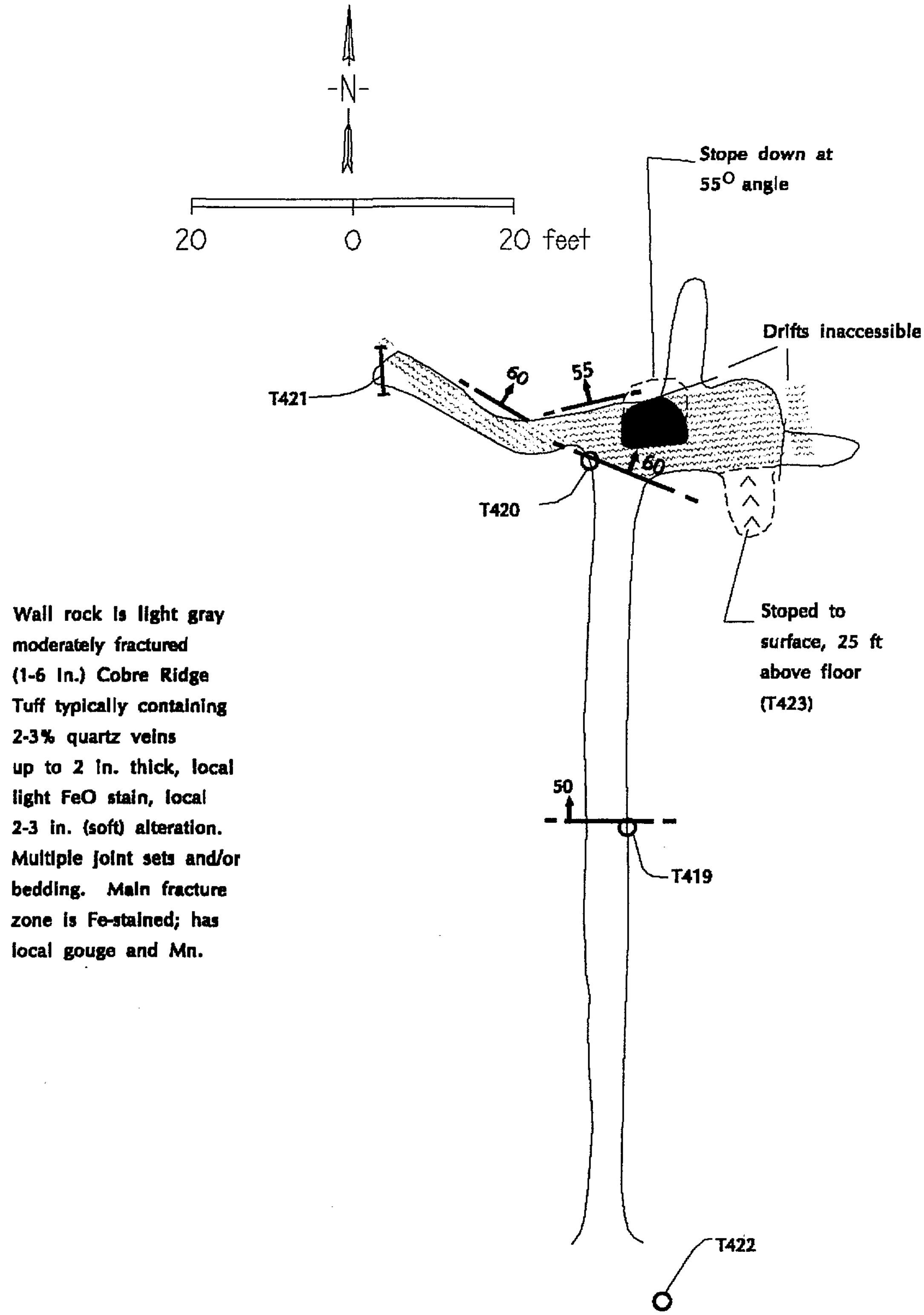
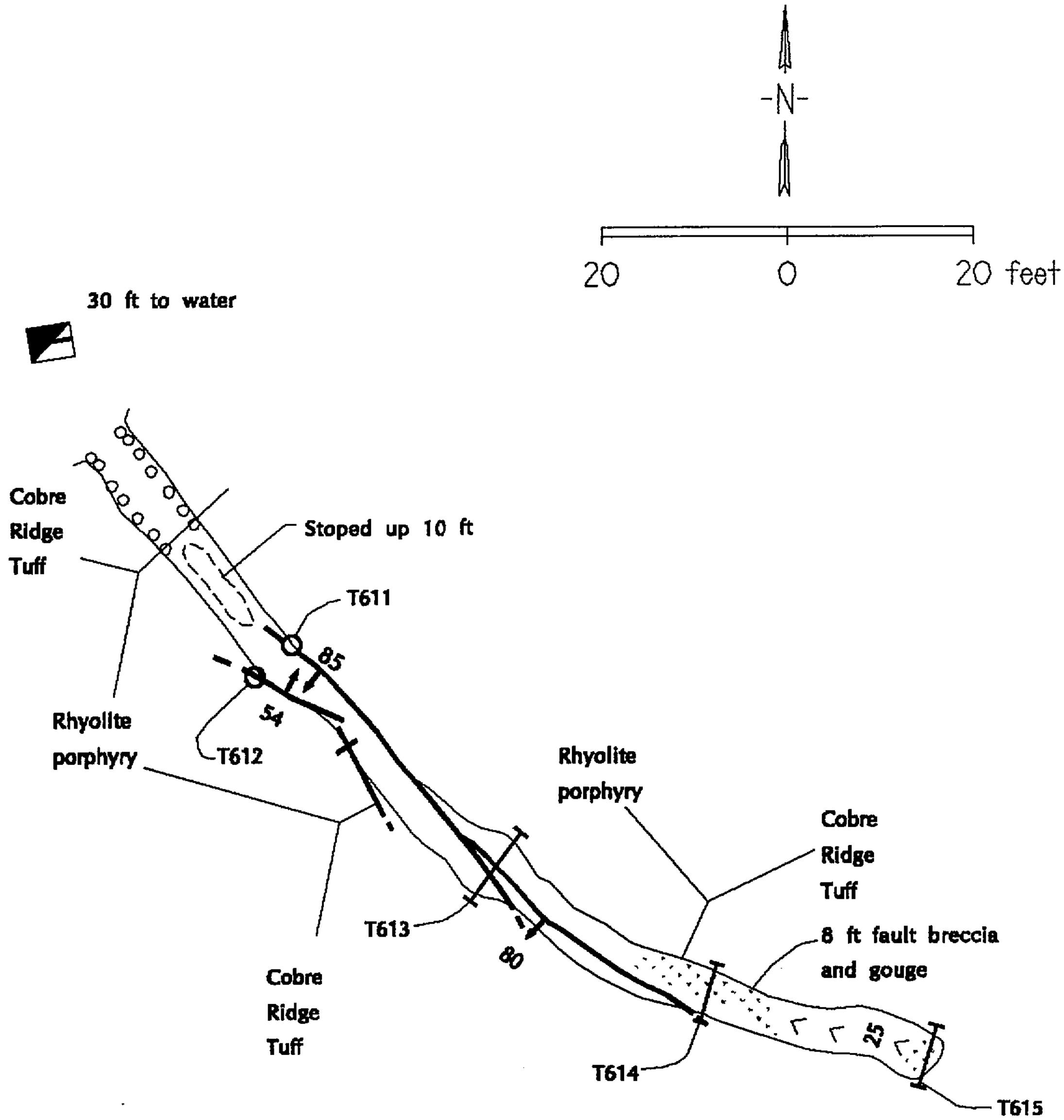


Figure 9. Prospect in flat silica zone, with sample localities T419-422, Oro Blanco district.



Adit is in multiple fault zones intersecting in fractured tuff. Finely crystalline pyritized calc-silicate developed, possible alteration product or finer phase of tuff. Faults vary in attitude and not exposed all the way. Local calcite cementing, alteration of porphyry, FeO, Mn.

Figure 10. Cramer Mine, with sample localities T611-615, Oro Blanco district.

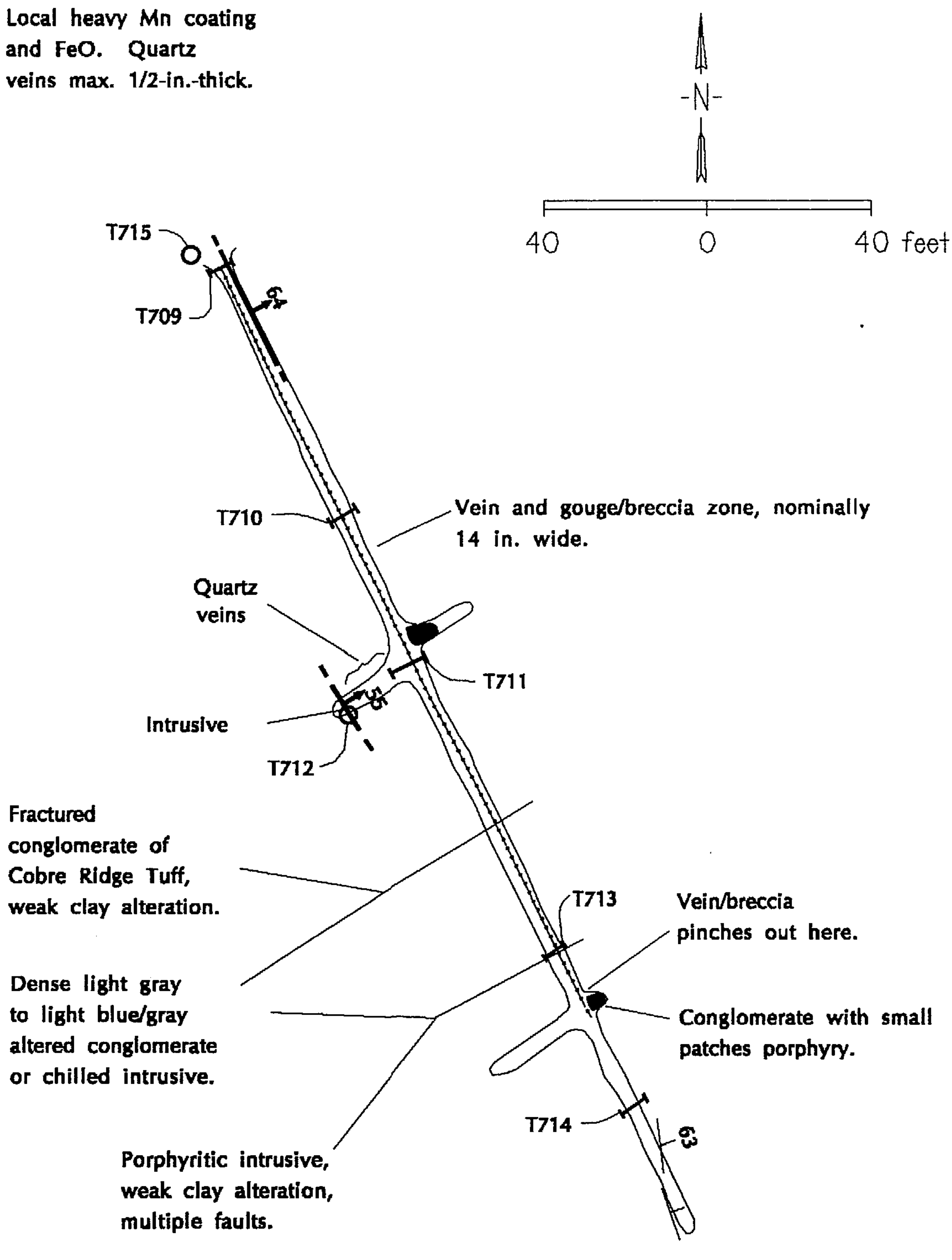


Figure 11. Part of Dos Amigos Mine, with sample localities T709-715, Oro Blanco district.

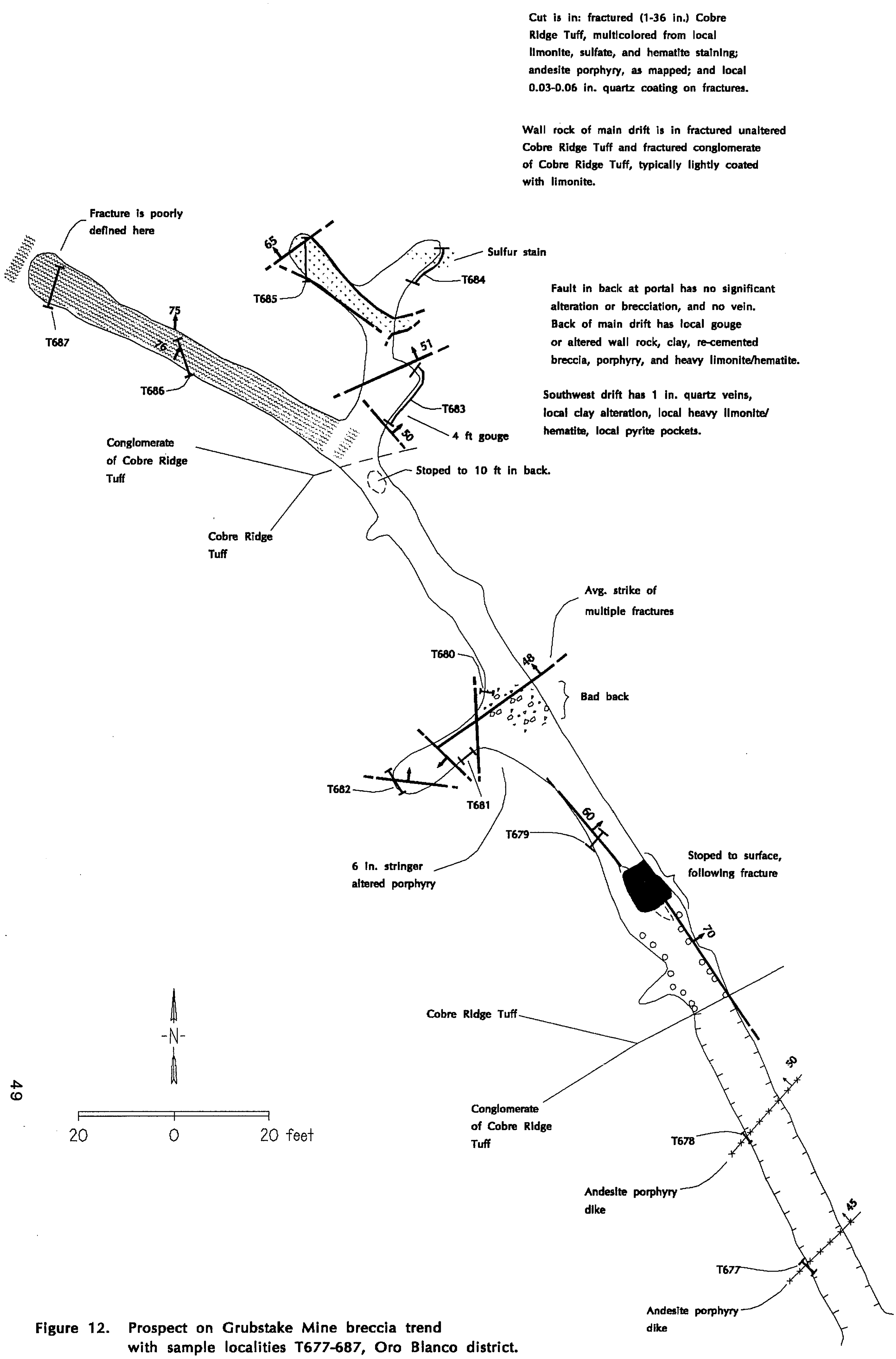


Figure 12. Prospect on Grubstake Mine breccia trend with sample localities T677-687, Oro Blanco district.

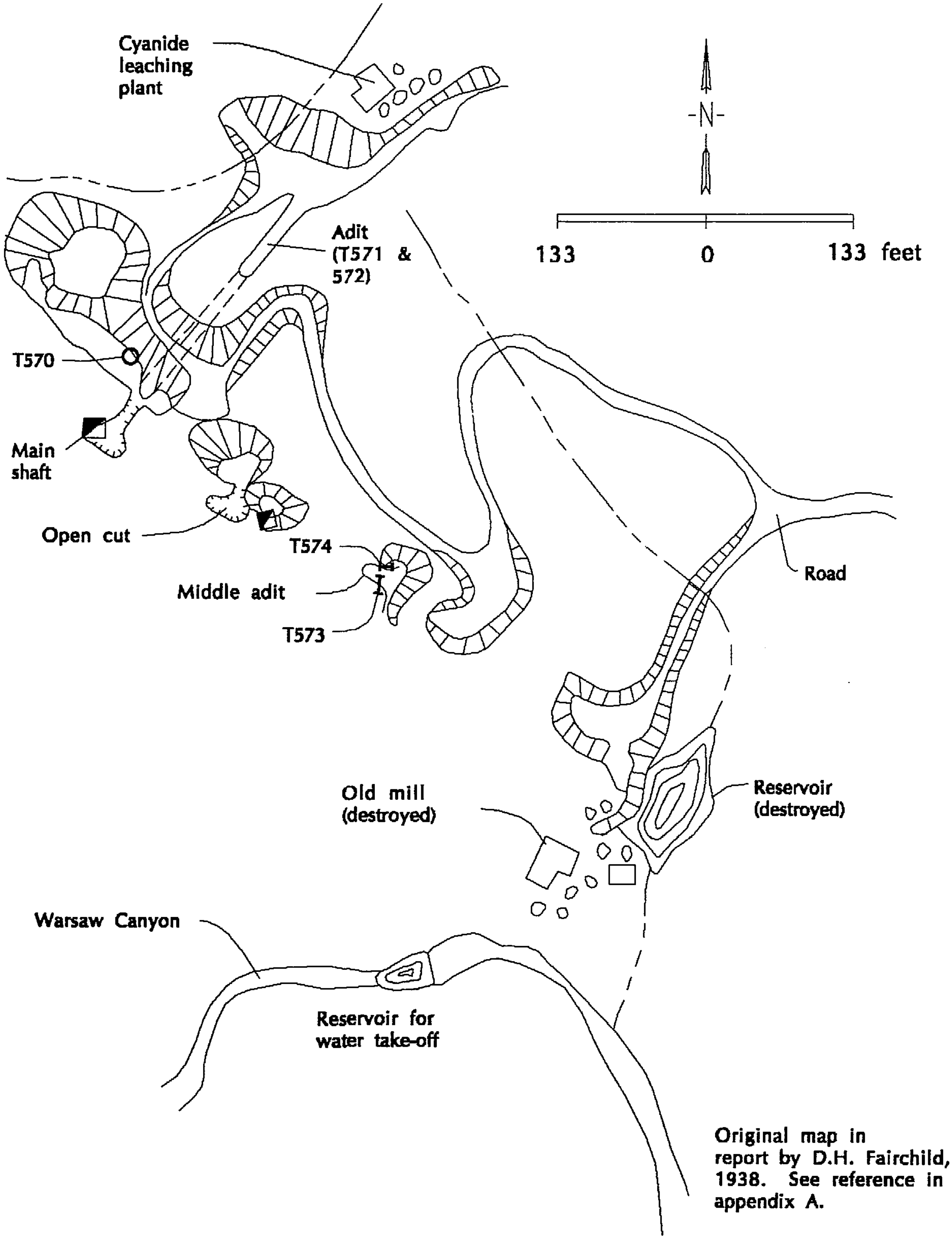


Figure 15. Smuggler Gulch Mine, surface plan map, with sample localities, T570-574, Oro Blanco district.

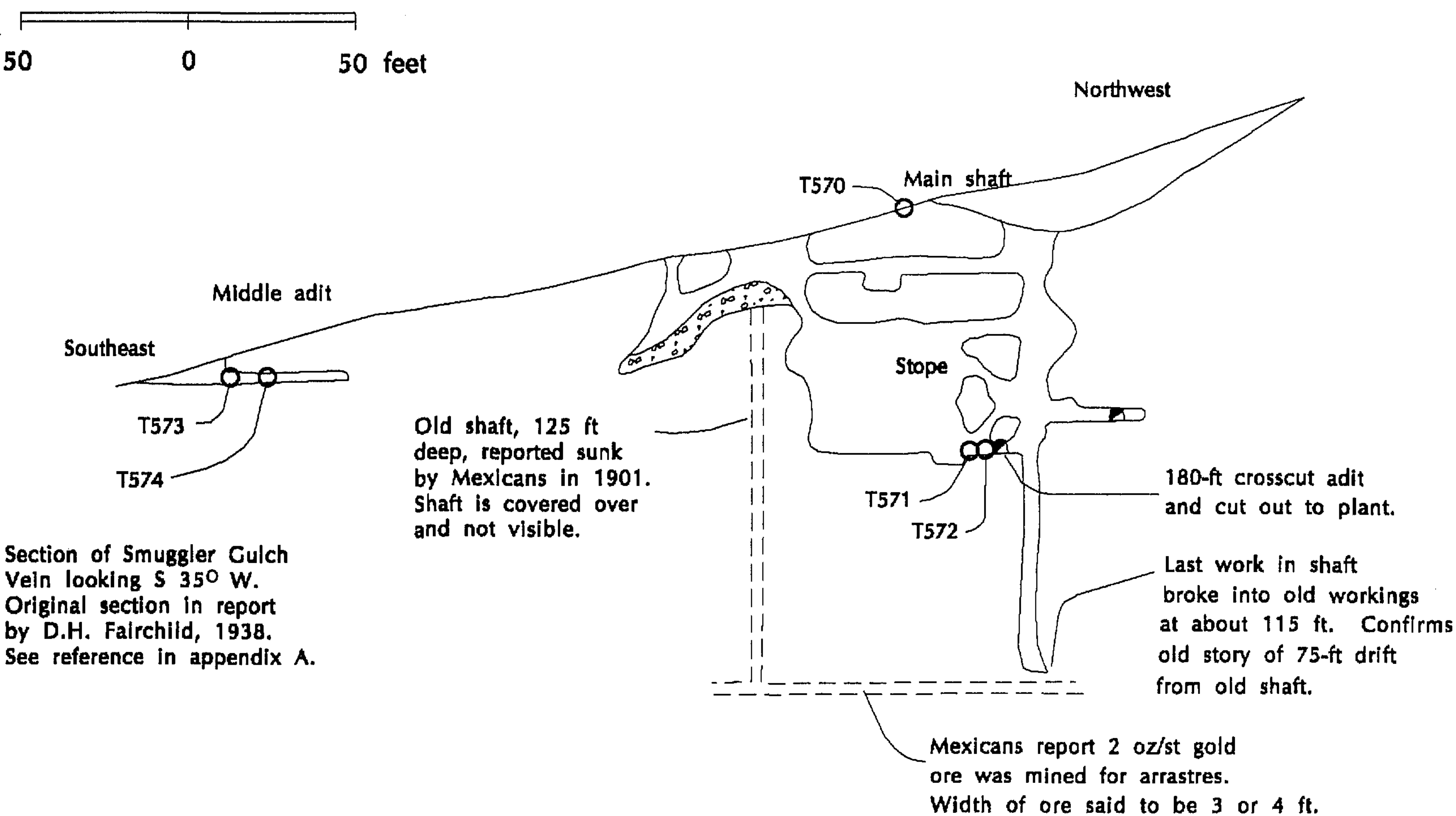


Figure 16. Smuggler Gulch Mine, longitudinal section, with sample localities T570-574, Oro Blanco district.

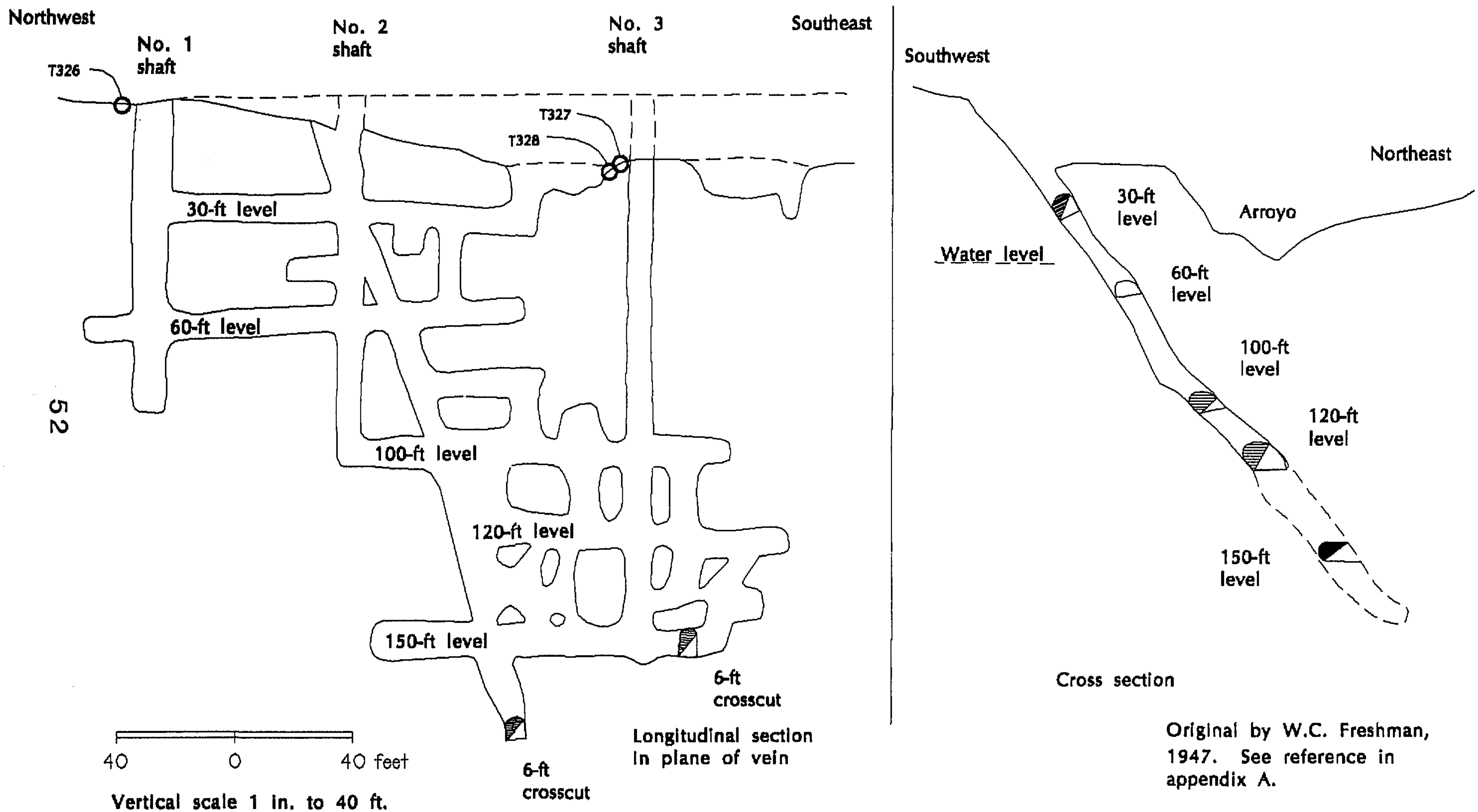


Figure 17. Brick Mine, longitudinal section and cross section, with sample localities T326-328, Oro Blanco district.

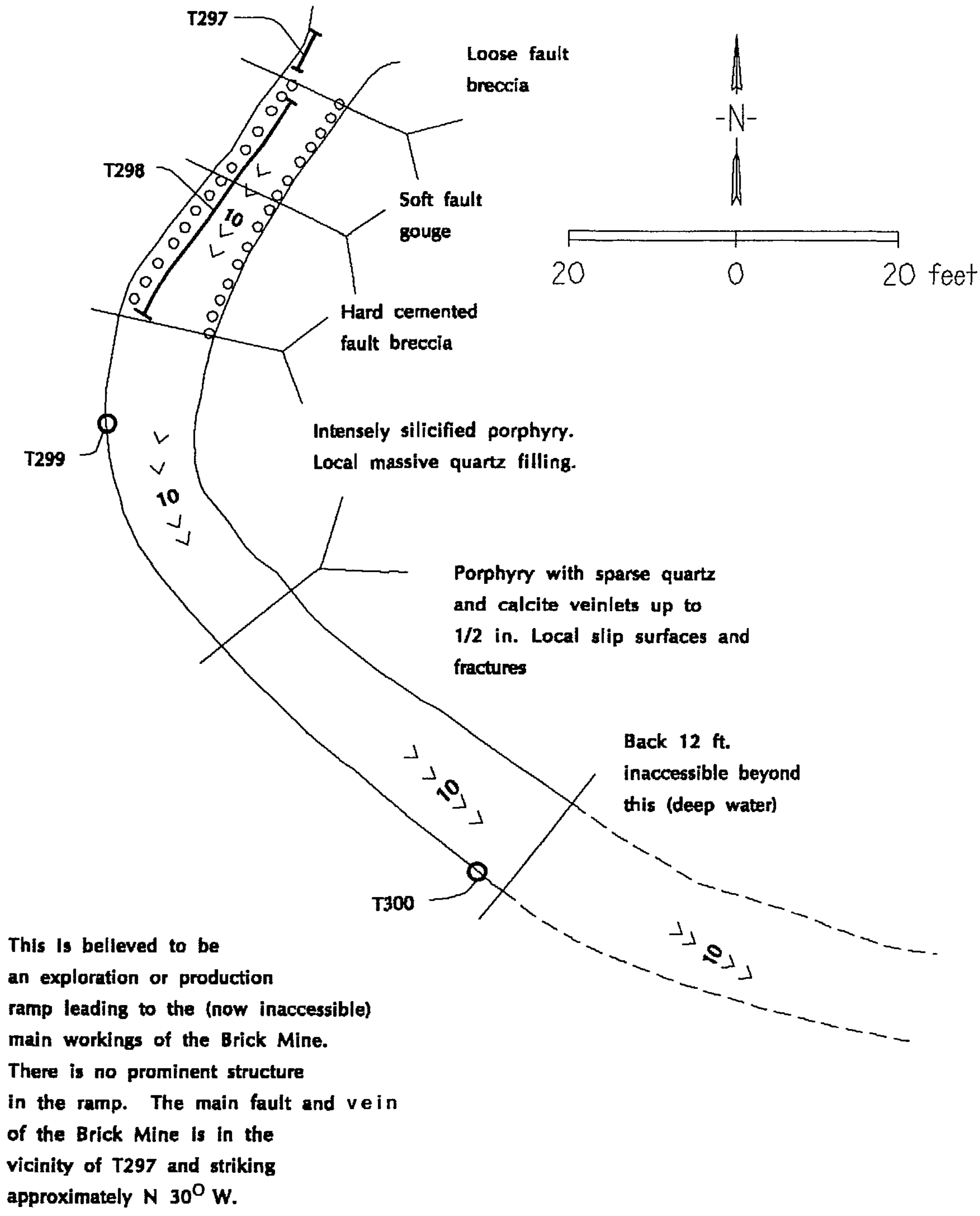


Figure 18. Part of Brick Mine with sample localities T297-300, Oro Blanco district.

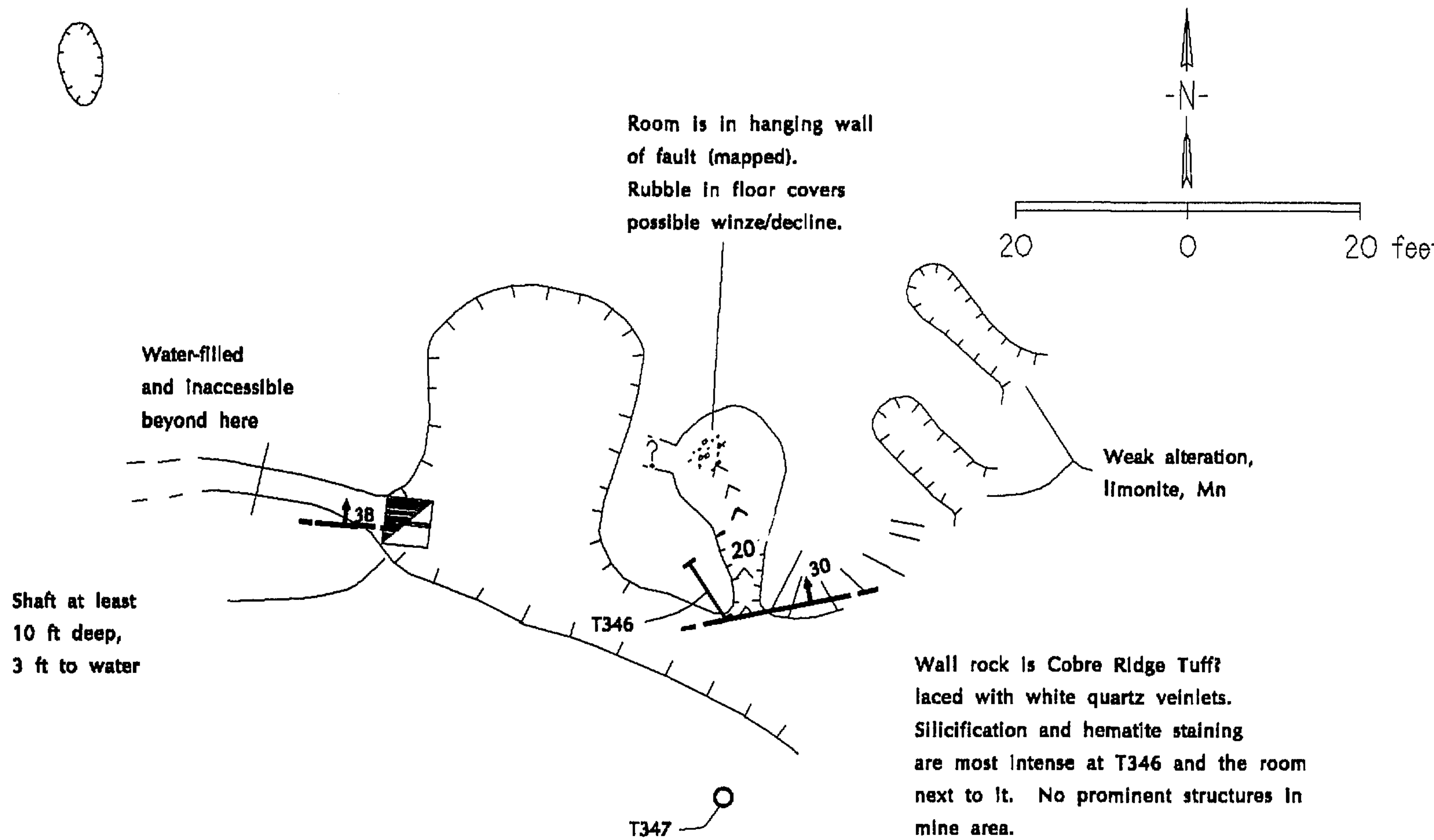


Figure 19. Brown Bird Mine with sample localities T346-347, Oro Blanco district.

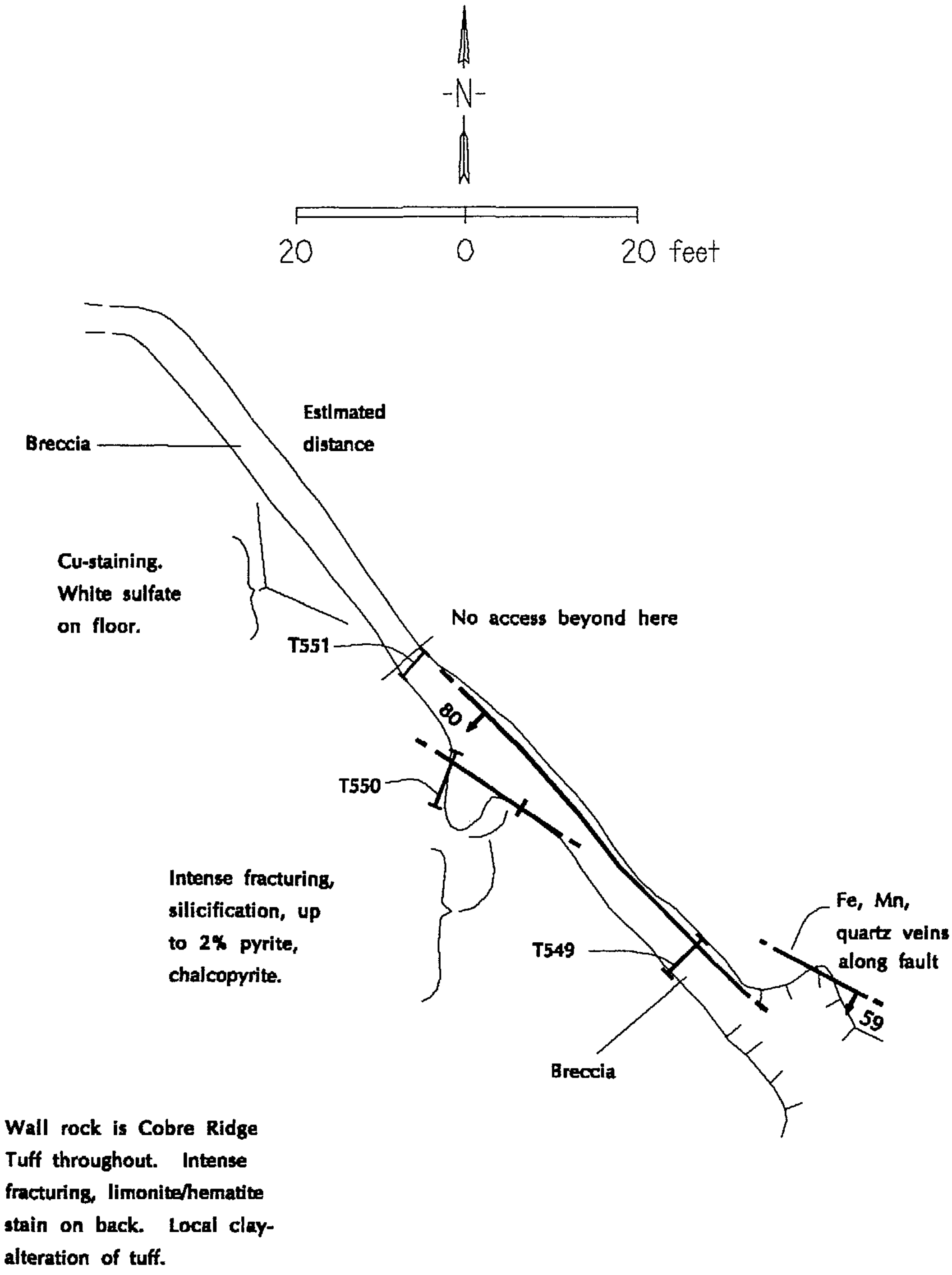
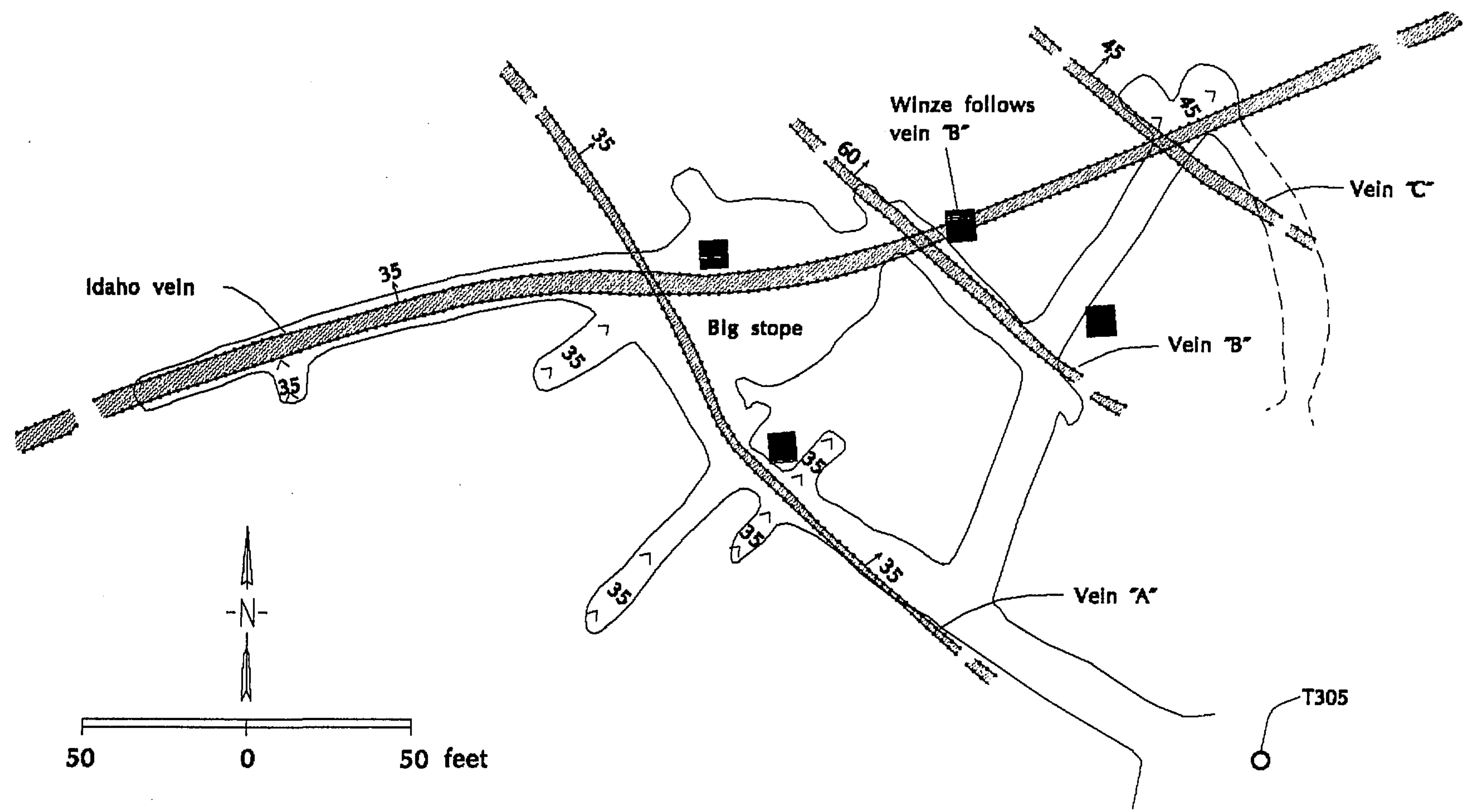


Figure 21. Prospect on Nil Desperadum Mine fracture zone, with sample localities T549-551, Oro Blanco district.



Original sketch by W.D. Pye, 1977. See reference in appendix A.

Figure 22. Idaho Mine, main workings, with sample locality T305, Oro Blanco district.

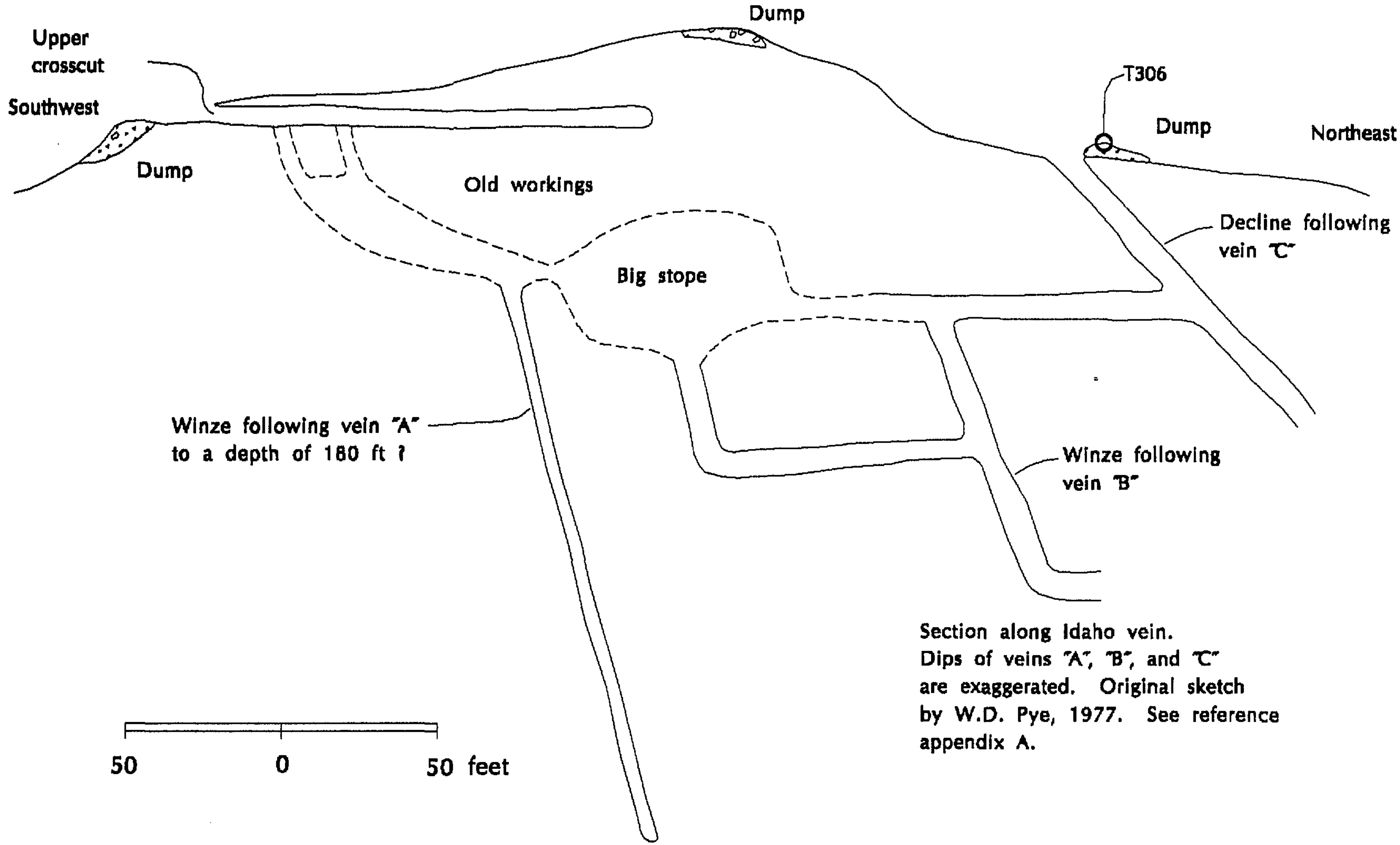


Figure 23. Idaho Mine, cross section, with sample locality T306, Oro Blanco district.

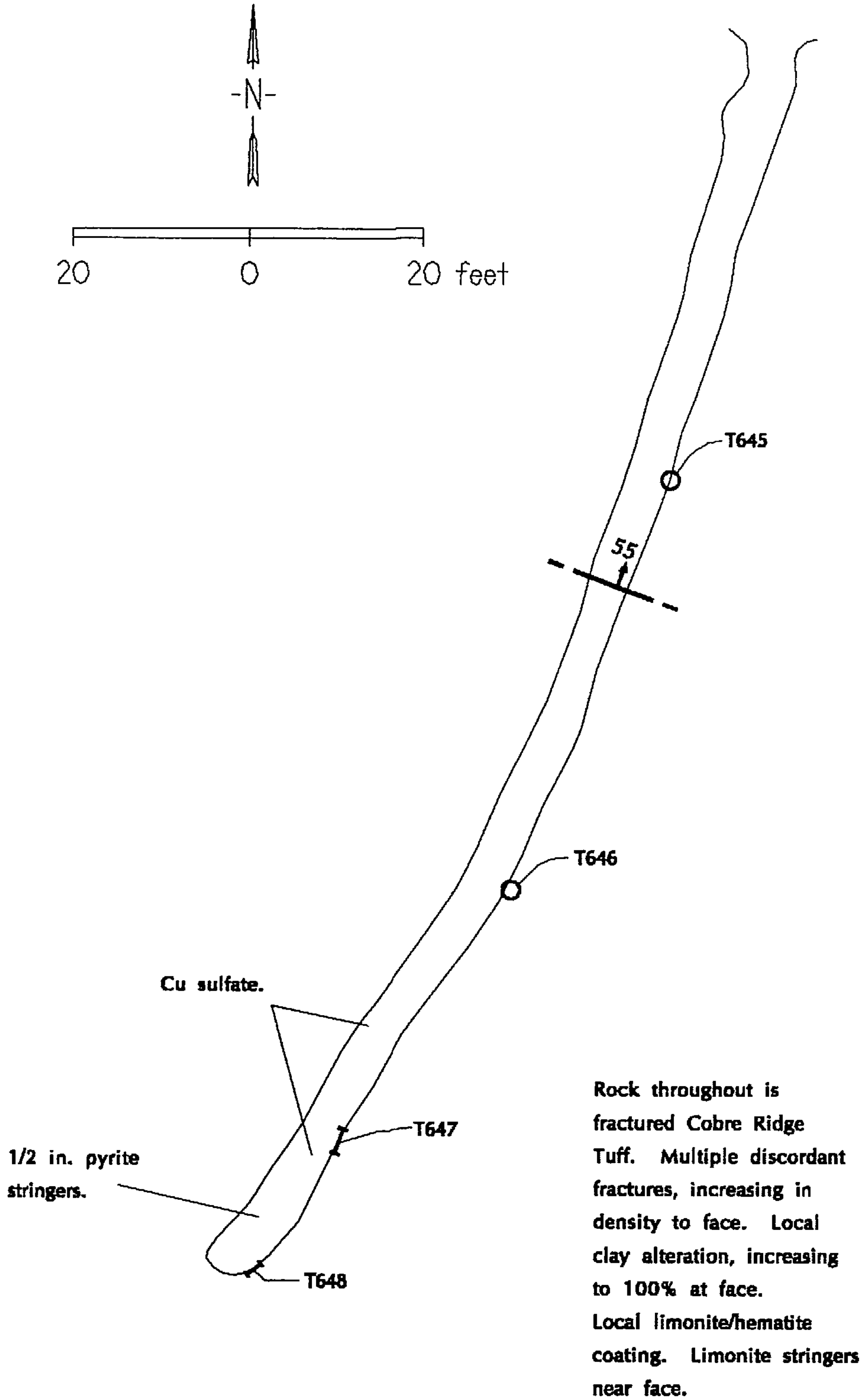
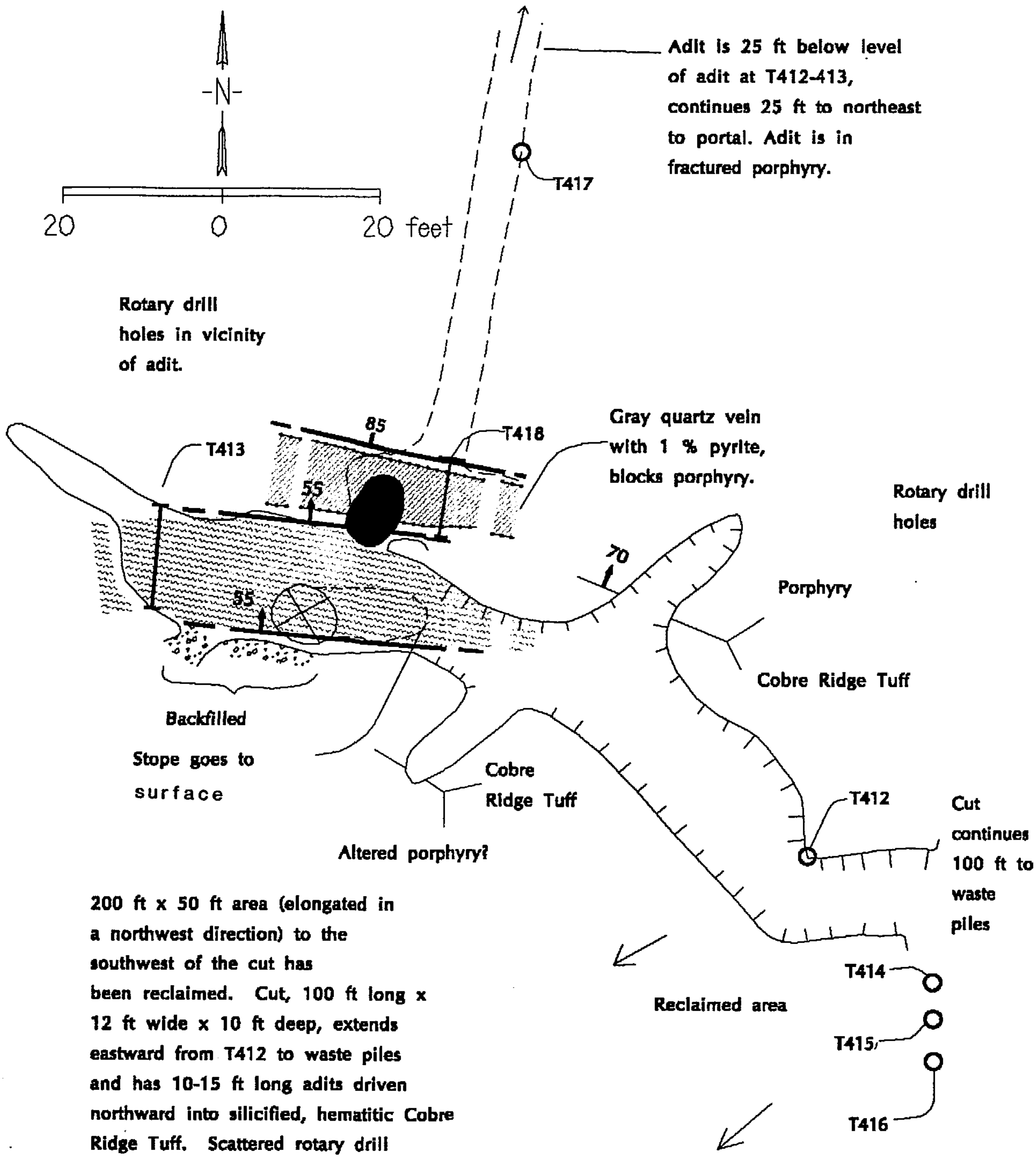
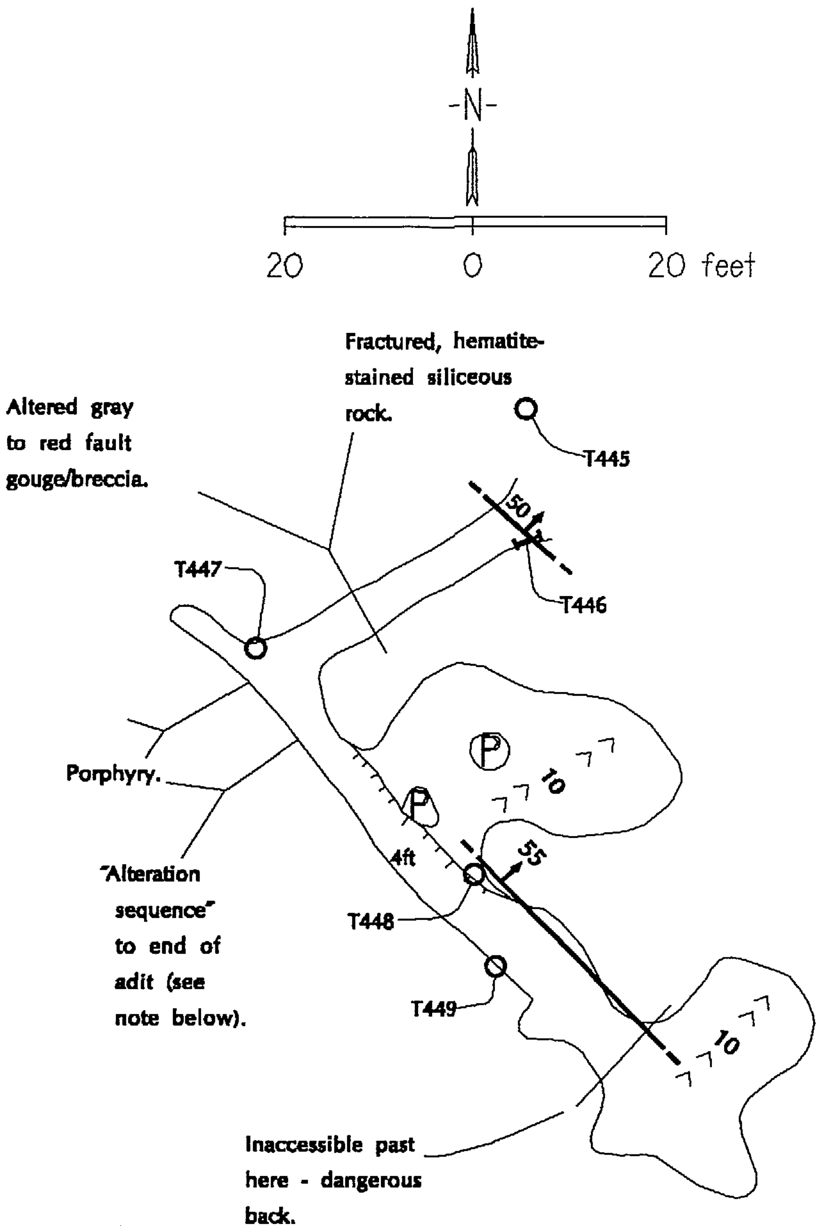


Figure 24. Part of Grubstake Mine, with sample localities T645-648, Oro Blanco district.



200 ft x 50 ft area (elongated in a northwest direction) to the southwest of the cut has been reclaimed. Cut, 100 ft long x 12 ft wide x 10 ft deep, extends eastward from T412 to waste piles and has 10-15 ft long adits driven northward into silicified, hematitic Cobre Ridge Tuff. Scattered rotary drill holes located around mapped workings. Cobre Ridge Tuff is unaltered, except around winze; is moderately fractured and locally hematitic, Mn-stained and bleached. Stope and winze appear to be at intersection of multiple low-angle fractures.

Figure 25. Prospect adits T412-416, T417-418, Oro Blanco district.



Southeast-bearing drift and rooms are in gently northeast-dipping alteration sequence/gouge (4 ft thick) sandwiched between porphyry which is exposed in the floor and back. The "alteration sequence" is hematite-stained and includes 10-18 in. thick pyritic quartz layers which were sampled in the dump.

Figure 26. Prospect, with sample localities T445-449, Oro Blanco district.

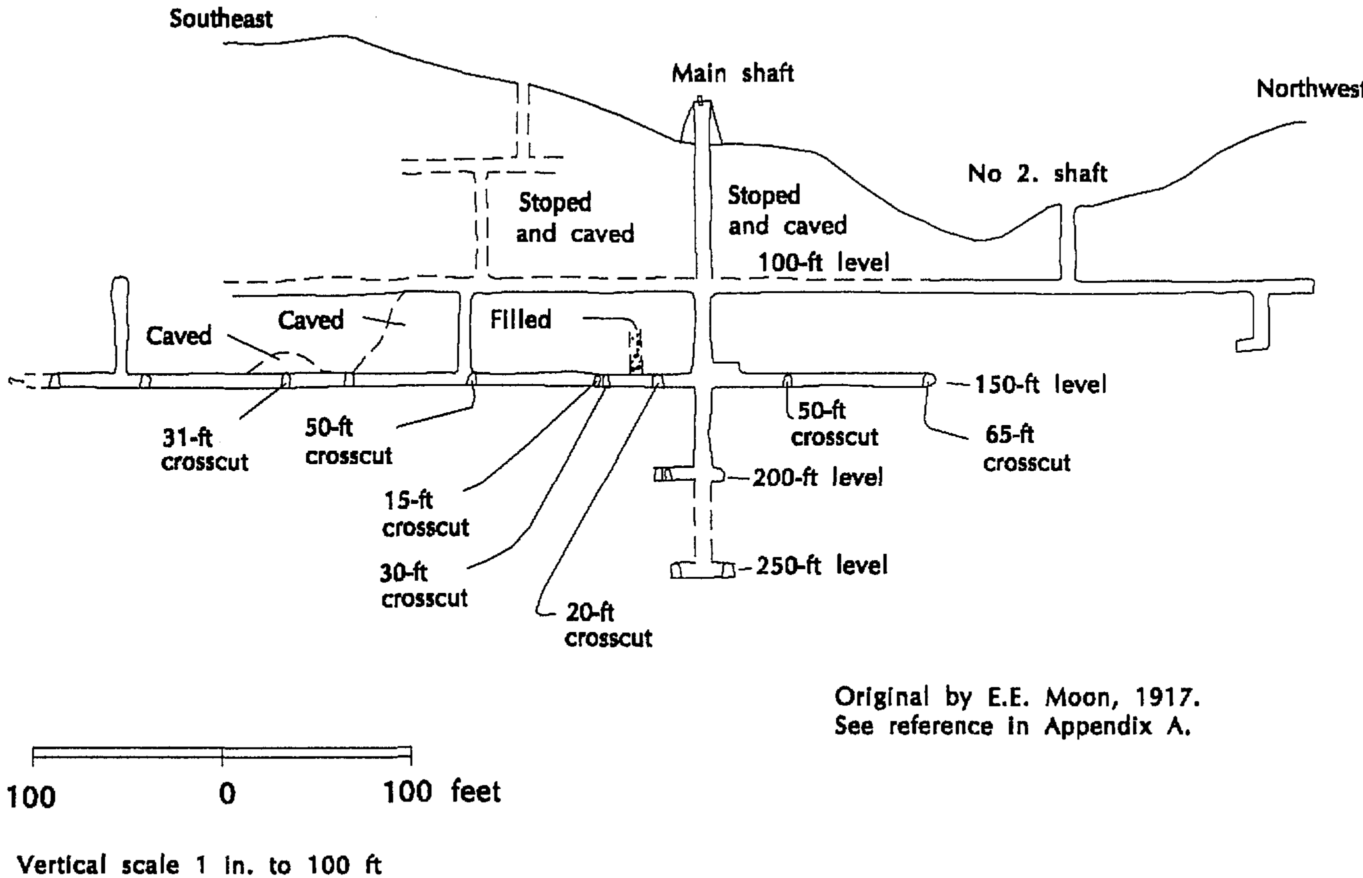


Figure 28. Yellow Jacket Mine, cross section, Oro Blanco district.

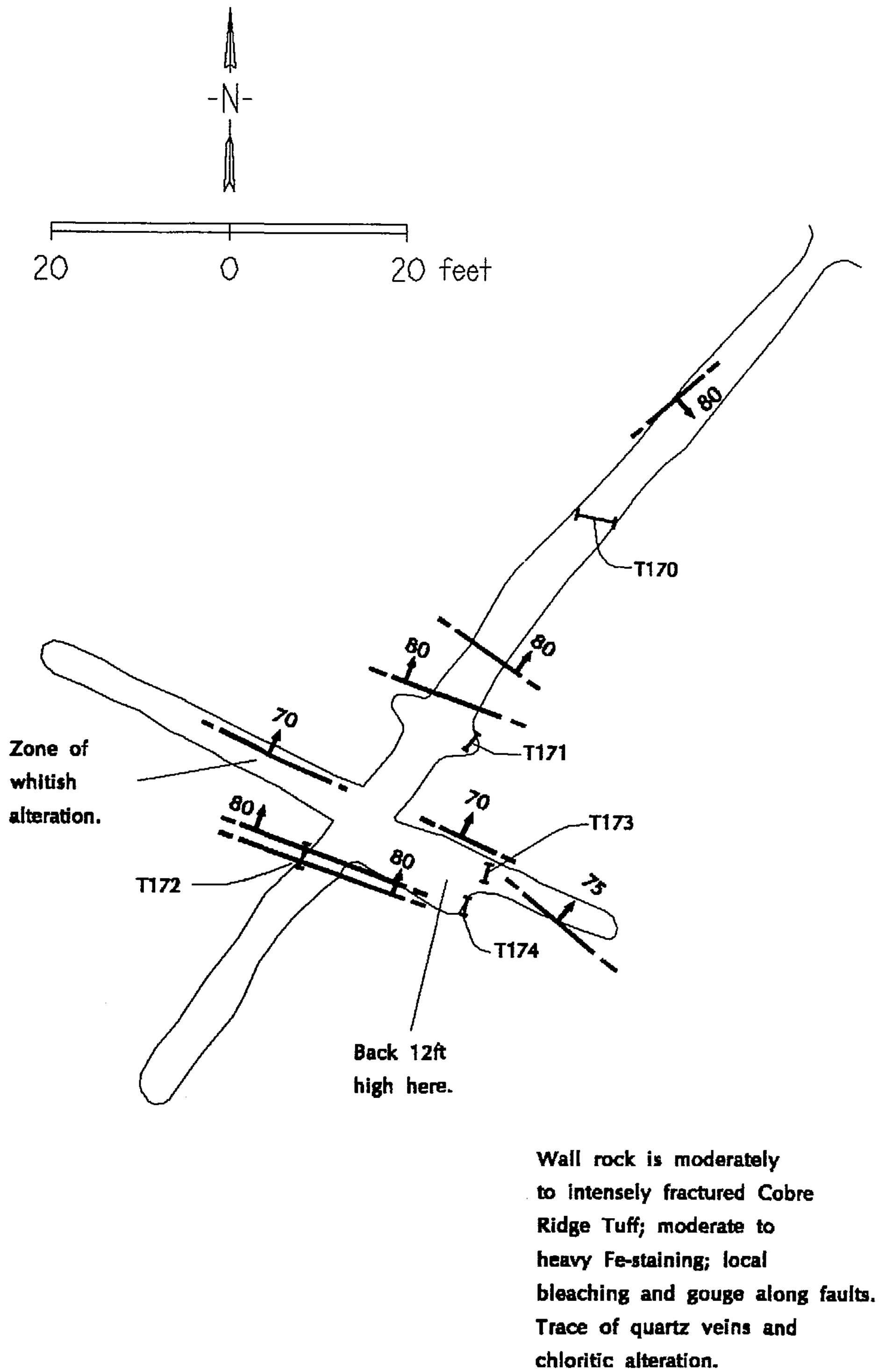
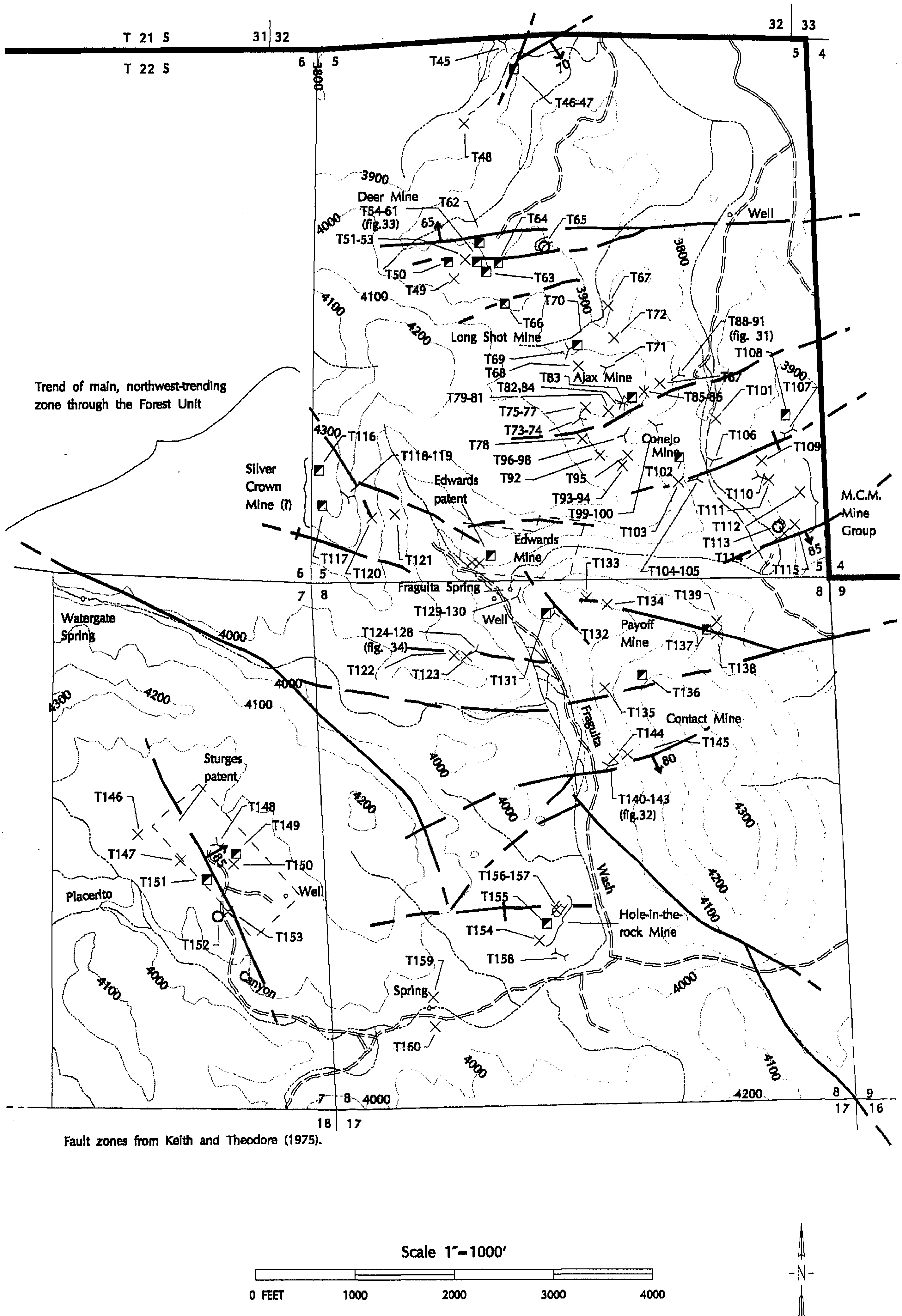


Figure 29. Unnamed prospect, with sample localities T170-174, Oro Blanco district.



Fault zones from Keith and Theodore (1975).

Figure 30. Arivaca district,with sample localities T45-160.

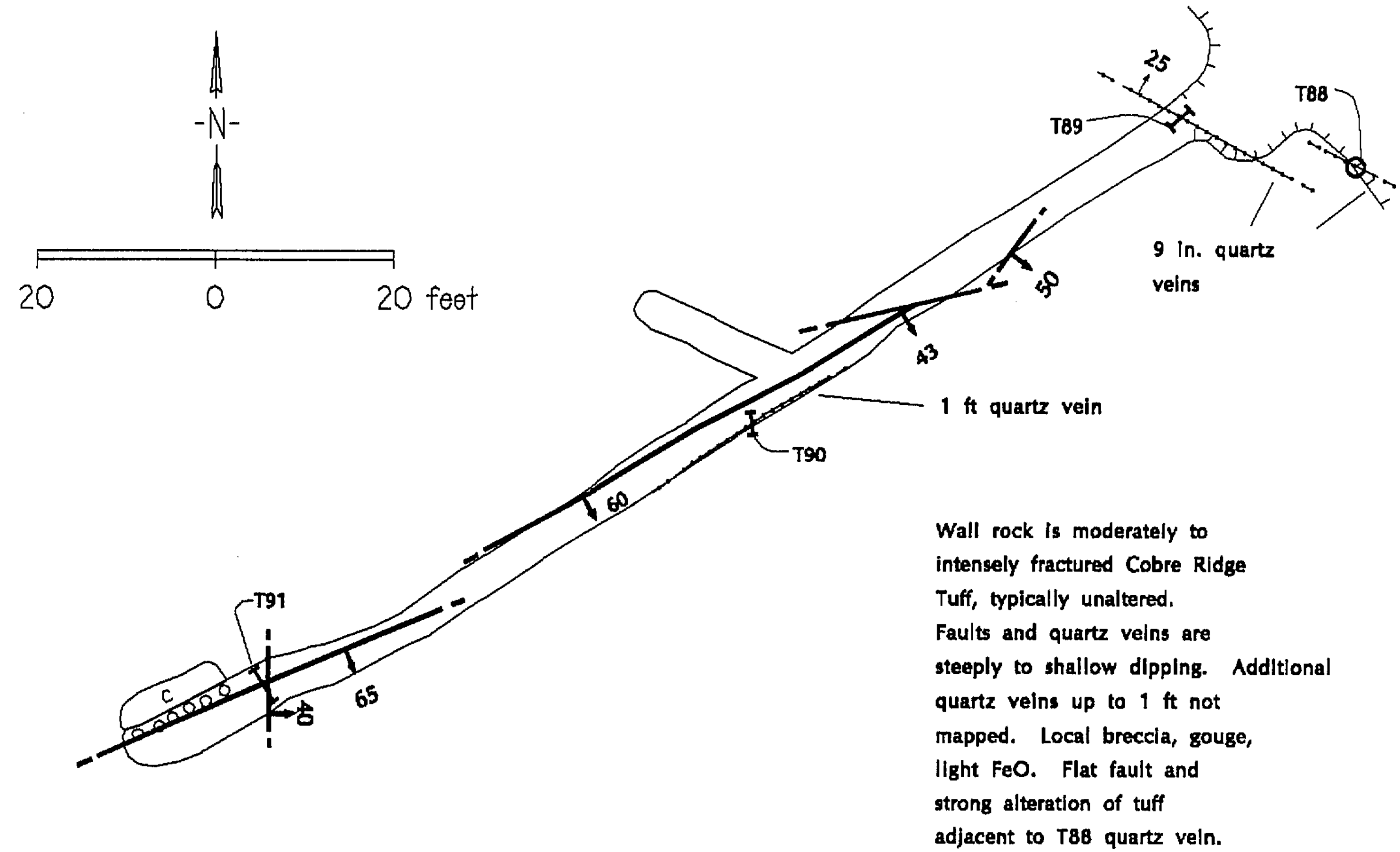


Figure 31. Ajax Mine, with sample localities T88-91, Arivaca district.

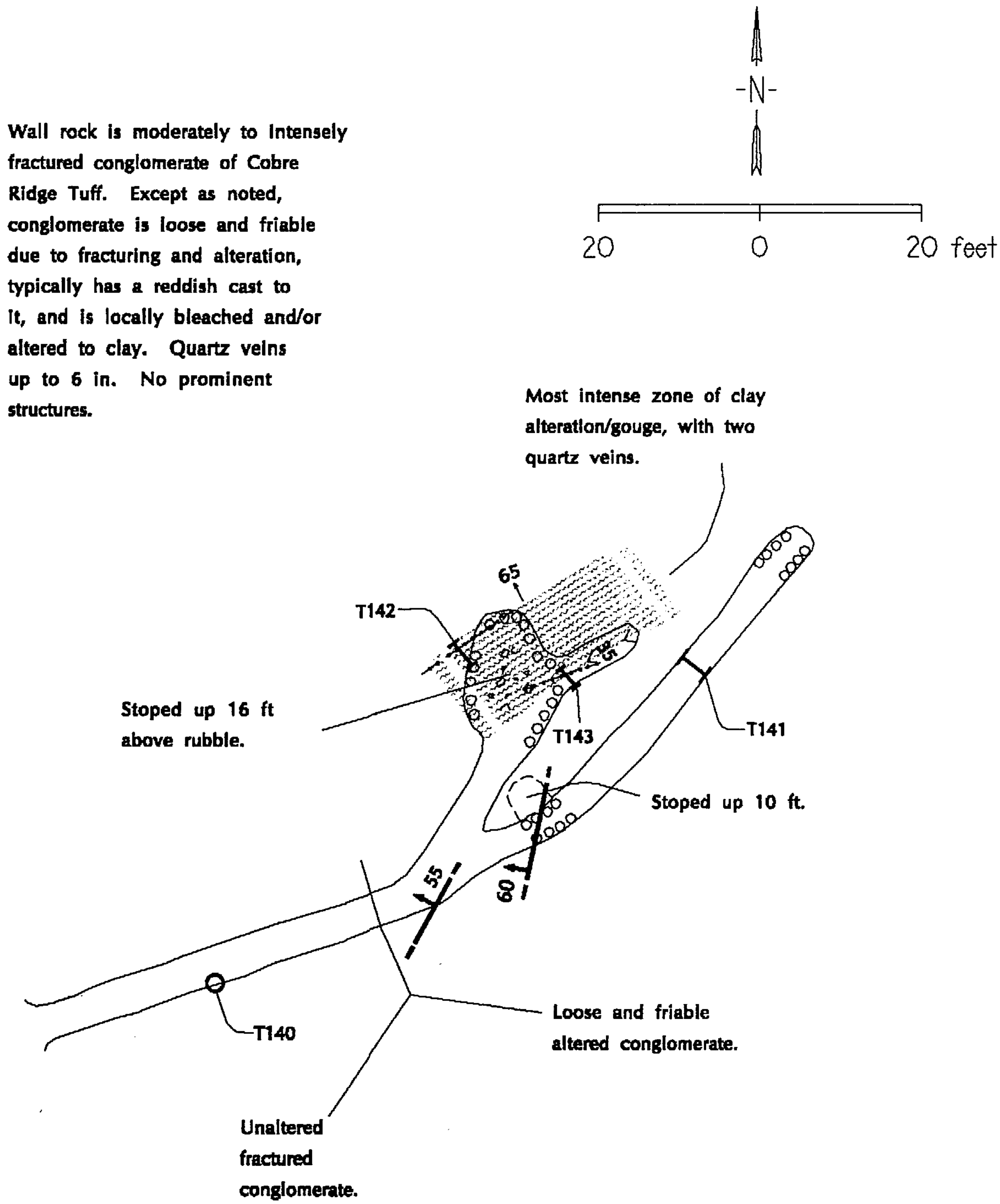


Figure 32. Contact Mine, with sample localities T140-143, Arivaca district.

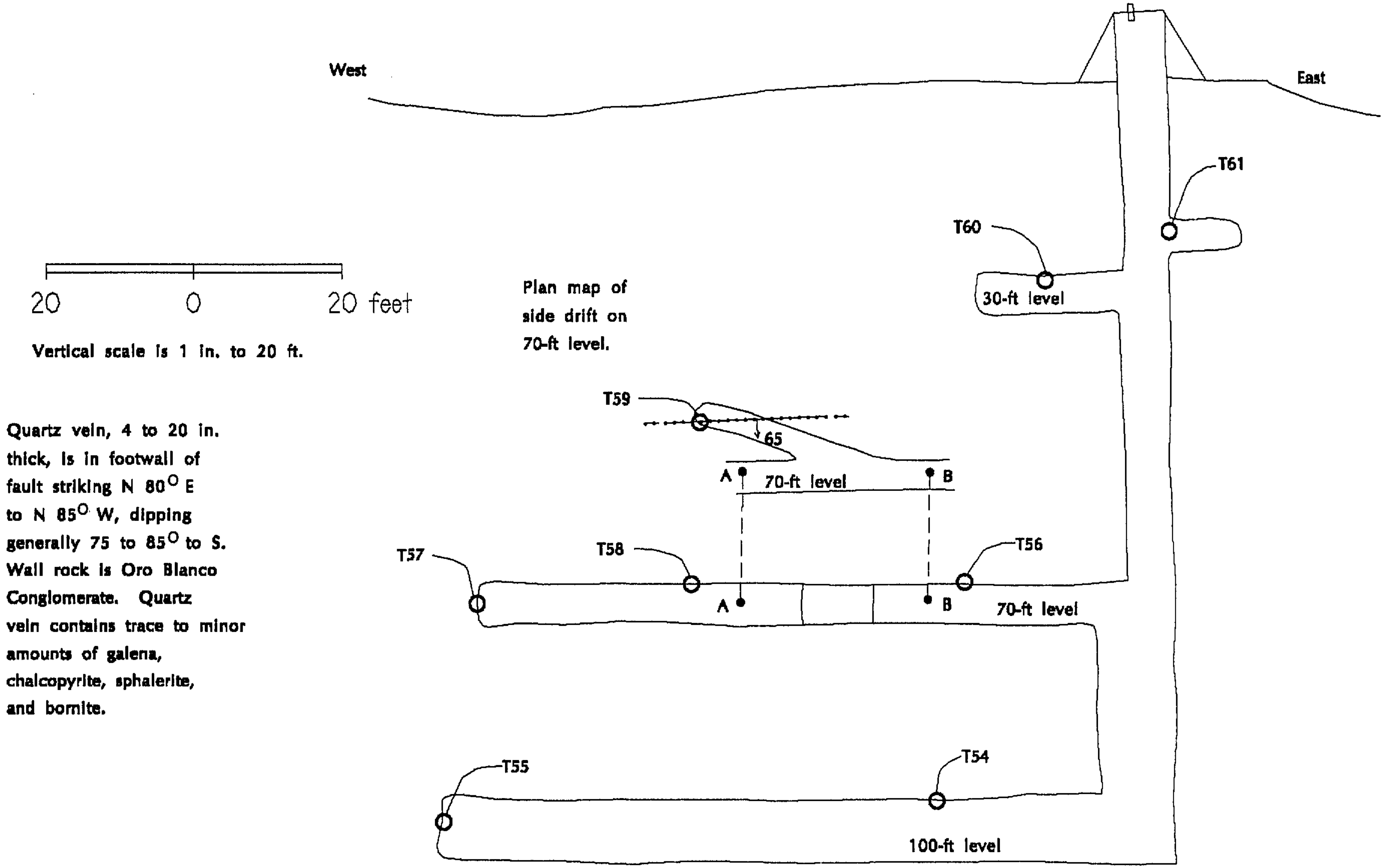


Figure 33. Deer Mine, cross section, with sample localities T54-61, Arivaca district.

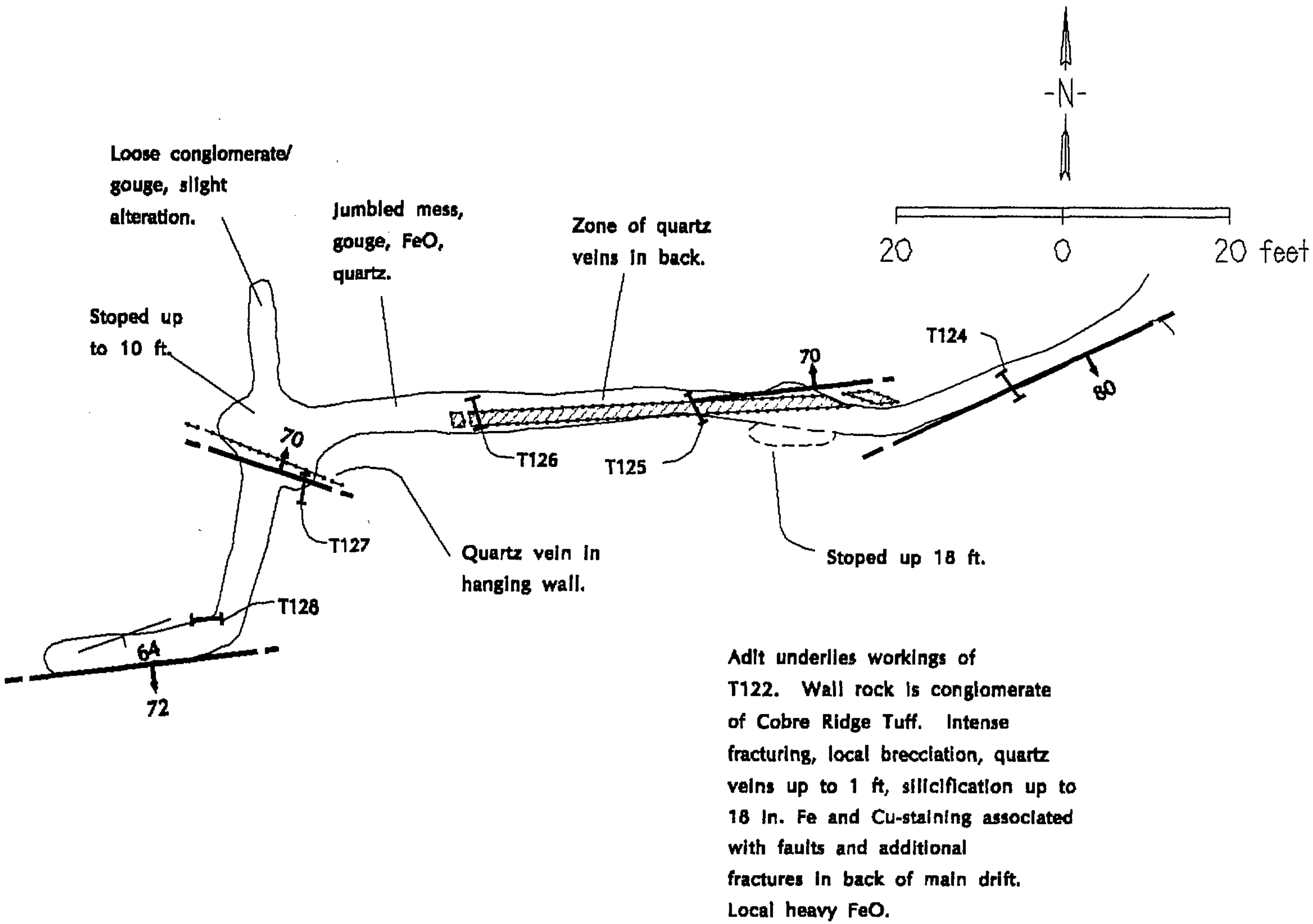


Figure 34. Unnamed prospect, with sample localities T124-128, Arivaca district.

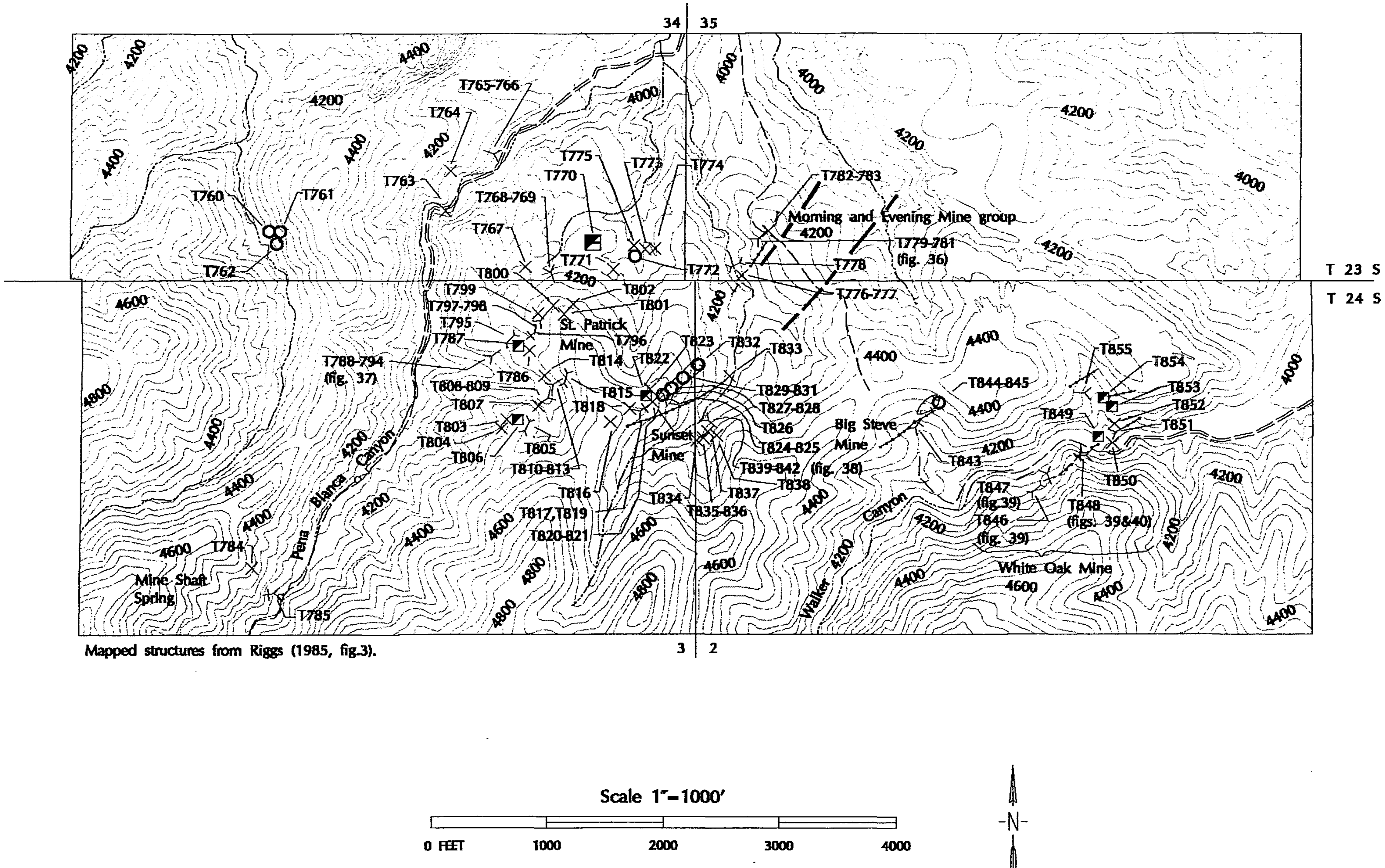


Figure 35. Pajarito district, with sample localities T760-855, Pajarito Mountains.

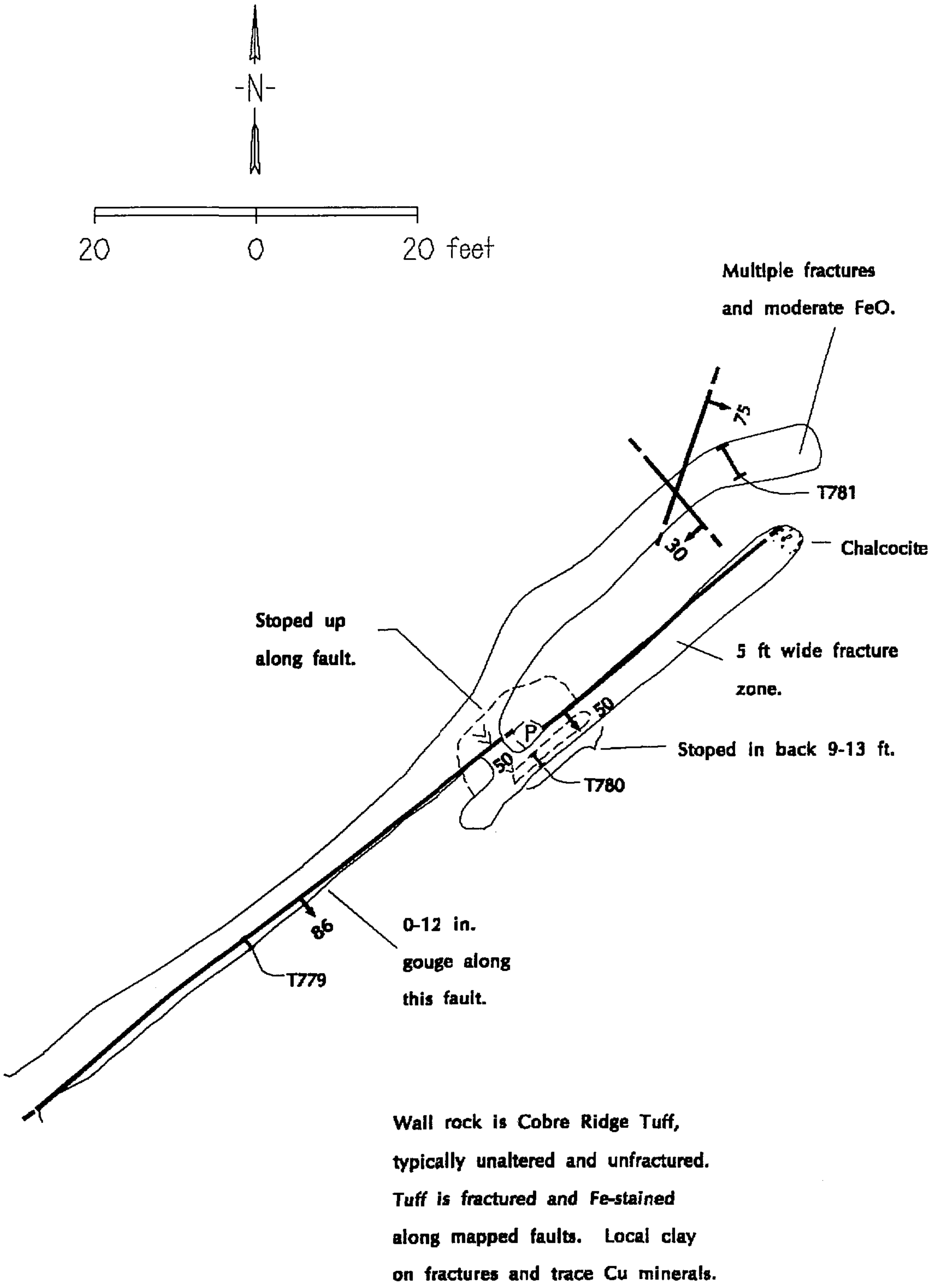


Figure 36. Morning and Evening Mine group, with sample localities T779-781, Pajarito district.

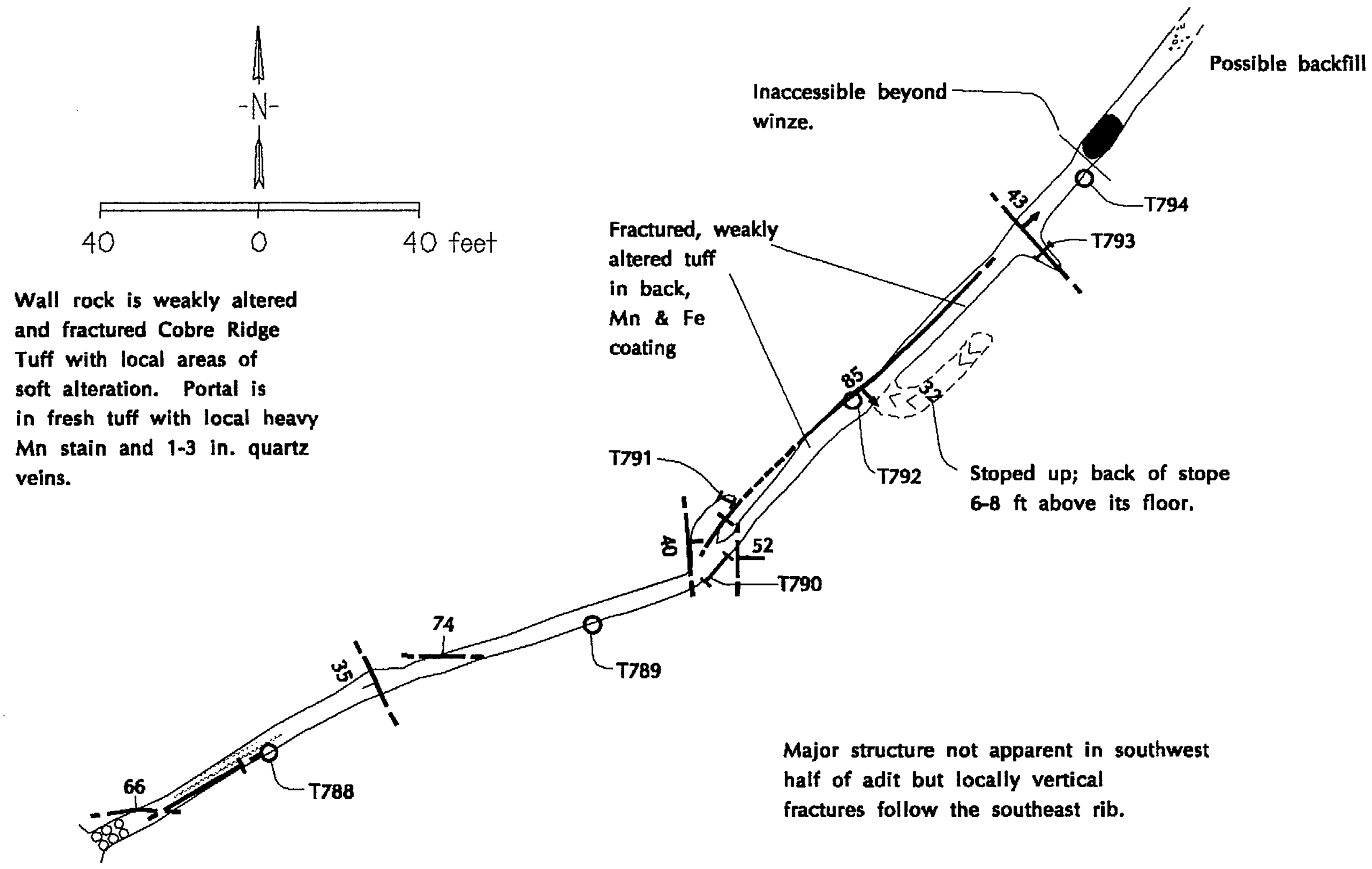


Figure 37. St. Patrick Mine, with sample localities T788-794, Pajarito district.

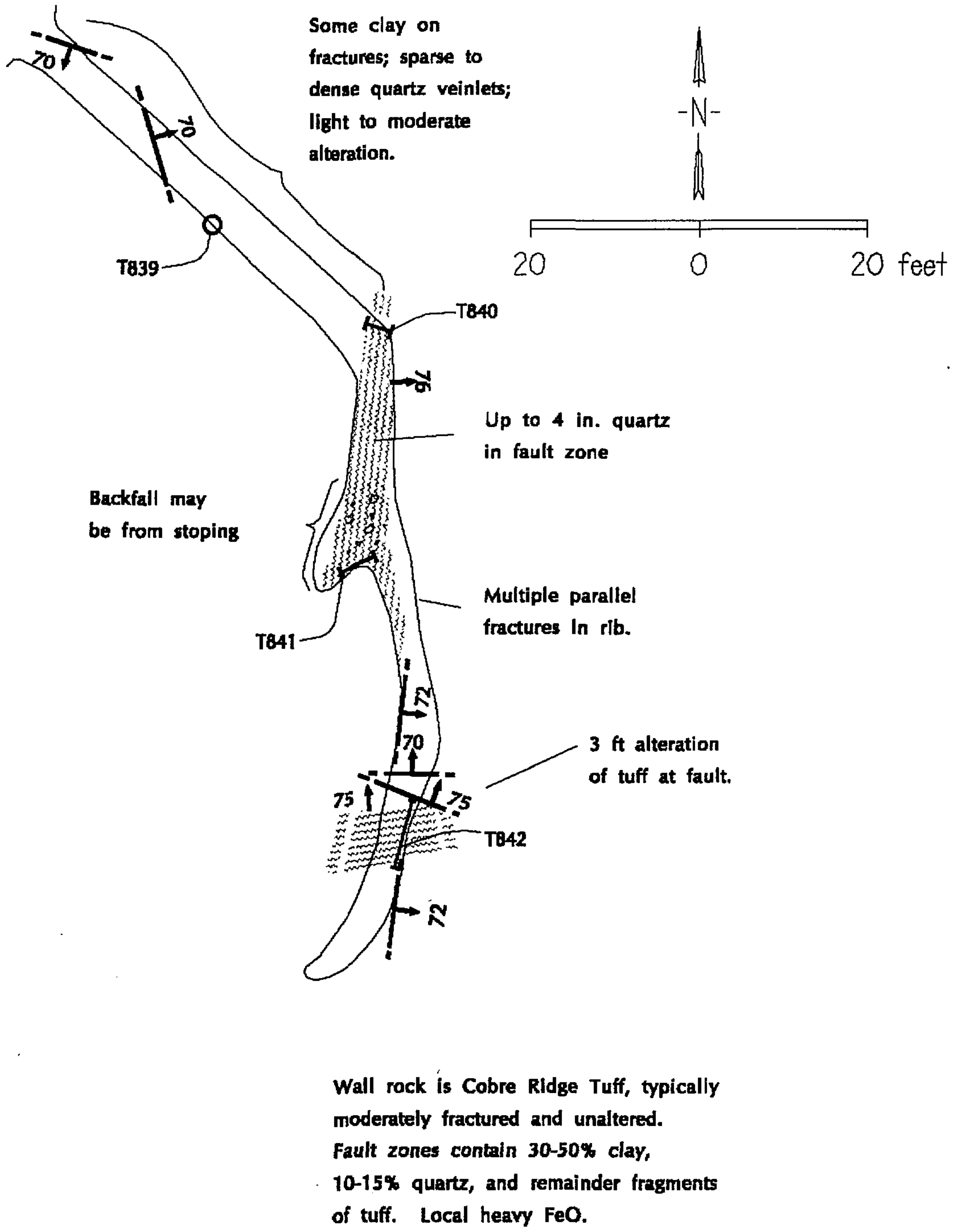


Figure 38. Unnamed adit, with sample localities T839-842, Pajarito district.

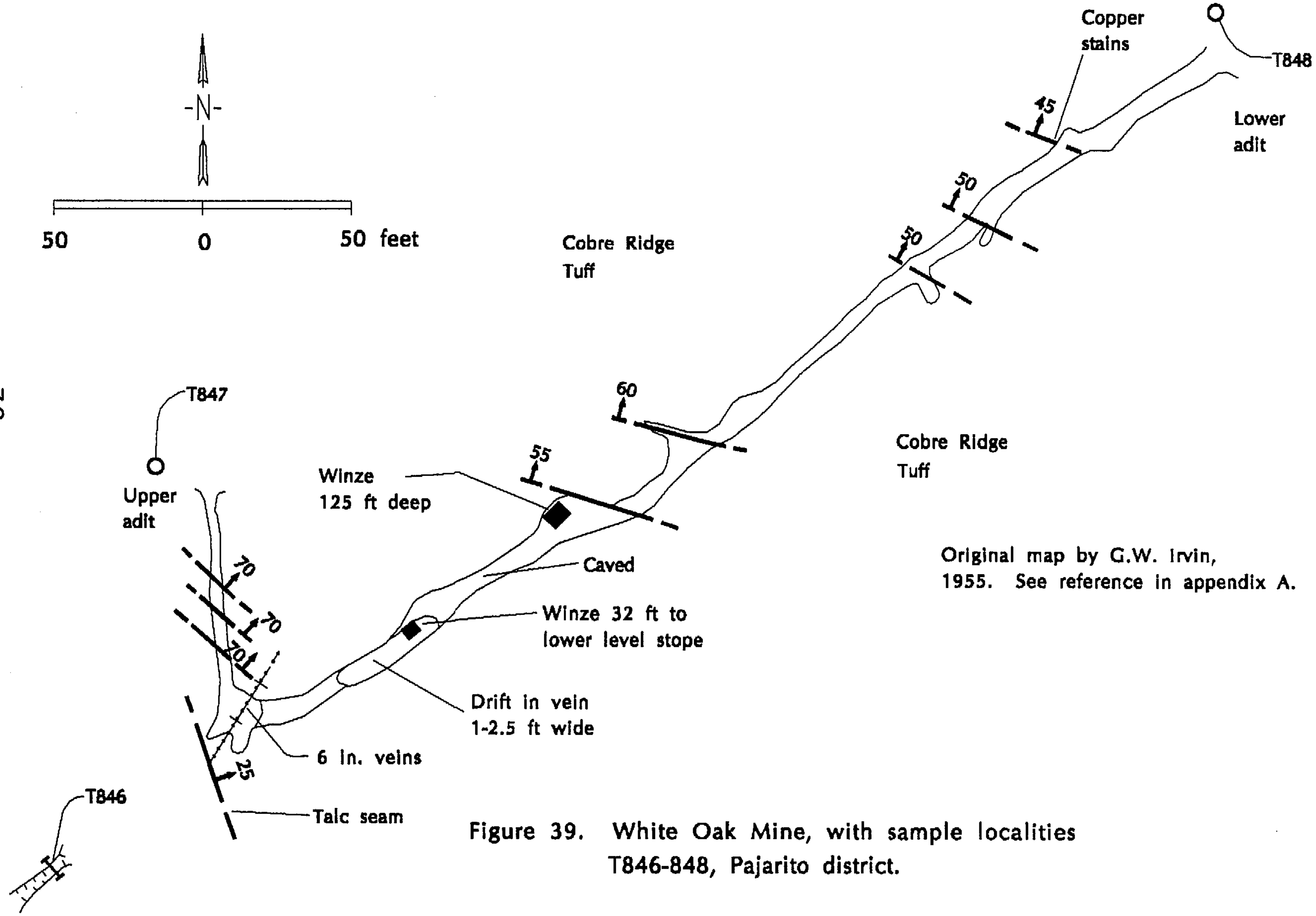


Figure 39. White Oak Mine, with sample localities T846-848, Pajarito district.

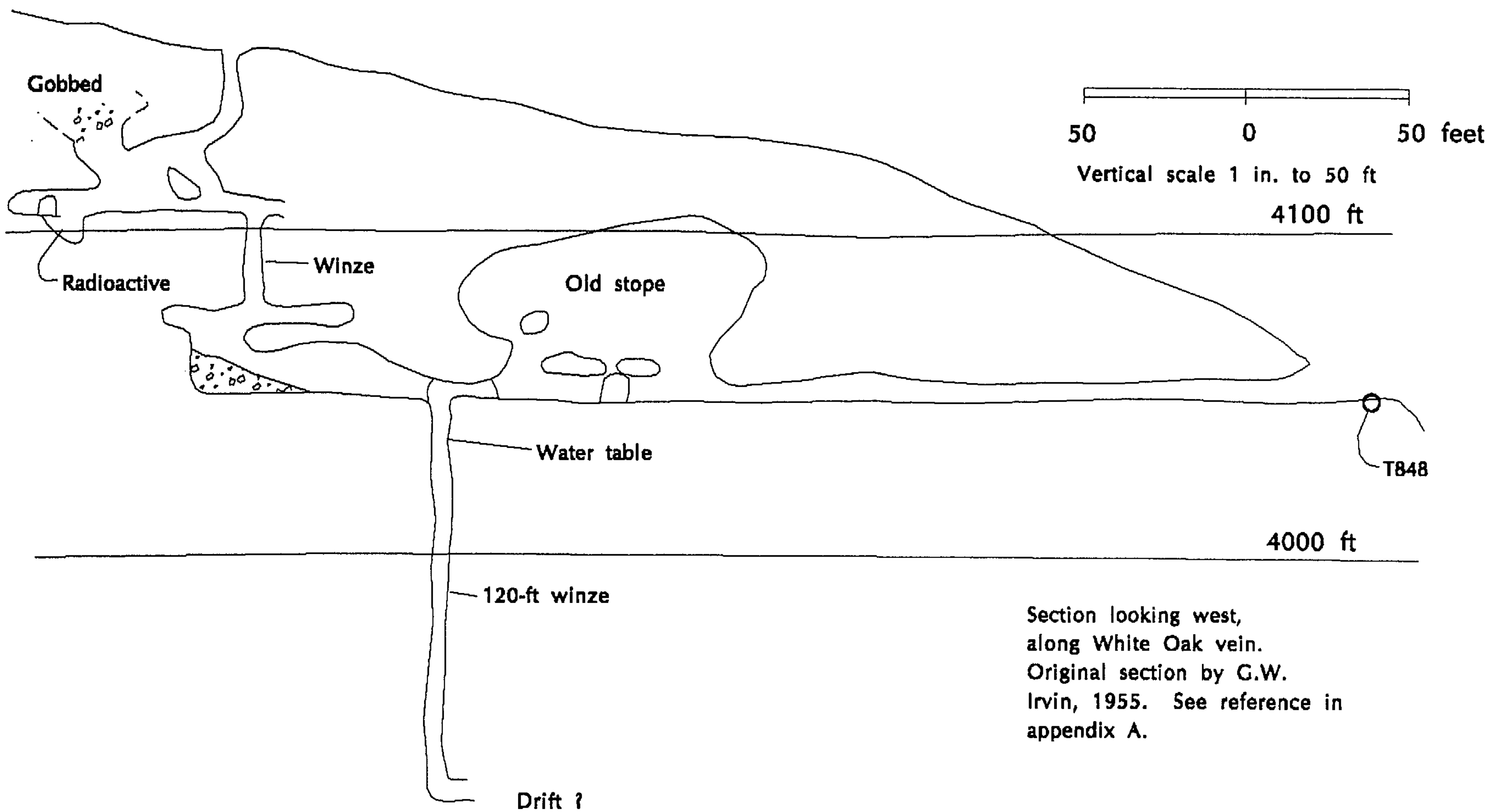


Figure 40.--White Oak Mine, longitudinal section, with sample locality T848, Pajarito district.

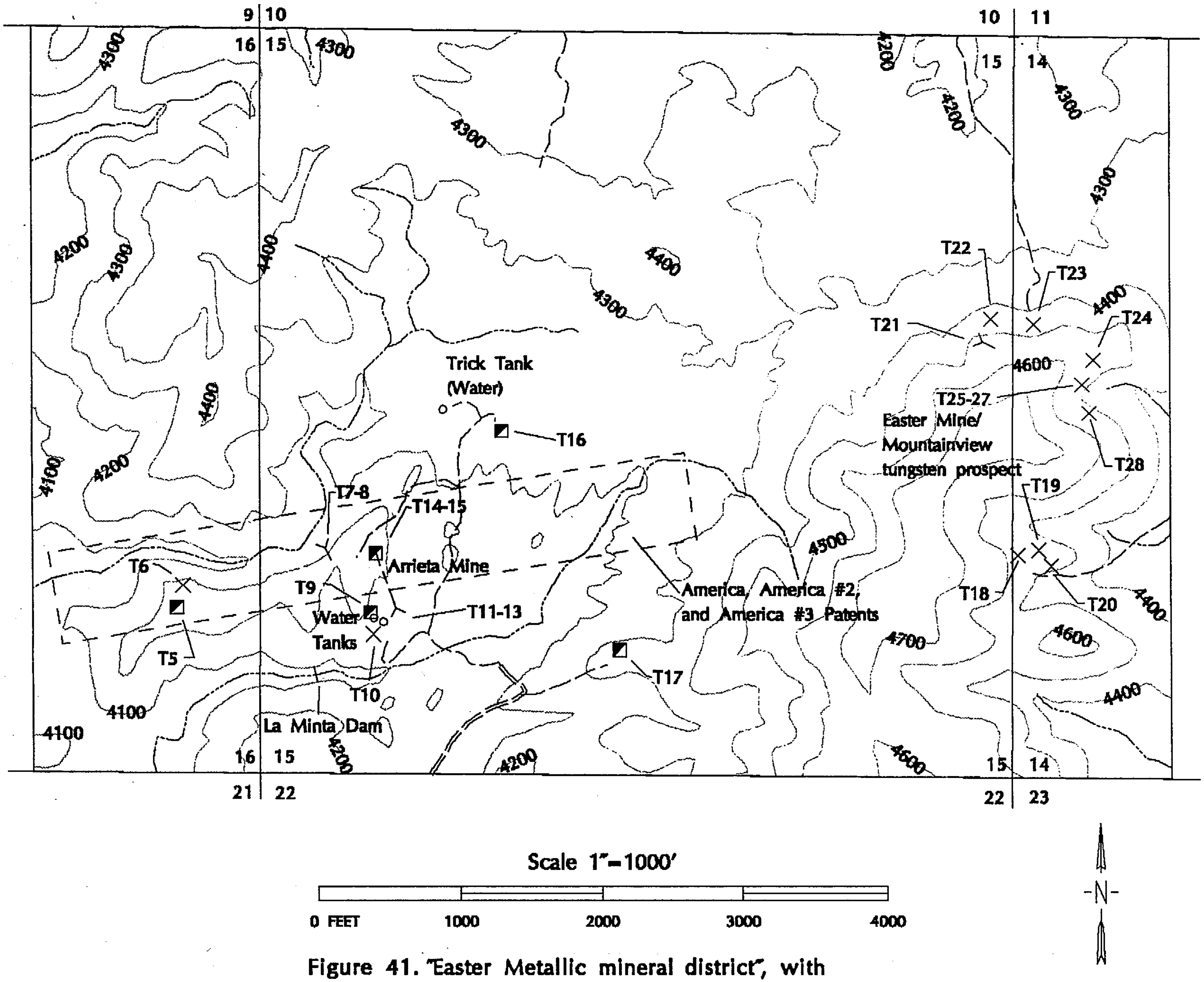
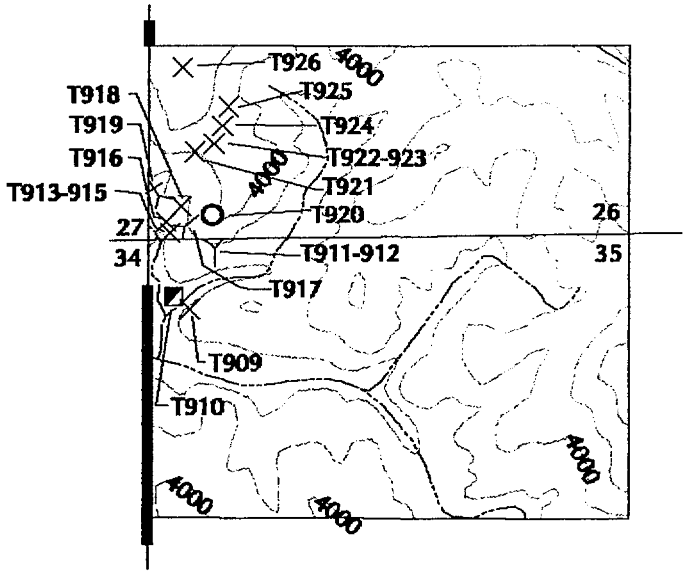


Figure 41. "Easter Metallic mineral district", with sample localities T5-28, San Luis Mountains.



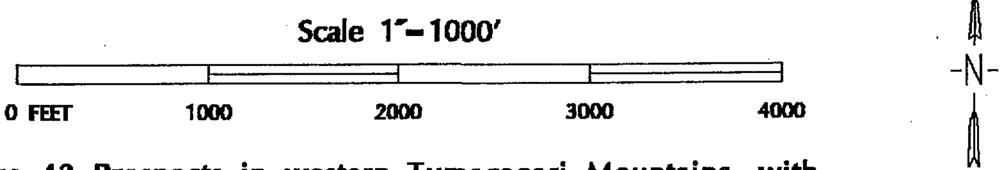


Figure 42. Prospects in western Tumacacori Mountains, with sample localities T909-926.

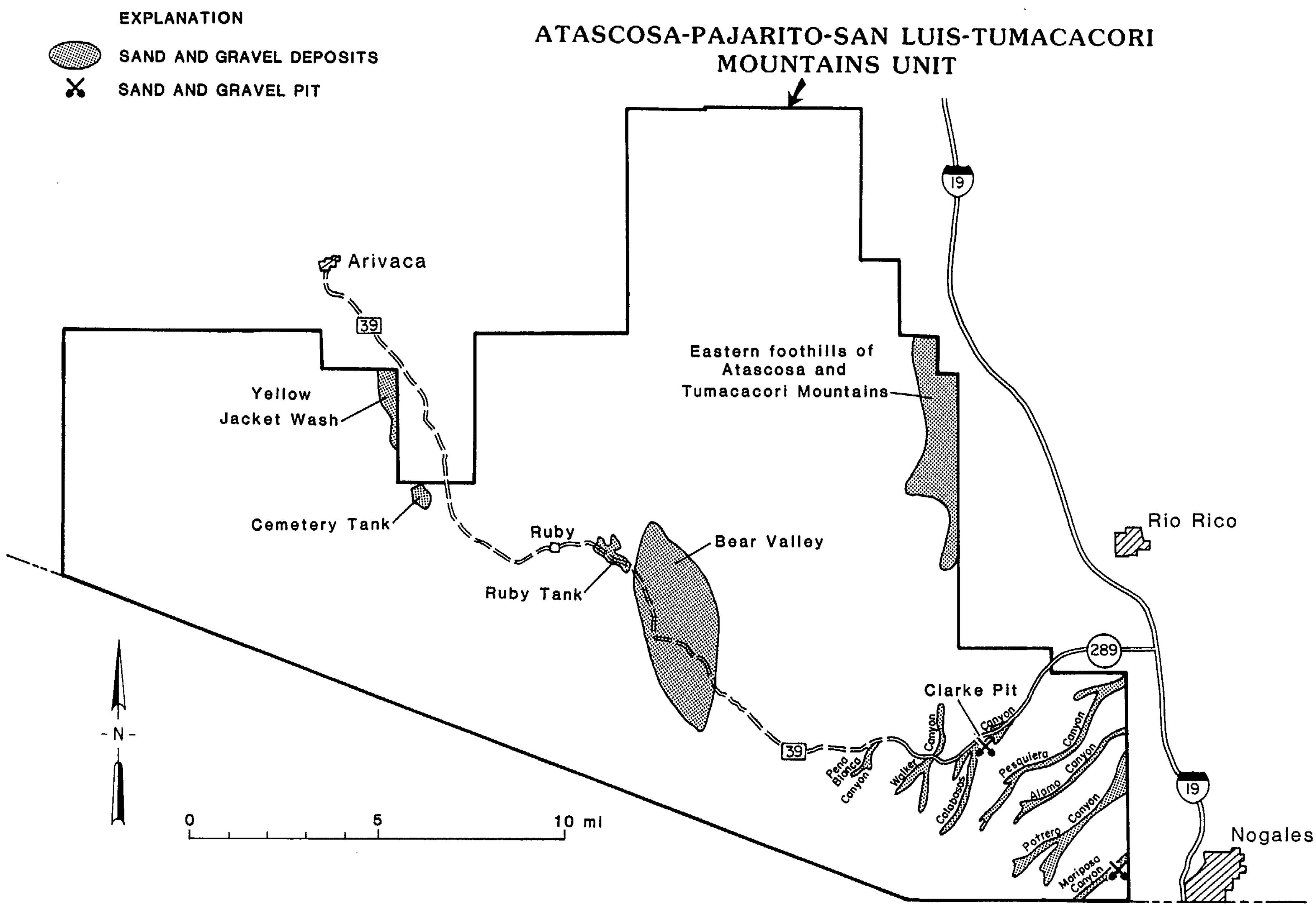


Figure 43.--Sand and gravel deposits which may contain developable resources, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit.

APPENDIX A

Background data, detailed historical, geologic, and economic data
for mine and/or prospect groups
ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT

(see contents list below for organization of this appendix)

CONTENTS OF APPENDIX A

Sites are listed alphabetically, whether sampled by USBM or not. Sites for which no historical name could be determined are listed as "unnamed", and are found, alphabetically, under "U". Following this list is a listing of sites by sample number. All USBM sample numbers begin with a "T" prefix, denoting that they are from the ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT of Coronado National Forest. Abbreviations used: ADMMR = Arizona Department of Mines and Mineral Resources, Phoenix, AZ. AGDC = Anaconda Geological Document Collection, American Heritage Center, University of Wyoming.

ALPHABETICAL LISTING		
Name	**Sample nos./fig. nos.**	**Page/location information**
Clarke pit (sand & gravel)	no samples (fig. 43)	p. A27
Commodore Mine	no samples (fig. 3)	p. A28
Conejo Mine	T92-100, T102 (fig. 30)	p. A29
Contact Mine	T135-136, T140-145 (fig. 30, 32)	p. A30
Cottontail Mine		see Conejo Mine
Cramer Mine	T611-615 (fig. 3, 10)	p. A31
Creese Mine	T131-134, T137-139 (fig. 30)	p. A69
Deer Mine & nearby workings	T49-65 (fig. 30, 33)	p. A32
Diablo claims	T927-930 (pl. 1)	p. A33
Dos Amigos Mine	T709-720 (fig. 3, 11)	p. A34
Easter Mine group	T18-28 (fig. 41)	p. A36
Edwards Mine/Edwards patent	T129-130 (fig. 30)	p. A37
El Oro Mine vein	T503-545 (fig. 3, 20)	p. A38
Emaline patent	T189-191 (fig. 27)	not addressed in this appendix
Evening Mine		see Morning & Evening Mine group
Gold Hill Mine		see Saint Christopher Mine
Goldsmith Mine		see Contact Mine
Grubstake Mine	T636-648, T675-687 (fig. 3, 12, 24)	p. A42
Hole-in-the-rock Mine	T154-158 (fig. 30)	p. A43
Idaho Mine group	T301-314 (fig. 3, 22, 23)	p. A45
Indian Mine group	no samples (fig. 3)	p. A47
Jarillas Mine	T161-165 (pl. 1)	p. A48
Jay-R Mine		see Scorpio claims
J. D.'s Sand and Gravel Inc.		see Clarke pit
Joe Turner copper prospect		see Black Peak Mine group
Loma de Manganese	T322-323 (fig. 3)	p. A49
Long Shot Mine & nearby prospects	T66-72 (fig. 30)	p. A50
Hilltop Mine		see Lucky Shot Mine
Lucky Shot Mine	T479-483 (fig. 3)	p. A51
Margarita Mine and surrounding gold resource zone	T395-396, T399-409 (fig. 3)	p. A52
M.C.M. Mine group(?)	T107-115 (fig. 30)	p. A54
Monarch Mine	T726-727 (fig. 3)	p. A55
Montana Mine group	no samples (fig. 3)	p. A56

ALPHABETICAL LISTING		
Name	**Sample nos./fig. nos.**	**Page/location information**
Morning & Evening mine group	T776-783 (fig. 35, 36)	p. A59
Mountainview tungsten prospect	T18-28 (fig. 41)	p. A60
Nil Desperadum Mine vein	T491-502; T546-553 (fig. 3, 21)	p. A38
Old Glory Mine	T450-468 (fig. 3, 6, 7)	p. A61
Old Soldier Mine	no samples (fig. 3)	p. A34
Oro Blanco Mine	T599-609 (fig. 3, 13)	p. A63
Oro Fino Mine	T702-704 (fig. 3)	p. A66
Ostrich Mine	T197-206 (fig. 27)	p. A67
Payoff Mine	T131-134, T137-139 (fig. 30)	p. A69
Penasco group	T888-892 (pl. 1)	p. A70
Phoenix patent		see Yellow Jacket Mine
Ragnaroc Mine	no samples (fig. 3)	p. A13
Reich prospect		see Black Copper Queen Mine
Rubiana Mine group	T331-337 (fig. 3)	p. A72
San Luis Wash gold placers	no samples (pl. 1)	p. A74
San Luis Wash tungsten placers	no samples (pl. 1)	p. A75
San Juan Mine	T656-658 (fig. 3)	p. A76
Santa Clara Mine		see Montana Mine
Saint Christopher Mine	T223-226 (fig. 27)	p. A77
Saint Patrick Mine	T768-775, T786-802 (fig. 35, 37)	p. A78
Scorpio claims	T904-908 (pl. 1)	p. 79
Silver Bar No. 4 Mine	no samples (pl. 1)	p. A81
Silver Crown Mine(?)	T116-121 (fig. 30)	p. A82
Silver Top prospect	T360-372 (fig. 3)	p. A83
Smuggler Gulch Mine	T570-574, T579-580 (fig. 3, 15, 16)	p. A84
Sorrel Top Mine	T659-661 (fig. 3)	p. A86
Sturges patent	T146-153 (fig. 30)	p. A43
Sunrise Mine		see White Oak Mine
Sunset Mine group	T816-833 (fig. 35)	p. A87
Tres Amigos Lead Mine	T732-734 (fig. 3)	p. A89
Tres Amigos Mine	T662-674 (fig. 3, 14)	p. A90
Triangle Mine	T728-731, T735 (fig. 3)	p. A93
(Joe) Turner copper prospect		indexed under "J"
Unnamed flat silica zone	T426-436 (fig. 3, 4)	p. A94

ALPHABETICAL LISTING		
Name	**Sample nos./fig. nos.**	**Page/location information**
Unnamed flat silica zone	T437-444 (fig. 3, 5)	p. A95
Unnamed flat silica zone	T379-394 (fig. 3)	p. A96
Unnamed prospect, Oro Blanco district	T286-288 (fig. 3)	p. A97
Unnamed prospect, Oro Blanco district	T445-449 (fig. 3, 26)	p. A98
Unnamed prospect, Oro Blanco district	T477-478 (fig. 3)	p. A99
Unnamed prospect, Oro Blanco district	T559 (fig. 3)	p. A100
Unnamed prospect, Oro Blanco district	T721-724 (fig. 3)	p. A101
Unnamed prospects, Pajarito district	T803-815 (fig. 35)	p. A102
Unnamed prospects, Pajarito district	T834-842 (fig. 35, 38)	p. A103
Unnamed workings in Alamo Canyon	T856-869 (pl. 1)	p. A104
Unnamed workings, Pajarito Mountains	T881-887 (pl. 1)	p. A105
Warsaw Mine group	T619-622 (fig. 3)	p. A106
White Gold/West claims	no samples (fig. 3, pl. 1)	p. A107
White Oak Mine	T846-855 (fig. 35, 39, 40)	p. A109
Yellow Jacket Mine	no samples (fig. 27, 28)	p. A111

NUMERICAL LISTING		
Sample nos.	**Name**	**Page/location information**
T1-4	Border Mine group	p. A22
T5-15	Arrieta Mine/America patent group	not addressed in this appendix
T16-17	Unnamed prospects, Easter metallic mineral district	not addressed in this appendix
T18-28	Easter Mine group/Mountainview tungsten prospect	p. A36, A60
T29-44	Big Red tungsten prospect(?)	p. A16
T45-48	Unnamed prospects, Arivaca district	not addressed in this appendix
T49-65	Deer Mine & nearby workings	p. A32
T66-72	Long Shot Mine & nearby prospects	p. A50
T73-91	Ajax Mine group	p. A9
T92-100	Conejo Mine	p. A29
T101	Unnamed prospect in Arivaca district	not addressed in this appendix
T102	Conejo Mine	p. A29
T103-106	Unnamed prospects, Arivaca district	not addressed in this appendix
T107-115	M.C.M. Mine group(?)	p. A54
T116-121	Silver Crown Mine(?)	p. A82
T122-128	Unnamed prospects, Arivaca district	not addressed in this appendix
T129-130	Edwards Mine/Edwards patent	p. A37
T131-134	Payoff Mine/Creese Mine	p. A69
T135-136	Contact Mine	p. A30
T137-139	Payoff Mine/Creese Mine	p. A69
T140-145	Contact Mine	p. A30
T146-153	Sturges patent & adjoining claims	p. A43
T154-158	Hole-in-the-rock Mine	p. A43
T159-160	Unnamed prospect in Arivaca district	not addressed in this appendix
T161-165	Jarillas Mine	p. A48
T166-188	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T189-191	Emaline patent	not addressed in this appendix
T192-196	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T197-206	Ostrich Mine	p. A67
T207-222	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T223-226	Saint Christopher Mine	p. A77
T227-244	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T245-282	Austerlitz Mine	p. A13

NUMERICAL LISTING		
Sample nos.	**Name**	**Page/location information**
T283-285	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T286-288	Unnamed prospect, Oro Blanco district	p. A97
T289-294	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T295-300	Brick Mine	p. A23
T301-314	Idaho Mine group	p. A45
T315-318	Black Peak Mine group (Joe Turner copper prospect)	p. A20
T319-321	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T322-323	Loma de Manganese (in part)	p. A49
T324-325	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T326-330	Brick Mine	p. A23
T331-337	Rubiana Mine group	p. A72
T338-340	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T341-342	Unnamed flat silica zone	not addressed in this appendix
T343-347	Brown Bird Mine	p. A 25
T348-359	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T360-372	Silver Top prospect	p. A83
T373-377	Black Peak Mine group (Joe Turner copper prospect)	p. A20
T378	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T379-394	Unnamed flat silica zone	p. A96
T395-396	Margarita Mine and surrounding gold resource zone	p. A52
T399-409	Margarita Mine	p. A52
T410-418	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T419-425	Unnamed flat silica zone	not addressed in this appendix
T426-436	Unnamed flat silica zone	p. A94
T437-444	Unnamed flat silica zone	p. A95
T445-449	Unnamed prospect, Oro Blanco district	p. A98
T450-468	Old Glory Mine	p. A61
T469-472	Unnamed flat silica zone	not addressed in this appendix
T473-476	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T477-478	Unnamed prospect, Oro Blanco district	p. A99
T479-483	Lucky Shot Mine group (Hilltop Mine)	p. A51

NUMERICAL LISTING		
Sample nos.	**Name**	**Page/location information**
T484-489	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T491-502	Nil Desperadum Mine vein	p. A38
T503-545	El Oro Mine vein	p. A38
T546-553	Nil Desperadum Mine vein	p. A38
T554-558	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T559	Unnamed prospect, Oro Blanco district	p. A100
T560-569	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T570-574	Smuggler Gulch Mine group	p. A84
T575-578	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T579-580	Smuggler Gulch Mine group	p. A84
T581-598	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T599-609	Oro Blanco Mine	p. A63
T610	Unnamed prospect, Oro Blanco district	not addressed in this appendix
T611-615	Cramer Mine	p. A31
T616-618	Unnamed prospect, Oro Blanco district	not addressed in this appendix
T619-622	Warsaw Mine group	p. A106
T623-628	Black Copper Queen Mine	p. A17
T629-635	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T636-648	Grubstake Mine	p. A42
T649-655	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T656-658	San Juan Mine	p. A76
T659-661	Sorrel Top Mine	p. A86
T662-674	Tres Amigos Mine	p. A90
T675-687	Grubstake Mine	p. A42
T688-701	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T702-704	Oro Fino Mine	p. A66
T705-708	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T709-720	Dos Amigos Mine	p. A34
T721-724	Unnamed prospect, Oro Blanco district	p. A101
T725	Unnamed prospect, Oro Blanco district	not addressed in this appendix
T726-727	Monarch Mine	p. A55
T728-731	Triangle Mine	p. A93
T732-734	Tres Amigos Lead Mine	p. A89
T735	Triangle Mine	p. A93

NUMERICAL LISTING		
Sample nos.	**Name**	**Page/location information**
T736-749	Unnamed prospects, Oro Blanco district	not addressed in this appendix
T750-751	Black Diamond prospect	p. A19
T752-758	Boundary Tank geochemical anomaly	not addressed in this appendix
T759	Unnamed prospect, Oro Blanco district	not addressed in this appendix
T760-767	Unnamed prospects, Pajarito district	not addressed in this appendix
T768-775	Saint Patrick Mine	p. A78
T776-783	Morning & Evening mine group	p. A59
T784-785	Unnamed prospects, Pajarito district	not addressed in this appendix
T786-802	Saint Patrick Mine	p. A78
T803-815	Unnamed prospects, Pajarito district	p. A102
T816-833	Sunset Mine group	p. A87
T834-842	Unnamed prospects, Pajarito district	p. A103
T843-845	Big Steve Mine	p. A109
T846-855	White Oak Mine	p. A109
T856-869	Unnamed workings in Alamo Canyon	p. A104
T870-880	Unnamed workings, Pajarito Mountains	not addressed in this appendix
T881-887	Unnamed workings, Pajarito Mountains	p. A105
T888-892	Penasco group	p. A70
T893-899	Unnamed workings, Pajarito Mountains	not addressed in this appendix
T900-903	Unnamed prospects, Atascosa Mountains	not addressed in this appendix
T904-908	Scorpio claims	p. A79
T909-926	Unnamed prospects, Tumacacori Mountains	not addressed in this appendix
T927-930	Diablo claims	p. A33
T933-942	Unnamed prospects, Tumacacori Mountains	not addressed in this appendix
T943	Unnamed prospect, Atascosa Mountains	not addressed in this appendix
T944	Outcrop, Atascosa Mountains	not addressed in this appendix

Samples T73-91 fig. 30, 31

Ajax Mine group

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, E. ctr. and SE¼ sec. 5, T. 22 S., R. 10 E.

Property holdings. Unknown.

Production. 200 st of ore averaging 0.6 oz Au/st, 15 oz Ag/st, 0.7% Cu, and 4% Pb. Produced from 1927 through 1941. Considerable zinc not recovered.

Development, mining, geology, and mineralization. The Ajax quartz-sulfide vein is 6 to 18 in. wide and has been mined or prospected by adits, shafts, and long deep cuts over a strike length of 1,200 ft (sample localities T78 thru T91, figs. 30 and 31). A second quartz-sulfide vein is 200 ft northwest of the Ajax vein and has been mined or prospected for a distance of only 200 ft (sample localities T73-77, fig. 30). The veins are irregular and lensing; contain argentiferous and auriferous galena, sphalerite, minor chalcopyrite, and pyrite; and are oxidized near the surface with enrichment of gold and silver. The country rock is metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 103)

Resource estimate and basis. Four USBM rock-chip samples from the central 400-ft segment of the Ajax vein (T81, T83, T84, and T86) have weighted averages of 0.17 oz Au/st and 0.8 oz Ag/st for an average sample length of 3 ft. A select sample of dump material from the same segment (T82) contains 0.17 oz Au/st, 7.4 oz Ag/st, and 2.2% Pb. The southwest end of the vein (T78 and T79) has lower gold concentrations, averaging 0.08 oz Au/st. A second vein, parallel to the Ajax vein and about 200 ft to the northwest, contains an average of 0.10 oz Au/st over an average sample length of 19 in. (T73 and T75) (D. K. Marjaniemi, USBM, written commun., 1994).

Using those calculations, two resource estimates can be made for the Ajax vein. The zone around samples T81, 83, 84, 86 is measured at 400 ft along strike, and 3 ft in width; a down-dip extent of metallization is assumed for 50 ft. This suggests 5,000 st of metallized rock, an amount too small to be developed economically. The overall vein, between sites T78 and T91 may contain as much as 20,000 st, with dimensions of 1,200 ft along strike, 1 ft width (from mapping reported in literature), and 200 ft down-dip extent (from examination of the topographic map and literature mapping). The decrease in gold concentration at sites T78-79 is not encouraging. The site is unlikely to be developed due to the low tonnage, and non-persistent nature of the high gold concentrations.

No samples **pl. 1**

Alamo Gulch gold placers

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SE¼ sec. 9 and SW¼ sec. 10, T. 23 S., R. 10 E.

Property holdings. 14 unpatented placer claims, owned by Alamo Gold Corporation, as of 1986.

Production. Several hundred ounces of gold-silver amalgam (Keith, 1975, p. 62).

Development and mining. 300-ft-deep shaft, sunk in weakly consolidated conglomerate between 1909 and 1920. Two other shafts, shown on the topographic map, are 1,200 ft and 1,700 ft north of the 300-ft-deep shaft and are both less than 20 ft deep in alluvium (USBM field data).

Geology and mineralization. Fine to coarse gold particles containing about 1:5 alloyed silver found in gravels of Alamo and neighboring gulches (Keith, 1975, p. 62).

Mapped as Miocene to Pliocene sedimentary rocks by Reynolds (1988). The projected source of the gold would be gold-bearing veins and flat silica zones to the north, northeast, and east (including the Yellow Jacket, Austerlitz, and Margarita Mines), all about 4 mi distant (USBM field data).

Unpublished data from ADMMR files:

> The gravel beds may be flat or may dip southward at about 5°. Observed gravel thickness on the hillsides of about 200 ft. The shaft evidently penetrated 300 ft of gravel, so the gravel may also be this thick in some of the valleys. The beds consist of alternating layers of sand with or without angular pebbles.
>
> The gravels were fairly well cemented but when wet....become crumbly and easier to break or to sample. They are exposed along the sides of Alamo Wash, the Alamo tributaries, and along the other canyons.
>
> Twenty samples averaging 39 lb were taken from vertical cuts of clean gravel exposures. The average thickness of the samples was 9.8 ft.
>
> Because of the presence of considerable clay, it became necessary to pan every sample. The 12-mesh screen was only used during the final stages of panning.
>
> Results of the panning showed only a few samples with colors, so only six of the first eight samples were given to the assay office.
>
> Where no colors were observed in three samples, no gold was found to be present. The other three ran as follows:

Sample no.	oz Au/yd^3
1926	0.00066
1927	.0035
1929	.0020

References. Primary reference is unpublished report, ADMMR files: untitled letter by Annan Cook, August 4, 1988. Other references: Keith (1975, p. 62), Reynolds (1988).

Resource estimate and basis. USBM field reconnaissance determined the area is underlain by older (Miocene to Pliocene), indurated sediments, and no Quaternary alluvium. Induration of the sediments will reduce gold recovery in placer mining.

Data are too sparse to estimate volume of gravels in the placer area, but thicknesses reported in the literature are favorable: 300-ft-deep at one shaft site (not shown in this report); as much as 200 ft deep in other places.

Source of the gold could be a composite of auriferous vein and breccia sources from the northern and western parts of the Oro Blanco district.

Panned-concentrate samples reported in literature are mostly barren; the average of all 20 samples (assigning zero to samples that showed no colors on panning) is 0.00030 oz/yd^3. Three samples with gold contain a maximum of $1.35/$yd^3$, at the current (1994) price of gold, $387/oz. This is roughly one-third the amount of gold required to break even, financially, and may not be representative of dry areas, where the lack of water either drives up production costs or lessens recovery. Consolidation of the sediments also is detrimental.

It is not considered likely that attempts will be made in the near future to exploit the gold placers. Low gold grade (in extremely limited testing), and absence of sufficient quantities of water are major contributing factors to that conclusion. However, absence of testing and mapping of the gravels and determination of their depths prevent a definitive statement on the mineral resource possibilities of these placers. Any mining operations that might eventually be developed would likely be small operations with low production rates and small overall output of gold.

No samples fig. 3

Annie Laurie prospect

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SW¼ section (sec.) 8, T. 23 S., R. 11 E.

Property holdings. Annie Laurie patented mining claim. An unpatented lode mining claim adjoins the Annie Laurie Patent on its north side and is contiguous with it.

Production. Material shipped for testing but no commercial production.

Development and mining. Eight shallow pits and cuts over an area of about 600 ft by 500 ft. Most of these were reportedly dug by the American Smelting and Refining Company. The workings are clustered in the vicinity of the pitchblende occurrence where a maximum depth of 6 ft was attained. Most of prospecting is reported to have been done in the period 1948 to 1955.

Geology and mineralization. A flat-lying rhyolite porphyry flow overlies a sequence of sandstone, shale, and limey beds of probable Mesozoic age. The rhyolite is highly fractured and recemented with carbonate veinlets. The carbonate veinlets contain minor pyrite, chalcopyrite, sphalerite, galena, and fluorite. Pitchblende is found within lens-shaped zones up to several inches long and less than 1 inch thick in the rhyolite. Secondary uranium minerals have also been reported.

Rock samples collected from 6 of the 8 workings contain negligible amounts of U_3O_8. Rock samples collected from the remaining two workings contain up to 0.63% U_3O_8, with the highest concentration in a 5-ft channel sample from the west wall of a pit. A fault has been inferred to connect the occurrence and a spring about 300 ft to the east. The spring has given rise to a travertine deposit that is slightly radioactive.

At least four drill holes in the occurrence (one of them 100 ft deep) failed to reveal significant subsurface mineralization or radioactivity. The drilling results, surface ore sampling, a radiometric survey (Wright, 1951), and biogeochemical reconnaissance (Anderson and Kurtz, 1955) all point to the limited extent of the pitchblende occurrences.

References. Anderson and Kurtz (1955); Keith (1975; fig. 4 and p. 62); Wright (1951).

Also, unpub. AGDC data:

"Bright Uranium Prospect, Santa Cruz County, Arizona," letter from J. L. Kelly to A. M. McDonald, July 25, 1950, attached 1" = 50' surface sketch map.

U.S. Atomic Energy Commission Supplements to Preliminary Reconnaissance Report A-R-4, 9/4/53 and 10/21/55.

U.S. Geological Survey Trace Elements Reconnaissance Report, 3/6/51

Resource estimate and basis. No resources, based on the above information.

Austerlitz Mine and associated mining claims (T245-282)
Ragnaroc Mine (no samples)

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle; sec. 36, T. 22 S., R. 10 E.; sec. 31, T. 22 S., R. 11 E.; sec. 1, T. 23 S., R. 10 E.; and sec. 6, T. 23 S., R. 11 E.

Property holdings. **Ragnaroc Mine:** Ragnarok West, Ragnarok Mine, and Ninety-Five Mine patented mining claims. **Austerlitz Mine:** 43 unpatented lode claims.

Production and reserves. **Austerlitz:** 3,700 st of ore averaging 0.5 oz/st Au, 12 oz/st Ag, 1% Cu, and minor Pb and Zn; produced from the late 1800's to 1963 (Keith, 1975, p. 62). Most of the production was from the Crawford Stope, with some additional reported from the Barckley Stope (Knight, 1970, p. 129-133). **Ragnaroc:** 100 st of production from the Ragnaroc Mine (northwest part of claim group; Keith, 1975, p. 69).

The main interest centered on a rhyolitic lava-tuff-breccia horizon, strongly bleached and silicified with quartzose injections. It was anticipated the brecciation and injection was sufficient to impregnate this entire horizon with ore-level concentrations but sampling revealed the major tenor of gold and silver was limited to the vein system. In consequence, there appeared to be relatively modest tonnage in narrow widths, 4 to 10 ft of this material, thus eliminating the major potential of the property. (Weber and Zurowski in unpublished AGDC information identified below).

Development and mining. **Austerlitz:** three main shafts, up to maximum of 160 ft deep. Two of the shafts have been backfilled. Three main tunnels, including two levels, as follows: Crawford, 825 ft; Barckley, 460 ft; and Camphuis, 450 ft. Numerous additional small open cuts and trenches. (Knight, 1970, fig. 18 and 19, p. 129-133; also Schermehorn in unpublished AGDC information identified below). During the 1890's, this property was equipped with a mill and made considerable production, but no records of the amount are available. In 1912, the mine was reopened and equipped with a concentrator that was operated for slightly more than a year. (Wilson and others, 1967, p. 190)

Geology and mineralization. Quartz-fissure veins with spotty and generally weak auriferous and argentiferous chalcopyrite, pyrite, tetrahedrite, and minor galena and sphalerite; silicified lens-like bodies of auriferous quartz veinlets and stringers. Wall rocks are Jurassic welded tuff in fault contact with Cretaceous sedimentary rocks. Associated Tertiary intrusive quartz monzonite dikes. Weak wall rock alteration. Oxidation and supergene enrichment produced limited, rich, near surface ore. (Keith, 1975, p. 62)

Mineralization at the **Austerlitz Mine** is of two types, northeast quartz-sulfide veins and flat-dipping northwest-striking silicified zones....The silicified zones have been most productive, but the veins are commonly higher in grade. This higher grade may be due to supergene enrichment that has not greatly affected the silicified zone....The flat silicified zones are lens-like bodies of strongly silicified Cobre Ridge Tuff that consist of a myriad of thin quartz veinlets and stringers having a widely variable amount of disseminated pyrite, and small amounts of chalcopyrite and tetrahedrite. (Knight, 1970, p. 130 and 131). This deposit is a flat siliceous zone 4-ft to 12-ft-wide carrying gold and silver associated with pyrite and chalcopyrite. The mine is credited with having produced $90,000 from a small ore shoot. (Wilson and others, 1967, p. 190)

Ragnaroc Mine has a flat, shallow, silicified zone of quartz veinlets and stringers; strong pyritization containing sparse base-metal sulfides; is oxidized and supergene enriched in gold and silver; and is a fracture filling and replacement in Jurassic volcanic tuff and Cretaceous sedimentary rocks. (Keith, 1975, p. 69)

Averages of rock-chip samples collected from the Austerlitz Mine and associated claims in earlier studies are as follows:

Source	Number of samples	Au (oz/st)	Ag (oz/st)	Notes
Unpub. AGDC data (Weber and Zurowski, 1968)	74	0.043	1.08	arithmetic average, selected areas
Stone (1960?)	22	0.015-0.106	0.54-5.15	mineralized silica beds and rejects on dump; tested for flux
Unpub. AGDC data (Gregory, 1935)	55	0.083	6.04	6.54-ft average width of vein sampled; Crawford Vein
Schermehorn (1907)	37	0.158	1.86	mined ore; representing 4061 st

References. As cited above, also, unpub. AGDC data:

W. W. Weber and M. Zurowski, April 5, 1968, memorandum, "Austerlitz Group, Au-Ag Prospect...," attached to Schermehorn (1907).

Spectrographic analysis of 8 samples, May 28, 1968.

F. E. Gregory, June 12, 1935, "Report of General Sampling of the Austerlitz-Switzerland Claims," accompanied by "Map of Crawford Tunnel and Stope with Sample Values" and logs of three diamond drill holes and assays.

Resource estimate and basis.

1. Austerlitz Mine. Mine was not accessed by USBM. Crawford portal gate was locked; Camphius portal not found; possibly caved. The small size of the immediate flat silica

zones (based on sparse mapping presented in literature) and the very low tonnage supplied by past efforts to exploit these flat zones suggests that the property immediately around the major mine workings does not have enough tonnage to support modern mining efforts (1 million st or more). An assessment by Larry Drake and Partners (1968, p. 2), which included underground examination and sampling concluded that sufficient tonnage for a large mining company is not present. Grades may also be insufficient, even for a low-tonnage heap-leach operation. Samples from the Crawford stope (the productive flat silica zone in this mine), circa 1935, have a weighted average of 0.1 oz Au/st and 8.8 oz Ag/st in 12 samples, and 0.07 oz Au/st with 4.0 oz Ag/st in another group of 43 samples (Stone, 1960?, p. 1-2). More mapping and measurements of the flat silica zones are needed for precise resource estimates.

Large "flat" silica zone T267-282 has significantly extensive boundaries [based on mapping by Knight (1970, fig. 3)]. Samples T271-278, from massive silica unit, contain maximum of 0.365 oz Au/st and an approximate average gold content in the range of 0.1 to 0.2 oz Au/st. Those gold concentrations are high but more detailed mapping and measurements are needed for a resource estimate. Many of the assayed samples are *not* from the massive silica unit, but from small structures within the massive silica unit.

Detailed mapping of the smaller, flat silica zones would be essential to assess them as small gold prospects. An example is flat silica zone T264 (0.16 oz Au/st); no mapping has been done and no assessment possible.

2. Ragnaroc Mine. No data.

Samples T29-44

Big Red tungsten prospect(?) pl. 1

Topographic quadrangle and location. Wilbur Canyon 7.5-minute quadrangle, secs. 3, 4, 9, and 10, T. 22 S., R. 9 E. Precise claim locations not known by USBM.

Property holdings. 15 unpatented lode claims.

Production and reserves. No production is reported. The referenced letter concludes that "there are no indications of developing a large tonnage of tungsten ore" because: (1) the scheelite blebs, coatings, and disseminations are largely confined to irregular, steep quartz veins in an intrusive granitic rock; and (2) the tungsten showings are spotty and discontinuous in all exposures.

Development and mining. Few shallow pits.

Geology and mineralization. A granitic intrusive is cut by 1- to 5-ft-wide quartz veins; and is in contact with hornfels metamorphosed and silicified sediments of tentative Cretaceous age. The veins are generally lensy and vary in width both laterally and with depth. Blebs, coatings, and fine disseminations of scheelite are scattered through the quartz veins and along the quartz-granite contact. A few weak blebs of scheelite were noted in the altered sediments near the intrusive contact and in the granite adjacent to the quartz veins. The tungsten showings are spotty and discontinuous in all exposures.

Reference. Unpub. AGDC data: letter from G. A. Barber to Roland B. Mulchay, December 2, 1957.

Resource estimate and basis. No resources, based on the above cited data and USBM sample assays.

Samples T623-628 fig. 3

Black Copper Queen Mine (includes Reich prospect)

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NW¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Franco-American patented mining claim; other property holdings unknown.

Production. Unknown.

Development and mining. 750- to 1,000-ft adit (no longer accessible) with some raises and winzes; backfilled adit of unknown size; 50- to 75-ft-deep shaft (to the left and above the road as you approach the property); backfilled shaft (50 ft up the hill from the open shaft); large bulldozed area (to the left of the road; the bottom of the cut sloped down about 15° to 20° to the northeast); large side hill excavation (cut into the south side of a local ridge or knoll; and two pits (no size given).

Geology and mineralization. Possible quartz-sulfide vein. The country rock is described as consisting of limey sediments, volcanic sediments, and porphyry; and these are locally intruded by a series of dikes, likely pegmatite.

Five samples collected from the main adit contain 0.85 to 2.1 oz Au/st, 9.8 to 21.5 oz Ag/st, 0.10 to 0.15 Pt (units unknown), 0.10-0.6 In (units unknown), 0.4-1.5% Cu, 1.2-2.5% Zn, and 0.1-0.4% Pb. Three of the samples, sharing the same high concentrations, were reportedly collected for distances of 150 ft along the left rib, back, and right rib of the main adit. The horizontal dimension of the mineralized zone is given as 6 ft at the portal and 10 to 15 ft further in. The vein is described as "a series of bands of black mineral dipping about 30° to the northeast and striking generally southeast."

A shipment made from the large bulldozed area is reported to have graded from 5% to 8% Cu with about 8 oz Ag/st.

The large side hill excavation had good copper mineralization which appeared to be confined to a fold in the host rock plunging to the northeast. It was bounded on the west side by an apparently barren horst of limey sediment and appeared to abut against a pegmatite dike on the east. A narrow band of black mineral, probably silver-rich stromeyerite or freibergite was visible against the dike. The material removed from this pit was shipped and reported to assay 10% Cu and 10 to 11 oz Ag/st.

The **Reich prospect** is described as follows: has several hundred feet of drifts on an adit level; is on a northeast vein and seems to be a faulted part of the Warsaw vein that has been offset by late movements on a northwest fault; the vein cuts the Cobre Ridge Tuff and Ruby Diorite, but is cut by three rhyolite dikes; the southwest and of the vein has been cut off by a northwest fault that is now occupied by a rhyolite dike; the hypogene mineralization is confined to a zone of quartz stringers and a quartz vein which pinches and swells from 0 to about 10 ft in width; the major sulfide mineral is pyrite which comprises over 25% of the vein; the vein also includes sphalerite, chalcopyrite and galena; gold is low, rarely more than 0.02 oz Au/st; and much of the vein assays about 6 oz Ag/st and from 2 to 4% Cu. (Knight, 1970, p. 121-123)

References. Except as cited above, information is from an unpublished report (obtained from the ADMMR files), as follows: pages 3-6 of untitled 1967 report by T. R. Clarke.

Resource estimate and basis. USBM estimates that 3,000 st of inferred gold resources are contained within the quartz sulfide vein in the 150-ft-long segment (main adit) described in literature (150-ft-long, extending up dip 25 ft and down dip 25 ft from the sampled level, and 4.5-ft wide; 12.2 ft^3/st tonnage factor). Weighted average grades in this 150-ft-long segment, from three samples, are: 1.1 oz Au/st, 15 oz Ag/st, 0.80% Cu, 0.33% Pb, and 1.9% Zn (D.K. Marjaniemi, USBM, written commun., 1994).

The tonnage is too low to consider mining, but the favorable high gold grade and the long strike length of the fault zone in which this vein is hosted (19,000 ft, Knight, 1970, fig. 3) suggest that the site might warrant future gold exploration. It is not considered likely that high tonnages will be found, based on the typical sizes of deposits in the region.

Samples T750-751 fig. 3

Black Diamond prospect

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, T. 23 S., R. 11 E., sec. 30.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Select sample contains 7.4% Pb and 4.0% Zn. 2-3 ft vein at this location.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T315-318; T373-377 fig. 3

Black Peak Mine group
Joe Turner copper prospect

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, N. center (ctr.) sec. 11, T. 23 S., R. 10 E.

Property holdings. **Black Peak:** 185 unpatented lode mining claims.

Production. **Black Peak:** 120 st of ore averaging 0.6 oz Au/st, 0.4 oz Ag/st, and minor Cu and Pb; produced from 1910 to 1916. (Keith, 1975, p. 63)

Joe Turner. A little sorted ore is reported to have been shipped from these workings.

Development and mining. **Black Peak:** numerous pits and prospects exist throughout the claim area and one deep shaft, more than 500 ft deep, is present along the western side of the claim group. (USBM field data, 1991-1992)

Joe Turner. Two open cuts about 50 to 75 ft long; 50 ft of tunneling with a 15-ft winze; and an inaccessible shaft said to be 200 ft deep.

Geology and mineralization. **Black Peak.** Irregular, narrow, and lensing, partly oxidized and enriched, quartz-sulfide vein with weak base metal sulfides. Gold and silver halides in near surface zone. (Keith, 1975, p. 63). The area is generally underlain by a series of volcanics and sediments which have been intruded by quartz monzonite, rhyolite, andesite, and other basic rocks and quartz veins. Structures predominantly are fault and shear zones. Some of the most concentrated mineralization occurs along the intersection of fault and shear zones. Width of mineralization ranges from a few inches to 100 ft or more. Mineralization may be hundreds of feet in length or may be lenticular or occur as pods. The main mineralization is gold, silver, copper, lead and zinc. Other minerals observed or recorded from the area are manganese, molybdenum, tungsten, bismuth, and uranium.

Gold assays range from a few parts per million up to a half ounce per ton and silver ranges up to an ounce per ton. Copper assays range up to 0.7 percent.

Joe Turner. Fault strikes N. 20°-30° W., dipping 50°-65° E. Discontinuous mineralization for 3,000 ft of strike length. The mineralization occurs adjacent to a weak fissure zone as a dissemination of iron and copper oxides with alteration and some silicification in a fine-grained quartz monzonite (?) host. Little quartz was noted and the iron oxides are not heavy except along a few fractures. The altered and mineralized zone grades out from the main fracture making a total width of a few feet to perhaps 75 ft. At the places exposed a central band about 2-ft-wide shows strong alteration and enough oxide copper to assay one or two percent. The ore is said to carry up to $4.00 per ton in gold.

References. **Black Peak.** Except as noted above, information is from an unpublished report (obtained from the ADMMR files), as follows: Prospectus on Cobre Ridge Group, issued by Mineral Resources, Inc., Tucson, Arizona, 11/19/81.

Joe Turner: Unpublished information obtained from AGDC: "Memorandum on Joe Turner Copper Prospect," D. K. Gill and D. F. Coolbaugh, April 2, 1949.

Resource estimate and basis. No resources, based on available data.

Samples T1-4 pl. 1, fig. 2

Border Mine group

aka "Cerro de Fresnal metallic mineral district" (Keith and others, 1983b), after the topographic feature by that name

Topographic quadrangle and location. Cumero Mtn. 7.5-minute quadrangle, SE¼ sec. 4 and NE¼ sec. 9, T. 23 S., R. 9 E.

Property holdings. Unknown.

Production. Keith (1974, p. 104) gives past production of the Border Mine group as 195 st of ore averaging 0.9 oz Au/st with some Pb and Cu; 50 st of WO_3 ore; 1930-41. Keith (1983b, p. 22-23) gives past production of the Cerro de Fresnal metallic mineral district, generally coextensive with the Border Mine group, as 100 st of ore containing 200 lb Cu, 40 oz Au, 1,000 oz Ag, from 1933 to 1942.

Development and mining. Shallow workings

Geology and mineralization. Fissure zone in Cretaceous andesite near granitic intrusion of Laramide age; weathered and oxidized quartz vein with free gold and silver chlorides (?).

Reference. Keith (1974; fig. 4 and p. 104)

Resource estimate and basis. No resources, based on the information cited above and the following USBM assay data: 3-ft chip sample of silicified rhyolite and andesite (T2) contains 0.05 oz/st gold.

Samples T295-300 and T326-330 fig. 3, 17, 18

Brick Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 6, T. 23 S., R. 11 E.

Property holdings. Brick unpatented lode mining claim; oriented west-northwest about the Ruby-Arivaca Road.

Production. 3,700 st of ore averaging 17 oz Ag/st, 0.1 oz Au/st, and minor Cu; produced from 1939 to 1966. Earlier production unknown. (Keith, 1975, p. 63)

Development and mining. The longitudinal section (unpub. AGDC data; see citations below) indicates that the Brick Mine consists of:

1. Three shafts: 70 ft, 100 ft, and 150 ft deep.
2. Short drifts on 5 levels to a maximum depth of 170 ft.
3. Development over no more than 180 ft of strike length.

Workings have flooded.

Geology and mineralization. Quartz-sulfide vein. The Brick Mine lies about 1 mi west of the Montana Mine on the same fault zone. The mine is on a mineralized portion of a large displacement northwest fault. The footwall of the vein is the welded tuff member of the Cobre Ridge Tuff and the hanging wall is Oro Blanco Conglomerate. (USBM field data, 1991-1992.

Literature provides that:

> The outcrop of the Brick Vein consists of a six foot wide zone of brecciated conglomerate, quartz latite tuff, and Ruby diorite that has been cemented firstly by quartz and small amounts of sulfides, and secondly by calcite. The vein strikes N. 70° W. and dips about 55° northeast. As exposed at the surface the vein is very vuggy. Only a distance of about 300 ft along strike has been mineralized. A few feet northwest of the workings the quartz-cemented breccia grades into a very gougey fault zone about 10 ft in width which is barren of mineralization. About 200 ft southeast of the workings the vein becomes a thin zone of barren quartz stringers. Underground the vein is said to be mostly 4 to 12 ft in width, but rarely reaches 18 ft.
>
> The mineralization consists of white brecciated quartz and a small percentage of fine-grained galena, pyrite, sphalerite, chalcopyrite, and tetrahedrite. In addition a few small wires and sheets of native silver were found here. Most of the vein matter has been brecciated and recemented by large amounts of calcite.
>
> The mineralization is concentrated in a small ore shoot that rakes about 60° west, similar to the ore shoots at the Montana Mine. This ore shoot may owe its origin to

a mullion on the fault surface, but it is also possible that it has been localized by the intersection of the northwest fault with a northeast cross fault in the footwall of the vein.

References. Except as cited above, most information is from Knight (1970, p. 119-121).

Other supplemental sources of data are unpub. AGDC files:

W. C. Freshman, December 1947, "Report on the Montana Mine and Some Adjoining Properties, Oro Blanco Mining District" and accompanying "Longitudinal Section and Cross Section of the Brick Vein".

Hugo W. Miller, October 1940, "Cross Section 'B', Looking West at Brick Claim Shaft on Miller-Hansen Group".

Resource estimate and basis. Sample assays from literature were utilized to derive a weighted average grade of 0.04 oz Au/st and 7.2 oz Ag/st for a 4-ft-wide vein (D. K. Marjaniemi, USBM, 1994). Extrapolating those concentrations to 170-ft depth down dip (equivalent to total mine depth), 120-ft along strike (equivalent to reported 300-ft total strike length minus 170-ft already developed and assumed stoped out), vein width of 8 ft (average from literature reports) allows for 163,200 ft^3 of vein rock, or 13,000 st at 12.2 ft^3/st tonnage factor. This tonnage is not economically minable and the grade is too low to consider underground development.

Samples T343-347 fig. 3, 19

Brown Bird Mine group
aka Blue Wing Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, ctr. sec. 6, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 100 st of ore averaging 0.3 oz Au/st, 0.4 oz Ag/st, and minor Cu; produced from 1937 through 1940.

Development and mining. Shallow shaft and opencut operations.

Geology and mineralization. Lensing quartz-fissure vein along contact zone of Jurassic quartz latite tuff and Laramide diorite. Spotty base metal sulfides. Enriched near the surface in gold and silver values.

Reference. Keith (1975; fig. 4 and p. 63)

Resource estimate and basis. No resources, based on the above information. Neither USBM field crews nor previous investigators mapped the vein, precluding assessment.

No samples Fig. 3

California Gulch gold placers

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, S. ctr. sec. 20, N. ctr. sec. 29, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. Up to 1,000 oz of gold-silver amalgam.

Development and mining. Mostly crude operations prior to 1900.

Geology and mineralization. Flour to small nuggets of gold with alloyed silver in a gravel terrace along California Gulch, Warsaw Canyon, and their tributaries. Mapped as Cretaceous Oro Blanco Conglomerate (conglomerate, sandstone, and siltstone) and Tertiary andesite by Knight (1970, his fig. 3). The source of the gold would be gold-bearing quartz veins and breccia veins about a mile to the west, northwest, and north (USBM field data).

Reference. Knight (1970, fig. 3); Keith (1975; fig. 4 and p. 63)

Resource estimate and basis. USBM field observations are that the placer is unconsolidated, Quaternary alluvium, the extent of which is unknown. No placer workings were observed in the USBM reconnaissance.

It is not considered likely that attempts will be made in the near future to exploit the gold placers. Absence of significant quantities of water are major contributing factors to that conclusion. However, absence of testing and mapping of the gravels and determination of their depths prevent a definitive statement on the mineral resource possibilities of these placers. Any mining operations that might eventually be developed would likely be small operations with low production rates and small overall output of gold.

No samples Fig. 43

Clarke pit

Topographic quadrangle and location. Pena Blanca Lake 7.5-minute quadrangle, SW¼ sec. 29, T. 23 S., R. 13 E.

Property holdings and operator. Patented property. Mine is operated by J.D.'s Sand and Gravel, Inc. of Nogales, AZ.

Production. Currently producing 21,500 yd^3/yr of aggregate, screened sand, and leach rock for markets in Nogales and Rio Rico. Has been in operation for 2 ½ years and expects to have 2 years of reserves.

Development and mining. Not known. Crushing and screening plant.

Geology and mineralization. Quaternary sand and gravel.

References. Mine is listed in Arizona Department of Mines and Mineral Resources (1992, p. 19).

Geology is mapped by Drewes (1981, plate 8). Other information is from personal communications with the company president (1993).

Resource estimate and basis. Reserves, as noted above.

No samples fig. 3

Commodore Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SW¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 100 st of ore averaging 32 oz/st Ag, 0.1 oz/st Au, and minor Pb and Cu; produced in the late 1800's and in 1934.

Development and mining. Shaft and opencut operations.

Geology and mineralization. Irregular quartz-fissure veins with weak and spotty base-metal sulfides, mostly oxidized near the surface with supergene enrichment in silver. Wall rock is Cretaceous sediments and Jurassic volcanic tuff intruded by Laramide granitic body.

Reference. Keith (1975; fig. 4 and p. 63)

Resource estimate and basis. No resources, based on the above information.

Samples T92-100 and T102 fig. 30

Conejo (Cottontail) Mine

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, SE¼ sec. 5, T. 22 S., R. 10 E. The exact location of the Conejo Mine relative to the USBM samples is unknown.

Property holdings. Unknown.

Production. 300 st of ore averaging 0.2 oz Au/st, 0.4 oz Ag/st, 0.4% Pb, and a trace of Cu. Produced in 1938 and 1939; and probably sold as smelter flux.

Development and mining. Shaft and opencut operations.

Geology and mineralization. Steeply dipping faults and irregular, lensing quartz-sulfide veins with varied strike directions. Oxidized and weathered, spotty, base metal sulfides with some free gold near the surface. The country rock is metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 105)

Resource estimate and basis. No resources, based on the above cited information and the following USBM sample results: quartz veins at sample localities T92-100 are up to 24 in. thick and contain a maximum of 0.11 oz Au/st and 3.3 oz Ag/st. A select sample from a 3-ft-thick quartz vein at T102 contains 0.29 oz Au/st, 21 oz Ag/st, and 1.3% Pb.

Gold concentrations are high enough to elicit economic interest, but the absence of USBM mapping of the veins precludes tonnage estimates. Some mapping of the veins may be warranted, considering the gold concentrations detected, but it is not considered likely that enough tonnage is present to support development efforts.

Samples T135-136, T140-145 fig. 30, 32

Contact Mine(?)
Goldsmith Mine apparently also in this area
THERE ARE NO DATA SPECIFIC TO THE GOLDSMITH MINE IN THIS APPENDIX.

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, N. ctr. sec. 8, T. 22 S., R. 10 E. The main workings of the Contact Mine are probably at sample locations T140-145. AZMILS listings provide locations.

Property holdings. Unknown.

Production. 100 st or more of ore averaging 0.5 oz Au/st, 2 oz Ag/st, 0.3% Cu, and 3% Pb. Produced between 1934 and 1939; and probably prior to 1900.

Development and mining. Shaft and opencut operations; also adit.

Geology and mineralization. Multiple quartz-sulfide veins, oxidized and weathered, with spotty base-metal sulfides. The main adit exposes a 10-ft-wide shear zone containing 5-in. and 6-in. quartz veins (see fig. 32). The country rock is metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 105)

Resource estimate and basis. No resources, based on information cited above and the following USBM sample results: a 5-ft chip sample that includes one of the quartz veins at the main adit (T142) contains 0.072 oz Au/st. A select sample of quartz from a dump located 1,000 ft northeast of the main adit of the Contact Mine (T136) contains 0.54 oz Au/st, 9.0 oz Ag/st, and 3.1% Pb but the quartz is not exposed in outcrop.

Samples T611-615 figs. 3, 10

Cramer Mine

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SE¼ sec. 17, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 130 st of ore averaging 30 oz Ag/st, 0.6 oz Au/st and minor Cu; period of production unknown.

Development and mining. Tunnel and shaft operations.

Geology and mineralization. Auriferous breccia. Spotty, supergene enriched, silver and gold values in a weakly mineralized, lensing and tabular zone of brecciated and sheared Jurassic volcanic tuff showing iron and manganese staining. The fracture zone hosting this auriferous breccia is mapped by Knight (1970, fig. 3) as 750-ft-long on strike, cutting Cobre Ridge Tuff.

Reference. Knight (1970, fig. 3); Keith (1975; fig. 4 and p. 63)

Resource estimate and basis. No resources, based on information cited above and USBM sample results.

Samples T49-65 fig. 30, 33

Deer Mine & nearby workings

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, SE¼NW¼ sec. 5, T. 22 S., R. 10 E.

Property holdings. 3 unpatented lode claims.

Production and reserves. 56 st averaging 0.17 oz Au/st, 9.83 oz Ag/st, and 3.09% Cu. Produced in 1956 and 1964. 769 st indicated, 1,540 st inferred, and 2,307 st possible reserves; averaging the same as past production quoted above. Mine worked intermittently during the past 50 years.

Development, mining, geology, and mineralization. Current development is on the steeply dipping east-striking Deer vein and this consists of a 100-ft shaft, headframe and operating hoist, 30-ft drift on the 30-ft level, 80-ft drift on the 70-ft level, and 90-ft drift on the 100-ft level (fig. 33). Additional, parallel veins are located at distances of 150 ft south, 75 ft south, 50 ft north, and 200 ft north of the Deer vein. The Deer vein is 4 to 20 in. thick; contains trace to minor amounts of galena, chalcopyrite, sphalerite, and bornite; and is oxidized to the lowest working level. The country rock is unaltered conglomerate.

Reference. Unpublished information obtained from the property owner: letter from Ed Speer to Dr. Pye, November 16, 1980, including 1 in. to 20 ft sketch cross section; letter from Jeff Hazen to Clovis Priser, October 9, 1980; report by Loring K. Green, November 10, 1977.

Resource estimate and basis. No economic resources, based on the above information and the following USBM sample results:

> D. K. Marjaniemi (USBM, written commun., 1994) reports the weighted averages of 7 chip samples taken (in the mine) across the Deer vein (T54-58, T60, and T61; fig. 33) are 0.032 oz Au/st, 4.2 oz Ag/st, 1.2% Cu, and 0.64% Pb, for an average sample length of 2.2 ft. Select sample T50, representing the possible westward extension of the Deer vein on the surface (located 300 ft from the shaft) contains 0.37 oz Au/st, 1.9 oz Ag/st, and 1.4% Pb. A 6-in. chip sample, T64, representing the possible eastward extension of the Deer vein on the surface (located 200 ft east of the shaft) contains 0.017 oz Au/st. Select samples taken from dumps along the veins to the south and north of the Deer vein (T49, T53, T62, and T63; fig. 30) contain as much as 0.29 oz Au/st, 17 oz Ag/st, and 7.5% Cu; and the quartz veins at these localities are a maximum of 1 ft thick.

Assuming a 1.5-ft-thick (average) for the Deer vein (as per literature), continuity of the vein along 500 ft of strike length (USBM field data), and continuity of metallization down-dip for 100 ft (total depth of mine development), the site contains an estimated 6,000 st of inferred resources. A tonnage that low is not viable for economic development, considering the gold concentrations that are encountered, some of which are high.

Samples T927-930 pl. 1

Diablo claims

Topographic quadrangle and location. Saucito Mtn. 7.5-minute quadrangle, E½ sec. 6 and NW¼ sec. 5, T. 21 S., R. 12 E.

Property holdings. 9 unpatented lode mining claims, all oriented approximately N. 60° E.: Diablo 1 through Diablo 9.

Production. None reported.

Development and mining. Several small prospects are reported in the "green zone" (ctr. W½NW¼ sec. 5).

Geology and mineralization. The country rock is monzonite and rhyolite of Laramide to Tertiary age. These rocks are intruded by basalt (or gabbro) dikes, also believed to be Laramide to Tertiary in age.

Two areas of economic interest on the property are described: the "main zone," adjoining a single vertical (?) basalt dike, with possible minor dike offshoots, which extends for more than 3,500 ft (striking N. 80° E.; see note below) across the north-central part of the claim group; and the "green zone," an area of about 250 ft by 600 ft located 500 ft south of the main zone near the ctr. W½NW¼ sec. 5. The basalt (or gabbro) is described as follows: black to gray; aphanitic, microcrystalline to cryptocrystalline; silicified in the "main zone"; and weakly to moderately magnetic in places.

In the "main zone," chill breccias have developed at the margins of the dike. These chill breccias were formed by the cooler, crystallized outer margins being fractured, healed and refractured by the movement of the mobile, viscous inner magma. In places these chill breccia zones are well exposed on each side of the dike as in the ctr. N¼ sec. 5, where the dike was sampled from side to side over a distance of 100+ ft. The estimated thickness of this "main zone" is a minimum of 30 to 50 ft and a maximum that may be in excess of 150 to 200 ft. The sample collected assayed 0.26 oz Ag/st, 0.01 oz Au/st, and 0.09 oz Pt group metals per st.

The "green zone" is composed of a basalt dike (?) similar to the "main zone." The basalt has been brecciated, silicified, bleached, leached and epidotized until in many instances all that remains is epidote and silica. The zone of mineralization, having an unknown width, trends N. 60° to N. 70°W. A rock-chip sample (having a sample width of 100 ft) across this zone assayed 0.53 oz Ag/st, 0.01 oz Au/st, and 0.09 oz Pt/st group.

Reference. Unpublished information obtained from ADMMR files: "Geological Reconnaissance of the Diablo Mining Claims, Santa Cruz County, Arizona," W. Richard Hahman Sr., March 27, 1977.

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T709-720 Fig. 3, 11

Dos Amigos Mine
California Tunnel
Old Soldier Mine (California Mine)

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SW¼ sec. 17 and NW¼ sec. 20, T. 23 S., R. 11 E.

Property holdings. 4 unpatented lode mining claims: Amigos, Amigos #1, Amigos #2, and Amigos #3. The claims adjoin the California patented mining claim on its west and north sides; and are current as of 1992. Old Soldier Mine and California Mine are apparently the same property. The California Tunnel apparently was considered part of the Old Soldier/California Mine when those names were current.

Production. Dos Amigos Mine: unknown. Old Soldier Mine: 1,250 st of average 12 oz Ag/st and 0.4 oz Au/st, produced from the late 1800's through 1942 from shaft and tunnel workings [probably the California Tunnel] (Keith, 1975, p. 65, fig. 4).

Development and mining. 100-ft shaft; 280-ft adit; 620-ft tunnel (California) passing through the mountain to the southeast; and other smaller workings.

Geology and mineralization. Auriferous breccia, up to several feet wide, in Oro Blanco Conglomerate; locally intruded by dikes and sills of Sidewinder quartz monzonite. Northwest normal faults, associated shear and breccia zones. (USBM field data, 1991-1992)

The conglomerate is "complexly faulted"; and the "mineralized shear zone" (striking about N. 35° W. and almost vertical) characteristic of nearby mines is intercepted in the California Tunnel, where it "contains irregular bodies, up to several feet wide, of brecciated to pulverized rock with considerable iron and manganese oxides" (Wilson and others, 1967, p. 191). Keith (1975, p. 65) notes finely crystalline quartz in the brecciated tuff as the gold and silver ore host (at Old Soldier Mine).

The lithologies of 34 rock samples collected from the Amigos claims, and 17 samples from the California Tunnel, which is on the California Patent, indicate multiple zones of alteration, oxidation (due to sulfides), manganese staining, brecciation, quartz veining, and silicification. Samples with the highest gold content (DA-85-1, 2, 12, 19, 21, 22, and 31; 0.087-2.699 oz Au/st) have quartz veinlets and/or some degree of silicification. The sample with the maximum gold content (DA-85-12; 2.699 oz Au/st; collected from the California Patent) is described as "altered Oro Blanco Conglomerate with oxidized quartz veinlets near contact with Sidewinder quartz monzonite"; and no sample length is given. In the "California Tunnel" the richest oxide zones are located in breccia veins, shear zones, and fault intersections.

The mineralization on the Amigos claims is found as black to red iron and manganese oxides and a small amount of yellow, finely crystalline quartz. No sulfide minerals were observed in any sample. Oxide and quartz mineralization are best developed within breccia veins and along the contacts between intrusives and the conglomerates where post-faulting permeabilities were highest.

Gold mineralization occurs within, but not restricted to, areas of abundant oxides and quartz veining. Gold occurs as finely divided native particles smaller than 20-mesh grain size and mostly about 100-mesh grain size. Samples of altered Oro Blanco Conglomerate and Sidewinder quartz monzonite also showed particles of free gold when crushed and panned.

Areas with highest potential for gold exploration include brecciated zones, such as breccia veins and fault intersections, and structural traps at and below the Oro Blanco/Sidewinder contact. Brecciated zones offered permeable areas for oxidizing fluids as evidenced by silica druzes and oxide crusts coating the breccia fragments. Fluidization breccia (breccia pipes) textures are found as northwest trending breccia veins at the beginning of the California Tunnel and at the shaft. Both areas show post-brecciation silicification and have slightly higher gold values. Mineralized fault zones and fault intersections are exposed along the road and near the California Tunnel. These areas lie at the southern extension of the "Oro Blanco Trend" and show spotty values with some high-grade areas.

Iron and manganese oxide concentrations at the contact of the Sidewinder indicate that the contact may have acted like a trap for mineralizing solutions.

References. Wood and Yersavich (1985); Wilson and others (1967); Keith (1975); Knight (1970).

Resource estimate and basis. There are two known breccias, one at the Dos Amigos Mine (fig. 3, 11) and one at the California Tunnel.

The Dos Amigos Mine breccia, mapped as 650-ft-long by Knight (1970, fig. 3). USBM field crews mapped the breccia as 202-ft-long inside the Dos Amigos adit (fig. 11); Wood and Yersavich (1985) mapped the zone as 260-ft-long inside the adit. USBM recorded an average structure width of 1.2-ft. Wood and Yersavich collected 34 samples from the zone which average about 0.02 oz to 0.03 oz Au/st, but include no structure widths. No samples exceeded 0.127 oz Au/st. No control on down-dip extent. The zone strikes N. 30° W.

USBM did not examine the California Tunnel, which is on a mineral patent. Wood and Yersavich (1985) mapped the breccia (N. 45° W.) for 620-ft inside the tunnel, but did no work beyond the excavation. The variant strike from the Dos Amigos breccia and the relative locations of the two workings demonstrate that there are two different breccias, though lack of mapping prevents a positive conclusion. Wood and Yersavich's (1985) 17 samples suggest about 0.04 oz to 0.05 oz Au/st on the average, but they supply no data on down-dip extent or structure width.

The low gold concentration and thin widths of the breccia (where known) do not suggest economic viability for these breccias. The USBM model calls for about ten times the gold concentration in these breccias.

Samples T18-28 fig. 41

Easter Mine group
APPARENTLY SAME AS THE MOUNTAINVIEW TUNGSTEN PROSPECT, WHICH IS DETAILED SEPARATELY IN THIS APPENDIX.

Topographic quadrangle and location. Wilbur Canyon 7.5-minute quadrangle, W. ctr. sec. 14 and E. ctr. sec. 15, T. 22 S., R. 9 E.

Property holdings. Unknown.

Production. 15 st of ore averaging 1.5 oz Au/st, 4.5 oz Ag/st, 2.3% Cu, and a trace of Pb; produced in 1939-42. 2,700 pounds of hand-picked, high-grade tungsten ore and concentrates; produced in 1951-52.

Development and mining. Pits, trenches, and opencuts.

Geology and mineralization. Series of narrow and discontinuous, oxidized and weathered, quartz-fissure veins containing sparse base-metal sulfides, spotty scheelite and minor free gold. Veins are cutting a granitic intrusive of Laramide age near its contact with Cretaceous sedimentary and volcanic rocks.

Reference. Keith (1974; fig. 4 and p. 105)

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T129-130 fig. 30

Edwards Mine/Edwards patent

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, N. ctr. sec. 8, T. 22 S., R. 10 E. Location from AZMILS listings.

Property holdings. Unknown.

Production. More than 100 st of ore averaging 4 oz Au/st, 14 oz Ag/st, 1.6% Cu, and 0.6% Pb. Produced prior to 1900; and between 1928 and 1940.

Development and mining. Shaft and tunnel operations.

Geology and mineralization. Multiple quartz-sulfide veins, oxidized and weathered with free gold and silver chlorides (?) near the surface and spotty base-metal sulfides at depth; along fracture zones in metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 105)

Resource estimate and basis. According to AZMILS listings, at least some part of the Edwards Mine is south of the Edwards patent. The main part of the mine workings, on the patent itself, were not examined by USBM field crews, precluding assessment. The very low composite production suggests only small sulfide pockets or oxidized zones were economically minable.

Samples T491-553 fig. 3, 20, 21

El Oro Mine vein (samples T503-545, fig. 3, 20)
Nil Desperadum Mine vein (samples T491-502; T546-553, fig. 3, 21)

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, W. ctr. sec. 13, T. 23 S., R. 10 E.

Property holdings. 7 mineral patents (fig. 3).

Production. **El Oro:** 6,250 st of ore averaging 0.4 oz Au/st, 15 oz Ag/st, and minor Cu and Pb; produced as of 1897. 1,000 oz of gold was lost from this production due to improper milling. The mine is believed to have been active in the 1900's, but no production figures are available for this period of time.

Development, mining, geology, and mineralization.

El Oro:
Three northwest-striking quart-sulfide veins, spaced about 40 ft apart - Julia, Rafiel, and Oro. Main ore shoot (and Julia Shaft) is on the Julia Vein and this was developed to a depth of 340 ft. Most of the ore production came from this shoot, on the 100-ft and 150-ft levels. On the 100-ft level the main ore shoot has an average width of 5 ft, strike length of 60 ft, and the average grade of ore mined was 0.4 oz Au/st. On the 150-ft level the main ore shoot has an average width of 5 ft, strike length of 35 ft, and an average grade of 0.4 oz Au/st. Maximum thickness of the Julia Vein, on the 150-ft and 340-ft levels, is 18 ft. High-grade samples of 8 oz Au/st and 20 oz Au/st were collected from the 250-ft and 340-ft levels, respectively. Ore consists of pyrite in quartz stringers. Four other ore shoots have not been developed to any extent.

Development on the 100-ft level consists of: a 200-ft drift to the northwest, following generally the strike of the Julia Vein, or N. 40° W.; a winze at around 70 ft from the main shaft; an 108-ft drift to the north or northwest, again following the Julia Vein and apparently beginning from the base of the winze; and a 50-ft crosscut to the west, beginning near the end of the main (200 ft) drift.

The bulk of the ore production at the El Oro came from the 100-ft level and (while the report of Fraser is not clear in this regard) it seems that the greater part of this came from an ore shoot located at a distance of between 120 and 180 ft from the main shaft. Fraser makes these statements:

> From the shaft north 120 ft, the ore has been stoped to a height of 35 ft. A block of ground several feet high was left supporting the roof. Above this the vein has been stoped to the surface.
>
> In a report to the company, dated August 6, 1897, the superintendent stated that "the ledge at the 100-ft level, about 180 ft in was 38 ft wide, 9 ft of which assayed $10.00 per ton and the balance $2.50 to $6.00 per ton."

Additional information on thickness and grade of ore on the 100-ft level is as follows: the winze at 70 ft from the shaft disclosed ore that was 8 ft wide and averaged $8.00 gold per ton; no ore was intercepted in the crosscut at the end of the main drift; and the average of ore mined and milled from the 100-ft level was $8.00 Au/st and the average width of the ore shoot, 5 ft.

The 150-ft level has a drift going 180 ft northwestward from the main shaft. At a distance of 83 ft from the shaft on this level, "the main ore shoot opened on the 100-ft level begins and extends to the east and west fault, 118 ft from the shaft." At 153 ft in, the vein is again encountered and continues to the face where it is again faulted out. A crosscut extends 115 ft eastward from the face and, in this course, intercepts: the Julia Vein at 15 ft; and the Oro Vein, or a stringer from the Oro Vein, at 62 ft from the main drift.

Ore thicknesses and values for the north drift on the 150-ft level are as follows: for a distance of 83 ft from the shaft, the vein averages $1.00 to $2.00/st; the ore shoot between 83 and 118 ft averages 5 ft in width and $8.00 Au/st; and the Julia and Oro Veins intercepted in the east crosscut at the end of the main drift assay from $1.00 to $3.00/st.

There are two crosscuts from the main drift on the 150-ft level which prove the vein to be 18 ft wide, 5 ft of which on the hanging wall includes the ore shoot mentioned above. The remaining 13 ft assays $2.00/st.

Ore in the north drift on the 150-ft level is described by Fraser as consisting of iron sulfide in quartz stringers with occasional sulfides of copper and lead, and carbonate of copper. In places the pyrites are massive, a foot or more in width, making a direct shipping product, but as it does not lend itself favorable to stripping, it is best suited to mill concentration in conjunction with the milling ore.

As best can be determined from Fraser's report, a drift was run 50 ft northwest on the Julia Vein from the "south end of the station" (main shaft) on the 150-ft level and thence 28 ft west to crosscut the Rafiel Vein. An additional drift, also beginning at the "south station," was run for 25 ft southeast on the Julia Vein. In these workings, both the Julia and Rafiel Veins are reported to be 6 ft across, and reported to assay $2.00 Au/st.

$160 ore was intercepted at a depth of the 250 ft in the Julia Shaft but was not drifted on.

A 70-ft crosscut westerly from the main shaft on the 340-ft level passes through the Julia Vein (near the shaft) and Rafiel Vein, 40 ft beyond the Julia. From the crosscut, there is a 92-ft drift northward on the Julia Vein; and a 35-ft drift northward on the Rafiel. In the north half of the drift on the Julia Vein, there is apparently a 12-ft winze and 12 ft of northward drifting on the Julia Vein from the base of the winze.

The Julia Vein on the 340-ft level is 18 ft wide and averages $2/st. The Rafiel Vein on this level is 3 to 5 ft wide and assays $1 to $2.50/st for this thickness. Sixteen samples of the Julia Vein collected by Fraser from the north drift on this level, over a 56-ft interval, have a weighted average of $28.25 Au/st and an average thickness of 10 in.; and a specimen sample (predominantly sulfides) collected by Fraser from this drift assayed $400 Au/st.

Fraser felt that:

(1) with regard to the quartz-sulfide stringers on the 340-ft level, "the increase in the grade of the ore depends upon the increase in the quantity of sulfide in the quartz stringers";

(2) ore shoots at the El Oro, with some exceptions, "occur in the vicinity of the intersections of east and west faults with the veins";

(3) five ore shoots have been opened up in the vicinity of the Julia Shaft and only one of these developed to any extent; and

(4) the continuity of at least one of the ore shoots (that mined on the 100- and 150-ft levels) to a depth of 340 ft has been proven.

Nil Desperadum Mine:
Located 1,500 ft north of the Julia Shaft of the El Oro Mine (fig. 3, 21). USBM field investigations identified a complex of faults, breccia, and quartz-sulfide veins extending a distance of 900 ft over the mine area, from sample sites T493 to T502; and that the structures are mostly northeast-dipping at shallow angles.

References. Unpub. and undated report obtained from the property owner: A. J. Fraser, "Detail Development, Julia Shaft".

Note. Based on Fraser's reference to a 1897 report, the dollar figures quoted by Fraser and reproduced above are believed to be based on $20.00/oz gold prices.

Resource estimate and basis.

El Oro Mine. Essentially the entire length of the El Oro Mine vein was sampled by USBM field crews. However, none of the high-grade zones (Julia shaft) were accessible; the shaft had been backfilled by 1991. One high-grade sample from stockpiled rock at the Julia shaft (T534) contains over 2.5 oz Au/st, verifying the historically reported high grades in parts of the vein exposed by that shaft. Resource assessment, however, is not favorable, due to low tonnage of the high-grade zone and very low gold content in other parts of the vein that were accessed and sampled by the USBM. Literature provides that the average width of the auriferous vein in the Julia shaft is 4 ft; it was mined between 100-ft and 340-ft depths, suggesting a down-dip extent of 240 ft; average strike length of the ore shoot is very short, only 47.5 ft. This suggests the ore zone contains about 5,000 st of rock between the 100-ft and 340-ft levels. Comparing that tonnage to the total mine production suggests that the ore shoot could well have been mined out.

USBM samples from the accessible parts of the vein are very low grade; a maximum of 0.008 oz Au/st was encountered in USBM chip samples from the vein. This concentration of gold is too low to consider for economic mining.

Nil Desperadum Mine. No resources, based on the following USBM sample results. Breccia and silicified zones/quartz veins, each up to 35 ft wide, contain from 0.053 to 0.12 oz Au/st and up to 0.93 oz Ag/st (samples T493, T495, T498, T499, and T502). A 4-ft chip sample across black quartz (30 in.) and high-grade pyritic quartz (18 in.) at T496 contains 0.18 oz Au/st and 1.3 oz Ag/st but the strike length of the high-grade zone is only 30 ft.

Samples T636-648, T675-687 figs. 3, 12, 24

Grubstake Mine and nearby prospects
(main part of the mine at sample sites T638-642)

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 250 st of ore averaging 0.8 oz Au/st, 7 oz Ag/st, and minor Cu; produced mainly from 1933 through 1940.

Development and mining. Shaft and adit operations.

Geology and mineralization. A 1,100-ft-long auriferous breccia zone, mapped by Knight (1970, fig. 3). Irregular, lensing fissure zone of brecciated Jurassic tuff cemented by finely crystalline quartz containing fine-grained gold, silver, and copper mineralization. Argillic alteration.

Reference. Knight (1970, fig. 3); Keith (1975; fig. 4 and p. 64)

Resource estimate and basis. Gold grades are too low (average <1 ppm or <0.03 oz Au/st). Structural widths are quite variable, ranging from a few inches to 14 ft. Average width is less than 6 ft, which implies low overall tonnage is available. Thus this structure fails to meet both tonnage and grade requirements of the USBM auriferous breccia model.

Samples T146-158 fig. 30

Hole-in-the-rock Mine (T154-158)
Sturges Patent and adjoining claims (T146-153)

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, secs. 7 and 8, T. 22 S., R. 10 E.

Property holdings. Sturges patent; 7 adjoining unpatented lode claims.

Production. Not known

Development and mining. The Hole-in-the-rock Mine is located in the eastern part of the claim block. According to a sketch map by the owner, the Hole-in-the-Rock Mine consists of: a 130-ft shaft; drifts east and west at the 50- and 90-ft levels; and an estimated 300 ft of total drifts.

Geology and mineralization. Sturges patent: quartz vein strikes west to northwest.

At the Hole-in-the-rock Mine, a vein strikes N. 63° E., dips 80° N. The country rock is tuff.

Reference. Unpublished information obtained from the property owner.

Resource estimate and basis.

Sturges patent (NW.-trending vein)
Apparently there are multiple structures here; only the existing workings were examined by USBM field crews. There is no evidence of a mining width on any vein >4-ft; average mining width is probably <2-ft. All USBM samples have gold. The maximum content was a 1.5-ft chip across multiple, thin quartz veins (sample T152, 0.23 oz Au/st), but the average gold concentration is probably about 2 ppm to 3 ppm Au (0.06 oz to 0.09 oz Au/st). Those concentrations are too low for economic consideration in quartz veins this narrow.

Hole-in-the-rock Mine
The auriferous vein was not mapped by USBM field crews, making resource assessment problematic. The vein apparently has less gold than does those structures sampled at the Sturges patent. Maximum gold concentration detected is 0.5 oz Au/st, a high-grade of vein material. Other samples contain less than 2 ppm Au (equivalent to 0.06 oz Au/st). That is not enough gold to warrant economic interest in a narrow quartz vein.

Other unpub. data must be considered:
The property was examined and sampled by three major companies and one minor company. Ninety-five rock samples were collected and analyzed in the process. Twenty-eight of the samples contained more than 0.10 oz Au/st. Seven samples contained more than 1 oz Ag/st. Where sampling situations and lithologies are available, these data indicate that the high-grade samples were dump or grab samples of vein quartz ± pyrite. The three major companies concluded that the property did not meet their exploration

Samples T301-314 fig. 3, 22, 23

Idaho Mine group

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, S. ctr. sec. 32, T. 22 S., R. 11 E.

Property holdings. 4 unpatented lode mining claims.

Production and reserves. 6,800 st of ore averaging 3 oz Ag/st, 2% Pb, 1% Zn, 0.3% Cu, and minor Au; produced from early 1910's through 1968. (Keith, 1975, p. 64)

Reported "reserves" are 484,590 st averaging $80.80/st (1980 prices) to a depth of 400 ft below the main adit level.

Using the average gold price of 1980 ($612.56/oz), these reported reserves have an approximate average grade of 0.13 oz Au/st.

Development and mining. More than 700 ft of drifts on three levels. 60-ft-diam. by 40-ft-high stope. 90-ft decline from surface. Estimated 300 ft of winzes underground. Maximum depth of workings 180 ft. Workings now (1994) inaccessible.

Geology and mineralization. Major quartz-sulfide vein and cross veins intruded into sequence of finely crystalline intrusive rocks, volcanic rocks, and conglomerates of Tertiary age. Idaho Vein, 3- to 8-ft-wide, strikes northeast and dips 30° NW. Cross veins strike northwest and dip 30°-60° NE. Additional veins are up to 1-ft-wide.

Where mineralized, the veins contain disseminated galena, sphalerite, tetrahedrite, chalcopyrite, and pyrite. Alteration, silicification, and bleaching of the country rock surrounding the veins is described as extensive. Vein and stockpile samples collected by Pye (1977) average 0.052 oz Au/st, 5.7 oz Ag/st, 4.2% Pb, 0.76% Cu, and 2.4% Zn.

References. Knight (1970, fig. 3) for geology;
Keith (1975, p. 64) for production;
Pye (1977, p. 4-6), for details about ine workings, grade, and tonnage.

Also, unpub. data from ADMMR files:
Charles Porter, "Idaho Mine", a summarization of a 1980 report by W. D. Pye.

Resource estimate and basis. The reported reserve tonnage (484,590 st) appears to be inflated, based on the basic dimensions of the vein. Using the maximum strike length of the vein, as mapped by (1,000 ft); the maximum vein width (8 ft); the reported down-dip extent of the reserves (400 ft), this vein would appear to contain a maximum of 260,000 st.

All USBM samples contain gold. Most USBM samples contain between 1 ppm and 2 ppm Au (equivalent to 0.03 oz to 0.06 oz Au/st. The maximum gold content encountered is 0.53 oz Au/st. High-grade samples from the dumps contain a maximum of 0.13 oz Au/st.

No samples fig. 3

Indian Mine group

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 13, T. 23 S., R. 10 E.

Property holdings. Unknown.

Production. 110 st of ore averaging 0.7 oz Au/st, 0.3 oz Ag/st and minor Pb and Cu; produced in 1935 and 1936.

Development and mining. Shallow operations.

Geology and mineralization. Irregular, lensing quartz-fissure vein with spotty base metal sulfides, largely oxidized with supergene enrichment in gold and silver. Wall rock is Jurassic volcanic tuff and some Cretaceous sedimentary rocks.

Reference. Keith (1975; fig. 4 and p. 64)

Resource estimate and basis. No resources, based on the above information.

Samples T161-165 plate 1

Jarillas Mine

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, NW¼ sec. 20, T. 22 S., R. 10 E.

Property holdings. 3 unpatented lode claims.

Production. Not known.

Development and mining. Two shafts, each 85-ft to 100-ft-deep, and spaced about 100 ft apart. Drifts 35-ft-long and 25-ft-long, respectively, near the bottom of the westernmost shaft. Shallow surface cut with short adit.

Geology and mineralization. Workings are along a shear zone, up to 3-ft-wide, containing: strong hematite, MnO, erratic $CuSiO_3$, black CuO, and possibly some $CuCO_3$. Hanging wall fault strikes N. 85° W., dips 80° NE. but curves to a more northerly direction beyond the workings. Shear zone is associated with a 150- to 200-ft-wide dike. Host rock is fine-grained clastic arkose? or rhyolitic tuff?, locally siliceous, generally fractured and containing variable amounts of goethite/hematite stain and local MnO.

References. Unpublished information obtained from AGDC: handwritten notes, entitled "Fewell Copper Prospect," and dated 2/8/69.

Unpublished information obtained from ADMMR files: undated report entitled "The Big Dike #1, Shadows #1, 2 mining claims."

Resource estimate and basis. The site is somewhat problematic to categorize because it was opened primarily for copper silicate, oxide, and carbonate. Presence of non-vein silicification, shearing (though brecciation is not specifically reported) and location in the Oro Blanco district (albeit on the northernmost perimeter) were used as primary factors in classification of this site with the auriferous breccias. In USBM samples, gold is in low concentrations; none approach 1 ppm Au (0.3 oz Au/st). Copper is present in as much as 1% Cu concentration. No field data are available to suggest a large structure (and thus economically significant tonnage) at this site.

Samples T322-323 fig. 3

Loma de Manganese

(REFERS TO WORKINGS IN AND NEAR THE FLAT, AURIFEROUS SILICA ZONE, WHICH IS DISCUSSED AS A SEPARATE OCCURRENCE TYPE ON P. 17).

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SE¼ sec. 1, T. 23 S., R. 10 E.

Property holdings. 5 unpatented lode mining claims.

Production and reserves. 49 st of hand-sorted 47% Mn ore produced from 1953 to 1954 (Keith, 1975, p. 64).

30 st stockpiled, averaging 20-25% Mn.

Development and mining. 50° inclined shaft, 25 ft deep; 30-ft by 10-ft and 10-ft-deep trench.

Geology and mineralization. Irregular, lenticular masses of psilomelane and pyrolusite with manganiferous calcite and iron oxides along a fissure in Jurassic rhyolite volcanics.

Field Engineers Report indicates: "chunks and veinlets of fairly high grade manganese in a gangue of altered diorite"; and the vein containing the manganese ore is about 3 ft wide striking ENE. and dipping 50° SE.

References. Except as cited above, information is from an unpublished ADMMR report, as follows: Field Engineers Report, December 12, 1957.

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T66-72 fig. 30

Long Shot Mine group

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, ctr. sec. 5, T. 22 S., R. 10 E. Precise boundaries of the mine group is not known by USBM.

Property holdings. Unknown.

Production. Intermittent production since the early 1900's. Produced 100 st of ore averaging 21 oz Ag/st, 5% Pb, 1% Cu and trace Au.

Development and mining. Shaft workings.

Geology and mineralization. Multiple irregular quartz-sulfide veins with partly oxidized base metal sulfides in metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 106)

Resource estimate and basis. No resources, based on the above information and the following USBM sample results:

Two-ft chip sample T70 is across a fault zone and quartz vein and contains 0.17 oz Au/st, 4.3 oz Ag/st, and 2.1% Pb. Select sample of dump material (T66) is associated with a 1-ft quartz vein and contains 0.17 oz Au/st, 13 oz Ag/st, 1.6% Cu, and 2.1% Pb.

Samples T479-483 fig. 3

Lucky Shot Mine group
aka Hilltop Mine

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, N. ctr. sec. 8, T. 23 S., R. 11 E.

Property holdings. 3 unpatented lode mining claims.

Production. 220 st of ore averaging 8% Zn, 4% Pb, 1 oz Ag/st, and minor Au and Cu; produced mainly from 1939 to 1940 and from 1947 to 1948. (Keith, 1975, p. 64)

Owners, as of 1954, believed they could mine, hand sort, and ship ore running 10% Pb and 3 oz Ag/st.

Development and mining. Probably originally prospected in the late 1800's. The mine workings are as follows:

1. 150-ft shaft consisting of a 30-ft drift on the 50-ft level, an 80-ft drift and some stopes on the 80-ft level, and one drift of unknown length on the 150-ft level. The shaft is inclined 65°-85°, and the water level in the shaft is at a depth of 75 ft.

2. Additional surface workings consisting of a 200-ft adit, 30-ft shaft, and numerous small open cuts.

Geology and mineralization. Six quartz veins, 2 to 10 ft wide. Veins strike NE., dip 70°-80° NW. Two-ft portion of 6-ft vein next to hanging wall in main shaft assays 21% Pb and 4¾ oz Ag/st. Wall rocks are Jurassic volcanic rocks, Cretaceous sedimentary rocks, and diorite.

Oxidized ores on the 50-ft level and above. Galena, sphalerite, pyrite, and chalcopyrite below the 50-ft level.

References. Except as noted above, information is from an unpublished ADMMR report, as follows: Field Engineers Report, April 7, 1954.

Resource estimate and basis. Gold content is low in USBM samples, with only one sample exceeding 1 ppm Au (sample T482 with 1.15 ppm Au or 0.03 oz Au/st). This suggests no viable mining targets in these narrow veins of indefinite lateral and vertical extent.

Samples T395-396; T399-409 fig. 3

Margarita Mine and surrounding gold resource zone

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 7, T. 23 S., R. 11 E.

Property holdings. Approximately 60 unpatented lode mining claims.

Production and resources. Production: 4,400 st of ore averaging 0.3 oz Au/st, 0.6 oz Ag/st, and minor Pb and Cu; produced mainly in 1903, but also in the 1890's and from 1933 to 1941 (Keith, 1975, p. 64).

Resources: 440,000 st grading 0.0723 oz/st Au (originally reported as a "reserve"); waste-to-ore stripping ratio less than 1.5:1 (Newfields Minerals, 1986).

Development and mining. 1,200 ft of tunnels (no longer accessible and/or backfilled) and shallow workings developed in the 1890's. 50 st/day cyanide mill operational from 1931 through at least 1934. Surface cuts 200-ft by 100-ft and 80-ft-deep; and 200-ft by 30-ft and 10-ft deep with a 50-ft shaft. (Wilson and others, 1967, p. 191). The main adit and collapsed underground workings are at sample locations T400-408.

Geology and mineralization. Irregular, flat silica zones with numerous quartz veinlets and stringers containing abundant pyrite and very fine grained gold and silver mineralization associated mainly with oxidized sulfides. Country rock is a strongly silicified and sericitized Jurassic volcanic tuff; intruded by dikes of dioritic and rhyolitic porphyry. (Keith, 1975, p. 64)

Silicified areas with the most abundant pseudomorphs of limonite after pyrite have the highest grade of gold (Knight, 1970, p. 137).

Interpreted as a hot-spring type gold deposit (La Teko Resources, 1989).

Reserves occur in four flat-lying, near surface silicified zones. Drilling appears to be a maximum of 70 ft deep. Twelve additional peripheral silicified zones are reported to be gold-bearing and have yet to be fully tested. (La Teko Resources, 1989; Newfields Minerals, 1987)

References. As cited.

Resource estimate and basis. The important part of this deposit is the drilled gold resource zone (fig. 3); USBM samples were collected from only the southeasternmost extent of that zone, at the old Margarita Mine (samples T400-409); all contain gold.

Explored by drilling prior to 1986; in all, 245 holes were drilled, leading to estimates by Newfields Minerals, Inc., Vancouver, British Columbia to estimate near-surface (0-ft to, 70-ft-deep) gold "reserves"[1] in these flat silica zones amounting to 440,000 st of 0.072 oz Au/st. Overall auriferous resources were reported at 522,000 st at 0.046 oz Au/st (Walenga, 1988, p. 16A; Newfields Minerals, Inc., 1987, p. 2; La Teko Resources, 1989, p. 1; Newfields Minerals, 1986, p. 4-5). These resources have not been developed (as of mid-1994).

USBM mine and economic modeling of this property is based on the deposit characteristics cited above and reports of limited industry gold recovery testing. The PREVAL model used is open-pit mining, followed by grinding and processing of ore in a carbon-in-pulp (CIP) mill and finally, electrowinning of the gold. A general description of carbon recovery of leached gold is in Beatty (1994, p. 31). Mine and cost characteristics are as follows:

Mining, recovery:	Open-pit mine, 2 preproduction years, 5-year mine life, mining rate of 300 st/d, 440,000 st of 0.0723 oz Au/st; 90% mine recovery; Milling: grind, leach, CIP gold capture, electrowinning; 92% gold recovery at mill;
Capitalization:	$4.9 million, mine; $7.1 million, mill;
Costs:	$12/st ore to mine; $25/st ore to mill;
Gold price	$387/oz (mid-1994 price);
NPV	-$18.4 million.

The 440,000 st part of the property is not estimated to be economic. Low gold grade, low deposit tonnage, and the current (mid-1994) gold price, $387/oz, are major factors affecting the economics. *It is notable that some mining companies may already possess much or all of the infrastructure needs. If so, such companies might mine the property economically at much lower tonnages and possibly lower grades (compare NPV to the modeled capital costs).* In reality, mill operating costs would probably be somewhat different from the USBM model (p. 9) because carbon-in-leach (CIL) would likely be used in place of CIP. Preference of CIL is due to lower costs and the process' demonstrated utility at numerous micron-gold, disseminated deposits. However, the PREVAL software program does not offer a grind-ore/CIL model and the costs and infrastructure associated with the CIP process are considered sufficiently representative for this estimate. There are no definitive data to characterize typical gold recoveries as significantly different between CIL and CIP methods.

Modeling the hypothetical development of the entire known resource block on the property (522,000 st at 0.04 oz Au/st) was not attempted because of the significant decrease in gold grade (from 0.07 oz Au/st to 0.04 oz/st) as lower grade material is incorporated to increase overall resource tonnage. At the current price of gold, the 440,000 st part of the deposit would be a break-even economic venture if approximately 32.5 million st of 0.0723 oz Au/st ore were discovered.

[1] Probably classified as "measured, subeconomic resources" under mid-1994 market conditions.

Samples T107-115 fig. 30

M. C. M. Mine group (?)

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, SE¼ sec. 5, T. 22 S., R. 10 E. The exact location of the M. C. M. Mine group is unknown.

Property holdings. Unknown.

Production. 100 st of ore averaging 1 oz Au/st, 63 oz Ag/st, 10% Pb, and 4% Cu. Produced from 1900 to 1933.

Development and mining. Relatively shallow operations.

Geology and mineralization. Partly oxidized argentiferous galena, chalcopyrite, sphalerite, and pyrite in multiple lensing quartz-sulfide veins cutting metamorphosed conglomerate.

Reference. Keith (1974; fig. 4 and p. 106)

Resource estimate and basis. Select sample T113, containing 3.3 oz Au/st and 1.5 oz Ag/st, is believed to originate from a 1-ft zone that was mined or prospected in a 150-ft-long cut. Comparison with other veins in the area indicates that the vein could be up to 2-ft-wide.

Select sample T115, on a different structure and less than 75 ft from T113, contains 0.25 oz Au/st, 4.0 oz Ag/st, and 2% Pb.

Select sample T108 contains 0.06 oz Au/st, 47 oz Ag/st, and 1% Pb; is associated with a 3-in.-wide quartz vein.

Aside from samples T108, T113, and T115 (discussed above) the quartz veins are up to 2-ft-wide and contain up to 0.06 oz Au/st, 10.8 oz Ag/st, and 3.9% Pb.

The very narrow nature of the auriferous veins in this deposit demands detailed mapping and sampling for tonnage and grade estimates to be made with any assurance; that work was not undertaken in this USBM reconnaissance. Mapping and establishment of the persistence of gold in the structure T113 would be the first step in completing evaluation of this property.

Samples T726-727 fig. 3

Monarch Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Reportedly within a mineral patent; no patent is known from current (1990) data at the mine site.

Production. In May, 1934, a little high-grade ore from the mine was being milled in an arrastre.

Development and mining. Reportedly, two shallow shafts; shallow opencuts. Only one working found by USBM field crews: a 105-ft-long adit (fig. 3).

Geology and mineralization. Brecciated, lensing fissure zone in Jurassic tuff cemented by finely crystalline quartz containing fine to medium native gold and silver with iron and manganese oxides. (Keith, 1975, p. 68)

References. Primarily from Wilson and others (1967, p. 191); other works as cited.

Resource estimate and basis. Very limited sampling suggests breccia zone from a few inches wide to 4-ft-wide, but with peripheral silicification extending as much as 3-ft into wallrock on either side of the breccia. There are no data concerning strike length or down-dip extent, preventing tonnage estimates. Gold concentrations in the two USBM samples are very low (about 0.2 ppm Au), which does not encourage further mapping or geologic study to complete the assessment of this property.

No samples fig. 3

Montana Mine group

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SE¼ sec. 32 and SW¼ sec. 33, T. 22 S., R. 11 E.; N½ sec. 5 and NW¼ sec. 4, T. 23 S., R. 11 E.

Property holdings. 19 patented mining claims; 20 unpatented lode mining claims.

The Santa Clara unpatented lode mining claim (presumed site of the Santa Clara Mine, discussed below) extends westerly from the junction of the Ruby-Nogales and Ruby-California Gulch Roads (Forest roads numbered 39 and 217, respectively) to the east line of the Brick Claim.

Production and reserves. 870,000 st of ore averaging 0.06 oz/st Au, 5 oz/st Ag, 3.5% Pb, 3.5% Zn, and 0.3% Cu; produced from the early 1870's through 1958. Most of the production was from 1928 to 1940 by the Eagle-Picher Lead Company. The Montana Mine ranked as the largest producer of lead and zinc in Arizona for 1935 to 1939, inclusive, and third in output of silver for 1938.

In the latter stages of production, low-grade material was mined to keep the mill running at capacity, indicating that reserves on the property would be quite low. Subsequent to abandonment of the property by Eagle-Picher in 1940, the new owner (Hugo Miller of Nogales) proceeded to "rob" ore pillars left by the former owners; and to develop a small (5,000 ft^3) stope near the east end of the Montana Vein.

Remaining surface tailings are 700,000 st, averaging 0.01 oz/st Au and 1.0 oz/st Ag. K & K Mining Partners of Tucson attempted to mine and leach the upper 5 to 6 ft of tailings between 1986 and 1988.

In 1955 the Santa Clara Claim produced 9 st of ore which averaged 0.28% U_3O_8 and contained 53 lb U_3O_8, 0.40% Cu, and 3.40% $CaCO_3$.

Development and mining. The Eagle-Picher Company operated the Montana Mine through a vertical shaft 700 ft deep, with working levels at 100, 200, 300, 400, 525, and 660 ft below the collar. The 770-ft level was developed through a winze from the 660 level. The total amount of underground workings is estimated to be 10,000 ft; and the natural water level is reported to be a few feet below the 525-ft level.

Surface development by Eagle Picher included a 400-ton flotation mill and water system extending 16 mi. to the Santa Cruz River. The milling process consisted of bulk flotation followed by selective separation through depressing the zinc. Mill recoveries are given as 85% Zn and 97% Pb.

The Santa Clara Mine consists of an opencut, 8 ft by 4 ft by 6 ft deep; and a filled shaft which has been cleaned out to a depth of 6 ft.

Geology and mineralization. Major complex sulfide vein system. Ore was mined from the

Montana and Rough and Ready Veins, with the principal mining being from the former.

Details from Freshman (1947, p. 10-12):

> The Montana/Rough and Ready Vein crops out as a wide prominent zone of quartz veins and stringers, silicified rock and iron and manganese oxides in Oro Blanco Conglomerate. It strikes N. 80° W. and dips 40°-60° N. A post-mineral dike in the western part of the mine area divides the vein system into its eastern (Montana Vein) and western (Rough and Ready Vein) segments.
>
> The Montana and Rough and Ready Veins can be traced on the surface for more than 3,000 ft along the strike. East, near the tailings dam the vein outcrops weaken and many small stringers turn off to the northeast. Farther east no mineralization is found in the andesite and rhyolite flows which are younger than the conglomerate. West, near the Ruby-Arivaca Road, the vein again weakens and is dissipated as small southwest striking stringers and veinlets. Contiguous to the major shear zones are many small minor veins that have been prospected with negative results.
>
> The main ore shoot of the Montana Vein starts near the surface south of the main Montana Shaft and rakes or pitches flatly (45°±) to the west. It extends through the fifth level but does not reach the sixth or seventh levels, where low-grade quartz mineralization is found. The ore body increases in length from 300 to 400 ft at the surface to more than 1000 ft near the third level. Its width varies from mere stringers to more than 40 ft.
>
> The Rough and Ready Vein was practically barren almost to the third level where the ore shoot was found. This ore body continued to the fifth level and in places was 1,000 ft long and 30 ft wide. It also pitched flatly (45°±) to the west.
>
> Ore minerals are splotchy disseminated galena and sphalerite in quartz and silicified wall rock with minor amounts of pyrite, chalcopyrite and tetrahedrite throughout the ore bodies. The tetrahedrite contains small amounts of gold and silver.
>
> All the ore bodies are in shear zones in the conglomerate-Ruby andesite porphyry contact.
>
> The exploration and prospecting work done by the Eagle Picher Mining Company on this structure appears sufficient to demonstrate that no important ore shoots have been overlooked, either below the Montana Mine workings or on the lateral extensions of the veins.

The following information on the Santa Clara Mine is from the 1955 ADMMR Field Engineers Report:

> Uranium ore, associated with lead and copper sulfides, and copper carbonates. Ore sample determined to be uranophane by the U.S. Bureau of Mines.

The ore is found in a shattered or faulted zone in the Oro Blanco Conglomerate, about 140 ft from a major fault between the Oro Blanco Conglomerate and the Ruby Diorite. The ore appears to have been deposited along cracks and fissures in the shattered rock, possibly in a secondary fault or fissure zone. The ore horizon appears to be about 3 ft wide, but the ore is spotty and not consistent throughout the entire width.

Radiometric samples show values of 0.05% to 7.0% of U_3O_8. Chemical assays show values of 0.05% to 3.0% of U_3O_8.

References. Arizona Bureau of Mines (1951);
Fowler (1938);
Keith (1975, fig. 4 and p. 65);
Knight (1970, p. 114-118);
Freshman (1947);
Wenrich and others (1989, table 3);

Unpub. data, AGDC files: Report on Reconnaissance Examination of Montana Mine, Ruby, Arizona, R. B. Mulchay, July 22, 1947;

Unpub. data, ADMMR files: 6/13/86 to 4/15/88; Field Engineers Report (on Santa Clara Mine) dated June 2, 1955.

Notes. 1. Fowler (1938) is an earlier version of Arizona Bureau of Mines (1951) and includes: a more detailed surface geologic map of the Montana Mine and vicinity; a geologic map of the 400-ft level; and a slightly more detailed longitudinal projection of the Montana Vein on the vertical plane.
2. Further extensive information on the Montana Mine is available from the AGDC and was not utilized in the present investigation.

Resource estimate and basis. The exploration work of Eagle Picher Mining Company, noted above, suggests that there are no important remaining resources at the Montana Mine.

Tailings remaining at the mine site are reportedly in an area measuring about 1,200-ft by 400-ft area, and 17.5-ft-thick (D. K. Marjaniemi, USBM, 1994). At an estimated tonnage factor of 19 ft^3/st, this amounts to 440,000 st of tailings. No data are known concerning grade, precluding assessment of the economics of reprocessing this material for additional metal recovery.

Samples T776-783 fig. 35, 36

Morning and Evening mine group

Topographic quadrangle and location. Pena Blanca Lake 7.5-minute quadrangle. NW¼ sec. 2, T. 24 S., R. 12 E.; and SW¼ sec. 35, T. 23 S., R. 12 E.

Property holdings. Unknown.

Production. 100 or more tons of ore averaging 200 oz Ag/st, 22% Pb, and minor Au and Cu; produced from the late 1800's through 1930.

Development and mining. Shaft and pit on ridge crest; adit in stream valley; also some opencut operations.

Geology and mineralization. 800-ft-long, northeast striking fissure vein; some cross structures (Riggs, 1985, fig. 3; USBM field data 1990-1991).

Argentiferous galena in pockets, largely oxidized to cerussite, anglesite, and argentite, with pyrite and copper carbonates, on irregular and lensing, narrow fissure veins cutting Cretaceous quartz latite volcanics. Strongly oxidized pyrite and manganese gossan with high-grade silver pockets.

Riggs (1985, table 2) reports: workings on N. 55° E. trend; shear zone filled with quartz, Mn wad, clay, alunite(?); some open space filling; five generations jointing; assays average high in Pb, Ag; minor Cu, Zn, Au; Cobre Ridge Tuff host.

References. Information primarily is from Keith (1975, p. 72); other data as cited.

Resource estimate and basis. No resources, based on the above information and the following USBM sample results. Main fault zone of slightly to moderately altered tuff and 1- to 2-in. clay seams at T782 (sample length, 3.3 ft) contains 3.5 oz Ag/st and 0.9% Pb. Select sample of dump material, consisting of slightly to moderately altered tuff and microcrystalline quartz (T783), contains 5.8 oz Ag/st silver and 3% Pb.

Using the dimensions of 800-ft strike length, and 4-ft vein width, and assuming continuous metallization for 50 ft down dip, the deposit contains, at most, 13,000 st of rock. The best metal concentrations obtained in USBM samples (all high grade) are a few percent lead and a few oz silver/st. A structure as narrow as this one, with this low an overall tonnage is not given any consideration for mining under current (1994) economic conditions. No gold concentrations above 0.27 ppm Au (0.008 oz Au/st) were detected.

Samples T18-28 fig. 41

Mountainview tungsten prospect
APPARENTLY SAME AS THE EASTER MINE GROUP, WHICH IS DETAILED SEPARATELY IN THIS APPENDIX.

Topographic quadrangle and location. Wilbur Canyon 7.5-minute quadrangle, secs. 14 and 15, T. 22 S., R. 9 E. Precise location not known for certain.

Property holdings. 2 lode claims and 1 placer claim; unpatented.

Production and reserves. No production is reported. The referenced letter concludes that "no important quantity of ore is indicated" because of: the irregular and discontinuous nature of the quartz; and limited volume of placer material.

Development and mining. Shallow pits and trenches.

Geology and mineralization. Wolframite and scheelite occur as specks, blebs, and splotches with muscovite in discontinuous veins, pods, and stringers of quartz. The quartz occurs in granite near its contact with metamorphosed shale, or hornfels. A select sample of float material, exhibiting high scheelite content under a blacklight, ran 4.97% WO_3. A 1.5-ft-long sample from a quartz vein ran 0.27% WO_3. A grab sample from the stream bed in the placer claim assayed 0.55% WO_3.

Reference. Unpublished information obtained from AGDC: letter from David Orr Beeler to Mr. Mulchay, July 30, 1956.

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T450-468 fig. 3, 6, 7

Old Glory Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, S. ctr. sec. 7, T. 23 S., R. 11 E.

Property holdings. Two patented mining claims and one adjoining unpatented lode mining claim.

Production and resources. Keith (1975) gives the past production as 700 st of ore averaging 0.4 oz Au/st, 1 oz Ag/st, and minor Cu and Pb; and the period of production as being from the 1880's. Wilson and others (1967) indicate: approximately 2,500 st of ore that averaged $3/st was milled during 1902-1903; and the mine contains a large tonnage of material that averages about 0.137 oz Au/st and 1 oz Ag/st.

Knight (1969?) estimates that "17,000 st of rock have been removed from all accessible stopes in the (most productive) hanging wall zone" [as of 1969]; estimates that "35,000 st of hanging wall material remains on the property which is considerably less pyritic than that in the stopes and probably lower in grade"; and cites the grade of "reserves" in the mine as 35,000 st of 0.14 oz Au/st and 1 oz Ag/st.

Development and mining. Developments on the Old Glory property include several opencuts and about 500 ft of underground workings. The former includes a cut 100-ft-long by 10-ft to 35-ft-wide, and 25-ft-deep. The latter includes: an underground stope, no longer accessible but reported to be 50-ft by 100-ft, and 10-ft-high; and two haulage tunnels driven under the workings from opposite sides of the hill that were fed by a chute from the open pit.

During the early 1890's, the property was equipped with a 40-ton mill that operated, whenever water was available, until 1898. In 1902, a 30-stamp mill and a water-impounding dam were built, but operations ceased in 1903.

Geology and mineralization. Silicified zone.

Knight (1970) provides the following information:

> The Old Glory Mine is underlain by the welded tuff member of the Cobre Ridge Tuff. The mineralized zone forms the cap of a steep-sided northwest elongated hill. The zone strikes N. 30° to 60° W. and dips 0° to 30° NE.
>
> The mineralization consists of a massive quartz core 10 to 30 ft in thickness bordered on the hanging wall and footwall by zones of flat-dipping quartz veinlets to form a silicified body that has a total thickness of about 50 ft.
>
> Most of the development work is confined to the 4- to 12-ft-thick pyritic quartz veinlet zone on the hanging wall. This area has been strongly oxidized so only rarely are any relict pyrite grains visible. In the subsurface stope small amounts of chalcanthite have been observed, but in general the only visible minerals are quartz

and iron oxides.

The core of the mineralized body consists of pure massive white quartz, although locally a few pieces of pyrite have been observed.

The quartz stringers and veinlets of the footwall resemble those of the hanging wall but generally contain very little pyrite.

Samples from the hanging wall contain 0.240 oz to 1.120 oz Au/st and 0.54 oz to 1.70 oz Ag/st; from the core, 0.004 oz to 0.080 oz Au/st and 0.051 oz to 0.080 oz Ag/st; and from the footwall, 0.004 oz to 0.020 oz Au/st and 0.069 oz to 0.126 oz Ag/st. The best mineralization is in the most pyritic zone, or the hanging wall.

Wilson and others (1967) add: the Cretaceous rocks are intruded by altered basic dikes that strike northeastward; the vein is traceable for a distance of several hundred feet; the ore shoots contain irregular disseminations and bunches of auriferous pyrite; and near the surface, most of the pyrite is oxidized to limonite and hematite.

References. Keith (1975, fig. 4 and p. 65); Knight (1970, fig. 20, p. 133-137); Wilson and others (1967, p. 189 and 190).

Also, unpub. data from AGDC files:
L. H. Knight, 1969?, untitled and undated report.

Unpub. page-sized map obtained from Tom Weiskopf, entitled Studsvik Analytica AB, dated October 1982, and showing percussion drill-hole locations and intercepts.

Resource estimate and basis. Zone T451-459 contains an average of about 0.06 oz Au/st, which is economically interesting, but likely subeconomic, based on USBM PREVAL modeling of other properties. The samples all are from the Old Glory open pit area, where sampled thicknesses are large and fairly consistent, but total thickness is not known. Mapping and sampling outward from the pit will be needed to assess grade and tonnage of the overall silica zone. Silicified tuff, about 300 ft to the S. (T464-465, fig. 3) has much lower gold content (0.006 ppm and 0.19 ppm Au); no mapping of that zone is known. The southernmost silica zone on the Old Glory mineral patent group is also silicified tuff, sampled at site T467 only. Gold content there is 0.04 oz Au/st, which is too low for economic development. No thickness data are known for the southernmost zone.

Knight's (1969?) "reserve" estimate of 35,000 st with 0.14 oz Au/st, is probably best reclassified as an inferred, subeconomic resource under current (1994) conditions. The tonnage is too low for development, according to the USBM deposit model.

Samples T599-609 fig. 3, 13

Oro Blanco Mine

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, SE¼ sec. 7, sec. 17, E½ sec. 18, NE¼ sec. 19, N½ sec. 20, and NW¼ sec. 21, T. 23 S., R. 11 E.

Property holdings. 40 unpatented lode mining claims, one placer claim, and one millsite claim. Owned by Arizona Western Mines, Inc., and current as of 1992.

Production. Unknown.

Development, mining, geology, and mineralization. Four NW.-striking, sheared, auriferous breccias (Wood and Yersavich, 1985) occur at the Oro Blanco Mine. Traditionally, these breccias are referred to as "veins" at this property, so the existing terminology is retained in this discussion.

The four breccias (North, Middle, South, and Parallel) (fig. 13) are 4-ft to 5.5-ft-wide. Wallrock is Oro Blanco Conglomerate, except for andesite around segments of the South and Parallel veins. The mineralization is largely continuous in the 350-ft crosscut between the North and Parallel veins; the mineralization is associated with a quartz-porphyry intrusion that occupies this crosscut and the North vein; the mineralization is found in the harder and less altered material alongside the crushed and decomposed material in the breccias; and the deposit is narrowing with depth as is shown by the opposite dips of the North and the Parallel veins. (ADMMR report)

Knight (1970, fig. 3) has mapped the fracture zone hosting the North vein as 1,100-ft-long; data from workings (USBM field data, 1991-1992) suggest an additional 200-ft extension on the NW. end. The Middle vein is not present at the surface. A fracture zone hosting the Parallel vein and South vein is mapped as 1,200-ft-long along strike (Knight, 1970, fig. 3). Proven strike extents of these veins, based on underground excavations of them are as follows: North vein, 1,034 ft; Middle vein, 300 ft; South vein, 600 ft; Parallel vein, 800 ft. Down-dip extent of the four veins, as determined by mine excavations: North, 250 ft; Middle, uncertain, encountered on 125-ft level; South, uncertain, exposed on 125-ft level; Parallel vein, 130 ft.

The underground workings are described in terms of the four principal veins: North, Middle, South, and Parallel. Many of the workings are not mapped and thus do not appear on fig. 13. In particular, locations of the Parallel shaft and junction shaft.

The main shaft (265 ft deep; equipped with operable hoist, as of 1992) is in the southeast part of the North vein. The North vein has been opened on the 50-ft, 125-ft, and 250-ft levels (flooded, 1992). A crosscut goes 180 ft northeastward from the North vein on the 50-ft level to a portal. Drifts on the Middle, South, and Parallel veins (on the 125-ft level) are connected to the main drift by a 350-ft crosscut. The water level is reported to be at a depth of 150 ft in the mine. (Mine-owner information, identified below; Wilson and others, 1967, p. 190)

The North and Middle veins form one vein from the surface down about 75 ft in the Hill Shaft, where they split into two distinct veins. Similarly, but on the strike of the deposit, the South and Parallel veins form one vein in the junction tunnel and shaft. (Unpublished ADMMR report, identified below)

The North vein (or what would be the combination of the North and Middle veins) has been drifted on for a total of 510 ft on the 50-ft level. A 45-ft decline and 90 ft by 40 ft stope connect the southeast end of the 50-ft level with the 125-ft level below. (Mine-owner information, identified below; see also fig. 13 of present report.)

The North vein has been exposed on the 125-ft level (at an average depth below the surface of 180 ft) by a drift 1,034 ft long (720 ft of which has been mapped), by six raises (No. 5 of which is up 65 ft), by four stopes (ranging up to 50 ft wide by 100 ft or more high; the maximum is probably that noted above in discussion of 50-ft level) above the level and one underhand stope from a winze 48 ft deep. (ADMMR report)

Also on the 125-ft level: The Middle vein has been opened for 165 ft on the strike and by a raise 40 ft up and a small stope-cut; and the South vein (not clearly defined on the east end) may be said to be opened up for over 300 ft (but is mapped for only 140 ft) and, including the South vein Shaft and junction tunnel and shaft. (ADMMR report)

The Parallel vein on the 125-ft level is opened in the main workings by a drift 170 ft long (this is the only part of the vein that is mapped) and No. 7 raise, which is up 61 ft. It is also opened in the Parallel Shaft workings by a shaft 130 ft deep, by 135 ft of drifting on the bottom level, by 155 ft of drifting at the 65-ft level and by a cut 25 ft below the surface. It is exposed for about 800 ft at the extreme points in the Parallel Shaft workings and the junction shaft tunnel. (ADMMR report)

On the 250-ft level the North vein has been drifted on for 50 ft to the southeast and 90 ft to the northwest. (ADMMR report)

Surface development includes: headframe; 50-tpd mill (removed sometime prior to mid-1994); and more than half a dozen mine-related and residential buildings and/or trailers. (USBM field data, 1991-1992, 1994)

The property has been investigated by a number of companies, including: Rayrock Mines (1983); Highland-Crow Resources (1985); Newfields Minerals (1988); and Echo Bay Mines (1988). Highland-Crow did about 2,000 ft of air-track drilling on the property in 1985; and Echo Bay Mines did an undisclosed amount of drilling in 1988. (ADMMR report and mine-owner information)

On the surface well-defined croppings of the Oro Blanco veins can be traced from a little west of the junction tunnel some hundred feet east of the No. 1 Shaft. The tunnel on the Extension Claim on the other side of the creek is apparently on the same ore zone, though the ore, at this point, narrows considerably and is very low grade. (Unpublished ADMMR report)

References. Works as cited. Also:

Unpublished ADMMR reports include the following: undated 2-page report entitled "Oro Blanco Mine"; file notes, 4/19/85-3/18/88.

Mine-owner information (obtained from Mr. W.R. Ewing, president of Arizona Western Mines, Inc.) includes the following:

1. Plan map and section of 50-ft level, Oro Blanco Mine, W. Platt and T. Cook, March 4, 1990; 1 in. to 20 ft.

2. Plan map of 125-foot level, Oro Blanco Mine, T. Antoniuk and J. Byrne for Rayrock Mines Inc., Nov. 1983; 1 in. to 20 ft.

3. Assay map of 125-foot level, Oro Blanco Mine, T. Antoniuk and J. Byrne for Rayrock Mines Inc., Nov. 1983; 1"=20'.

Resource estimate and basis. Resource assessment is limited by sparse sampling. Assay results are available for only small sections of the laterally and vertically extensive auriferous breccias. Assays from different sources can be conflicting. The 95-ft-wide zone between the South vein and Parallel vein (125-ft level) has been sampled over various parts of the interval on three occasions by the mine owner, indicating gold content in the range of 0.094 oz to 0.26 oz Au/st. Two USBM samples within that area (T603, T605) have only about one-tenth as much gold. The sample array affords no clue as to the lateral continuity of this grade of gold mineralization, if any.

Only one USBM assay is available from the South vein: T604 has 0.13 oz Au/st, collected on the 125-ft level.

Only one USBM assay is available from the North vein: T606 has 0.18 oz Au/st, collected on the 125-ft level. Assay information from the mine owner indicates that the last 120 ft on the 125-ft level (northwest end) of the North vein averages 0.40 oz Au/st over a 4-ft average sample width. This 120-ft-long auriferous segment on the NW. end of the North vein, if continuous for 50 ft both up dip and down dip from the 125-ft level, would contain and estimated 48,000 ft^3 of rock (at an average width of 4 ft), or about 3,800 st. These are inferred resources. The quantity is so low that only a small mining concern would be interested in developing them. Key data that would have to be gathered at this mine are assays from considerable lengths of the various veins, and from several levels, if possible.

The zone between the Parallel and South veins, as defined by sampling by the mine owner is 95-ft-wide; the exposed strike length of the vein intersection area in this part of the mine is 45 ft (fig. 13). If the gold metallization is continuous for 50 ft both up dip and down dip, the area contains 427,500 ft^3 of rock, or about 34,000 st. The variant gold assays, described in above paragraphs, must be resolved prior to assigning a grade to this block of rock. More extensive sampling along the Parallel, South, and Middle veins may demonstrate that other gold resource zones exist in the mine. Paucity of data precludes speculation about them at this point.

Samples T702-704 fig. 3

Oro Fino Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 200 st of ore averaging 0.6 oz Au/st, 3 oz Ag/st, and some Pb and Cu; produced from the 1890's through 1940.

Development and mining. Shaft and adit operations.

Geology and mineralization. Lensing quartz-sulfide vein with fracture fillings and partial replacement of quartz and pyrite by galena, chalcopyrite, and sphalerite. Oxidation and supergene enrichment in gold and silver. Wall rock is Cretaceous sediments.

Reference. Keith (1975; fig. 4 and p. 68)

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T197-206 fig. 27

Ostrich Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, S. ctr. sec. 22 and N. ctr. sec. 27, T. 22 S., R. 10 E.

Property holdings. Unknown.

Production. Discovered by the Spaniards; several hundred tons of gold-silver ore produced from 1873 to 1886. (Keith, 1975, p. 68)

Development and mining. 60-ft shaft; 100-ft incline; and 100 ft of drifts connecting the shaft and incline.

Geology and mineralization. The Ostrich Mine is developed on the same fault zone that contains the Yellow Jacket Mine but lies about ½ mi to the southeast. The Ostrich quartz-sulfide vein strikes N. 33° W. and dips about 50° NE. It is slightly mineralized at several points between the Yellow Jacket and Ostrich mines and in several areas of the same vein southeast of the Ostrich.

The geology of the Ostrich Vein is very similar to that of the Yellow Jacket Vein. The former has slightly iron- and copper-stained bluish gray quartz fragments scattered throughout a zone of badly sheared and clay-altered Cobre Ridge Tuff that is about 20 ft in width.

Keith (1975, p. 68) notes "narrow, irregular, lensing quartz-fissure veins containing spotty, disseminated, base metal sulfides, largely oxidized and supergene enriched in gold and silver.".

The wall rock at the Ostrich is Jurassic welded tuff and there is considerable gouge in the fault zone. A small amount of 3 oz Au/st ore was reportedly shipped from a 7.5-ft wide quartz vein near the bottom of the incline. Thin quartz stringers on the hillside northeast of the main vein are locally very high grade, containing 4 to 6 oz/st Au and equal amounts of silver.

References. Except as noted above, the information is from Knight (1970, p. 124-125).

Resource estimate and basis. A description of USBM sample results relevant to the resource estimate, from D. K. Marjaniemi:

> select samples of quartz collected from dumps near the main shaft (T199, T200, and T205) contain 0.12 oz to 0.64 oz Au/st and 0.8 oz to 1.0 oz Ag/st and the fines from the dump (T201) contain 0.021 oz Au/st. A 2-ft chip sample of the upper veins (T203) contains 0.18 oz Au/st and 0.64 oz Ag/st. A 6-ft chip sample across a secondary fault at the mine (T206) contains 0.12 oz Au/st. The 1.5-ft-thick quartz vein 200 ft to the northwest of the mine (T197) contains 0.036 oz Au/st and a select sample of stockpile material from this location (T198) contains

Samples T131-134, T137-139 fig. 30

Payoff Mine
apparently the site also known as the **Creese Mine**
THERE ARE NO DATA SPECIFIC TO THE CREESE MINE IN THIS APPENDIX.

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, secs. 5 and 6, T. 22 S., R. 10 E. Historical locations from AzMILS plots.

Property holdings. 3 unpatented lode mining claims; known previously as the Campbell Claims and also as the Mother Lode Group.

Production. Shipped 4 st which ran $76/st in ore values.

Development and mining. 60-ft inclined shaft, with a drift and stope about 20 ft long on one side of the shaft.

Geology and mineralization. Contact ore deposit. Footwall is shale, and the hanging wall is andesite or andesite porphyry. The ore values are in the andesite and the andesite porphyry. Hanging wall is not very well defined. The width of the ore deposit is very variable and varies from nothing to about 3 ft in width. Minerals found are chrysocolla, malachite, cuprite, and chalcocite, with high silver values. Hand sorted ore may run up to 8 or 9% Cu, with about 10 to 15 oz Ag/st, and a trace of gold.

Reference. Unpublished information obtained from ADMMR files: Mine Owner's Report, October 8, 1952.

Resource estimate and basis. No resources, based on the above information and USBM sample assays.

USBM sample data:
A 2.5-ft chip sample across a gently dipping fault (T132) contains 0.086 oz Au/st.

Select sample of dump material (T133) associated with a 6-in.-wide quartz vein contains 0.22 oz Au/st.

Samples T888-892 plate 1

Penasco group

Topographic quadrangle and location. Ruby 7.5-minute quadrangle. SE¼ sec. 36, T. 23 S., R. 11 E.; and sec. 31, T. 23 S., R. 12 E.

Property holdings. 5 unpatented lode mining claims, oriented southwest-northeast: Penasco No. 1 through Penasco No. 5.

Production and reserves. The past production and years of operation are unknown. Riggs (1985, table 2) cites unpublished data indicating that Pb, Ag, Au, and U were mined from the property. The AGDC reference indicated that "there are no indications of the possibility of developing a large tonnage of base or precious metal ore on the property."

Development, mining, geology, and mineralization. The country rock includes: Cretaceous (?) conglomerate; thin beds and lenses of arkose and quartzite in the conglomerate; large masses and steep dikes of fine- to coarse-grained (locally porphyritic) diorite intrusive into the sediments; and rhyolite porphyry intrusive into and overlying the aforementioned rocks.

Mine development consists of: a 50-ft-deep shaft; a few tunnels; and some shallow pits and cuts. The workings are located along irregular and discontinuous quartz seams which occur principally at contacts of the conglomerate and diorite. The quartz seams have been traced on the surface for a maximum continuous exposure of 300 ft.

Two old tunnels, about 100-ft and 40-ft-long, have been driven on Penasco No. 2 Claim. A raise connecting the two tunnels follows a shear zone up to 12 in. wide containing ¼-inch to one-inch lenses of quartz, galena, and weak sphalerite and chalcopyrite. A partly caved tunnel on Penasco No. 5 Claim exposes a narrow rhyolite dike along a steep contact between conglomerate and diorite. Weak shears along the contacts contain lensy quartz with blebs of galena, and manganese and iron oxide stain.

Mineralization consists of steep, ½-inch to four-inch, iron-oxide-stained quartz seams striking from N. 35° to 65° E., principally along contacts and shears. The lensy quartz contains weak specks of galena, sphalerite and copper oxides, and reportedly contains spotty gold values. A few blebs of chalcopyrite occur in one mineralized shear. A grab sample of well-mineralized vein material at the mouth of a tunnel on Penasco No. 2 assayed trace gold and silver, 0.51% Cu, 1.4% Zn, and 10.8% Pb. Some very weak radioactivity was noted in association with vein material containing galena. Anomalies are very spotty and discontinuous.

Riggs (1985, table 2) describes the geology and mineralization of the Penasco Claims as follows: shear on N. 60 E., 55° SE. in Summit Conglomerate at surface; rocks on waste dump indicate contact with Cobre Ridge Tuff is at shallow depth; py>gn>sl>cpy; silicified zone about 3 m wide; fault zone filled with clay and oxidized U; gn, sl in quartz-rimmed encrustations; abundant jarosite stain; high-grade 5 ppm Au, 60 ppm Ag, 14% Pb, 13% Zn; mined zone 2 m wide; and alteration envelope 50 m wide.

References. Except as noted above, information is from an unpublished letter report obtained from the AGDC, as follows: from G. A. Barber to R. B. Mulchay, June 14, 1957.

Resource estimate and basis. No resources, based on the above information and the following USBM sample results. Chip samples across the fault zones contain a maximum of 0.14 oz Au/st, 3.1 oz Ag/st, and 11.4% Pb (T888, T889, and T891; maximum sample length 5 ft). Grid and select samples of dump material contain a maximum of 0.08 oz Au/st, 1.1 oz Ag/st, 4.3% Pb, and 1.5% Zn (T890 and T892).

Samples T331-337 fig. 3

Rubiana Mine group

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, ctr. sec. 6, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. 600 st of ore averaging 28 oz Ag/st, 0.2 oz Au/st, and minor Cu and Pb; produced from the 1890's through 1942. (Keith, 1975, p. 69)

Shipment of 239.9 st of ore averaging 0.119 oz Au/st, 47.53 oz Ag/st, 0.23% Cu, and 1.92% Pb; obtained through selective mining, careful sorting and "cobbing" of the broken ore.

Development and mining. Open pit, adit, and tunnel operations. (Keith, 1975, p. 69)

Geology and mineralization. Lensing, quartz-sulfide vein with disseminated pyrite and minor base metal sulfides; oxidized and supergene enriched in silver and gold. Some silver chlorides. Wall rock is Jurassic volcanic tuff. (Keith, 1975, p. 69)

A number of small stringery veins occur in Ruby andesite porphyry and in volcanic rocks. The structures vary in strike and dip but all are narrow and are structurally weak. Mineralization consists of barren quartz with some spotty disseminations of pyrite and tetrahedrite. In places surface enrichment has resulted in small pockets or pods of commercial ore.

References. Primary data source is Freshman (1947).

Other data were derived from Keith (1975), where cited specifically.

Resource estimate and basis. USBM sampled two veins on the property and determined appreciable vein thickness at only one vein (which includes sample T336). That vein is described by D. K. Marjaniemi (USBM, 1994):

> Random sample T336 (0.06 oz Au/st and 10.5 oz Ag/st) represents 12-ft thickness of tuff laced by quartz veinlets, normal to steeply dipping fault exposed in workings for 120 ft along strike.

Extrapolating this 12-ft width over the 120-ft strike length, and assuming continuity of precious metal distribution for 25-ft down dip, this deposit contains 3,000 st of inferred, subeconomic resources, a tonnage too small to mine economically.

Gold concentrations obtained in the select USBM samples, which include some element of high-grading, are not high enough to suggest economic viability for mining of this vein. Select samples T332, T334, and T335 contain 0.06 oz to 0.16 oz Au/st and 13.1 oz to 26.1 oz Ag/st.

A third vein on the property, mapped by Knight (1970, fig. 3), has not been sampled.

No samples pl. 1

San Luis Wash gold placers

Topographic quadrangle and location. Cumero Mtn. 7.5-minute quadrangle, secs. 27, 34, and 35, T. 22 S., R. 9 E.

Property holdings. Unknown.

Production. 50 oz Au, mainly in the 1930's

Development and mining. Not known

Geology and mineralization. Coarse and angular gold particles found locally in gravel and alluvium formed on benches in dissected pediment of Cretaceous sedimentary and volcanic beds.

Reference. Keith (1974; fig. 4 and p. 106)

Resource estimate and basis. No resources, based on the above information.

The fact that most production took place during the 1930's, when the increase of the gold price from $20.67/oz to $35/oz spurred attempts at production on many properties in the U.S. that had not been mined much previously is not favorable. Sites worked for gold during times of economic depression may have been developed simply because of lack of other economic options.

It is not considered likely that attempts will be made in the near future to exploit the gold placers. Absence of significant quantities of water are major contributing factors to that conclusion. However, absence of testing and mapping of the gravels and determination of their depths prevent a definitive statement on the mineral resource assessment relative to these placers. Any mining operations that might eventually be developed would likely be small, mechanized operations with low production rates and small overall output of gold.

No samples pl. 1

San Luis Wash tungsten placers

Topographic quadrangle and location. Cumero Mtn. 7.5-minute quadrangle, ctr. sec. 14, T. 22 S., R. 9 E.

Property holdings. 3 lode claims and 5 placer claims; unpatented.

Production. A few tens of pounds of WO_3 concentrates were produced in the 1950's. (Keith, 1974, p. 106).

Development and mining. 30 to 60 st/d was mined from the creek bottom with a loader and truck; the material was screened to minus 3/16-in. and stockpiled for later milling; a 3- to 4-man crew was employed in the operation; and no milling facilities were yet established. (See ADMMR data, 1952.)

Geology and mineralization. Spotty and irregular pockets of wolframite and scheelite occur in the creek bottom. (Keith, 1974, p. 106)

The placer area is from 5 ft to 22 ft wide, about 3,500 ft long, and is from 6 in. to 3 ft deep. The ore is predominantly scheelite, but also contains varying amounts of wolframite.

References. Except as noted above, information is from an unpublished ADMMR report, as follows: Field Engineers Report, May 27, 1952.

Resource estimate and basis. No resources, based on the above information.

Samples T656-658 fig. 3

San Juan Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. San Juan unpatented lode mining claim. Held by Pima Gold, Inc. (Burlington, Ontario) and current as of 1992. Adjoins Tres Amigos unpatented lode mining claim on its northwest end.

Production. Unknown.

Development and mining. Shaft operations.

Geology and mineralization. Fissure zone of lensing brecciated Cretaceous conglomerate cemented by finely crystalline quartz containing fine-grain gold and silver and sparse oxidized copper mineralization.

Reference. Keith (1975; fig. 4 and p. 68)

Resource estimate and basis. Data concerning sparse USBM samples of the breccia suggest it is too narrow to mine (a few inches to 1.2-ft-wide). Gold content is high in two of the three samples (0.76 oz and 0.38 oz Au/st). No mapping of the structure was done; strike length is unknown, precluding tonnage estimation. Array of the workings suggest this breccia parallels the Sorrel Top Mine breccia and the Tres Amigos Mine breccia.

Samples T223-226 fig. 27

Saint Christopher Mine
aka Gold Hill Mine, Blue Ribbon Mine group

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SE¼ sec. 26, T. 22 S., R. 10 E.

Property holdings. Unknown.

Production. Prospected and worked intermittently from the late 1800's. 120 st of ore averaging 0.6 oz Au/st, 2 oz Ag/st, and minor Cu and Pb; produced from 1935 to 1941.

Development and mining. Shaft operations.

Geology and mineralization. Irregular and lensing quartz-fissure veins with partly oxidized and disseminated base-metal sulfides; cutting Jurassic welded tuff. Six-inch wide quartz-sulfide vein, pinching out to southwest, mined along 200 ft of strike.

Reference. Keith (1975; fig. 4 and p. 64)

Resource estimate and basis. One USBM select sample of vein material from a stockpile (T223) contains 0.40 oz Au/st. Other USBM samples contain no more than 0.07 oz Au/st, which is too low a grade to consider mining by underground methods, particularly on a narrow vein structure. Keith's (1975) report of a 0.5-ft mining width characterizes the narrowness of this zone.

Samples T768-775, T786-802 fig. 35, 37

St. Patrick Mine

Topographic quadrangle and location. Pena Blanca Lake 7.5-minute quadrangle, N. ctr. sec. 3, T. 24 S., R. 12 E.

Property holdings. Unknown.

Production. High-grade silver mined from surface prior to 1900. Total production about 100 or more tons of ore averaging 110 oz Ag/st, 18% Pb and minor Au and Cu.

Development and mining. Shallow shaft; group of adits and pits.

Geology and mineralization. Spotty, argentiferous lead carbonate and sulfate with minor gold, copper, and zinc in gouge and fracture fillings along an irregular, lensing, and narrow fissure zone cutting Cretaceous quartz latite volcanics. High-grade silver pockets in oxidized pyrite gossan.

Riggs (1985, table 2) reports: main adit on N. 70° E. trend in Cobre Ridge Tuff; abundant Mn stain, also secondary Pb (mimetite); assay results of >0.05 [oz/st?] Au, >25 ppm Ag, >3,000 ppm Pb, 400 ppm Zn, negligible Cu and Mo.

References. Except as noted above, information is from Keith (1975, p. 72).

Resource estimate and basis. No resources, based on the above information and the following USBM results. Complex fault system extending 1,650 ft from T788 to T774 (fig. 35). The central 500-ft segment of the fault system (T787 to T800) has these characteristics: average strike N. 40° E.; additional subparallel faults 65 ft to northwest (T795 and T799) and 50 ft to southeast (T786); cross faults are common; the tuff is altered to clay for distances of up to 8 ft from the main faults; *the fault zones* are significantly metallized only at two locations (T786, 4-ft chip, 2.6 oz Ag/st, 1.68% Pb, and 1.38% Zn; and T800, 17-in. chip, 6.1 oz Ag/st and 1.1% Pb; in the first case, up to 2% vein quartz, in the second case, up to 20% quartz); and the most highly mineralized samples are select samples (from dumps) of highly altered tuff and gouge that have been impregnated with manganese and iron, and which always contain some amount of microcrystalline silica (T796, 18 oz Ag/st and 2.7% Pb; T798, 9.4 oz Ag/st and 2.0% Pb; and T799, 15 oz Ag/st).

The potential tonnage of this structure is low. Based on a 4.5-ft approximate average width, the measured strike length of 1,650 ft, and an assumed metal continuity of 50-ft down-dip, the site could contain as much as 30,000 st of rock.

Considering the commodities present, the maximum tonnage available and the narrow structural width, this deposit does not elicit economic interest. The maximum gold concentration encountered is low (0.008 oz Au/st).

Samples T904-908 plate 1

Scorpio claims (Jay-R-Mine)

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, sec. 25, T. 22 S., R. 11 E.

Property holdings. 3 unpatented lode mining claims: Scorpio 2, 3, and 4. Jay-R-Mine owned and operated by Cheri Saunders of Huachuca City, AZ.

Production and reserves. A 1991 producer. Past production and years of operation are unknown. USBM field observations (1991) are that 1,000 st of opal-bearing rhyolite has been removed from opencuts and pits at sample localities T907 and T908 (see descriptions in appendix B). This amounts to an estimated total past production of 5,000 lb of common opal and 0.8 oz of precious opal using grades estimated by Hammons' (1972) of 0.25% opal and 0.0000025% precious opal. The value of this estimated production is approximated at $1,250 for the common opal and $200 for the precious opal, using Hammons' (1972) prices of $0.25/lb for common opal and $250/oz (apparently avoirdupois) for precious opal.

Hammons (1972) describes a 1,500 ft by 500 ft, 200-ft-thick zone on the property (precise location not known by USBM) in which the most favorable concentrations of opal occur. This is 11.5 million st of opal-bearing rock at a tonnage factor of 13 ft^3/st. Hammons (1972), using the grades and prices cited above, estimates 28,800 st of common opal and 9,200 oz of precious opal are contained in that much rock, with in-place values of $14.4 million (common opal) and $2.3 million (precious opal). This is about $1.45/st.

Development and mining. See descriptions of sample localities T907 and T908 in appendix B.

Geology and mineralization. The opal occurrences are ¼ to 3 in. thick; are associated with steeply dipping to horizontal veins, pockets, and lenses of quartz that are up to 12 in. thick; occur in a host of olive green to yellowish gray glassy rhyolite that contains a trace of biotite; and may be capped at the surface by crystalline quartz or chalcedony. The common opal is estimated to be 0.25% of the country rock and precious opal, about 0.001% of the common opal.

Reference. Hammons (1972).

Resource estimate and basis. No precious opal was seen in the USBM field investigation. Chip and select samples of common opal collected in the present investigation have no above-background metal concentrations.

USBM PREVAL analysis (mining part only; assuming a waste-to-ore ratio of 0:1) of a 12,000,000 st open pit indicates an optimum mining rate of 3,565 st/day, 2 years of preproduction development, 12-year mine life, mine capital cost of $10.7 million, and mine operating cost of $1.16/st ore. That mine operating cost is 80% of the in-place value of the opal, leaving little margin to pay for the cost of separating out the common and precious opal. which would be labor intensive and very costly. From this analysis, the operation would have to be considered unprofitable and the property subeconomic. Profitability could be achieved through selective mining (mining those parts of the resources in which the concentrations of common and precious opal are considerably higher than quoted above) or through significantly higher market prices for the common and precious opal.

Economic evaluation of a precious or semiprecious stone prospect is imprecise due to the highly variant prices that the commodity may bring. Further, the economic advantages of large-scale mining techniques cannot be used advantageously. Detailed mapping of the green rhyolite/tuff, not undertaken in this USBM reconnaissance, followed by drilling to find and estimate volumes of high-densities of opaline vein zones is an approach that will allow more precise assessment. Examination of the site in 1991 suggests that some drilling is done, although it may all have been for blast holes. The rock is blasted and removed from shallow pits by relatively simple rock-moving equipment, such as a bulldozer or backhoe. It appears that visual examination of the resultant loose blocks followed by hand-cobbing is utilized as the mining method. The nature of such a geologic occurrence demands that similar, high-cost, small-scale, labor intensive methods will probably have to be utilized at this site should the deposit be exploited further. The site is not likely to become a large, high-tonnage operation.

No samples pl. 1

Silver Bar No. 4 Mine

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, sec. 10, T. 22 S., R. 10 E.

Property holdings. 4 unpatented lode mining claims: Silver Bar #4, Navajo #2, Navajo #1, and Queen Elizabeth.

Production. None reported.

Development, mining, geology, and mineralization. Silver Bar #4: 10-ft-deep inclined shaft sunk in what appears to be a normal fault, with a NW.-SE. strike and a dip of 38° SW.; footwall resembles andesite and hanging wall rhyolite; ore has a width of about 18 in. near the top of the shaft, widening to about 20 in. at the bottom; 10-st ore-pile composed mainly of quartz, with sulfides of lead and copper; and grab sample of the ore pile assayed 0.05 oz Au/st, 6.5 oz Ag/st, 1.64% Cu, and 3.4% Pb.

Navajo #2: 10-ft-deep water-filled vertical shaft sunk in a crushed zone, containing quartz veins with lead and copper sulfides; the main vein is about 10 in. wide, striking NE.-SW., and dipping 70° to 75° to the NW., with 2 smaller veins intersecting same; and sample ran 0.14 oz Au/st, 2.8 oz Ag/st, 0.07% Cu, and 2.9% Pb.

Navajo #1: vertical vein from 4 in. to 8 in. in width; and sample assayed 0.11 oz Au/st, 5.8 oz Ag/st, and 26.2% Pb.

Queen Elizabeth: vertical shaft, 5-ft to 6-ft-deep with water at the bottom; a narrow ore vein at bottom of shaft.

Reference. Unpublished information obtained from ADMMR files: Field Engineers Report, Dec. 30, 1958.

Resource estimate and basis. No resources, based on the above information.

Samples T116-121 fig. 30

Silver Crown Mine(?)

Topographic quadrangle and location. Arivaca 7.5-minute quadrangle, SW¼ sec. 5, T. 22 S., R. 10 E. The exact location of the Silver Crown Mine is unknown; literature description does not match the USBM findings very well.

Property holdings. 15 unpatented lode claims.

Production. 100 st of ore averaging 0.5 oz Au/st, 15 oz Ag/st, 5% Pb, and 1% Cu. Produced between 1930 and 1940; and probably earlier in the 1900's as well. (Keith, 1974, p. 107)

Development and mining. As of 1940, the workings and development included: 40-ft shaft, 300-ft tunnel, opencut with short tunnel, and a mill.

Geology and mineralization. Irregular quartz-fissure veins with spotty base-metal sulfides; oxidized and weathered near the surface with enrichment; cutting metamorphosed conglomerate. (Keith, 1974, p. 107)

Highly solidified conglomerate country rock; development work on three separate veins; mining of three ore shoots, two of which have indications of being about 100 ft in drift length; vein widths ranging from 18 to 36 in.; gold concentration (production) ranging from 0.64 to 1.6 oz/st; and silver concentration of 2 to 5 oz/st. USBM Coronado National Forest study results indicate that the veins are only 4 in. to 6 in. thick.

References. Except as noted above, information is from an unpublished report (obtained from the ADMMR files), as follows: Report of Ed Heagney, September 4, 1940.

Resource estimate and basis. No resources based on the above information and the following USBM sample result. Random grab of dump material at T117 includes rare, very fine quartz and sample contains 0.026 oz Au/st.

Samples T360-372 fig. 3

Silver Top prospect

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, secs. 4, 5, 8, and 9, T. 23 S., R. 11 E. South of and adjoining Montana Mine claim group. Low hills and shallow arroyos at base of Montana Peak, which is one-half mile to the east.

Property holdings. 7 unpatented lode mining claims, oriented north-south.

Production. Unknown.

Development and mining. Old tunnels, pits, cuts, and shallow shafts; more recent bulldozed cuts and a few pits.

Geology and mineralization. Several quartz-sulfide veins. Faulted fine-grained sedimentary rocks and conglomerate of probable Cretaceous age; dipping gently to the east, beneath volcanics. Owner has taken 50 samples, averaging 0.035 oz Au/st and 6.2 oz Ag/st. Individual samples contain up to 0.18 oz Au/st, 44.2 oz Ag/st, 14.2% Pb, and 12.5% Zn. The better gold-silver values came from a 7-ft-wide bed of fractured, altered shale, with a few thin quartz stringers, at the base of the exposed sedimentary sequence; but there is no apparent structural control for the precious metal content in the shale.

Reference. Unpublished information obtained from AGDC: letter from G. A. Barber to Mr. Mulchay, June 30, 1955; handwritten notes, GAB, 10-25-54.

Resource estimate and basis. Precious metal veins were not mapped, precluding assessment.

Some USBM samples contain economically interesting gold and silver concentrations. Eleven-ft chip sample taken at fault in fine-grained sediments (T369) contains 0.04 oz Au/st, 4.2 oz Ag/st, and 1.8% Pb. Six-ft chip sample adjacent to this (T368; taken parallel to bedding and fault) contains 0.25 oz Au/st, 43 oz Ag/st, and 2.6% Pb. Weighted averages of these two samples (assigning 2 ft to sample T368) are 0.072 oz Au/st, 10.1 oz Ag/st, and 1.4% Pb, over 13 ft.

Select sample T360 contains 0.35 oz Au/st, 20 oz Ag/st, and 4.7% Pb but 6-ft fault zone nearby (T361) contains only 0.03 oz Au/st and 11.3 oz Ag/st.

Samples T570-574; 579-580 fig. 3, 15, 16

Smuggler Gulch Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, SE¼ sec. 18, T. 23 S., R. 11 E.

Property holdings. 2 unpatented lode mining claims, as of 1938: Gold Case and New Smuggler.

Production. 250 st of ore averaging 1.2 oz Au/st, 1.5 oz Ag/st and minor Cu. Although the property was worked in the late 1800's, most of the production was in the 1930's. (Keith, 1975, p. 69)

A direct shipment of 60 st of ore was made to the smelter; and that this ore had a value of $3,200.

Development and mining. Mexicans are reported to have mined and treated small amounts of gold ore by crude methods in Warsaw Canyon and tributary gulches prior to 1900; and the remains of some of their washers and tailings piles were reported to be on the subject property, as of 1938.

Mexican miners are reported to have sunk a shaft to 125 ft on the Gold Case breccia around 1901; drifted 75 ft to the north from the bottom of the shaft; and done an undisclosed amount of mining from these operations prior to the renewed activity in the 1930's.

The new mine owners in the 1930's sank an 115-ft inclined (70° NE.) shaft in the north-central part of the Gold Case Claim; constructed a cross-cut tunnel and cut, totalling 180 ft, from the main shaft to the gulch on the east; built a 25 tpd amalgamating mill, which was subsequently abandoned because of the low (30%, gold and silver) recovery; constructed an all-slime cyanide plant in the southern (lower) part of the workings, which plant was subsequently destroyed by breach of a man-made dam constructed just above the plant; and constructed a new 10 tpd cyanide plant (involving the leaching of mine-run ore without crushing) in the gulch to the east of the main shaft (fig. 16).

Mine workings consist of: a large opencut, believed to be above the old (Mexican) shaft; a large cut adjacent to the new main shaft; a 40-ft by 50-ft underground stope; and on the order of 150 ft of underground drifts. The ore charged for leaching in the new cyanide plant (in 1938) ranged from $7 to $15/st in gold, and the recovery was around 70%.

Geology and mineralization. The Gold Case breccia strikes N. 54° W., dips 70° NE., and passes approximately through the center of the Gold Case Claim. A similar vein or zone of mineralization is reported to pass through the center of the New Smuggler Claim, which adjoins the Gold Case Claim on its northeast side. In both cases, the mineralization is reported to occur in "much altered" and "often brecciated" rhyolite and in and along intrusions of porphyry and monzonite.

According to Fairchild (1938),

> A great deal of the ore is extremely soft and easy to mine. Much of the development on the [breccia] and stoping has been done by the use of augers supplemented by the use of hand steel and single-jacks where hard spots are struck.
>
> The soft ore zone, which is probably a shear zone, varies in width from about 8 ft to 20 ft. In addition to this the footwall is often well mineralized.
>
> A black or dark-colored manganiferous gouge-like streak of ore is generally present on the footwall. It varies in thickness from 4 in. to 24 in. and in value from $100 or more per st down. (The direct shipping ore, noted under *Production* above, was obtained from such a zone within 50 ft of the surface and in the 40-ft by 50-ft stope.)
>
> Twenty-six sample assays have a weighted average of 0.23 oz Au/st (range 0.06 oz to 0.63 oz Au/st) and average sample length of 5.7 ft.

References. Information is from Fairchild (1938), except as specifically cited above. Fairchild's data includes additional information on the early history of the Oro Blanco area not summarized in this USBM report.

Resource estimate and basis. Knight (1970, fig. 3) maps the fracture that hosts this breccia as 2,250-ft-long. USBM field crews examined 240 ft of the breccia along strike; within those perimeters, the breccia may have contained about 14,500-st of rock (based on literature), but extensive stoping has occurred in that same zone (fig. 15), so the remaining tonnage is less than 14,500 st. Tonnages this low are below the cutoff level of the USBM PREVAL model for this type of deposit. More extensive sampling of the structure along strike may suggest higher quantities of auriferous rock, but the overall thinness of the zone (less than 6-ft) suggests that economic quantities of auriferous rock may not be encountered.

Average gold concentration is 0.23 oz Au/st (Fairchild, 1938); average silver concentration of past ore production is 1.5 oz/st. USBM sample assays are comparable: T571, T572, and T573, taken from the breccia, have a weighted average of 0.14 oz Au/st and an average sample length of 4.6 ft. A select sample taken from a dump above the workings, T570, contains 0.34 oz Au/st.

Samples T659-661 fig. 3

Sorrel Top Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Sorrel Top unpatented lode mining claim. Held by Pima Gold, Inc. (Burlington, Ontario) and current as of 1992. Adjoins San Juan and Tres Amigos unpatented lode mining claims on their southwest sides.

Production. Unknown.

Development and mining. 175-ft shaft and 250 ft of drifting. Metal headframe over shaft (location not shown on fig. 3; intersected at face of adit T660-661).

Geology and mineralization. Sorrel Top auriferous breccia parallels Tres Amigos Mine breccia and is about 400 ft to SW. Sorrel Top Mine breccia strikes N. 47° W., dips 70° NE., and occurs in a wide dike of purple-red quartz porphyry. The breccia as opened shows one short ore shoot, and the pay ore appears to be bottomed between the lowest working on the Sorrel Top shaft and the crosscut tunnel of the Tres Amigos Mine.

Reference. Primarily, unpublished information obtained from ADMMR files: undated one-page report entitled "Tres Amigos Mine." Also, other data as specifically cited.

Resource estimate and basis. Knight (1970, fig. 3), mapped the NW.-trending fracture zone which hosts the Sorrel Top auriferous breccia for 3,600 ft along strike. USBM examined 50 ft of the strike length, at adit T660-661. There are no data concerning down-dip extent. Sorrel Top shaft depth of 250-ft may be indicative of a minimum dip slope extent of the breccia, but data are too sparse to state that definitively. No breccia tonnage estimates or conclusions about continuity of gold mineralization can be made with these sparse field data. Maximum gold content in USBM samples is 0.26 oz Au/st (in-place breccia). Rock-chip samples T660 and T661 average 0.12 oz Au/st and 1.1 oz Ag/st for average sample length of 4.5 ft (D. K. Marjaniemi, USBM, 1994).

Samples T816-833 fig. 35

Sunset Mine group

Topographic quadrangle and location. Pajarito Peak 7.5-minute quadrangle, NW¼ sec. 2 and NE¼ sec. 3, T. 24 S., R. 12 E.

Property holdings. Unknown.

Production. 300 st of ore averaging 60 oz Ag/st, 33% Pb, 0.3 oz Au/st and minor Cu; produced prior to 1900 and from 1924 through 1969.

Development and mining. Shaft, adit, and opencut operations.

Geology and mineralization. Spotty, oxidized argentiferous lead mineralization with pyrite and minor chalcopyrite, wulfenite, vanadinite, and traces of uranium in irregular, lensing, and narrow fissure zone cutting Cretaceous quartz latite volcanics. Silver and gold pockets in oxidized pyrite gossan.

USBM field data (1990-1991) are that the veins are 1 to 5 ft thick.

Riggs (1985, table 2) reports: trench dug on N. 70° E. trend 0.5 to 1.5 m wide; quartz veining, open space vein filling, pyrite casts, abundant mimetite, some wulfenite crystals; mafic dike associated; and assay high in Pb, Ag; Cobre Ridge Tuff host.

Structural mapping by Riggs (1985, fig. 3) and USBM (1990-1991) focused on two different structures (see fig. 35).

References. Except as noted above, information is from Keith (1975, p. 72).

Resource estimate and basis. No resources, based on the above information and the following USBM results. 650-ft-long fault zone, striking N. 50° E., that has been mined or prospected to a width of 4 to 12 ft and maximum depth of 10 ft. A 3.4-ft chip sample across the structure (T817), consisting mostly of slightly altered tuff with some cerussite and mimetite on the fractures, contains 1.3% Pb. A second 3-ft chip sample across the structure (T829), consisting of clay gouge and nodules of gray quartz, contains 0.69 oz Ag/st and 10.8% Pb. The structure was invaded by andesite prior to mineralization and this rock contains 1.0% Pb (T826). The tuff is moderately altered, but not continuously, for a distance of up to 30 ft northwest of the main fault zone. Quartz veins are associated with the mineralization and are a maximum of 6 in. thick. Select high specific gravity material (associated with altered tuff and quartz) from the dump probably represents the material mined and contains 0.073 oz Au/st, 12 oz Ag/st, and 59% Pb (T831). Other select samples from dumps along the main and a secondary fault zone (T819, T822, T825, and T832) contain up to 0.16 oz Au/st, 1.5 oz Ag/st, and 28% Pb.

USBM resource focus is on the fracture zone between sample localities T822 and T832. Available tonnage is this structural segment is about 3,000 st, based on the reported 1-ft average width of the vein (D. K. Marjaniemi, USBM, 1994), the 650-ft measured strike

Samples T732-734 fig. 3

Tres Amigos Lead Mine

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, NW¼ sec. 20, T. 23 S., R. 11 E. Precise location uncertain, but relatively high levels of lead in samples T732-734 led to speculation that those workings are part of the mine.

Property holdings. Unknown.

Production. Unknown.

Development and mining. Adit and shaft operations.

Geology and mineralization. Shear vein in Cretaceous conglomerate with spotty high-grade argentiferous lead mineralization.

Reference. Keith (1975; fig. 4 and p. 68)

Resource estimate and basis. No resources, based on the above information and the USBM sample results.

Samples T662-674 fig. 3, 14

Tres Amigos Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Tres Amigos unpatented lode mining claim. Held by Pima Gold, Inc. (Burlington, Ontario) and current as of 1992.

Production and Reserves. Knight (1970) indicates: A crude estimate of ore removed from the accessible stopes would be 10,000 st; the average grade of ore in the stopes was 0.6-1.0 oz/st Au; the major development on the property was from 1894 to 1903, although a small amount was done later in the 1930's; and a few lots of high-grade ore valued at $500/st were shipped from the southeastern end of the mineralized zone prior to 1900.

Cohen (1985) indicates: production records on the property are incomplete; 1,000 st of ore with a gold content of $10/st were milled in 1899; amalgamation and cyanide concentrators were built during 1903, and some production was carried out; the property was the subject of a high-grading operation on a limited scale in 1931; and reserves, in 1935, were given as 43,000 st grading 0.33 oz Au/st.

Development and mining. USBM information has been combined with information from the referenced reports to generate the following description of the Tres Amigos workings:

1. The main adit (or main drift; N. 45° W.) is reported to be up to 2,000-ft-long, but there is no verification of this. At present, only 662 ft of the adit is accessible. Conditions causing inaccessibility were not reported.

2. Nine hundred and forty feet of additional drifts are reported but presently inaccessible. These are primarily on the 100- and 200-ft levels (below the main adit) but there is also a 162-ft drift on a level above the main adit.

3. Three shafts are reported: main shaft, 123 ft; high shaft, 400 ft; and No. 2 shaft, 75 ft. Three or four winzes total 75 ft; and an unknown number of raises total 215 ft. Location of only the main shaft is shown (fig. 3).

4. The main crosscut begins in the canyon to the east and goes a distance of 335 ft (S. 60° W.) to the main adit. The crosscut continues southwestward for another 430 ft to the Sorrel Top vein, but was not accessible much beyond the main adit.

5. The latest of the workings (constructed in 1982) is a 738-ft inclined shaft driven from the canyon on the east (S. 45° W.) to the vicinity of the main shaft, where it was intended to intercept the downward extension of the vein system below the old main level. The decline has a 10-ft by 10-ft cross section; it is inaccessible. Location not plotted on fig. 3.

Geology and mineralization. Major auriferous breccia with mineralization extending into the wallrock. The Tres Amigos vein strikes N. 35° W. and dips 80° SW. Knight (1970, fig. 3) reports a dip in the opposite direction (to the NE.). On the surface the vein is traceable over a strike length of about 2,000 ft. This zone was mapped as 1,325-ft-long by Knight (1970, fig. 3). Most mining and exploration of the zone has been on the southeastern end where it locally reaches widths up to 35 ft. The average width of the vein, however, is about 4-ft or 5-ft.

The first 500 ft of the main adit (beginning at the southeast end) is in Jurassic tuff. Beyond this, the Sidewinder quartz monzonite has followed the vein; and it is generally decomposed and sericitized.

The stopes, which are within the first 570 ft of the main adit, range up to 35 ft in width by 60 ft in height. They are in irregular, lenticular bodies of brecciated to pulverized country rock. This material is considerably sericitized and locally contains abundant iron and manganese oxides.

Most visible mineralization within the shear zone is reported to be manganese oxides, limonite, and pyrolusite. The quartz was subjected to movement after being emplaced, and consists of pockets, lenticular masses, and pods along the shear zone and within the altered tuff.

Ten samples from the Tres Amigos vein and adjoining monzonite collected by Cohen (1985) average 0.228 oz Au/st (range 0.050 oz to 0.364 oz Au/st) and 1.57 oz Ag/st (range 0.42 oz to 4.30 oz Ag/st). Notably, the two samples of monzonite (collected in crosscuts) contain 0.017 oz to 0.030 oz Au/st and 0.42 oz to 0.86 oz Ag/st.

Knight (1970) cites three pieces of evidence for near-surface gold mineralization and/or gold enrichment: (1) all of the major stopes are within 50 ft of the surface even though the vein cuts through a steep hill having a relief of about 200 ft; and (2) the mineralized breccia at the surface has higher gold content (0.6 to 1.0 oz/st) than at the adit level (0.3 to 0.6 oz/st); and (3) the vein is nearly barren at the water table. On the other hand, Cohen (1985) cites a 1935 report of 12 samples from a 100-ft ore shoot on the 200-ft level containing an average of 0.33 oz Au/st (average sample length, 4.75 ft).

Free gold is reported from the mine; and the grain size is said to be fine to coarse.

References. Keith (1975; fig. 4 and p. 68); Knight (1970, p. 143 and 144); Wilson and others (1967, p. 190-191);

also:

unpublished information, ADMMR files: undated one-page report entitled "Tres Amigos Mine";

unpublished report "Report on the Tres Amigos and Triangle Lode Claims, Oro Blanco Mining District, Santa Cruz County, Arivaca Area, Arizona," H. H. Cohen for Blue Sky Mining Co., Vancouver, B.C., September 1985; includes 1" = 100' sketch map of the mine.

Resource estimate and basis. Eight USBM chip samples taken across the accessible 662 ft of the Tres Amigos vein on the main adit level (samples T662-664, T666-668, T672 and T673; fig. 14) have a weighted average of 0.31 oz Au/st and 0.55 oz Ag/st, with an average sample length of 4.2 ft (reported by D. K. Marjaniemi, USBM, 1994). The auriferous breccia is not continuous throughout that level, but it is present along 539 ft of strike length. Stoping has reached the limit of the breccia vertically and upward, in at least one point on the main adit level, less than 60 ft above the sill. Dimensions used for USBM tonnage estimates are therefore: 539-ft strike, 100 ft along dip slope (50 ft above the drift and 50 ft below), and the 4.2-ft average width. At an assumed tonnage factor of 12.25 ft^3/st, this suggests 18,500 st of inferred, subeconomic resources in the breccia zone.

Wallrock is also auriferous. Four USBM samples (T665, 6769, 670, 674) have a weighted average of 0.085 oz Au/st and 0.55 oz Ag/st over an average 11-ft width (reported by D. K. Marjaniemi, USBM, 1994). The same auriferous strike length as applicable to the breccia was applied to the auriferous part of the wallrock (539 ft), and the same dip slope extent was used also (100 ft), suggesting an additional resources tonnage (inferred, subeconomic) of 48,400 st.

Estimated resource tonnages in the breccia and wallrock are too small to be economically developable, according to the USBM PREVAL model. Gold grades are close enough to the USBM model cutoff to warrant economic interest, and perhaps, additional sampling.

Sampling of parts of the breccia and wallrock above and below the main adit level could increase the resource tonnage, or possibly demonstrate lack of continuity of the gold metallization. The overall tonnage that the fracture zone may contain (wallrock and breccia is about 800,000 st, based on 2,000-ft strike length [in conflict with Knight's (1970) measurements], a 15.2-ft width (breccia plus wallrock), and dip slope extent of 320 ft (based on workings on the breccia 200 ft below the main adit level and a conservative estimate of 120 ft extent above the main adit level from examination of the topographic maps of the area); vertical extent of the breccia is unknown.

Samples T728-731, T735 fig. 3

Triangle Mine

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, NE¼ sec. 19, T. 23 S., R. 11 E.

Property holdings. Triangle unpatented lode mining claim. Abuts the southeast corner of the Sorrel Top unpatented lode mining claim, and thus would include any southeast extension of the Sorrel Top Vein. Also abuts the southwest corner of the Tres Amigos Claim. All named claims are held by Pima Gold, Inc. (Burlington, Ontario) and current as of 1992. (Information from USBM Coronado National Forest study)

Production. Unknown.

Development and mining. Shaft operations. (Keith, 1975, p. 68)

Geology and mineralization. Brecciated shear zone cemented by finely crystalline quartz containing fine grain gold and silver mineralization. Wall rock is Cretaceous conglomerate. (Keith, 1975, p. 68)

A sample taken from the Triangle dump south of the Tres Amigos portal assayed 0.857 oz/st Au and 3.75 oz/st Ag.

References. Except as noted above, information is from an unpublished report (obtained from the ADMMR files), as follows: "Report on the Tres Amigos and Triangle Lode Claims, Oro Blanco Mining District, Santa Cruz County, Arivaca Area, Arizona," H. H. Cohen for Blue Sky Mining Co., Vancouver, B.C., September 1985; includes 1 in. to 100 ft sketch map of the mine.

Resource estimate and basis. Breccia zone mapped only between sites T728 and T735 (fig. 3), a 400-ft strike length; widths vary from 3-ft to 7-ft. Extent of the breccia along strike NW. or SE. of those sample points, and extent down the dip slope are unknown. Absence of these data precludes tonnage estimates. Gold content ranges from 1.68 ppm Au (0.05 oz Au/st) in in-place samples, to 9.56 ppm Au (0.28 oz Au/st) in high-grade samples from dumps. Gold content is apparently too low for economic consideration, but mapping of this structure, relative to the Sorrel Top and Tres Amigos structures may be warranted to better know the overall tonnage of these auriferous breccias that are in close proximity to each other.

Samples T426-436 fig. 3, 4

Unnamed flat silica zone

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, ctr. sec. 7, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. None reported.

Development and mining. See appendix B.

Geology and mineralization. Massive silica zone T426-436 mapped by Knight (1970, fig. 3). Only sample T435 suggests the grade of the zone, which is sulfidized to some degree. All USBM samples contain gold.

References. All above information from USBM field data (1991-1992).

Resource estimate and basis. Gold grade in the lone USBM sample (partially) of massive silica zone T426-436 is encouraging (sample T435, 0.602 oz Au/st). No tonnage or grade estimates can be made without dimensional data about, and additional sampling of the massive silica zone.

Samples T437-444 fig. 3, 5

Unnamed flat silica zone

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, ctr. sec. 7, T. 23 S., R. 11 E.

Property holdings. Unknown.

Production. None reported.

Development and mining. See appendix B.

Geology and mineralization. Massive zone of silicification of Cobre Ridge Tuff, T437-444, mapped by Knight (1970, fig. 3). All USBM samples contain gold.

References. Primarily USBM field data (1991-1992). Also Knight (1970, fig. 3).

Resource estimate and basis. Samples T437-438 provide data about gold grade in part of this massive silica zone (0.13 oz Au/st and 0.46 oz Au/st). Reported 50-ft thickness at site T439 is encouraging, but variance in thickness at the other locality (T437, 5-ft) shows the need for mapping and measurements of this zone. No tonnage or grade estimates can be made with these data gaps.

Samples T379-394 fig. 3

Unnamed flat silica zone

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, T. 23 S., R. 11 E., sec. 6, 7.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Oriented about N. 75° E., NW. 16° (Knight, 1970, fig. 3), occurs in Cobre Ridge Tuff and Sidewinder quartz monzonite. All USBM samples from the zone contain gold.

References. Primarily USBM field data (1991-1992). Also Knight (1970, fig. 3).

Resource estimate and basis. Seven samples of silicified Cobre Ridge Tuff (T379, 381, 384, 387, 388, 390, 391, appendix B) all contain between and 0.055 ppm Au (0.002 oz Au/st) and 2.24 ppm Au (0.06 oz Au/st). The highest grade sample (T381) is from a pyritic and hematitic zone. Samples from veins within the Cobre Ridge Tuff have much higher gold concentrations. Seven samples, T380, 382, 383, 385, 386, 389, 392 (appendix B), of vein material within the tuff (two uncertain but probably are from veins) contain between 0.022 ppm Au and 5.8 ppm Au, a range equivalent to 0.006 oz Au/st and 0.017 oz Au/st. The silicified zone also extends into Sidewinder quartz monzonite rocks; two samples from that formation contain 1.6 ppm Au and 3.8 ppm Au (samples T394-395), equivalent to 0.046 oz Au/st to 0.11 oz Au/st. Sampling and data on silicified zone thickness are too sparse to support resource estimates.

Samples T286-288 fig. 3

Unnamed prospect, Oro Blanco district

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, T. 22 S., R. 11 E., sec 31.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Select sample of dump material (T286) contains 0.036 oz Au/st, 3.8 oz Ag/st, and 3.2% Pb. Possible vein/structure at T288, 4 ft wide, does not have high metal concentrations.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T445-449 fig. 3, 26

Unnamed prospect, Oro Blanco district

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, T. 23 S., R. 11 E., sec. 7.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. No data

References. No data

Resource estimate and basis. D. K. Marjaniemi (USBM, 1994) reports weighted averages of three USBM samples taken from 45 ft of strike length of gently dipping vein (samples T447, T448, and T449; fig. 26) as 0.11 oz Au/st and 1.7 oz Ag/st for average sample length of 5.7 ft. Select sample from dump, T445, contains 0.14 oz Au/st and 1.4 oz Ag/st.

Location of this vein structure, which is within 200 ft to 1,000 ft of several flat, auriferous, silica zones (see fig. 3), is notable. Gold content of the vein exceeds that of the flat silica zones, but the tonnage in the vein is likely to be much lower. The vein has never been mapped, preventing tonnage estimates. Any future investigations of the flat silica zones may benefit by inclusive examination of this vein.

Samples T477-478 fig. 3

Unnamed prospect, Oro Blanco district

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, T. 23 S., R. 11 E., sec. 8.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Adit has quartz veinlets along weak structure and mined out pyritized quartz pockets at fault intersection. Select sample from dump, T478, contains 0.36 oz Au/st and 1.8 oz Ag/st.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T721-724 fig. 3

Unnamed prospect, Oro Blanco district

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, T. 23 S., R. 11 E., sec. 20.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Fault zone extending 450 ft from T721 to T724. 2.5-ft chip sample at northwest end (T721) contains 0.21 oz Au/st and 3.9 oz Ag/st. Five-foot chip sample at center (T722) contains 0.37 oz Au/st and 4.7 oz Ag/st. Weighted averages of above two samples are 0.31 oz Au/st and 4.4 oz Ag/st for an average sample length of 3.8 ft.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T803-815 fig. 35

Unnamed prospects, Pajarito district

Topographic quadrangle and location. Pajarito Peak 7.5-minute quadrangle, T. 24 S., R. 12 E., sec. 3.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Lead mineralization (up to 4% Pb in chip samples) is found locally along poorly developed N. 45° E.-striking fault system and cross faults. The mineralization is associated with clay alteration of the tuff, silica and manganese impregnation of altered tuff, and 1-in. quartz veins in unaltered tuff (T804, T805, T808, and T815). Select sample from dump (T806) contains 17% Pb.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T834-842 fig. 35, 38

Unnamed prospects, Pajarito district

Topographic quadrangle and location. Pajarito Peak 7.5-minute quadrangle, T. 24 S., R. 12 E., sec. 2.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. 200-ft-long trend with an average strike of N. 45° E. Not a single fault zone but more an intersection of faults with different strikes. Trend has many of the lithologic characteristics of the Sunset Mine but no continuous mineralization. 1.5- to 2.5-ft chip samples across the fault zones contain up to 2.2% Pb (T834 and T837). 1-ft quartz pebble breccia in the tuff contains 12.8% Pb (T836). Select sample from small stockpile, including cerussite?, quartz, manganite, and wad, contains 25.6% Pb (T835). Tuff is weakly to moderately altered along structures. Fractured tuff with minor quartz veins and silica on fractures contains no significant mineralization.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T856-869 pl. 1

Unnamed workings in Alamo Canyon

Topographic quadrangle and location. Alamo Spring 7.5-minute quadrangle, T. 24 S., R. 12 E., sec. 4, 5.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Fault directions are varied and mostly steeply dipping. Chip samples across structures (T856, T859, T861, and T867) contain a maximum of 9.4 oz Ag/st and 1% Pb. Select samples of microcrystalline quartz and altered tuff from dumps (T857, T860, and T862) contain up to 23 oz Ag/st and 5.3% Pb.

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T881-887 pl. 1

Unnamed workings, Pajarito Mountains

Topographic quadrangle and location. Ruby 7.5-minute quadrangle, T. 23 S., R. 12 E., sec. 31.

Property holdings. No data

Production. No data

Development, mining, geology, and mineralization. Fault zone striking N. 48° E. has been prospected for 100 ft of strike length and on two levels. Six representative samples taken across the fault zone have no significant mineralization (T881, T882, T883, T885, T886, and T887. Select sample from dump is vein quartz containing sphalerite, pyrite, chalcopyrite, malachite, and jarosite; sample contains 0.12 oz Au/st, 1.8 oz Ag/st, and 9.1% Pb (T884).

References. No data

Resource estimate and basis. No resources, based on USBM field data.

Samples T619-622 fig. 3

Warsaw Mine group

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, S. ctr. sec. 18 and N. ctr. sec. 19, T. 23 S., R. 11 E.

Property holdings. 2 patented mining claims: Normand and Pittsburg.

Production. The Warsaw Vein was located in the late 1800's. It produced gold and silver and probably copper from the oxidized surface material. Attempts to treat the underlying sulfide ores were unsuccessful.

The Warsaw Mine group produced 800 st of ore averaging 11 oz Ag/st, 0.2 oz Au/st, 2% Cu, and 1% Pb; and the period of production was from the late 1800's through 1964. (Keith, 1975, p. 69)

Development and mining. The provisional Forest Service topographic map of the Bartlett Mtn. quadrangle shows the Normand (west) Patent to have one shaft (fig. 3); the Pittsburg (east) Patent has an opencut and seven shafts. No other information is available on the development at the Warsaw Mine (USBM field data, 1992).

Geology and mineralization. The Warsaw Vein is a northeast-striking, steeply dipping vein in Ruby diorite. The vein is found mostly in the diorite and stops at the contact with the Oro Blanco Conglomerate on the northeast. It seems to have occupied a tension fissure that formed during the emplacement of the diorite sill. It consists of a zone 5 ft in width of white quartz cut by a large number of pyritic stringers, and containing disseminated sphalerite, galena, and chalcopyrite. Pyrite is more abundant here than at the Montana Vein (25% versus 4%). Supergene minerals include chalcocite, covellite, native silver, and embolite. A sample of the sorted ore pile assayed 25.5 oz/st Ag and 0.014 oz/st Au.

References. Except as noted above, information is from Knight (1970, p. 121-123).

Resource estimate and basis. No resources, based on the above information and the following USBM sample results. Select samples of dump material (T620 and T621) collected from the Normand Patent contain up to 0.16 oz Au/st, 11 oz Ag/st, 2.9% Pb, and 3.2% Cu, comparable to the grade of past ore production from the Warsaw Mine.

No samples **fig. 3, pl. 1**

White Gold/West claims and geochemical anomalies

Topographic quadrangle and location. Bartlett Mtn. and Ruby 7.5-minute quadrangles. S½ sec. 19, sec. 20, sec. 21, NW¼ sec. 28, sec. 29, sec. 30, NE¼ sec. 31, and NW¼ sec. 32, T. 23 S., R. 11 E.

Property holdings. 121 unpatented lode mining claims: White Gold and West claims.

Production and reserves. No record of past production from the claimed area. Resources of "Central zone" (S½ sec. 20) given as 1,018,844 st grading 0.033 oz Au/st and 408,652 st grading 0.050 oz Au/st. Depth of resources is not given but drilling appears to be a maximum of 200 ft.

Development and mining. Unknown.

Geology and mineralization. Geologic data available to USBM are very limited. The gold host is apparently a very-low angle silicic and calcic stockwork zone between an overlying brecciated tuff (Montana Peak Formation) and underlying sequence of clastic sedimentary rocks (Oro Blanco Formation). Gold mineralization is apparently between the surface and 175-ft depths (Knight, 1970, fig. 3; Santos, 1988, p. 2-4).

Forty-seven air-trac holes were drilled by Copperfields Mining Company in 1981 and/or 1982. 42 conventional rotary percussion holes were drilled by Goldstar Mining Company between 1982 and 1988. Echo Bay Mines terminated their interest in the property in 1988; and the property reverted back to Goldstar at that time. The best drill-hole intercepts (excluding the "Central Zone" where reserves are calculated) are as follows:

> Hole 138 averaged 0.017 oz Au/st from the surface to a total depth of 135 ft. This hole was drilled into the flat lying quartz-calcite contact zone between the siltstones and tuffs.
>
> Hole 134 had a 15-ft interval near the surface which averaged 0.053 oz Au/st; and a total depth of 200 ft.
>
> Hole 145 was an angle hole (45°) with a total depth of 100 ft; and had a 10-ft interval near the surface averaging 0.021 oz Au/st.
>
> Hole 148 averaged 0.026 oz Au/st from 95 to 125 ft.
>
> Hole 122 averaged 0.052 oz Au/st from 100 to 125 ft. This hole was drilled at the contact between a siltstone unit and the Sidewinder quartz monzonite.

These holes are scattered throughout the remaining part of the property (excluding the "Central zone") and, without further data, cannot be used to outline additional resources or potential on the property.

Additional geochemical targets were identified on the basis of surface samples containing between 0.020 oz and 0.030 oz Au/st.

References. Primarily Santos (1988).

Also, unpub. ADMMR file note, dated February 1, 1989.

Other data as specifically cited.

Resource estimate and basis. Assessment is based on available data sources; USBM field crews did not examine any of the flat silica zones in this claim group, and examined only one of the geochemical anomalies encompassed by the claims. Assessment of auriferous breccia on the adjoining California mineral patent (fig. 3, north of the Dale/Two prospect) by Wood and Yersavich (1985) lead to their conclusion that the presence of oxide and silicic gold mineralization at the California Tunnel, Dos Amigos Mine, Oro Blanco Mine, and Tres Amigos Mine suggests remobilization of sulfidized gold by a later epithermal system which is concealed at depth, and *that this concealed system should be an exploration target*. These points fit in with the hot-spring gold deposit model. Three prospects within the White Gold/West claim group have delineated resources (fig. 3), but quantitative resource estimates are available for only the Central zone (fig. 3): 1 million st at 0.033 oz Au/st (with a 0.010 oz Au/st cutoff), and 0.4 million st with 0.050 oz Au/st (with a 0.020 oz Au/st cutoff) (Santos, 1988, p. 2).

A comparison of USBM modeling results at the Margarita property (p. 9-10) to descriptive data of the Central zone prospect demonstrates clearly that the Central zone prospect is also substantially subeconomic, due to low tonnage and grade, and likelihood of some element of refractoriness in the gold-bearing rock. It is clear that more tons of higher-grade gold must be delineated for property viability. There are numerous sites within the White Gold/West claims at which additional tonnage may be found; there are 16 prospects, two other zones with delineated resources (quantities, grades, unknown to USBM) and two geochemical anomaly areas (fig. 3). What is known about those sites is summarized in table 2.

Samples T843-855 fig. 35, 39, 40

White Oak Mine (aka Sunrise Mine)
Big Steve Mine

Topographic quadrangle and location. Pajarito Peak 7.5-minute quadrangle, N½ sec. 2, T. 24 S., R. 12 E.

Property holdings. 4 unpatented lode mining claims.

Production. Worked for high silver values prior to 1900 and sporadically from 1925 through 1958. Total production probably some 500 or more tons of ore averaging about 15% Pb, 6 oz Ag/st, and minor Cu and Au. (Keith, 1975, p. 72)

In 1951-52 the White Oak Mine produced 25 st of ore averaging 0.31% U_3O_8 and containing 155 lb U_3O_8. (Wenrich and others, 1989, p. 766)

Development and mining. Developments at the White Oak Mine (no longer accessible, as of 1966) are described as follows:

> On first vein, there is a tunnel 500 ft long with a deep winze at end of same. There is a large amount of ore stoped out above this tunnel.
>
> On second vein, there is a tunnel 125 ft long with a 15 ft winze about 50 ft from the opening of the tunnel, and a deep winze at the end of the tunnel. There has been considerable stoping above this tunnel also.
>
> Has an old, run down, out of order, out of date mill, which was used to concentrate lead carbonate ore from the mine a number of years ago.

Nelson (1963, pl. 1) shows an adit and shaft at the Big Steve Mine.

Geology and mineralization. The ore occurs as a narrow vein in a dacite porphyry. It varies from a few inches to 5 ft in width. In places the vein appears to branch. Small cross fractures may be mineralized a little to each side of the main mineralization. The vein is nearly vertical. The main mineralization is lead oxides including pyromorphite, of which a few well-formed crystals were found. In places underground and on the dump copper-oxide minerals may be seen.

A small area about 5 ft wide, 15 ft long, and about 10 to 15 ft deep shows considerable radioactivity, as determined by the Geiger counter. The U.S. Atomic Energy Commission reported the ore to be in the form of kasolite and uranophane. Hand-picked samples from the area ran 1 to 6% U_3O_8.

The radioactive area was found about 50 ft from the opening of the 125-ft tunnel---in, above and near the 15-ft winze.

Riggs (1985, table 2) adds that the White Oak Mine is characterized by: a shear zone on

N. 63° E.; brecciation of Cobre Ridge Tuff; mimetite encrustations on joint surfaces; open-space veins filled with quartz, barite; intense Fe flooding of host rock, completely silicified with micro-quartz veinlet stockwork locally; and an alteration envelope 5 to 10 m wide.

Riggs (1985, table 2) describes the geology and mineralization of the Big Steve Mine as follows: intersection of two shears N. 65° E., 85° SE. and N. 8° W., 50° N.; clay gouge with Mn + Fe; silicification envelope a few cm wide; some argillic alteration of Cobre Ridge Tuff host; and maximum high-grade assay 100 ppm Ag, 47% Pb.

Keith (1975, p. 72) collectively describes the geology and mineralization of the White Oak and Big Steve Mines as follows:

> Irregular, narrow, shear zones containing spotty argentiferous, oxidized, lead mineralization, largely cerussite, pyrite, and minor copper, zinc, and gold, cutting Cretaceous quartz latite volcanics. Mineralization fills fissures and partly replaces gouge and breccia. Spotty kasolite, uranophane, autunite and uranium-bearing pyromorphite recognized. Pyrite gossan.

References. Except as noted above, information is from unpublished ADMMR reports, as follows: Field Engineers Reports dated May 13, 1966 and Feb. 1, 1952; attached map and section of White Oak Mine (Irvin, 1955).

Resource estimate and basis. No resources, based on the above information and the following USBM sample results.

White Oak Mine
A 3.5-ft chip sample across the vein above the upper adit (T846, fig. 39), consisting of tuff and altered tuff, contains 4.6% Pb. A select sample from the upper dump (T847, fig. 39), consisting of microcrystalline quartz, crystalline quartz, tuff, and clay, contains 0.024 oz Au/st, 3.1 oz Ag/st, 1.0% Cu, and 17% Pb. Some of the fault zones in the vicinity of the White Oak Mine, consisting of fractured tuff, contain up to 1% Pb (T853, fig. 35). Other fault zones, consisting of fractured tuff and characterized by weak to strong silicification, have no significant mineralization (T854, fig. 35).

Overall, the largest structure on the property (fracture T846-851) has negligible silver and probably averages less than 1% Pb, although one sample (T847) contains over 16% Pb. The gold content in this structure does not exceed 0.02 oz Au/st. Using a measured strike length of 1,110 ft (Riggs, 1985, fig. 3), and average width of approximately 6.5 ft, and assumed down-dip continuity of metallization for 50 ft, the site could contain as much as 29,000 st of rock, which is an amount of no economic consequence for the commodities and concentrations involved.

Big Steve Mine
1.2-ft chip sample across northeast-striking fault zone (T844), consisting of weakly altered tuff and clay, contains 0.91% Pb. Select samples from dumps along structure, consisting mostly of weakly to moderately altered tuff but including up to 20% microcrystalline quartz, contain up to 7.2% Pb (T843 and T845).

No samples fig. 27, 28

Yellow Jacket Mine
includes Phoenix Patent

Topographic quadrangle and location. Bartlett Mtn. 7.5-minute quadrangle, secs. 21 and 22, T. 22 S., R. 10 E.

Property holdings. Yellow Jacket and Phoenix patented mining claims; 2 or 3 unpatented lode mining claims.

Production and reserves. One of the oldest mines in this Forest Unit, having been operated in the 1800's and, intermittently, through 1938 (Keith, 1975, p. 69). Past production is 13,200 st grading 1.5 oz Au/st and 1.6 oz Ag/st (unpublished AGDC information, identified below).

The ore body reportedly was "virtually worked out before 1900" (Knight, 1970, p. 123-124), but a conflicting report estimates "reserves" at the mine amounting to 295,500 st (grade not reported) in a 20-ft-wide vein extending to 250 ft in depth along a 709-ft strike length (Garmoe and Barber, unpublished AGDC information). "Mill samples" collected in 1932 averaged 1.63 oz Au/st and 2.11 oz Ag/st (Gaskill, unpublished ADMMR report).

Development and mining. The workings are now caved but said to consist of a main shaft 250 ft in depth that serves four levels involving about 1,200 ft of drifts and short crosscuts. A second shaft, 62 ft in depth, connects into the upper level. In addition, a 200-ft crosscut has been driven northwest of the main shaft. The most extensive development has been at, or above, the 100- and 150-ft levels. (Unpublished ADMMR report.)

Geology and mineralization. There are three northwest-trending veins on the combined Yellow Jacket and Phoenix Patents: Yellow Jacket Vein, averaging 20 ft wide and dipping 70° NE.; Phoenix Vein, averaging 11 ft wide and dipping 85° SW.; and Green Vein, averaging 2 ft wide and dipping 40° NE. The most extensive development has been on the Yellow Jacket Vein. (Knight, 1970, p. 123-124.)

The Yellow Jacket Vein lies in a major northwest fault zone that dips steeply northeast. The vein is described as a "lensing quartz vein....containing disseminated pyrite and sparse base metal sulfides, mostly oxidized with supergene enrichment of gold and silver" (Keith, 1975, p. 69); consists of "a shear zone 10 to 30 ft in width containing blocks of dark bluish gray quartz" and probably not over one percent original sulfides (Knight, 1970, p. 123-124); and "consists of irregular discontinuous bodies of massive, iron stained material which is both volcanic rock and quartz porphyry in the process of being replaced by dull quartz" (Garmoe and Barber, unpublished AGDC information).

Mapping by Knight (1970, fig. 3) indicates that the wall rock is Jurassic Cobre Ridge Tuff but unpublished AGDC information (Garmoe and Barber) indicates that the wall rock to the southwest of the vein is "fine-grained, light colored dense volcanic rock," and the wall rock to the northeast of the vein is "medium grained, light colored, definite quartz porphyry."

Knight (1970, p. 123-124) states that rhyolite dikes have intruded the Yellow Jacket Vein and the adjacent wall rocks. Unpublished AGDC information (Garmoe and Barber) indicates that "narrow diabase dikes of irregular widths are on both the hanging and footwalls of the mineralized zone"; that "the diabase is unmineralized and probably later than the mineralization"; and that "weak shears and slips cutting the diabase indicate later movement in the area." An unpublished ADMMR report (Gaskill) notes a zone of brecciation, locally over 100 ft wide, from the diabase dike contacts; that the former country rock in the vicinity of the contact is altered to an aluminous oxide or silicate; and that, of the four diabase contact zones on the claims, only one on the footwall side of the northernmost dike has ever been opened for mining.

References. As cited above, and,

unpublished information from AGDC files:

letter from Walter J. Garmoe and G. A. Barber to Mr. Mulchay, December 1954; surface map by WJG and GAB, 11/18/54;

handwritten notes by WJG, 10/19/54;

profile of the Yellow Jacket Mine by E. E. Moon, August 1917;

surface map of the Yellow Jacket Mines area by E. E. Moon, February 26, 1916;

unpublished ADMMR file data:

Field Engineers Report, October 6, 1959;

report by B. Gaskill, June 4, 1955.

Resource estimate and basis. It is unknown if the "reserve" tonnage cited above (295,500 st) is hosted in the Green vein, Yellow Jacket vein, or Phoenix vein. It was assumed, for the purposes of USBM modeling, that the material is in the Yellow Jacket vein, because it is the largest of the three and has been mined for the majority of past production. USBM PREVAL modeling of this described deposit (USBM was not granted access to the patents) is based on deposit dimensions and tonnages from Garmoe and Barber (cited above).

If the grades are assumed to be those of the average grade of past ore production (1.5 oz Au/st and 1.6 oz Ag/st), the deposit would be economic to mine at current (mid-1994) gold ($387/oz) and silver prices ($5.58/oz), affording a $6.6 million NPV over the life of the mine.

It is more likely, however, considering the low composite tonnage mined at this site (13,000+ st), that the average grades of past production do NOT hold throughout the estimated resource tonnage of Garmoe and Barber. A lower, more average grade of 0.5 oz Au/st would create a situation in which the mine would be a money loser, with a negative

$16 million NPV.

Without any examination by the USBM, knowledge of precisely where Garmoe and Barber's resources are located, and testing of the grade of those resources, the situation cannot be resolved. The best that can be said is that the site warrants further examination and, if resources actually exist there at the reported structural width, and the gold grade is in the vicinity of 1 oz Au/st, this property may see future development. A significant increase in the price of gold, which is not anticipated, would provide further impetus for examination and sampling of the site.

APPENDIX B

Sample descriptions,
Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit, Coronado National Forest, AZ

Background data

Sampling methods. All samples collected and assayed during this study were composed of rock chips. The rock samples were most often collected from mineralized structures observed in the National Forest. Wherever possible, these samples were taken as continuous or semi-continuous chips *perpendicular* to the strike of the mineralized structure, thus representing a cross section through the structure. Samples represent reconnaissance-level sampling (i.e. low density of sample sites). Each rock-chip sample was 3 lb to 10 lb in weight. Sample type definitions are as follows. Chip samples are a regular series of rock chips taken in a continuous (or semi-continuous) line across a mineralized zone or other exposure, and usually across the entire width or thickness of that exposure. Grid and grab samples are from mine/prospect dumps. The grid type are taken systematically over an area to convey possible mineral value distributed in a dump. The grab type are taken unsystematically, usually as a background check, where no specific mineral zone is known or expected. In some cases, grab samples may be collected from an outcrop, for similar reasons. Select samples are often from a mine/prospect dump and are select chips of a specific rock type; select samples can also be collected from an in-place mineral structure to convey assays for the specific zone. Samples noted as "high-grade" are select samples collected from the most intensely mineralized (usually metallized) rock available in dumps, outcrops, or other exposed mineral zones.

Sample preparation procedures (for assay). The rock samples were prepared for assay as follows. The entire sample was crushed to -20 mesh in size, with no sieving, via a jaw crusher and cone crusher, and then the entire crushed output was homogenized in a riffle splitter. A 200-g to 300-g split was segregated and pulverized in a shatterbox pulverizer to -125 mesh or smaller, with no sieving. The pulverized pulp was divided equally into two kraft paper envelopes, producing two 100-g to 150-g pulp splits. One pulp spilt was stored as an archive. The other was sent to laboratories for assay procedures.

Abbreviations: v = vertical, nv = near vertical, h = horizontal, d = diagonal, sp = spacing, a = area, w/ = with, and NA = not applicable. All sample locations are indicated on plate 1.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T1	Select	Shaft, flooded at 20-ft depth. Colorless to purple siliceous material. From dump.
T2	Chip 3-ft h	Cut, backfilled. White siliceous rhyolite and silicified black altered rock, Fe-stained rhyolite.
T3	Chip 4-ft h	Cut, 30-ft-long. 3.4 ft moderately altered andesite?, 0.6 ft white calcite veins/veinlets.
T4	Select	Cut, 15-ft-long. Pyritized quartz w/ sphalerite, Fe- and Mn-coated dense siliceous material, CuO.
T5	Chip 4-ft h	Shaft, flooded at 25-ft depth. 2 ft white bull quartz, 1 ft heavy Fe-stained quartz, 1 ft soft micaceous fault gouge? or highly altered metamorphic.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T6	Chip 2-ft h	Pit, 15-ft across. White bull quartz w/ mica and FeO on fractures.
T7	Chip 6-ft h	Adit, 45-ft-long. 1 ft slightly altered white finely crystalline micaceous granite gneiss?; 2 ft white bull quartz, ½ ft to either side of vein of silicified gneiss?; 2 ft silicified and Fe-stained gneiss?.
T8	Select	Adit T7. Black fibrous mineral (common to area, probable Mn, pyrolusite?) forming layers, impregnations, and seams within a sandy textured metamorphic rock.
T9	Chip 3-ft h	Shaft, 40-ft-deep. 1.2 ft white vein quartz, 1.8 ft heavy Fe-stained micaceous quartzite?
T10	Chip 6-ft h	Cut, 12-ft-long. Fresh to slightly altered metamorphic Fe-stained quartzite, < 5% white quartz veins.
T11	Chip 0.75-ft h	Adit, 452-ft-long. Sample taken 438 ft from portal. 4 in. quartz vein w/ Cu and limonite; includes 2 in. orthoquartzite on either side of vein.
T12	Chip 5-ft v	Adit T11. Sample taken 300 ft from portal. Gray orthoquartzite w/ FeO.
T13	Select	Adit T11. Variety of siliceous material, vein quartz, Fe coating, trace CuO, MnO. From dump.
T14	Select	Shaft. Vein quartz and quartz-filled breccia w/ chalcopyrite, malachite, trace azurite, pyrite, bornite, which is rare material on dump. Collar elevation is 80-ft above T11-13 portal.
T15	Select	Shaft T14, from dump. Deep red/brown Fe-stained micaceous metamorphic rock and quartz; up to 3% of dump.
T16	Select	Shaft, 15-ft-deep. Predominately gray limestone? < 5% each of dark to white vein quartz and calcite veins.
T17	Select	Shaft, flooded at 12-ft depth. Clear white vein quartz, heavy Fe/hematite stained quartz w/ pyrite casts, quartz w/ malachite, sphalerite.
T18	Select	Pit, 6-ft across. Quartz w/ hematite and limonite. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T19	Select	Pit, 10-ft across. Quartz w/ hematite and limonite. From dump and outcrop.
T20	Chip 1-ft v	Pit, 4-ft across. Siliceous vein w/ altered material and probable granite.
T21	Chip 3-ft h	Adit, 43-ft-long. Across back. 1.2 ft heavily Fe-stained quartz, 1.2 ft lightly altered granite, 0.6 ft gray quartz vein.
T22	Select	Pit, 4-ft across. Loose pieces w/ CuO and MnO. From dump.
T23	Chip 3-ft v	Cut, 75-ft-long. 1.5 ft medium textured granite; remainder rusty mica quartz.
T24	Select	Cut, 75-ft-long. White quartz and quartz w/ stringers; and altered granite. From outcrop and float.
T25	Chip 6-ft h	Cut, 91-ft-long. 2 ft moderately altered granite, 3 ft quartz, 1 ft fresh granite.
T26	Select	Cut T25. Quartz w/ FeO similar to T28. From dump.
T27	Select	Cut T25. White quartz and altered light colored granite. From dump.
T28	Select	Pit, 10-ft across. Quartz and Fe-rich red quartz; mica along fractures, MnO. From dump.
T29	Select	Stockpile at 14-ft-long cut. Gray quartz, Fe- and Mn-coated vuggy rock, trace tungsten mineral, vugs coated w/ Mn.
T30	Chip 0.8-ft h	Cut, 15-ft-long. 2 in. metasediment?; 4 in. Fe- and Cu-stained quartz vein.
T31	Select	Cut T30. Quartz w/ malachite, Mn veins, blue CuO. From dump.
T32	Chip 4-ft h	Adit, 20-ft-long. Across face. Limonite and Cu-stained siliceous fine-grained metasediment?, brecciated for 18 in. against rib, ½ in. to 3 in. gray quartz w/ CuO against rib.
T33	Grab	Shaft, 30-ft-deep. Mostly finely crystalline dark-brown stained, relatively fresh diorite w/ trace quartz. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T34	Select	Shaft, 30-ft-deep. Red/brown siliceous vein/replacement material. From dump.
T35	Select	Two pits, each 15-ft across. Chrysocolla and malachite-coated finely crystalline chilled granite or gneiss (black to greenish gray). From dump.
T36	Chip 4-ft h	Pit, 12-ft across. 1.6 ft quartz loaded w/ green CuO; 2.4 ft lightly Cu-stained diorite. In chilled granite or diorite host.
T37	Select	Cut, 20-ft-long and pit, 6-ft across. Fe-stained gray massive finely crystalline chilled granite intrusive?; and Fe-stained quartz, some w/ pseudomorphs of hematite after pyrite. From dump.
T38	Chip 6-ft h	Pit, 6-ft across. Hanging wall of fault. Highly fractured, slightly altered finely crystalline intrusive or extrusive rock; includes breccia and <2% quartz veins. Possible intrusive contact nearby.
T39	Select	Pit, 8-ft across. Mineralized and silicified material, 85% medium crystalline intrusive. From dump.
T40	Chip 4-ft h	Adit, 122-ft-long. Along rib, 50 ft from portal. 3.4 ft slightly to moderately altered diorite; remainder is clayey gouge material, calcite veins, w/ limonite stain.
T41	Chip 1.3-ft h	Adit T40. Along rib, 70 ft from portal. Predominantly clayey gouge w/ limonite stain.
T42	Chip 4-ft h	Adit T40. Across face. Predominantly slightly altered diorite w/ limonite stain.
T43	Chip 4-ft v	Adit T40. 2.8 ft siltstone, 1 ft diorite, 0.2 ft vein quartz, trace calcite.
T44	Chip 4-ft h	Outcrop by adit T40. Highly altered diorite stained w/ chrysocolla and malachite; quartz veins w/ malachite; epidote, MnO, minor limonite stain and calcite.
T45	Chip 4-ft h	Adit, 24-ft-long. Across face. Brown-gray densely fractured conglomerate w/ 10-15% vertical quartz stringers; includes 3 in. fault gouge.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T46	Chip 1.5-ft h	Shaft, 25-ft-deep. Across 14-in. fracture zone. 7.2 in. quartz, 7.2 in. gouge and fine breccia of conglomerate, 3.6 in. gray fractured conglomerate.
T47	Select	Shaft T46. Quartz. Rare; from dump.
T48	Chip 2-ft h	Pit, 15-ft across. Across white quartz vein w/ 15% calcite blobs.
T49	Select	Pit, flooded at 4-ft depth; possibly 10-ft deep. 85% white quartz w/ limonite, open spaces, heavy Mn coating; 15% Mn-stained conglomerate w/ quartz, possibly silicified. From dump.
T50	Select	Shaft, 30-ft-deep. White quartz; some w/ Fe stain, some open spaces, trace Cu stain. From dump.
T51	Chip 9-ft h	Pit, 30-ft-long. Footwall of fault. 3.5 ft intensely fractured, hard and possibly resilicified light greenish gray conglomerate; 5.2 ft irregular veins and pockets of quartz w/ more or less limonite, Mn coating, 0.3 ft clay gouge.
T52	Chip 6-ft h	Pit T51. 9 in. rusty clay gouge; remainder is densely fractured conglomerate w/ thin quartz veins, local FeO coating.
T53	Select	Pit T51. Quartz containing galena, chalcopyrite, chalcocite, malachite, Fe, and Mn; from vein at least 1 ft thick.
T54	Chip 0.75-ft h	Fig. 33. Gray porphyritic tuff/tuff breccia.
T55	Chip 4-ft h	Fig. 33. 1.4 ft quartz; 0.2 ft clay gouge; remainder is fractured conglomerate, heavy Fe stain.
T56	Chip 0.75-ft h	Fig. 33. Quartz w/ abundant hematite gouge/limonite gouge, black oxidized Mn.
T57	Chip 4-ft h	Fig. 33. 1.6 ft clay gouge at hanging wall; 2.4 ft hard breccia of conglomerate, light Cu stain.
T58	Chip 4-ft h	Fig. 33. Across back and part of rib. 2 ft clay gouge, 6 in. FeO quartz vein, 6 in. fractured conglomerate.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T59	Chip 1-ft h	Fig. 33. Quartz vein.
T60	Chip 0.5-ft h	Fig. 33. Quartz vein w/ galena, chalcopyrite, sphalerite, bornite.
T61	Chip 1.8-ft h	Fig. 33. Quartz vein, abundant CuO.
T62	Select	Shaft, possibly 90-ft-deep. Quartz and conglomerate w/ Fe, Mn, abundant Cu. From stockpile.
T63	Select	Shaft, <10-ft-deep. Quartz w/ Fe, Mn, Cu stain. From dump.
T64	Chip 0.5-ft h	Shaft, 30-ft-deep. Across quartz vein. Limonite coating.
T65	Chip 3-ft v	Cut, 100-ft-long and 15-ft to 55-ft-wide. Across gently dipping quartz vein. White quartz; 10% gray pieces tuff; local FeO.
T66	Select	Twin, shallow shafts, flooded at 4-ft depth and 5-ft depth, respectively; probably neither more than 10-ft-deep, maximum. White quartz w/ Fe, MnO, trace chalcopyrite, Cu stain. Blocks up to 9 in. thick. From dump.
T67	Chip 2.5-ft d	Two pits, 10-ft across. Gently dipping vein. White quartz w/ heavy Mn and Fe coating.
T68	Select	Pit, 25-ft-long. Fe-stained quartz. From stockpile.
T69	Chip 4-ft h	Adit, 31-ft-long. Across back. 3 ft fractured gray conglomerate; 0.8 ft of quartz [veinlets?], 1 to 6 in., w/ FeO; 0.2 ft clay gouge.
T70	Chip 2-ft h	Shaft, 8-ft-deep. 1.2 ft quartz vein rich w/ Fe, Mn; 0.8 ft gray fault gouge.
T71	Chip 3-ft h	Adit, 15-ft-long with 15-ft-long cut at portal. Across face. 14 in. quartz w/ FeO; 6 in. conglomerate; remainder is light gray altered conglomerate/fault gouge.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T72	Chip 5-ft d	Pit, 10-ft across. Gently dipping vein. White marble-like quartz w/ pinkish cast.
T73	Chip 2-ft h	Adit, 90-ft-long. Across back at portal. 16 in. quartz (2 in. of which has galena); remainder is conglomerate w/ quartz.
T74	Chip 2.5-ft h	Adit T73. At face. 6 in. Fe-stained quartz and quartz breccia; 1 ft conglomerate on either side of quartz.
T75	Chip 1.2-ft h	Cut, 70-ft-long and 25-ft-deep (maximum). Near entrance to cut. White quartz w/ layering and FeO on fractures.
T76	Chip 1.5-ft h	Cut T75. From face of cut. 6 in. gray gouge; 14 in. quartz w/ FeO; 10 in. hard gray silicified conglomerate.
T77	Chip 1.2-ft h	Cut T75. From face of cut. Fractured quartz w/ FeO.
T78	Chip 1.5-ft h	Cut, 55-ft-long, 15-ft-deep (maximum). From face of cut. Across quartz vein w/ Mn, FeO.
T79	Chip 1-ft h	Cut, 60-ft-long, 20-ft-deep, and 15-ft-adit at face. From face of cut. Quartz w/ Fe, Mn on fractures.
T80	Chip 4-ft h	Cut T79. Across back of adit at its portal. Drab yellowish gray to olive gray conglomerate containing 10% quartz veins; local light alteration.
T81	Chip 3.4-ft h	Cut T79. From face of cut. 14 in. massive quartz w/ FeO, 12 in. gray gouge and breccia, 14 in. breccia of vein quartz.
T82	Select	Part of a 200-ft-long group of long, deep cuts. From dump and stockpile at SW. end of the southwesternmost cut in the group [cut is 85-ft-long, 8-ft-wide (maximum), 50-ft-deep; parallel adit under this cut (not shown) is inaccessible]. Cu-stained quartz w/ <5% galena and pyrite.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T83	Chip 1.5-ft h	From portal of inaccessible adit (see T82 description); across back. Fe-stained quartz vein in hanging wall of steeply dipping fault.
T84	Chip 2-ft h	Northeasternmost of the group of cuts (see T82 description). Across bridge in middle of cut. Hanging wall of steeply dipping fault. 1 ft white quartz w/ hematite, limonite, Mn; 1 ft silicified conglomerate w/ quartz. A 40-ft-deep shaft to the NE., not sampled (fig. 30), has drifts along T84 vein to NE. and SW.
T85	Chip 7-ft v	Cut, 25-ft-long. Across low-angle fault. 9 in. quartz and silicified conglomerate; 6 in. whitish powdery altered conglomerate; remainder is greenish and Mn/Fe-stained very hard conglomerate, locally silicified.
T86	Chip 5-ft h	Cut T85. Two 8 in. quartz veins; remainder is hard greenish and silicified (quartz veinlets and fracture filling) conglomerate.
T87	Chip 2-ft v	Opencut, 20-ft-long. 18 in. white coarse quartz w/ local FeO stain; 6 in. underlying fine grained altered conglomerate w/ subordinate quartz.
T88	Chip 0.6-ft v	Fig. 31. White gently dipping quartz vein.
T89	Chip 0.6-ft d	Fig. 31. Gently dipping quartz vein. Weak to strong alteration of conglomerate.
T90	Chip 1-ft h	Fig. 31. Clear quartz containing 2 in. clay gouge, light FeO.
T91	Chip 6-ft h	Fig. 31. Densely fractured lightly Fe-stained conglomerate, 1 to 2 in. gray quartz.
T92	Chip 0.6-ft h	Cut, 27-ft-long. White quartz vein w/ Fe stain.
T93	Select	Pit, 15-ft across. White quartz up to 8 in. thick w/ FeO coating, no Cu stain or sulfides. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T94	Chip 2-ft h	Cut T93. Across quartz vein.
T95	Chip 4-ft h	Cut, 25-ft-long. Fe-stained fractured conglomerate and possibly secondary fault gouge/breccia.
T96	Chip 3-ft h	Adit, 206-ft-long. Across back near portal. 2 ft white massive quartz; 1 ft gray silicified conglomerate, local Cu stain.
T97	Chip 1.5-ft h	Adit T96. 75 ft from portal, across white quartz vein w/ possible sulfides; FeO, limonite, chalcopyrite, galena.
T98	Chip 3-ft h	Adit T96. 142 ft from portal, across back. 1 ft quartz vein; 2 ft silicified and veined conglomerate.
T99	Chip 0.75-ft h	Adit with a bat colony. At least 360-ft-long; not entered further due to presence of bats. In rib, 105 ft from portal; across fractured quartz vein.
T100	Chip 1.4-ft h	Adit T99. 260 ft from portal and then 20 ft to southwest along crosscut. White quartz vein w/ heavy Fe, Mn on fractures; no gouge; footwall of steeply dipping fault.
T101	Chip 3-ft h	Cut, 20-ft-long. Steeply dipping fault zone. Intensely to moderately fractured conglomerate; 8 in. quartz.
T102	Select	Stockpile at shaft, flooded at 10-ft depth. Quartz w/ Cu stain.
T103	Chip 2.5-ft h	Cut, 50-ft-long. 2 ft white quartz w/ possible sphalerite, 6 in. silicified conglomerate.
T104	Chip 4-ft h	Adit accessible for 86 ft in from portal; drift at 15-ft in from portal; underhand, 28-ft-deep stope, 86-ft in from portal. Sampled 86-ft in from portal. Moderately to intensely fractured conglomerate in footwall of steeply dipping fault; includes 3 in. heavily Fe-stained quartz at fault; heavy limonite on fractures throughout.
T105	Select	Stockpile at T104 adit. Whitish streaked and layered quartz and Fe-stained altered conglomerate.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T106	Chip 2-ft h	20-ft-long adit with 10-ft-long cut at portal. Quartz and fractured gray to varicolored rhyolite in a conglomerate host.
T107	Select	Stockpile at discontinuous trench, 90-ft-long, 5-ft-wide (maximum), 10-ft-deep. Quartz w/ galena, Cu, limonite, hematite stain. Quartz is 6 ft thick against fault.
T108	Select	Stockpile at adjoining workings (a shaft, flooded at 25-ft depth and a cut, 10-ft-long). Quartz w/ heavy FeO, trace CuO.
T109	Chip 2-ft h	Cut, 170-ft-long, 30-ft-deep (maximum). Across bridge, 85 ft from northeast end of cut. Fractured conglomerate and 6 in. quartz.
T110	Chip 4-ft d	Inaccessible adit, possibly 175-ft-long. Across two faults, one gently dipping and one steep. 1/3 light gray slightly altered conglomerate, 2/3 fault gouge.
T111	Chip 1.5-ft h	Cut, 100-ft-long, 17-ft-deep (maximum). 1/3 slightly Cu-stained massive vein quartz, 1/3 blue bulbous quartz and breccia, 1/3 hard brownish gray fault breccia.
T112	Chip 2-ft h	Pit, 60-ft-long. Fractured conglomerate and quartz w/ MnO; at steeply dipping fault.
T113	Select	Cut, more than 150-ft-long. Quartz (w/ heavy FeO to 1 ft) and altered conglomerate in floor of cut. Float.
T114	Chip 5-ft h	Cut, 20-ft-long. Gently dipping fault zone. Mostly medium (4 in.) fractured, altered conglomerate w/ 4 to 8 in. heavily Fe-stained gouge at top; no quartz.
T115	Select	Cut, 35-ft-long. Variety of abundant quartz (white, white and black, heavily Fe-stained black). From dump.
T116	Chip 2.5-ft h	Shaft, 15-ft-deep. Against fault. 1/3 gouge, 1/3 quartz, 1/3 altered Fe-impregnated conglomerate.
T117	Grab	Shaft, 40-ft-deep. Fractured greenish conglomerate w/ very fine quartz stringers. From dump.
T118	Chip 4-ft h	Adit, 100-ft-long. Across fault zone in back, 32 ft from portal. Intensely fractured conglomerate; fault gouge; both Fe-stained.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T119	Chip 5-ft h	Adit T118. Across fault zone at face. Fractured conglomerate, minor fault gouge w/ clay.
T120	Chip 4-ft h	Cut, 15-ft-wide, next to road. Brownish to yellowish gray latite?; surrounded by fractured conglomerate.
T121	Select	Pit, 12-ft across. White coarse quartz, blocks up to 6 in. across w/ light FeO. From dump.
T122	Chip 0.75-ft h	Pit, 100-ft-long. Across vein, 35 ft from SE. end of cut. 3 in. quartz; 5 in. silicified and slightly altered conglomerate.
T123	Select	Cut, 50-ft-long, 12-ft-wide. Sparse quartz, limonite, FeO coating. From dump.
T124	Chip 4-ft h	Fig. 34. Gray massive conglomerate, 1 in. quartz filling in fractures on rib.
T125	Chip 3-ft h	Fig. 34. 1 ft of conglomerate on either side of main 1-ft-thick quartz vein.
T126	Chip 3-ft h	Fig. 34. Highly fractured and Fe-stained conglomerate w/ Cu stain, 4 in. quartz w/ FeO; rock is saturated.
T127	Chip 4-ft h	Fig. 34. 3.6 ft quartz, intermingled w/ 0.4 ft silicified gouge/breccia of conglomerate.
T128	Chip 4-ft d	Fig. 34. Fractured gray conglomerate, Fe-stained and fractured conglomerate, 3 to 4 in. zone of silicification.
T129	Chip 1-ft v	Adit, 90-ft-long. Near face. Loose dark gray gouge from above gently dipping fault.
T130	Chip 0.8-ft v	Adit T129. 40 ft from portal. 9 in. quartz and clay from just below gently dipping fault in back.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T131	Chip 2-ft h	Shaft, flooded at 15-ft depth. 1 ft light gray loose fault gouge, 1 ft white lightly to heavily Fe-stained quartz w/ trace pyrite, Mn.
T132	Chip 2.5-ft h	Inaccessible adit, >20-ft-long with 20-ft-long cut at portal. Loose light gray fault gouge w/ rubbly reworked white quartz (trace Cu stain).
T133	Select	Cut, 20-ft-long. Sample emphasizes stockpile w/ sulfides. Trace pyrite, galena, chalcopyrite?, Cu stain. From dump.
T134	Chip 5-ft h	Cut, 45-ft-long. Across fault/fracture zone? In footwall: dense unaltered conglomerate w/ veneer of green epidote? on fault. In fracture zone: slightly altered conglomerate (altered to massive yellowish gray brick texture), 4 to 6 in. quartz.
T135	Select	Stockpile at 15-ft-long cut. Very coarse white crystalline quartz, local FeO on fractures, rare sulfides - galena, chalcopyrite, pyrite, malachite, hematite, limonite, pyrolusite.
T136	Select	Shaft, 26-ft-deep. Quartz w/ Fe, Mn coating, trace CuO, possible sphalerite. From dump.
T137	Select	Shaft, 55-ft-deep. Quartz (w/ Fe and Mn stain), highly altered conglomerate from fracture zone, trace Cu. From dump.
T138	Chip 3.5-ft h	Cut, 20-ft-long. From face. 2.5 ft intensely fractured light gray to orangish-gray Fe-stained conglomerate, 3-in. quartz vein, 9 in. dense resilicified tuff.
T139	Chip 4-ft h	Pit, 8-ft across. Slightly altered light yellowish gray to brownish gray conglomerate, 3 in. quartz.
T140	Chip 4-ft v	Fig. 32. Moderately to intensely fractured tuff.
T141	Chip 4-ft h	Fig. 32. Slightly altered tuff breccia/conglomerate.
T142	Chip 5-ft h	Fig. 32. 2.2 ft clay gouge w/ FeO, 2.2 ft clay-altered conglomerate, 0.4 ft black quartz.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T143	Chip 2.4-ft h	Fig. 32. 12 in. altered conglomerate rock on either side of 6-in. brownish gray quartz vein.
T144	Chip 2-ft h	Pit, 35-ft across. Includes 1-ft quartz vein w/ FeO, slightly altered Fe-stained conglomerate, limonite, hematite.
T145	Chip 2-ft h	Pit, 10-ft across. White quartz vein.
T146	Select	Pit, 6-ft-deep. White quartz w/ local limonite, from 3-in. thick veins. From dump.
T147	Select	Adjoining workings (shaft, <10-ft-deep; cut, 15-ft across). White quartz w/ local limonite stain. From dump.
T148	Chip 4-ft h	Inaccessible adit, about 200-ft-long. Composite of quartz veins. White quartz, making up to 10% of outcrop.
T149	Chip 2.5-ft h	Shaft, 12-ft-deep. Across white quartz vein.
T150	Chip 1.5-ft h	Pit, 6-ft-deep. Across vein. White quartz w/ local heavy limonite on fractures.
T151	Select	Shaft, 40-ft-deep. Ground up massive quartz w/ black Mn-coated siliceous filling, massive gray quartz w/ limonite and open spaces. From dump.
T152	Chip 1.5-ft h	Outcrop. Composite of three 6-in. veins. White quartz w/ light limonite stain.
T153	Chip 0.6-ft h	Pit, 6-ft across. Across 7-in. quartz vein. White quartz w/ light limonite stain.
T154	Chip 3-ft h	Pit, 20-ft-long. Clay-altered and Fe-stained tuff in fractured zone.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T155	Select	Shaft, flooded at 45-ft depth; a pit, 35-ft-long and 5-ft-wide, trends SW. from this shaft. Red/brown resistant rock, harder than that of fault zone. From dump.
T156	Chip 3-ft h	Cut, 120-ft-long, 8-ft-deep. Across fault zone at mid-point of cut. Red Fe-stained slightly altered conglomerate.
T157	Select	Cut T156. Quartz and Fe-stained quartz, from vein. Float and dump.
T158	Chip 5-ft h	Trench, 125-ft-long. Across fault zone near mid-point of trench. 6 in. wall rock of fresh conglomerate; remainder is brecciated conglomerate in fault zone.
T159	Select	Pit, 8-ft across. Blocky red Fe-stained quartz. From dump.
T160	Select	Stockpile from three pits, each 8-ft across. Fe-stained quartz.
T161	Chip 5.5-ft h	Adit, 15-ft-long and cut (20-ft-long) at portal. Across portal. 6 in. highly altered light gray rock, remainder is moderately fractured moderate to light altered tuff w/ FeO and MnO.
T162	Chip 6-ft h	85-ft-deep shaft and adjacent 33-ft-long cut. Hard siliceous tuff w/ significant clay component, locally bleached; remainder heavily Fe-stained, abundant Cu stain.
T163	Chip 4-ft h	Outcrop. White to light gray siliceous rhyolite?
T164	Chip 6-ft h	Shaft, 65-ft-deep. Siliceous heavily Fe-stained rock, local alteration, local heavy Mn stain.
T165	Chip 100-ft h	Outcrop. Heavily Fe-stained siliceous material.
T166	Chip 4-ft h	Short, crosscut adit exposing 48-ft-long, N. 80° W.-trending drift with a 20-ft-deep open stope to the surface. Across face at west end. 2 ft of siliceous very hard zone, 2 ft of softer material in hanging wall.
T167	Chip 1.5-ft h	Adit T166. Across back, 10 ft east of open stope. Through powdery gouge zone against fracture in siliceous material.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T168	Chip 5-ft h	Adit T166. Across back at open stope. Through main siliceous zone, 1 ft into hanging wall (hard silicified w/ light to moderate FeO, and 1.5 ft into footwall (resistant but altered and clayey material).
T169	Chip 2-ft h	Inclined shaft, flooded at 25-ft depth. Across fault zone in 25-ft cut near shaft. Includes 8 in. each of hanging wall and footwall. Footwall has trace quartz stringers, minor Fe stain in gouge.
T170	Chip 4-ft h	Fig. 29. Moderately fractured gray tuff w/ moderate Fe stain.
T171	Chip 2-ft h	Fig. 29. Intensely fractured Fe-stained whitish rock, similar to white zone in sample T173.
T172	Chip 2-ft h	Fig. 29. Gray fault gouge between fractures, contains pieces of tuff to 1 in.
T173	Chip 4-ft h	Fig. 29. Bleached and intensely altered whitish rock zone (after massive tuff?), trace quartz veining, greenish alteration.
T174	Chip 4-ft h	Fig. 29. Hard to slightly altered Fe-stained, moderately fractured massive gray to brown tuff.
T175	Chip 4.4-ft h	Outcrop. 32 in. brownish aphanitic loose and fine blocky rock (possibly altered dike); 20 in. massive finely crystalline hard whitish rock, possibly rhyolite dike or altered rhyolite?, trace pyrite, pyrolusite, local FeO stain.
T176	Chip 45-ft h	Cut, 162-ft-long w/ 60-ft highwall. Massive gray rhyolite?, moderate to intensely fractured; 4 ft bleached and altered zone, local heavy FeO.
T177	Chip 31-ft h	Cut T176. Varied layered rock units, mostly 2 to 4 ft thick, including: black vitrophyre?; brown calcareous sediment?; probable layered volcanics, tuffs, and sediments; thin stringers and pods of calcite.
T178	Chip 19-ft h	Cut T176. Intensely fractured white to light gray rhyolite, 6 in. heavy Fe zone, local clay zones to 1 in., local Fe stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T179	Chip 23-ft h	Same as sample T177.
T180	Chip 44-ft h	Cut T176. Intensely fractured gray to light gray rhyolite, thin clay zones to 3 in. cut by fractures, local light Fe stain.
T181	Chip 2-ft h	Adit, 190-ft-long. In rib, 58 ft from portal. Siliceous zone; 15% quartz veins in hard dense rhyolite?, heavy Cu coating.
T182	Chip 4-ft h	Adit T181. Across back, 100 ft from portal. Massive gray tuff?, local FeO, moderate fracturing.
T183	Chip 4-ft h	Adit T181. Across back of 10-ft-long side drift, 165 ft from portal. Massive gray hard tuff, zones of slight alteration, local FeO.
T184	Chip 3-ft h	Adit T181. Along rib, 180 ft from portal. 1 ft hanging wall (recemented coarse gray fault gouge), 2 ft siliceous and heavy Fe vein/fault gouge (hard siliceous w/ FeO).
T185	Select	Adit T181. Red and red/brown siliceous material, rich in silica and Fe. From dump.
T186	Chip 5-ft h	Pit, 10-ft across. 3 ft silicified (quartz-veined) tuff?, 1 ft light gray intensely fractured and slightly altered tuff? in hanging wall, 1 ft competent massive tuff w/ sparse quartz veins.
T187	Grab	Pit T186. Small chips, rare pyrite w/ quartz. From dump.
T188	Chip 6-ft h	Cut, 20-ft-long. Across face. 3 ft densely fractured gray tuff; 3 ft hanging wall of fault; trace quartz veins, 2 in. gouge.
T189	Grid	Inaccessible adit, 100-ft-long. Tuff; no alteration or mineralization. From dump.
T190	Grid	Cut, 15-ft-long. Fe-stained and possibly altered tuff. From dump.
T191	Chip 3-ft h	Pit. Across fault zone; fractured tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	Type, Length	Description
T192	Chip 20-ft h	Cut, 20-ft-long. Across 15-ft-wide fault zone. Whitish to pinkish gray gouge, fault breccia, heavily Mn-coated tuff?.
T193	Chip 6-ft h	Inaccessible adit and 20-ft-long cut. Across face in footwall of fault. Whitish weakly altered acidic porphyry and 10% clay gouge zones.
T194	Chip 2-ft h	Workings T193. Across fault at entrance to cut. Minor silicification in fracture zone.
T195	Chip 2-ft h	Cut, 20-ft-long. Across quartz vein. White to dark gray quartz and silicified gray tuff.
T196	Chip 15-ft h	Cut, 15-ft-long. Across continuation of fault zone from T192. Heavily limonite-, hematite-, and Mn-stained fractured tuff, weakly silicified.
T197	Chip 1.5-ft h	Cut, 20-ft-long. Silicified tuff and quartz vein, limonite stain. Adit, 6-ft-long, nearby (not shown).
T198	Select	Stockpile at site T197. Heavily Cu- and limonite-stained siliceous vein material and breccia.
T199	Select	Main shaft w/ hoist; backfilled to 50-ft depth. Fine medium gray vein quartz w/ malachite on microfractures. From apparent dump.
T200	Select	Shaft T199. Hematite and specular hematite quartz alteration of tuff. From dump.
T201	Grab	Shaft T199. Sample of fines. From dump.
T202	Chip 5-ft h	Shaft T199. Across fault gouge and breccia at collar of main shaft.
T203	Chip 2-ft h	Two cuts, largest is 15-ft-long. Across silicified zone of vein and fault zone in cut. 20 in. whitish silicified tuff, 4 in. quartz vein.
T204	Chip 4-ft h	Workings T203. Across silicified zone of T203? vein. Up to 5% quartz veins, all silicified; lower ½ hematitic.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T205	Select	Shaft, flooded at 35-ft depth. Variety of quartz, mostly gray and < 2 in.; specular hematite, trace pyrite, heavy limonite. From dump.
T206	Chip 6-ft h	Pit, 10-ft across. Across fault zone. 32 in. of up to 5% quartz veins in footwall; remainder is weakly silicified tuff, moderately to intensely fractured, in hanging wall.
T207	Select	Cut, 10-ft across. Quartz w/ rare ¼ in. pyrite. From dump.
T208	Chip 3-ft h	Pit, 8-ft across. Across T209 fault. White soft clay alteration and gouge, trace quartz.
T209	Chip 2.5-ft h	Pit, 6-ft across. On fault w/ 1- to 4-in. quartz vein in footwall. Fractured and silicified tuff, includes 2 in. quartz.
T210	Select	Pit T209. From 14-in. thick silicified tuff w/ limonite stain. From dump.
T211	Select	Two inclined shafts (20-ft deep and 35-ft deep). Silicified tuff, most w/ <5% quartz, all w/ light to heavy limonite stain. From dump.
T212	Select	Cut, 20-ft-long. Gray to dark gray quartz vein material; veins up to 1 in. thick but < 2% of total outcrop. From dump and outcrop.
T213	Chip 2-ft h	Cut, 20-ft-long. Gouge material taken below fault, soft light gray to light pinkish gray gouge and breccia.
T214	Chip 6-ft h	Shaft, flooded at 6-ft depth. Across fault zone. 3 ft soft light gray gouge, 3 ft intensely fractured tuff.
T215	Select	Shaft, flooded at 4-ft depth. Pieces of 1 in. vuggy quartz vein material, Fe-stained conglomerate. From dump.
T216	Select	Cut, 20-ft across. Rusty/blackish pieces of aphanitic tuff from wall of cut. Float.
T217	Select	Shaft, flooded at 20-ft depth. Sulfidized quartz, hematite-coated white quartz w/ rock fragments, hematitic quartz vein material in gray quartz. From dump.
T218	Select	Cut, 15-ft across. Sparse white quartz veins up to 3 in. w/ local heavy Fe stain in tuff. Float.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T219	Chip 2-ft h	Cut, 8-ft across. 1 ft Fe-stained quartz veins, 1 ft multicolored tuff and intrusive rock.
T220	Chip 3.5-ft h	Pit, 10-ft across. Across shear zone. Intensely fractured light greenish gray aphanitic silicic dike or altered aphanitic tuff; limonite on fractures, local Cu stain.
T221	Chip 6-ft h	Inaccessible adit, possibly 40-ft-long w/ 20-ft-long cut at portal. At face of cut. Multicolored (bluish gray to yellowish gray) tuff, locally intensely sheared w/ 1 in. gouge, all punky and slightly altered.
T222	Select	Flooded shaft, possibly 50-ft-deep. Cu-stained tuff and tuff w/ dense thin filament of black quartz and Mn.
T223	Select	Stockpile at main shaft (48-ft-deep with drifts on two levels). Quartz w/ trace pyrite, white quartz-filled breccia, red to black hematitic quartz w/ spongy open spaces.
T224	Chip 1.3-ft h	Outcrop. Soft black, possibly vein material, thin quartz stringers.
T225	Select	Shaft, 45-ft-deep. White quartz w/ hematite coating. From dump.
T226	Select	Shaft, 45-ft-deep. Same rock as T225.
T227	Chip 4-ft d	Cut, 6-ft-long. Across black fine quartz zone. Limonite coating, thin white quartz veins.
T228	Chip 6-ft h	Pit, 8-ft across. Across quartz vein. White quartz w/ local spongy hematite.
T229	Chip 50-ft h	Outcrop at 15-ft adit. Across quartz reef in hanging wall of fault. 32 ft black sooty finely crystalline quartz after tuff; 18 ft white quartz, local limonite, hematite.
T230	Select	Several cuts, as much as 25-ft across. Limonitic and hematitic material, mostly altered; and soft tuff or gouge. From dump.
T231	Chip 7-ft h	Cut, 12-ft-long. Across quartz vein. White quartz-filled breccia of tuff w/ 15% open spaces, Mn and limonite stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T232	Chip 6-ft d	Cut, 6-ft across. Quartz-filled breccia w/ heavy Mn coating.
T233	Chip 30-ft	Trench, 43-ft-long, 12-ft-wide. Across fracture zones. Gray porphyritic tuff, intensely fractured, 1.5- to 2-ft gouge zones at southwest end.
T234	Chip 40-ft h	Trench, 40-ft-long, 15-ft-wide. Mostly highly fractured gray aphanitic resilicified tuff?; locally limonite- or Mn-coated; includes 2-ft fault zone.
T235	Chip 5-ft v	Adit. From rib. Light greenish gray finely crystalline rock, intensely fractured, local trace pyrite and limonite staining, possibly chloritized.
T236	Chip 5-ft v	From wall of 14-ft-long cut. Multiple white quartz veined siliceous hard rock, moderately fractured, heavy limonite, hematite, Mn stain.
T237	Chip 8-ft v	Within large pit (82-ft by 42-ft, 4-ft-deep); from face of pit 12-ft-long, 8-ft-deep. Light gray, lightly altered tuff?, minor limonite and hematite.
T238	Chip 10-ft v	Within same large pit as T237; a pit, 7-ft across, 10-ft-deep. Lightly to moderately altered tuff? Cut by limonite-coated fractures.
T239	Chip 8-ft v	Within same large pit as T237, 238; an inaccessible adit, >15-ft-long. Multiple quartz-veined tuff? Cut by multiple fractures; limonite and hematite coating.
T240	Chip 4-ft v	Cut, 12-ft-long. From wall. Intensely fractured, limonite and hematite-coated siliceous rock, light gray to light yellowish gray, weakly altered.
T241	Select	From dump 12-ft-long cut. Quartz, quartz-veined tuff, hematite- and limonite-stained tuff.
T242	Chip 8-ft h	Pit, 15-ft by 10-ft, 10-ft-deep, on the major NW. fracture zone which cuts the Oro Blanco district. Host rock: Oro Blanco Formation. Sample: pyritic, intensely silicified tuff from footwall of fault zone, which locally strikes N.-S, dips, W. 60°. Fig. 3. Working *ADJOINS MILL SITE, WHICH OCCUPIES A 150-FT BY 300-FT AREA*; no data on mill tailings.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T243	Chip 5-ft h	Adit, 30-ft-long, bearing S. 17° W., excavated on fault (N. 17° E., NW. 30°) in tuff of Oro Blanco Formation. Sample: hangingwall of fault (full width) at portal, intensely fractured tuff with heavy hematite stain and limonitic material, minor quartz veining/pods. Fig. 3. Map in USBM files, Denver, but NOT REPRODUCED IN THIS REPORT. One-hundred ft from portal, on N. 25° W. bearing, is pit, 15-ft by 15-ft, 6-ft-deep, not sampled. Pit exposes subparallel fault in same host with similar fracturing, veining, and hematite staining on footwall.
T244	Chip 6-ft h	Pit, 20-ft by 20-ft, 10-ft-deep, on the major NW. fracture zone which cuts the Oro Blanco district. Host rock: Oro Blanco Formation tuff. Sample: across poorly exposed fault zone, locally trending N. 85° E., NW. 70° to 90°; 3.6-ft loose fault gouge, 1.2 ft soil, 1.2 ft tuff. Fig. 3.
T245	Chip 20-ft d	Opencut along road, 80-ft by 45-ft, 25-ft-deep on E.-end highwall. Exposes the sampled clay alteration zone (N. 20° W., NE. 50°) in intensely silicified tuff, some Mn coating. Extent, true thickness of zone not reported. Sample from S. wall of cut. Mine map in USBM files, Denver; NOT REPRODUCED IN THIS REPORT. Fig. 3.
T246	Select	Same site as T245. High-grade of gray siliceous rock (lithology not determined) and altered rhyolite w/ rare malachite, from 12,000 ft^3 dump (about 600 st).
T247	Chip 8-ft h	Sample from fractured, 15-ft-wide, heavily silicified zone with multiple quartz veins in tuff (Oro Blanco Formation) exposed in opencut (23-ft by 8-ft, 6-ft-deep) bearing S. 61° W. Dump: 540 ft^3 (about 30 st). Site is apparently in close proximity to unsampled adit described below. Unsampled adit description: inaccessible due to moderately deep water [probably accessible with waders], driven in fresh Sidewinder quartz monzonite. Estimated to be 750+-ft-long; bearing not reported. EFFLUENT WATER FROM THIS ADIT, in Dec. 1991. Dump at the adit (not sampled): 37,500 ft^3 (about 2,000 st). Other dump, east and closer to gully, precise location not known: 29,000 ft^3 (about 1,500 st). Fig. 3
T248	Chip 25-ft h	Two pits (15-ft by 15-ft, 5-ft-deep; 20-ft by 10-ft, 2-ft-deep) in zone of quartz veining (N. 70° to 88° E., SE. 77° to vertical). Extent of zone, host rock lithology not reported. Fig. 3.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T249	Select	Opencut, 56-ft by 3.5-ft, and 5-ft to 12-ft-deep, about 100-ft S. of Austerlitz Mine Barckley Tunnel, east portal (fig. 3). Sample: quartz vein material w/ hematite and open spaces from 500 ft^3 dump (about 20 st). Vein in fault zone (N. 33° E., SE. 77°); width, extent not reported. The SE.-bearing Barckley Tunnel, east adit: in 1991, was "inaccessible", with 10,800 ft^3 of dump (about 500 st), though some dump was indistinguishable from road.
T250	Chip 0.75-ft h	Caved stope of the Barckley Tunnel level, Austerlitz Mine, midway between pit T249 and Barckley Tunnel, east adit (fig. 3). Opening is 25-ft by 8-ft, 8-ft-deep. Sample: quartz vein (N. 25° E., NW. 55°), clayey (hematitic), open spaces, punky, hosted in silicified Cobre Ridge Tuff.
T251	Chip 1.5-ft	Prospect adit of Austerlitz Mine (fig. 3), bearing N. 40° E., 20-ft-long (map in USBM files, Denver, NOT REPRODUCED IN THIS REPORT), excavated on quartz vein in Cobre Ridge Tuff. Sample: vuggy, hematitic quartz vein (0.5-ft-wide; N. 40° E., vertical) at portal and surrounding tuff, mixed in with unquantified amount of hematitic vein quartz w/ open spaces from 2,250 ft^3 dump (about 100 st).
T252	Chip 1.5-ft h	Caved stope of Barckley level, Austerlitz Mine; open to about 30-ft depth (fig. 3). Sample: at collapse perimeter, across four separate quartz veins (NE.-striking and NW.-dipping). Quartz is light to heavily Fe- and Mn-stained w/ open spaces up to 4 in.
T253	Select	Austerlitz Mine, Barckley Tunnel, west adit; collapsed in 1991 (fig. 3). Excavated in siliceous tuff. Sample: very hematitic quartz w/ open spaces, pyrite, bornite, collected at top of and on NW. side of collapsed area. Dump from adit: 1,700 ft^3 (about 80 st).
T254	Chip 45-ft h	Opencut, Austerlitz Mine (fig. 3), 60-ft-long, average 35-ft-wide, and 4-ft to 15-ft-deep, excavated in Cobre Ridge Tuff with quartz veining. Long axis trends N. 72° E. Sample: mostly light gray, fractured and lightly altered tuff; a few quartz veins, local light limonite stain and hematite coating, collected at deep end (SW.) of cut. Dump: 3,150 ft^3 (about 150 st).
T255	Chip 10-ft h	Same opencut as T254 (fig. 3). Across fault (N. 72° E., NW. 62°) hangingwall in northeasternmost part of cut. Sample: intensely fractured gray tuff, limonite coating up to 2 ft from fault, a few thin quartz veins.
T256	Chip 45-ft h	Opencut (fig. 3), 60-ft by 45-ft, 20-ft-deep, excavated in Cobre Ridge Tuff, intensely fractured, with multiple quartz veins (up to 1-in.-wide). Local heavy limonite and Mn stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T257	Select	Shaft, 12-ft-deep, in intensely silicified tuff with sparse quartz veining. Sample: vein quartz w/ 1% pyrite, other quartz of unspecified variety w/ heavy hematite/limonite stain, from 600-ft^3 dump (about 30 st).
T258	Select	Pit, 12-ft by 12-ft, 8-ft-deep, on fracture (N. 40° W., SW. 72°) hosted by Cobre Ridge Tuff with multiple quartz veins. Sample: quartz-filled breccia, locally hematite and limonite stain, some w/ 1% pyrite, from 1,200 ft^3 dump (about 60 st). Fig. 3.
T259	Chip 6-ft h	Pit, 40-ft by 25-ft, 6-ft-deep, excavated on fault (N. 60° E., NW. 65°). Sample: across fault/breccia hosted in tuff, punky, w/ clay, light limonite and hematite coating. Dump: 2,160 ft^3 (about 100 st). Fig. 3.
T260	Select	Fault gouge, 85% dense but punky ochre-colored gouge/gossan, 15% hematite-stained quartz w/ open spaces. Apparently from dump of pit T259. Fig. 3.
T261	Select	Two pits, 10-ft by 8-ft, 8-ft-deep; 12-ft- by 15-ft, 2-ft-deep, excavated in intensely silicified, limonite- and hematite-stained Cobre Ridge Tuff with up to 3% quartz veins. Veining apparently along fault (N. 36° W., SW. 86°). Sample: high-grade of sulfidized vein quartz w/ hematite coating from 1,575 ft^3 dump (about 80 st). Fig. 3.
T262	Select	Pit, 35-ft-long, 8-ft to 10-ft-deep, excavated on quartz vein (not exposed in place), striking N. 49° W.?; dip not apparent. Sample: quartz w/ up to 1% pyrite, quartz w/ heavy hematite stain from dump. Extent, width of vein, size of dump unknown. Fig. 3.
T263	Select	Pit, 10-ft by 6-ft, 7-ft-deep, in pyritic, quartz-filled, lenticular fault zone (N. 72° W., NE. 62°), hosted in Cobre Ridge Tuff with heavy quartz veining. Sample from footwall of fault, with heavy sulfur coating. Extent of fault, dump size unknown. Fig. 3.
T264	Chip 10-ft v	Massive, flat, silica zone, 10-ft-thick exposed in 25-ft by 50-ft bulldozer scraping. Silica zone contains up to 15% quartz veins, up to 1% pyrite; has heavy limonite and Mn coating. Flat silica zone unmapped. Fig. 3.
T265	Select	Shaft, flooded, 9-ft-deep, through flat, 8-ft-thick silica zone (perhaps same zone as T264). Sample: silicified porphyry? and quartz, rare pyrite, limonite, hematite, Mn coating. Sample cannot be considered representative of flat silica zone; % sample that is porphyry not reported. Fig. 3.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T266	Select	Trench, 50-ft by 8-ft, 5-ft-deep, excavated in Sidewinder quartz monzonite. Sample: 50% quartz w/ sulfide mineral coating (rare), 50% gossan, from dump. Structure not exposed in trench. Fig. 3.
T267	Chip 4-ft h	Adit, 33-ft-long, bearing N. 63° E.. Driven in Sidewinder quartz monzonite to follow high-iron-oxide quartz vein? or alteration zone that follows fault (generally N. 44° E., SE. 84°). Sample: iron-silica zone at face plus 1-ft of porphyry w/ limonite, light Cu stain. Fig. 3. Map in USBM files, Denver, CO (NOT REPRODUCED IN THIS REPORT).
T268	Chip 3.5-ft h	Same adit as T267. Two iron-silica "veins" hosted faults through Sidewinder quartz monzonite at adit portal; heavy limonite and hematite. Extent of zone beyond working not reported. Dump: 1,000 ft^3 (about 50 st). Fig. 3.
T269	Chip 5-ft	Quartz-filled fault (N. 56° W., NE. 50°) through Sidewinder quartz monzonite; exposed in 12-ft-deep pit (backfilled shaft?). Sample of full width of fault; limonite- and hematite-coated quartz. Fig. 3. A 20-ft-deep shaft in altered quartz monzonite is 35-ft NW. of this pit (not shown).
T270	Chip 10-ft	Pit adjacent to and SW. of T269, excavated on quartz-filled fault (NW. trend; dip NE. 21°), subparallel to fault T269, in same host. Sample: full width of fault, w/ trace pyrite. Fig. 3.
T271	Chip 7-ft v	Domed, massive silica zone, 20-ft-thick, excavated by inaccessible adit, 11-ft-long, bearing S. 49° E., with 15-ft-long trench extending to NW. from portal. From rib at portal. Sample: at adit portal, part of massive silica zone, heavy Mn, limonite, and hematite coatings. Fig. 3.
T272	Chip 4-ft v	Adit, bearing S. 73° E. for 41 ft; caved to surface in middle; partially backfilled at face; opened by a second portal (inaccessible, NE.-bearing) at SE. end. Excavated in massive, 18-ft-thick silica zone with an approximate S. 20° dip. Sample: part of silica zone at portal; limonite, hematite, and trace Mn coatings. Fig. 3. Mine map in USBM files, Denver; NOT REPRODUCED IN THIS REPORT).
T273	Chip 6-ft v	Same massive silica zone as T272, including 1-ft hematitic weathered material, collected at portal of southeastern adit into the silica zone. Fig. 3.
T274	Select	High-grade of most pyritic (average 1% pyrite) massive silica zone rock from 6,500 ft^3 dump (about 300 st).

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T275	Select	Two adjoining opencuts, one 25-ft by 20-ft, 3-ft-deep; the other 35-ft across, 3-ft-deep. Excavated into massive, 50-ft-thick, low-angle or flat silica unit with multiple, secondary quartz veins, locally with hematite, limonitic, and manganese oxide stain. Sample: quartz, some w/ open spaces, hematitic coating, from dump (dump size unknown). Whether sample is from massive silica unit or secondary veining is not known. Fig. 3.
T276	Chip 6-ft v	Pit, 18-ft by 9-ft, 8-ft-deep excavated into massive, 50-ft-thick, silica unit (N. 45° W., NE. 10°), with fracturing, secondary quartz veining, and staining by hematite, limonitic material, and sulfur. "Stratigraphic" position of sample within the massive silica unit is not known. Fig. 3.
T277	Select	Same site as T276; gray to white quartz (variety not reported) w/ 1% to 3% pyrite, from dump (dump size not known). Fig. 3.
T278	Select	Four pits, at most 3-ft-deep, excavated into top of same massive, quartz-veined, silica unit sampled at sites T271-277. Pits within 60-ft by 35-ft area. Sample: sulfur-coated quartz (variety not reported) w/ as much as 1% pyrite from 2,400 ft^3 stockpile (about 100 st). Fig. 3.
T279	Chip 5-ft h	Opencut (30-ft by 6-ft, 10-ft-deep and adit (N. 65° E., 37-ft-long) excavated into fault contact (N. 82° W., NE. 26°) between conglomerate (Oro Blanco Formation?) in footwall and Cobre Ridge Tuff in hangingwall. Sample: silicified conglomerate with secondary, sulfidic, quartz veining (veining is 5% by volume of conglomerate) from southwesternmost part of opencut. Fig. 3; see sample series T279-282. Mine map in USBM files, Denver, CO; NOT REPRODUCED IN THIS REPORT.
T280	Chip 5-ft h	Footwall of fault in opencut (see T279 description); highly fractured silicified tuff, trace quartz veins, heavy limonite, hematite stain.
T281	Chip 5-ft h	Hangingwall of fault T280, 10-ft inside adit from portal. Moderately fractured, limonite- and hematite- coated yellowish gray tuff. See T279 description.
T282	Chip 5-ft d	At face of adit T281; moderately fractured, dense gray tuff, trace and locally heavy sulfides. See T279 description.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T283	Chip 0.8-ft h	Pit, 10-ft across. Across quartz vein. White quartz w/ local heavy hematite, 15% open spaces.
T284	Select	Flooded shaft with rail. White quartz w/ heavy Mn, limonite, hematite, and rare Cu stain. From dump.
T285	Select	Shaft, flooded at 7-ft depth. White quartz w/ heavy coating of Mn, limonite, hematite; some quartz has hematitic open spaces. From dump.
T286	Select	Pit, 58-ft-long by 25-ft-wide. Quartz w/ heavy Mn, limonite coating, local Cu stain. From dump.
T287	Chip 3-ft v	Ten-ft-long adit, adjacent to pit T286. At portal above possible fault. Hard silicified tuff w/ quartz veins and Mn coating.
T288	Chip 7-ft h	From pit T286. From face near possible structure. Silicified and quartz-veined tuff.
T289	Chip 20-ft h	Opencut, 70-ft by 20-ft, w/ 20-ft highwall. Dense, very hard, gray Mn-coated siliceous tuff? mass at possible intrusive contact.
T290	Select	Shaft, flooded at 30-ft depth; estimated 70-ft total depth. Silicified material w/ Mn coating. From dump.
T291	Chip 7-ft v	Opencut, 55-ft-long, in front of 15-ft adit. Across fault at face. Very slightly altered light gray to yellowish gray conglomerate, thin 3-in. siliceous zones, moderate Mn stain on fractures.
T292	Chip 40-ft h	Adit, 40-ft-long. Along length of rib. Moderately to intensely fractured pinkish gray tuff, some alteration but generally fresh, some secondary Cu stain, some heavy Mn stain.
T293	Chip 12-ft h	Pit, 18-ft by 12-ft, in front of two adits (8-ft and 12-ft). Taken just above portal. Moderately to intensely fractured tuff (true thickness 10 ft) w/ variable amounts of limonite, hematite, Mn stain. Local thin quartz veins ≤ 2% of rock.
T294	Select	See T293. Sample: 80% sulfur-stained silicified material containing up to 20% pyrite but typically 1 to 5%; 20% quartz, some hematitic. From 4,000 ft^3 dump (about 200 st).

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T295	Select	Brick Mine dump. Quartz-filled breccia, vein quartz in tuff, quartz w/ sulfur coating, quartz w/ trace pyrite (trace of total dump material). 8,000 st dump. Fig. 17, 18.
T296	Select	Brick Mine dump. Aphanitic green rock (probable alteration product of porphyry) w/ trace pyrite; < 1% of total dump material. Fig. 17, 18.
T297	Chip 5-ft h	Fig. 18. Limonite-coated loose fault breccia w/ light gray matrix.
T298	Chip 30-ft h	Fig. 18. Loose pieces of limonite-stained soft fault gouge.
T299	Chip 5-ft v	Fig. 18. Drab greenish gray intensely silicified porphyry, up to 5% quartz filling in breccia of porphyry.
T300	Chip 5-ft v	Fig. 18. Slightly altered light gray porphyry w/ sparse quartz and calcite veins, light limonite stain.
T301	Select	Four pits, maximum 6-ft-deep. Quartz w/ galena and pyrite. From dump.
T302	Chip 2-ft h	Pit, 15-ft across. Across quartz vein. Heavy Fe, Mn coating, open spaces.
T303	Select	Shaft, 6-ft across, 6-ft-deep. Quartz, azurite, and copper-stained rock. From dump.
T304	Select	Two pits, each 10-ft across. Quartz veins, up to 3 ft thick; light limonite; multiple directions. From dump.
T305	Select	Stockpile. See fig. 22. Limonite- and hematite-coated quartz w/ disseminated pyrite.
T306	Select	See fig. 23. Quartz w/ trace galena, sphalerite, chalcopyrite; and Fe-stained quartz. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T307	Chip 1.2-ft v	Inaccessible adit. Dense yellow to red-brown quartz w/pyrite.
T308	Select	Inaccessible adit. 80% Fe-stained, sulfide-bearing quartz; 20% gray propylitic rock w/ trace pyrite. From dump.
T309	Chip 6-ft v	Adit, 95-ft-long. From rib, 65 ft from portal in NE. fork. Clay-altered (punky to soft) light gray tuff, up to 15% quartz.
T310	Chip 6-ft d	From adit T309. From rib and back, 80 ft from portal in SE. fork. Perpendicular to structure. Altered tuff? w/ addition of up to 25% silica; includes 2 ft soft altered tuff w/ Cu stain.
T311	Chip 4-ft h	Shaft, >70-ft-deep. Across limonite-coated quartz vein. Slightly altered, moderately to intensely fractured conglomerate, Fe- and Mn-stained.
T312	Select	See T311. Limonite- and hematite-coated spongy to massive gossan. From dump.
T313	Chip 2-ft h	Pit, 6-ft-deep. Across vein and probable fault. Finely crystalline matrix, probably altered conglomerate or agglomerate.
T314	Grid	Opencut, about 25-ft-long, in front of inaccessible adit, about 200-ft-long. Cross section through dump. Relatively fresh medium crystalline light gray porphyry. Dump "20-ft by 8-ft".
T315	Select	Pit, 6-ft-deep in massive silica zone, 100-ft-long, as much as 25-ft-wide, trending N. 7° E. (thickness, dip not known); possibly Mn- and azurite(?)-coated material. Pinches out within 50-ft to S. of shaft.
T316	Chip 25-ft h	Outcrop adjoining inclined (NE. 70° to 80°) shaft, >200-ft-deep. Intensely silicified, locally bleached, heavily hematite- and Mn-stained tuff. Trace malachite. Extent of silicified zone not known.
T317	Select	Silicified tuff w/ heavy hematite, trace Cu stain, microveinlets of quartz from 40,000 ft^3 dump of shaft T316 (about 1,900 st).
T318	Select	Pit, 6-ft-deep. Sericitized, hematite- and Mn-stained tuff at contact w/ porphyry. From dump.
T319	Chip 15-ft h	Opencut, 55-ft by 20-ft, w/ 12-ft highwall. Across fault breccia and gouge w/ 1-in. vertical quartz veins and 1-in. amethyst quartz.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T320	Select	Opencut, 40-ft-long, with inaccessible adit at face. Heavily Fe-stained and locally silicified tuff. From dump.
T321	Select	Same site as T320. More Fe-stained altered tuff. From dump.
T322	Select	Shaft, flooded at 6-ft depth, and adjacent pit, 15-ft-long. 80% limonite- and hematite-coated white quartz, 20% quartz w/ trace pyrite. From dump. [Field notes suggest a massive, flat silica zone, but notes are imprecise. No mapping of unit to site T323.]
T323	Select	Opencut, 50-ft-long, and adjoining 15-ft diameter pit. Dump is in 4-ft-thick gently dipping quartz blanket. Sample consists of gray sulfidized quartz, w/ heavy limonite, sulfur, and hematite stain; abundant in dump. From dump.
T324	Chip 5-ft d	Inaccessible adit, >15-ft-long, with 28-ft-long opencut at portal. Through fault zone at portal. Moderate limonite and hematite, quartz veins up to 1 in. and quartz w/ open spaces in conglomerate, quartz is about 20% of sample.
T325	Chip 5-ft h	Pit, 8-ft across. Across fault breccia at face. Light whitish/pink altered tuff and gouge, light limonite stain.
T326	Chip 8-ft h	Fig. 17. Across quartz vein next to shaft. White quartz-filled breccia.
T327	Chip 10-ft h	Fig. 17. Outcrop next to shaft. 7 ft white quartz, up to 3 ft pieces of 1 in. altered rock and porphyry, local heavy limonite and Mn stain.
T328	Select	Fig. 17. Milky white quartz, gray to pinkish gray aphanitic quartz w/ trace pyrite. From dump.
T329	Chip 5-ft h	Outcrop. Silicified (up to 5%) breccia of tuff?.
T330	Chip 10-ft h	Opencut, 15-ft-long. Loose fault gouge and quartz breccia w/ heavy Mn coating.
T331	Select	Pit, 12-ft-deep. Light greenish gray silicified tuff? w/ open spaces, limonite; outcrop material from pit perimeter.
T332	Select	Inaccessible adit, >20-ft-long. Gray and white quartz, gray siliceous tuff, trace pyrite, malachite. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T333	Chip 2.5-ft h	Inaccessible adit, 45-ft-long, with 20-ft-deep underhand stope which extends outward from portal into 15-ft by 20-ft opencut. Across fault and vein near entrance to cut. Dense dark gray/brown silicified tuff, sparse quartz veins, and quartz pockets.
T334	Select	Same workings as T333. Siliceous and altered tuff w/ sparse coating of malachite, azurite, and limonite; fault vein quartz w/ trace sphalerite and galena. From dump.
T335	Select	Inaccessible adit, 35-ft-long and 18-ft-wide, with pit (27-ft by 15-ft, 14-ft-deep) outside portal. Stockpile. Quartz w/ trace sphalerite.
T336	Chip, Semi-cont., 35-ft	Pit T335. Float and outcrop from margin of cut. Intensely silicified tuff w/ up to 5% quartz.
T337	Chip 6-ft v	Adit, 35-ft-long. Across fault in floor and rib, 28 ft from portal. Dense resilicified tuff.
T338	Chip 0.7-ft d	Adit, 36-ft-long. From two thin faults; one in the cut and the other in the adit, 12 ft from the portal. Limonite-stained fault gouge.
T339	Chip 2-ft d	Adit T338. In footwall of fault at face. Silicified greenish gray propylitically altered porphyry w/ thin quartz veins, Cu stain.
T340	Chip 2-ft h	Pit, 13-ft across. From discontinuous and lensing quartz body in footwall of fault, limonite stain.
T341	Select	Pit, 13-ft by 5-ft, 5-ft-deep, in intensely fractured, silicified porphyry(?) with stockwork quartz veining and sphalerite pockets. Veining (S. 65° W., NW. 34°) is 10% of rock. High-grade of quartz/sphalerite. Fig. 3.
T342	Select	Trench, 25-ft by 5-ft, 3-ft-deep, excavated in heavily iron-stained massive silica zone, at least 4-ft-thick. Sample: white bull quartz w/ heavy limonite and/or hematite coating, minor pyrite gossan, high-graded from both outcrop and trench dump. Fig. 3. Drill site.
T343	Select	Two shafts (one flooded at 6-ft depth and estimated as 30-ft-deep; one 10-ft-deep). Quartz and sulfur-stained quartz. From dump.
T344	Select	Quartz w/ galena and pyrite. From stockpile.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T345	Select	Shaft, flooded at 6-ft depth, estimated as 25-ft-deep. White quartz; limonite-stained altered rock; pyrite-bearing siliceous tuff and quartz. From dump.
T346	Chip 10-ft v	Very hard silicified tuff. Fig. 19.
T347	Select	Sulfur-stained quartz, trace pyrite, chalcopyrite, possible galena, sphalerite. From dump. Fig. 19.
T348	Chip 6-ft h	Cut, 6-ft-long. Silicified material (no structure seen). White quartz-filled breccia, open spaces and cavities.
T349	Select	Cut, 5-ft-long. Hard, fresh tuff containing up to 2% quartz veins and pods of quartz up to 12 in. across. From dump.
T350	Select	Pit, 8-ft-long. Quartz-filled breccia of tuff. From dump.
T351	Chip 7-ft d	Adit, 130-ft-long. Across fractures on rib, 45 ft from portal. Light greenish gray tuff?, thin seams of silica up to 0.1 in., trace pyrite, Fe deposited around fractures.
T352	Chip 5-ft v	Adit T351. From rib, 120 ft from portal. Altered tuff w/ Fe stain.
T353	Chip 2-ft h	Pit, 6-ft across. Across quartz vein. 8 in. silicified and altered tuff or intrusive wall rock, 16 in. white-reddish brown hematitic quartz.
T354	Select	Cut, 25-ft-long. Gray quartz w/ up to 25% pyrite, trace galena. From dump.
T355	Chip 5-ft v	Outcrop. Across quartz vein. White massive quartz, tuff; Fe, Mn stain.
T356	Chip 5-ft h	Adit, 25-ft-long. Across T353 vein in back. 1.5 ft white quartz w/ some limonite stain, 3.5 ft fractured wall rock.
T357	Chip 2-ft h	Adit, 70-ft-long. Across vein in back at portal. Silicified tuff and quartz, local heavy limonite and hematite stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T358	Chip 1-ft h	Adit T357. 4 ft from T357 but outside of adit. Across heavy limonite-stained quartz vein in tuff; 0.6 ft quartz; 0.6 ft gouge.
T359	Chip 1.5-ft h	Cut, 10-ft-long, in front of 20-ft adit. Across vein and fault zone. 6 in. quartz and silicified tuff, 12 in. gouge and altered intrusive wall rock.
T360	Select	Shaft, 11-ft-deep. 50% white to pink quartz w/ open spaces, light to heavy Fe and Mn; 50% lightly altered wall rock w/ heavy Mn coating. From dump.
T361	Chip 6-ft h	Cut, 10-ft across. Weakly silicified, intensely fractured, Fe-stained sediments.
T362	Chip 6-ft h	Inaccessible adit, 25-ft-long. In footwall of fracture at portal. Weakly altered and silicified, intensely fractured sediments, heavy Fe and Mn coating.
T363	Select	Dump of adit T362. Gray quartz w/ trace pyrite, some silicified rock.
T364	Chip 6-ft d	Adit, 85-ft-long. Perpendicular to fault in footwall, at portal. Light colored, Fe- and Mn-stained, weakly silicified sediments.
T365	Chip 6-ft d	Adit T364. Perpendicular to same fault as T364 but in hanging wall; also at portal. Silicified and heavily Mn-coated sediments.
T366	Chip 4.5-ft v	Adit T364. Across fault on rib, 65 ft from portal. Slightly altered, Fe-stained, thin-bedded sediments.
T367	Chip 5-ft h	Adit T364. Across same fault as T364 at winze; 30 ft from portal. Mostly whitish, slightly altered sediments w/ up to 1 ft of silicification around fault.
T368	Chip 6-ft h	Pit, 20-ft by 10-ft, w/ 15-ft highwall. From wall of cut. Dense, intensely fractured shaly sediments, local heavy Fe and Mn stain.
T369	Chip 11-ft h	Pit T368. At face, adjoining T368. Mostly intensely fractured shaly sediments, up to 10% fault gouge.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T370	Chip 4-ft h	Inaccessible adit, >20-ft-long, with 20-ft-deep underhand stope. 3.2 ft limonite-stained heavily fractured whitish bleached sediment, 0.4 ft sediment w/ pyrite casts, 0.4 ft quartz (rare) in sediments.
T371	Chip 8-ft h	Cut, 25-ft-long. Bleached, intensely fractured, locally limonite- and hematite-stained sediments w/ trace amounts vein quartz.
T372	Chip 4-ft v	Adit. From rib and portal. Whitish bleached and intensely fractured sediments w/ local FeO, trace quartz pockets. Adit connects to shaft, inclined (E. 35°), 15+-ft-deep.
T373	Select	Cut, 10-ft-long, with 10-ft-long adit at face. Silicified tuff impregnated w/ Cu, Mn, hematite, also gossan.
T374	Chip 6-ft h	Across fault near entrance to cut. 3 ft intense black silicification and hematitic deposition on fractures in footwall, 3 ft hematitic deposition and bleaching in hanging wall. Fifty ft to W. is adit, 50-ft-long, with inclined (NE. 45°), 25-ft-long drift at portal with stoping (not sampled).
T375	Chip 4-ft d	Across two fault zones in back at portal. Mostly footwall of fault, mostly intensely silicified black tuff w/ heavy malachite on fractures, hematite, Mn.
T376	Chip 4-ft d	Adit T375. 40 ft from portal. Across fracture zone, possible continuation of fault zone at T375. Silicified and fractured tuff w/ Cu stain.
T377	Select	Cut, 38-ft-long. Tuff impregnated w/ hematite, Mn, trace Cu stain. From dump.
T378	Select	Cut, 10-ft-long. Black heavy Mn-stained silicified tuff w/ some thin quartz veinlets. From dump.
T379	Select	Trench, 40-ft by 4-ft, 3-ft-deep, excavated in intensely silicified zone (fig. 3) in Cobre Ridge Tuff(?). Sample: light gray tuff, abundant hematite coating, from dump.
T380	Select	Pit, 15-ft by 15-ft, 6-ft-deep in silicified zone (fig. 3) in gray, silicified, Cobre Ridge Tuff with abundant hematite staining. Sample: hematite-coated quartz (variety unspecified) from dump.
T381	Select	Trench, 50-ft by 5-ft, 4-ft-deep, excavated in intensely silicified, light gray, Cobre Ridge Tuff(?) (fig. 3). Sampled tuff from dump; 3/4 sample is hematitic, 1/4 sample is pyritic (trace).

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T382	Select	Shaft, flooded at 10-ft depth, probably shallow. Excavated in gray, dense, pyritic, silicified zone in Cobre Ridge Tuff. Sample of two (rare) types of quartz from dump: half is vein quartz and half is pyritic quartz (variety unspecified). Dump is 250 ft^3 (about 10 st).
T383	Select	Pit, 15-ft by 5-ft, 3-ft-deep, excavated on siliceous, hematitic vein in Cobre Ridge Tuff siliceous zone (fig. 3). Sample: vein from dump. Dump size not known.
T384	Chip 6-ft v	Adit (S. 35° E. trend, 10-ft-long), and pit, trending NW. from adit portal for 20 ft, excavated in silicified zone in Cobre Ridge Tuff (fig. 3). Sample: 5-ft width from hangingwall (full width) of sulfidized (limonite), intensely silicified zone (N. 35° W., SW. 20°), with quartz veining, through tuff; also 1-ft-wide, gray, intensely silicified tuff with pyrite (rare) from footwall. Structure exposed by entire length of both workings; unmapped beyond workings; sample from adit portal.
T385	Select	Sample of T384 zone from dump. Represents average vein material: gray vein quartz and intensely veined and silicified tuff, some w/ trace pyrite.
T386	Select	High-grade of T384 silicified zone from dump; vein quartz with hematite cement, 4-ft-wide, maximum.
T387	Grab	Trench, 50-ft by 4-ft, 4-ft deep excavated in light gray, intensely silicified Cobre Ridge Tuff. Sampled tuff from dump, limonite and hematite coatings, weathered pyrite cubes.
T388	Grab	Shaft, flooded, probably <10-ft-deep. Excavated in gray, silicified rock, lithology undetermined, w/ hematite stain, trace pyrite. Sample: silicified rock from 200 ft^3 dump (about 10 st).
T389	Select	Pit, 6-ft by 6-ft, 4-ft-deep, excavated on white quartz vein; host rock not reported. Sampled nearby float, vein pieces 1-ft-wide, maximum.
T390	Grab	Pit, flooded, probably < 10-ft-deep, excavated in same siliceous rock as T388. Sample: gray, silicified rock, some w/ quartz veins, some w/ hematite coating, from 200 ft^3 dump (about 10 st).
T391	Chip 4-ft v	Adit (60-ft-long, trends S. 80° E.) with raise to surface at face, excavated on fracture (N. strike, W. dip) in silicified Cobre Ridge Tuff. Sample (full width of fracture): 2-ft, fractured, hard tuff (hangingwall) and 2-ft gouge (footwall). Mine map in USBM files, Denver, NOT REPRODUCED IN THIS REPORT. Dump: 1,000 ft^3 (about 50 st).

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T392	Chip 4-ft v	Pit, 10-ft by 6-ft, 6-ft-deep, excavated in intensely silicified Cobre Ridge Tuff w/ locally heavy hematite stain and rare pyrite. Sample: coarse quartz (variety not reported, but apparently a zone or structure within the tuff).
T393	Select	Pit, shallow, at contact of porphyry [Sidewinder quartz monzonite?] and Cobre Ridge Tuff[?]. Sample: pyritized quartz from 100 ft^3 dump (about 5 st).
T394	Select	Shaft, flooded at 12-ft depth, excavated in porphyry [Sidewinder quartz monzonite?]. Sample: fine- to medium-grained quartz w/ trace pyrite (< 5% of total volume of 1,000 ft^3 dump). Total dump about 50 st. Drill site.
T395	Select	Open adit, trends S. 5° W., with at least two crosscuts near portal. Adit inaccessible due to flooded winze, at least 10-ft-deep, at portal. Driven on fault (N. 17° E., vertical) through Cobre Ridge Tuff. Intersecting fault at portal: N. 20° W., SW. 40°. Neither fault reachable for sampling. Sample: Black to medium gray, fine-grained quartz (variety not reported) w/ trace pyrite (abundant in dump) from 6,000 ft^3 dump (about 300 st). Relationship of sampled rock to fault(s) not specified. Numerous shallow pits and short adits shown in vicinity as "X's" on fig. 3.
T396	Select	Pit, 6-ft by 6-ft, 8-ft-deep, excavated on white quartz vein (trends N. 80° W.; 30-ft-long). Sample: hematitic, siliceous fracture filling w/ pyrite casts as much as 1/4 in., from dump.
T397	Select	Bulldozer trench, 250-ft-long, 12-ft-wide, 4-ft-deep, following fracture zone (N. 25° E., NW. 50°) through Sidewinder[?] quartz monzonite; excavation includes a NW.-trending extension (N. 65° W, >25-long). Float from main part of trench. White quartz w/ hematite.
T398	Chip 3-ft h	From NW. extension of trench T397, 25 ft from main trench. Across quartz vein w/ hematite.
T399	Chip 8-ft v	Massive, white, bedded quartz in Margarita Mine resource zone (fig. 3). Excavated by pit, 25-ft by 10-ft and 6-ft-deep, with inclined shaft driven at 30° on approximately S. 70° W. trend. Sample at pit/shaft intersection: massive quartz, perpendicular to "bedding". Total thickness of quartz unit not reported. Two flooded shafts to SW., within 30-ft of pit perimeter.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T400	Chip 8-ft	White quartz vein (N. 30° W., dip not known) through intensely silicified Cobre Ridge Tuff. Full width of vein sampled.
T401	Select	One-hundred st stockpile(?) of medium gray quartz with 15% (secondary) white quartz veins.
T402	Grab	Stockpiles(?) of silicified rock (lithology uncertain) with hematite coatings, quartz veining, trace pyrite in part. Total volume 2,500 ft^3 (about 120 st). Adjoins drill sites.
T403	Select	Eight-ft-deep pit in fractured Cobre Ridge Tuff. Sample: most heavily hematite-coated tuff, 15% white quartz veins, trace pyrite, from 300 ft^3 dump (about 10 st).
T404	Chip 5-ft v	Massive, fractured, domed silica unit; full thickness sampled. Exposed above collapsed workings (a 15-ft by 15-ft "pit" revealing inaccessible drifts or stopes) from old Margarita Mine. Fig. 3.
T405	Chip 5-ft v	Hematitic zone below silica unit T404; hosted in slightly altered, silicified Cobre Ridge Tuff(?). Mining target of collapsed workings described with T404.
T406	Select	Open pit and collapsed old workings of Margarita Mine; a 60-ft by 140-ft area with 40-ft-high highwall on W. perimeter and 5-ft-high highwall on E. perimeter (fig. 3). Excavated/collapsed through 20-ft- to 40-ft-thick massive silica unit [orientation not reported; probably near-horizontal]. Sample: pyritic, gray quartz, manganese-oxide coating, selected from 49,000 ft^3 dump (about 2,300 st) located S. of pit/collapse area. Field notes unclear if sample is same as massive silica unit described above.
T407	Select	From same dump as T406; gray altered aphanitic rock w/ up to 3% coarse pyrite casts.
T408	Chip 6-ft v	Inaccessible adit, trends N. 40° W. toward pit T406-407; over 200-ft-long. Weakly altered, slightly pyritic, silicified Cobre Ridge Tuff at portal. Probably main part of Margarita Mine (fig. 3).
T409	Grab	Another dump from open pit excavation T406-407: 10,000 to 15,000 ft^3 (about 500 to 700 st). Select of hematitic material [lithology not reported, but probably same rock as T405].
T410	Select	Inclined shaft (N. 65°), flooded at 15-ft depth, excavated through 12-ft-thick massive silica unit (not mapped), oriented N. 75° E. (dip not known), and Cobre Ridge Tuff with quartz veining and hematitic coatings. Sample from dump: gray quartz, pyrite (as much as 1%); apparently NOT of massive silica unit, but of concealed quartz vein.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T411	Chip 12-ft h	In-place sample of same quartz vein as T410: white, hematitic.
T412	Chip 6-ft v	Adit & opencut T412-416. Silicified and fractured tuff w/ trace pyrite, hematitic coating. Fig. 3; mine map, fig. 25.
T413	Chip 6-ft v	Adit & opencut T412-416. Silicified, fractured tuff, trace pyrite, hematitic coating. Fig. 3; mine map, fig. 25.
T414	Chip 14-ft d	Adit & opencut T412-416. Hematite-stained tuff cut by multiple fractures, local light gray bleaching and chalky alteration. Fig. 3; mine map, fig. 25.
T415	Select	Adit & opencut T412-416. Gossan, hematitic, and gray quartz [variety not specified] w/ trace pyrite from 9,500 ft^3 dump (about 450 st). Fig. 3; mine map, fig. 25.
T416	Select	Hematite-coated, light gray, finely crystalline resilicified tuff, from stockpile(?) [quantity not reported]. Fig. 3; mine map, fig. 25.
T417	Chip 5-ft v	Adit T417-418. Fresh, gray, medium crystalline, medium fractured porphyry [Sidewinder quartz monzonite?], light iron-oxide stain. Fig. 3; mine map, fig. 25.
T418	Chip 10-ft h	Gray quartz as either replacement of altered tuff or aphanitic quartz-vein filling, w/ 1% pyrite, 1 ft altered wall rock. Fig. 25.
T419	Chip 5-ft v	Adit (fig. 9) in Cobre Ridge Tuff. Sample: dense hard tuff w/ <5% quartz veins.
T420	Chip 5-ft h	Adit (fig. 9). Soft to hard, light gray to light brownish gray, recemented fault gouge.
T421	Chip 5-ft d	Adit (fig. 9). Fault zone: light gray fresh, hard, fractured tuff; local limonite and Mn stain.
T422	Select	Adit dump, 9,000 ft^3 (about 430 st) (fig. 9). Light greenish gray rock [lithology not reported; probably silicified Cobre Ridge Tuff] w/ up to 3% pyrite; mostly quartz, dark red/brown hematitic vein material w/ open spaces.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T423	Select	Inclined shaft (NE. 40°), 25+-ft-deep, sunk on a fault (NW. strike, NE. dip, 40°) which cuts intensely silicified Cobre Ridge Tuff (25+-ft-thick) with 50% secondary white quartz. Sample: high-grade of red hematitic quartz [variety not specified] and gouge, pyrite up to 0.5 in.-thick, from fault (dump sample).
T424	Select	Pit, 25-ft by 10-ft, 4-ft-deep, excavated on steeply dipping quartz vein (orientation not reported) in brecciated Cobre Ridge Tuff. Breccia filled with secondary quartz (50% of volume). Sample: remnants of hematitic and limonite coated quartz veins w/ open spaces, apparently from dump.
T425	Chip 3-ft v	Adit (trends S. 60° W for 20 ft); pit in front of portal (20-ft by 15-ft, 4-ft-deep). Excavated in fault beneath 8-ft-thick silicified zone of Cobre Ridge Tuff. Sample: across fault; limonite-stained soft altered/fault gouge zone in footwall, Mn-stained silicified tuff in hangingwall. Fig. 3. Dump: 2,400 ft^3 (about 100 st).
T426	Chip 5-ft v	Adit (fig. 4). Intensely fractured and lightly altered light greenish gray medium porphyry.
T427	Chip 1.2-ft h	Adit (fig. 4). Brown quartz vein w/ hematitic coating on fault.
T428	Chip 4-ft h	Adit (fig. 4). Silicified and fractured, limonite- and Cu-stained porphyry.
T429	Chip 6-ft v	Adit (fig. 4). 4 ft weakly silicified, altered, limonite-coated porphyry, 2 ft black finely granular siliceous material w/ abundant pyrite.
T430	Chip 4-ft v	Adit (fig. 4). Below gently dipping fault. Cu- and limonite-stained fractured and weakly altered porphyry.
T431	Chip 5-ft v	Adit (fig. 4). Light Cu-stained, fractured and clay-altered porphyry.
T432	Chip 5-ft v	Adit (fig. 4). Fine pyrite in siliceous brown fault breccia and gouge.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T433	Chip 5-ft h	Adit (fig. 4). Light gray siliceous breccia w/ trace pyrite.
T434	Select	Inclined shaft (60° to S.; 40-ft-deep). Sample: high-grade of pyritic, gray to white quartz. [Probably one of the veins or faults intersected in the adit (fig. 4) below]. Apparently from dump.
T435	Select	Shaft, 75-ft-deep, extends into adit (fig. 4). Sunk into 3-ft-thick, massive, white, fractured, silica zone w/ trace pyrite, apparently hosted in pyritic [Sidewinder?] quartz monzonite. Sample from 1,000 ft^3 dump (about 50 st) is not fully representative of the massive silica zone because some porphyry and some hematite-coated quartz of unreported origin also included in sample.
T436	Chip 3-ft h	Same shaft as T435. Quartz vein, gray, hematite-coated, in breccia zone (N. 80° W., SW., shallow, unreported dip angle), exposed at shaft collar.
T437	Select	Pit, 15-ft by 15-ft, 12-ft-deep, in hematitic, massive silica zone and a 5-ft [thick?], gray and white pyritic quartz. Both quartz varieties mixed in the sample, collected from dump (size unknown). Fig. 3.
T438	Select	Pit, 60-ft by 12-ft, 10-ft-deep, excavated into 50-ft-thick massive zone of silicified Cobre Ridge Tuff that caps hill. Sampled float around the pit. Fig. 3.
T439	Chip 2-ft h	Adit (fig. 5). Quartz vein. Cu, Mn, limonite stain.
T440	Chip 5-ft h	Adit (fig. 5). Intensely fractured tuff, locally altered, Cu, limonite stain; probable fault gouge and breccia.
T441	Chip 6-ft v	Adit (fig. 5). 2 ft limonite-coated, Cu-stained intensely fractured and silicified tuff; 2 ft light gray to pinkish gray fault breccia and minor gouge; 2 ft limonite-coated fractured and intensely silicified tuff.
T442	Chip 5-ft v	Adit (fig. 5). Multicolored, intensely fractured, slightly altered tuff.
T443	Chip 5-ft v	Ait (fig. 5). Fractured fresh tuff, light limonite stain, no structure/vein/alteration.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	Type, Length	Description
T444	Chip 5-ft d	Adit (fig. 5). Perpendicular to fractures at face. Moderately fractured tuff, light limonite stain, minor quartz veins.
T445	Select	Adit (fig. 26). Gray and white quartz w/ trace pyrite. From dump.
T446	Chip 5-ft d	Adit (fig. 26). Aphanitic whitish to light gray hematitic replacement of porphyry or tuff.
T447	Chip 5-ft v	Adit (fig. 26). Intensely altered light gray soft porphyry?, 4 in. quartz, limonite stain.
T448	Chip 6-ft v	Adit (fig. 26). 1 ft hard porphyry, 4 ft soft light gray to hematitically altered material, 1 ft intensely altered porphyry; includes 9 in. quartz w/ pyrite.
T449	Chip 6-ft v	Adit (fig. 26). 2 ft gray quartz w/ 1 to 2% pyrite, 1 ft porphyry, 3 ft soft light gray to hematitically altered rock; includes two quartz layers.
T450	Chip 5-ft v	Pit, 20-ft by 8-ft, 6-ft-deep. Massive, 5-ft-thick silica zone, minor limonitic stain, overlying Cobre Ridge Tuff; contact orientation: N. 10° E., SE. 15°. Sample: full thickness of silica zone.
T451	Chip 8-ft v	Massive silica zone at Old Glory Mine (fig. 6): white quartz w/ heavy limonite coating. Sampled full thickness. Overlain by Cobre Ridge Tuff (not sampled). Apparently flat or nearly so.
T452	Chip 8-ft v	Same massive silica zone as T451 (fig. 6): white quartz w/ heavy limonite stain. Full thickness.
T453	Chip 8-ft v	Same massive silica zone as T451-452 (fig. 6): white quartz w/ heavy limonite stain. Sampled lowermost 8-ft thickness; full thickness not reported.
T454	Chip 10-ft v	Same massive silica zone as T451-453 (fig. 6): white quartz w/ heavy limonite coating. Sampled uppermost 10-ft thickness; full thickness not reported.
T455	Chip 10-ft v	Same massive silica zone as T451-454 (fig. 6): uppermost 10-ft of the zone (full thickness not reported), quartz-cemented fine breccia of quartz, trace pyrite, heavy limonite stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T456	Chip 8-ft v	Same massive silica zone as T451-455 (fig. 6): uppermost 8-ft of the zone (full thickness not reported), white pyrite-bearing (1%) quartz w/ up to 5% tuff inclusions.
T457	Chip 7-ft v	Same massive silica zone as T451-456 (fig. 6) (full thickness not reported): white quartz w/ 1 to 3% pyrite, heavy limonite stain.
T458	Chip 8-ft v	Same massive silica zone as T451-457 (fig. 6) (full thickness not reported): white quartz w/ large pyrite lenses.
T459	Select	High-grade of massive silica zone T451-458, from dump: sulfidized gray quartz, some heavily hematite-stained.
T460	Chip 5-ft v	Adit (fig. 7). Light gray moderately fractured tuff, light limonite stain.
T461	Chip 5-ft d	Adit (fig. 7). Into hanging wall of fault. Light gray to purplish gray intensely fractured tuff, slightly clay-altered.
T462	Chip 4-ft d	Adit (fig. 7). Into footwall of fault. Intensely fractured tuff, limonite and copper stain, 3 in. fault gouge, slight clay alteration.
T463	Chip 4-ft d	Adit (fig. 7). Fresh pink to purplish gray tuff, intensely fractured, limonite on fractures.
T464	Chip 5-ft v	Adit (fig. 7). Footwall dark brownish gray Cu-stained, recemented fractured tuff; hanging wall limonite and Cu-stained, locally altered or silicified tuff; includes 1 ft intensely altered tuff at fault, 1 ft black silicification.
T465	Chip 5-ft v	Adit (fig. 7). Dense fractured tuff w/ Cu stain, up to 5% 1-in. quartz veins, trace galena.
T466	Select	Adit dump (fig. 7). White and gray quartz w/ trace pyrite, some w/ open spaces and hematite-filled cavities.
T467	Select	Pit, 35-ft by 20-ft, 4-ft-deep, in intensely silicified greenish gray Cobre Ridge Tuff, w/ up to 30% paper-thin quartz veins, heavy hematite and/or Mn coating.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T468	Chip 0.5-ft v	Lenticular quartz vein; hematitic white quartz.
T469	Chip 6-ft h	Adit (fig. 8). Very hard gray quartz, locally 1 to 2% pyrite, local hematite and limonite stain.
T470	Chip 4-ft h	Adit (fig. 8). Intensely fractured tuff?, hematite stain.
T471	Chip 10-ft h	Adit (fig. 8). Intensely fractured tuff?, minor quartz fragments; heavy limonite, hematite, chalcedony.
T472	Chip 5-ft h	Adit (fig. 8). Intensely fractured and resilicified tuff?, minor quartz veins, local chalcanthite coating.
T473	Select	Cut, 8-ft-long. Tuff w/ quartz veins up to 2 in. thick, hematized. From dump.
T474	Select	Pit, 20-ft-long. Quartz w/ heavy hematite, limonite. From dump.
T475	Select	Pit, 15-ft-deep. Quartz veins and sulfidized (trace pyrite, rare galena), silicified tuff. From dump.
T476	Select	Cut, 10-ft-long. Intensely silicified, limonite-, hematite-, and locally sulfur-stained tuff, mostly very fine material. From dump.
T477	Chip 5-ft h	Adit, accessible for only first 45 ft in from portal. Across two fractures in back. Dense slightly altered light gray tuff w/ up to 5% thin, brown-coated quartz stringers.
T478	Select	Adit T477. Resilicified tuff (mostly fine silica) w/ pyrite. From dump.
T479	Chip 5.5-ft d	Adit, accessible for only first 65 ft in from portal. Across fracture, 50 ft from portal. 1 ft limonite-stained green monzonite, 3.5 ft greenish propylitically altered monzonite, 1 ft limonitic alteration (clay gouge).
T480	Select	Adit T479. Fine-grained vein quartz (trace in dump), coarse pink quartz, dark greenish gray and Fe-stained propylitically altered monzonite; most pieces have trace to 2% pyrite. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T481	Select	Pit, 4-ft-deep. Light gray to light pinkish gray or brown fine sediments w/ disseminated pyrite casts, 15% quartz veins, from dump.
T482	Select	Two pits, 8-ft and 20-ft across. 10% sediments w/ disseminated pyrite. Outcrop and float.
T483	Select	Shaft, more than 150-ft to water. 80% quartz w/ trace to 2% pyrite, 20% quartz w/ up to 2% galena. From dump.
T484	Select	Flooded pit, 3-ft to water, 10 st dump. Quartz and Fe-stained quartz up to 3 in. thick. From dump.
T485	Chip 3.5-ft h	Shaft, flooded at 15-ft depth; estimated at 30-ft-deep, maximum. Across quartz vein. 1.8 ft limonite-stained altered monzonite, 1.7 ft dark greenish gray propylitically altered monzonite w/ minor additional silica; nodules of galena up to 1 in.
T486	Chip 1.2-ft h	Adit, 20-ft-long with cut, 12-ft-long, in front of portal. In footwall of fault at portal. 11 in. hard tuff, 3 in. quartz and silicified tuff w/ heavy hematite stain.
T487	Chip 9-ft h	Adit, 15-ft-long, stoped to surface at face. Across silicified zone in footwall of fault. 7.6 ft light yellowish gray tuff, 1.4 ft silicified tuff and quartz; includes 8 in. gray quartz w/ pyrite.
T488	Select	Adit T487. White and gray quartz w/ trace pyrite, from pieces up to 12 in. across. From dump.
T489	Chip 4-ft h	Pit, 6-ft-deep. In heavily Mn-stained, fractured tuff. 14 in. white Mn-stained quartz; 14 in. silicified Mn-stained tuff w/ quartz veins to 3 in.; 20 in. heavily fractured (< 1 in. spacing) and Mn-, Fe-stained tuff.
T490	Chip 1.4-ft d	Outcrop. Fracture zone. Intensely fractured tuff; minor silicification, limonite stain, MnO stain.
T491	Chip 6.5-ft h	Adit, 40-ft-long. Across vein formed of silicified tuff.
T492	Chip 25-ft h	Outcrop, 50 ft NW. of caved adit (100-ft?). Full width of structure. 2/3 of sample is gray quartz vein w/ secondary white quartz pods up to 2 in. across and secondary white quartz veinlets and pyrite molds, minor limonite stain; 1/3 of sample is punky limonite stained altered tuff?

Sample no.	Type, Length	Description
T493	Chip 10-ft h	Outcrop. Full width of structure. Central 5 ft is gray quartz, hard, with white quartz veinlets and has 2 to 4% pyrite; heavy yellowish green weathering stain from fine pyrite. Outer rim (2.5 ft) on hanging wall and footwall is gray to green siliceous material (silicified tuff or porphyry) w/ pyrite molds and minor quartz veinlets.
T494	Chip 23-ft h	Adit, 13-ft-long. Continuation of vein from T496. 4 ft of sample is across the portal of adit and consists of heavily silicified tuff? w/ heavy limonite stain and yellow stain from pyrite weathering. 19 ft of sample is from outcrop and is composed of heavily silicified tuff w/ 2 to 4% pyrite molds, limonite and hematite veinlets on fractures, and pervasive limonite staining on outcrop.
T495	Chip 10-ft h	From rib of 17-ft-long adit. Across entire quartz breccia zone at porphyry contact. Gray quartz breccia nodules in a gougey, hematite and limonite-stained matrix; some lenses of quartz-rich breccia nodules are very hard and some have white quartz veinlets within them.
T496	Chip 4-ft h	Shaft, 10-ft-deep. Across vein. 2.5 ft black quartz w/ thin white quartz stringers; 1.5 ft gray silicious rock w/ 1 to 2% pyrite, galena.
T497	Chip 5.5-ft h	Adit, 75-ft-long, with 30-ft-long crosscut (with separate portal) from the E. side. In hanging wall of fault, across back, 60 ft from portal of main adit. Quartz breccia - gray quartz nodules (some w/ white quartz veinlets) in gougey matrix w/ minor limonite and hematite; some breccia slices are 2 to 3 ft across; some are very hard, silicified.
T498	Chip 32-ft h	Adit T497. 25 ft from portal of crosscut. Same as sample T497 but entire breccia zone.
T499	Chip 6-ft d	Trench, 18-ft-long. Across fracture zone. Brecciated black quartz and intense yellowish green limonite stain.
T500	Chip 6-ft h	Outcrop near 36-ft-long adit. Across fracture zone. Breccia of tuff w/ white quartz pods, moderate limonite, and minor gouge.
T501	Chip 3.5-ft h	Adit, 49-ft-long. Across fracture zone, 20 ft from portal. 2.5 ft of sample is from hanging wall and 1 ft is from footwall. Heavily brecciated (not cemented) tuff; containing abundant limonite; crushed gray quartz and minor pyrite.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T502	Chip 4.5-ft h	Shaft, 8-ft-deep. Across structure. Moderately fractured, heavily silicified tuff on the hanging wall w/ brecciated black dense quartz (with white quartz veinlets). Footwall part of structure (60% of sample) is the massive black quartz w/ white quartz veinlets. Moderate hematite; minor limonite.
T503	Chip 3.3-ft d	Cut, 30-ft-long. Across vein. 24 in. heavily silicified porphyry; 16 in. vein quartz in form of anastomosing veinlets up to 1 in. thick.
T504	Chip 10.5-ft d	Pit, 15-ft-long. Across silicified fracture zone. Fractured, limonite-stained, slightly silicified tuff; brecciated for 8 in. of thickness.
T505	Chip 6-ft h	Adit, 12-ft-long. Part of 16-ft-wide zone of fracturing and limonite/hematite staining. Fractured and limonite-stained tuff; trace pyrite; has two 4-in.-thick zones w/ greenish yellow pyrite-weathering stain; very little silicification.
T506	Chip 1.5-ft h	Adit, 30-ft-long; 19-ft cut in front. Across fracture zone at portal. Fractured and bleached porphyry?; moderate limonite staining on fractures.
T507	Chip 5-ft d	Fig. 20. 5-in. quartz zone w/ pyrite stain (limonite); remainder is hard dense light colored breccia of tuff w/ Mn coating.
T508	Chip 4-ft h	Fig. 20. Intensely fractured gray finely crystalline tuff?, pyrite remnants, limonite stain.
T509	Chip 4-ft d	Fig. 20. Loose dark gouge and breccia of finely crystalline tuff, waxy along fractures and soft porphyry in footwall.
T510	Chip 6-ft h	Fig. 20. Intensely fractured, probably resilicified greenish gray tuff; local limonite coating, trace pyrite.
T511	Chip 4-ft d	Fig. 20. Intensely fractured tuff going to mostly black microcrystalline quartz w/ trace pyrite.
T512	Chip 4-ft h	Fig. 20. 1 ft intensely fractured light gray tuff w/ slight FeO in hanging wall; 3 ft intensely fractured and slightly silicified tuff in fault zone.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T513	Chip 1.2-ft h	See fig. 20. Gray gouge w/ local malachite and thin silicified pods to ½ in., heavy Fe, Mn staining on hanging wall.
T514	Chip 3-ft h	See fig. 20. Across fault zone and vein. 3 in. fault gouge; 6 in. massive gray quartz w/ pyrite, heavy limonite stain; remainder is greenish gray silicified fine fault-breccia of tuff.
T515	Chip 22-ft h	See fig. 20. Into footwall of fault. Intensely fractured green and gray quartz and tuff w/ Fe and Mn coating, trace pyrite.
T516	Chip 12-ft h	Fig. 20. Intensely fractured (becoming gouge) greenish gray tuff, limonite coating, trace pyrite.
T517	Chip 6-ft d	Fig. 20. On footwall of fault. Waxy, clay-rich white to light gray intensely fractured and faulted porphyry.
T518	Chip 5-ft d	Fig. 20. Porphyry w/ feldspars altering to waxy clay, some limonite-coated fault surfaces.
T519	Chip 5-ft d	Fig. 20. Biotite porphyry, slightly fresher than at T518, cut by several Fe-stained fractures.
T520	Chip 6-ft d	Fig. 20. 2 ft densely fractured, Fe-stained light gray hanging wall tuff; 2 ft olive gray microcrystalline quartz w/ pyrite; 2 ft hard silicified footwall w/ heavy Fe, Mn coating.
T521	Chip 5.8-ft v	Fig. 20. Fault and vein zone. 6 in. silicified tuff (w/ clayey coating?); 5 in. clayey zone w/ malachite; remainder is olive gray microcrystalline quartz w/ pyrite; all heavily fractured.
T522	Chip 3.5-ft h	Fig. 20. 6 in. gouge; 18 in. quartz vein w/ disseminated pyrite; 18 in. altered silicified tuff w/ light Fe stain.
T523	Chip 4.3-ft h	Fig. 20. 32 in. dense gouge-like tuff in footwall; 20 in. dense gray quartz siliceous greenish gray tuff trending to massive quartz w/ trace pyrite.
T524	Chip 2.5-ft h	Fig. 20. Greenish gray dark fault gouge/breccia of tuff w/ local quartz pods; rare pyrite throughout but slightly more in 6 in. limonite-stained section at footwall.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T525	Chip 1-ft v	Fig. 20. Medium hard gray fault gouge; Cu and limonite stain.
T526	Chip 6-ft h	Fig. 20. Hard silicified greenish gray tuff and quartz veins; includes 2.5 ft dense hard black silicified material w/ pyrite and quartz stringers.
T527	Chip 4.5-ft h	Fig. 20. Across face. Clay-altered finely porphyritic tuff w/ 12 in. of very hard gray quartz vein in the hanging wall of the structure; small amount of limonite.
T528	Chip 5-ft h	Cut, 20-ft-long. Across face. Fe- and Mn-stained, weakly altered (to light gray), moderately to intensely fractured tuff?
T529	Chip 3-ft d	Trench, 114-ft-long. Hanging wall of fault, 15 ft from NW. entrance to trench. Tuff and dark resilicified tuff; 0.45 ft white quartz veins and quartz-filled breccia.
T530	Chip 5-ft d	Trench T529. Hanging wall of fault, 55 ft from NW. entrance to trench. 3 ft light gray to yellowish gray tuff; 2 ft quartz-veined and resilicified dark greenish gray to Fe-colored tuff w/ quartz-filled breccia.
T531	Chip 5-ft v	Cut, 12-ft-long. Along face and across structure. 2 ft hard silicified gray tuff w/ Fe and Mn stain; 3 ft gray quartz replacement of tuff w/ trace pyrite.
T532	Chip 10-ft h	Cut, 25-ft-long. Intensely fractured tuff w/ many quartz microveinlets, dark gray w/ limonite and Mn coating.
T533	Chip 12-ft h	Adit, 15-ft-long. Light gray to black limonite and Mn-stained siliceous tuff.
T534	Select	Stockpile at Julia shaft (backfilled). Silicified tuff w/ 25% quartz veins, 10% pyrite cubes. NE. of shaft is opencut, 50-ft by 15-ft, 15-ft highwall.
T535	Chip 9-ft h	Outcrop adjacent to Julia shaft collar. 4.5 ft silicified and Fe-stained breccia; 4.5 ft hard silicified massive tuff w/ 10% quartz veins to 1 in. thick.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T536	Chip 4-ft h	Cut, 25-ft-long. From face. 2/3 heavily fractured tuff, possibly silicified, w/ pieces gray quartz; 1/3 black quartz w/ white quartz veinlets, rare pyrite.
T537	Chip 4-ft h	Pit, 10-ft-long. Across Fe-stained, silicified zone.
T538	Chip 1.2-ft h	Trench, 30-ft-long. Across fault zone. Moderately silicified, finely crystalline tuff; heavily fractured; moderate limonite stain; pods of gray quartz.
T539	Chip 3-ft h	Pit, 10-ft across. Silicified tuff w/ 5% quartz veins.
T540	Chip 4-ft h	Cut, 15-ft-long. Across silicified zone. Paper-thin quartz veinlets in finely brecciated tuff.
T541	Chip 6.7-ft h	Pit, 10-ft-long. Across silicified zone. 48 in. gray quartz; remainder silicified tuff; trace pyrite.
T542	Chip 4-ft h	Cut, 40-ft by 12-ft, 6-ft-deep. Across zone of silicified tuff.
T543	Chip 6-ft h	Across silicified sequence in footwall of fault, near portal of 18-ft adit. Whitish to yellowish gray silicified tuff w/ moderate limonite and Mn coating; "vein" composed of numerous thin quartz veins and massive silicification.
T544	Chip 10-ft h	Cut, 12-ft-long. Across complex silicified system, total thickness 7.5 ft.
T545	Chip 10-ft h	Cut, 15-ft-long. Across major portion of silicified system. Intensely silicified tuff w/ local black quartz veins and microfractures.
T546	Chip 3.5-ft h	Cut, 10-ft-long. Across structure. Massive gray quartz after tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T547	Chip 6-ft h	Cut, 15-ft-long. From face of cut. In footwall of structure. 3 ft quartz after porphyritic tuff; 3 ft silicified yellowish gray tuff.
T548	Chip 20-ft h	Cut T547. From wall of cut. 8-ft true thickness on same structure as T547. Red to black, siliceous, sometimes spongy, mass after tuff; heavy limonite, hematite, Mn.
T549	Chip 5-ft h	Fig. 21. Mostly intensely fractured and Fe-stained tuff; also 4 in. clay gouge.
T550	Chip 7-ft h	Fig. 21. 1 ft sulfidized gray quartz vein w/ pyrite, chalcopyrite; 6 ft tuff and brecciated tuff, silicified and w/ quartz veins, pyrite, chalcopyrite to 2%, light Cu stain.
T551	Chip 3-ft h	Fig. 21. Intensely fractured and silicified tuff containing up to 4 in. gouge and 4 in. quartz vein w/ no visible pyrite; Cu stain, heavy limonite and hematite in back.
T552	Chip 4-ft h	Adit, 14-ft-long. Across two faults at face. Silicified breccia of tuff; trace pyrite, limonite, 4-in. quartz vein on rib.
T553	Chip 5-ft h	Inaccessible adit, possibly 100-ft-long. Adjacent to fracture at portal. Mn-and Fe-coated tuff.
T554	Select	Pit, 15-ft-long. White quartz and green chloritically altered tuff w/ multiple quartz veins/veinlets. From dump.
T555	Select	Cut, 32-ft-long. Clear to gray quartz, some as breccia filling, some as vein material; limonite and hematite, vuggy. From dump.
T556	Select	Cut, 47-ft-long. Sugary quartz vein material w/ open spaces, heavy Mn coating, limonite. From dump.
T557	Chip 6-ft v	Adit, 27-ft-long. From face. No mineralized structure. Whitish sheeted and fractured latite?, possible trace limonite after pyrite.
T558	Chip 1.5-ft h	Adit, 60-ft-long. Across weakly silicified fault breccia at face.
T559	Select	Shaft, about 30-ft-deep; has 30-ft drift to E. Light gray fault gouge and quartz-filled breccia from fault. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T560	Chip 5-ft h	Cut, 20-ft-long. Across silicified quartz vein in face of cut. Fault breccia (clasts ≤0.5 in.), 3 ft of which is silicified.
T561	Chip 2-ft h	Pit, 10-ft across. Across T560 structure. Silicified material.
T562	Select	Shaft, about 20-ft-deep. Quartz-filled breccia w/ light limonite, no alteration. From dump.
T563	Chip 2-ft h	Adit, about 50-ft-long. Across silicified fault breccia w/ pieces of gray tuff up to 3 in.
T564	Select	Adit T563. Pinkish gray tuff, trace pyrite. From dump.
T565	Select	Shaft, 20-ft-deep. Spongy black Mn-coated quartz-filled fault breccia. From dump.
T566	Chip 4-ft h	6-ft adit with 15-ft-long cut above. Across back at portal. 30 in. fresh pinkish gray tuff w/ minor quartz veins; 18 in. weakly silicified fault breccia.
T567	Chip 2-ft h	Inaccessible adit, more than 60-ft-long. At portal. 1 ft tuff; 1 ft quartz silicified breccia of tuff.
T568	Chip 4-ft h	Adit, 40-ft-long. Across fault in rib. 2 ft fault gouge; 2 ft weakly silicified and limonite-stained breccia.
T569	Select	Adit T568. Rare pieces of tuff w/ paper-thin veins of specular hematite. From dump.
T570	Select	Stockpile. Fig. 15, 16. At least 100 st. Black Mn-coated siliceous breccia of gray tuff.
T571	Chip 6-ft h	Fig. 15, 16. Across main fault zone at backfill. Fault breccia of tuff, heavy limonite, minor gouge and silicification.
T572	Chip 4-ft h	Fig. 15, 16. Across T571 fault zone. 1 ft of limonite-stained footwall; 3 ft of limonite-stained and fractured, light yellowish gray hanging wall; includes 3 in. heavy Mn zone next to fault, all slightly altered fault breccia and minor gouge of tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T573	Chip 4-ft h	Fig. 15, 16. Across fault. Fault breccia (pieces 1 in. and larger) and gouge.
T574	Chip 3-ft h	Fig. 15, 16. From rib of adit. Heavy Mn coating on loose weathered porphyry.
T575	Select	Outcrop. Silicified tuff w/ thin quartz veinlets, along possible old road.
T576	Chip 4-ft h	Shaft, 35-ft-deep. Across fault zone. Weakly silicified and finely quartz-veined tuff; Mn stain, minor quartz and quartz-filled breccia.
T577	Chip 4-ft h	Cut, 25-ft-long. Across fault breccia. Light gray breccia and gouge of tuff.
T578	Chip 2.3-ft h	Cut, 12-ft across. Across fault. Intensely fractured light gray tuff, light limonite stain, thin quartz veinlets.
T579	Chip 5-ft h	Adit, 40-ft-long. At face in footwall of fault. 1/3 gray fractured tuff; 2/3 silicified fault breccia w/ up to 6 in. total quartz, local limonite stain.
T580	Chip 4-ft h	Adit, T579. Across fault, 30 ft from portal. Limonite-coated fractured tuff, minor quartz and gouge.
T581	Chip 10-ft h	Cut, 50-ft by 25-ft, 12-ft highwall. Weakly silicified whitish (possibly bleached) fractured tuff surrounding light olive gray fractured intrusive of intermediate composition.
T582	Select	Shaft, 10-ft-deep. Granular white vein-quartz and silica-flooded tuff, possible rare pyrite. From dump.
T583	Chip 6-ft h	Pit, 8-ft across. Across fracture and vein zone on strike w/ T584 vein. Light yellowish gray conglomerate w/ up to 15% white quartz in pockets and veinlets, light limonite stain.
T584	Chip 15-ft h	Cut, 20-ft-long; shaft, <20-ft-deep is 20 ft to N. From wall of cut. Light gray weakly silicified conglomerate, weak quartz veining, pervasive weak limonite. Includes 6 in. discontinuous quartz vein.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T585	Chip 1.5-ft h	Adit, 30-ft-long. Across back near portal. Soft light gray fault gouge.
T586	Select	Adit T585. White quartz-filled breccia of conglomerate. From dump.
T587	Chip 2-ft h	Shaft, <20-ft-deep. Across fault zone. Weakly silicified and lightly limonite-stained conglomerate in intensely fractured zone.
T588	Chip 4-ft h	Adit, 20-ft-long. Across fault in back at portal. Weak silicification of lightly altered tuff, light limonite, 2 in. gouge.
T589	Chip 2.5-ft h	Adit, 225-ft-long. Against hanging wall of fault at portal. Mostly fault breccia w/ up to 30% white quartz, wall rock is massive fresh light gray to light yellowish gray tuff.
T590	Chip 2-ft h	Same adit as T589. Across T589 fault in back, 62 ft from portal. Includes 16 in. gouge.
T591	Chip 2-ft h	Same adit as T589. Across T589 fault and limonite-stained quartz in back of adit, 85 ft from portal.
T592	Chip 1.5-ft h	Same adit as T589. Across fault (roughly parallel to T589 fault) in back, 138 ft from portal. Brecciated whitish lightly altered tuff.
T593	Chip 5-ft h	Same adit as T589. Across T592 fault in back, 170 ft from portal. Fault breccia, whitish fragments of slightly altered tuff, minor calcite.
T594	Chip 2-ft h	Same adit as T589. In hanging wall of T592 fault at face, NW. fork of adit. Light greenish gray fine-grained calcium silicate-altered rock.
T595	Chip 4-ft h	Same adit as T589. Across face, NE. fork of adit. Light greenish gray calcium silicate altered rock w/ trace pyrite, thin calcite veins.
T596	Chip 4-ft h	Adit, 20-ft-long. Across T592 fault zone in back, near face. Fault breccia of tuff w/ fragments < 1 in. to 14 in., minor silicification, open spaces.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T597	Chip 2-ft h	Adit, 46-ft-long; water-filled winze and 12-ft inclined shaft to surface at S. end. In footwall of fault, at portal, N. end of adit. Weakly silicified and Mn- and limonite-stained fault breccia of light gray to light yellowish gray tuff, minor quartz.
T598	Chip 4-ft d	Adit T597. In footwall of T597 fault, at incline. 3.2 ft light yellowish gray tuff; 0.8 ft quartz veins to 1 in.
T599	Select	Hill shaft of Oro Blanco Mine. Fig. 13. Limonite-stained altered tuff and weakly silicified tuff; some w/ thin quartz veinlets, some w/ trace pyrite. From dump.
T600	Chip 2-ft h	Cut, 35-ft-long. Across footwall of fault and vein. Mostly soft to medium fault gouge.
T601	Chip 4-ft h	Fig. 13. Limonite-stained weakly silicified fault breccia (< 1 in. to 2 in. pieces).
T602	Select	Fig. 13. Ore sample. Fe-stained to white fault filling.
T603	Chip 4-ft h	Fig. 36. Soft loose fault gouge/breccia, heavy limonite, minor clay.
T604	Chip 5-ft h	Fig. 13. Clay-filled and limonite-stained fault breccia.
T605	Chip 10-ft h	Fig. 13. Weakly silicified Fe-stained fractured tuff against fault.
T606	Chip 8-ft h	Fig. 13. Weakly altered and Mn-, limonite-stained fault breccia.
T607	Select	Shaft, about 10-ft-deep. Rare quartz and quartz veinlets. From dump.
T608	Chip 13-ft h	Shaft, more than 50-ft-deep. Composite of three hematitic fractured tuff zones in footwall of fault zone.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T609	Chip 10-ft h	Shaft, probably <20-ft-deep and cut, 10-ft-long. Across fault zone at shaft. Limonite-stained very weakly silicified intensely fractured tuff, minor gouge. Unsampled working 100-ft SE. is a pit, 20-ft by 15-ft, 12-ft-deep.
T610	Select	Shaft, probably <20-ft-deep. Limonite- and possible sulfide-coated fresh tuff, trace quartz. From dump.
T611	Chip 1.2-ft h	Fig. 10. 4 in. calcite and Fe- and Mn-cemented fault breccia, 10 in. fault gouge of porphyry.
T612	Chip 1-ft d	Fig. 10. Olive gray fault breccia and gouge of porphyry.
T613	Chip 6-ft h	Fig. 10. 2 ft altered porphyry and calcite-cemented porphyry w/ pyrite; 4 ft calcite-cemented light greenish gray hard calcareous silicate fine-grained alteration of porphyry.
T614	Chip 8-ft h	Fig. 10. Fault breccia and gouge w/ pieces of tuff and porphyry, minor calcite, limonite.
T615	Chip 5-ft h	Fig. 10. 2.5 ft fault breccia, 2.5 ft gouge, locally heavy limonite stain.
T616	Select	Shaft, water-filled, possibly 30-ft-deep. Gray sugary to massive quartz and quartz w/ up to 20% galena; both from lenticular quartz vein up to 1 ft thick. Wall rock is yellowish gray to greenish gray intrusive.
T617	Select	Shaft, 18-ft-deep, on T619 dike. Limonite- and hematite-coated quartz up to 4 in. thick, w/ open spaces. From dump.
T618	Chip 4-ft h	Shaft, 20-ft-deep, on T619 dike. Silicified, altered intrusive rock; silicified gouge; quartz; all limonite- and Mn-stained.
T619	Chip 3-ft h	Pit, 10-ft across. From fault. Light yellowish gray fine-grained altered diorite? or gouge, locally silicified w/ some quartz, heavily Fe-stained.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T620	Select	Shaft, probably <20-ft-deep; also 15-ft pit. Hematitic white quartz w/ open spaces and some galena, from pieces up to 4 in. thick; diorite? (not sampled) is light blue to light greenish gray propylitically altered intrusive rock.
T621	Select	Shaft T620. Malachite- and azurite-coated light gray sugary quartz, possibly replacement. From dump.
T622	Select	Flooded pit, 100-ft by 20-ft, >10-ft- deep. 40% white quartz; 40% gossan - heavily Fe-stained altered light yellowish gray rock; 20% siliceous material w/ trace pyrite. Country rock (not sampled) is propylitized and Fe-stained greenish gray medium crystalline porphyry. Sampled rock is rare component of dump.
T623	Chip 5-ft v	Pit, 70-ft diameter, 15-ft-deep. From SE. wall of pit. Cu-stained, fractured porphyry.
T624	Chip 8-ft h	Trench, 150-ft by 15-ft, 15-ft-deep. From SW. wall of trench. 7 ft limonite-coated rock; 1 ft greenish silicified propylitically altered porphyry, trace Cu.
T625	Chip 6-ft v	Cut, 120-ft by 50-ft, 30-ft highwall. Above hanging wall of rhyolite dike at SW. end of cut. Hematite-coated siliceous zone; includes 1 ft of Cu-stained hematitically altered rhyolite.
T626	Chip 6-ft h	Opencut T625. Below footwall of T625 dike at SW. end of cut. 3 ft hematitic, intensely silicified rhyolite?; 3 ft whitish rhyolite?.
T627	Chip 35-ft h	Opencut T625. From back of cut. Whitish intensely fractured rhyolite?; local but minor silicification and quartz; as much as 15% pyrite-bearing quartz veins.
T628	Chip 5-ft h	Opencut T625. From NE. end of cut. Intensely fractured and limonite-stained porphyry. Local silicification and Cu stain.
T629	Chip 25-ft h	30-ft adit. Along rib in footwall of hematitic quartz vein, 5 ft from portal to face. Whitish tuff?; moderately to intensely fractured and altered; fracturing, alteration, and local limonite increase toward contact w/ vein.
T630	Chip 4-ft h	Adit T629. Across vein of T629 in rib, beginning at portal. Vein material has been intensely leached; local minor pyrite casts.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T631	Chip 8-ft h	Adit T629. Along wall of cut, beginning at portal. Hanging wall of T629 vein; intensely altered whitish tuff, heavy Mn coating, local 3 in. quartz veins.
T632	Select	Cut, 20-ft-long. Fe- and Mn-filled fractured light yellowish gray altered tuff; possibly rhyolitic fault gouge. From dump.
T633	Chip 15-ft h	Adit, 75-ft-long. From rib, beginning at portal. Weakly to intensely silicified and intensely fractured whitish tuff?; trace paper-thin quartz veins, local heavy limonite, hematite on fractures.
T634	Chip 30-ft h	Adit T633. From rib, 15 to 45 ft from portal. Moderately fractured whitish tuff; local intense hematite in fractures, local soft alteration.
T635	Chip 5-ft v	Adit, T633. From rib, 60 ft from portal. Whitish, lightly altered, moderately fractured tuff; local limonite and hematite on fractures, local soft alteration and Cu stain.
T636	Select	Pit, 8-ft- across. Mn- and silica-cemented fine (1 in.) breccia; limonite- and Mn-coated weakly silicified tuff and breccia. From dump.
T637	Select	Shaft, 30-ft-deep. Heavily sulfidized white and gray quartz; hematitic white quartz and breccia of white quartz; sugary white to gray quartz w/ up to 5% pyrite. From dump.
T638	Select	Shaft, possibly 25-ft-deep. White quartz and hematitic quartz. From dump.
T639	Chip 4-ft h	Adit, 25-ft-long. Across limonite-stained fault breccia of conglomerate at face. Includes 3 in. fault gouge.
T640	Chip 2-ft h	Shaft, 175-ft-deep. Silicified conglomerate w/ thin quartz veins.
T641	Select	Shaft T640. Spongy greenish gray porphyry w/ silica stringers. From dump.
T642	Select	Shaft T640. Weakly to strongly sulfidic quartz (rare). From dump and float.
T643	Chip 5-ft v	Adit, 110-ft-long. In rib, 50 ft from portal. Whitish massive lightly altered tuff; moderate alteration, paper-thin limonite-filled fractures.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T644	Chip 5-ft v	Adit T643. From face. Fractured, slightly altered tuff; light limonite stain, local clay alteration on fractures.
T645	Chip 5-ft v	Fig. 24. Fractured tuff; local light gray alteration and hematite, limonite coating.
T646	Chip 5-ft v	Fig. 24. 2.5 ft light gray friable and altered rock; 2.5 ft very slightly altered tuff w/ limonite, hematite coating.
T647	Chip 5-ft h	Fig. 24. Soft friable light gray altered tuff?; local heavy limonite, hematite coating on fractures.
T648	Chip 5-ft h	Fig. 24. Tuff is less altered here; includes 2 ft of fractured rock w/ 1% pyrite.
T649	Select	Shaft, 15 ft to water; possibly 50-ft-deep. Quartz w/ hematite and trace pyrite. Also three pits, each <20-ft across, within 100 ft to W.
T650	Chip 5-ft h	Shaft, 12-ft-deep. Across quartz vein. 1 ft hard and pyritic quartz cut by multiple quartz veinlets; 4 ft softer material. 30-ft cut to SW. 20-ft pit to NE.
T651	Chip 4-ft d	Pit, 10-ft across. Across silicified and hematitic zone. Mostly heavy Mn-stained whitish porphyry. 5 other pits over 50-ft diameter area.
T652	Select	2 pits, each 6-ft-deep; 4 pits and cuts, each up to 12-ft across, all in 70-ft-long area. 1/3 Cu-stained vuggy quartz; 2/3 Mn-stained silicified and altered porphyry. From dump.
T653	Select	Pit, 8-ft across. Pieces of white quartz vein material up to 6 in. across. From dump.
T654	Select	Shaft, 30-ft-deep. Pieces of 4-in. quartz vein and sparse tuff w/ up to 50% quartz veinlets. From outcrop and dump.
T655	Select	Shaft, 20-ft-deep. Tuff w/ 50% quartz veinlets; includes quartz vein material up to 2 in. From dump.
T656	Chip 0.25-ft h	Outcrop near 6-ft cut. White quartz vein w/ limonite stain; outcrop near shaft.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	Type, Length	Description
T657	Select	Shaft, 20-ft-deep. Mn-coated fault breccia and quartz-filled breccia of fresh tuff. From dump.
T658	Chip 1.2-ft h	Shaft, 8-ft-deep. Across soft fault gouge at face w/ 1 in. pieces of rock in it.
T659	Select	From stockpile. Heavily propylitically altered pyrite-bearing greenish gray aphanitic porphyry; contains gray to white veins of quartz w/ pyrite.
T660	Chip 3-ft h	50-ft drift to main shaft of Sorrel Top Mine. Across fault breccia in back near main shaft. Fractured pinkish gray fresh tuff and gouge; and light gray weakly altered tuff.
T661	Chip 6-ft h	Adit T660. Across back, at portal. Recemented fault breccia (<1 in.-3 in.) of fresh tuff; locally heavy Mn filling of fractures.
T662	Chip 2-ft h	Fig. 14. Silicified fault breccia.
T663	Chip 4-ft h	Fig. 14. Silicified breccia and gouge.
T664	Chip 3-ft h	Fig. 14. Hard silicified light gray wall rock and 8 in. silicified gouge.
T665	Chip 15-ft h	Fig. 14. Intensely fractured tuff and gouge; moderate to weak alteration, weak silicification, local sulfur and limonite stain.
T666	Chip 3-ft h	Fig. 14. 1 ft silicified fault gouge and 2 ft Mn-stained silicified fault breccia.
T667	Chip 4-ft h	Fig. 14. Limonite- and Mn-stained weakly silicified fault breccia (pieces < 1 in.) of tuff.
T668	Chip 4-ft h	Fig. 14. 1 ft gray fractured tuff and 3 ft silicified fault breccia (1 to 3 in. pieces) of tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T669	Chip 10-ft h	Fig. 14. Light gray to light pinkish gray lightly altered tuff; 8-ft true thickness.
T670	Chip 5-ft h	Fig. 14. Fractured gray tuff wall rock; local alteration; fault zone mined out.
T671	Chip 8-ft h	Fig. 14. Into footwall of main fault zone. Light gray to pinkish gray lightly altered massive porphyry intrusive.
T672	Chip 8-ft h	Fig. 14. Light gray to white altered fractured tuff w/ local limonite; at contact w/ altered intrusive.
T673	Chip 6-ft h	Fig. 14. In hanging wall of contact between pink soft altered intrusive and altered tuff.
T674	Chip 14-ft h	Fig. 14. From contact between tuff and intrusive. 4 ft quartz and silicified fractured tuff; 10 ft intensely fractured, locally altered and/or silicified pinkish gray to greenish gray tuff.
T675	Select	Inaccessible adit, more than 20-ft-long; shaft, <20-ft-deep. Gray quartz vein material w/ pyrite casts up to 2 in.; gray silicified fault gouge or conglomerate w/ pebbles; rare hematite-stained conglomerate w/ pyrite casts. From dump.
T676	Select	Shaft, flooded at 20-ft depth. Fe-stained and limonitic conglomerate. From dump.
T677	Chip 5-ft v	Fig. 12. 2.5 ft greenish gray dike rock and 2 in. clay gouge; 2.5 ft silica-coated limonitic conglomerate.
T678	Chip 5-ft v	Fig. 12. Greenish gray dike rock; limonite- and sulfur-coated conglomerate above and below dike; gouge.
T679	Chip 2-ft h	Fig. 12. Soft light gray fault gouge or altered tuff.
T680	Chip 4-ft h	Fig. 12. Soft to hard heavily limonite-stained altered tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T681	Chip 6-ft h	Fig. 12. Mostly tuff; 3-in. clay alteration; 6-in. black aphanitic quartz lens w/ pyrite, heavy secondary limonite and sulfate coating.
T682	Chip 6-ft h	Fig. 12. Mostly tuff w/ heavy secondary limonite and sulfate coating.
T683	Chip 10-ft h	Fig. 12. 4 ft fault gouge on footwall of second fault; 6 ft limonite- and sulfur-stained breccia of conglomerate w/ minor gouge.
T684	Chip 10-ft h	Fig. 12. Fault breccia. Brecciated tuff; local heavy limonite.
T685	Chip 10-ft h	Fig. 12. Light limonite- and sulfur-stained hard recemented fault breccia of fresh pinkish gray conglomerate.
T686	Chip 7-ft h	Fig. 12. Fresh greenish gray fractured tuff; light limonite stain, trace gouge.
T687	Chip 8-ft h	Fig. 12. Weakly sulfidized limonite-stained, recemented fault breccia of pinkish gray tuff; trace pyrite.
T688	Select	Cut 75-ft-long, containing 2 water-filled shafts. Three 6-ft pits 75 ft to S. Pieces of 8 in. white quartz; quartz-filled breccia of tuff; sulfur-stained tuff. Float.
T689	Select	Shaft, 12-ft-deep. 12-ft cut and 6-ft adit 20 ft to N. Sulfidized quartz. From dump.
T690	Chip 3-ft h	Pit, 10-ft across. Next to fault. Weakly silicified and limonite-stained multicolored fine-grained altered tuff.
T691	Chip 2-ft h	18-ft adit with cut, 20-ft long, 18-ft-deep. Shafts NE. of adit each <10-ft-deep. Across fault zone in adit. Mostly altered tuff; includes 4 in. quartz, limonite stain.
T692	Chip 2-ft h	Adit T691. Across fault zone in adit. Mostly altered tuff; no quartz, limonite stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T693	Chip 0.6-ft d	Cut, 15-ft-long. Quartz vein.
T694	Chip 12-ft h	Outcrop. Across thickest part of vein. Silicified Mn-stained mass of brecciated tuff; footwall has thickest (18 in.) masses of quartz; entire mass is lenticular.
T695	Chip 6-ft h	10-ft adit, with 15-ft-long cut at portal. Across back at portal. 3 ft silicified and altered arkosic? zone w/ 10% open spaces, heavy Mn stain, local limonite; 1 ft in footwall of slightly altered and locally Mn-stained arkose; 2 ft in hanging wall of soft light yellowish gray altered arkose w/ 15% Fe- and Mn-cemented streamers.
T696	Select	Cut, 10-ft across. Tuff w/ trace pyrite and galena. From dump.
T697	Chip 4-ft h	Pit, 5-ft across. Multiple quartz veins w/ hematite.
T698	Chip 5-ft h	Adit, accessible for first 60-ft in from portal; has inclined raises to surface located 40-ft in and 60-ft in from portal. Across fault at portal. 3.5 ft yellowish gray slightly altered tuff; 1.5 ft silicified fault breccia.
T699	Chip	Shaft, more than 100-ft-deep. Mostly brown spongy quartz-filled quartz breccia; also massive (>3 in. pieces) white quartz. From dump.
T700	Chip 8-ft h	Outcrop. Composite of limonite- and hematite-stained quartz vein material in tuff host rock.
T701	Chip 15-ft h	Inaccessible adit, >20-ft-long. Across Mn-stained silicified resistant breccia and tuff at portal.
T702	Select	Pit, 4-ft-deep. Limonite- and Mn-coated quartz up to 6 in. From dump.
T703	Select	Pit, 10-ft across. Quartz, and Mn-coated quartz. From dump.
T704	Chip 4-ft h	Cut, 15-ft across. Across white quartz silicified tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T705	Chip 3-ft h	Adit, 96-ft-long. Across fault at face. Includes fine milky white quartz w/ trace pyrite and 6 in. gouge.
T706	Chip 4-ft h	Adit T705. In hanging wall of T705 fault, 75 ft from portal. Milky gray quartz w/ trace to minor pyrite.
T707	Chip 4-ft h	Adit T705. Across T705 fault and second fault at portal. Siliceous fault breccia, tuff, and gouge.
T708	Chip 4-ft h	Adit, 50-ft-long. Across fault in back. Weakly silicified, freshly fractured conglomerate w/ up to 5% quartz veins. 25 ft to S. is 15-ft cut.
T709	Chip 8-ft h	Fig. 11. 7.2 ft intensely fractured (1- to 3-in. spacing) light yellowish gray conglomerate w/ minor gouge; 0.8 ft of 0.5-in. quartz veins, local heavy Mn stain.
T710	Chip 4-ft h	Fig. 11. 2 ft heavily Mn-coated weakly silicified gouge and fault breccia in hanging wall; 2 ft intensely fractured, weakly altered conglomerate.
T711	Chip 4-ft h	Fig. 11. 1.5 ft heavily Mn-coated silicified gouge and fault breccia; 2.5 ft fractured conglomerate w/ sporadic 0.25- to 0.5-in. quartz veins.
T712	Chip 6-ft d	Fig. 11. 2 ft weakly altered intrusive porphyry in footwall; 2 ft whitish fault gouge; 2 ft weakly clay-altered conglomerate in hanging wall.
T713	Chip 4-ft h	Fig. 11. Mostly weakly altered intrusive; includes 1.5 ft weakly silicified gouge/breccia w/ heavy Mn stain.
T714	Chip 4-ft h	Fig. 11. Light clay-altered medium crystalline porphyritic intrusive.
T715	Select	Fig. 11. White quartz and spongy quartz. From dump.
T716	Chip 3-ft h	200-ft adit, accessible for only first 130 ft in from portal. In footwall of fault on rib, 120 ft from portal. Black clay-cemented breccia of tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T717	Chip 3-ft v	Adit T716. In hanging wall of T716 fault on rib, 70 ft from portal. Clay-altered fractured tuff.
T718	Select	Adit T716. Mostly white quartz-filled breccia; one piece quartz w/ heavy pyrite and galena; subordinate heavy Mn- and limonite-coated gossan/breccia of altered rock. From dump.
T719	Chip 6-ft h	50-ft-deep shaft and adjacent 15-ft cut; shaft connects to T716-718 adit. Across fault on wall of cut. Representing up to 6-in. thickness of quartz and silicified rock.
T720	Select	Dump of T719. Quartz and silicified tuff from pieces up to 12 in. across.
T721	Chip 2.5-ft h	Adit, more than 40-ft-long. Across fault breccia and gouge.
T722	Chip 5-ft h	Inaccessible adit, more than 60-ft-long, with underhand stope (flooded at 30-ft depth). Across back at portal. 1.5 ft silicified fault breccia at rib; 3.5 ft limonite- and Mn-coated fractured tuff (< 1-in. to 18-in. fracture spacing).
T723	Select	Working T722. Rusty gray tuff; tuff w/ trace pyrite; gray tuff w/ 0.04 to 0.12 in. quartz and sphalerite veinlets. From dump.
T724	Select	Cut, 75-ft by 20-ft, 30-ft-deep. 1-ft-thick white quartz vein. Float.
T725	Chip 3-ft h	Cut, 20-ft-long. Across fault on wall of cut. Quartz, silicified tuff containing trace pyrite or pyrite casts; and quartz in blobs and lenses making up 25% of rock.
T726	Chip 4-ft h	Adit, 105-ft-long. Across back at portal in silicified and hematized light yellowish gray tuff zone, w/ fault. Up to 8 in. total quartz.
T727	Chip 20-ft h	Adit T726. Along rib through T726 silicified zone, 50 ft from portal. True thickness sampled 6 ft. Weakly silicified and pyritized fractured tuff; heavy Mn stain, minor fault gouge.
T728	Select	Shaft, 75-ft-deep. Sugary quartz w/ trace pyrite; and quartz w/ coarse (0.04 to 0.08 in.) pyrite and Cu stain. From dump.
T729	Select	Shaft T728. Limonite- and Mn-stained tuff; spongy black siliceous material; heavy limonite- and Mn-coated altered tuff w/ quartz crystals. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T730	Chip 3-ft h	Inaccessible adit, about 30-ft-long. Across back of portal. 1 ft gouge against fault; 2 ft fractured and limonite-stained tuff.
T731	Select	Adit T730. Limonite-coated sugary quartz and tuff, both w/ trace pyrite. From dump.
T732	Chip 5-ft h	Adit, 20-ft-long. Across fault and into footwall. Quartz and silicified tuff; minor gouge, trace pyrite.
T733	Chip 5-ft h	Across T732 fault in floor. Gray pyritic quartz.
T734	Chip 6-ft h	Adit, 10-ft-long. Across two faults in portal. 1 ft gouge and weak silicification on footwall of second fault; 3 ft silicification and quartz w/ trace pyrite on first fault; 2 ft massive silicified tuff in middle.
T735	Chip 7-ft h	Outcrop. Across fault zone. 5 ft fault breccia (to 0.5-in. pieces); 2 ft limonite-stained tuff.
T736	Chip 3-ft d	Cut, 15-ft-long. Across fault. Silicified tuff breccia; heavy Mn and limonite stain; includes 3-in. quartz vein.
T737	Chip 6-ft h	Working T736. Into footwall of T736 vein, outside portal. Heavily Mn-stained and weakly silicified conglomerate.
T738	Chip 5-ft h	Cut, 12-ft-long. From face. Across heavy limonite- and Mn-stained quartz vein and medium fractured tuff.
T739	Select	Shaft, flooded at about 100-ft depth. Light greenish gray to pinkish gray tuff w/ trace very fine pyrite. From stockpile.
T740	Chip 0.7-ft h	Across silicified mass of brecciated and fractured tuff w/ heavy Mn coating; cut by multiple quartz veins up to 3 in.
T741	Grid	Working T739. Finer-size material (< 1 in.) on dump.
T742	Chip 25-ft h	Cut 25-ft-long. Along wall of cut and face. Thin- to medium-bedded sediments interbedded w/ 3 ft limestone and 6-ft arkosic sandstone beds in wall of cut.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T743	Select	Shaft, 30-ft-deep. Dense quartz w/ massive hematite and malachite. From dump.
T744	Select	Shaft T743. From 6-ft vein. Loose pieces of massive white to gray quartz w/ up to 30% pyrite casts; local heavy hematite and Mn. Float.
T745	Chip	Shaft T743. Silicified tuff w/ malachite, limonite, hematite, various amounts of pyrite. From dump.
T746	Chip 6-ft h	Outcrop. Across 6-ft hematitic quartz vein striking toward but discontinuous w/ T744 vein.
T747	Chip 5-ft d	Outcrop. Across quartz vein. White quartz w/ light limonite stain.
T748	Select	Cut, 12-ft-long. From T749 vein. Loose pieces of white quartz up to 6 in. Float.
T749	Select	Cut, 12-ft-long. Quartz pieces up to 6 in. thick from quartz vein; very light limonite stain. Outcrop and float.
T750	Chip 3-ft h	Cut, 20-ft-long. Composite: 80% light yellowish gray sandstone and 20% white quartz veins and quartz-filled breccia that cut the sandstone.
T751	Select	Two flooded shafts, 5-ft apart in stream bottom; adjoining pit, 15-ft by 6-ft, 4-ft-deep. Rare pieces of greenish gray calcite-cemented breccia w/ up to 5% galena, trace pyrite. From dump.
T752	Chip 1.5-ft h	Pit, 75-ft by 15-ft, 8-ft-deep excavated in silicified rhyolite porphyry with quartz veining (as much as 6-in.-wide), which was sampled; limonite coating. Extent of silicification unknown. Fig. 3.
T753	Select	Pit 6-ft by 4-ft, 4-ft-deep, excavated on 4-ft-wide quartz vein (N. 20° W, SW. 85°) in silicified volcanic rock [Oro Blanco Formation]. Vein sample: black to red Mn- and hematite-coated, intensely silicified material; possible specular hematite or sphalerite, magnetite. From outcrop [apparently near pit]. Fig. 3.
T754	Select	Shallow bulldozer excavation, 50-ft by 75-ft exposing 20-ft-thick silicified zone in Oro Blanco Formation tuff. Sample: Cu-, Mn-, and hematite-stained siliceous material. Extent of silicified zone unknown. Fig. 3.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T755	Select	Pit 20-ft by 10-ft, 2-ft-deep, excavated in limonite- and/or hematite-coated, weakly silicified, conglomeratic tuff [Oro Blanco Formation]. Fig. 3.
T756	Select	Shallow bulldozer excavations (50-ft by 10-ft, 2-ft-deep; 30-ft by 10-ft, 2-ft-deep) exposing quartz veining in tuffaceous conglomerate. Sample: white quartz and quartz up to 6 in. thick w/ open, limonite-filled spaces. Fig. 3.
T757	Chip 4-ft h	Outcrop of calcic contact zone (N. 50° W., steep dip) between porphyritic intrusive [Sidewinder quartz monzonite] and aphanitic rhyolite [Oro Blanco Formation]. Fig. 3.
T758	Chip 1.5-ft h	Pit, 6-ft-deep, exposes fault (N. 70° E., NW. 65°) cutting silicified Oro Blanco Formation; locally heavy limonite and Mn. Fig. 3.
T759	Chip 5-ft h	Adit, 60-ft-long. Across fault zone near face. 4 ft thin-bedded shaly sediments; 1 ft fault zone material.
T760	Chip 2-ft h	Outcrop. Weakly altered and silicified Fe-stained tuff.
T761	Chip 6-ft h	Outcrop. 25 ft up slope from T760. Fe-stained silicified resistant tuff.
T762	Chip 6-ft h	Outcrop. Across part of Fe-stained siliceous breccia of tuff. Full thickness of unit is 15 ft.
T763	Chip 6-ft h	Pit, 45-ft by 15-ft, 30-ft-deep. Across shear zone at face. Sericite and clay gouge (minor).
T764	Chip 8-ft h	Cut, 10-ft-long. Fresh tuff. Limonite stain and green clay-altered tuff.
T765	Chip 3.75-ft d	15-ft adit. Moderately to intensely altered tuff; some altered to white clay.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T766	Chip 5-ft h	Adit T765. Across main fault zone. 3.5 ft moderately to strongly altered tuff w/ FeO; 1.5 ft orangish-gray clay w/ pieces of tuff.
T767	Chip 6-ft h	Pit, 12-ft across. 4.2 ft moderately altered (easy to cut) tuff w/ light to heavy FeO; 1.8 ft from 2-ft zone of highly altered tuff and clay gouge; no quartz.
T768	Chip 0.9-ft h	Adit, 95-ft-long. Across fault in rib, 55 ft from portal. Weakly altered tuff; minor white clay gouge on footwall; hanging wall fresh tuff.
T769	Select	Adit T768. Float. Microcrystalline greenish gray quartz.
T770	Select	Dump, flooded, possibly 15-ft-deep. Light gray lightly altered tuff w/ orangish-red jarosite? coating on fractures. From dump.
T771	Chip 6-ft h	Cut, 18-ft-long. From face of cut. Fe-rich altered tuff, orange to dark red. Nearby is 12-ft-deep shaft (not shown).
T772	Chip 6-ft h	Outcrop. Across fracture zone. Light colored tuff; moderately altered and impregnated w/ MnO, heavily fractured for about 3 ft, 10% clay gouge at footwall. Near shaft (not shown) in stream bottom, the dump of which is removed by erosion.
T773	Chip 1.5-ft h	Pit, 5-ft across. Across fault zone in tuff. Moderately to highly altered (to clay) tuff; vein quartz (vuggy, limonite stained), < 2% of sample, no more than 1 in. wide; sparse MnO staining veinlets; thin plates of anglesite? on fractures; moderate limonite on tuff.
T774	Chip 1.1-ft h	Pit, 6-ft across. Moderately altered and moderately bleached tuff in a 13-in.-wide zone of fracturing; heavy limonite blebs; trace anglesite?
T775	Chip 8.5-ft h	Pit, 16-ft across. Across zone of moderately to heavily altered tuff; sparse limonite blebs; lots of clay in tuff but no gouge.
T776	Chip 4-ft h	Cut, 25-ft-long near caved, 25-ft-long adit (not shown). Across fracture zone in face of cut. Tuff and weakly altered tuff.
T777	Select	Greenish gray microcrystalline quartz. From dump of cut T776.
T778	Select	Trench, 35-ft-long. Quartz w/ ochre to yellow coating. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T779	Chip 1-ft h	Fig. 36. Fractured tuff and clay in fault gouge zone.
T780	Chip 2.2-ft	Fig. 36. Fractured tuff; 2 in. and 1 in. clay zones; FeO.
T781	Chip 4-ft h	Fig. 36. Fractured tuff; FeO; red clay on fractures; trace chalcocite.
T782	Chip 3.4-ft h	Pit, 30-ft across near 12-ft diameter pit. Across fault zone between pits. 26 in. light gray altered tuff; 14 in. tuff w/ 1 to 2 in. clay seams.
T783	Select	Pits T782. Slightly to moderately altered tuff w/ FeO; minor gray microcrystalline quartz; $FeSiO_2$, possible secondary Pb mineral. From dump.
T784	Select	Cut, 25-ft-long. 75% tuff w/ part of gray to greenish gray microcrystalline quartz; 25% limonite-stained tuff. From dump.
T785	Chip 0.8-ft h	Adit, >15-ft-long, inaccessible. Across shear zone at portal. Fractured tuff, minor red clay, 2 to 3 fractures in shear zone.
T786	Chip 4-ft h	Pit, 15-ft across. Across thickness of altered zone. Moderately altered tuff, FeO, trace clay, <20% vein quartz.
T787	Select	Shaft, 40-ft-deep, with levels at 15-ft and 25-ft depths. Microcrystalline greenish gray to gray quartz and sphalerite/galena ore; both rare in dump. From dump.
T788	Chip 2-ft h	Fig. 37. Fractured slightly altered tuff.
T789	Chip 2.5-ft h	Fig. 37. Fractured slightly altered tuff.
T790	Chip 9-ft h	Fig. 37. Mn- and Fe-stained, slightly to heavily altered tuff w/ thin clay zones, fractures, hematite.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T791	Chip 3-ft h	Fig. 37. Light colored fractured tuff; slightly altered pyrite casts, minor clay, FeO.
T792	Chip 4-ft h	Fig. 37. Between two fractures and directly below stope. ≈0.2 ft black quartz, 1.2 ft light greenish gray fault gouge, 2.6 ft slight altered tuff w/ Mn spots.
T793	Chip 4-ft h	Fig. 37. Lightly to medium altered tuff w/ clay filling in fractures.
T794	Chip 5-ft h	Fig. 37. 2 ft clay; 3 ft fresh to slight altered tuff w/ MnO; includes 3 in. white to gray clay w/ quartz against fault w/ limonite, MnO.
T795	Chip 3.3-ft h	Trench, 18-ft-long, and nearby shaft, <20-ft-deep (not shown). Across fracture zone in trench. Slightly altered tuff.
T796	Select	Inaccessible adit, with stope, caved to surface, located between sites T796 and T787. Upper stope perimeter was 29 ft below surface; stope bottom is 59 ft below surface. Black siliceous material, some possibly silicified tuff, from adit dump.
T797	Chip 2.5-ft h	Adit, 110-ft-long. Across main fault zone, 35 ft from portal. Mostly green tuff w/ clay, limonite.
T798	Select	Adit T797. Altered tuff and fault gouge impregnated w/ Fe, Mn; possible SiO_2, chalcedony. From dump.
T799	Select	Cut, 15-ft-long. Fresh tuff w/ minor FeO, limonite on fractures, pyrite casts; tuff w/ MnO coating; altered tuff w/ light gray interior and MnO rind; trace quartz. From dump.
T800	Chip 1.4-ft h	Cut, 65-ft-long, 15-ft-wide (maximum). In part, caved into underground excavations. Full width of fracture zone at face. 20% secondary greenish quartz; remainder is moderately to heavily altered tuff (K-spar to gray-white clay); limonite; MnO stain; anglesite?
T801	Chip 0.3-ft h	Pit, flooded, possibly 4-ft-deep. 60% quartz, remainder is dark gray tuff.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T802	Select	Pit, flooded, possibly 5-ft-deep. Heavy MnO stained tuff, most w/ streamers of MnO in light colored rock. From dump.
T803	Chip 1.4-ft h	Cut, 20-ft-long. 4 in. clay; 2 in. tuff breccia; 11 in. clay-altered tuff.
T804	Chip 6-ft h	Pit, 10-ft across. Silicified tuff; local Mn coating and impregnation, minor clay, weakly altered.
T805	Chip 6-ft h	Trench, 12-ft-long. Predominantly silicified tuff w/ impregnated Mn; quartz/Mn mineralization in footwall.
T806	Select	Shaft, 13-ft-deep. Dense, Mn-rich tuff?; mammillary masses w/ white clay and granular quartz; cerussite?. From dump.
T807	Select	Pit, 8-ft across. Black, moderately dense, silica-enriched vein; replacement of tuff; minor limonite; high Mn; possible cerussite and manganite. From dump.
T808	Chip 2.5-ft h	Adit, 55-ft-long. Across back, 52 ft from portal. Moderately to heavily altered (chalky white) tuff, minor clay.
T809	Chip 3-ft h	Adit T808. 18 in. fault gouge and breccia of tuff; 18 in. silicified and Mn-impregnated fractured tuff w/ FeO.
T810	Chip 7-ft h	Adit, 140-ft-long. Across cross-structure, near portal. 4 ft dense brick red clay; 1.5 ft moderately altered (white, chalky) tuff on either side of fractured zone.
T811	Chip 6-ft h	Adit T810. Across cross-structure, 110 ft from portal. 4.2 ft lightly altered tuff; 0.6 ft moderately altered tuff (footwall); 1.2 ft clay w/ highly altered tuff; includes two clay seams 4 to 6 in.
T812	Select	Adit T810. Mostly highly altered tuff; very soft; collapses into formless lumps of clayey material; quartz veinlets; mimetite. From dump.
T813	Select	Adit T810. Probable vein material; dense, black, mottled w/ white clays; major quartz, manganite, clay, cerussite; minor hematite, secondary cerussite, mimetite, limonite; secondary quartz veinlets. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T814	Chip 3-ft d	Cut, 100-ft-long, w/ 20-ft highwall. Intersection of steeply dipping and gently dipping faults. Tuff; includes 1 ft powdery clay-altered tuff and 6 in. silicified and Fe-impregnated tuff.
T815	Chip 4-ft h	Trench, 50-ft-long. Tuff w/ two 1-in. vertical gray quartz veins.
T816	Chip 2.2-ft h	Cut, 28-ft-long. Across fault zone at face. 13 in. tuff; 13 in. gouge; FeO.
T817	Chip 3.4-ft h	Inaccessible adit, 75-ft-long. Across fault zone at portal. Mostly slightly altered tuff w/ cerussite on fractures, mimetite on fractures, and minor limonite; feldspars altered to clay; includes 3 in. clay gouge.
T818	Chip 3-ft h	Pit, 15-ft across. Varicolored tuff; slightly altered, highly fractured w/ light to heavy FeO, light Mn; includes 2 to 3% quartz veinlets.
T819	Select	Pit, 7-ft across and 20 ft to NE. of adit T817. Mimetite-coated tuff, quartz, black Mn-coated rock. From dump.
T820	Chip 1-ft h	Cut, 30-ft-long. From wall. 6 in. vein-quartz cutting fresh tuff.
T821	Select	Cut T820. Vein quartz w/ mimetite coating; some Mn coating, limonite, cerussite? From dump.
T822	Select	Shaft, 25-ft-deep. 10% moderately altered tuff w/ yellow grainy matrix; 20% quartzite; 70% silicified tuff, coated and impregnated w/ Mn, some mimetite. From dump.
T823	Select	Pit, 6-ft across. Grayish green vein quartz w/ limonite, Mn, cerussite?
T824	Chip 13-ft h	Inaccessible adit. Across fracture zone at portal. Very hard silicified tuff; rock flour gouge; limonite, hematite, and Mn-coated tuff; weakly impregnated w/ limonite; rare quartz veinlets; includes 2-ft quartz latite dike.
T825	Select	Adit T824. Fractured tuff; greenish gray quartz from veins; MnO-enriched, dense, cerussite pieces. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	Type, Length	Description
T826	Chip 6-ft h	Semicontinuous opencut on vein, 400-ft-long, 15-ft-wide (maximum), 10-ft-deep, maximum. Brittle dike rock, medium gray when fresh, weathered to brownish gray and black.
T827	Select	Same opencut as T826. Mostly white vein-quartz material w/ crystals up to 0.5 in. wide; some greenish gray coloration; some slightly vuggy w/ MnO and intimate association w/ pieces of tuff. From dump.
T828	Chip 4.2-ft h	Same opencut as T826. Across face. Mostly slightly altered fractured tuff; some tuff impregnated w/ limonite and Mn; includes 1 in. quartz and 1 in. clay.
T829	Chip 3-ft h	Same opencut as T826. Collected at bridge and narrow point in trench. White clay w/ nodules of gray quartz; remnants of varicolored fault gouge w/ pieces of gray rounded quartz.
T830	Select	Same opencut as T826. Brick red and black dike material; some highly altered dike rock w/ FeO rind; also some gray dike rock. From dump.
T831	Select	Same opencut as T826. Rare, heavy black mineralized material from dumps to northeast and along entire length of workings; shiny black material coating altered tuff, on white quartz, coating and internal to clay in crystalline quartz. From dump.
T832	Select	Stockpile(?). Same opencut as T826. Mimetite-coated tuff; Mn-impregnated black tuff; black dike material; red/brown dike material; quartz.
T833	Chip 1.5-ft h	Cut, 4-ft-long. Moderately altered and possibly resilicified reddish tuff; brick-red aphanitic rock; hard, possibly siliceous gouge/dike.
T834	Chip 2.5-ft h	Cut, 30-ft-long. Across cross-structure. Crushed zone of fresh to slightly altered tuff; 4 in. slightly clayey gouge; high MnO and hematite-colored stains.
T835	Select	Stockpile, small. Very dense; cerussite?, quartz, manganite, wad. Rock from working T836.
T836	Chip 1-ft h	Cut, 35-ft-long. Part of 4-ft-wide fault zone. Breccia consisting of reddish quartz pebbles and possible tuff fragments; matrix of white quartz veinlets; possible cerussite and altered feldspar; MnO; minor limonite.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T837	Chip 1.5-ft h	Pit, 17-ft across. Brownish gray tuff, some w/ MnO, trace SiO_2 flooding; includes two 8 in. clay gouge zones w/ mimetite.
T838	Chip 6-ft h	Pit, 6-ft across. Fractured brownish gray tuff; 3 ft silicified (along fractures); minor clay.
T839	Chip 5-ft h	Fig. 38. Intensely fractured tuff w/ FeO on fractures; slightly altered tuff; sparse thin quartz veinlets.
T840	Chip 2.6-ft h	Fig. 38. 18 in. clay and heavily stained clay; 10 in. tuff; 4 in. quartz.
T841	Chip 5-ft h	Fig. 38. Across fractured zone. Minor quartz veinlets in moderately altered tuff; minor clay, hematite coloration and limonite; some MnO stain.
T842	Chip 6-ft h	Fig. 38. 4.2 ft altered tuff; 1.8 ft white to brown clay.
T843	Select	Adit, backfilled; estimated 200-ft-long. Weakly to moderately altered tuff w/ local FeO; gray microcrystalline quartz; FeO quartz breccia. From dump.
T844	Chip 0.9-ft h	A 230-ft-long trend excavated by numerous, semicontinuous pits; also collapsed zones into old workings of adit T843. Deepest collapse zone is 60-ft-deep. Widest pit is 15-ft across. From bridge, near northeast end of line of pits. Brecciated tuff and clay; tuff and weakly clay-altered tuff; clay.
T845	Select	Trend T844, from dump. 80% tuff, weakly altered tuff, and tuff w/ yellowish green secondary mineralization; 20% gray microcrystalline quartz.
T846	Chip 3.5-ft h	Fig. 39; trench, 15-ft-long. Across structure. 1.8 ft tuff and clay-altered tuff; 1.7 ft tuff completely altered to clay.
T847	Select	Fig. 39. Gray microcrystalline to crystalline quartz w/ malachite; tuff w/ heavy FeO and clay. From dump.
T848	Select	Fig. 39, 40. Along length of dump. Includes FeO and secondary minerals (white to yellow/green to light blue).

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit

Sample no.	Type, Length	Description
T849	Chip 10-ft h	Shaft, flooded at 20-ft depth; possibly 100-ft-deep. Fractured rhyolite porphyry w/ oxidization and weak silicification on fractures; possible white opal.
T850	Chip 6-ft h	Cut, 25-ft-long. Fractured and Fe-stained rhyolite w/ paper-thin white to baby blue chalcedony?
T851	Chip 4-ft d	Adit, 22-ft-long. Across back. Weakly altered porphyry; possible secondary uranium minerals.
T852	Chip 11-ft d	Cut, 25-ft-long. Quartz latite intrusive?; fractured, Fe-stained, possible light green mineral on fractures.
T853	Chip 3.5-ft h	Shaft, 10-ft-deep. Across possible structure. Fractured tuff; light to moderate FeO in 6-in. interval.
T854	Chip 2-ft h	Shaft, flooded at 10-ft depth; possibly 25-ft-deep. Across possible structure. Fractured tuff; strong silicification; light FeO.
T855	Chip 4-ft h	Adit, 5-ft-long. Across possible structure. Fractured tuff; light FeO on fractures.
T856	Chip 12-ft h	Cut, 20-ft-long. Across shear zone. Fractured tuff w/ clay and a trace of gray quartz.
T857	Select	Stockpile from working T856. Gray siliceous material w/ CuO.
T858	Chip 6-ft h	Inaccessible adit, >20-ft-long. Clay and fractured tuff; trace gray quartz.
T859	Chip 4-ft h	Cut, 30-ft-long. Adjacent to fault zone of T861, at face of cut. Light colored tuff; possibly rehealed w/ clay or silica.
T860	Select	Working T859. Yellowish gray jasperoid; crystalline quartz; hard light yellowish gray gouge? w/ CuO stain; all <2% of total waste dump material. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T861	Chip 1.5-ft h	Working T859. Part of 6-ft-wide fault zone, at face of cut. Fractured and brecciated tuff w/ white clay gouge.
T862	Select	Shaft, flooded at 40-ft depth. Bleached to weakly altered tuff; Fe- and Mn-stained tuff; rare CuO on weakly altered light yellow/green tuff; probably does not represent ore zone. From dump.
T863	Chip 0.5-ft h	Cut, 10-ft-long. Full width of shear zone. Clay w/ tuff, limonite, MnO.
T864	Chip 2.3-ft h	Adit, 33-ft-long. At face. Breccia w/ possible argillic material; clay gouge.
T865	Chip 1.5-ft h	Adit, 27-ft-long. Decomposed tuff and clay; FeO.
T866	Chip 4-ft h	Adit, 47-ft-long. Across back. All tuff except 10-ft intensely mineralized zone w/ quartz and sphalerite, FeO.
T867	Chip 4-ft nv	Adit T866. Across gently dipping fracture zone. Altered tuff and clay; malachite, calcite, FeO.
T868	Chip 3-ft h	Cut, 9-ft-long. Across full width of breccia zone. Brecciated tuff, calcite gangue, dark reddish brown; all heavy FeO; trace calcite veinlets; pieces of vein quartz.
T869	Chip 13-ft h	Cut, 12-ft-long. Mostly white weakly altered tuff, heavily fractured; FeO, limonite, heavy FeO; light colored (altered) dike rock in upper part.
T870	Chip 3-ft h	Adit with opencut at portal; combined length 75-ft. Across full width of fault zone in back near portal of adit. Fractured conglomerate; weak clay alteration; minor silicification in structure.
T871	Chip 4-ft d	Adit T870. Across wall of cut, 40 ft from portal to adit. Light gray weakly altered and locally silicified (w/ quartz veins) conglomerate wall rock.
T872	Chip 2-ft h	Adit T870. Across fault zone at face of cut. 0.3 to 0.5 ft massive silica; 0.2 ft clay fault gouge; remainder fine breccia and resilicified conglomerate.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T873	Chip 6-ft h	Cut, 42-ft-long w/ 30-ft highwall. From face of cut. Fe-stained and recemented breccia of altered rhyodacite?
T874	Select	Cut T873. Original lithology unidentified but is green w/ quartz and thin calcite veins; contains galena. From dump and stockpile.
T875	Grid	Cut, 36-ft-long. Soft altered quartz monzonite?; sparse quartz phenocrysts; minor FeO. From dump.
T876	Select	Pit, 8-ft-deep, sloughed-in. Quartz-microcline-calcite rock containing sphalerite, trace pyrite, FeO, jarosite, CuO.
T877	Chan-nel	Cut, 60-ft-long; possible backfilled adit. Green to red altered (chloritic?) rock, probably altered quartz monzonite; trace pyrite and trace calcite. From dump.
T878	Chip 8-ft h	25-ft-long cut in front of collapsed adit. Across possible fault zone. Gouge; brecciated white siliceous (rhyolitic dike) material; possible very fine sulfides.
T879	Chip 15-ft h	Cut, 18-ft-long. Across fault zone. White variously fractured and Fe-stained siliceous rhyolite? w/ limonite, disseminated pyrite, rare malachite.
T880	Chip 1.8-ft h	Cut, 14-ft-long. Fine-grained green rock, weathered brown on surface; altered tuff or dike rock; quartz veinlets and 1 in. wide limonite zone.
T881	Chip 2.3-ft h	Adit, 97-ft-long. Across fractured material next to fault at face. 6 in. gouge breccia; 14 in. Fe-stained conglomerate; 7 in. tuff w/ disseminated pyrite.
T882	Chip 20-ft h	Adit T881. Across width of fractured zone in back, 50 ft from portal. Gouge w/ pieces of conglomerate (which appear silicified), limonite, weathered pyrite casts.
T883	Chip 5-ft h	Adit T881. Across back at portal. Fault breccia and breccia of conglomerate; includes about 8 in. Fe-stained quartz w/ disseminated coarse pyrite, limonite, jarosite stain.
T884	Select	Adit T881. Vein quartz; 5% sphalerite; minor pyrite, chalcopyrite, malachite, jarosite. From dump.
T885	Chip 1.8-ft h	Adit, 130-ft-long; portal is 50-ft below portal of T881-884 adit. Across fault zone and vein in back, 15 ft northeast of winze at face. Silicified conglomerate; includes 1 in. wide vein that contains 2% sphalerite and limonite stain.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T886	Chip 6-ft h	Adit T885. Across fault intersection in back, 83 ft from portal. 4 ft Fe-stained tuff; 0.9 ft fault gouge; 0.6 ft silica w/ pyrite.
T887	Chip 3-ft h	Adit T885. Across full width of fracture zone, in back, 24 ft from portal. Fractured and brecciated conglomerate; locally Fe-stained.
T888	Chip 1.5-ft h	Inaccessible adit, 30-ft-long, with cut, 30-ft across, at portal. Across back at portal. White clay fault gouge; aphanitic rock; FeO, CuO.
T889	Chip 5-ft h	Adit T888. Across back at portal. Conglomerate w/ green tinge; possible clay alteration, local weak FeO.
T890	Select	Adit T888. Mostly sulfidized quartz material; sphalerite, MnO, goethite. From dump.
T891	Chip 2.5-ft h	Adit, accessible for only first 45-ft in from portal. Across fault zone in back, 35 ft from portal. 18 in. is siliceous conglomerate w/ minor malachite stain, heavy limonite stain, minor sphalerite; remaining 10 in. is clay gouge.
T892	Grid, (10-ft sp)	Shaft, flooded at 15-ft depth. Finely crystalline siliceous material; disseminated pyrite, jarosite, limonite stain, MnO.
T893	Chip 5-ft h	Adit, 9-ft-long. Across face. Altered conglomerate w/ clay texture, CuO. Rare quartz on rib.
T894	Chip 12-ft h	2 cuts, each 10-ft-long. Fe-stained and locally silicified rhyolite or rhyodacite.
T895	Chip 0.8-ft h	Shaft, flooded at 6-ft depth. Across full width of fracture zone. Fractured and brecciated conglomerate.
T896	Chip 4-ft h	Shaft, partially backfilled; 10-ft-deep. Across fault zone. Gouge; pieces of dike rock; CuO, Mn, limonite.
T897	Select	Shaft T896. Abundant sugary granular quartz; pyrite, sphalerite, chalcopyrite, malachite, limonite. From dump.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T898	Chip	Outcrop and float near pit, 6-ft across. Fe-stained siliceous material w/ quartz veins.
T899	Chip 3.4-ft h	Cut, 15-ft-long. Siliceous zone w/ thin stringers of quartz; includes calcite pods, trace pyrite.
T900	Chip 12-ft h	Outcrop. Semi-consolidated Fe-stained altered rock.
T901	Select	Outcrop. Bleached whitish tuff w/ heavy limonite coating on fractures.
T902	Chip 85-ft h	Roadcut. Light gray loose altered tuff; multiple fractures, local deposition of Fe, possible light local deposition of silica.
T903	Chip 20-ft h	Possible cut, 20-ft across. Massive brown rhyolite; no mineralization or alteration.
T904	Select	Pit, 4-ft across. White agate-vein material. From dump.
T905	Select	Pit, 12-ft across. Float and dump. Opal and chalcedony.
T906	Select	Pit, 10-ft across. 1-in. opal veins.
T907	Select	Pit, 50-ft across. Quartz, opal, agate from 1-in. veins.
T908	Select	Pit, 12-ft across, near larger pit, 65-ft across. Thin discontinuous stringers, veins, and pockets of white opal, 0.25 to 4 in. thick, making up <0.5% of country rock (rhyolite). Outcrop and float.
T909	Chip 2.5-ft h	Cut, 12-ft-long. Quartz porphyry or fine granite w/ 1- to 3-in. quartz veins; light green to light pinkish gray cast on surface.
T910	Select	Shaft, 8-ft-deep. Very slightly sericitized pinkish granite w/ rare calcite veins. From dump.
T911	Chip 10-ft v	Adit, 85-ft-long. At entrance to side-drift, 40 ft from portal. Across gently dipping microcrystalline quartz vein w/ powder blue CuO.
T912	Chip 3-ft v	Adit T911. From face. Mostly altered rock w/ up to 1 ft total quartz w/ Cu.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T913	Chip 4-ft h	Cut, 100-ft-long, 15-ft-wide. Reddish altered granite.
T914	Chip 7-ft v	Cut T913. White to red granite w/ isolated patches CuO; granite is lightly clay-altered w/ thin clay zones, weak brick-red FeO.
T915	Chip 2-ft h	Cut T913. From bridge around mid-point of cut. Granite and silicified granite w/ up to 15% quartz vein material, FeO, CuO.
T916	Chip 5-ft d	Cut, 30-ft-long. From face. Fractured, altered granite in hanging wall of fault; weak silicification and sericitization; clay alteration.
T917	Chip 6-ft d	Adit, 35-ft-long. Across face. Quartz-sericite altered granite.
T918	Chip 6-ft d	Pit, 7-ft across. 3 ft fractured moderately Fe-stained granite; 3 ft quartz; light Cu stain.
T919	Chip 3-ft v	Inaccessible adit, 20-ft-long. Cu-rich siliceous material on rib. Quartz, FeO, CuO, possible malachite.
T920	Chip 4-ft h	Outcrop. Clear quartz vein, possible trace limonite: In fine quartz-Kspar granite.
T921	Chip 8-ft h	Cut, 47-ft-long. Fractured, altered, and sheared white rhyolite w/ heavy FeO internally on fractures, minor recementing, rare CuO.
T922	Chip 5-ft h	Pit, 40-ft diameter. Fractured rhyolite w/ FeO, green CuO.
T923	Chip 8-ft h	Adjacent to T922 working. Dense, possibly resilicified rhyolite w/ very light possible CuO; true width of sampled rock unit is 16 ft.
T924	Chip 5-ft h	Pit, 9-ft across. Clay-altered rhyolite w/ very light green clay in matrix?

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T925	Chip 5-ft h	Pit, 10-ft across. 2- to 3-in. quartz veins w/ FeO filling voids.
T926	Chip 2-ft h	Pit, 8-ft across. White banded quartz; quartz w/ open spaces; quartz-filled breccia w/ pieces of rhyolite.
T927	Chip 5-ft h	Pit, 10-ft-long. Basalt dike.
T928	Select	Two trenches, 60-ft to 80-ft-long and 10-ft-wide. Gray quartz w/ CuO, pyrite, hematite, epidote. Float.
T929	Chip 1.8-ft h	Adit, 56-ft-long. Across back at portal. Clay gouge and wall rock, no mineralization.
T930	Chip 30-ft h	Outcrop. Black quartz dike cut by thin gray siliceous veins.
T931	Select	Outcrop. Taken over 100-ft-diameter area. 80% white quartz from veins to 6 in. thick; 20% pinkish gray rhyolitic tuff breccia.
T932	Select	Outcrop. 25% resistant fresh pinkish gray rhyolite; 75% rare quartz veins.
T933	Select	Pit, 61-ft-long, 40-ft-wide. 1 to 3 mm thick chalcedony fracture fillings and pods. These amount to only a trace of the total rock on site. From outcrop.
T934	Chip 24-ft h	Cut, 185-ft-long, 30-ft-wide (maximum), 28-ft-deep. 125 ft from southeast end of cut, on northeast wall. Across faulted, weakly sheared, and rehealed brownish gray to yellowish gray rhyolite in vertical structure.
T935	Chip 2.5-ft h	Pit, 15-ft across. Across sheared rhyolite; slicks in various orientations w/ light Fe stain.
T936	Chip 4-ft h	Pit. Lithic welded tuff; minor white ash.

Appendix B., sample descriptions, Atascosa-Pajarito-San Luis-Tumacacori Mountains Unit		
Sample no.	**Type, Length**	**Description**
T937	Chip 4-ft d	Pit, 8-ft across. Rhyolite? w/ 2 to 3 in. soft sandy clay; some fault gouge.
T938	Chip 2.5-ft d	Inaccessible adit, flooded beyond 12 ft. Across portal. Fresh and altered pinkish gray porphyritic latite?
T939	Chip 3-ft h	Adit, 95-ft-long. Across face, emphasizing matrix. Rust/brown matrix friable recemented gravel, pebbles felsic to intermediate volcanic, some bleached rims, all representative of most of adit.
T940	Chip 3.5-ft h	Cut, 85-ft-long, 25-ft-wide (maximum), 9-ft-deep. White, biotite-rich small block of tuff w/ FeO.
T941	Chip 6-ft v	Adit, 50-ft-long. From face. 1.8 ft white brecciated tuff w/ light FeO, biotite; remainder is brownish gray dense broken rhyolite.
T942	Chip 4-ft h	Adit, 10-ft-long and adjacent cut, 45-ft-long. 3.4 ft fractured fine lithic tuff; 0.6 ft pinkish talus; light Fe stain.
T943	Chip 11-ft h	Trench, 100-ft-long, 25-ft-wide (maximum). 7.7 ft friable loose weathered/altered intrusive; 3.3 ft angular blocks intrusive; local light Fe stain.
T944	Select	Outcrop. From 12-ft block. Whitish slightly welded crystal lithic pumiceous tuff.
T945	Chip 100-ft h	Outcrop. Across multiple fault zones. Fault gouge and brecciated tuff; limonite, hematite, Mn stain.
T946	Chip 10-ft h	Outcrop. Very light gray to very light greenish gray fault breccia and fractured tuff, some healed w/ silica.
T947	Chip 10-ft h	Adit, 4-ft-long. By portal. White quartz-filled breccia in hanging wall of T948 vein.
T948	Chip 2.5-ft h	Outcrop at T947 adit. Across hard white quartz vein w/ heavy Mn coating.

APPENDIX C. ANALYSES OF ROCK-CHIP SAMPLES FROM THE ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT BY CHEMEX LABS, INC., USING INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROSCOPY METHOD

Element	Detection limit [lower/upper (if applicable)]
Ag (silver)	0.2 ppm/200 ppm
Al (aluminum)	0.01%/15.00%
As (arsenic)	2 ppm/10,000 ppm
Ba (barium)	10 ppm/10,000 ppm
Be (beryllium)	0.5 ppm/100.0 ppm
Bi (bismuth)	2 ppm/10,000 ppm
Ca (calcium)	0.01%/15.00%
Cd (cadmium)	0.5 ppm/100 ppm
Co (cobalt)	1 ppm/10,000 ppm
Cr (chromium)	1 ppm/10,000 ppm
Cu (copper)	1 ppm/10,000 ppm
Fe (iron)	0.01%/15.00%
Ga (gallium)	10 ppm/10,000 ppm
Hg (mercury)	1 ppm/10,000 ppm
K (potassium)	0.01%/10.00%
La (lanthanum)	10 ppm/10,000 ppm
Mg (magnesium)	0.01%/15.00%
Mn (manganese)	5 ppm/10,000 ppm
Mo (molybdenum)	1 ppm/10,000 ppm
Na (sodium)	0.01%/5.00%
Ni (nickel)	1 ppm/10,000 ppm
P (phosphorus)	10 ppm/10,000 ppm
Pb (lead)	2 ppm/10,000 ppm
Sb (antimony)	2 ppm/10,000 ppm
Sc (scandium)	1 ppm/10,000 ppm
Sr (strontium)	1 ppm/10,000 ppm
Ti (titanium)	0.01%/5.00%
Tl (thallium)	10 ppm/10,000 ppm
U (uranium)	10 ppm/10,000 ppm
V (vanadium)	1 ppm/10,000 ppm
W (tungsten)	10 ppm/10,000 ppm
Zn (zinc)	2 ppm/10,000 ppm

APPENDIX C. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT
INDUCTIVELY COUPLED PLASMA-ATOMIC EMISSION SPECTROSCOPY ANALYSES OF SAMPLES BY CHEMEX LABS, INC.--Continued

[*, less than; <, less than (lower detection limit elevated by interference from other elements); >, greater than; ^, overlimit result in oz/st, determined by fire assay; @, overlimit result in %, determined by atomic absorption with aqua regia digestion]

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T001	1.8	0.82	< 5	60	0.5	2	3.32	< 0.5	8	56	42	1.54	20	2	0.31	20	0.31	650	24	0.03	54	290	48	5	1	100	<0.01	10	< 10	27	< 10	50
T002	1.2	0.42	< 5	340	0.5	6	1.29	< 0.5	8	108	109	1.45	10	< 1	0.22	10	0.08	1010	12	0.02	30	80	82	5	< 1	39	<0.01	< 10	< 10	8	< 10	48
T003	4.6	0.60	15	50	< 0.5	24	12.09	< 0.5	5	35	57	1.07	40	1	0.17	30	0.30	1660	13	0.03	18	230	58	5	1	295	<0.01	< 10	< 10	9	< 10	50
T004	15.6	0.94	< 5	30	< 0.5	38	3.22	< 0.5	19	49	3192	8.41	10	< 1	0.26	30	0.21	975	3	0.07	< 1	240	324	10	2	60	0.03	< 10	< 10	31	200	86
T005	0.6	0.31	5	50	< 0.5	< 2	0.02	< 0.5	< 1	254	64	1.37	< 10	< 1	0.16	10	0.02	95	5	0.04	11	30	52	5	1	4	0.02	< 10	20	14	< 10	14
T006	0.6	0.25	< 5	40	< 0.5	12	0.02	< 0.5	4	317	63	1.00	< 10	< 1	0.11	< 10	0.02	95	9	0.01	9	40	16	5	< 1	2	<0.01	20	10	7	< 10	10
T007	3.8	0.39	< 5	100	< 0.5	24	0.03	< 0.5	< 1	260	93	1.58	< 10	6	0.28	10	0.02	115	7	0.01	11	140	492	5	< 1	9	<0.01	10	< 10	16	< 10	140
T008	0.6	0.56	5	110	< 0.5	< 2	0.06	< 0.5	2	113	20	1.47	< 10	2	0.37	30	0.08	200	4	0.02	6	290	52	5	< 1	5	0.03	10	< 10	7	< 10	30
T009	2.2	0.44	5	90	< 0.5	18	0.02	< 0.5	3	217	48	1.14	< 10	< 1	0.25	20	0.02	45	7	0.01	3	100	220	5	< 1	12	0.01	< 10	< 10	20	< 10	52
T010	0.8	0.61	5	60	< 0.5	< 2	0.02	< 0.5	1	181	34	1.43	< 10	8	0.33	30	0.05	130	4	0.03	8	80	42	5	< 1	4	0.01	< 10	< 10	7	< 10	46
T011	0.4	0.41	5	100	< 0.5	20	0.07	< 0.5	2	107	39	1.54	< 10	< 1	0.29	30	0.05	215	4	0.05	3	150	20	5	< 1	4	0.02	< 10	< 10	6	< 10	18
T012	18.6	0.54	5	50	< 0.5	52	0.25	< 0.5	3	110	3888	2.21	< 10	< 1	0.39	30	0.05	835	6	0.06	4	50	1490	5	1	9	0.01	10	20	104	< 10	128
T013	15.8	0.30	10	400	< 0.5	16	0.14	0.5	< 1	125	580	1.26	< 10	3	0.24	10	0.03	160	8	0.01	7	80	334	5	< 1	18	<0.01	< 10	< 10	8	< 10	198
T014	106.6	0.35	< 5	1280	< 0.5	118	0.03	20.5	< 1	196	8277	1.64	< 10	2	0.30	10	0.03	65	16	0.01	5	40	4896	5	< 1	90	<0.01	< 10	< 10	6	< 10	498
T015	4.2	0.55	10	190	< 0.5	28	0.02	1.5	< 1	138	223	2.49	< 10	< 1	0.41	20	0.03	40	22	0.02	4	90	1660	5	< 1	24	<0.01	< 10	< 10	13	< 10	142
T016	0.8	1.12	< 5	390	< 0.5	< 2	7.14	< 0.5	4	81	31	1.39	30	1	0.31	40	0.36	1930	5	0.02	4	300	16	5	2	156	0.09	< 10	< 10	22	20	82
T017	39.0	0.15	< 5	20	< 0.5	148	0.03	< 0.5	1	254	753	1.42	< 10	3	0.08	< 10	< 0.01	75	29	0.01	7	20	708	5	< 1	11	<0.01	< 10	< 10	71	10	102
T018	47.4	0.08	< 5	20	< 0.5	1316	0.32	< 0.5	< 1	287	143	1.93	< 10	< 1	0.02	< 10	< 0.01	80	34	0.01	10	20	54	5	< 1	6	<0.01	< 10	10	3	810	8
T019	2.6	0.10	< 5	20	< 0.5	180	0.02	< 0.5	4	240	147	1.69	< 10	< 1	0.05	< 10	< 0.01	75	47	0.01	6	30	62	5	< 1	3	<0.01	10	< 10	2	80	16
T020	4.8	0.60	5	290	0.5	518	0.08	< 0.5	< 1	266	112	2.40	< 10	< 1	0.34	< 10	0.04	160	126	0.01	2	160	94	5	1	98	<0.01	10	< 10	9	1610	52
T021	1.2	0.34	< 5	70	< 0.5	162	0.03	< 0.5	< 1	216	204	1.53	< 10	< 1	0.20	10	0.02	405	50	0.04	10	* 200	38	5	< 1	12	<0.01	10	10	5	600	24
T022	2.2	0.84	< 5	40	< 0.5	40	0.06	< 0.5	2	93	@ 1.13	1.37	< 10	4	0.46	< 10	0.05	50	76	0.04	2	< 10	28	5	1	37	<0.01	10	< 10	9	< 10	56
T023	1.0	0.35	5	30	4.5	458	0.06	< 0.5	1	217	431	2.93	< 10	< 1	0.24	< 10	0.04	130	7	0.03	6	90	36	5	< 1	6	<0.01	10	< 10	16	280	12
T024	2.8	0.28	< 5	10	< 0.5	16	0.01	< 0.5	1	288	79	0.83	< 10	2	0.21	< 10	< 0.01	65	9	0.01	12	60	42	5	< 1	2	<0.01	20	< 10	4	10	10
T025	3.6	0.68	< 5	90	< 0.5	20	0.03	< 0.5	< 1	222	95	0.74	10	3	0.45	20	0.02	320	13	0.01	7	10	132	5	< 1	8	<0.01	10	< 10	18	30	74
T026	8.8	0.67	15	60	0.5	246	0.02	< 0.5	1	208	322	2.14	10	2	0.44	20	0.01	125	64	0.01	5	120	724	5	< 1	16	<0.01	< 10	10	37	90	284
T027	2.4	0.57	< 5	40	< 0.5	< 2	0.02	< 0.5	2	221	140	0.78	< 10	< 1	0.41	10	0.01	210	16	0.01	12	80	324	5	< 1	13	<0.01	10	< 10	33	10	180
T028	4.0	0.88	5	70	< 0.5	116	0.03	< 0.5	3	228	226	3.31	< 10	< 1	0.62	10	0.05	190	153	0.02	10	320	130	5	1	196	<0.01	10	< 10	9	1060	52
T029	0.8	0.22	< 5	70	< 0.5	8	0.05	< 0.5	1	278	528	8.10	< 10	3	0.03	< 10	0.02	100	536	0.01	11	150	8	5	< 1	64	<0.01	10	< 10	25	< 10	6
T030	4.8	0.97	< 5	110	< 0.5	10	0.13	< 0.5	12	193	813	5.69	< 10	< 1	0.54	30	0.06	400	254	0.03	8	200	44	5	1	11	0.01	< 10	< 10	48	* 50	44
T031	50.8	0.31	15	610	< 0.5	* 20	0.08	< 0.5	< 1	211	@ 6.83	3.86	< 10	< 1	0.10	10	0.02	90	447	0.01	5	< 10	16	5	1	51	<0.01	20	10	16	< 10	54
T032	2.2	1.11	< 5	180	< 0.5	12	0.14	< 0.5	11	114	2704	2.64	< 10	< 1	0.60	30	0.14	640	9	0.05	5	350	54	5	1	24	0.01	< 10	10	17	< 10	124
T033	0.8	0.98	20	230	< 0.5	22	0.66	< 0.5	4	101	1173	2.42	< 10	< 1	0.40	30	0.32	455	12	0.07	7	500	12	5	1	30	0.01	< 10	10	18	< 10	30
T034	21.6	1.42	5	280	< 0.5	* 20	5.29	< 0.5	24	57	@ 1.25	>15.00	10	< 1	0.13	30	0.44	1645	167	0.04	4	200	36	20	4	45	0.09	< 10	< 10	109	1800	168
T035	^ 9.41	1.75	< 5	1750	< 0.5	304	1.07	< 0.5	11	68	@ 2.18	5.75	< 10	2	0.27	20	0.71	715	89	0.02	16	200	38	30	3	111	0.09	10	20	67	750	112
T036	98.0	2.09	< 5	920	< 0.5	362	0.62	< 0.5	11	93	5624	3.18	< 10	< 1	0.50	10	1.05	680	12	0.04	13	700	54	5	3	58	0.08	10	< 10	53	< 10	174
T037	0.4	1.06	35	150	< 0.5	22	0.42	< 0.5	35	114	81	7.68	< 10	2	0.46	30	0.11	145	8	0.04	8	380	28	5	1	53	0.02	20	< 10	79	< 10	18
T038	140.8	1.56	< 5	800	< 0.5	198	0.73	< 0.5	4	194	7495	2.85	< 10	< 1	0.43	10	0.32	535	42	0.04	6	540	166	5	1	69	0.07	< 10	10	26	< 10	48
T039	133.6	1.85	< 5	760	< 0.5	70	1.27	< 0.5	10	131	6709	4.94	10	< 1	0.31	10	0.49	720	93	0.05	9	450	90	5	1	73	0.07	10	< 10	33	< 10	80
T040	2.0	1.07	< 5	80	< 0.5	8	7.88	< 0.5	4	51	473	1.28	30	2	0.48	40	0.32	870	42	0.03	1	640	734	15	< 1	92	0.01	10	< 10	38	10	36
T041	2.4	1.71	< 5	220	< 0.5	< 2	3.90	< 0.5	1	114	1040	1.34	20	1	0.44	30	0.41	530	5	0.05	7	390	16	15	1	90	<0.01	< 10	< 10	11	< 10	34
T042	3.2	1.47	< 5	230	< 0.5	< 2	2.05	< 0.5	3	101	433	2.16	10	< 1	0.64	30	0.40	845	17	0.05	3	770	68	5	1	71	0.02	20	< 10	12	< 10	58
T043	2.6	2.35	< 5	230	< 0.5	< 2	0.61	< 0.5	11	120	591	2.60	10	5	0.86	20	0.88	825	14	0.05	12	930	42	5	2	70	0.11	< 10	10	43	50	124
T044	165.0	2.02	< 5	980	< 0.5	242	1.21	< 0.5	8	222	9517	6.92	10	< 1	0.49	10	0.86	795	350	0.01	31	500	52	10	2	121	0.11	< 10	< 10	85	130	148
T045	< 0.2	0.54	< 5	670	< 0.5	12	1.41	< 0.5	3	145	5	1.03	10	< 1	0.24	20	0.14	255	1	0.04	5	220	62	5	< 1	68	<0.01	< 10	< 10	10	10	14
T046	90.2	0.56	40	870	0.5	10	2.40	4.0	2	166	4074	1.24	20	< 1	0.28	20	0.05	780	7	0.01	3	300	1328	90	1	73	<0.01	< 10	< 10	26	< 10	126

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T047	83.6	0.23	730	>10000	< 0.5	176	1.49	8.0	4	259	742	0.88	20	< 1	0.09	10	0.03	455	58	0.01	6	430	# 3.15	590	< 1	910	<0.01	< 10	< 10	8	20	34
T048	< 0.2	0.08	< 5	>10000	< 0.5	6	0.03	< 0.5	3	321	6	0.76	10	< 1	0.02	< 10	< 0.01	60	6	0.01	7	50	36	10	< 1	534	<0.01	< 10	< 10	3	10	10
T049	^ 7.61	0.28	80	1300	1.0	* 20	0.05	< 0.5	27	232	# 3.81	7.09	< 10	5	0.16	< 10	0.03	# 6.19	19	0.01	13	* 200	7730	760	1	341	<0.01	< 10	20	21	* 50	1924
T050	63.8	0.10	10	120	< 0.5	24	0.05	7.0	6	273	3355	2.31	< 10	< 1	0.07	< 10	< 0.01	245	14	0.01	17	140	# 1.40	140	< 1	245	<0.01	< 10	< 10	19	< 10	1096
T051	52.6	0.72	45	140	0.5	30	0.03	12.0	5	249	1140	1.86	< 10	1	0.43	20	0.03	3365	5	0.01	9	190	3242	730	< 1	9	<0.01	< 10	10	19	< 10	258
T052	11.0	0.91	10	380	0.5	< 2	0.04	< 0.5	2	126	300	1.14	< 10	1	0.51	30	0.03	1770	2	0.01	8	120	1236	45	1	15	<0.01	10	< 10	10	< 10	222
T053	^ 9.52	0.17	225	130	1.0	80	0.02	< 0.5	2	266	# 2.74	7.93	< 10	20	0.10	< 10	0.02	965	20	0.01	11	* 200	5294	2195	1	25	<0.01	< 10	40	19	* 50	1238
T054	^ 5.54	0.40	70	210	< 0.5	120	0.05	13.5	< 1	196	6979	1.20	< 10	< 1	0.24	10	0.03	1060	18	0.01	10	80	2776	695	< 1	13	<0.01	< 10	40	4	< 10	736
T055	4.2	0.56	15	260	< 0.5	< 2	0.06	2.5	3	141	320	0.95	< 10	< 1	0.36	20	0.03	1185	5	0.02	3	80	718	110	< 1	19	<0.01	< 10	< 10	11	10	332
T056	^ 7.21	0.08	90	130	< 0.5	* 20	0.03	60.5	10	187	# 2.34	4.41	< 10	< 1	0.02	10	0.01	# 5.31	45	<0.01	4	* 200	9360	720	< 1	85	<0.01	< 10	60	7	* 50	4036
T057	4.8	0.62	< 5	70	< 0.5	24	0.08	< 0.5	1	71	807	0.81	< 10	2	0.35	20	0.04	265	2	0.01	3	120	334	50	< 1	8	<0.01	10	< 10	3	10	502
T058	5.0	0.73	< 5	330	0.5	14	0.05	3.0	< 1	101	689	1.16	10	< 1	0.44	20	0.03	2220	1	0.01	< 1	110	788	100	< 1	42	<0.01	< 10	10	6	10	380
T059	6.4	0.57	30	40	< 0.5	4	0.04	< 0.5	1	201	364	1.05	< 10	3	0.38	10	0.02	285	5	0.01	< 1	80	568	130	< 1	3	<0.01	< 10	< 10	4	< 10	278
T060	172.8	0.10	160	140	< 0.5	< 2	0.06	71.0	12	292	9503	3.99	< 10	29	0.05	10	0.01	9725	88	0.02	6	1790	# 5.03	710	< 1	230	<0.01	< 10	40	16	< 10	5346
T061	^ 31.50	0.49	315	120	1.0	* 20	0.15	>100.0	2	201	# 5.54	3.99	< 10	66	0.31	10	0.04	3290	15	0.03	6	* 200	# 1.04	>10000	1	47	<0.01	< 10	70	7	* 50	5620
T062	^ 17.40	0.37	175	890	1.0	* 20	0.97	15.5	9	189	# 7.52	7.30	< 10	25	0.19	< 10	0.06	1200	10	0.02	11	* 200	2794	2395	2	74	<0.01	10	40	7	* 50	2342
T063	^ 8.43	0.19	70	240	< 0.5	160	0.03	< 0.5	< 1	280	# 0.98	3.76	< 10	6	0.11	10	0.01	4660	28	0.01	6	400	9606	335	< 1	74	<0.01	< 10	20	3	* 50	412
T064	23.4	0.09	15	10	< 0.5	12	0.01	< 0.5	< 1	361	233	1.05	< 10	< 1	< 0.01	< 10	< 0.01	325	6	0.02	9	30	366	95	< 1	3	<0.01	< 10	< 10	6	< 10	60
T065	3.0	0.27	5	20	< 0.5	4	0.01	< 0.5	1	372	118	1.00	< 10	< 1	0.10	< 10	0.01	150	5	0.01	17	40	258	10	< 1	2	<0.01	< 10	< 10	6	< 10	26
T066	^ 12.70	0.17	45	140	< 0.5	80	0.02	< 0.5	4	296	# 1.66	2.70	< 10	< 1	0.11	< 10	0.01	930	15	0.01	13	* 200	# 2.04	190	< 1	86	<0.01	< 10	< 10	9	* 50	334
T067	23.2	0.08	< 5	40	< 0.5	10	0.01	0.5	< 1	304	377	1.71	< 10	< 1	0.02	< 10	< 0.01	60	10	0.02	15	20	2618	15	< 1	8	<0.01	< 10	< 10	49	< 10	102
T068	6.2	0.15	15	40	< 0.5	< 2	0.01	< 0.5	< 1	268	161	1.77	< 10	10	0.08	< 10	< 0.01	410	6	0.02	10	30	772	50	< 1	3	<0.01	< 10	< 10	46	< 10	212
T069	6.4	0.56	15	70	0.5	8	0.04	0.5	< 1	159	250	1.09	< 10	< 1	0.28	30	0.04	140	4	0.03	11	140	558	20	< 1	8	<0.01	< 10	< 10	68	< 10	290
T070	145.6	0.35	195	150	1.0	28	0.06	27.5	< 1	210	3038	3.65	< 10	63	0.14	10	0.01	# 2.69	82	0.02	8	1180	# 2.14	2705	< 1	31	<0.01	< 10	30	826	< 10	916
T071	5.4	0.73	25	110	0.5	< 2	0.03	1.5	4	220	396	1.53	< 10	< 1	0.36	10	0.05	785	4	0.03	8	60	1088	175	1	14	<0.01	< 10	10	124	< 10	210
T072	0.4	0.14	5	20	< 0.5	4	0.01	< 0.5	< 1	403	417	0.87	< 10	< 1	0.02	< 10	< 0.01	85	10	0.01	15	30	1552	5	< 1	2	<0.01	< 10	< 10	386	< 10	80
T073	69.4	0.48	15	250	< 0.5	18	0.03	8.5	5	154	883	0.96	< 10	9	0.18	< 10	0.04	100	39	0.01	7	290	3582	295	< 1	14	<0.01	< 10	< 10	145	< 10	454
T074	1.2	0.50	< 5	180	< 0.5	16	0.07	< 0.5	2	60	33	0.74	< 10	< 1	0.34	20	0.05	465	3	0.02	2	60	222	15	< 1	11	<0.01	< 10	< 10	7	< 10	136
T075	32.8	0.19	25	70	< 0.5	8	0.02	4.5	< 1	176	139	1.04	< 10	18	0.10	< 10	< 0.01	50	29	0.01	3	130	1330	180	< 1	2	<0.01	< 10	< 10	87	10	152
T076	4.0	0.54	15	60	< 0.5	< 2	0.02	< 0.5	3	126	139	0.70	< 10	< 1	0.29	10	0.03	960	6	0.01	< 1	140	2048	50	< 1	5	<0.01	< 10	< 10	50	10	152
T077	1.0	0.15	< 5	10	< 0.5	8	0.01	< 0.5	4	237	26	0.65	< 10	2	0.10	< 10	< 0.01	70	5	0.01	6	< 10	204	15	< 1	1	<0.01	10	< 10	32	< 10	28
T078	11.8	0.19	5	40	0.5	6	0.02	< 0.5	8	178	398	2.26	< 10	4	0.05	< 10	0.01	340	9	0.01	1	70	1386	160	< 1	4	<0.01	< 10	< 10	161	< 10	300
T079	4.8	0.39	< 5	150	< 0.5	6	0.02	< 0.5	3	155	74	1.12	< 10	8	0.28	10	0.01	200	14	0.01	6	160	1818	20	< 1	4	<0.01	10	< 10	15	< 10	120
T080	1.0	0.70	< 5	220	< 0.5	4	0.02	< 0.5	3	57	47	0.63	10	< 1	0.51	30	0.02	395	2	0.01	< 1	110	652	10	< 1	10	<0.01	< 10	< 10	10	10	148
T081	18.2	0.46	70	70	0.5	22	0.03	< 0.5	4	146	507	2.83	< 10	3	0.27	10	0.02	770	39	0.01	5	310	3704	235	< 1	5	<0.01	< 10	< 10	217	10	424
T082	^ 7.39	0.06	40	230	< 0.5	6	0.01	9.5	6	185	4895	3.21	< 10	5	0.03	< 10	< 0.01	185	68	<0.01	7	100	# 2.23	250	< 1	92	<0.01	< 10	< 10	33	< 10	786
T083	14.8	0.17	30	50	< 0.5	6	0.02	0.5	6	201	722	1.65	< 10	3	0.06	< 10	0.01	665	9	0.01	6	80	2660	145	< 1	5	<0.01	< 10	< 10	429	< 10	240
T084	45.0	0.09	170	30	< 0.5	< 2	0.02	14.5	9	144	1176	4.33	< 10	15	0.01	< 10	< 0.01	3745	157	0.01	2	730	# 1.37	1255	< 1	6	<0.01	< 10	10	102	< 10	744
T085	7.2	0.39	< 5	70	< 0.5	< 2	0.04	< 0.5	5	[illegible]	444	1.46	< 10	2	0.22	10	0.02	1215	5	<0.01	< 1	240	938	80	< 1	11	<0.01	< 10	< 10	9	< 10	158
T086	39.2	0.39	< 5	110	< 0.5	10	0.03	< 0.5	5	138	294	1.04	< 10	7	0.30	10	0.02	1130	5	0.01	3	90	580	60	< 1	20	<0.01	< 10	< 10	26	< 10	108
T087	1.0	0.40	< 5	90	< 0.5	18	0.03	< 0.5	3	206	98	1.01	< 10	< 1	0.20	10	0.02	70	4	0.01	7	30	262	15	< 1	4	<0.01	< 10	< 10	40	< 10	132
T088	3.0	0.07	< 5	100	< 0.5	8	0.03	< 0.5	< 1	273	78	0.91	< 10	4	0.02	< 10	< 0.01	330	4	0.02	14	30	40	5	< 1	3	<0.01	< 10	< 10	1	< 10	24
T089	5.0	0.13	20	70	< 0.5	< 2	0.04	1.0	1	237	314	0.98	< 10	3	0.09	< 10	< 0.01	290	5	0.01	16	90	220	45	< 1	4	<0.01	< 10	< 10	2	< 10	48
T090	1.8	0.23	20	70	< 0.5	< 2	0.06	0.5	2	210	145	0.81	< 10	4	0.20	10	0.02	405	2	0.02	13	160	200	20	< 1	6	<0.01	< 10	< 10	2	< 10	54
T091	1.8	0.81	< 5	540	0.5	6	0.07	1.0	2	102	49	1.13	< 10	< 1	0.58	30	0.04	445	< 1	0.02	6	150	64	10	< 1	12	<0.01	10	< 10	2	< 10	120
T092	24.4	0.32	15	90	< 0.5	10	0.01	0.5	1	176	196	1.54	< 10	< 1	0.24	< 10	0.01	380	33	0.01	2	60	876	115	< 1	5	<0.01	< 10	< 10	93	< 10	234
T093	109.4	0.07	70	1050	< 0.5	4	0.02	5.5	4	189	880	1.22	< 10	3	0.02	< 10	< 0.01	100	76	0.01	4	270	7106	455	< 1	39	<0.01	< 10	< 10	90	< 10	200
T094	16.8	0.43	20	250	< 0.5	18	0.02	< 0.5	< 1	185	129	0.99	< 10	< 1	0.25	< 10	0.02	75	5	0.01	5	50	754	125	< 1	6	<0.01	< 10	< 10	138	< 10	82
T095	1.2	1.54	10	100	< 0.5	6	0.11	< 0.5	3	35	86	1.71	10	< 1	0.70	30	0.12	70	< 1	0.01	4	540	888	20	2	15	0.01	< 10	< 10	20	< 10	144
T096	2.8	0.26	25	80	< 0.5	14	0.02	< 0.5	3	144	184	0.84	< 10	< 1	0.17	10	0.01	710	4	0.01	7	60	878	85	< 1	7	<0.01	< 10	< 10	72	< 10	144
T097	38.2	0.10	5	180	< 0.5	14	0.01	4.0	4	144	1416	1.85	< 10	< 1	0.08	< 10	< 0.01	575	10	0.01	3	130	4766	110	< 1	21	<0.01	< 10	< 10	25	20	830
T098	1.8	0.34	5	110	< 0.5	12	0.06	< 0.5	3	70	107	0.78	< 10	< 1	0.31	20	0.02	295	63	0.02	< 1	140	632	25	< 1	10	<0.01	< 10	< 10	5	< 10	136
T099	18.8	0.40	5	60	< 0.5	6	0.04	< 0.5	< 1	125	97	0.76	< 10	< 1	0.34	10	0.02	730	13	0.06	7	40	720	40	< 1	5	<0.01	< 10	< 10	23	10	128

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T100	8.8	0.07	15	100	< 0.5	14	0.02	0.5	1	188	126	1.32	< 10	< 1	0.03	< 10	< 0.01	505	9	0.01	2	40	626	190	< 1	2	<0.01	< 10	< 10	5	< 10	250
T101	6.6	1.18	5	320	0.5	< 2	0.06	< 0.5	3	103	366	1.03	< 10	< 1	0.65	20	0.04	2230	1	<0.01	< 1	70	862	50	1	15	<0.01	< 10	10	30	< 10	94
T102	^ 21.30	0.08	165	230	< 0.5	12	0.02	33.5	7	170	5360	2.63	< 10	50	0.02	< 10	< 0.01	2370	63	<0.01	< 1	160	• 1.32	3605	< 1	57	<0.01	10	< 10	78	20	674
T103	9.0	0.28	50	80	< 0.5	< 2	0.02	6.0	7	154	305	2.12	< 10	< 1	0.20	< 10	0.01	915	27	<0.01	6	80	5410	505	< 1	12	<0.01	10	10	148	< 10	490
T104	< 0.2	6.83	5	1100	< 0.5	< 2	4.11	5.0	35	120	144	4.69	< 10	< 1	0.24	60	1.53	2410	6	0.02	81	1580	1020	10	12	105	0.19	< 10	10	115	< 10	290
T105	7.2	0.87	< 5	1340	< 0.5	12	3.02	1.0	7	160	119	2.28	< 10	< 1	0.41	10	0.09	565	8	<0.01	19	90	974	40	1	41	0.01	< 10	10	13	< 10	64
T106	1.8	0.99	< 5	80	< 0.5	2	0.03	0.5	< 1	151	83	0.87	< 10	< 1	0.55	30	0.03	80	6	<0.01	1	110	64	40	< 1	6	<0.01	< 10	20	13	< 10	62
T107	163.4	0.12	170	1130	< 0.5	44	0.01	19.0	3	293	1249	1.74	< 10	20	0.05	< 10	< 0.01	5770	32	0.02	11	220	• 3.18	685	< 1	155	<0.01	10	< 10	519	< 10	608
T108	^ 47.00	0.12	515	130	1.0	34	0.02	80.0	6	214	2860	3.53	< 10	193	0.06	< 10	< 0.01	2380	57	0.01	11	200	• 1.19	4920	< 1	13	<0.01	< 10	50	512	30	1206
T109	28.4	0.44	50	50	< 0.5	14	0.03	7.0	3	88	489	1.20	< 10	2	0.32	20	0.02	55	4	0.01	2	180	2276	445	< 1	7	<0.01	< 10	< 10	12	< 10	550
T110	< 0.2	2.37	< 5	270	< 0.5	2	0.10	0.5	< 1	42	63	1.40	< 10	10	0.82	30	0.14	40	1	<0.01	< 1	30	198	5	2	18	0.01	< 10	< 10	16	< 10	68
T111	^ 10.80	0.62	205	190	0.5	22	0.03	2.5	5	138	6784	3.51	< 10	12	0.31	10	0.01	3710	74	0.01	7	140	• 3.91	700	1	112	<0.01	10	30	7	< 10	1134
T112	17.2	0.40	135	640	0.5	< 2	0.02	4.5	18	145	506	1.96	< 10	< 1	0.30	10	0.01	• 2.36	16	0.01	12	240	8698	430	< 1	114	<0.01	< 10	< 10	19	< 10	940
T113	42.8	0.53	30	80	< 0.5	14	0.07	1.0	6	170	508	8.59	< 10	< 1	0.20	< 10	0.03	70	16	<0.01	< 1	190	1830	160	1	10	<0.01	< 10	< 10	47	< 10	162
T114	< 0.2	1.99	10	870	< 0.5	4	0.65	1.0	15	< 1	51	4.49	< 10	< 1	0.72	20	0.29	1035	6	0.01	8	1070	92	10	4	38	0.01	< 10	10	26	< 10	130
T115	135.8	0.67	10	430	< 0.5	< 2	0.04	4.5	< 1	206	112	2.06	< 10	7	0.31	< 10	0.04	1380	17	<0.01	1	90	• 1.99	145	< 1	88	<0.01	< 10	< 10	10	< 10	434
T116	13.0	0.70	5	2570	1.0	< 2	0.06	2.0	7	133	586	2.24	< 10	< 1	0.46	20	0.07	• 4.65	157	0.02	17	140	260	10	2	467	<0.01	< 10	< 10	17	< 10	92
T117	11.0	0.75	5	150	0.5	< 2	0.07	0.5	7	92	1269	1.60	< 10	< 1	0.51	30	0.03	1025	43	0.03	5	240	520	40	< 1	28	0.01	10	< 10	10	< 10	198
T118	2.2	0.92	15	480	0.5	< 2	0.08	< 0.5	< 1	71	164	0.76	< 10	< 1	0.69	30	0.08	2515	3	0.04	4	200	94	5	< 1	142	0.01	< 10	< 10	9	< 10	40
T119	3.0	0.95	20	570	0.5	18	0.08	0.5	< 1	99	98	0.86	< 10	< 1	0.75	30	0.06	1535	3	0.08	4	200	68	5	< 1	41	0.01	< 10	< 10	5	< 10	32
T120	0.8	0.83	5	400	< 0.5	8	0.15	5.5	7	36	240	1.05	< 10	< 1	0.38	30	0.09	3065	8	0.02	6	440	162	5	1	52	<0.01	< 10	< 10	11	< 10	130
T121	0.6	0.11	< 5	20	< 0.5	18	0.01	< 0.5	1	210	10	0.66	< 10	< 1	0.05	< 10	< 0.01	85	3	<0.01	7	60	40	5	< 1	2	<0.01	< 10	< 10	3	< 10	8
T122	187.6	0.37	135	60	< 0.5	26	0.04	0.5	1	154	1496	1.70	< 10	< 1	0.18	10	0.02	285	39	0.01	2	210	4226	65	< 1	6	<0.01	< 10	10	565	10	120
T123	33.0	0.14	50	20	< 0.5	28	0.02	< 0.5	4	171	428	1.87	< 10	< 1	0.06	< 10	< 0.01	150	70	0.01	9	40	1712	40	< 1	2	<0.01	< 10	< 10	159	< 10	16
T124	0.8	0.55	25	90	< 0.5	26	0.04	< 0.5	< 1	105	260	0.66	< 10	< 1	0.49	20	0.03	550	6	0.02	< 1	90	764	5	< 1	9	<0.01	< 10	< 10	104	10	18
T125	3.6	0.42	20	90	< 0.5	< 2	0.03	< 0.5	2	132	269	0.71	10	2	0.36	10	0.02	465	15	0.02	1	80	346	5	< 1	6	<0.01	< 10	< 10	28	< 10	32
T126	8.6	0.38	15	90	1.0	12	0.02	< 0.5	1	135	284	1.06	< 10	< 1	0.33	10	0.01	335	24	0.01	3	80	480	10	< 1	7	<0.01	< 10	< 10	68	< 10	32
T127	1.6	0.19	10	80	< 0.5	18	0.02	< 0.5	1	172	106	0.64	< 10	< 1	0.22	< 10	< 0.01	860	7	0.01	3	10	250	10	< 1	12	<0.01	< 10	< 10	20	10	16
T128	2.8	0.51	< 5	160	< 0.5	30	0.06	0.5	< 1	62	212	0.84	< 10	< 1	0.51	30	0.03	980	2	0.02	< 1	100	242	5	< 1	22	0.01	< 10	< 10	15	< 10	68
T129	< 0.2	0.59	< 5	210	< 0.5	< 2	0.54	1.5	< 1	65	16	1.01	10	< 1	0.41	30	0.04	1105	< 1	0.01	< 1	230	212	5	< 1	60	<0.01	< 10	< 10	8	10	38
T130	6.2	0.61	70	60	1.5	20	0.15	< 0.5	1	142	139	2.61	< 10	< 1	0.25	10	0.04	120	2	0.02	6	140	2988	10	< 1	8	<0.01	10	10	287	< 10	904
T131	9.2	0.83	5	100	0.5	< 2	0.08	< 0.5	< 1	175	79	1.38	< 10	< 1	0.34	20	0.06	175	3	0.02	< 1	180	436	5	1	9	<0.01	10	< 10	10	< 10	290
T132	1.2	1.22	10	120	0.5	< 2	0.07	< 0.5	< 1	72	41	0.89	< 10	< 1	0.55	20	0.08	80	3	0.01	< 1	140	178	< 5	1	8	0.01	10	< 10	14	< 10	94
T133	18.0	0.16	55	410	< 0.5	< 2	0.03	4.5	< 1	131	1014	1.70	< 10	< 1	0.09	< 10	0.01	50	19	<0.01	< 1	240	3448	55	< 1	9	<0.01	< 10	< 10	73	< 10	684
T134	19.8	1.10	< 5	150	0.5	< 2	0.18	1.5	1	73	527	1.15	< 10	< 1	0.68	30	0.05	1790	242	0.01	< 1	890	2630	80	1	15	<0.01	< 10	< 10	18	< 10	276
T135	41.6	0.17	25	670	< 0.5	16	0.01	4.5	2	130	5244	2.48	< 10	1	0.15	< 10	< 0.01	600	19	0.01	3	120	6902	160	< 1	51	<0.01	< 10	< 10	3	< 10	634
T136	^ 9.02	0.59	680	950	< 0.5	12	0.04	52.5	1	230	5923	2.60	< 10	15	0.30	10	0.02	6350	386	<0.01	3	350	• 3.16	1570	1	243	<0.01	< 10	50	470	< 10	764
T137	^ 9.10	0.78	120	510	1.0	< 2	0.07	8.0	2	128	2163	4.71	< 10	4	0.35	10	0.05	5450	51	0.01	< 1	940	• 1.33	455	2	92	0.01	10	10	14	< 10	944
T138	^ 14.20	1.50	70	160	< 0.5	< 2	0.07	0.5	2	130	1260	3.16	< 10	< 1	0.71	20	0.07	2055	10	0.01	< 1	430	3378	160	2	14	<0.01	10	< 10	14	< 10	400
T139	5.2	1.04	5	280	0.5	< 2	0.04	< 0.5	< 1	43	71	1.12	< 10	< 1	0.61	20	0.04	150	5	0.01	< 1	80	492	5	1	9	<0.01	< 10	< 10	10	< 10	260
T140	< 0.2	0.53	15	80	< 0.5	< 2	0.20	< 0.5	2	55	< 1	0.98	10	< 1	0.46	30	0.02	95	< 1	0.03	< 1	160	38	10	< 1	11	<0.01	10	< 10	4	10	8
T141	< 0.2	0.54	15	130	< 0.5	< 2	0.74	< 0.5	2	59	< 1	1.20	10	3	0.23	30	0.06	295	1	0.03	< 1	210	66	5	< 1	17	<0.01	10	< 10	5	10	14
T142	2.8	0.61	< 5	590	0.5	< 2	0.13	< 0.5	< 1	84	119	0.98	10	1	0.45	20	0.04	570	1	0.01	10	190	374	10	< 1	14	<0.01	< 10	< 10	7	10	276
T143	< 0.2	0.38	< 5	490	0.5	< 2	0.37	< 0.5	3	72	51	0.65	10	< 1	0.42	20	0.02	470	7	0.02	3	110	482	5	< 1	15	<0.01	< 10	10	7	10	64
T144	5.6	0.46	70	180	< 0.5	< 2	0.10	< 0.5	2	92	293	1.42	< 10	2	0.34	20	0.02	850	291	0.01	1	410	5664	25	< 1	13	<0.01	< 10	< 10	6	< 10	354
T145	0.8	0.19	10	60	< 0.5	< 2	0.02	< 0.5	1	253	15	0.69	10	< 1	0.12	< 10	0.01	120	6	0.01	5	50	160	5	< 1	2	<0.01	< 10	< 10	9	10	12
T146	5.6	0.14	2	40	< 0.5	12	0.01	< 0.5	11	279	48	4.30	< 10	< 1	0.03	< 10	0.01	30	15	0.02	6	50	158	< 2	< 1	3	<0.01	< 10	30	7	< 10	10
T147	9.4	0.14	4	10	< 0.5	18	< 0.01	< 0.5	2	231	125	1.40	< 10	< 1	0.05	< 10	< 0.01	55	22	0.01	7	30	120	< 2	< 1	1	<0.01	< 10	30	4	< 10	12
T148	2.6	0.12	< 2	30	< 0.5	4	0.06	< 0.5	< 1	375	7	0.50	< 10	< 1	0.04	< 10	< 0.01	60	7	0.01	9	10	58	< 2	< 1	1	<0.01	< 10	40	3	< 10	4
T149	9.8	0.03	4	10	< 0.5	4	0.01	< 0.5	< 1	356	10	0.48	< 10	< 1	< 0.01	< 10	< 0.01	20	10	0.01	7	10	148	< 2	< 1	1	<0.01	< 10	30	13	< 10	6
T150	22.8	0.09	72	20	< 0.5	44	0.01	< 0.5	2	339	28	0.98	< 10	< 1	0.03	< 10	< 0.01	50	304	0.01	9	150	3256	< 2	< 1	1	<0.01	< 10	30	147	170	52
T151	104.2	1.95	72	5670	3.0	250	>15.00	5.0	26	247	221	1.12	< 10	< 1	1.14	< 10	0.08	• 2.31	50	0.42	5	340	• 1.36	< 2	6	62	0.02	< 10	< 10	72	2400	510
T152	4.2	0.06	8	< 10	< 0.5	4	< 0.01	< 0.5	1	384	18	0.50	< 10	< 1	< 0.01	< 10	< 0.01	55	6	0.01	10	10	42	< 2	< 1	1	<0.01	< 10	50	5	< 10	26

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T153	0.2	0.01	< 2	< 10	< 0.5	< 2	< 0.01	< 0.5	1	499	9	0.53	< 10	< 1	< 0.01	< 10	< 0.01	20	8	0.01	8	10	< 2	< 2	< 1	< 1	<0.01	< 10	40	3	< 10	4
T154	3.4	0.44	5	50	< 0.5	4	0.03	< 0.5	5	155	155	1.26	< 10	< 1	0.39	10	0.02	380	34	0.01	7	40	190	10	< 1	6	<0.01	< 10	< 10	26	10	58
T155	4.0	0.63	< 5	80	< 0.5	24	0.03	< 0.5	2	125	121	1.26	< 10	3	0.49	20	0.02	660	9	0.02	10	60	296	5	< 1	10	0.01	< 10	< 10	12	< 10	50
T156	1.4	0.63	5	80	< 0.5	8	0.03	< 0.5	< 1	71	42	1.02	< 10	4	0.42	20	0.03	80	4	0.02	2	20	48	5	< 1	10	0.01	< 10	10	6	< 10	20
T157	11.4	0.15	10	20	< 0.5	< 2	0.02	< 0.5	6	262	112	1.47	< 10	< 1	0.09	< 10	< 0.01	125	16	0.01	4	100	306	5	< 1	2	<0.01	10	< 10	36	10	26
T158	< 0.2	0.37	< 5	70	< 0.5	6	0.04	< 0.5	3	53	12	1.13	< 10	< 1	0.27	30	0.02	255	1	0.03	3	60	62	5	< 1	7	0.01	< 10	< 10	8	10	40
T159	2.4	0.15	< 5	20	< 0.5	2	0.01	< 0.5	< 1	328	152	1.14	< 10	< 1	0.07	< 10	< 0.01	80	17	0.01	18	40	292	5	< 1	4	<0.01	10	< 10	17	< 10	4
T160	6.8	0.12	< 5	30	< 0.5	24	0.07	< 0.5	4	306	245	1.58	< 10	< 1	0.04	< 10	0.01	200	15	0.01	10	30	410	5	< 1	4	<0.01	10	< 10	46	10	34
T161	3.2	1.57	25	130	1.0	4	0.02	< 0.5	3	103	1356	1.90	< 10	< 1	0.51	50	0.19	2310	5	0.02	4	260	1566	10	1	5	0.02	< 10	10	7	< 10	# 1.18
T162	20.6	1.59	< 5	120	1.0	140	0.07	< 0.5	3	145	# 1.09	4.78	< 10	< 1	0.54	30	0.12	2230	16	0.02	8	* 200	6844	5	1	24	0.01	< 10	40	41	* 50	2082
T163	8.8	0.89	10	370	0.5	12	0.03	0.5	< 1	106	585	1.72	< 10	< 1	0.51	40	0.05	870	1	0.02	4	200	454	80	< 1	7	0.02	10	< 10	6	< 10	1372
T164	16.2	1.35	60	1120	1.0	134	0.05	< 0.5	88	112	5799	2.60	< 10	1	0.83	20	0.04	2650	372	0.02	6	80	# 1.10	5	1	22	<0.01	< 10	20	7	< 10	4442
T165	6.6	1.30	10	1050	0.5	12	0.22	0.5	7	91	346	2.60	< 10	< 1	0.57	20	0.07	3060	9	0.02	5	250	1182	5	1	19	0.02	< 10	< 10	8	< 10	758
T166	1.0	0.42	< 5	50	< 0.5	6	0.05	< 0.5	6	77	227	1.72	< 10	< 1	0.34	20	0.06	70	27	0.02	8	130	484	5	< 1	10	<0.01	< 10	< 10	51	< 10	26
T167	< 0.2	0.40	< 5	40	0.5	10	0.09	< 0.5	2	48	120	0.35	< 10	< 1	0.29	20	0.03	300	< 1	0.03	1	100	178	5	< 1	5	<0.01	< 10	< 10	11	< 10	52
T168	1.4	0.31	10	60	< 0.5	10	0.03	< 0.5	4	76	198	1.05	< 10	< 1	0.31	20	0.02	480	13	0.01	7	80	254	5	< 1	7	<0.01	< 10	< 10	16	< 10	182
T169	< 0.2	0.39	10	30	0.5	< 2	0.06	< 0.5	4	40	< 1	0.88	< 10	< 1	0.27	40	0.03	180	2	0.02	< 1	70	34	10	< 1	11	<0.01	< 10	< 10	3	< 10	28
T170	< 0.2	0.66	15	30	< 0.5	12	0.19	< 0.5	3	43	< 1	1.85	10	5	0.30	40	0.20	865	< 1	0.04	5	490	6	5	1	30	0.02	< 10	< 10	13	< 10	50
T171	0.2	1.19	30	90	0.5	10	0.28	< 0.5	1	45	36	2.92	10	< 1	0.44	30	0.31	1220	1	0.04	13	630	16	5	1	53	<0.01	< 10	< 10	16	< 10	38
T172	< 0.2	2.12	< 5	70	< 0.5	< 2	0.56	< 0.5	11	73	19	2.32	10	< 1	0.47	40	1.12	615	2	0.02	49	840	22	5	3	28	<0.01	< 10	< 10	33	< 10	54
T173	3.0	0.59	15	30	0.5	12	0.11	< 0.5	1	60	95	1.00	10	< 1	0.38	20	0.08	235	11	0.01	< 1	130	178	5	< 1	9	<0.01	< 10	< 10	7	< 10	74
T174	1.0	4.04	30	280	< 0.5	8	1.24	3.0	31	158	108	6.43	20	< 1	0.33	60	3.03	2190	1	0.03	153	2670	166	5	11	64	0.07	< 10	< 10	145	< 10	200
T175	1.4	2.30	15	120	1.0	12	1.31	0.5	7	125	50	2.53	< 10	4	0.51	40	1.37	730	7	0.04	65	560	168	5	4	75	0.01	< 10	< 10	42	< 10	92
T176	1.8	1.19	< 5	100	0.5	< 2	0.14	1.0	4	56	38	2.20	< 10	2	0.59	40	0.22	1310	2	0.06	5	370	176	5	2	47	0.06	10	< 10	28	< 10	74
T177	1.4	2.93	5	110	2.5	< 2	3.18	0.5	11	118	58	2.79	20	< 1	0.80	70	1.34	1665	4	0.03	60	890	112	5	5	115	0.01	< 10	< 10	48	< 10	94
T178	0.6	0.80	< 5	40	0.5	< 2	0.11	< 0.5	< 1	60	19	1.15	< 10	< 1	0.40	40	0.09	100	1	0.04	7	170	36	5	< 1	10	0.01	< 10	< 10	6	< 10	14
T179	37.6	3.74	< 5	160	2.0	< 2	4.50	3.5	23	181	355	4.19	20	6	0.62	50	2.43	1565	224	0.04	99	1170	896	5	9	178	0.03	< 10	< 10	93	< 10	650
T180	1.4	0.79	10	60	0.5	14	0.08	1.5	1	70	38	1.04	< 10	< 1	0.50	40	0.06	400	1	0.03	3	90	86	5	< 1	13	0.01	< 10	< 10	7	< 10	102
T181	0.4	0.35	< 5	20	< 0.5	12	0.08	< 0.5	2	152	244	0.94	< 10	< 1	0.30	20	0.03	95	4	0.04	6	210	46	5	< 1	7	<0.01	< 10	< 10	3	< 10	8
T182	0.4	0.37	< 5	20	< 0.5	16	0.10	< 0.5	2	92	84	1.22	< 10	< 1	0.29	30	0.03	370	2	0.04	3	290	52	5	< 1	14	0.01	< 10	< 10	5	< 10	14
T183	0.2	0.37	< 5	10	1.0	20	0.06	< 0.5	4	79	260	1.45	10	< 1	0.25	50	0.03	180	1	0.03	4	180	78	5	< 1	23	0.01	< 10	< 10	3	< 10	12
T184	1.4	0.46	< 5	10	< 0.5	18	0.02	< 0.5	7	83	167	3.27	< 10	< 1	0.26	30	0.01	30	8	0.01	< 1	150	136	5	< 1	35	<0.01	< 10	< 10	10	< 10	4
T185	7.0	0.24	< 5	40	< 0.5	18	0.03	< 0.5	8	104	182	5.51	< 10	< 1	0.16	10	0.01	45	4	0.01	3	140	48	10	< 1	18	<0.01	20	< 10	5	< 10	6
T186	< 0.2	0.36	< 5	20	< 0.5	22	0.03	< 0.5	< 1	69	16	1.23	< 10	< 1	0.30	20	0.01	55	2	0.01	5	60	< 2	5	< 1	23	0.01	< 10	< 10	4	10	2
T187	3.0	0.33	< 5	20	< 0.5	10	0.02	< 0.5	3	83	41	2.85	< 10	< 1	0.29	10	0.01	65	5	0.01	< 1	110	14	5	< 1	13	<0.01	10	< 10	2	< 10	6
T188	< 0.2	0.42	< 5	20	0.5	24	0.04	< 0.5	< 1	50	< 1	0.79	< 10	< 1	0.48	30	0.02	40	1	0.01	3	140	8	5	< 1	5	<0.01	< 10	< 10	3	< 10	8
T189	* 0.5	0.44	< 5	110	1.0	< 2	0.20	1.0	3	50	95	0.97	< 10	1	0.36	50	0.07	1510	10	0.02	2	160	76	5	< 1	66	<0.01	< 10	< 10	5	< 10	80
T190	* 0.5	1.24	15	220	1.5	< 2	0.60	1.0	14	80	131	3.63	< 10	1	0.64	50	0.33	3295	14	0.03	27	930	100	10	4	97	0.05	< 10	< 10	49	< 10	372
T191	* 0.5	0.45	15	30	1.0	4	0.13	0.5	5	87	206	1.76	< 10	1	0.35	40	0.06	990	14	0.03	6	130	194	5	< 1	29	<0.01	< 10	20	3	< 10	70
T192	2.6	1.65	2	120	0.5	4	0.18	0.5	12	91	136	2.18	20	< 1	0.45	40	0.50	350	5	0.03	23	580	76	2	3	21	0.02	< 10	< 10	26	< 10	214
T193	2.0	1.97	< 2	70	0.5	4	0.12	< 0.5	3	81	26	1.77	30	< 1	0.41	50	0.18	270	1	0.04	2	160	34	2	2	17	0.06	< 10	< 10	12	< 10	150
T194	2.0	1.20	16	60	0.5	4	0.15	< 0.5	5	76	26	1.60	20	< 1	0.50	30	0.12	570	3	0.03	1	280	24	< 2	2	13	<0.01	< 10	< 10	7	< 10	66
T195	1.6	0.38	< 2	30	< 0.5	4	0.03	< 0.5	1	211	15	0.67	10	< 1	0.17	10	0.03	80	4	0.02	3	80	6	< 2	< 1	5	<0.01	< 10	30	2	< 10	8
T196	4.2	1.53	< 2	100	< 0.5	8	0.03	< 0.5	25	95	168	3.58	30	< 1	0.83	40	0.06	2565	10	0.02	1	120	48	6	1	47	0.02	< 10	< 10	6	< 10	78
T197	5.2	0.90	12	50	< 0.5	8	0.02	< 0.5	10	126	96	3.28	20	< 1	0.50	20	0.04	90	3	0.02	3	200	68	2	1	40	<0.01	< 10	< 10	3	< 10	12
T198	87.8	0.58	16	30	< 0.5	260	0.05	< 0.5	18	139	# 2.08	6.23	< 10	< 1	0.23	< 10	0.03	260	9	0.01	6	200	220	2	1	11	<0.01	< 10	10	8	50	94
T199	26.8	0.44	4	30	< 0.5	26	0.04	< 0.5	3	190	8346	1.16	< 10	< 1	0.21	10	0.01	30	9	0.01	6	150	104	< 2	< 1	19	<0.01	< 10	10	2	10	34
T200	35.2	0.34	14	40	< 0.5	296	0.03	< 0.5	20	138	1477	7.91	< 10	2	0.15	< 10	0.02	50	17	0.01	5	180	238	2	< 1	16	<0.01	< 10	30	8	< 10	50
T201	2.8	1.69	< 2	120	0.5	14	0.43	0.5	10	93	947	2.04	10	1	0.60	40	0.31	1385	3	0.03	8	500	74	6	3	45	0.02	< 10	< 10	19	< 10	92
T202	1.8	1.61	< 2	90	0.5	2	0.23	< 0.5	5	63	229	1.80	10	1	0.59	40	0.22	400	1	0.03	4	420	20	< 2	2	14	0.02	< 10	< 10	16	< 10	80
T203	21.4	0.21	2	20	< 0.5	30	0.01	< 0.5	4	149	77	0.74	< 10	< 1	0.15	10	< 0.01	60	2	0.01	5	50	66	< 2	< 1	9	<0.01	< 10	< 10	1	< 10	6
T204	2.2	1.00	6	100	< 0.5	10	0.02	< 0.5	16	112	191	2.10	10	< 1	0.61	50	0.04	840	2	0.02	2	200	64	2	1	26	0.01	< 10	< 10	4	< 10	26
T205	33.8	0.44	4	20	< 0.5	84	0.01	< 0.5	4	161	300	3.61	< 10	< 1	0.24	10	0.01	55	5	0.01	4	110	298	< 2	< 1	11	<0.01	< 10	< 10	8	< 10	14

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T206	11.4	0.73	< 2	40	< 0.5	24	0.01	< 0.5	11	166	310	2.91	< 10	< 1	0.39	20	0.02	905	2	0.02	5	200	802	< 2	< 1	22	<0.01	< 10	< 10	4	< 10	22
T207	65.0	0.33	22	20	< 0.5	114	0.02	< 0.5	13	219	621	7.78	< 10	< 1	0.08	10	0.01	70	3	0.01	5	260	786	10	< 1	15	<0.01	< 10	40	5	< 10	20
T208	0.8	0.73	8	30	< 0.5	4	0.01	< 0.5	1	95	8	0.43	10	< 1	0.39	50	0.03	90	1	0.02	2	60	12	< 2	< 1	7	0.01	< 10	< 10	2	< 10	8
T209	4.0	0.96	8	70	< 0.5	18	0.04	< 0.5	7	120	58	3.01	10	< 1	0.53	30	0.04	405	1	0.02	2	90	162	4	1	9	0.04	< 10	< 10	5	< 10	24
T210	1.2	0.83	6	60	< 0.5	8	0.02	< 0.5	5	127	25	5.22	10	< 1	0.44	< 10	0.03	200	< 1	0.02	1	50	12	10	1	6	0.05	< 10	< 10	10	< 10	24
T211	7.4	0.61	6	100	< 0.5	10	0.02	< 0.5	9	146	84	2.57	10	< 1	0.39	20	0.02	65	7	0.03	2	270	580	2	1	26	0.01	< 10	< 10	3	< 10	68
T212	6.4	0.48	2	20	< 0.5	24	0.02	< 0.5	23	168	147	1.88	20	< 1	0.26	20	0.03	345	3	0.03	4	100	268	2	< 1	10	0.02	< 10	< 10	4	10	60
T213	< 0.2	0.79	28	30	0.5	6	0.10	< 0.5	2	124	4	0.72	10	< 1	0.39	50	0.06	90	1	0.03	< 1	60	4	< 2	< 1	14	<0.01	< 10	< 10	4	< 10	6
T214	< 0.2	1.24	28	200	3.0	< 2	0.29	< 0.5	13	70	12	5.57	10	< 1	0.55	50	0.17	3755	< 1	0.02	17	1000	44	< 2	4	137	0.09	< 10	< 10	46	< 10	108
T215	21.0	0.74	24	110	1.5	4	0.02	< 0.5	14	174	69	4.40	< 10	< 1	0.50	10	0.04	1180	4	0.02	3	190	1428	< 2	1	16	0.01	< 10	< 10	8	< 10	28
T216	1.8	1.15	28	50	1.0	10	0.11	< 0.5	4	132	23	1.79	10	< 1	0.62	20	0.06	160	2	0.01	< 1	330	56	< 2	1	9	0.01	< 10	< 10	8	< 10	26
T217	7.8	0.09	20	10	< 0.5	< 2	0.02	9.0	4	298	311	7.42	< 10	< 1	0.03	< 10	* 0.01	25	16	<0.01	4	60	2058	< 2	< 1	12	<0.01	< 10	< 10	46	< 10	76
T218	8.0	0.74	18	20	< 0.5	2	0.04	< 0.5	12	305	279	4.20	< 10	1	0.45	10	0.07	315	5	<0.01	20	150	602	< 2	2	20	<0.01	< 10	< 10	29	< 10	96
T219	1.0	0.46	18	20	< 0.5	8	0.02	< 0.5	8	232	46	2.21	< 10	< 1	0.32	10	0.02	195	6	<0.01	3	120	572	< 2	< 1	21	<0.01	< 10	< 10	18	< 10	38
T220	13.4	1.29	12	40	3.5	12	0.33	< 0.5	39	23	1952	3.40	< 10	< 1	0.54	30	0.25	750	2	0.01	8	1010	224	4	2	19	0.01	< 10	< 10	11	< 10	80
T221	1.6	0.97	< 2	50	4.0	* 5	0.05	< 0.5	3	74	29	3.80	< 10	< 1	0.62	60	0.06	185	5	0.01	5	180	14	2	1	8	0.01	< 10	< 10	4	< 10	32
T222	27.4	0.64	4	20	1.5	16	0.09	< 0.5	3	95	2542	1.91	< 10	< 1	0.37	30	0.04	385	2	0.02	3	320	66	2	1	10	<0.01	< 10	< 10	6	< 10	26
T223	11.4	0.35	6	30	3.0	8	0.02	1.0	4	243	109	4.15	< 10	< 1	0.17	10	0.02	35	57	0.01	5	50	4022	4	< 1	6	<0.01	< 10	< 10	33	< 10	44
T224	1.2	0.61	< 2	70	1.5	* 5	0.07	< 0.5	3	179	34	1.23	< 10	< 1	0.10	30	0.10	70	4	0.02	3	60	252	< 2	1	8	<0.01	< 10	< 10	3	< 10	28
T225	8.4	0.24	6	50	0.5	* 5	0.01	< 0.5	3	199	44	2.40	< 10	< 1	0.17	10	0.01	30	30	0.01	9	90	1332	4	< 1	3	<0.01	< 10	< 10	6	< 10	24
T226	4.2	0.18	< 2	20	0.5	* 5	0.01	< 0.5	1	191	18	1.43	< 10	1	0.13	10	0.01	50	18	0.01	8	80	320	6	< 1	2	<0.01	< 10	< 10	2	< 10	16
T227	2.2	0.53	6	60	1.0	5	0.03	< 0.5	3	212	11	1.46	< 10	1	0.34	20	0.04	50	6	0.01	3	200	84	< 2	1	11	<0.01	< 10	< 10	2	< 10	8
T228	2.2	0.75	6	110	3.5	5	0.11	< 0.5	5	172	7	0.89	< 10	< 1	0.08	10	0.09	1245	5	<0.01	13	40	18	2	1	8	<0.01	< 10	< 10	9	< 10	10
T229	3.0	0.23	< 2	20	0.5	* 5	0.01	< 0.5	3	234	8	1.65	< 10	1	0.12	10	0.01	25	19	0.01	4	80	38	2	< 1	4	<0.01	10	< 10	2	< 10	4
T230	9.0	0.91	25	80	2.0	30	0.17	< 0.5	5	43	63	4.43	50	< 1	0.46	20	0.14	515	37	0.09	2	390	254	< 5	1	30	<0.01	< 10	< 10	9	< 10	42
T231	3.0	0.40	< 5	190	3.0	* 10	0.16	< 0.5	4	31	7	0.48	40	< 1	0.10	10	0.04	3620	2	0.03	< 1	70	16	< 5	1	129	<0.01	< 10	< 10	7	< 10	8
T232	14.0	0.28	10	190	4.0	* 10	3.00	< 0.5	4	55	14	0.39	40	< 1	0.05	20	0.03	4095	1	0.03	< 1	140	28	< 5	1	138	<0.01	< 10	< 10	5	< 10	14
T233	2.0	1.18	< 5	150	0.5	* 10	0.05	0.5	9	4	700	3.08	30	< 1	0.60	40	0.09	3250	41	0.03	< 1	280	66	5	1	10	0.02	< 10	< 10	6	< 10	52
T234	5.0	1.28	5	90	< 0.5	* 10	0.03	< 0.5	1	11	240	3.79	30	< 1	0.71	40	0.06	400	21	0.03	< 1	220	180	5	1	7	0.01	< 10	< 10	11	< 10	34
T235	1.0	0.59	< 5	30	< 0.5	10	0.45	< 0.5	10	23	154	1.31	20	3	0.23	50	0.11	680	25	0.07	< 1	130	28	< 5	1	24	<0.01	< 10	< 10	2	< 10	20
T236	2.0	1.06	< 5	80	1.0	* 10	0.01	2.0	2	25	22	1.97	30	< 1	0.76	30	0.04	1145	8	0.03	< 1	130	428	5	1	7	<0.01	< 10	< 10	4	< 10	110
T237	1.0	0.57	< 5	30	< 0.5	20	0.01	< 0.5	< 1	12	48	1.25	10	< 1	0.55	10	0.02	55	3	0.03	< 1	110	502	< 5	< 1	5	<0.01	30	< 10	1	< 10	16
T238	3.0	0.68	10	110	0.5	* 10	0.02	< 0.5	2	41	16	2.24	20	< 1	0.58	20	0.03	50	18	0.03	< 1	70	260	< 5	< 1	5	<0.01	10	< 10	3	< 10	16
T239	14.0	0.63	< 5	80	< 0.5	30	0.04	< 0.5	3	30	50	2.55	20	< 1	0.48	20	0.05	105	29	0.14	< 1	160	404	5	1	12	0.01	< 10	< 10	6	< 10	54
T240	2.0	0.88	5	70	0.5	* 10	0.02	< 0.5	9	23	75	2.43	30	< 1	0.66	30	0.05	675	2	0.03	< 1	150	128	5	< 1	6	<0.01	< 10	< 10	4	< 10	74
T241	43.0	0.76	5	110	< 0.5	50	0.03	< 0.5	3	29	47	2.04	30	< 1	0.46	20	0.03	90	9	0.03	< 1	250	552	< 5	1	17	<0.01	< 10	< 10	3	< 10	26
T242	1.0	0.50	< 5	60	0.5	* 10	0.02	< 0.5	2	2	13	0.56	40	< 1	0.49	30	0.02	140	7	0.03	< 1	120	144	< 5	1	6	<0.01	< 10	< 10	2	< 10	44
T243	3.0	0.59	< 5	50	1.0	10	0.03	< 0.5	1	24	27	1.37	20	< 1	0.44	20	0.03	100	36	0.02	< 1	120	398	5	< 1	6	<0.01	< 10	< 10	2	< 10	6
T244	1.0	1.06	5	80	2.5	* 10	0.09	< 0.5	4	12	25	1.42	10	< 1	0.40	20	0.24	595	< 1	0.03	13	260	88	10	1	17	<0.01	< 10	< 10	9	< 10	120
T245	5.0	0.90	5	70	0.5	10	0.03	1.0	5	24	223	1.12	30	< 1	0.68	30	0.08	775	3	0.03	< 1	170	456	< 5	1	13	<0.01	20	< 10	2	< 10	258
T246	77.0	0.75	< 5	60	< 0.5	110	0.03	0.5	18	38	7281	1.50	30	3	0.61	30	0.04	460	20	0.03	< 1	200	916	< 5	1	7	<0.01	< 10	< 10	1	10	150
T247	31.0	0.54	5	40	0.5	50	0.02	< 0.5	8	56	139	1.17	20	< 1	0.46	20	0.02	120	8	0.03	< 1	120	250	< 5	< 1	7	<0.01	< 10	< 10	2	< 10	10
T248	2.0	0.59	< 5	40	0.5	10	0.02	< 0.5	2	43	45	1.35	20	< 1	0.54	10	0.02	60	4	0.03	< 1	120	56	< 5	< 1	5	<0.01	< 10	< 10	2	< 10	12
T249	89.0	0.30	25	50	0.5	130	0.02	< 0.5	?	72	81	1.88	20	1	0.19	10	0.01	125	75	0.02	4	60	542	280	< 1	2	<0.01	< 10	< 10	< 1	< 10	42
T250	21.0	0.47	15	40	2.0	10	0.03	0.5	2	41	156	9.48	20	< 1	0.08	< 10	0.02	230	24	0.02	2	330	1530	15	1	3	<0.01	< 10	< 10	5	< 10	20
T251	^ 6.37	0.36	< 5	140	0.5	340	0.01	0.5	1	58	112	2.58	20	< 1	0.22	10	0.01	60	59	0.02	1	40	440	< 5	< 1	1	<0.01	< 10	< 10	< 1	10	46
T252	74.0	0.33	20	50	< 0.5	60	0.01	< 0.5	1	82	157	4.84	20	< 1	0.50	< 10	0.01	65	47	0.03	< 1	150	1524	5	< 1	3	<0.01	< 10	< 10	1	< 10	22
T253	134.0	0.27	15	60	1.0	140	0.01	< 0.5	4	86	495	5.22	10	< 1	0.07	< 10	0.01	110	88	0.03	< 1	80	520	10	< 1	1	<0.01	< 10	< 10	2	< 10	58
T254	35.0	0.47	15	210	1.5	80	0.03	< 0.5	18	17	287	2.55	20	< 1	0.57	20	0.03	4655	20	0.03	< 1	280	1050	5	< 1	43	<0.01	< 10	< 10	1	< 10	96
T255	4.0	0.63	5	100	1.0	* 10	0.03	< 0.5	5	< 1	113	0.71	10	< 1	0.51	30	0.02	1645	< 1	0.03	< 1	90	430	< 5	< 1	20	<0.01	< 10	< 10	< 1	< 10	28
T256	7.0	0.64	5	170	1.5	10	0.03	1.0	6	19	381	1.53	20	< 1	0.43	30	0.04	4645	1	0.02	6	120	268	< 5	< 1	28	<0.01	< 10	< 10	2	< 10	42
T257	19.0	0.51	15	170	2.0	* 10	0.19	< 0.5	6	58	474	1.77	30	< 1	0.40	20	0.02	470	48	0.04	< 1	120	4236	< 5	1	19	<0.01	< 10	< 10	2	< 10	72
T258	3.0	0.32	20	50	1.0	* 10	0.02	< 0.5	9	54	157	1.39	40	< 1	0.31	10	0.01	70	30	0.03	< 1	100	1424	< 5	< 1	6	<0.01	< 10	< 10	1	< 10	24

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T259	6.0	0.85	< 5	70	2.5	* 10	0.03	< 0.5	6	28	54	1.83	40	< 1	0.47	30	0.05	125	70	0.03	< 1	190	386	< 5	1	11	<0.01	< 10	< 10	6	< 10	46
T260	9.0	0.70	< 5	80	< 0.5	* 10	0.05	< 0.5	7	35	172	2.94	30	1	0.39	10	0.03	165	44	0.03	< 1	150	1224	< 5	< 1	7	<0.01	< 10	< 10	4	< 10	54
T261	^ 14.50	0.37	< 5	90	< 0.5	830	0.01	0.5	12	107	20	1.48	20	< 1	0.25	10	0.01	25	22	0.03	< 1	50	1658	< 5	< 1	5	<0.01	< 10	< 10	1	50	12
T262	6.0	0.56	< 5	60	< 0.5	* 10	0.02	< 0.5	5	76	51	1.36	20	< 1	0.39	10	0.02	265	19	0.03	< 1	80	350	5	< 1	7	<0.01	< 10	< 10	3	< 10	30
T263	188.0	0.46	< 5	40	0.5	150	0.01	< 0.5	58	52	22	5.56	30	< 1	0.40	10	0.02	50	75	0.03	< 1	50	584	5	< 1	3	<0.01	< 10	< 10	< 1	< 10	32
T264	73.0	0.35	10	90	3.5	100	0.04	< 0.5	10	85	420	5.22	20	2	0.58	< 10	0.02	95	12	0.03	2	110	346	< 5	< 1	13	<0.01	30	< 10	3	< 10	24
T265	12.0	0.60	5	60	2.0	60	0.02	< 0.5	2	32	43	2.30	10	< 1	0.63	20	0.02	60	3	0.03	< 1	90	204	< 5	< 1	6	<0.01	< 10	< 10	2	< 10	12
T266	60.0	0.99	10	30	20.5	10	0.05	2.0	57	61	5616	>15.00	30	< 1	0.10	< 10	0.08	1935	75	0.03	1	940	1544	40	3	6	<0.01	< 10	70	2	< 10	1276
T267	12.0	1.50	15	80	6.0	* 10	0.12	1.0	62	32	3993	5.10	30	2	0.38	20	0.34	2420	4	0.07	7	720	1488	5	2	20	<0.01	< 10	< 10	19	< 10	288
T268	2.0	1.52	15	30	7.5	* 10	0.15	1.0	20	41	4508	6.13	20	< 1	0.27	20	0.55	780	5	0.05	12	630	508	< 5	2	22	<0.01	< 10	< 10	19	< 10	680
T269	70.0	0.53	25	30	2.0	50	0.03	< 0.5	4	66	258	3.75	30	< 1	0.36	10	0.02	325	67	0.03	1	100	860	10	< 1	3	<0.01	< 10	< 10	3	< 10	124
T270	44.0	0.35	20	80	2.5	20	0.03	< 0.5	4	86	146	4.18	20	< 1	0.71	< 10	0.01	90	82	0.05	< 1	90	560	10	< 1	6	<0.01	10	< 10	2	< 10	22
T271	59.0	0.73	5	100	3.5	10	0.03	1.5	7	34	810	4.81	30	< 1	0.56	20	0.03	4755	99	0.04	< 1	190	1826	20	1	25	0.01	< 10	< 10	3	< 10	172
T272	28.0	0.61	< 5	60	9.0	40	0.05	0.5	4	82	245	11.70	30	< 1	0.41	10	0.05	425	121	0.07	< 1	640	3246	15	1	13	0.02	10	< 10	18	< 10	94
T273	43.0	0.55	10	120	5.0	30	0.03	< 0.5	1	49	75	7.33	10	< 1	0.82	10	0.03	185	65	0.06	< 1	420	920	5	1	32	0.01	< 10	< 10	15	< 10	38
T274	37.0	0.45	5	30	3.5	20	0.02	2.5	19	90	59	5.05	10	< 1	0.32	< 10	0.02	110	108	0.03	< 1	40	718	< 5	< 1	4	<0.01	< 10	10	< 1	< 10	184
T275	51.0	0.41	35	50	7.0	80	0.02	< 0.5	6	97	347	7.62	20	< 1	0.79	< 10	0.01	90	370	0.05	4	160	2632	5	< 1	29	<0.01	< 10	< 10	< 1	< 10	96
T276	87.0	0.22	5	110	4.0	20	0.03	< 0.5	3	78	65	5.09	10	< 1	0.62	< 10	0.01	120	152	0.04	< 1	160	1504	10	< 1	13	0.01	< 10	< 10	< 1	< 10	24
T277	15.0	0.13	< 5	100	1.5	10	0.04	1.0	8	130	138	3.12	< 10	< 1	0.18	< 10	0.01	115	191	0.03	3	40	714	10	< 1	9	<0.01	< 10	< 10	< 1	< 10	56
T278	12.0	0.30	< 5	120	2.5	10	0.03	< 0.5	8	82	103	3.58	10	< 1	0.49	< 10	0.01	65	114	0.04	3	70	488	10	< 1	8	<0.01	< 10	< 10	< 1	< 10	34
T279	6.0	0.61	< 5	100	1.0	20	0.03	< 0.5	1	24	134	1.43	< 10	< 1	0.46	10	0.02	75	2	0.02	< 1	240	2538	5	< 1	9	<0.01	< 10	< 10	1	< 10	126
T280	20.0	0.45	5	210	1.5	* 10	0.06	< 0.5	1	67	72	2.59	20	< 1	0.43	10	0.02	80	37	0.02	< 1	180	1378	10	< 1	9	0.01	< 10	< 10	< 1	< 10	116
T281	5.0	0.73	< 5	140	2.0	* 10	0.04	0.5	2	8	231	1.95	10	< 1	0.48	30	0.03	1125	5	0.06	< 1	210	2132	< 5	1	6	0.02	< 10	< 10	1	< 10	314
T282	9.0	0.68	< 5	110	2.0	* 10	0.01	< 0.5	2	14	65	2.01	20	< 1	0.58	10	0.02	80	4	0.04	< 1	90	760	5	< 1	7	<0.01	< 10	< 10	< 1	< 10	74
T283	49.0	0.58	15	50	1.0	* 10	0.03	< 0.5	3	31	964	2.44	40	1	0.12	10	0.01	370	170	0.03	< 1	120	9208	10	1	6	<0.01	< 10	< 10	4	< 10	362
T284	58.0	0.38	5	80	1.0	* 10	0.07	1.0	3	73	7563	0.82	40	< 1	0.21	20	0.02	1425	38	0.04	< 1	140	# 4.39	5	1	34	<0.01	< 10	< 10	1	< 10	240
T285	159.0	0.41	20	50	1.0	* 10	0.06	< 0.5	2	35	417	0.62	50	< 1	0.29	20	0.02	170	19	0.04	< 1	80	# 1.20	5	1	9	<0.01	< 10	< 10	2	< 10	72
T286	127.0	0.48	10	60	0.5	10	0.04	3.5	5	82	855	0.92	30	< 1	0.45	20	0.04	3030	152	0.03	3	110	# 3.20	10	< 1	9	<0.01	< 10	< 10	1	20	632
T287	29.0	0.66	5	80	1.0	* 10	0.05	3.0	5	55	40	1.00	30	< 1	0.47	20	0.04	4390	77	0.03	5	210	# 2.57	20	< 1	12	<0.01	< 10	< 10	6	10	462
T288	16.0	0.75	5	150	1.5	* 10	0.04	2.5	6	67	153	1.08	30	1	0.59	20	0.06	5760	88	0.02	4	250	5568	15	1	12	<0.01	50	< 10	9	10	502
T289	32.0	0.91	< 5	150	2.5	10	0.11	48.5	16	82	142	1.81	40	1	0.47	30	0.27	# 2.62	19	0.04	10	350	# 3.14	10	1	37	<0.01	60	< 10	9	30	8904
T290	67.0	0.49	10	90	1.5	10	0.04	26.0	9	99	47	0.98	40	2	0.43	20	0.03	# 1.68	115	0.03	4	200	# 1.31	10	< 1	20	<0.01	< 10	< 10	1	10	1662
T291	5.0	0.66	< 5	300	1.5	20	0.04	12.5	6	15	117	1.40	10	< 1	0.52	20	0.03	# 1.83	3	0.03	< 1	250	2242	5	1	104	0.01	< 10	< 10	1	< 10	724
T292	4.0	1.00	5	120	< 0.5	* 10	0.04	2.0	2	17	125	0.72	20	1	0.61	40	0.04	1530	2	0.05	< 1	250	2496	< 5	< 1	9	<0.01	10	< 10	2	10	196
T293	8.0	0.91	< 5	60	0.5	* 10	0.06	0.5	3	14	100	1.07	30	1	0.62	30	0.03	1900	3	0.03	< 1	200	2406	< 5	1	7	0.01	< 10	< 10	1	< 10	176
T294	25.0	0.80	< 5	580	< 0.5	* 10	0.02	< 0.5	5	40	471	3.73	30	1	0.52	20	0.02	305	< 1	0.03	< 1	170	5372	5	1	3	<0.01	< 10	< 10	< 1	< 10	132
T295	17.0	0.67	< 5	30	1.5	* 10	0.95	4.0	2	56	102	0.74	10	< 1	0.41	30	0.10	1510	5	0.02	< 1	130	322	< 5	< 1	20	<0.01	60	< 10	4	10	352
T296	4.0	1.38	< 5	40	< 0.5	* 10	0.54	2.0	7	64	142	1.70	20	< 1	0.43	20	0.64	1240	3	0.03	15	510	312	5	1	33	<0.01	30	< 10	19	10	290
T297	1.0	0.87	5	70	< 0.5	10	0.16	1.5	1	23	14	1.33	< 10	< 1	0.37	20	0.12	195	< 1	0.04	< 1	190	54	< 5	< 1	41	<0.01	< 10	< 10	4	< 10	36
T298	3.0	1.05	< 5	140	< 0.5	* 10	0.37	< 0.5	3	10	18	1.41	< 10	1	0.27	30	0.28	1020	< 1	0.04	6	350	72	< 5	1	24	<0.01	< 10	< 10	13	< 10	60
T299	1.0	0.83	< 5	20	1.5	20	5.77	< 0.5	3	20	12	1.18	10	2	0.16	20	0.41	1165	< 1	0.08	3	230	44	< 5	1	133	<0.01	< 10	40	13	< 10	38
T300	1.0	1.96	< 5	50	1.0	* 10	3.60	< 0.5	15	34	34	2.80	20	5	0.15	40	1.38	1145	1	0.06	27	970	34	< 5	3	123	0.01	< 10	40	57	< 10	66
T301	40.0	0.53	16	100	< 0.5	* 5	0.13	14.5	8	225	1248	2.99	< 10	< 1	0.19	10	0.15	930	44	0.01	8	160	4180	22	1	10	<0.01	< 10	< 10	4	< 10	1404
T302	61.6	0.35	22	30	< 0.5	* 5	0.03	2.0	3	227	951	5.96	< 10	3	0.17	< 10	0.02	320	59	0.01	5	150	# 1.39	18	1	4	<0.01	< 10	< 10	5	< 10	870
T303	^ 40.20	0.35	594	210	< 0.5	* 5	0.02	>100.0	4	231	2577	1.64	< 10	< 1	0.22	< 10	0.05	360	23	0.01	5	140	# 9.78	>10000	< 1	10	<0.01	< 10	< 10	3	80	710
T304	^ 6.21	0.39	166	620	< 0.5	5	0.04	54.5	2	227	1315	2.43	< 10	< 1	0.26	< 10	0.04	410	173	0.01	5	140	# 1.93	2446	< 1	14	<0.01	< 10	< 10	1	< 10	306
T305	^ 8.26	0.28	62	1590	< 0.5	11	0.77	>100.0	10	242	2890	2.60	< 10	< 1	0.20	< 10	0.02	325	130	<0.01	8	70	# 1.17	1010	< 1	30	<0.01	< 10	< 10	< 1	20	4874
T306	^ 6.80	0.57	62	840	< 0.5	5	4.68	98.5	17	186	7758	4.21	< 10	< 1	0.25	< 10	0.16	1540	97	0.02	6	130	# 3.64	976	1	150	<0.01	< 10	< 10	1	20	6518
T307	18.8	0.27	8	2240	< 0.5	* 5	0.03	1.0	4	261	356	3.75	< 10	< 1	0.18	< 10	0.02	400	62	0.01	6	60	2408	18	< 1	38	<0.01	< 10	< 10	1	< 10	364
T308	31.8	0.57	18	380	< 0.5	* 5	0.77	25.5	11	211	1542	3.58	< 10	< 1	0.32	10	0.11	525	31	<0.01	8	190	# 1.71	48	< 1	60	<0.01	< 10	< 10	3	< 10	2224
T309	4.2	0.82	14	110	< 0.5	5	0.09	32.5	8	156	3198	3.47	< 10	< 1	0.38	20	0.18	1070	20	0.04	5	350	9676	18	1	7	<0.01	< 10	< 10	4	< 10	2696
T310	5.6	1.02	12	250	0.5	11	0.05	11.5	7	117	997	3.25	< 10	< 1	0.35	30	0.32	1080	89	0.02	7	510	3946	8	1	14	<0.01	< 10	< 10	8	< 10	2164
T311	21.2	0.39	14	900	0.5	5	0.05	1.0	2	228	444	1.38	< 10	< 1	0.16	< 10	0.02	210	380	<0.01	6	300	3126	60	< 1	28	<0.01	< 10	< 10	3	< 10	80

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T312	178.2	1.20	66	>10000	0.5	16	0.07	2.0	7	196	3395	7.22	< 10	< 1	0.21	10	0.21	1140	67	0.03	4	150	# 2.00	50	2	301	<0.01	< 10	20	20	< 10	898
T313	131.2	0.53	68	7570	0.5	10	0.05	7.5	3	172	1189	4.94	< 10	3	0.40	10	0.03	130	159	0.01	6	410	8310	526	1	256	<0.01	< 10	< 10	6	< 10	412
T314	19.4	1.15	28	2700	0.5	15	1.74	54.5	12	222	1868	3.49	< 10	< 1	0.44	10	0.39	5100	24	0.01	9	280	3806	18	2	129	<0.01	< 10	< 10	11	< 10	4984
T315	11.2	1.35	68	60	2.5	39	0.07	< 0.5	43	10	# 7.02	>15.00	< 10	1	0.18	< 10	0.03	4495	29	0.01	3	* 200	86	16	4	25	0.01	< 10	10	41	100	296
T316	2.4	0.26	4	10	< 0.5	28	0.01	< 0.5	6	28	1925	2.07	< 10	< 1	0.09	< 10	0.02	375	5	<0.01	1	40	26	< 2	< 1	5	<0.01	< 10	< 10	4	< 10	38
T317	2.8	0.30	6	20	< 0.5	51	0.01	< 0.5	6	21	3552	3.53	< 10	< 1	0.09	< 10	0.02	335	18	<0.01	< 1	30	24	2	< 1	7	<0.01	< 10	< 10	5	< 10	40
T318	3.0	1.14	8	80	2.0	* 5	0.03	< 0.5	10	77	316	6.05	< 10	< 1	0.80	10	0.05	1605	2	0.01	1	< 10	38	6	1	10	0.03	< 10	< 10	4	10	70
T319	2.6	1.06	< 2	50	2.0	* 5	0.04	0.5	3	213	24	1.53	< 10	< 1	0.22	20	0.14	470	5	0.01	12	40	106	4	1	24	<0.01	< 10	20	10	< 10	314
T320	8.2	0.87	18	120	< 0.5	4	0.07	< 0.5	7	173	711	2.06	< 10	3	0.37	10	0.14	170	52	0.09	8	260	740	2	1	10	<0.01	< 10	< 10	9	< 10	146
T321	100.8	0.80	350	340	< 0.5	200	0.06	< 0.5	23	108	3080	>15.00	< 10	< 1	0.54	< 10	0.15	140	797	0.04	9	1210	3216	12	1	16	<0.01	< 10	< 10	12	10	652
T322	4.6	0.28	8	50	< 0.5	< 2	0.01	< 0.5	10	342	27	2.05	< 10	2	0.14	< 10	0.02	75	29	0.01	16	40	70	< 2	< 1	5	<0.01	< 10	< 10	8	< 10	14
T323	28.4	0.23	6	90	< 0.5	36	0.01	< 0.5	81	417	172	4.71	< 10	< 1	0.17	< 10	0.01	70	78	0.02	12	< 10	306	< 2	< 1	6	<0.01	< 10	< 10	6	10	18
T324	6.0	1.29	< 5	190	< 0.5	10	0.05	< 0.5	4	23	171	1.57	30	1	0.81	20	0.07	1340	5	0.03	< 1	340	1918	< 5	1	10	0.02	< 10	< 10	5	< 10	422
T325	6.0	1.39	< 5	190	< 0.5	* 10	0.09	1.0	1	7	15	0.72	40	< 1	0.49	40	0.08	90	1	0.04	< 1	60	364	< 5	1	17	<0.01	< 10	< 10	3	< 10	78
T326	126.0	0.45	< 5	230	4.0	* 10	0.13	0.5	2	109	50	0.53	10	< 1	0.10	< 10	0.10	1375	< 1	0.02	< 1	150	104	< 5	< 1	20	<0.01	< 10	60	5	10	300
T327	^ 6.03	1.04	< 5	80	5.5	* 10	0.44	22.5	4	78	68	1.03	10	2	0.12	10	0.46	3215	2	0.03	3	250	276	< 5	< 1	25	<0.01	50	< 10	13	30	550
T328	18.0	0.71	< 5	40	1.0	* 10	0.61	3.0	2	61	27	0.57	30	< 1	0.47	30	0.10	755	< 1	0.02	< 1	210	160	< 5	< 1	12	<0.01	< 10	10	5	10	166
T329	5.0	0.77	< 5	180	< 0.5	* 10	0.09	1.0	1	40	46	0.52	20	< 1	0.52	30	0.03	155	< 1	0.03	< 1	180	162	< 5	< 1	27	<0.01	< 10	< 10	2	< 10	110
T330	36.0	0.82	< 5	280	8.0	* 10	0.05	7.0	7	65	84	0.90	10	< 1	0.28	10	0.13	# 1.46	< 1	0.02	< 1	220	368	< 5	< 1	59	<0.01	< 10	< 10	5	< 10	512
T331	24.0	1.34	< 5	90	< 0.5	30	0.09	5.5	4	< 1	1492	1.50	40	2	0.83	110	0.11	540	1	0.03	< 1	1070	# 1.35	< 5	1	19	0.02	< 10	< 10	15	< 10	876
T332	^ 13.10	0.82	10	130	< 0.5	20	0.04	91.0	2	35	756	0.57	40	< 1	0.46	30	0.05	285	37	0.03	< 1	100	4552	5	1	8	<0.01	< 10	< 10	2	50	3112
T333	78.0	0.94	< 5	70	< 0.5	* 10	0.02	8.0	3	14	137	0.52	20	2	0.55	20	0.08	770	20	0.03	< 1	170	1472	5	< 1	4	<0.01	< 10	< 10	4	10	384
T334	^ 26.10	0.63	< 5	90	< 0.5	* 10	0.03	78.5	3	28	1278	0.53	10	2	0.41	10	0.05	1070	14	0.02	< 1	110	5820	5	< 1	6	<0.01	< 10	< 10	1	80	3498
T335	^ 14.70	0.34	< 5	220	< 0.5	* 10	0.25	>100.0	3	28	485	0.33	20	3	0.20	10	0.05	325	67	0.02	< 1	60	# 1.35	< 5	< 1	30	<0.01	< 10	< 10	< 1	50	6866
T336	^ 10.50	0.72	< 5	220	< 0.5	10	0.04	45.5	1	17	154	0.39	20	3	0.48	20	0.05	320	10	0.03	< 1	100	2276	< 5	< 1	10	<0.01	< 10	< 10	2	30	1872
T337	28.0	1.00	< 5	170	< 0.5	10	0.33	87.5	3	< 1	384	0.69	30	3	0.62	30	0.08	1535	4	0.04	< 1	170	1750	5	< 1	17	<0.01	< 10	< 10	4	< 10	2768
T338	2.0	2.57	< 5	240	< 0.5	* 10	0.50	2.0	17	47	461	2.98	30	1	0.49	30	1.01	1820	4	0.07	21	1120	794	10	3	49	0.01	< 10	< 10	42	< 10	292
T339	11.0	2.60	< 5	260	< 0.5	* 10	0.93	1.0	18	44	3882	3.14	30	< 1	0.75	30	1.29	1650	14	0.05	25	1130	396	< 5	3	49	0.06	< 10	< 10	36	< 10	246
T340	179.0	1.40	10	110	< 0.5	* 10	0.23	1.5	7	50	636	1.38	20	< 1	0.57	20	0.33	955	24	0.03	4	680	1804	15	1	18	0.01	< 10	< 10	22	10	328
T341	6.0	0.51	< 5	10	< 0.5	* 10	0.03	0.5	2	124	42	1.78	20	< 1	0.12	10	0.03	90	< 1	0.09	< 1	60	86	< 5	1	5	0.03	< 10	< 10	18	< 10	18
T342	7.0	0.47	20	20	< 0.5	30	0.05	< 0.5	23	141	176	3.79	30	< 1	0.16	10	0.04	95	23	0.04	1	230	88	5	< 1	4	<0.01	< 10	< 10	4	< 10	22
T343	76.0	0.83	5	160	< 0.5	10	0.03	32.0	1	33	225	2.73	30	< 1	0.58	20	0.03	135	6	0.03	< 1	130	4810	35	< 1	5	<0.01	< 10	< 10	2	< 10	2382
T344	35.0	0.65	< 5	70	< 0.5	* 10	0.02	>100.0	4	17	696	2.90	30	< 1	0.47	20	0.02	115	40	0.02	< 1	120	# 3.52	5	< 1	4	<0.01	< 10	< 10	1	< 10	7774
T345	^ 7.74	0.77	< 5	340	< 0.5	* 10	0.04	20.0	3	50	263	0.92	40	< 1	0.46	20	0.06	175	106	0.02	< 1	110	9180	< 5	1	15	<0.01	10	< 10	2	30	1564
T346	^ 7.18	0.95	< 5	90	< 0.5	* 10	0.03	1.0	3	45	160	1.12	30	< 1	0.59	20	0.05	605	5	0.03	< 1	360	1620	< 5	< 1	6	<0.01	< 10	< 10	4	20	202
T347	119.0	0.54	5	220	< 0.5	10	0.05	>100.0	3	14	526	1.71	30	< 1	0.40	20	0.03	250	14	0.03	< 1	140	9712	10	< 1	7	<0.01	< 10	< 10	1	20	6842
T348	47.0	0.78	12	90	1.5	* 5	1.16	2.5	6	157	36	1.42	< 10	< 1	0.13	< 10	0.52	2985	4	0.01	11	350	100	2	1	39	<0.01	10	< 10	23	< 10	210
T349	1.0	0.50	< 5	30	< 0.5	* 10	0.03	0.5	1	66	7	0.27	10	2	0.38	20	0.04	335	< 1	0.02	< 1	90	50	< 5	< 1	4	<0.01	< 10	< 10	2	< 10	44
T350	4.0	0.98	< 5	110	0.5	* 10	0.16	3.0	7	44	71	1.61	10	< 1	0.30	10	0.44	3275	< 1	0.02	7	440	168	< 5	1	14	<0.01	< 10	< 10	17	< 10	236
T351	3.8	1.97	14	430	1.0	* 5	2.05	5.0	11	74	217	2.29	< 10	1	0.77	20	0.81	6765	5	0.01	15	1190	498	2	3	74	<0.01	< 10	< 10	27	< 10	658
T352	27.4	1.64	6	90	1.0	* 5	0.69	37.0	16	100	1226	3.32	< 10	2	0.80	20	0.40	6715	31	0.01	15	1030	2068	6	2	31	0.01	< 10	< 10	20	< 10	2934
T353	13.8	0.36	8	50	< 0.5	2	0.04	< 0.5	4	104	424	6.89	< 10	5	0.67	< 10	0.02	150	72	0.04	6	520	5466	6	1	14	<0.01	< 10	< 10	17	10	218
T354	3.0	1.70	18	40	< 0.5	* 5	5.67	>100.0	29	98	128	6.23	< 10	3	0.41	< 10	1.20	5515	9	0.01	18	620	414	< 2	2	241	<0.01	< 10	< 10	22	30	# 3.86
T355	63.8	0.35	2	120	6.0	5	6.89	14.0	3	212	18	0.63	< 10	1	0.06	< 10	0.27	1950	1	<0.01	6	80	64	< 2	< 1	137	<0.01	< 10	10	5	< 10	1044
T356	32.0	1.60	18	40	< 0.5	16	0.15	1.5	20	118	1191	2.96	< 10	3	0.49	10	0.57	1705	19	0.01	21	840	# 3.52	4	1	20	<0.01	< 10	< 10	29	20	1090
T357	7.0	0.75	8	60	< 0.5	< 2	0.32	4.5	6	162	163	7.58	< 10	5	0.37	< 10	0.08	415	129	0.05	11	660	3928	2	1	52	<0.01	< 10	< 10	23	10	860
T358	4.0	0.90	6	60	< 0.5	< 2	0.12	6.5	24	130	165	10.95	< 10	1	0.36	10	0.16	950	32	0.03	11	950	2416	< 2	1	40	<0.01	< 10	< 10	26	10	1214
T359	92.2	0.60	18	20	< 0.5	< 2	0.05	3.5	8	99	5406	>15.00	< 10	4	0.18	< 10	0.06	265	48	0.04	6	670	# 2.44	14	2	11	<0.01	< 10	< 10	25	* 50	1078
T360	^ 20.40	0.80	34	7050	1.0	5	0.08	5.5	18	97	355	2.14	< 10	3	0.35	10	0.05	3225	206	0.01	7	320	# 4.69	84	1	454	<0.01	< 10	< 10	2	40	800
T361	^ 11.30	1.05	26	9640	< 0.5	14	0.65	10.5	11	83	441	2.45	< 10	1	0.45	20	0.21	685	552	0.01	6	710	3196	134	1	164	<0.01	< 10	< 10	4	20	1106
T362	27.0	1.97	30	250	< 0.5	* 5	0.12	12.5	11	40	321	3.97	< 10	1	0.60	20	0.31	2020	88	0.01	12	1090	458	6	4	38	<0.01	< 10	< 10	23	< 10	916
T363	43.2	0.69	20	910	< 0.5	10	0.05	9.0	3	136	76	1.66	< 10	< 1	0.34	10	0.07	2500	115	0.01	8	350	2254	12	1	20	<0.01	< 10	< 10	7	< 10	912
T364	16.8	1.28	10	660	< 0.5	* 5	0.05	7.5	9	5	51	1.11	< 10	1	0.67	30	0.10	1405	73	<0.01	3	450	1370	8	1	27	<0.01	< 10	< 10	5	< 10	960

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T365	53.0	0.95	14	1290	< 0.5	8	0.02	3.5	5	99	113	2.24	< 10	< 1	0.39	20	0.05	1310	241	0.01	6	800	4290	22	2	79	<0.01	< 10	< 10	8	< 10	472
T366	39.0	1.85	30	150	< 0.5	14	1.24	17.0	16	28	111	3.47	< 10	1	0.48	20	0.68	4590	83	0.01	16	990	896	6	3	100	<0.01	< 10	< 10	20	< 10	1752
T367	165.0	1.30	16	150	< 0.5	5	0.25	9.5	13	64	147	2.53	< 10	1	0.46	20	0.31	1720	111	0.01	12	700	3436	10	2	32	<0.01	< 10	< 10	11	< 10	1464
T368	^ 43.60	1.57	20	990	< 0.5	8	0.11	22.0	7	41	948	3.68	< 10	2	0.68	20	0.11	1150	292	0.05	8	870	# 2.61	262	2	78	<0.01	< 10	< 10	12	80	2650
T369	141.8	1.85	30	270	0.5	9	0.44	4.5	6	19	229	2.94	< 10	< 1	0.81	30	0.20	1205	214	0.05	11	1180	# 1.18	20	3	145	<0.01	< 10	< 10	16	< 10	884
T370	^ 9.68	1.43	38	120	< 0.5	* 5	0.14	3.0	5	88	181	2.67	< 10	1	0.62	20	0.15	685	203	0.02	9	880	3046	26	3	87	<0.01	< 10	< 10	14	10	420
T371	20.4	1.39	44	560	< 0.5	* 5	0.09	< 0.5	2	43	109	3.19	< 10	< 1	0.64	30	0.09	50	280	0.05	3	950	1952	14	< 1	161	<0.01	< 10	< 10	7	< 10	214
T372	52.4	1.03	18	80	< 0.5	9	0.11	3.5	4	18	87	2.41	< 10	< 1	0.63	20	0.11	130	139	0.03	6	670	978	10	3	117	<0.01	< 10	< 10	11	< 10	594
T373	28.6	0.99	46	40	1.5	145	0.02	< 0.5	30	41	# 1.30	11.65	< 10	< 1	0.34	10	0.03	4945	28	0.01	3	* 200	# 1.20	2	1	5	0.01	< 10	< 10	< 1	100	1014
T374	17.4	1.08	18	160	< 0.5	30	0.03	0.5	13	36	4759	11.75	< 10	< 1	0.43	20	0.04	3020	17	0.02	3	340	2398	12	2	24	0.02	< 10	< 10	28	< 10	290
T375	15.8	0.83	< 2	50	< 0.5	36	0.07	1.0	12	87	6810	5.66	< 10	< 1	0.32	10	0.03	1620	7	0.01	4	180	2418	4	1	10	0.01	< 10	10	8	< 10	478
T376	17.4	1.47	6	90	0.5	433	0.01	< 0.5	6	51	1033	2.02	< 10	< 1	0.58	20	0.03	100	41	0.05	3	460	4184	6	1	14	0.01	< 10	< 10	6	< 10	92
T377	89.0	1.60	46	230	0.5	46	0.04	0.5	63	31	# 1.33	>15.00	< 10	< 1	0.35	20	0.12	2375	19	0.01	1	200	978	14	4	30	0.01	< 10	10	22	* 50	302
T378	1.0	0.36	< 5	20	< 0.5	10	0.16	< 0.5	11	84	21	2.29	40	2	0.15	20	0.09	230	93	0.06	3	320	18	< 5	< 1	5	<0.01	10	< 10	5	< 10	18
T379	3.4	0.53	< 2	70	< 0.5	7	0.01	< 0.5	1	140	5	1.70	< 10	< 1	0.34	10	0.02	15	17	0.01	5	120	180	< 2	< 1	5	<0.01	< 10	< 10	3	< 10	10
T380	5.6	0.68	< 2	30	0.5	14	0.01	< 0.5	1	92	18	1.74	< 10	< 1	0.49	30	0.03	20	26	0.01	3	130	292	< 2	< 1	3	<0.01	< 10	< 10	2	< 10	6
T381	8.0	0.48	< 2	90	< 0.5	5	0.01	< 0.5	1	143	4	1.47	< 10	< 1	0.40	20	0.02	15	33	0.01	5	80	208	< 2	< 1	4	<0.01	< 10	< 10	2	< 10	6
T382	2.6	0.48	< 2	30	< 0.5	* 5	0.01	< 0.5	1	118	2	0.86	< 10	< 1	0.42	30	0.02	25	7	0.01	3	70	74	< 2	1	8	<0.01	< 10	< 10	2	< 10	4
T383	2.0	0.47	18	40	< 0.5	11	0.01	< 0.5	2	80	13	4.56	< 10	< 1	0.32	20	0.02	15	35	0.01	3	200	236	< 2	1	5	<0.01	< 10	< 10	4	< 10	18
T384	1.4	0.36	< 2	60	< 0.5	* 5	0.01	< 0.5	2	119	10	1.61	< 10	< 1	0.29	10	0.01	15	28	0.01	6	120	256	< 2	< 1	3	<0.01	< 10	< 10	5	< 10	4
T385	10.0	0.26	10	100	< 0.5	* 5	0.01	< 0.5	1	192	5	1.25	< 10	< 1	0.23	10	0.01	15	39	0.01	6	70	188	< 2	< 1	2	<0.01	< 10	< 10	1	< 10	2
T386	11.6	0.49	6	130	< 0.5	61	0.01	< 0.5	2	155	15	5.88	< 10	< 1	0.42	10	0.02	20	125	0.01	3	190	598	4	1	3	<0.01	< 10	< 10	9	< 10	6
T387	2.8	0.70	< 2	40	< 0.5	26	0.01	< 0.5	1	125	22	1.18	< 10	< 1	0.43	20	0.03	20	35	0.01	3	160	342	< 2	1	5	<0.01	< 10	< 10	6	< 10	4
T388	4.8	0.73	< 2	80	< 0.5	5	0.02	< 0.5	2	116	15	0.83	< 10	< 1	0.54	30	0.04	40	14	0.02	4	130	266	< 2	1	10	<0.01	< 10	< 10	3	< 10	10
T389	4.0	0.22	6	10	< 0.5	6	0.01	< 0.5	1	191	16	1.13	< 10	< 1	0.06	< 10	0.01	10	101	0.01	5	110	308	< 2	< 1	1	<0.01	< 10	< 10	3	< 10	10
T390	3.6	0.72	4	30	0.5	7	0.02	< 0.5	2	129	18	0.81	< 10	< 1	0.52	30	0.04	40	12	0.01	6	130	76	< 2	1	8	<0.01	< 10	< 10	3	< 10	10
T391	2.8	1.13	< 2	130	2.5	* 5	0.13	1.5	6	66	35	0.65	< 10	< 1	0.58	30	0.11	845	2	0.03	3	300	52	< 2	1	17	<0.01	< 10	< 10	4	< 10	132
T392	14.4	0.33	6	230	< 0.5	* 5	0.02	< 0.5	4	216	8	2.86	< 10	< 1	0.34	10	0.02	150	74	0.01	8	100	130	< 2	1	5	<0.01	< 10	< 10	< 1	< 10	14
T393	7.2	0.34	< 2	50	< 0.5	8	0.04	0.5	5	196	11	3.30	< 10	< 1	0.35	< 10	0.02	55	28	0.02	7	20	288	2	< 1	3	<0.01	< 10	< 10	1	< 10	< 2
T394	2.4	0.46	6	20	< 0.5	* 5	0.43	< 0.5	5	195	14	1.87	< 10	< 1	0.37	< 10	0.08	325	34	0.01	8	90	180	4	< 1	10	<0.01	10	< 10	2	< 10	< 2
T395	3.8	1.36	12	50	< 0.5	* 5	0.45	< 0.5	4	40	4	4.24	20	< 1	0.78	20	0.21	770	3	0.02	3	1520	22	2	1	13	0.02	< 10	< 10	10	< 10	40
T396	2.6	0.53	< 2	20	< 0.5	* 5	0.02	< 0.5	3	91	13	7.37	< 10	< 1	0.30	10	0.02	35	7	0.01	4	180	22	< 2	1	1	<0.01	< 10	< 10	2	< 10	10
T397	11.8	0.59	14	60	2.0	* 5	0.12	< 0.5	11	176	147	5.15	< 10	< 1	0.19	< 10	0.19	600	108	0.01	16	390	776	10	1	11	<0.01	< 10	20	13	< 10	154
T398	15.2	0.56	8	50	0.5	18	0.09	< 0.5	11	154	168	2.35	< 10	1	0.35	10	0.07	830	75	0.02	12	580	572	4	< 1	24	<0.01	< 10	< 10	8	< 10	86
T399	0.8	0.48	< 2	40	< 0.5	15	0.03	< 0.5	2	226	10	0.82	< 10	< 1	0.29	< 10	0.03	220	7	0.01	6	40	44	< 2	< 1	3	<0.01	< 10	< 10	3	< 10	< 2
T400	< 0.2	0.14	2	20	< 0.5	* 5	0.01	< 0.5	1	216	5	1.16	< 10	< 1	0.05	< 10	< 0.01	85	4	0.01	7	120	32	< 2	< 1	2	<0.01	< 10	< 10	2	< 10	< 2
T401	1.0	0.48	< 2	40	< 0.5	* 5	0.02	< 0.5	< 1	196	4	0.91	< 10	< 1	0.37	< 10	0.03	50	6	0.01	4	190	22	< 2	1	5	0.01	< 10	< 10	5	< 10	< 2
T402	1.8	0.52	8	50	< 0.5	5	0.01	< 0.5	1	176	4	1.75	< 10	< 1	0.41	< 10	0.03	30	5	0.01	7	80	56	2	< 1	5	<0.01	< 10	< 10	5	< 10	< 2
T403	12.8	0.42	4	30	< 0.5	30	< 0.01	0.5	< 1	157	5	0.98	< 10	< 1	0.29	< 10	0.02	35	6	0.01	[illegible]	120	138	< 2	< 1	7	<0.01	< 10	< 10	3	< 10	< 2
T404	2.2	0.33	< 2	30	< 0.5	* 5	0.01	< 0.5	1	169	7	0.96	< 10	< 1	0.19	< 10	0.02	110	7	0.01	5	120	242	< 2	< 1	17	<0.01	< 10	< 10	4	< 10	< 2
T405	1.8	0.58	< 2	40	< 0.5	* 5	0.01	< 0.5	1	94	7	2.02	10	< 1	0.46	10	0.03	80	3	0.02	6	80	122	< 2	< 1	10	<0.01	< 10	< 10	4	< 10	4
T406	2.4	0.29	< 2	20	< 0.5	* 5	0.01	< 0.5	1	167	4	1.68	10	< 1	0.25	< 10	0.01	35	2	0.01	6	110	72	< 2	< 1	7	<0.01	< 10	< 10	3	< 10	4
T407	3.4	0.48	< 2	60	< 0.5	6	0.01	< 0.5	< 1	87	1	2.10	10	< 1	0.48	20	0.02	25	1	0.01	4	120	114	< 2	< 1	6	<0.01	< 10	< 10	3	< 10	4
T408	3.2	0.70	< 2	170	< 0.5	* 5	0.02	< 0.5	1	43	8	5.97	10	< 1	0.61	30	0.04	55	1	0.01	3	800	88	6	1	42	0.01	< 10	< 10	5	< 10	12
T409	2.2	0.67	< 2	50	< 0.5	* 5	0.01	< 0.5	1	92	1	2.72	10	< 1	0.55	30	0.04	45	1	0.01	2	240	42	< 2	< 1	13	0.01	< 10	< 10	6	< 10	8
T410	2.6	0.25	< 2	10	< 0.5	* 5	0.01	< 0.5	9	189	4	1.37	< 10	< 1	0.22	< 10	0.01	20	7	0.01	9	40	18	< 2	< 1	3	<0.01	< 10	< 10	2	< 10	16
T411	2.4	0.23	< 2	30	< 0.5	* 5	0.01	< 0.5	2	185	9	0.94	< 10	< 1	0.18	< 10	0.01	25	15	0.01	7	100	26	< 2	< 1	2	<0.01	< 10	< 10	2	< 10	4
T412	10.8	0.69	14	80	3.5	9	0.02	< 0.5	2	103	2	4.52	< 10	< 1	1.05	10	0.04	60	20	0.02	3	160	426	2	1	7	0.01	< 10	< 10	7	< 10	8
T413	10.6	0.99	< 2	70	1.5	11	0.02	< 0.5	3	76	17	1.80	< 10	1	0.70	20	0.06	170	12	0.02	2	190	448	< 2	1	9	<0.01	< 10	< 10	3	< 10	18
T414	12.0	0.27	< 2	110	2.5	* 5	0.02	< 0.5	6	230	< 1	3.52	< 10	< 1	0.35	< 10	0.01	45	19	0.01	6	80	430	2	< 1	4	<0.01	< 10	< 10	2	< 10	4
T415	7.8	0.92	62	70	6.0	10	0.04	< 0.5	5	120	< 1	>15.00	< 10	1	0.37	10	0.06	50	28	0.01	2	340	364	10	2	5	0.01	< 10	< 10	11	* 50	20
T416	14.0	0.71	8	60	5.0	11	0.02	< 0.5	3	126	< 1	6.53	< 10	< 1	0.67	10	0.04	65	17	0.01	2	120	230	4	1	5	<0.01	< 10	< 10	14	< 10	10
T417	1.6	1.01	6	20	2.0	* 5	1.65	< 0.5	9	82	4	1.75	< 10	< 1	0.24	10	0.61	345	1	0.09	19	420	14	< 2	2	56	<0.01	< 10	< 10	19	< 10	34

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T418	16.8	1.96	4	40	1.0	12	0.03	< 0.5	83	168	79	6.54	< 10	< 1	0.76	40	0.11	140	92	0.02	9	390	306	< 2	3	11	<0.01	< 10	< 10	8	< 10	28
T419	1.6	0.56	2	30	< 0.5	* 5	0.03	1.0	1	111	29	0.54	10	< 1	0.51	50	0.04	650	3	0.04	6	70	54	< 2	< 1	7	<0.01	< 10	< 10	1	< 10	18
T420	3.8	0.68	6	50	< 0.5	* 5	0.02	< 0.5	2	109	36	1.39	10	< 1	0.69	30	0.03	65	4	0.02	4	160	262	< 2	1	20	<0.01	< 10	< 10	5	< 10	6
T421	2.2	0.69	2	40	< 0.5	* 5	0.03	< 0.5	2	107	50	0.92	10	< 1	0.58	50	0.06	250	2	0.02	3	220	70	< 2	< 1	10	<0.01	< 10	< 10	3	< 10	14
T422	9.2	0.66	6	100	< 0.5	5	0.02	< 0.5	2	111	13	5.39	10	< 1	0.59	20	0.04	40	4	0.01	1	60	146	< 2	< 1	5	<0.01	< 10	< 10	5	< 10	10
T423	3.2	0.85	6	90	< 0.5	* 5	0.02	< 0.5	1	104	41	6.15	20	< 1	0.51	20	0.04	40	12	0.01	4	320	272	< 2	1	39	<0.01	< 10	< 10	5	< 10	14
T424	3.0	0.29	< 2	20	< 0.5	* 5	0.03	< 0.5	1	152	57	1.57	< 10	1	0.21	< 10	0.02	60	10	0.01	7	120	94	2	< 1	6	<0.01	< 10	< 10	2	< 10	40
T425	3.6	0.64	< 2	60	< 0.5	* 5	0.02	< 0.5	2	70	254	1.88	10	< 1	0.53	40	0.03	1325	9	0.03	3	290	586	< 2	1	10	<0.01	< 10	< 10	2	< 10	10
T426	4.0	1.34	10	20	< 0.5	* 5	0.27	10.5	9	45	434	1.78	< 10	< 1	0.38	20	0.61	530	4	0.10	21	640	200	< 2	2	19	<0.01	< 10	< 10	21	< 10	310
T427	7.0	0.44	36	20	< 0.5	167	0.03	< 0.5	5	85	763	10.65	< 10	< 1	0.15	< 10	0.03	75	90	0.05	2	110	654	12	1	4	<0.01	< 10	< 10	27	< 10	48
T428	5.8	1.29	14	20	0.5	11	0.59	8.5	34	17	8615	2.36	< 10	< 1	0.30	30	0.60	1085	1	0.04	16	540	236	6	1	27	<0.01	< 10	< 10	14	< 10	524
T429	^ 5.55	0.94	< 2	20	< 0.5	37	0.35	2.0	10	74	2367	3.22	< 10	< 1	0.35	10	0.29	180	87	0.04	10	260	1258	4	1	16	<0.01	< 10	< 10	8	< 10	126
T430	4.0	1.54	6	20	< 0.5	* 5	0.60	0.5	10	37	1648	1.79	< 10	< 1	0.34	20	0.66	615	1	0.07	18	520	116	4	2	48	<0.01	< 10	< 10	22	< 10	82
T431	2.2	1.53	< 2	20	< 0.5	* 5	0.32	0.5	9	52	622	1.78	< 10	< 1	0.43	20	0.74	650	< 1	0.06	22	530	38	4	2	15	<0.01	< 10	< 10	22	< 10	70
T432	2.2	1.09	48	20	2.0	* 5	0.15	5.0	8	183	283	1.15	< 10	< 1	0.42	490	0.33	2610	4	0.04	7	210	30	< 2	2	12	<0.01	< 10	20	5	< 10	100
T433	200.0	0.66	10	60	< 0.5	65	0.04	< 0.5	3	177	444	2.89	< 10	< 1	0.52	10	0.06	60	15	0.05	4	140	740	2	< 1	20	<0.01	10	< 10	6	< 10	20
T434	^ 5.58	0.38	4	30	< 0.5	111	0.02	0.5	12	329	6435	3.82	< 10	< 1	0.29	10	0.02	55	10	0.01	8	60	870	4	< 1	3	<0.01	< 10	< 10	2	10	36
T435	125.4	0.24	2	10	< 0.5	110	0.39	1.0	18	134	71	3.31	< 10	< 1	0.13	< 10	0.02	380	6	0.01	4	10	1534	< 2	< 1	26	<0.01	< 10	20	< 1	< 10	8
T436	70.4	0.77	6	40	< 0.5	168	0.06	1.0	8	54	66	1.79	< 10	< 1	0.33	< 10	0.10	1285	4	0.01	2	470	5412	< 2	< 1	10	<0.01	< 10	< 10	7	< 10	714
T437	41.4	0.10	6	50	< 0.5	* 5	0.01	< 0.5	7	117	104	3.27	< 10	< 1	0.05	< 10	< 0.01	80	36	0.01	4	20	866	< 2	< 1	35	<0.01	< 10	< 10	< 1	< 10	8
T438	79.4	0.09	8	30	< 0.5	* 5	0.01	0.5	16	129	196	3.12	< 10	< 1	0.02	< 10	< 0.01	55	50	0.01	3	20	1238	4	< 1	25	<0.01	< 10	< 10	< 1	< 10	8
T439	12.2	0.11	< 2	10	< 0.5	5	0.01	< 0.5	1	151	2016	1.37	10	< 1	0.06	< 10	< 0.01	15	11	0.03	3	10	208	< 2	< 1	4	<0.01	< 10	10	1	< 10	20
T440	36.0	0.35	< 2	40	< 0.5	12	0.02	0.5	2	85	935	3.16	10	< 1	0.20	10	0.02	20	17	0.04	3	20	448	< 2	< 1	7	<0.01	< 10	< 10	3	< 10	42
T441	12.2	0.34	< 2	40	< 0.5	10	0.01	< 0.5	2	107	266	1.94	10	< 1	0.20	< 10	0.02	30	25	0.12	2	50	282	< 2	< 1	31	<0.01	< 10	< 10	5	< 10	18
T442	2.6	0.86	< 2	40	< 0.5	* 5	0.01	< 0.5	1	43	40	0.38	< 10	< 1	0.57	20	0.03	35	3	0.06	< 1	60	62	< 2	1	39	<0.01	< 10	< 10	1	< 10	6
T443	2.8	0.69	6	90	< 0.5	* 5	0.03	1.0	6	51	100	0.76	< 10	< 1	0.50	40	0.04	1245	< 1	0.03	2	80	20	< 2	1	25	0.01	< 10	< 10	2	< 10	20
T444	2.4	0.67	20	40	< 0.5	* 5	0.01	1.0	2	52	38	1.31	< 10	< 1	0.54	30	0.03	110	< 1	0.03	1	180	32	< 2	1	15	<0.01	< 10	< 10	2	< 10	42
T445	45.8	0.21	8	40	< 0.5	44	0.01	< 0.5	12	130	292	2.28	< 10	< 1	0.20	10	0.01	20	352	0.01	3	30	610	< 2	< 1	3	<0.01	< 10	< 10	< 1	< 10	4
T446	18.8	0.66	< 2	40	< 0.5	15	0.02	< 0.5	2	193	193	1.49	< 10	< 1	0.47	10	0.04	40	35	0.01	7	100	286	< 2	1	4	<0.01	10	< 10	7	< 10	14
T447	21.0	1.20	< 2	70	< 0.5	23	0.21	3.0	6	97	951	3.69	20	< 1	0.52	30	0.16	70	64	0.05	6	570	520	4	1	53	<0.01	< 10	< 10	9	< 10	128
T448	111.8	0.58	< 2	70	< 0.5	73	0.03	< 0.5	4	193	428	3.17	10	< 1	0.35	10	0.05	50	126	0.06	7	160	812	2	1	10	<0.01	< 10	< 10	4	< 10	38
T449	29.0	0.68	6	250	< 0.5	47	0.02	< 0.5	4	210	188	3.49	10	< 1	0.50	10	0.05	50	65	0.05	5	200	392	2	1	15	<0.01	< 10	< 10	6	< 10	28
T450	2.6	0.20	< 2	20	< 0.5	* 5	0.01	< 0.5	2	332	11	0.89	< 10	< 1	0.09	< 10	0.01	50	8	0.01	7	30	12	< 2	< 1	2	<0.01	< 10	10	4	< 10	6
T451	19.4	0.23	6	80	< 0.5	42	0.01	< 0.5	1	505	39	1.78	< 10	3	0.04	< 10	0.01	65	14	0.01	10	60	186	2	< 1	13	<0.01	< 10	< 10	14	10	6
T452	16.6	0.08	34	60	< 0.5	108	0.01	< 0.5	< 1	421	34	1.63	< 10	1	< 0.01	< 10	< 0.01	70	29	0.01	14	30	234	< 2	< 1	8	<0.01	< 10	< 10	5	< 10	2
T453	5.4	0.06	32	40	< 0.5	108	0.01	< 0.5	< 1	490	25	1.38	< 10	< 1	< 0.01	< 10	< 0.01	60	18	0.01	14	50	382	4	< 1	7	<0.01	< 10	< 10	7	< 10	2
T454	30.4	0.11	14	30	< 0.5	20	0.01	< 0.5	< 1	510	20	1.39	< 10	1	< 0.01	< 10	< 0.01	65	14	0.01	17	30	86	< 2	< 1	5	<0.01	< 10	< 10	10	< 10	2
T455	25.8	0.07	4	10	< 0.5	30	0.01	< 0.5	1	529	24	1.51	< 10	2	< 0.01	< 10	< 0.01	55	11	0.01	21	20	44	< 2	< 1	4	<0.01	< 10	< 10	7	10	2
T456	14.4	0.13	6	50	< 0.5	22	0.01	< 0.5	3	336	118	3.20	< 10	4	0.04	< 10	< 0.01	55	21	0.02	11	50	78	< 2	< 1	6	<0.01	< 10	< 10	10	< 10	6
T457	12.4	0.08	< 2	40	< 0.5	34	0.01	< 0.5	3	462	97	2.41	< 10	1	< 0.01	< 10	< 0.01	75	41	0.01	18	50	56	2	< 1	4	<0.01	< 10	< 10	6	< 10	6
T458	60.0	0.18	12	110	< 0.5	66	0.01	< 0.5	6	377	72	1.45	< 10	3	0.01	< 10	0.01	70	8	0.01	13	30	88	< 2	< 1	15	<0.01	< 10	< 10	5	< 10	6
T459	77.8	0.06	4	60	< 0.5	46	0.01	< 0.5	13	352	197	3.02	< 10	2	< 0.01	< 10	< 0.01	60	13	0.01	28	50	74	< 2	< 1	6	<0.01	< 10	< 10	5	< 10	4
T460	* 1.0	0.88	< 5	50	1.5	* 10	0.18	< 0.5	3	84	19	1.22	50	< 1	0.41	60	0.16	490	1	0.05	2	310	8	< 5	1	22	<0.01	< 10	< 10	6	< 10	28
T461	1.0	0.82	< 5	80	0.5	10	0.08	1.0	16	82	225	1.40	40	< 1	0.50	40	0.08	550	1	0.03	4	100	26	5	1	28	<0.01	< 10	< 10	8	< 10	58
T462	3.0	0.67	< 5	140	0.5	* 10	0.06	1.0	15	59	254	2.12	40	< 1	0.52	50	0.04	1150	2	0.05	1	190	42	5	1	33	<0.01	< 10	< 10	6	< 10	40
T463	2.0	0.58	< 5	70	1.0	* 10	0.09	0.5	5	49	119	1.41	40	< 1	0.33	50	0.05	115	1	0.05	< 1	190	58	< 5	1	33	<0.01	< 10	< 10	4	< 10	50
T464	2.0	1.19	< 5	170	2.5	* 10	0.08	0.5	17	73	392	3.60	50	1	0.64	50	0.10	1020	1	0.05	1	160	30	5	2	21	0.01	< 10	< 10	7	< 10	72
T465	5.0	0.90	< 5	340	0.5	* 10	0.09	1.5	25	68	664	2.64	40	< 1	0.47	40	0.08	1635	1	0.04	< 1	160	28	< 5	1	21	0.03	< 10	< 10	6	< 10	54
T466	35.0	0.05	< 2	50	< 0.5	6	0.01	< 0.5	11	308	118	2.10	< 10	< 1	* 0.01	< 10	< 0.01	30	10	0.01	12	10	52	2	< 1	4	<0.01	< 10	10	1	< 10	6
T467	41.6	0.18	< 2	20	< 0.5	16	0.01	< 0.5	3	315	121	2.63	10	< 1	0.06	< 10	< 0.01	30	20	0.01	8	60	132	< 2	< 1	4	<0.01	< 10	< 10	8	< 10	16
T468	7.8	0.25	2	50	< 0.5	* 5	0.01	< 0.5	5	314	116	2.19	< 10	< 1	0.11	< 10	0.01	105	18	0.01	9	80	200	< 2	< 1	6	<0.01	< 10	< 10	5	< 10	68
T469	84.0	0.53	20	70	< 0.5	114	0.02	< 0.5	1	151	209	1.91	< 10	< 1	0.52	< 10	0.03	55	14	0.02	4	50	494	< 2	< 1	8	<0.01	< 10	< 10	4	< 10	44
T470	16.4	0.45	8	30	< 0.5	13	0.11	1.5	4	239	567	1.46	10	< 1	0.31	10	0.03	185	6	0.03	8	70	336	< 2	< 1	7	<0.01	< 10	< 10	4	< 10	234

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T471	13.0	0.41	12	20	< 0.5	11	0.09	2.5	10	69	2865	1.93	< 10	< 1	0.23	20	0.02	295	13	0.03	1	80	368	< 2	< 1	9	<0.01	< 10	< 10	1	< 10	460
T472	2.6	0.70	6	50	< 0.5	* 5	0.02	1.0	2	31	442	1.30	10	< 1	0.46	20	0.03	90	< 1	0.02	< 1	70	52	< 2	< 1	9	0.01	< 10	< 10	3	< 10	140
T473	11.4	0.40	6	720	< 0.5	* 5	0.01	1.0	2	166	36	1.35	< 10	< 1	0.32	< 10	0.01	40	42	0.01	4	100	2014	8	< 1	2	<0.01	< 10	< 10	2	< 10	120
T474	44.2	0.45	< 2	180	0.5	5	0.07	1.0	3	161	115	4.18	< 10	< 1	0.27	< 10	0.03	125	68	0.01	4	150	1800	10	1	3	<0.01	< 10	< 10	4	< 10	294
T475	9.8	0.53	< 2	60	< 0.5	* 5	0.02	16.0	3	143	101	2.31	< 10	< 1	0.45	10	0.02	70	18	0.01	3	150	# 1.01	2	< 1	3	<0.01	< 10	< 10	2	< 10	856
T476	20.4	0.68	6	30	1.0	* 5	0.02	1.0	2	145	220	2.41	< 10	< 1	0.56	10	0.04	220	33	0.01	< 1	200	4342	12	1	5	<0.01	< 10	< 10	7	< 10	172
T477	10.4	0.57	28	30	1.0	* 5	0.14	0.5	3	87	747	2.79	< 10	< 1	0.51	10	0.07	110	89	0.10	< 1	250	3890	4	1	23	<0.01	< 10	< 10	4	< 10	106
T478	60.0	0.34	52	30	< 0.5	97	0.04	1.5	7	143	292	4.05	< 10	< 1	0.46	< 10	0.02	175	32	0.03	5	110	1156	10	< 1	6	<0.01	< 10	< 10	4	< 10	204
T479	4.8	1.76	6	60	0.5	* 5	3.59	0.5	13	62	67	2.60	< 10	< 1	0.50	10	0.87	1565	3	0.04	21	840	622	6	2	219	<0.01	< 10	< 10	30	< 10	158
T480	3.0	1.02	10	50	0.5	6	1.51	0.5	13	103	94	2.33	< 10	< 1	0.36	10	0.49	1200	14	0.02	13	540	1118	2	1	70	<0.01	< 10	< 10	15	< 10	114
T481	11.0	0.78	4	140	< 0.5	11	0.03	1.5	1	153	161	1.40	< 10	1	0.56	20	0.04	85	10	0.01	4	250	2004	2	1	9	<0.01	< 10	< 10	7	< 10	196
T482	44.2	0.42	10	40	< 0.5	* 5	0.02	3.0	3	207	638	3.62	< 10	< 1	0.27	< 10	0.02	130	18	0.01	8	150	4060	< 2	< 1	5	<0.01	< 10	< 10	2	< 10	638
T483	43.4	0.35	12	30	< 0.5	5	0.12	>100.0	14	210	403	3.05	< 10	1	0.22	10	0.05	300	58	0.01	6	70	# 0.93	6	< 1	8	<0.01	< 10	< 10	2	10	# 1.10
T484	3.4	0.93	2	50	< 0.5	6	0.09	3.0	6	136	61	2.12	< 10	1	0.45	30	0.26	1545	26	0.02	6	340	746	< 2	1	8	<0.01	< 10	< 10	11	10	530
T485	19.2	2.51	42	90	2.0	* 5	0.28	13.0	17	52	1069	4.16	< 10	< 1	0.91	20	0.79	3455	24	0.03	18	1260	# 3.47	8	2	40	0.01	< 10	< 10	41	< 10	2794
T486	119.2	0.55	20	40	< 0.5	4	0.03	< 0.5	3	202	141	1.89	10	< 1	0.41	10	0.03	80	51	0.01	1	380	3236	2	1	6	<0.01	< 10	< 10	9	< 10	152
T487	12.2	1.73	50	180	1.0	< 2	0.06	2.5	10	162	69	3.08	10	< 1	0.59	20	0.50	1400	55	<0.01	7	590	2948	2	3	12	<0.01	< 10	< 10	28	< 10	570
T488	17.0	0.37	32	140	< 0.5	< 2	0.01	8.0	5	266	116	2.21	< 10	< 1	0.28	< 10	0.02	70	183	<0.01	6	170	2618	< 2	1	8	<0.01	< 10	< 10	8	< 10	858
T489	9.6	2.44	12	380	1.5	< 2	0.07	4.5	22	173	81	4.82	10	< 1	0.77	10	0.32	6125	6	<0.01	20	740	2044	< 2	5	23	0.01	< 10	< 10	55	< 10	1464
T490	2.0	1.55	10	140	1.0	* 10	0.09	< 0.5	19	13	40	5.79	30	< 1	0.61	30	0.21	2095	30	0.03	2	420	86	5	2	11	0.03	< 10	< 10	13	< 10	260
T491	2.0	0.66	10	190	0.5	* 10	0.04	0.5	3	90	11	3.36	50	3	0.65	20	0.04	90	13	0.04	3	150	160	5	1	29	<0.01	90	< 10	4	10	34
T492	1.0	0.77	< 5	120	0.5	* 10	0.04	< 0.5	7	56	9	2.67	30	1	0.67	20	0.03	90	16	0.03	< 1	280	24	< 5	1	25	<0.01	< 10	< 10	2	< 10	20
T493	12.0	0.75	10	60	2.0	30	0.08	< 0.5	12	70	37	5.13	30	< 1	0.55	20	0.06	295	97	0.04	4	460	208	5	1	21	0.01	< 10	< 10	2	< 10	44
T494	4.0	0.75	10	60	0.5	* 10	0.04	< 0.5	3	62	39	3.54	40	2	0.58	20	0.04	415	38	0.04	< 1	340	56	5	1	10	0.04	30	< 10	5	10	38
T495	5.0	0.65	20	100	4.0	* 10	0.18	4.5	5	57	48	5.53	30	< 1	0.60	20	0.08	205	40	0.05	2	960	912	10	1	73	0.02	< 10	< 10	9	< 10	410
T496	44.0	0.46	15	130	1.5	50	0.07	7.5	9	21	246	2.48	30	< 1	0.50	20	0.03	150	72	0.03	< 1	220	2458	5	< 1	9	<0.01	< 10	< 10	1	< 10	334
T497	5.0	1.43	10	40	0.5	10	0.09	0.5	7	53	359	3.96	30	< 1	0.45	20	0.17	190	25	0.08	1	350	952	10	1	49	<0.01	< 10	< 10	8	< 10	168
T498	5.0	0.53	40	120	3.0	* 10	0.11	< 0.5	4	87	79	5.20	30	< 1	0.74	10	0.06	180	67	0.07	6	290	354	< 5	1	27	<0.01	< 10	< 10	5	< 10	50
T499	31.0	0.30	35	90	< 0.5	* 10	0.06	< 0.5	1	132	12	3.24	30	< 1	0.55	10	0.02	70	20	0.05	5	160	686	5	< 1	8	<0.01	< 10	< 10	1	< 10	6
T500	7.0	0.51	5	40	< 0.5	* 10	0.05	< 0.5	3	112	17	3.46	30	< 1	0.37	10	0.05	105	22	0.03	4	210	204	10	1	14	<0.01	< 10	< 10	7	< 10	36
T501	1.0	1.01	< 5	40	< 0.5	90	0.21	< 0.5	8	68	18	5.58	30	< 1	0.52	10	0.31	805	51	0.07	4	540	34	< 5	1	31	<0.01	< 10	< 10	8	< 10	54
T502	11.0	0.77	30	90	< 0.5	20	0.09	< 0.5	6	91	197	7.36	50	< 1	0.41	20	0.06	155	96	0.04	4	220	242	5	1	20	<0.01	< 10	< 10	4	< 10	42
T503	4.0	0.57	< 5	90	< 0.5	20	0.08	0.5	8	133	35	3.15	40	< 1	0.35	20	0.05	140	17	0.03	3	150	374	5	1	13	<0.01	< 10	< 10	4	< 10	36
T504	1.0	1.28	< 5	120	1.0	* 10	0.17	1.0	13	80	47	4.81	50	< 1	0.61	50	0.19	880	7	0.03	8	280	124	5	2	24	0.02	< 10	< 10	15	< 10	60
T505	* 1.0	2.58	< 5	60	< 0.5	* 10	1.10	< 0.5	17	56	38	4.26	70	1	0.87	40	0.72	1450	3	0.06	4	790	176	10	3	30	0.04	< 10	< 10	34	< 10	100
T506	8.0	2.29	< 5	100	< 0.5	10	0.20	1.5	16	63	1235	5.28	60	< 1	0.78	30	0.49	1450	43	0.03	14	1070	4444	15	4	17	0.06	< 10	< 10	35	< 10	122
T507	1.0	0.79	10	120	2.5	* 10	0.14	< 0.5	5	56	149	2.66	30	< 1	0.58	20	0.07	525	4	0.05	15	180	50	5	1	15	<0.01	< 10	< 10	3	< 10	50
T508	* 1.0	0.92	< 5	100	1.0	* 10	0.14	1.0	5	49	116	1.05	40	< 1	0.61	50	0.06	715	3	0.03	7	170	270	< 5	< 1	10	<0.01	< 10	< 10	2	< 10	132
T509	1.0	1.37	< 5	50	2.0	* 10	0.40	13.0	7	26	71	1.95	20	< 1	0.50	30	0.27	830	1	0.05	13	310	226	5	1	24	0.01	< 10	< 10	6	< 10	144
T510	* 1.0	1.00	< 5	60	1.0	* 10	1.32	< 0.5	5	45	73	2.24	30	< 1	0.48	40	0.19	455	2	0.07	10	200	22	5	1	26	0.01	< 10	< 10	5	< 10	44
T511	* 1.0	1.17	5	60	2.5	* 10	0.22	< 0.5	6	46	205	3.08	20	< 1	0.56	30	0.17	600	5	0.04	11	120	16	< 5	< 1	10	0.01	< 10	< 10	2	< 10	68
T512	3.0	1.16	5	60	2.5	* 10	1.07	3.5	5	41	105	1.64	30	3	0.60	50	0.20	965	4	0.06	7	220	188	< 5	1	36	0.01	< 10	< 10	3	< 10	184
T513	2.0	0.98	< 5	100	6.0	40	1.07	28.0	4	42	260	1.40	30	< 1	0.70	50	0.07	515	17	0.03	8	190	1784	< 5	1	31	<0.01	< 10	< 10	2	< 10	1000
T514	3.0	0.95	< 5	100	3.5	* 10	0.30	0.5	5	104	214	4.29	40	< 1	0.53	70	0.20	540	5	0.03	23	250	158	5	1	15	0.01	< 10	< 10	8	< 10	162
T515	1.0	0.57	15	100	1.0	* 10	0.71	11.0	7	89	160	1.18	40	1	0.45	30	0.06	580	8	0.04	7	150	88	5	< 1	13	<0.01	30	< 10	2	< 10	310
T516	* 1.0	0.64	< 5	50	1.5	* 10	0.68	< 0.5	2	45	48	1.06	30	1	0.40	30	0.09	440	3	0.06	5	160	18	< 5	< 1	15	<0.01	< 10	< 10	1	< 10	48
T517	* 1.0	0.90	< 5	60	1.0	* 10	0.62	1.0	4	88	14	1.38	40	< 1	0.22	50	0.17	470	< 1	0.07	3	140	16	< 5	1	30	<0.01	< 10	< 10	5	< 10	40
T518	* 1.0	2.11	< 5	40	1.5	* 10	2.99	< 0.5	8	24	12	1.60	40	< 1	0.53	40	0.56	715	< 1	0.06	15	460	8	< 5	2	58	<0.01	< 10	< 10	13	< 10	50
T519	* 1.0	1.72	< 5	40	2.5	* 10	3.24	< 0.5	8	24	18	1.74	30	< 1	0.53	40	0.60	945	< 1	0.09	16	470	8	5	2	60	<0.01	< 10	< 10	14	< 10	56
T520	* 1.0	1.46	< 5	30	2.0	* 10	1.94	< 0.5	8	46	28	1.77	30	1	0.51	30	0.62	675	1	0.10	19	490	10	< 5	2	49	<0.01	< 10	< 10	14	< 10	58
T521	2.0	1.04	< 5	160	1.5	40	0.59	15.5	3	53	120	1.05	30	< 1	0.72	20	0.11	340	2	0.03	2	140	418	< 5	< 1	16	<0.01	< 10	< 10	3	< 10	422
T522	1.0	0.89	< 5	60	2.0	* 10	0.25	2.5	3	51	26	0.94	30	< 1	0.63	50	0.08	310	< 1	0.03	2	180	100	5	< 1	11	<0.01	< 10	< 10	2	< 10	72
T523	2.0	0.85	< 5	50	2.5	* 10	1.65	1.0	8	93	53	2.05	40	2	0.62	50	0.12	945	23	0.03	5	130	42	< 5	1	31	<0.01	< 10	< 10	4	< 10	34

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T524	1.0	1.05	10	50	2.5	* 10	0.83	< 0.5	6	49	47	1.73	20	< 1	0.61	40	0.30	580	14	0.04	3	340	8	< 5	1	30	<0.01	< 10	< 10	6	< 10	38
T525	2.0	0.69	< 5	50	1.5	* 10	0.30	34.0	2	53	224	0.74	40	< 1	0.53	60	0.04	205	1	0.02	2	60	172	< 5	< 1	10	<0.01	< 10	< 10	1	< 10	696
T526	5.0	0.94	10	40	1.5	* 10	0.07	12.5	10	132	372	3.39	10	4	0.31	10	0.26	445	15	0.02	6	70	2472	< 5	< 1	6	<0.01	< 10	40	3	< 10	370
T527	1.0	1.05	< 5	90	1.0	* 10	0.17	5.0	5	126	112	1.77	70	< 1	0.53	40	0.17	450	5	0.05	6	270	936	10	1	10	<0.01	< 10	< 10	6	10	236
T528	1.0	0.65	< 5	60	2.5	* 10	0.07	< 0.5	12	53	18	2.41	20	1	0.40	30	0.07	385	1	0.04	2	90	8	< 5	< 1	8	<0.01	< 10	< 10	5	< 10	18
T529	1.0	0.72	< 5	40	0.5	* 10	0.03	< 0.5	2	66	48	1.29	< 10	< 1	0.38	10	0.04	110	2	0.02	2	70	162	< 5	< 1	7	<0.01	< 10	10	2	< 10	26
T530	5.0	0.86	20	50	1.0	* 10	0.05	< 0.5	4	101	87	1.94	10	1	0.51	20	0.04	195	59	0.02	3	370	2154	5	< 1	7	<0.01	< 10	< 10	3	< 10	98
T531	2.0	0.77	< 5	100	< 0.5	* 10	0.10	< 0.5	7	91	64	4.27	40	< 1	0.50	30	0.07	250	7	0.07	4	180	24	5	1	21	0.02	< 10	< 10	6	< 10	86
T532	* 1.0	0.64	< 5	50	0.5	* 10	0.02	< 0.5	2	54	39	1.25	< 10	< 1	0.30	20	0.04	100	2	0.04	2	160	308	< 5	< 1	8	<0.01	< 10	10	2	< 10	46
T533	* 1.0	0.85	5	90	1.0	* 10	0.03	< 0.5	1	36	99	1.43	< 10	< 1	0.58	20	0.05	85	10	0.03	< 1	160	146	5	< 1	14	<0.01	< 10	< 10	3	< 10	24
T534	24.0	0.56	55	30	2.5	40	0.02	3.0	35	117	700	9.99	< 10	< 1	0.29	< 10	0.02	45	5	0.02	8	< 10	810	10	< 1	2	<0.01	< 10	< 10	< 1	< 10	108
T535	1.0	0.79	< 5	80	1.5	* 10	0.02	< 0.5	2	67	44	2.23	< 10	< 1	0.43	20	0.07	95	21	0.02	3	180	108	5	< 1	12	<0.01	< 10	< 10	4	< 10	74
T536	* 1.0	1.10	25	40	1.5	* 10	0.11	< 0.5	4	76	53	2.08	10	< 1	0.51	10	0.13	180	15	0.02	3	240	58	< 5	1	13	<0.01	< 10	< 10	6	< 10	40
T537	* 1.0	1.08	10	170	2.5	* 10	0.17	< 0.5	3	51	25	3.18	20	< 1	0.48	30	0.12	140	2	0.05	< 1	240	56	< 5	1	42	0.01	< 10	< 10	7	< 10	42
T538	* 1.0	0.91	5	50	2.0	* 10	0.06	< 0.5	1	57	18	2.35	30	< 1	0.56	30	0.05	115	13	0.03	1	170	16	< 5	1	21	0.01	< 10	10	3	< 10	16
T539	* 1.0	1.14	10	60	2.5	* 10	0.09	< 0.5	2	58	28	3.35	20	< 1	0.61	30	0.09	210	8	0.03	2	200	32	< 5	1	13	0.01	< 10	< 10	4	< 10	26
T540	* 1.0	0.76	5	50	2.5	* 10	0.02	< 0.5	< 1	54	14	3.58	30	< 1	0.56	20	0.04	115	53	0.03	1	110	20	< 5	< 1	5	<0.01	< 10	< 10	4	< 10	16
T541	2.0	0.90	10	60	2.0	50	0.02	< 0.5	1	47	111	2.96	10	< 1	0.56	20	0.04	95	10	0.03	< 1	80	46	< 5	< 1	17	0.01	< 10	< 10	2	< 10	10
T542	* 1.0	0.57	5	30	2.0	* 10	0.06	< 0.5	3	22	91	2.27	10	< 1	0.37	20	0.05	225	3	0.04	< 1	80	10	< 5	< 1	7	<0.01	< 10	20	1	< 10	18
T543	1.0	0.78	< 5	50	1.5	* 10	0.05	< 0.5	5	88	35	1.54	20	< 1	0.37	10	0.14	160	12	0.03	2	120	220	< 5	< 1	7	<0.01	< 10	10	4	< 10	36
T544	3.0	0.60	< 5	90	1.5	20	0.03	< 0.5	1	99	32	2.33	20	< 1	0.49	20	0.04	80	20	0.04	4	130	284	< 5	< 1	16	<0.01	< 10	< 10	5	< 10	12
T545	5.0	0.54	10	140	0.5	30	0.02	< 0.5	< 1	57	37	1.77	< 10	< 1	0.61	10	0.02	35	5	0.03	1	110	244	< 5	< 1	12	<0.01	< 10	< 10	1	< 10	4
T546	3.0	0.82	< 5	70	1.0	* 10	0.08	< 0.5	2	86	55	2.90	30	< 1	0.50	10	0.06	105	44	0.03	3	180	10	10	1	6	0.01	< 10	< 10	4	< 10	16
T547	3.0	0.71	< 5	100	< 0.5	* 10	0.07	0.5	3	129	126	3.63	50	< 1	0.47	10	0.06	90	24	0.04	2	150	160	10	1	13	<0.01	< 10	< 10	3	< 10	16
T548	7.0	0.60	5	260	< 0.5	* 10	0.08	0.5	3	132	159	6.91	50	< 1	0.59	10	0.05	95	29	0.04	3	110	62	10	1	17	<0.01	< 10	< 10	6	< 10	16
T549	9.0	1.06	< 5	40	0.5	10	0.06	0.5	4	116	290	3.55	30	< 1	0.38	10	0.07	90	23	0.03	2	130	20	5	1	6	<0.01	< 10	20	3	< 10	44
T550	9.0	0.61	15	30	1.0	* 10	0.18	0.5	23	146	837	4.73	20	< 1	0.31	20	0.09	190	6	0.04	5	80	40	5	< 1	5	<0.01	< 10	< 10	2	< 10	70
T551	4.0	0.90	< 5	40	< 0.5	* 10	0.09	< 0.5	8	101	390	2.46	30	< 1	0.43	30	0.13	255	7	0.03	3	60	8	< 5	< 1	6	0.01	< 10	< 10	3	< 10	34
T552	8.0	1.00	25	140	1.0	20	0.03	< 0.5	11	107	344	7.23	40	< 1	0.56	10	0.10	355	133	0.04	< 1	110	74	5	1	7	0.01	< 10	< 10	5	< 10	98
T553	* 1.0	1.44	20	90	3.5	* 10	0.10	< 0.5	13	72	231	3.84	20	< 1	0.62	30	0.20	910	140	0.04	3	180	16	< 5	1	14	0.01	< 10	< 10	5	< 10	58
T554	51.0	1.08	< 5	330	< 0.5	10	1.38	2.5	9	75	1007	1.72	40	< 1	0.41	20	0.66	610	2	0.04	12	500	58	15	1	92	<0.01	< 10	< 10	20	< 10	138
T555	3.0	0.48	5	80	0.5	* 10	0.06	0.5	2	61	17	1.05	40	1	0.30	30	0.03	675	1	0.03	< 1	60	82	< 5	1	10	<0.01	40	< 10	6	10	36
T556	11.0	0.47	5	170	1.5	* 10	0.17	6.5	3	82	40	0.81	40	< 1	0.17	20	0.04	4560	21	0.04	6	70	106	10	1	85	<0.01	10	< 10	6	10	200
T557	1.0	0.44	< 5	30	0.5	10	0.07	< 0.5	2	34	18	1.06	40	< 1	0.29	40	0.06	280	< 1	0.11	< 1	60	14	< 5	1	15	0.01	20	< 10	3	< 10	28
T558	3.4	1.64	10	180	2.0	< 2	0.22	17.5	3	321	89	1.57	10	< 1	0.29	30	0.16	5235	11	0.16	8	90	366	2	1	67	<0.01	< 10	< 10	14	< 10	314
T559	17.8	0.46	22	30	1.0	< 2	0.06	< 0.5	1	113	27	0.86	< 10	< 1	0.17	20	0.04	680	4	0.02	< 1	50	250	< 2	< 1	12	<0.01	< 10	< 10	5	< 10	216
T560	1.2	1.54	42	50	0.5	2	0.11	< 0.5	1	99	61	1.22	10	< 1	0.29	30	0.06	135	3	0.01	< 1	50	54	< 2	1	15	0.02	< 10	< 10	15	< 10	176
T561	3.2	1.43	28	110	1.0	< 2	0.08	< 0.5	3	98	68	1.29	10	< 1	0.47	30	0.08	1370	3	<0.01	< 1	100	580	4	1	16	0.01	< 10	< 10	19	< 10	236
T562	1.4	0.65	< 2	70	0.5	< 2	0.03	0.5	1	85	22	0.97	10	< 1	0.32	20	0.07	545	1	<0.01	< 1	50	64	2	1	12	<0.01	< 10	< 10	9	< 10	90
T563	0.8	0.57	12	60	0.5	< 2	0.10	< 0.5	1	170	18	0.84	10	< 1	0.27	20	0.04	510	4	0.04	1	100	118	2	< 1	16	<0.01	< 10	< 10	8	< 10	106
T564	< 0.2	0.99	20	60	0.5	< 2	0.03	< 0.5	< 1	137	7	0.76	10	1	0.60	20	0.04	55	2	0.02	1	100	* 2	< 2	1	9	<0.01	< 10	< 10	7	< 10	16
T565	4.2	0.72	18	250	1.0	< 2	0.23	21.5	2	349	58	1.89	< 10	< 1	0.22	10	0.04	7975	18	<0.01	5	130	306	< 2	1	153	<0.01	< 10	< 10	15	< 10	524
T566	6.0	1.23	14	80	0.5	6	0.05	< 0.5	2	87	24	1.17	10	< 1	0.44	30	0.06	585	3	0.01	< 1	70	286	< 2	1	13	<0.01	< 10	< 10	13	< 10	268
T567	0.8	1.41	18	100	0.5	4	0.06	< 0.5	2	91	20	0.87	10	< 1	0.49	30	0.12	860	3	0.02	< 1	40	190	2	1	18	<0.01	< 10	< 10	9	< 10	390
T568	1.4	0.99	12	80	1.0	6	0.04	0.5	< 1	58	11	0.60	10	< 1	0.49	40	0.06	600	3	0.02	< 1	* 10	32	2	< 1	14	<0.01	< 10	< 10	5	< 10	44
T569	0.2	0.81	16	50	1.0	< 2	0.02	< 0.5	3	56	11	6.09	< 10	< 1	0.59	20	0.04	125	1	<0.01	< 1	90	52	< 2	1	10	0.02	< 10	< 10	9	40	120
T570	2.6	0.83	< 2	100	1.0	< 2	0.03	< 0.5	4	231	48	1.28	10	2	0.34	20	0.05	805	3	<0.01	3	90	148	< 2	1	12	<0.01	< 10	< 10	9	< 10	296
T571	3.0	1.65	16	150	2.0	< 2	0.08	0.5	2	152	75	1.62	10	2	0.54	40	0.13	2945	2	0.01	3	110	56	< 2	2	60	0.01	< 10	< 10	13	< 10	302
T572	13.2	1.27	2	340	3.0	< 2	0.11	18.5	5	135	144	1.77	10	< 1	0.27	50	0.14	6430	4	0.03	4	160	670	< 2	2	42	<0.01	< 10	< 10	13	< 10	710
T573	7.4	1.26	26	370	4.5	< 2	0.07	0.5	3	74	136	1.56	10	5	0.39	40	0.10	2450	3	0.02	< 1	340	798	< 2	2	68	0.01	< 10	< 10	15	< 10	310
T574	3.4	3.90	4	240	3.0	< 2	0.22	3.5	15	138	164	2.25	10	< 1	0.65	20	0.62	3225	< 1	0.05	16	370	194	< 2	3	53	<0.01	< 10	< 10	27	< 10	700
T575	1.6	0.47	14	40	0.5	8	0.04	< 0.5	1	127	16	1.08	10	2	0.25	30	0.02	155	< 1	0.01	< 1	130	20	2	1	9	0.01	< 10	< 10	8	< 10	34
T576	19.8	0.49	12	60	< 0.5	< 2	0.03	< 0.5	< 1	157	61	1.04	< 10	2	0.29	30	0.02	615	3	0.02	4	90	202	< 2	< 1	9	<0.01	< 10	< 10	8	10	206

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T577	15.0	0.63	< 2	80	< 0.5	12	0.02	< 0.5	1	128	53	1.20	< 10	4	0.31	30	0.03	300	2	0.01	6	100	136	< 2	1	9	<0.01	< 10	< 10	17	< 10	108
T578	6.4	0.72	< 2	30	< 0.5	< 2	0.02	< 0.5	2	183	24	1.03	< 10	2	0.35	30	0.03	80	1	0.02	3	40	42	< 2	1	12	<0.01	< 10	< 10	7	10	52
T579	4.6	0.62	< 2	30	1.0	8	0.06	< 0.5	2	92	61	1.10	10	< 1	0.24	30	0.05	250	< 1	0.02	1	110	86	2	1	11	0.01	< 10	< 10	7	< 10	114
T580	1.6	0.72	2	30	1.0	6	0.02	< 0.5	2	76	89	0.79	10	3	0.35	30	0.03	125	< 1	0.02	< 1	120	84	2	1	5	<0.01	< 10	< 10	8	< 10	98
T581	1.0	0.60	2	20	< 0.5	4	0.03	< 0.5	1	92	75	0.50	< 10	5	0.39	40	0.03	100	1	0.02	7	50	138	< 2	< 1	4	<0.01	< 10	< 10	4	< 10	24
T582	1.0	0.67	< 2	20	< 0.5	2	0.01	< 0.5	< 1	123	15	0.84	< 10	5	0.37	40	0.02	65	3	0.02	4	50	84	< 2	< 1	9	<0.01	< 10	< 10	4	10	58
T583	1.0	0.52	4	40	< 0.5	8	0.02	< 0.5	1	125	19	0.96	< 10	2	0.32	< 10	0.03	145	4	0.02	8	70	32	< 2	< 1	5	<0.01	< 10	< 10	8	< 10	8
T584	2.2	0.77	< 2	60	< 0.5	< 2	0.09	< 0.5	2	84	48	1.21	< 10	4	0.36	10	0.11	105	< 1	0.04	10	130	80	< 2	< 1	13	<0.01	< 10	< 10	8	< 10	74
T585	1.6	0.84	8	30	< 0.5	6	0.06	< 0.5	4	78	31	1.22	< 10	2	0.33	10	0.10	60	6	0.07	7	120	62	< 2	< 1	14	<0.01	< 10	< 10	6	10	24
T586	2.8	0.43	6	20	< 0.5	< 2	0.05	< 0.5	< 1	100	36	1.24	< 10	3	0.26	10	0.03	60	4	0.03	9	130	58	< 2	< 1	7	<0.01	< 10	< 10	5	< 10	44
T587	0.8	0.59	8	20	< 0.5	< 2	0.04	< 0.5	4	80	15	1.13	< 10	3	0.31	< 10	0.03	50	7	0.01	4	20	52	< 2	< 1	6	<0.01	< 10	< 10	9	< 10	56
T588	22.0	0.89	< 2	30	< 0.5	< 2	0.08	< 0.5	2	31	69	1.22	< 10	2	0.31	30	0.11	105	28	0.06	2	180	118	2	< 1	19	<0.01	< 10	< 10	8	< 10	70
T589	36.4	0.60	8	70	0.5	2	0.04	< 0.5	3	243	18	0.75	10	< 1	0.23	20	0.04	345	6	0.04	2	30	94	< 2	1	7	<0.01	< 10	< 10	7	< 10	86
T590	12.4	0.84	16	160	1.0	8	0.05	< 0.5	2	179	37	1.00	10	< 1	0.25	40	0.06	1060	7	0.02	4	100	106	< 2	1	10	<0.01	< 10	< 10	10	< 10	130
T591	3.4	0.74	8	140	1.0	6	0.05	2.5	4	164	34	0.81	10	< 1	0.25	30	0.08	1385	3	0.02	4	100	50	< 2	1	13	<0.01	< 10	< 10	7	< 10	174
T592	13.4	1.23	2	200	1.5	< 2	0.17	1.5	1	153	99	1.23	10	12	0.36	40	0.15	3075	26	0.02	1	130	126	< 2	1	21	<0.01	< 10	< 10	13	< 10	214
T593	9.2	0.63	18	50	1.0	4	0.12	1.0	2	141	97	0.95	10	< 1	0.29	30	0.06	2990	19	0.01	4	110	114	< 2	1	35	<0.01	< 10	< 10	7	< 10	144
T594	1.0	2.53	40	90	3.0	6	3.11	< 0.5	10	46	26	2.83	20	< 1	0.57	30	1.23	1235	< 1	0.02	12	710	28	< 2	3	89	<0.01	< 10	< 10	32	< 10	124
T595	0.2	2.36	12	120	2.5	< 2	3.17	< 0.5	8	62	24	2.56	10	2	0.67	30	0.89	915	< 1	0.03	11	630	18	< 2	3	109	0.01	< 10	< 10	33	< 10	74
T596	4.6	1.03	6	90	0.5	12	0.02	< 0.5	1	162	11	0.92	10	1	0.32	40	0.05	135	4	0.06	< 1	230	46	4	1	8	<0.01	< 10	< 10	9	< 10	108
T597	^ 8.20	0.95	10	410	2.5	< 2	0.04	5.0	1	216	71	0.97	10	6	0.33	40	0.07	7505	29	<0.01	3	160	216	< 2	1	42	<0.01	< 10	< 10	12	20	398
T598	153.0	0.90	< 2	60	1.0	< 2	0.05	< 0.5	4	290	26	0.93	10	2	0.36	20	0.05	885	6	<0.01	8	110	384	< 2	1	7	<0.01	< 10	< 10	9	10	220
T599	29.8	0.92	< 2	40	< 0.5	< 2	0.04	< 0.5	1	54	36	1.27	< 10	2	0.36	30	0.04	100	1	0.02	2	90	240	< 2	< 1	24	<0.01	< 10	< 10	8	10	122
T600	1.0	0.97	26	50	< 0.5	< 2	0.04	< 0.5	4	94	29	13.60	< 10	< 1	0.56	30	0.04	150	78	0.02	1	190	298	6	1	109	0.01	< 10	< 10	31	20	204
T601	4.8	0.62	4	40	< 0.5	< 2	0.05	< 0.5	2	107	84	1.07	< 10	< 1	0.44	40	0.03	555	3	0.03	3	110	264	< 2	< 1	9	<0.01	< 10	< 10	7	< 10	118
T602	15.4	0.82	10	30	< 0.5	< 2	0.09	< 0.5	3	77	328	2.35	< 10	< 1	0.49	40	0.13	785	2	0.05	3	250	630	< 2	1	10	<0.01	< 10	< 10	15	< 10	552
T603	8.6	0.95	10	50	< 0.5	< 2	0.13	< 0.5	7	68	393	2.72	< 10	< 1	0.43	30	0.11	1250	1	0.02	1	180	214	< 2	1	25	<0.01	< 10	< 10	9	< 10	194
T604	10.0	0.90	10	40	< 0.5	< 2	0.26	4.5	16	38	637	4.32	< 10	< 1	0.24	50	0.13	2625	6	0.09	< 1	290	732	< 2	1	69	0.01	< 10	< 10	17	< 10	224
T605	1.6	0.60	2	40	< 0.5	< 2	0.08	< 0.5	1	101	36	1.14	< 10	< 1	0.34	30	0.03	290	1	0.02	3	140	28	< 2	1	11	<0.01	< 10	< 10	7	< 10	42
T606	8.0	0.89	6	50	< 0.5	< 2	0.09	2.0	2	172	44	0.91	10	< 1	0.52	50	0.07	975	3	0.02	4	170	116	< 2	1	20	<0.01	< 10	< 10	7	< 10	188
T607	23.6	0.65	< 2	40	< 0.5	10	0.03	< 0.5	2	133	24	1.20	< 10	8	0.41	20	0.05	360	3	0.01	5	10	134	< 2	< 1	7	<0.01	< 10	< 10	6	10	72
T608	4.2	1.59	< 2	50	< 0.5	< 2	0.27	< 0.5	7	58	41	2.12	10	2	0.27	30	0.39	400	3	0.05	15	530	36	< 2	1	23	<0.01	< 10	< 10	20	10	62
T609	7.6	0.62	< 2	30	< 0.5	2	0.07	< 0.5	< 1	131	10	1.20	< 10	1	0.31	20	0.03	105	2	0.02	6	60	136	< 2	< 1	48	<0.01	< 10	< 10	6	< 10	40
T610	< 0.2	0.62	8	20	0.5	6	0.03	< 0.5	< 1	86	4	0.60	10	< 1	0.36	30	0.03	65	< 1	0.01	< 1	120	8	< 2	1	7	<0.01	< 10	< 10	5	< 10	16
T611	10.6	1.26	< 2	40	2.0	< 2	6.59	3.5	4	56	73	1.28	< 10	6	0.22	20	0.52	2360	< 1	0.05	12	430	206	< 2	1	82	<0.01	< 10	< 10	20	< 10	652
T612	16.2	1.26	4	30	3.0	< 2	0.26	0.5	7	62	86	1.87	10	3	0.25	10	0.52	870	1	0.03	13	500	120	< 2	1	12	<0.01	< 10	< 10	17	< 10	572
T613	32.8	0.91	< 2	40	2.0	2	0.81	1.5	8	55	121	0.76	10	3	0.37	30	0.05	725	3	0.01	< 1	190	148	< 2	< 1	30	<0.01	< 10	10	4	< 10	194
T614	51.4	0.87	10	40	1.5	< 2	1.18	3.5	< 1	71	41	0.74	10	2	0.44	30	0.05	350	2	0.03	< 1	150	150	2	< 1	32	<0.01	< 10	< 10	4	< 10	376
T615	6.0	0.85	4	40	2.0	< 2	0.67	4.5	4	68	12	0.83	10	< 1	0.48	30	0.06	280	< 1	0.01	< 1	200	74	< 2	1	18	<0.01	< 10	< 10	5	10	344
T616	27.2	1.42	2	80	< 0.5	8	3.49	50.0	6	233	785	2.35	10	2	0.39	10	0.93	4045	53	0.02	23	330	7988	2	1	114	<0.01	< 10	< 10	29	20	3108
T617	14.6	1.40	8	110	< 0.5	10	0.07	2.0	7	274	274	5.15	< 10	1	0.72	10	0.14	1190	16	0.05	17	840	9130	< 2	1	36	0.01	< 10	< 10	24	10	582
T618	21.0	0.98	8	90	< 0.5	6	0.09	3.0	5	283	291	6.22	< 10	< 1	0.52	10	0.11	930	22	0.08	16	780	# 1.25	4	1	35	<0.01	< 10	< 10	18	10	558
T619	56.0	1.15	38	170	< 0.5	36	0.08	< 0.5	53	200	723	10.10	< 10	< 1	0.66	10	0.13	300	47	0.06	15	910	2050	6	2	105	0.01	< 10	< 10	37	10	270
T620	^ 11.00	0.54	< 2	70	< 0.5	156	0.03	12.0	4	422	6235	8.50	< 10	< 1	0.18	< 10	0.08	320	10	0.02	9	220	# 2.95	2	1	17	<0.01	< 10	< 10	14	30	1500
T621	130.4	1.95	< 2	60	< 0.5	60	0.17	21.5	16	156	# 3.21	3.54	< 10	6	0.73	10	0.93	3865	12	0.02	23	1000	# 2.09	< 2	2	12	0.01	< 10	< 10	30	* 50	4186
T622	12.8	1.48	< 2	120	< 0.5	22	0.78	13.5	24	135	521	12.91	< 10	1	0.42	10	0.53	1345	16	0.10	19	1060	1444	4	2	105	<0.01	< 10	< 10	43	10	1950
T623	45.6	2.90	10	170	1.0	16	0.24	2.5	94	87	5134	5.17	10	< 1	0.61	20	1.34	6130	15	0.02	39	1180	294	4	2	61	0.01	< 10	< 10	48	< 10	638
T624	14.0	2.29	12	230	< 0.5	78	0.44	0.5	37	148	2024	7.04	10	< 1	0.58	10	0.71	1885	45	0.02	13	730	360	< 2	2	99	0.01	< 10	< 10	43	< 10	290
T625	26.0	1.49	20	90	< 0.5	58	0.04	1.5	20	125	1112	12.89	10	< 1	0.35	10	0.04	270	63	<0.01	< 1	730	1542	< 2	2	160	0.01	< 10	< 10	42	< 10	804
T626	18.0	1.55	26	120	< 0.5	64	0.04	1.0	18	113	1895	14.52	10	< 1	0.41	10	0.03	255	51	<0.01	< 1	690	984	< 2	2	138	<0.01	< 10	< 10	26	< 10	976
T627	62.4	1.38	28	140	< 0.5	176	0.05	0.5	12	211	4527	7.62	10	2	0.55	10	0.06	160	127	<0.01	2	690	900	< 2	2	158	0.01	< 10	< 10	40	< 10	418
T628	4.8	3.26	14	190	2.0	6	0.29	10.5	98	65	5385	9.42	10	< 1	0.63	20	1.13	3790	9	0.01	39	1060	136	< 2	3	113	0.01	< 10	< 10	56	< 10	5816
T629	1.6	1.97	28	170	0.5	< 2	0.23	< 0.5	32	73	47	3.96	10	< 1	0.75	20	0.43	2275	11	0.07	14	1080	312	< 2	2	68	0.01	< 10	< 10	31	< 10	320

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T630	0.2	1.95	6	100	0.5	<2	0.04	1.0	8	88	48	3.59	10	2	0.61	10	0.18	1920	15	0.01	5	990	180	<2	4	67	0.01	<10	<10	27	<10	736
T631	0.8	1.74	22	110	1.0	<2	0.08	5.0	25	61	41	2.57	10	<1	0.53	20	0.24	5130	7	<0.01	20	920	330	2	2	54	0.01	<10	<10	23	<10	1570
T632	1.2	1.22	22	220	3.0	<2	0.04	96.5	162	55	693	3.12	10	5	0.23	20	0.16	@ 3.66	14	<0.01	66	490	302	<2	1	51	<0.01	<10	20	12	<10	8276
T633	31.6	0.74	24	70	<0.5	6	0.04	2.0	6	195	371	3.60	10	1	0.66	10	0.04	385	153	0.03	1	650	@ 1.66	6	1	15	0.01	<10	<10	26	<10	268
T634	22.2	0.64	10	30	<0.5	<2	0.02	<0.5	1	59	159	1.69	<10	<1	0.34	<10	0.03	95	34	0.01	<1	440	4724	2	1	3	<0.01	<10	<10	11	<10	188
T635	9.2	1.70	40	100	<0.5	12	0.02	1.0	3	72	374	5.58	10	<1	0.79	10	0.10	925	87	0.01	2	1130	@ 1.05	<2	2	4	<0.01	<10	<10	32	<10	1082
T636	1.4	1.19	6	1060	1.0	<2	0.04	14.5	76	140	79	1.22	10	<1	0.53	30	0.05	@ 1.86	40	<0.01	11	220	498	<2	1	125	<0.01	<10	10	14	<10	1188
T637	14.4	0.28	4	50	<0.5	4	0.01	0.5	10	281	97	3.11	<10	<1	0.22	<10	0.01	95	286	<0.01	7	70	3838	6	<1	2	<0.01	<10	<10	6	<10	54
T638	^ 5.53	0.15	2	>10000	<0.5	12	0.01	3.5	1	378	66	1.92	<10	<1	0.08	<10	* 0.01	55	22	<0.01	7	110	5356	190	<1	441	<0.01	<10	<10	4	<10	22
T639	8.0	0.75	<2	340	1.0	<2	0.03	2.5	4	101	278	0.94	<10	<1	0.45	20	0.06	1160	6	0.01	6	140	368	<2	1	20	<0.01	<10	<10	7	<10	434
T640	4.6	0.92	<2	140	0.5	4	0.04	0.5	3	135	226	0.92	10	<1	0.51	30	0.08	405	4	<0.01	4	150	190	<2	1	12	<0.01	<10	<10	7	<10	286
T641	140.0	2.25	4	100	2.0	<2	0.32	3.5	18	77	151	3.83	20	2	0.46	20	1.51	1845	1	<0.01	36	1280	178	<2	3	15	<0.01	<10	<10	59	<10	1810
T642	135.8	0.45	14	50	0.5	<2	0.04	7.0	26	257	769	6.29	<10	<1	0.24	<10	0.12	195	170	<0.01	6	590	4476	<2	<1	8	<0.01	<10	20	12	<10	678
T643	29.4	0.56	26	240	<0.5	62	0.02	0.5	12	115	244	3.10	<10	4	0.55	<10	0.03	90	14	0.01	4	760	5516	4	<1	2	0.01	<10	<10	12	<10	212
T644	1.0	0.85	6	90	<0.5	<2	0.02	2.5	7	95	88	1.29	<10	<1	0.63	20	0.04	1490	5	<0.01	<1	130	310	<2	<1	15	0.01	<10	<10	7	<10	316
T645	1.4	1.90	6	60	1.5	<2	0.37	49.5	23	6	39	2.79	10	1	0.71	30	0.46	@ 2.52	11	0.02	21	1230	34	<2	2	60	0.03	<10	20	30	<10	3450
T646	<0.2	2.13	26	110	0.5	<2	0.13	13.5	23	44	479	4.46	10	3	0.69	30	0.50	3295	8	0.06	16	1210	316	2	2	44	0.01	<10	<10	26	<10	1134
T647	<0.2	1.79	32	460	<0.5	<2	0.04	10.5	17	72	1057	7.19	10	<1	0.63	20	0.08	270	7	0.01	5	1060	5048	2	2	21	<0.01	<10	<10	45	<10	1046
T648	<0.2	2.84	26	70	0.5	<2	0.04	92.5	13	56	1211	2.41	10	<1	0.63	20	0.54	1875	2	<0.01	23	830	3068	<2	4	13	0.03	<10	<10	23	<10	7498
T649	10.2	0.28	18	60	<0.5	<2	0.04	4.0	10	314	257	3.78	<10	<1	0.26	<10	0.04	115	40	0.01	10	150	1310	<2	<1	8	<0.01	<10	<10	10	<10	564
T650	18.0	0.59	14	80	<0.5	36	0.05	0.5	3	175	278	6.83	10	3	0.41	<10	0.04	155	102	0.02	2	540	796	<2	1	34	0.02	<10	<10	35	<10	250
T651	53.2	0.49	12	70	<0.5	104	0.06	2.5	6	226	1209	12.04	10	<1	0.27	<10	0.03	220	144	0.07	1	530	1606	4	1	53	0.02	<10	<10	40	<10	206
T652	^ 6.56	2.05	32	30	<0.5	180	0.18	>100.0	22	153	@ 1.16	4.69	10	<1	0.21	10	1.13	2160	5	0.04	22	800	@ 2.63	<2	2	20	<0.01	<10	<10	40	50	@ 3.07
T653	^ 9.40	0.25	10	120	<0.5	6	0.03	0.5	<1	135	107	0.78	<10	<1	0.15	<10	0.03	165	<1	<0.01	<1	110	3380	6	<1	14	<0.01	<10	<10	10	10	36
T654	8.8	0.39	22	30	<0.5	2	0.02	<0.5	<1	69	15	0.64	<10	<1	0.25	20	0.02	65	1	<0.01	<1	30	52	<2	<1	6	<0.01	<10	<10	4	<10	80
T655	39.0	0.31	12	30	<0.5	<2	0.02	<0.5	2	79	10	0.58	<10	<1	0.22	20	0.01	85	1	<0.01	<1	10	66	<2	<1	6	<0.01	<10	<10	3	<10	72
T656	^ 46.00	0.97	36	1080	12.0	<2	0.09	8.5	5	137	860	1.40	10	3	0.39	20	0.13	@ 5.96	30	0.01	5	210	3372	6	1	347	<0.01	<10	30	29	80	1014
T657	50.4	0.64	10	60	0.5	<2	0.02	<0.5	<1	152	21	0.63	<10	1	0.33	20	0.03	540	2	<0.01	<1	60	86	<2	<1	7	<0.01	<10	<10	5	<10	78
T658	167.2	0.93	24	140	3.5	<2	0.04	<0.5	<1	89	64	1.12	10	<1	0.35	30	0.05	3140	18	<0.01	2	160	636	4	<1	40	<0.01	<10	<10	12	<10	184
T659	69.0	1.46	30	70	2.5	32	0.85	3.0	24	122	1724	5.78	10	<1	0.46	10	0.57	3785	83	0.01	19	580	1092	<2	1	55	0.01	<10	10	30	<10	454
T660	59.0	1.10	12	70	2.0	<2	0.04	<0.5	1	31	43	1.10	10	<1	0.55	40	0.05	265	3	<0.01	<1	190	266	<2	<1	13	<0.01	<10	<10	6	<10	174
T661	27.0	0.84	10	160	1.5	<2	0.04	<0.5	5	23	46	0.64	10	1	0.48	30	0.03	1130	1	<0.01	<1	140	204	<2	<1	32	<0.01	<10	<10	6	<10	194
T662	14.8	0.65	<2	20	<0.5	8	0.07	<0.5	<1	127	82	1.29	<10	3	0.36	30	0.07	275	3	0.02	7	90	228	<2	<1	9	<0.01	<10	<10	10	10	192
T663	20.2	0.52	<2	30	<0.5	<2	0.06	<0.5	3	80	34	1.40	<10	3	0.24	30	0.05	300	2	0.04	1	70	200	<2	<1	26	0.01	<10	<10	6	<10	138
T664	13.0	0.70	<2	40	<0.5	2	0.07	<0.5	2	67	24	1.16	10	1	0.33	40	0.04	275	1	0.04	4	100	106	<2	<1	16	<0.01	<10	<10	5	10	104
T665	12.6	0.66	6	50	<0.5	<2	0.11	<0.5	4	97	37	1.59	<10	2	0.33	30	0.08	570	41	0.02	9	200	92	2	1	15	<0.01	<10	<10	9	10	130
T666	25.2	0.71	4	60	<0.5	6	0.07	<0.5	2	106	37	1.44	<10	1	0.39	20	0.08	1040	3	0.02	8	120	154	<2	<1	17	<0.01	<10	<10	8	10	142
T667	26.4	0.79	<2	60	<0.5	<2	0.06	4.5	1	85	72	1.18	<10	9	0.40	30	0.10	2135	9	0.04	7	40	192	<2	<1	16	<0.01	<10	<10	8	10	302
T668	28.2	0.72	<2	50	<0.5	<2	0.06	<0.5	1	92	29	0.92	10	<1	0.42	30	0.07	610	4	0.03	3	70	132	<2	<1	10	<0.01	<10	<10	5	10	186
T669	41.2	0.56	<2	160	<0.5	4	0.05	2.5	1	97	55	1.09	<10	2	0.32	30	0.04	3845	2	0.01	5	80	212	<2	<1	56	<0.01	<10	<10	7	10	244
T670	20.6	0.53	8	100	<0.5	<2	0.08	3.0	2	106	150	0.98	10	<1	0.37	30	0.04	2740	5	0.02	7	190	76	<2	<1	43	<0.01	<10	<10	6	<10	144
T671	13.8	0.93	2	70	<0.5	<2	0.24	2.0	7	42	101	2.10	10	<1	0.35	20	0.17	1725	2	0.02	9	530	104	<2	1	36	<0.01	<10	<10	13	<10	234
T672	18.0	0.80	8	60	<0.5	<2	0.17	0.5	4	68	176	1.27	10	<1	0.29	30	0.12	1550	5	0.03	10	300	288	<2	1	31	<0.01	<10	<10	9	<10	246
T673	6.0	1.61	12	30	<0.5	<2	0.46	1.0	10	43	90	1.76	<10	<1	0.36	20	0.38	1185	1	0.04	20	600	62	<2	1	35	<0.01	<10	<10	16	<10	236
T674	7.6	0.69	<2	60	<0.5	<2	0.04	<0.5	1	78	26	0.93	<10	<1	0.39	50	0.04	815	3	0.03	5	70	32	<2	<1	17	<0.01	<10	<10	4	<10	56
T675	12.2	0.60	<2	60	<0.5	4	0.02	0.5	1	113	35	1.09	10	<1	0.39	20	0.02	45	25	0.01	3	160	740	<2	<1	8	<0.01	<10	<10	6	<10	56
T676	35.8	0.32	12	40	<0.5	4	0.04	<0.5	1	207	31	1.11	<10	<1	0.19	10	0.02	35	5	0.03	7	150	96	<2	1	13	<0.01	<10	<10	9	<10	42
T677	25.4	1.19	26	120	1.5	<2	0.18	<0.5	5	77	41	1.73	<10	<1	0.44	20	0.30	890	4	0.02	5	400	110	2	1	16	<0.01	<10	<10	15	<10	488
T678	4.0	1.45	20	60	1.0	2	0.12	<0.5	5	75	21	1.87	10	<1	0.57	20	0.36	270	6	0.02	7	410	66	<2	1	9	<0.01	<10	<10	15	<10	208
T679	5.0	1.16	4	40	1.0	<2	0.28	<0.5	<1	33	54	0.99	10	<1	0.37	40	0.14	150	1	0.02	<1	110	64	<2	1	15	<0.01	<10	<10	7	<10	524
T680	2.0	0.96	18	60	3.0	<2	0.06	<0.5	2	96	84	1.34	<10	<1	0.51	30	0.07	135	5	<0.01	2	200	356	<2	1	14	<0.01	<10	<10	7	<10	628
T681	3.2	0.66	6	60	1.0	<2	0.06	1.5	1	90	68	0.67	<10	<1	0.53	30	0.04	720	235	<0.01	<1	170	1012	6	<1	7	<0.01	<10	<10	6	<10	338
T682	1.4	0.64	6	40	0.5	<2	0.19	12.5	3	99	86	1.37	<10	<1	0.55	20	0.03	110	31	0.02	<1	130	1994	<2	<1	18	<0.01	<10	<10	4	<10	1100

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T683	0.6	0.80	< 2	50	1.5	< 2	0.08	0.5	< 1	122	18	1.03	10	< 1	0.49	30	0.05	100	7	0.01	4	180	76	< 2	1	7	<0.01	< 10	< 10	7	< 10	220
T684	2.2	0.61	< 2	40	0.5	6	0.09	1.5	< 1	131	9	0.99	10	1	0.39	30	0.05	135	4	0.04	5	170	16	< 2	1	11	<0.01	< 10	< 10	9	< 10	220
T685	< 0.2	0.94	12	40	1.0	< 2	0.13	1.0	4	113	10	1.19	10	< 1	0.48	30	0.08	205	2	0.03	< 1	160	34	< 2	1	11	<0.01	< 10	< 10	8	< 10	318
T686	0.4	0.68	18	40	1.0	6	0.07	< 0.5	2	107	7	1.04	< 10	< 1	0.44	30	0.07	105	9	0.02	1	120	46	< 2	< 1	10	<0.01	< 10	< 10	6	< 10	180
T687	< 0.2	0.77	16	50	1.5	< 2	0.13	0.5	2	114	11	1.29	< 10	< 1	0.47	30	0.06	130	6	0.01	< 1	150	78	< 2	1	9	<0.01	< 10	< 10	6	< 10	246
T688	2.4	0.81	< 2	50	0.5	4	0.03	0.5	1	134	50	1.14	10	< 1	0.45	20	0.04	85	6	0.01	4	160	100	< 2	1	9	<0.01	< 10	< 10	7	< 10	96
T689	25.2	0.42	< 2	70	< 0.5	6	0.01	2.0	20	278	691	1.80	< 10	< 1	0.35	10	0.02	50	53	<0.01	8	150	5916	< 2	< 1	9	<0.01	< 10	< 10	6	< 10	132
T690	2.0	0.83	20	80	0.5	< 2	0.03	< 0.5	3	120	79	3.30	10	2	0.55	20	0.06	95	21	0.01	3	470	1364	< 2	1	29	<0.01	< 10	< 10	12	< 10	142
T691	11.4	0.79	6	40	0.5	< 2	0.03	< 0.5	< 1	109	17	1.25	10	3	0.36	20	0.04	135	3	0.02	< 1	300	118	4	1	14	<0.01	< 10	< 10	12	< 10	58
T692	1.8	1.11	6	60	1.5	< 2	0.23	0.5	6	121	26	1.82	10	3	0.60	40	0.14	1245	4	0.03	1	420	140	4	2	22	<0.01	< 10	< 10	18	< 10	140
T693	8.4	1.05	38	60	1.0	< 2	0.04	2.5	8	180	987	3.35	10	2	0.44	10	0.11	# 2.01	22	<0.01	3	580	5274	< 2	2	61	0.01	< 10	20	22	< 10	2306
T694	1.6	0.66	20	110	0.5	< 2	0.04	0.5	3	153	67	3.20	10	3	0.45	20	0.03	9215	77	<0.01	1	840	1152	4	1	127	<0.01	< 10	< 10	14	< 10	180
T695	12.4	1.19	28	230	< 0.5	5	0.28	16.5	34	42	902	7.36	< 10	9	0.40	30	0.24	#11.30	51	0.05	5	710	458	2	3	1228	<0.01	< 10	< 10	11	< 10	646
T696	12.6	0.87	12	70	0.5	< 2	1.30	20.0	9	220	89	4.72	10	< 1	0.28	10	0.45	1670	20	<0.01	8	300	# 1.04	< 2	1	50	<0.01	< 10	< 10	13	< 10	2140
T697	3.2	0.58	10	90	0.5	< 2	0.02	< 0.5	2	207	90	1.98	< 10	< 1	0.36	10	0.03	125	8	<0.01	5	320	1036	< 2	1	20	<0.01	< 10	< 10	10	< 10	202
T698	7.0	1.11	22	60	3.0	2	0.11	< 0.5	1	147	64	2.75	10	< 1	0.33	30	0.25	530	4	0.02	6	300	98	2	2	29	0.01	< 10	< 10	42	< 10	142
T699	26.0	0.44	14	50	3.0	< 2	0.11	1.0	1	267	36	0.86	< 10	< 1	0.12	< 10	0.04	1315	5	<0.01	6	70	96	< 2	1	54	<0.01	< 10	< 10	8	< 10	124
T700	29.0	0.68	26	50	0.5	< 2	0.03	< 0.5	1	241	73	2.70	< 10	2	0.30	10	0.04	165	45	<0.01	4	380	1740	< 2	1	14	<0.01	< 10	< 10	81	< 10	434
T701	4.8	0.92	< 2	70	3.0	< 2	0.18	0.5	3	173	23	1.91	10	1	0.35	20	0.18	1160	4	0.02	4	560	52	< 2	2	22	<0.01	< 10	< 10	21	< 10	138
T702	2.6	0.77	< 2	60	1.0	< 2	0.06	< 0.5	< 1	172	37	1.26	10	< 1	0.20	20	0.11	650	4	0.03	3	200	94	2	1	18	<0.01	< 10	< 10	17	< 10	86
T703	1.4	0.73	8	110	3.0	< 2	0.11	< 0.5	1	182	73	1.16	10	2	0.26	10	0.14	1975	5	0.01	1	300	106	< 2	1	17	<0.01	< 10	< 10	13	< 10	114
T704	2.2	0.44	26	50	0.5	< 2	0.08	< 0.5	< 1	196	50	1.29	< 10	< 1	0.26	10	0.07	295	6	<0.01	6	200	402	2	< 1	12	<0.01	< 10	< 10	10	< 10	90
T705	16.6	0.59	10	40	< 0.5	12	0.04	5.5	5	402	373	4.02	10	< 1	0.28	10	0.02	135	19	<0.01	8	120	2678	< 2	1	4	<0.01	< 10	< 10	9	< 10	358
T706	14.0	0.47	4	70	< 0.5	2	0.02	8.0	7	370	745	5.17	10	3	0.17	< 10	0.02	325	82	<0.01	7	90	2330	4	< 1	9	<0.01	< 10	< 10	8	< 10	818
T707	11.6	1.43	< 2	100	2.0	6	0.05	7.5	7	180	499	2.95	10	< 1	0.59	20	0.11	3635	16	<0.01	3	430	2292	2	2	12	<0.01	< 10	< 10	17	< 10	594
T708	10.2	0.97	14	60	< 0.5	4	0.04	< 0.5	< 1	140	32	1.43	< 10	7	0.48	30	0.05	300	1	0.02	5	80	86	< 2	1	10	<0.01	< 10	< 10	11	< 10	122
T709	54.8	1.45	2	130	< 0.5	< 2	0.12	< 0.5	2	160	60	2.00	< 10	1	0.29	20	0.13	1705	6	0.02	10	160	194	6	2	23	<0.01	< 10	< 10	20	10	182
T710	51.2	1.18	16	110	< 0.5	6	0.10	9.0	1	214	135	1.88	< 10	2	0.37	20	0.12	3760	6	0.03	9	200	310	< 2	1	19	<0.01	< 10	< 10	19	10	358
T711	56.6	1.19	< 2	70	< 0.5	6	0.10	2.5	1	222	43	1.96	< 10	5	0.35	30	0.12	2600	5	0.05	10	130	164	< 2	2	15	0.01	< 10	< 10	21	10	254
T712	33.4	0.88	< 2	40	< 0.5	6	0.05	< 0.5	< 1	165	39	0.77	< 10	3	0.46	10	0.07	495	3	0.03	6	60	238	< 2	< 1	5	<0.01	< 10	< 10	8	< 10	90
T713	64.6	1.47	14	130	< 0.5	< 2	0.11	11.0	2	167	74	2.06	< 10	3	0.48	20	0.14	3660	6	0.04	5	140	392	< 2	2	19	0.01	< 10	< 10	32	10	348
T714	2.8	2.22	6	40	< 0.5	18	0.46	< 0.5	5	111	64	2.12	< 10	4	0.46	20	0.61	1060	2	0.03	18	630	22	< 2	2	21	<0.01	< 10	< 10	27	10	126
T715	65.4	0.40	2	30	< 0.5	6	0.06	1.0	< 1	263	71	1.07	< 10	3	0.16	< 10	0.03	730	4	0.01	11	70	124	< 2	< 1	5	<0.01	< 10	< 10	7	< 10	108
T716	182.4	1.37	12	100	< 0.5	4	0.13	4.5	4	364	123	2.17	10	4	0.27	20	0.19	6545	9	0.06	6	240	552	4	2	31	<0.01	< 10	< 10	25	20	534
T717	26.4	1.80	2	140	< 0.5	< 2	0.11	2.5	2	209	54	2.22	< 10	< 1	0.44	30	0.17	2315	6	0.06	9	190	250	< 2	3	26	0.01	< 10	< 10	25	10	308
T718	141.6	0.70	16	40	< 0.5	4	0.07	12.0	4	391	72	1.83	< 10	2	0.26	10	0.07	5725	10	0.03	11	120	1980	2	1	48	<0.01	< 10	10	18	40	994
T719	64.0	0.76	< 2	60	< 0.5	20	0.06	< 0.5	3	260	48	1.77	< 10	< 1	0.22	10	0.09	1940	4	0.02	10	150	364	< 2	1	14	<0.01	< 10	< 10	15	20	220
T720	> 200.0	0.91	< 2	550	< 0.5	< 2	0.09	6.0	4	319	74	1.68	< 10	1	0.35	10	0.11	# 1.96	10	0.03	13	110	262	< 2	1	93	<0.01	< 10	30	23	40	404
T721	131.0	1.00	12	30	2.0	2	0.12	< 0.5	1	73	175	1.12	10	4	0.51	30	0.09	875	1	<0.01	< 1	240	682	< 2	1	10	<0.01	< 10	< 10	20	10	592
T722	158.2	0.88	12	120	1.5	18	0.05	< 0.5	5	105	182	1.53	10	< 1	0.47	30	0.08	1565	4	<0.01	< 1	170	810	4	1	12	<0.01	< 10	< 10	23	10	324
T723	17.6	0.89	< 2	40	1.0	8	0.08	< 0.5	1	66	82	2.09	10	< 1	0.58	30	0.05	265	2	0.01	< 1	320	164	4	1	8	0.01	< 10	< 10	13	< 10	168
T724	136.6	0.62	6	50	1.0	6	0.09	1.0	4	130	79	0.96	10	2	0.19	< 10	0.16	1045	2	0.01	3	220	366	2	1	13	<0.01	< 10	< 10	13	10	248
T725	1.6	0.51	16	100	< 0.5	< 2	0.02	< 0.5	4	207	14	1.95	< 10	5	0.52	20	0.02	125	10	0.02	9	240	288	< 2	1	14	<0.01	< 10	< 10	8	10	14
T726	9.6	0.47	18	180	< 0.5	< 2	0.02	< 0.5	< 1	200	21	3.41	< 10	2	0.51	10	0.02	120	17	0.01	2	250	932	< 2	1	13	<0.01	< 10	< 10	14	< 10	52
T727	7.4	1.40	< 2	70	0.5	2	0.03	< 0.5	5	177	80	2.54	10	3	0.78	30	0.09	305	4	0.04	< 1	410	182	< 2	2	28	0.01	< 10	< 10	22	< 10	88
T728	85.0	1.04	18	10	2.0	14	8.36	23.0	21	57	4428	8.12	< 10	< 1	0.21	20	0.53	# 2.16	2	<0.01	7	170	6742	4	2	98	<0.01	< 10	10	20	< 10	1770
T729	147.6	1.01	20	60	2.5	< 2	0.27	< 0.5	< 1	64	181	1.71	10	2	0.33	20	0.19	3140	< 1	0.01	< 1	270	322	< 2	1	17	<0.01	< 10	10	17	< 10	278
T730	6.0	1.63	30	40	1.0	< 2	0.07	< 0.5	8	48	66	2.80	10	1	0.40	40	0.33	2995	< 1	0.02	4	560	44	< 2	3	12	<0.01	< 10	< 10	31	< 10	166
T731	6.4	1.15	24	30	0.5	2	0.17	< 0.5	6	72	24	2.17	10	< 1	0.42	30	0.30	835	2	0.03	6	550	38	< 2	2	8	<0.01	< 10	< 10	23	< 10	72
T732	129.0	0.25	6	100	< 0.5	68	0.02	1.0	< 1	174	540	4.20	< 10	1	0.40	< 10	0.01	85	230	0.02	8	100	# 4.62	8	< 1	15	<0.01	< 10	< 10	8	30	316
T733	37.4	0.29	< 2	200	< 0.5	< 2	0.03	2.5	5	237	242	4.68	< 10	< 1	0.53	< 10	0.02	140	41	0.02	9	150	# 1.50	< 2	< 1	9	<0.01	< 10	< 10	8	10	386
T734	66.6	1.17	< 2	160	< 0.5	< 2	0.04	1.5	4	68	457	3.31	10	< 1	0.68	40	0.06	1120	21	0.02	5	470	# 4.53	< 2	2	44	0.01	< 10	< 10	17	30	1072
T735	58.0	1.38	10	50	1.0	< 2	0.08	< 0.5	1	91	35	2.08	10	< 1	0.45	40	0.15	490	3	0.02	1	500	162	< 2	2	14	<0.01	< 10	< 10	22	< 10	122

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T736	14.0	1.28	14	20	2.0	< 2	0.13	26.0	26	50	119	8.94	10	< 1	0.15	10	0.11	@ 8.61	499	0.01	< 1	420	1292	< 2	2	112	<0.01	< 10	60	32	< 10	966
T737	3.4	1.07	36	30	1.0	< 2	0.06	3.0	5	73	179	3.62	10	7	0.25	10	0.14	@ 4.07	99	<0.01	6	500	546	< 2	1	35	0.01	< 10	30	20	< 10	746
T738	2.0	1.04	8	30	1.5	< 2	0.16	2.0	6	73	67	2.77	10	< 1	0.45	30	0.18	@ 2.12	39	0.02	< 1	490	166	< 2	1	67	0.01	< 10	10	17	< 10	388
T739	0.8	1.47	4	60	1.0	< 2	0.20	< 0.5	5	127	7	2.30	10	< 1	0.53	30	0.39	1135	4	0.04	3	550	46	< 2	3	15	0.01	< 10	< 10	31	< 10	98
T740	2.8	0.91	4	110	2.0	< 2	0.05	7.5	10	67	236	4.62	10	< 1	0.44	20	0.09	@ 4.08	30	0.01	4	400	224	< 2	2	138	<0.01	< 10	30	21	< 10	444
T741	1.2	1.10	10	40	1.0	< 2	0.37	< 0.5	5	50	25	2.33	10	5	0.35	40	0.34	2125	4	0.02	< 1	640	80	< 2	2	20	<0.01	< 10	< 10	30	< 10	124
T742	95.0	1.89	34	40	1.5	< 2	2.11	2.0	6	50	30	2.40	10	4	0.23	30	0.79	1950	11	0.02	4	640	152	< 2	3	47	<0.01	< 10	< 10	33	< 10	230
T743	^ 29.50	0.66	32	50	< 0.5	840	0.04	1.5	11	113	@13.70	14.22	< 10	4	0.31	< 10	0.05	205	552	0.01	17	4800	1814	6	4	106	0.01	< 10	< 10	30	900	598
T744	^ 8.70	0.11	18	30	< 0.5	366	0.02	< 0.5	1	256	1139	9.87	< 10	< 1	0.02	< 10	< 0.01	75	259	0.02	12	180	2726	14	< 1	10	<0.01	< 10	< 10	15	20	16
T745	^ 4.51	1.09	4	80	< 0.5	680	0.11	< 0.5	15	132	@ 2.60	7.91	< 10	1	0.41	10	0.25	565	398	0.02	13	800	1306	2	2	187	0.01	< 10	< 10	32	* 50	236
T746	42.8	0.43	6	160	< 0.5	52	0.03	< 0.5	3	168	468	3.76	< 10	1	0.20	< 10	0.01	170	988	0.01	4	450	1828	14	< 1	41	<0.01	< 10	< 10	12	20	28
T747	39.2	0.46	< 2	5480	< 0.5	12	0.02	< 0.5	3	317	33	1.17	< 10	< 1	0.20	< 10	0.02	80	25	0.01	17	160	514	8	< 1	123	<0.01	< 10	< 10	6	< 10	116
T748	^ 12.10	0.27	4	230	< 0.5	14	0.01	19.0	< 1	407	129	0.94	< 10	< 1	0.10	< 10	0.01	75	102	0.01	20	220	2274	20	< 1	8	<0.01	< 10	< 10	64	20	296
T749	113.4	0.35	< 2	130	< 0.5	14	0.01	< 0.5	1	331	33	1.07	< 10	< 1	0.17	< 10	0.03	105	20	0.01	11	90	728	14	< 1	5	<0.01	< 10	< 10	10	10	62
T750	3.6	0.41	< 2	50	< 0.5	* 5	0.16	6.5	4	197	89	1.14	10	< 1	0.17	10	0.14	195	9	0.01	9	310	982	< 2	1	15	<0.01	< 10	< 10	9	< 10	610
T751	52.8	1.42	20	110	< 0.5	* 5	4.63	>100.0	26	122	6561	3.42	20	< 1	0.18	< 10	1.42	2380	363	0.01	10	420	@ 7.45	8	2	129	<0.01	< 10	< 10	10	40	@ 4.07
T752	^ 5.61	0.50	< 2	30	< 0.5	* 5	1.59	6.5	5	198	147	0.99	10	< 1	0.29	< 10	0.20	515	11	0.01	11	360	2844	30	1	65	<0.01	< 10	< 10	10	90	208
T753	30.0	0.44	18	40	< 0.5	86	0.06	< 0.5	2	137	29	>15.00	20	< 1	0.17	< 10	0.02	100	51	0.01	1	20	310	10	1	5	0.01	< 10	< 10	23	50	64
T754	^ 5.75	0.44	2	30	< 0.5	122	0.07	< 0.5	6	170	@ 2.19	4.42	10	< 1	0.12	< 10	0.13	320	81	0.01	7	* 200	1024	2	1	7	<0.01	< 10	10	15	* 50	178
T755	8.0	0.61	16	40	< 0.5	84	0.04	1.5	8	153	159	9.14	< 10	< 1	0.28	10	0.06	165	167	0.01	6	330	3340	4	1	12	<0.01	< 10	< 10	24	10	636
T756	110.2	0.40	< 2	150	< 0.5	6	0.11	0.5	1	237	122	1.37	< 10	3	0.08	10	0.15	615	8	0.02	14	140	174	< 2	< 1	11	<0.01	< 10	< 10	8	20	252
T757	47.4	0.10	< 2	30	< 0.5	12	>15.00	2.5	< 1	77	109	0.47	< 10	2	0.02	< 10	0.12	1995	4	0.02	4	50	112	2	< 1	2056	<0.01	< 10	< 10	5	20	66
T758	30.6	1.24	< 2	40	< 0.5	8	0.22	< 0.5	20	139	1477	3.64	< 10	9	0.29	< 10	0.62	4660	643	0.01	17	510	@ 3.22	18	2	21	<0.01	< 10	< 10	24	30	1120
T759	4.8	2.22	16	120	< 0.5	9	2.17	< 0.5	13	35	21	2.79	< 10	< 1	0.52	30	0.96	640	10	0.04	16	740	44	< 2	4	68	<0.01	< 10	< 10	29	< 10	62
T760	0.6	0.46	15	20	< 0.5	12	0.06	< 0.5	5	101	42	1.15	< 10	< 1	0.35	30	0.02	135	10	0.01	4	130	46	5	< 1	11	<0.01	10	< 10	4	< 10	20
T761	0.4	0.55	< 5	30	0.5	< 2	0.08	< 0.5	< 1	62	35	0.71	< 10	2	0.34	40	0.02	525	4	0.01	1	120	78	5	< 1	5	<0.01	10	< 10	3	< 10	28
T762	0.8	0.40	< 5	10	< 0.5	< 2	0.04	< 0.5	< 1	110	54	0.89	< 10	2	0.30	30	0.01	100	8	0.01	5	30	42	5	< 1	8	<0.01	< 10	< 10	4	< 10	14
T763	0.6	0.91	25	150	1.5	< 2	0.15	2.5	< 1	51	41	0.89	< 10	< 1	0.51	10	0.07	1820	2	0.02	< 1	110	2016	10	1	25	<0.01	< 10	< 10	8	< 10	468
T764	22.0	0.80	45	50	0.5	< 2	0.09	0.5	< 1	58	80	1.53	< 10	< 1	0.43	10	0.06	4845	15	0.02	< 1	280	9512	5	1	16	0.01	< 10	10	17	< 10	2630
T765	0.4	0.62	20	320	1.0	< 2	0.16	< 0.5	< 1	43	25	1.42	< 10	< 1	0.32	10	0.06	5125	< 1	0.02	2	10	1554	10	1	27	<0.01	< 10	10	10	< 10	288
T766	0.2	0.75	20	140	1.0	< 2	0.22	< 0.5	1	45	27	1.17	10	< 1	0.37	10	0.06	4375	< 1	0.03	3	180	3754	5	1	18	<0.01	< 10	< 10	42	< 10	800
T767	173.0	0.96	65	170	1.0	< 2	0.07	< 0.5	< 1	30	266	0.69	20	< 1	0.51	30	0.06	3205	1	<0.01	1	170	1902	5	1	25	<0.01	10	< 10	24	20	146
T768	22.4	0.78	310	40	4.0	6	0.11	< 0.5	< 1	50	27	0.81	< 10	2	0.42	10	0.05	1920	< 1	0.02	4	150	2078	5	1	18	<0.01	< 10	10	12	< 10	116
T769	^ 21.30	0.17	2065	260	< 0.5	< 2	0.05	< 0.5	2	103	144	0.89	< 10	12	0.08	< 10	0.01	7570	2	0.01	2	190	@ 1.33	145	< 1	9	<0.01	< 10	< 10	113	40	180
T770	58.0	1.32	30	170	1.0	< 2	0.11	0.5	< 1	50	253	0.70	10	< 1	0.68	30	0.05	3035	3	0.01	< 1	210	1840	15	1	41	<0.01	20	10	12	< 10	240
T771	42.2	0.69	35	50	< 0.5	4	0.04	< 0.5	< 1	53	104	1.59	< 10	< 1	0.36	< 10	0.05	165	1	0.03	3	110	466	10	1	21	<0.01	< 10	10	5	< 10	116
T772	30.8	0.51	740	140	1.5	6	0.07	< 0.5	2	45	91	1.80	< 10	< 1	0.29	< 10	0.04	9550	2	0.01	1	170	5496	410	1	43	0.01	10	< 10	12	20	270
T773	56.2	0.88	30	30	1.0	< 2	0.07	< 0.5	2	53	307	1.11	< 10	3	0.43	< 10	0.05	7115	8	0.01	< 1	110	7290	200	1	11	<0.01	10	50	10	10	828
T774	62.8	1.21	115	50	1.0	< 2	0.10	0.5	< 1	68	220	0.87	< 10	2	0.58	< 10	0.06	530	69	0.01	2	370	9892	170	1	18	<0.01	< 10	30	8	50	3782
T775	13.2	0.58	35	150	0.5	< 2	0.04	< 0.5	< 1	38	31	0.83	< 10	< 1	0.40	< 10	0.03	2975	< 1	0.01	1	10	530	10	< 1	25	<0.01	10	< 10	5	< 10	254
T776	11.8	0.87	85	30	1.5	< 2	0.07	< 0.5	< 1	50	51	0.57	< 10	< 1	0.40	10	0.04	1830	< 1	0.01	4	150	3388	5	1	23	<0.01	< 10	< 10	12	< 10	714
T777	^ 3.18	0.25	1195	30	1.0	4	0.07	< 0.5	< 1	117	91	0.56	< 10	10	0.13	< 10	0.01	1185	62	<0.01	7	780	@ 1.75	5	< 1	7	<0.01	< 10	< 10	11	10	270
T778	17.0	0.23	2350	40	< 0.5	< 2	0.05	< 0.5	< 1	165	68	0.59	< 10	< 1	0.09	< 10	0.01	680	< 1	0.01	2	150	@ 1.39	10	< 1	5	<0.01	< 10	30	141	< 10	272
T779	3.2	0.81	85	180	1.0	< 2	0.05	1.0	1	52	47	1.33	< 10	< 1	0.35	10	0.06	3330	< 1	0.03	< 1	130	1876	10	2	48	<0.01	< 10	10	38	< 10	1494
T780	73.0	0.59	385	10	1.0	< 2	0.07	3.0	< 1	57	728	1.35	< 10	< 1	0.32	10	0.03	1285	8	0.01	< 1	320	@ 1.30	265	1	17	<0.01	< 10	30	55	< 10	1488
T781	98.2	0.68	165	20	1.0	< 2	0.09	0.5	< 1	46	387	1.28	< 10	< 1	0.29	20	0.04	3770	< 1	0.01	1	130	5480	55	1	13	<0.01	< 10	< 10	26	< 10	1844
T782	116.4	0.67	135	30	1.5	< 2	0.08	< 0.5	< 1	55	1526	1.32	< 10	< 1	0.39	10	0.04	9980	2	0.01	< 1	180	@ 0.96	25	1	26	<0.01	< 10	10	44	< 10	974
T783	193.0	0.69	1035	30	1.5	< 2	0.07	< 0.5	2	53	1523	1.18	< 10	< 1	0.38	10	0.03	@ 3.11	18	0.01	3	540	@ 3.01	200	1	20	<0.01	< 10	70	17	10	1378
T784	26.8	0.74	640	30	1.5	< 2	0.14	5.0	5	48	722	1.41	10	10	0.42	30	0.08	3030	39	0.01	3	1950	@ 2.27	735	1	26	<0.01	< 10	40	4	< 10	3088
T785	0.2	0.51	5	80	0.5	< 2	0.18	< 0.5	3	59	55	1.10	< 10	1	0.26	50	0.07	1090	1	0.05	5	100	150	5	1	13	<0.01	< 10	< 10	4	< 10	116
T786	87.4	1.05	1300	50	0.5	8	0.08	< 0.5	< 1	52	171	0.58	10	10	0.37	10	0.09	1190	52	0.01	< 1	290	@ 1.68	5	1	12	<0.01	< 10	< 10	14	20	@ 1.38
T787	91.2	0.52	115	90	0.5	6	0.36	2.0	< 1	69	342	1.18	10	< 1	0.26	10	0.03	5805	6	0.01	5	70	6330	5	1	18	<0.01	< 10	20	23	< 10	1708
T788	0.6	1.01	< 5	30	< 0.5	6	0.18	< 0.5	5	119	39	1.45	10	2	0.39	50	0.11	830	4	0.03	< 1	230	134	5	1	13	0.01	< 10	< 10	8	< 10	88

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)
T789	0.4	0.76	95	120	< 0.5	< 2	0.13	< 0.5	4	115	37	1.58	< 10	< 1	0.35	< 10
T790	4.6	1.30	100	40	1.5	< 2	0.17	2.5	4	126	21	1.55	10	< 1	0.59	30
T791	18.4	0.88	60	180	1.0	< 2	0.15	3.0	2	112	46	1.29	< 10	< 1	0.52	30
T792	51.2	0.36	25	20	0.5	< 2	0.18	< 0.5	< 1	82	45	0.63	10	1	0.25	30
T793	1.6	0.47	< 5	330	0.5	< 2	0.15	0.5	< 1	90	20	1.06	< 10	< 1	0.35	10
T794	16.2	0.55	< 5	180	1.0	< 2	0.20	< 0.5	< 1	93	44	1.35	< 10	9	0.37	50
T795	57.4	0.53	< 5	40	0.5	< 2	0.09	< 0.5	< 1	36	236	0.60	10	< 1	0.27	30
T796	^ 17.90	0.47	685	90	0.5	< 2	0.08	< 0.5	2	56	350	0.73	< 10	64	0.34	10
T797	102.2	0.75	35	60	1.0	< 2	0.12	< 0.5	5	33	380	0.97	< 10	< 1	0.51	10
T798	^ 9.39	0.61	145	130	1.5	< 2	0.08	1.5	4	57	1256	0.75	< 10	< 1	0.41	10
T799	^ 15.00	0.74	10	370	1.0	< 2	0.10	< 0.5	1	48	1287	0.92	< 10	< 1	0.49	40
T800	^ 6.13	0.58	25	40	1.0	< 2	0.05	< 0.5	4	56	1807	0.97	< 10	< 1	0.38	20
T801	61.6	0.41	25	450	< 0.5	4	0.05	< 0.5	< 1	128	98	0.69	< 10	5	0.26	< 10
T802	72.4	0.96	30	110	3.5	< 2	0.07	0.5	1	46	62	1.20	< 10	< 1	0.54	< 10
T803	1.8	0.88	45	160	1.0	< 2	0.07	< 0.5	1	54	8	0.84	< 10	2	0.33	10
T804	3.0	0.93	70	40	1.0	< 2	0.04	4.5	4	53	24	1.17	< 10	< 1	0.48	20
T805	2.8	1.16	15	20	2.5	< 2	0.05	< 0.5	3	73	20	1.16	< 10	< 1	0.52	10
T806	14.8	0.81	15	90	11.0	< 2	0.03	52.5	31	27	26	3.17	10	< 1	0.38	10
T807	21.0	0.89	10	20	4.5	< 2	0.04	0.5	31	61	293	0.47	10	< 1	0.39	< 10
T808	8.6	1.15	1990	20	1.0	12	0.27	< 0.5	< 1	71	29	0.71	< 10	4	0.57	< 10
T809	17.0	1.23	275	50	1.0	< 2	0.06	< 0.5	1	72	20	0.41	< 10	4	0.65	< 10
T810	0.8	1.81	< 5	200	1.0	< 2	0.48	< 0.5	12	32	16	3.21	< 10	< 1	0.75	30
T811	1.2	0.91	< 5	50	0.5	< 2	0.18	< 0.5	1	62	7	1.46	< 10	6	0.47	60
T812	6.6	1.40	830	30	3.5	< 2	0.12	< 0.5	< 1	54	16	0.33	10	< 1	0.79	40
T813	54.6	0.87	355	40	6.0	10	0.07	0.5	1	94	26	0.96	< 10	< 1	0.43	10
T814	0.2	0.57	< 5	40	< 0.5	2	0.05	< 0.5	< 1	58	26	0.74	10	5	0.36	80
T815	10.6	0.60	5	70	0.5	2	0.07	0.5	7	88	36	1.26	< 10	5	0.42	20
T816	4.0	1.24	35	80	1.0	2	0.05	< 0.5	1	48	27	1.46	< 10	< 1	0.74	< 10
T817	6.6	1.08	55	30	1.0	< 2	0.07	0.5	< 1	58	38	0.56	< 10	8	0.50	10
T818	3.4	0.89	1290	40	0.5	< 2	0.08	0.5	1	59	19	1.47	< 10	6	0.45	30
T819	18.0	0.71	2235	30	3.0	< 2	0.10	0.5	1	81	98	0.75	< 10	3	0.42	< 10
T820	18.0	0.54	1190	40	0.5	4	0.18	0.5	< 1	76	59	0.61	< 10	15	0.32	10
T821	29.4	0.24	1710	20	< 0.5	2	0.05	< 0.5	2	219	116	1.21	< 10	14	0.10	< 10
T822	160.6	0.75	495	50	1.0	< 2	0.08	0.5	8	72	306	0.97	< 10	6	0.55	10
T823	25.2	0.48	160	50	< 0.5	6	0.05	< 0.5	< 1	224	84	0.90	< 10	6	0.23	< 10
T824	1.4	1.53	< 5	230	0.5	< 2	0.16	< 0.5	< 1	44	6	2.03	10	< 1	0.60	10
T825	51.4	0.74	45	130	1.0	< 2	0.07	0.5	8	63	47	0.65	< 10	73	0.35	< 10
T826	2.8	2.26	20	120	1.5	6	0.12	< 0.5	8	51	41	3.27	< 10	2	0.99	10
T827	37.6	0.42	95	40	< 0.5	6	0.09	< 0.5	2	169	85	0.84	< 10	19	0.18	< 10
T828	10.0	0.87	110	40	0.5	< 2	0.08	< 0.5	< 1	59	17	0.53	< 10	6	0.52	< 10
T829	23.8	0.89	70	170	1.0	4	0.05	4.5	< 1	110	100	0.77	< 10	6	0.34	< 10
T830	6.2	1.63	35	40	1.0	< 2	0.11	< 0.5	3	30	162	7.39	< 10	< 1	0.69	< 10
T831	^ 12.60	0.38	60	450	0.5	4	0.03	0.5	4	28	200	1.31	< 10	310	0.13	< 10
T832	10.8	0.91	310	40	1.0	< 2	0.11	4.0	9	63	152	2.82	< 10	2	0.40	10
T833	1.8	0.94	15	40	0.5	< 2	0.08	< 0.5	< 1	69	12	2.03	< 10	3	0.47	10
T834	6.4	0.56	665	40	0.5	24	0.09	4.0	7	44	14	2.49	< 10	2	0.36	< 10
T835	9.0	0.57	25	500	1.5	< 2	0.03	< 0.5	49	39	79	1.37	< 10	< 1	0.27	< 10
T836	12.2	1.22	5	20	1.5	< 2	0.06	< 0.5	17	38	46	5.26	< 10	< 1	0.51	< 10
T837	2.8	0.91	170	30	0.5	< 2	0.07	< 0.5	4	51	41	1.31	< 10	< 1	0.43	20
T838	2.4	0.81	85	30	0.5	4	0.07	< 0.5	2	76	12	1.11	< 10	< 1	0.36	30
T839	0.4	1.02	25	40	0.5	< 2	0.05	< 0.5	1	77	7	1.42	< 10	< 1	0.50	10
T840	2.4	1.63	< 5	150	1.0	10	0.07	1.5	6	40	18	3.12	10	5	0.84	10
T841	4.6	0.95	30	30	0.5	2	0.06	< 0.5	5	79	109	0.91	< 10	< 1	0.43	10

Sample No.	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T789	0.05	1390	6	0.02	< 1	170	76	5	1	25	0.01	< 10	< 10	10	< 10	74
T790	0.07	8900	4	0.03	3	290	5782	35	2	20	0.01	10	30	18	10	678
T791	0.05	7435	4	0.02	7	180	1570	5	1	59	0.01	< 10	10	9	< 10	562
T792	0.02	2375	3	0.01	3	350	1690	10	< 1	12	<0.01	< 10	10	8	10	86
T793	0.03	5155	6	0.02	2	170	528	5	1	29	<0.01	< 10	< 10	6	< 10	144
T794	0.04	9420	2	0.01	< 1	300	2688	35	1	61	0.01	10	< 10	11	< 10	150
T795	0.03	1580	1	0.01	4	110	1454	5	1	9	<0.01	< 10	< 10	20	10	120
T796	0.02	5120	93	0.01	6	270	# 2.73	25	1	69	<0.01	20	30	10	30	198
T797	0.05	# 1.21	4	0.03	1	180	4846	5	1	35	<0.01	10	20	15	10	384
T798	0.02	# 3.33	10	0.02	< 1	130	# 1.96	40	1	21	<0.01	< 10	130	26	20	402
T799	0.04	# 1.71	1	0.02	2	230	3522	10	1	73	<0.01	< 10	30	15	20	304
T800	0.03	# 2.02	3	0.02	1	100	# 1.15	55	1	22	<0.01	< 10	50	18	< 10	264
T801	0.02	900	3	0.01	1	20	544	35	< 1	9	<0.01	< 10	10	7	< 10	68
T802	0.06	# 1.36	4	0.04	< 1	120	840	15	1	81	<0.01	10	20	12	10	362
T803	0.05	2305	4	0.02	< 1	640	7736	15	1	19	<0.01	20	10	12	< 10	362
T804	0.04	# 1.99	8	0.01	1	250	# 1.60	30	1	7	<0.01	< 10	50	262	< 10	618
T805	0.03	# 1.36	4	0.01	< 1	110	# 4.07	5	1	12	<0.01	10	20	13	10	740
T806	0.02	#10.50	7	0.01	< 1	110	#17.40	25	2	53	<0.01	< 10	210	28	50	2504
T807	0.03	# 6.48	17	0.01	< 1	130	# 5.40	20	1	7	<0.01	< 10	560	20	30	1210
T808	0.06	355	3	0.01	< 1	1540	# 1.31	5	1	17	<0.01	< 10	20	34	< 10	292
T809	0.05	3655	30	0.01	2	220	6628	5	1	25	<0.01	< 10	50	13	10	302
T810	0.22	2425	6	0.04	2	960	1238	15	4	44	0.02	10	10	46	< 10	332
T811	0.07	1500	3	0.03	1	240	790	5	1	11	<0.01	20	< 10	13	< 10	262
T812	0.06	375	75	0.01	< 1	290	# 1.32	5	1	16	<0.01	10	< 10	13	10	2254
T813	0.04	7700	95	0.01	< 1	470	# 3.46	5	1	22	<0.01	10	50	19	40	2286
T814	0.05	95	3	0.01	1	80	30	5	< 1	12	<0.01	< 10	< 10	5	< 10	12
T815	0.03	5190	6	<0.01	2	180	# 1.41	5	1	29	<0.01	10	10	12	10	598
T816	0.06	3385	2	0.02	< 1	90	2310	5	1	12	<0.01	< 10	< 10	10	< 10	440
T817	0.05	975	4	0.01	1	330	# 1.30	5	1	13	<0.01	20	< 10	6	< 10	726
T818	0.04	2740	31	0.02	4	1230	# 1.87	5	1	14	0.01	10	10	33	10	464
T819	0.03	4090	253	0.02	< 1	2470	# 6.05	25	1	24	<0.01	< 10	30	33	20	776
T820	0.02	1795	262	0.02	3	3670	# 4.12	15	1	16	<0.01	< 10	40	47	10	202
T821	0.01	1335	78	0.02	11	1110	# 3.23	10	< 1	13	<0.01	< 10	30	15	< 10	104
T822	0.03	5560	21	0.01	5	680	# 6.29	55	1	54	<0.01	10	30	25	20	1252
T823	0.02	830	13	0.01	7	530	6520	5	< 1	6	<0.01	10	< 10	77	< 10	152
T824	0.14	1650	3	0.02	< 1	230	2068	10	2	25	0.01	10	10	27	< 10	268
T825	0.03	# 1.45	5	0.01	3	390	#28.70	15	1	233	<0.01	< 10	50	14	50	558
T826	0.13	3180	15	0.02	< 1	740	# 1.08	5	4	24	0.02	10	30	47	< 10	756
T827	0.02	380	25	0.01	6	270	# 4.43	20	1	35	<0.01	< 10	30	14	10	216
T828	0.05	1220	10	0.01	1	650	# 1.61	5	1	18	<0.01	10	10	12	< 10	320
T829	0.04	200	50	0.01	5	160	#10.80	155	1	40	<0.01	10	30	22	30	590
T830	0.07	7305	7	0.01	4	800	# 3.36	130	6	33	0.02	< 10	70	52	< 10	3276
T831	0.01	2610	71	0.01	1	60	#59.20	65	< 1	196	<0.01	< 10	20	7	60	626
T832	0.04	6310	45	<0.01	1	1640	# 8.19	130	3	44	0.01	< 10	50	34	< 10	1690
T833	0.06	540	4	0.01	< 1	100	2208	5	1	28	0.01	< 10	< 10	11	30	120
T834	0.03	9835	54	0.01	< 1	1210	# 2.21	15	1	17	<0.01	10	50	30	10	648
T835	0.01	# 4.38	4	0.01	2	40	#25.60	20	2	71	<0.01	< 10	70	13	50	1210
T836	0.03	# 2.80	6	<0.01	< 1	100	#12.80	5	3	39	<0.01	< 10	40	18	10	1798
T837	0.04	5555	47	0.01	1	660	# 1.16	10	1	17	<0.01	< 10	20	18	< 10	546
T838	0.06	2710	8	0.01	2	540	6244	5	1	14	<0.01	< 10	20	16	< 10	534
T839	0.04	430	3	0.01	< 1	60	2426	10	1	32	0.01	< 10	< 10	9	< 10	106
T840	0.08	8925	8	0.03	< 1	90	2902	20	3	39	0.01	< 10	30	28	10	1004
T841	0.04	3720	2	0.01	2	280	4710	5	1	23	<0.01	10	10	46	< 10	340

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T842	3.8	0.84	30	60	0.5	20	0.07	< 0.5	< 1	51	45	0.88	< 10	< 1	0.40	20	0.05	3980	12	0.02	4	230	3716	5	1	23	<0.01	< 10	40	11	< 10	510
T843	19.6	0.53	220	30	1.0	< 2	0.07	< 0.5	5	64	276	0.82	< 10	2	0.25	10	0.02	2250	22	0.01	< 1	320	@ 7.26	30	1	23	<0.01	< 10	20	27	10	282
T844	4.0	0.65	30	20	< 0.5	6	0.05	< 0.5	< 1	63	71	0.86	< 10	6	0.37	20	0.02	135	< 1	0.01	2	120	9096	10	< 1	8	<0.01	< 10	< 10	11	< 10	138
T845	13.2	0.52	515	20	1.0	< 2	0.10	< 0.5	< 1	88	148	1.33	< 10	9	0.37	20	0.02	1240	25	0.01	1	1300	@ 4.73	65	1	27	0.01	< 10	10	29	50	156
T846	10.0	0.76	1615	20	0.5	22	0.15	12.5	1	71	923	2.78	< 10	< 1	0.42	20	0.03	130	127	0.01	3	2670	@ 4.69	845	1	19	<0.01	< 10	10	416	< 10	468
T847	105.4	0.43	2630	460	1.0	180	0.06	22.5	2	85	@ 1.04	2.34	10	80	0.16	10	0.02	1690	35	0.01	5	* 200	@16.80	1385	1	73	<0.01	< 10	180	11	* 50	3386
T848	15.0	1.54	550	40	1.0	50	0.08	9.0	3	178	971	1.06	20	< 1	0.53	40	0.05	50	200	0.04	16	2100	@ 3.86	345	2	19	<0.01	< 10	40	168	< 10	316
T849	0.8	1.13	365	40	< 0.5	6	0.07	2.0	3	172	489	1.01	10	< 1	0.48	20	0.07	75	6	0.03	12	300	3794	275	< 1	23	<0.01	< 10	< 10	20	< 10	402
T850	* 0.8	0.84	5	30	1.0	6	0.10	2.0	3	111	513	1.16	10	< 1	0.33	30	0.04	495	5	0.04	6	170	524	5	< 1	34	<0.01	< 10	< 10	4	< 10	550
T851	8.0	0.79	1240	20	0.5	16	0.05	19.5	< 1	140	484	0.61	10	< 1	0.42	20	0.03	35	5	0.03	8	200	6188	980	< 1	35	<0.01	< 10	30	6	< 10	256
T852	1.6	0.97	360	20	1.0	2	0.09	2.0	< 1	95	430	1.16	10	10	0.46	30	0.04	55	27	0.03	4	230	3314	100	< 1	22	<0.01	< 10	< 10	12	10	344
T853	11.0	0.93	755	40	0.5	28	0.12	6.0	1	175	179	1.41	10	16	0.51	20	0.04	45	23	0.03	9	1040	@ 1.13	230	< 1	50	<0.01	< 10	30	12	10	190
T854	* 0.8	0.68	220	10	< 0.5	14	0.06	2.0	< 1	126	73	1.66	10	2	0.39	10	0.02	25	45	0.03	7	400	3682	65	< 1	23	<0.01	< 10	20	57	10	96
T855	< 0.2	0.89	30	20	0.5	10	0.05	< 0.5	2	155	18	0.72	10	4	0.35	40	0.03	170	4	0.03	19	170	744	5	< 1	40	<0.01	< 10	10	7	10	178
T856	7.0	0.79	35	50	1.5	< 2	0.09	6.0	3	69	426	1.28	< 10	< 1	0.46	10	0.03	2045	10	0.01	2	60	@ 1.02	135	1	23	<0.01	< 10	30	2	10	7648
T857	^ 23.30	0.74	215	60	< 0.5	34	0.04	67.0	< 1	97	6163	0.52	< 10	37	0.33	< 10	0.02	75	16	<0.01	4	< 10	@ 5.32	690	< 1	115	<0.01	< 10	70	5	20	562
T858	15.8	0.49	15	10	0.5	12	0.06	1.5	< 1	82	195	0.73	< 10	< 1	0.31	< 10	0.01	95	1	0.01	< 1	20	1972	50	< 1	8	<0.01	< 10	10	3	< 10	254
T859	68.2	0.63	15	50	1.0	2	0.08	< 0.5	< 1	35	301	0.92	< 10	< 1	0.32	< 10	0.05	925	< 1	0.02	3	170	1826	20	1	13	<0.01	< 10	< 10	7	< 10	234
T860	^ 17.20	0.30	50	90	0.5	< 2	0.05	28.5	1	66	1478	0.79	< 10	5	0.18	< 10	0.02	2190	5	0.01	< 1	90	2828	200	< 1	25	<0.01	< 10	20	4	20	7918
T861	72.8	0.55	55	30	0.5	< 2	0.07	< 0.5	< 1	42	213	0.54	< 10	3	0.29	10	0.03	405	1	0.01	2	110	990	80	1	9	<0.01	< 10	10	9	< 10	232
T862	^ 9.22	0.70	30	800	1.5	12	0.44	60.5	< 1	75	2751	1.06	< 10	< 1	0.37	20	0.22	2670	1	0.02	6	140	@ 1.13	295	1	59	<0.01	< 10	40	9	10	7016
T863	6.2	0.92	< 5	40	0.5	26	0.09	7.5	< 1	79	113	0.77	< 10	< 1	0.48	20	0.03	1305	< 1	0.03	< 1	70	2322	15	1	10	<0.01	< 10	< 10	3	< 10	3644
T864	1.8	0.55	35	60	1.0	4	0.75	10.0	2	37	73	1.01	10	< 1	0.34	10	0.24	5315	1	0.02	3	150	4314	20	2	37	<0.01	< 10	< 10	7	10	1210
T865	6.2	0.58	< 5	80	2.0	< 2	3.18	9.0	< 1	126	66	0.79	20	< 1	0.39	40	0.18	2530	1	0.04	14	130	906	20	1	56	<0.01	< 10	80	4	< 10	940
T866	62.4	0.69	45	2960	1.5	38	2.07	66.5	4	104	645	0.99	20	< 1	0.44	40	0.13	1925	3	0.03	9	60	@ 1.50	130	1	36	<0.01	< 10	200	6	10	9028
T867	^ 9.46	0.87	105	1510	2.0	146	1.18	18.5	< 1	134	1310	1.04	10	5	0.43	50	0.14	750	10	0.05	1	120	5612	245	1	32	<0.01	< 10	350	5	20	2030
T868	10.0	0.19	75	10	1.5	< 2	>15.00	10.0	4	38	311	1.31	80	< 1	0.12	70	0.99	@ 2.22	7	0.01	4	< 10	2028	95	9	244	<0.01	< 10	20	9	10	1504
T869	2.8	0.58	25	100	1.5	8	0.08	0.5	< 1	76	97	1.79	< 10	1	0.51	40	0.04	660	2	0.02	< 1	220	306	10	1	13	<0.01	< 10	< 10	5	< 10	178
T870	< 0.2	1.17	15	70	1.0	6	0.30	1.5	6	21	28	2.27	10	< 1	0.44	40	0.31	1150	< 1	0.01	7	540	164	5	3	17	<0.01	< 10	< 10	12	< 10	184
T871	0.2	0.79	< 5	80	0.5	< 2	0.14	1.0	< 1	39	30	1.15	< 10	1	0.45	30	0.14	420	< 1	0.01	4	340	174	5	1	7	<0.01	< 10	< 10	7	< 10	108
T872	9.0	0.56	40	40	0.5	< 2	0.16	< 0.5	< 1	43	45	1.17	< 10	< 1	0.36	20	0.07	345	3	0.03	6	120	480	5	1	21	<0.01	< 10	< 10	5	< 10	120
T873	0.4	0.80	25	60	0.5	18	3.24	12.0	8	57	81	2.82	10	< 1	0.29	40	0.25	1105	1756	0.04	7	460	5458	20	2	66	<0.01	< 10	< 10	19	< 10	934
T874	17.8	1.82	20	500	1.0	< 2	10.77	71.5	9	23	704	4.03	40	< 1	0.21	40	1.27	4485	192	0.02	15	220	@ 1.43	25	1	353	<0.01	< 10	< 10	22	< 10	8918
T875	< 0.2	2.71	25	150	0.5	< 2	4.05	< 0.5	12	52	121	4.25	20	< 1	0.73	40	1.40	1035	5	0.04	35	770	36	10	8	159	0.01	< 10	< 10	65	< 10	118
T876	8.6	0.38	70	740	< 0.5	2	2.21	>100.0	6	119	764	2.11	10	< 1	0.23	10	0.18	945	189	0.01	6	30	@ 1.56	5	< 1	65	<0.01	< 10	< 10	8	170	@ 9.71
T877	1.2	1.16	40	340	0.5	< 2	4.55	0.5	5	23	84	1.91	20	2	0.59	40	0.39	1070	89	0.04	9	570	158	5	1	174	<0.01	< 10	< 10	17	< 10	162
T878	5.6	0.63	< 5	90	1.0	< 2	2.27	19.5	< 1	24	199	0.53	10	< 1	0.42	30	0.06	915	115	0.02	< 1	50	3236	15	< 1	55	<0.01	< 10	< 10	13	< 10	2364
T879	6.2	0.73	10	40	1.0	4	0.64	77.5	< 1	20	423	0.51	< 10	3	0.53	20	0.04	745	112	0.02	< 1	170	@ 0.96	15	< 1	14	<0.01	< 10	< 10	12	10	@ 0.84
T880	0.4	2.34	60	720	1.5	< 2	0.75	8.5	18	36	314	5.02	10	5	0.59	20	1.33	3950	5	0.01	31	990	468	5	8	49	<0.01	< 10	< 10	42	< 10	1390
T881	< 0.2	0.64	5	30	1.5	< 2	0.28	2.0	3	50	85	1.48	< 10	< 1	0.39	30	0.10	490	4	0.07	2	190	672	5	< 1	15	<0.01	< 10	< 10	7	< 10	326
T882	< 0.2	0.84	25	30	2.5	< 2	0.14	5.5	3	51	258	1.52	< 10	2	0.50	40	0.24	490	4	0.02	7	280	260	5	1	9	<0.01	< 10	< 10	4	< 10	880
T883	3.2	0.64	10	1160	< 0.5	< 2	0.04	1.0	3	51	625	1.57	< 10	< 1	0.46	20	0.04	980	47	0.02	3	160	3052	25	< 1	13	<0.01	< 10	< 10	3	< 10	482
T884	60.8	0.22	35	30	< 0.5	36	0.38	3.0	5	109	7259	3.33	< 10	< 1	0.17	10	0.02	475	308	0.01	1	< 10	@ 9.10	360	< 1	21	<0.01	10	< 10	1	< 10	774
T885	2.6	0.64	10	30	< 0.5	< 2	0.36	0.5	< 1	68	310	2.01	< 10	< 1	0.54	20	0.05	105	16	0.05	1	70	4704	5	< 1	33	<0.01	< 10	< 10	4	< 10	234
T886	0.4	1.08	40	20	1.5	< 2	2.13	< 0.5	10	45	84	1.93	20	6	0.45	40	0.47	2330	< 1	0.03	9	310	716	5	2	68	<0.01	< 10	< 10	11	< 10	108
T887	< 0.2	0.37	60	20	0.5	4	1.26	< 0.5	5	38	49	1.07	10	2	0.32	30	0.06	460	< 1	0.03	3	200	252	5	< 1	43	<0.01	< 10	< 10	2	< 10	32
T888	5.6	0.76	55	130	0.5	28	0.06	0.5	< 1	67	1708	1.14	< 10	5	0.62	30	0.04	70	5	0.03	< 1	290	@ 1.73	100	1	15	<0.01	< 10	< 10	5	< 10	598
T889	0.4	1.26	< 5	310	1.5	< 2	0.42	10.0	4	66	384	1.59	< 10	5	0.76	40	0.21	2250	1	0.03	7	490	1320	5	2	18	<0.01	< 10	< 10	10	< 10	1856
T890	12.6	0.42	20	20	< 0.5	< 2	0.23	>100.0	14	128	1519	2.79	< 10	3	0.33	10	0.03	365	104	0.01	10	70	@ 1.99	20	< 1	9	<0.01	< 10	< 10	3	10	@ 1.56
T891	104.6	0.49	45	20	< 0.5	40	0.11	11.5	3	78	3689	2.61	< 10	3	0.41	20	0.03	60	16	0.02	4	470	@11.40	255	< 1	15	<0.01	< 10	< 10	4	< 10	1248
T892	38.0	0.68	30	410	< 0.5	< 2	3.00	35.0	4	51	1800	3.09	10	10	0.32	20	0.44	5820	11	0.02	3	130	@ 4.29	90	1	99	<0.01	< 10	10	5	< 10	912
T893	15.2	0.93	55	70	0.5	24	0.20	< 0.5	5	72	1841	2.77	< 10	< 1	0.56	30	0.20	1005	66	0.04	8	350	2020	5	1	27	<0.01	10	< 10	6	< 10	266
T894	0.6	0.70	90	480	< 0.5	20	0.06	< 0.5	1	75	81	2.08	< 10	2	0.58	30	0.04	190	29	0.03	1	210	182	15	1	40	<0.01	< 10	< 10	6	< 10	104

APPENDIX C.--ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT, CONTIN.

Sample No.	Ag (Ppm)	Al (Pct)	As (Ppm)	Ba (Ppm)	Be (Ppm)	Bi (Ppm)	Ca (Pct)	Cd (Ppm)	Co (Ppm)	Cr (Ppm)	Cu (Ppm)	Fe (Pct)	Ga (Ppm)	Hg (Ppm)	K (Pct)	La (Ppm)	Mg (Pct)	Mn (Pct)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	P (Ppm)	Pb (Ppm)	Sb (Ppm)	Sc (Ppm)	Sr (Ppm)	Ti (Pct)	Tl (Ppm)	U (Ppm)	V (Ppm)	W (Ppm)	Zn (Ppm)
T895	0.6	0.96	15	160	0.5	4	0.17	1.5	3	23	69	1.90	< 10	4	0.35	30	0.30	1025	3	0.02	4	200	294	5	1	10	<0.01	< 10	< 10	9	< 10	104
T896	5.0	0.57	50	1150	1.0	< 2	0.20	30.0	1	18	181	1.29	< 10	< 1	0.46	30	0.11	1030	5	0.01	< 1	330	3910	5	1	26	<0.01	< 10	< 10	4	< 10	830
T897	75.4	0.62	60	2140	0.5	< 2	0.92	>100.0	< 1	32	1198	1.27	10	< 1	0.44	30	0.19	1265	< 1	0.01	1	260	• 1.63	395	1	73	<0.01	< 10	< 10	4	< 10	3140
T898	< 0.2	0.50	50	110	< 0.5	< 2	0.05	< 0.5	1	35	30	0.94	< 10	< 1	0.46	20	0.04	120	74	0.01	8	240	172	10	1	16	<0.01	< 10	< 10	5	< 10	48
T899	7.0	0.39	10	1190	< 0.5	< 2	0.03	1.0	< 1	61	396	0.84	< 10	< 1	0.30	10	0.02	115	45	<0.01	< 1	150	1000	50	< 1	20	<0.01	< 10	< 10	3	< 10	168
T900	< 0.2	1.61	10	170	1.0	< 2	0.31	10.0	2	35	61	6.19	< 10	7	0.27	10	0.36	115	2	0.08	26	2020	308	5	4	96	0.04	< 10	< 10	26	< 10	1444
T901	1.0	1.50	12	60	0.5	* 5	0.08	1.5	1	69	67	1.59	< 10	1	0.06	< 10	0.03	315	5	0.01	3	270	112	< 2	1	116	<0.01	< 10	10	12	< 10	140
T902	0.2	1.65	14	70	1.0	* 5	0.03	< 0.5	2	56	16	2.06	< 10	1	0.42	< 10	0.08	35	2	0.06	5	250	12	< 2	2	245	<0.01	< 10	< 10	12	< 10	16
T903	< 0.2	0.39	10	< 10	< 0.5	2	0.36	< 0.5	< 1	21	49	0.68	< 10	5	0.22	10	0.24	490	< 1	0.09	5	600	38	5	1	25	0.02	< 10	< 10	2	< 10	36
T904	< 0.2	2.50	15	30	2.0	< 2	1.09	< 0.5	< 1	19	61	0.65	20	< 1	0.62	20	0.29	245	< 1	0.20	4	< 10	48	5	1	192	0.03	< 10	< 10	7	< 10	14
T905	< 0.2	2.07	< 5	70	2.5	< 2	0.92	< 0.5	< 1	53	67	0.72	10	8	0.51	20	0.23	470	< 1	0.16	1	< 10	44	5	< 1	76	0.02	< 10	< 10	4	< 10	10
T906	< 0.2	1.96	5	50	3.0	20	0.87	< 0.5	< 1	53	77	0.72	10	1	0.50	20	0.22	290	< 1	0.16	4	160	22	5	< 1	254	0.01	< 10	< 10	4	< 10	8
T907	0.4	1.77	20	40	1.5	< 2	0.91	< 0.5	< 1	24	63	0.56	10	< 1	0.33	20	0.16	230	< 1	0.28	2	10	48	5	< 1	133	0.01	< 10	< 10	3	< 10	6
T908	0.6	0.82	10	30	0.5	< 2	0.36	< 0.5	< 1	123	55	0.58	< 10	11	0.26	10	0.09	135	2	0.05	1	70	34	5	< 1	185	<0.01	< 10	< 10	2	< 10	6
T909	< 0.2	1.16	< 5	30	1.5	8	3.30	< 0.5	1	167	58	0.52	10	< 1	0.54	60	0.12	690	< 1	0.03	6	110	42	5	2	25	<0.01	< 10	< 10	3	< 10	14
T910	< 0.2	1.92	< 5	50	1.5	4	2.69	< 0.5	2	221	54	0.98	10	7	0.48	70	0.22	745	1	0.03	16	130	8	5	2	29	0.01	< 10	< 10	7	< 10	20
T911	17.0	1.63	75	10	1.0	28	0.98	4.0	50	214	5142	1.99	10	< 1	0.31	20	0.69	1775	1	0.06	19	360	798	365	11	18	0.09	< 10	50	85	< 10	1728
T912	19.0	1.31	1045	10	1.5	20	2.12	19.5	271	146	• 1.03	0.80	10	10	0.61	30	0.38	1075	12	0.04	44	600	3160	1815	10	28	0.11	< 10	100	33	* 50	1806
T913	* 0.8	1.06	< 5	30	1.0	4	0.14	< 0.5	2	180	194	1.43	10	1	0.63	40	0.04	80	< 1	0.03	22	100	92	5	2	25	0.01	< 10	< 10	8	10	10
T914	0.8	1.18	50	20	1.0	2	0.19	0.5	< 1	187	2674	0.80	10	< 1	0.60	60	0.03	40	4	0.03	10	100	124	80	1	20	<0.01	< 10	< 10	1	< 10	60
T915	30.0	0.90	80	30	1.0	40	5.81	6.0	79	232	• 2.22	1.37	< 10	11	0.44	60	0.04	1800	7	0.03	41	* 200	536	560	2	15	<0.01	< 10	< 10	4	* 50	540
T916	< 0.2	0.89	< 5	80	1.5	6	0.56	< 0.5	< 1	149	216	0.62	10	< 1	0.56	50	0.04	470	< 1	0.03	7	140	6	5	2	14	<0.01	< 10	10	8	< 10	8
T917	< 0.2	0.88	5	40	1.0	10	3.55	< 0.5	2	138	184	0.54	10	< 1	0.58	70	0.04	1185	< 1	0.05	9	100	12	5	2	25	<0.01	< 10	< 10	4	180	6
T918	18.8	0.79	< 5	40	0.5	24	0.33	2.0	7	268	3160	0.97	10	5	0.28	10	0.08	260	6	0.03	13	220	1402	125	3	19	<0.01	< 10	30	23	< 10	184
T919	31.4	1.09	5	20	0.5	20	0.15	< 0.5	4	218	• 1.15	2.82	10	9	0.34	20	0.31	715	4	0.03	26	200	500	25	5	7	<0.01	< 10	< 10	91	* 50	238
T920	< 0.2	0.68	< 5	120	< 0.5	8	0.15	0.5	3	311	86	0.93	10	< 1	0.27	20	0.07	370	4	0.09	21	210	100	10	2	126	0.04	< 10	< 10	6	< 10	42
T921	* 0.8	0.83	< 5	20	0.5	24	0.12	< 0.5	6	165	3006	0.88	10	< 1	0.43	40	0.05	350	4	0.03	17	200	222	20	2	7	<0.01	< 10	< 10	41	< 10	26
T922	1.0	0.96	25	20	1.0	22	0.12	< 0.5	3	128	2451	0.66	10	4	0.55	30	0.05	70	< 1	0.03	5	180	130	30	2	20	<0.01	< 10	< 10	21	< 10	22
T923	* 0.8	1.04	5	10	0.5	8	0.07	< 0.5	1	167	550	0.46	10	5	0.61	30	0.05	65	5	0.03	15	90	248	15	< 1	42	<0.01	< 10	10	18	< 10	22
T924	< 0.2	1.10	40	40	0.5	6	0.20	< 0.5	< 1	148	28	0.71	10	< 1	0.63	50	0.15	105	1	0.03	9	130	354	5	< 1	14	<0.01	< 10	< 10	4	< 10	40
T925	< 0.2	0.90	15	50	0.5	8	1.63	< 0.5	3	242	13	0.87	10	< 1	0.43	50	0.14	290	3	0.03	19	130	130	5	< 1	19	<0.01	< 10	< 10	4	< 10	18
T926	* 0.8	0.80	10	20	< 0.5	8	0.07	< 0.5	3	388	27	0.95	10	5	0.12	10	0.08	100	6	0.04	18	90	884	5	< 1	10	<0.01	< 10	< 10	87	< 10	16
T927	0.2	1.73	20	10	< 0.5	< 2	1.46	< 0.5	7	33	109	3.46	20	3	0.16	10	0.83	435	< 1	0.08	8	520	48	5	10	82	0.38	< 10	< 10	86	< 10	62
T928	< 0.2	1.96	45	< 10	< 0.5	4	1.49	< 0.5	14	30	379	4.96	20	12	0.03	10	1.47	1145	2	0.11	9	1570	44	10	10	49	0.49	< 10	< 10	35	< 10	74
T929	< 0.2	3.61	5	140	< 0.5	4	1.02	< 0.5	34	27	210	7.56	20	< 1	0.73	20	2.51	1220	4	0.13	19	740	18	10	22	60	0.55	< 10	< 10	274	< 10	66
T930	< 0.2	0.32	50	10	< 0.5	40	0.27	< 0.5	10	31	131	1.29	10	< 1	0.07	< 10	0.11	155	1	0.02	4	770	22	5	1	7	0.04	< 10	< 10	18	< 10	8
T931	< 0.2	0.26	2	120	< 0.5	< 2	0.22	< 0.5	6	308	17	1.02	< 10	3	0.14	< 10	0.05	150	4	0.02	11	40	36	14	< 1	10	0.01	< 10	< 10	23	< 10	16
T932	< 0.2	0.25	2	70	< 0.5	< 2	0.02	< 0.5	2	296	14	1.19	< 10	< 1	0.12	< 10	0.02	150	5	0.01	13	230	28	2	< 1	10	0.02	< 10	< 10	28	10	12
T933	0.6	2.00	45	630	< 0.5	< 2	1.58	< 0.5	7	42	20	1.66	10	7	0.46	30	0.59	320	1	0.18	6	520	50	5	2	535	0.13	10	< 10	36	20	64
T934	* 0.8	2.52	10	240	< 0.5	< 2	0.59	< 0.5	2	25	25	2.29	20	6	0.38	40	0.92	260	< 1	0.16	18	720	36	10	6	61	0.17	< 10	< 10	62	< 10	58
T935	* 0.8	2.41	40	360	< 0.5	14	0.52	< 0.5	2	25	30	2.31	20	< 1	0.48	40	0.94	445	< 1	0.14	22	640	16	5	5	59	0.18	< 10	< 10	54	20	50
T936	* 0.8	1.31	15	190	< 0.5	< 2	0.28	< 0.5	4	50	12	1.50	10	4	0.49	40	0.39	345	4	0.45	21	400	48	5	2	29	0.13	< 10	< 10	31	< 10	42
T937	* 0.8	3.61	25	90	< 0.5	< 2	0.09	< 0.5	2	46	19	2.61	10	< 1	0.21	20	0.28	265	< 1	0.13	12	220	42	5	5	20	0.18	< 10	< 10	28	30	58
T938	* 0.8	2.93	5	290	< 0.5	6	0.93	< 0.5	11	45	43	2.77	20	< 1	0.34	50	0.94	625	< 1	0.23	30	840	98	5	7	113	0.15	< 10	< 10	42	30	104
T939	2.6	2.45	65	420	< 0.5	2	0.76	< 0.5	2	97	165	2.26	10	2	0.77	40	0.74	390	< 1	0.19	12	700	500	5	4	215	0.18	< 10	< 10	43	20	56
T940	* 0.8	5.41	40	1500	1.0	< 2	1.44	< 0.5	1	38	18	2.24	30	6	0.39	50	1.34	285	3	0.51	18	250	< 2	15	4	1258	0.22	< 10	< 10	54	20	44
T941	* 0.8	2.57	< 5	460	0.5	2	0.76	< 0.5	3	43	14	1.88	20	2	0.48	40	0.82	315	< 1	0.16	20	600	30	5	3	418	0.17	< 10	< 10	46	< 10	46
T942	0.8	2.69	5	160	< 0.5	4	0.28	< 0.5	12	29	19	2.29	20	4	0.42	30	0.80	275	< 1	0.12	27	250	10	5	5	35	0.18	< 10	< 10	48	10	48
T943	* 0.8	2.75	< 5	70	< 0.5	< 2	0.42	< 0.5	3	68	33	2.41	20	< 1	0.16	20	0.94	450	2	0.14	39	520	4	15	8	40	0.10	< 10	< 10	76	30	52
T944	* 0.8	3.23	10	90	8.5	< 2	1.58	< 0.5	2	56	13	1.21	20	9	1.78	40	0.52	425	< 1	0.09	16	430	38	10	< 1	377	0.05	< 10	< 10	12	< 10	112
T945	< 0.2	1.02	14	70	1.0	< 2	0.64	< 0.5	1	107	22	1.36	10	< 1	0.30	40	0.21	2285	4	0.05	1	170	30	< 2	2	37	0.01	< 10	< 10	9	< 10	192
T946	0.2	1.06	4	60	1.5	< 2	1.93	0.5	< 1	103	24	0.77	10	3	0.40	20	0.10	1025	1	0.03	< 1	90	100	4	1	22	<0.01	< 10	< 10	5	< 10	76
T947	2.0	0.38	48	470	1.5	< 2	0.07	59.0	5	231	1818	2.08	10	< 1	0.14	50	0.02	• 2.20	11	0.01	2	140	422	80	3	107	<0.01	< 10	70	12	< 10	806

APPENDIX D. ANALYSES OF ROCK-CHIP SAMPLES FROM THE ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT BY BONDAR-CLEGG & CO., LTD.
NEUTRON ACTIVATION ANALYSIS METHOD

Element	Detection limit [lower/upper (if applicable)]
Ag (silver)	5 ppm/ -
As (arsenic)	1 ppm/ -
Au (gold)	5 ppb/ -
Ba (barium)	100 ppm/ -
Br (bromine)	1 ppm/ -
Cd (cadmium)	10 ppm/ -
Ce (cerium)	10 ppm/ -
Co (cobalt)	10 ppm/ -
Cr (chromium)	50 ppm/ -
Cs (cesium)	1 ppm/ -
Eu (europium)	2 ppm/ -
Fe (iron)	0.5%/ -
Hf (hafnium)	2 ppm/ -
Ir (iridium)	100 ppb/ -
La (lanthanum)	5 ppm/ -
Lu (lutetium)	0.5 ppm/ -
Mo (molybdenum)	2 ppm/ -
Na (sodium)	0.05%/ -
Ni (nickel)	20 ppm/ -
Rb (rubidium)	10 ppm/ -
Sb (antimony)	0.2 ppm/ -
Sc (scandium)	0.5 ppm/ -
Se (selenium)	10 ppm/ -
Sm (samarium)	0.2 ppm/ -
Sn (tin)	200 ppm/ -
Ta (tantalum)	1 ppm/ -
Tb (terbium)	1 ppm/ -
Te (tellurium)	20 ppm/ -
Th (thorium)	0.5 ppm/ -
U (uranium)	0.5 ppm/ -
W (tungsten)	2 ppm/ -
Yb (ytterbium)	5 ppm/ -
Zn (zinc)	200 ppm/30,000 ppm
Zr (zirconium)	500 ppm

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT
NEUTRON ACTIVATION ANALYSES OF SAMPLES BY BONDAR-CLEGG AND CO., LTD.--Continued

[*, less than; <, less than (lower detection limit elevated due to interference from other elements); >, greater than; #, no result; ^, overlimit result in oz/st, determined by fire assay]

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T001	< 5	11	100	630	< 1	< 10	34	12	150	6	< 2	1.6	2	< 100	19	< 0.5	36	1.40	57	220	4.5	4.2	< 10	2.4	< 200	< 1	< 1	< 20	10.0	14.0	10	< 5	< 200	< 500
T002	< 5	5	1750	1100	< 1	< 10	30	11	340	5	< 2	1.4	2	< 100	15	< 0.5	19	1.00	29	240	3.6	3.4	< 10	1.8	< 200	< 1	< 1	< 20	11.0	15.0	10	< 5	< 200	< 500
T003	8	31	505	600	< 1	< 10	23	< 10	95	4	< 2	1.2	< 2	< 100	10	< 0.5	16	1.90	< 20	110	3.1	3.2	< 10	1.8	< 200	< 1	< 1	< 20	5.2	5.8	4	< 5	< 200	< 500
T004	22	5	32	< 100	< 1	< 10	56	29	94	6	< 2	10.0	5	< 100	26	< 0.5	5	5.16	< 20	87	5.3	4.7	< 10	4.0	< 200	< 1	< 1	< 20	31.0	9.3	269	< 5	< 200	< 500
T005	< 5	2	53	600	< 1	< 10	45	< 10	500	3	< 2	1.5	3	< 100	17	< 0.5	7	0.76	< 20	150	1.0	2.0	< 10	2.3	< 200	< 1	< 1	< 20	9.5	2.3	4	< 5	< 200	< 500
T006	< 5	2	6	160	< 1	< 10	10	< 10	690	1	< 2	1.2	< 2	< 100	< 5	< 0.5	9	< 0.05	< 20	45	0.4	0.8	< 10	0.4	< 200	< 1	< 1	< 20	1.6	1.1	3	< 5	< 200	< 500
T007	6	5	1010	500	< 1	< 10	26	< 10	500	3	< 2	2.0	3	< 100	16	< 0.5	10	0.23	< 20	220	2.2	2.4	< 10	2.0	< 200	< 1	< 1	< 20	10.0	5.8	10	< 5	230	< 500
T008	< 5	7	13	1600	< 1	< 10	95	11	270	8	< 2	4.0	6	< 100	44	0.6	3	0.90	< 20	400	3.3	8.8	< 10	6.9	< 200	< 1	1	< 20	20.0	2.6	10	< 5	< 200	< 500
T009	< 5	7	588	770	< 1	< 10	35	< 10	490	4	< 2	1.6	3	< 100	20	< 0.5	7	0.47	< 20	210	3.3	3.2	< 10	2.8	< 200	< 1	< 1	< 20	11.0	1.6	10	< 5	< 200	< 500
T010	< 5	10	35	1100	< 1	< 10	67	< 10	360	6	< 2	2.1	5	< 100	36	< 0.5	4	1.40	< 20	380	4.3	5.0	< 10	4.9	< 200	2	< 1	< 20	20.0	3.1	8	< 5	< 200	< 500
T011	< 5	13	9	1500	< 1	< 10	55	< 10	250	5	< 2	2.2	6	< 100	37	< 0.5	2	1.70	< 20	320	4.6	4.6	< 10	4.7	< 200	2	< 1	< 20	22.0	3.4	6	< 5	< 200	< 500
T012	21	14	536	890	< 1	< 10	63	< 10	240	5	< 2	2.9	5	< 100	32	< 0.5	6	1.70	29	280	4.8	6.0	< 10	4.8	< 200	1	< 1	< 20	17.0	19.0	8	< 5	370	< 500
T013	14	5	626	1100	< 1	< 10	34	< 10	310	4	< 2	1.6	2	< 100	17	< 0.5	7	0.53	21	240	2.8	2.5	< 10	2.3	< 200	< 1	< 1	< 20	10.0	4.3	8	< 5	270	< 500
T014	100	3	7640	1500	2	< 10	22	< 10	450	3	< 2	1.9	< 2	< 100	12	< 0.5	19	0.09	< 20	190	1.4	2.4	< 10	1.8	< 200	< 1	< 1	< 20	3.9	8.0	15	< 5	550	< 500
T015	< 5	6	3920	780	< 1	< 10	24	< 10	290	4	< 2	3.0	3	< 100	19	< 0.5	23	0.12	< 20	350	3.0	3.4	< 10	2.4	< 200	1	< 1	< 20	9.4	3.0	14	< 5	240	< 500
T016	< 5	10	15	1000	< 1	< 10	84	< 10	180	5	< 2	2.7	5	< 100	37	0.5	< 2	0.88	< 20	160	3.8	9.0	< 10	6.9	< 200	1	< 1	< 20	15.0	3.8	16	< 5	< 200	< 500
T017	44	3	4780	< 100	< 1	< 10	10	< 10	530	< 1	< 2	1.4	< 2	< 100	< 5	< 0.5	30	< 0.05	< 20	33	1.8	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	1.7	5.8	19	< 5	< 200	< 500
T018	44	* 3	25	890	13	* 56	42	< 10	740	< 1	< 2	2.2	130	< 100	< 5	3.3	86	0.06	< 20	35	< 0.2	< 0.5	< 10	3.1	* 810	< 1	< 1	* 75	* 1.7	2.9	>2000	< 5	< 200	5200
T019	< 5	1	8	< 100	< 1	< 10	10	< 10	650	< 1	< 2	1.8	< 2	< 100	< 5	< 0.5	56	< 0.05	< 20	41	0.6	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	1.2	3.3	71	< 5	< 200	< 500
T020	10	< 1	12	510	< 1	< 10	10	< 10	520	4	< 2	2.6	9	< 100	7	< 0.5	150	< 0.05	< 20	260	1.1	2.1	< 10	1.3	< 200	< 1	< 1	< 20	3.5	6.7	1280	< 5	< 200	< 500
T021	< 5	< 1	17	410	< 1	< 10	26	< 10	510	5	< 2	1.8	5	< 100	17	< 0.5	59	1.00	< 20	260	0.4	2.1	< 10	2.4	< 200	1	< 1	< 20	10.0	6.3	507	< 5	< 200	< 500
T022	< 5	2	10	700	< 1	< 10	10	< 10	190	7	< 2	3.3	< 2	< 100	6	< 0.5	87	1.70	< 20	440	0.4	13.0	< 10	1.3	< 200	1	< 1	< 20	7.5	8.0	59	< 5	< 200	< 500
T023	< 5	6	56	330	< 1	< 10	30	< 10	520	5	< 2	3.3	3	< 100	10	< 0.5	9	1.20	< 20	200	1.1	2.5	< 10	2.2	< 200	2	< 1	< 20	9.0	4.6	255	< 5	< 200	< 500
T024	< 5	1	140	110	< 1	< 10	16	< 10	590	1	< 2	1.0	< 2	< 100	7	< 0.5	11	< 0.05	< 20	110	1.6	0.8	< 10	1.1	< 200	< 1	< 1	< 20	4.5	0.7	8	< 5	< 200	< 500
T025	10	1	2060	480	< 1	< 10	48	< 10	420	4	< 2	1.0	3	< 100	18	< 0.5	16	0.41	< 20	330	1.3	1.9	< 10	3.1	< 200	2	< 1	< 20	15.0	2.3	30	< 5	< 200	< 500
T026	16	5	^ 0.553	410	< 1	< 10	33	< 10	410	4	< 2	2.4	4	< 100	20	< 0.5	74	0.10	< 20	330	3.0	1.8	< 10	3.2	< 200	1	< 1	< 20	15.0	10.0	79	< 5	390	< 500
T027	8	2	180	440	< 1	< 10	42	< 10	450	3	< 2	1.2	< 2	< 100	18	< 0.5	17	0.28	< 20	330	1.2	1.8	< 10	3.0	< 200	1	< 1	< 20	14.0	2.6	18	< 5	260	< 500
T028	9	< 1	140	250	< 1	< 10	27	< 10	440	5	< 2	4.1	6	< 100	20	< 0.5	170	0.09	< 20	320	1.4	4.7	< 10	3.4	< 200	2	< 1	< 20	8.8	6.6	905	< 5	< 200	< 500
T029	< 5	5	19	120	< 1	< 10	10	< 10	540	< 1	< 2	8.2	< 2	< 100	< 5	< 0.5	617	< 0.05	< 20	12	1.0	0.8	14	0.7	< 200	< 1	< 1	< 20	1.4	1.5	11	< 5	< 200	< 500
T030	10	3	99	510	1	< 10	49	11	350	4	< 2	6.4	4	< 100	28	< 0.5	294	0.39	< 20	150	2.8	4.0	< 10	4.7	< 200	< 1	1	< 20	14.0	4.8	30	< 5	< 200	< 500
T031	49	4	410	710	1	< 10	26	< 10	410	< 1	< 2	4.5	< 2	< 100	12	< 0.5	528	0.19	< 20	28	1.1	1.4	11	1.8	< 200	< 1	< 1	< 20	4.7	12.0	11	< 5	< 200	< 500
T032	< 5	2	38	1000	< 1	< 10	66	13	240	5	< 2	3.6	5	< 100	37	< 0.5	11	0.75	< 20	250	1.2	5.4	< 10	5.7	< 200	1	< 1	< 20	18.0	5.0	27	< 5	220	< 500
T033	< 5	1	73	1300	< 1	< 10	57	< 10	200	4	< 2	2.9	5	< 100	32	< 0.5	8	3.20	< 20	110	0.7	4.5	< 10	3.4	< 200	2	< 1	< 20	12.0	2.9	7	< 5	< 200	< 500
T034	23	14	280	640	1	< 10	32	26	160	4	< 2	>10.0	15	< 100	36	< 0.5	205	1.00	< 20	< 10	3.3	4.2	< 10	4.4	< 200	< 1	< 1	< 20	7.5	13.0	1730	< 5	270	< 500
T035	>100	9	5980	2200	5	< 10	75	11	160	9	< 2	>10.0	8	< 100	62	< 0.5	110	0.52	32	95	42.3	7.0	< 10	6.4	< 200	1	< 1	< 20	14.0	32.0	833	< 5	250	< 500
T036	94	4	^ 0.286	2200	7	< 10	55	< 10	240	9	< 2	4.7	2	< 100	24	< 0.5	15	1.40	< 20	160	4.3	13.0	< 10	4.3	< 200	< 1	< 1	< 20	8.1	6.4	< 2	< 5	330	< 500
T037	< 5	58	1120	770	1	< 10	98	37	230	7	< 2	8.7	4	< 100	45	< 0.5	8	1.10	26	240	3.7	7.4	< 10	7.0	< 200	1	< 1	< 20	15.0	6.6	10	< 5	< 200	< 500
T038	>100	3	1800	1900	< 1	< 10	46	< 10	350	7	< 2	3.9	3	< 100	22	< 0.5	47	1.00	< 20	210	6.0	2.5	< 10	3.0	< 200	< 1	< 1	< 20	5.4	5.5	14	< 5	< 200	< 500
T039	>100	3	966	1500	< 1	< 10	36	17	250	6	< 2	7.2	3	< 100	20	< 0.5	110	0.60	< 20	130	8.1	2.6	< 10	2.9	< 200	< 1	< 1	< 20	4.7	3.2	8	< 5	220	< 500
T040	< 5	5	68	990	< 1	< 10	53	< 10	120	9	< 2	2.0	4	< 100	33	< 0.5	54	1.30	< 20	260	21.3	3.0	< 10	4.4	< 200	< 1	< 1	< 20	6.5	3.3	19	< 5	< 200	< 500
T041	12	4	37	1400	< 1	< 10	38	< 10	250	15	< 2	1.7	3	< 100	20	< 0.5	5	2.10	< 20	220	3.8	3.6	< 10	2.5	< 200	< 1	< 1	< 20	3.7	2.0	29	< 5	< 200	< 500
T042	8	2	48	1400	< 1	< 10	73	< 10	180	10	< 2	3.0	3	< 100	34	< 0.5	20	2.40	< 20	270	1.8	3.6	< 10	4.0	< 200	2	< 1	< 20	8.1	4.1	16	< 5	< 200	< 500
T043	< 5	2	59	1900	< 1	< 10	59	11	200	18	< 2	3.3	3	< 100	32	< 0.5	15	1.90	39	330	2.4	5.3	< 10	4.3	< 200	< 1	< 1	< 20	6.7	2.9	73	< 5	210	560
T044	>100	3	3840	2000	2	< 10	19	13	360	9	< 2	8.6	3	< 100	18	< 0.5	415	0.25	22	180	6.7	3.8	< 10	2.5	< 200	< 1	< 1	< 20	2.8	12.0	180	< 5	< 200	< 500
T045	< 5	6	< 5	1500	< 1	< 10	52	< 10	360	5	< 2	1.6	5	< 100	27	< 0.5	5	1.80	< 20	150	3.8	3.3	< 10	3.5	< 200	1	< 1	< 20	21.0	3.0	4	< 5	< 200	< 500
T046	>100	41	519	1400	5	< 10	40	< 10	370	7	< 2	2.2	< 2	< 100	19	< 0.5	8	0.19	< 20	150	120.0	3.6	< 10	3.0	< 200	< 1	< 1	< 20	11.0	3.9	4	< 5	280	< 500
T047	89	796	170	>20000	4	< 10	31	< 10	430	< 1	< 2	1.2	< 2	< 100	8	1.6	67	0.36	< 20	* 34	754.0	0.6	< 10	1.4	* 960	< 1	< 1	* 66	4.9	3.9	< 2	14	< 200	< 500
T048	< 5	2	593	>20000	< 1	< 10	10	< 10	650	< 1	< 2	0.7	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	14	6.2	< 0.5	< 10	0.2	< 200	< 1	< 1	< 20	0.6	< 0.5	3	< 5	< 200	< 500
T049	>100	138	9620	1000	12	* 28	45	20	560	< 1	< 2	6.4	* 4	< 100	9	< 0.5	26	* 0.16	62	* 42	1010.0	0.9	* 27	1.7	* 1200	< 1	< 1	* 79	* 2.0	13.0	13	16	2100	* 1100
T050	77	29	^ 0.368	130	6	< 10	10	< 10	540	1	< 2	2.5	< 2	< 100	< 5	< 0.5	19	< 0.05	< 20	26	185.0	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	2.2	2.5	< 2	< 5	1100	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T051	67	80	1270	740	16	* 24	38	< 10	470	4	< 2	2.3	< 2	< 100	23	1.3	12	* 0.13	< 20	250	800.0	3.2	* 22	3.5	* 1000	< 1	< 1	* 69	16.0	14.0	12	18	410	< 500
T052	13	10	58	870	3	< 10	68	< 10	210	6	< 2	2.3	5	< 100	35	< 0.5	< 2	0.06	30	330	53.0	4.6	< 10	5.1	< 200	1	< 1	< 20	20.0	5.2	11	< 5	350	< 500
T053	>100	312	4270	* 300	46	* 31	39	< 10	700	< 1	< 2	6.5	* 4	< 100	8	2.8	22	0.20	* 43	* 40	2170.0	< 0.5	* 28	2.1	* 1200	< 1	< 1	* 85	* 2.1	36.0	* 8	48	830	* 1400
T054	>100	116	1650	< 100	7	* 24	32	< 10	410	4	< 2	1.5	< 2	< 100	18	< 0.5	20	* 0.12	< 20	130	880.0	1.0	< 10	2.6	* 1000	< 1	< 1	* 69	8.4	60.9	8	21	760	< 500
T055	9	30	350	1000	7	< 10	32	< 10	350	5	< 2	2.0	< 2	< 100	23	< 0.5	5	0.08	< 20	300	174.0	2.7	< 10	3.3	< 200	< 1	< 1	< 20	18.0	4.9	5	5	430	< 500
T056	>100	136	1870	* 260	9	54	39	< 10	220	< 1	< 2	4.4	< 2	< 100	16	< 0.5	53	* 0.12	* 42	* 36	856.0	< 0.5	* 23	2.3	* 1000	< 1	< 1	* 69	* 1.8	68.0	* 5	23	4300	< 500
T057	11	9	120	700	2	< 10	48	< 10	130	14	< 2	1.9	3	< 100	26	0.6	< 2	0.19	< 20	300	66.5	3.5	< 10	3.8	< 200	< 1	< 1	< 20	19.0	4.5	4	< 5	810	< 500
T058	< 5	22	260	900	4	< 10	56	< 10	250	6	< 2	1.9	5	< 100	29	0.6	3	0.06	< 20	350	130.0	3.3	< 10	4.0	< 200	< 1	< 1	< 20	18.0	4.1	5	5	640	< 500
T059	20	26	360	320	6	< 10	10	< 10	350	5	< 2	1.7	< 2	< 100	19	< 0.5	4	< 0.05	< 20	210	171.0	2.6	< 10	2.5	< 200	< 1	< 1	< 20	11.0	3.3	7	< 5	380	< 500
T060	>100	195	^ 0.477	< 100	12	40	32	14	560	< 1	< 2	3.5	< 2	< 100	14	< 0.5	89	* 0.11	48	* 34	766.0	< 0.5	< 10	1.2	* 960	< 1	< 1	* 66	* 1.7	43.0	8	16	5400	< 500
T061	>100	343	2400	* 1600	* 25	* 170	240	* 37	* 870	* 7	* 16	* 2.1	* 24	* 830	* 17	* 5.8	* 39	* 1.10	* 230	* 200	>5000.0	* 2.6	* 170	* 5.7	* 6800	* 6	* 4	* 480	* 12.0	* 24.0	* 36	* 270	* 5300	* 5600
T062	>100	524	2710	< 100	203	* 68	140	< 10	* 410	* 2	* 9	6.1	* 12	* 350	9	8.4	19	1.00	* 76	86	2420.0	* 1.1	* 63	0.6	* 2100	< 1	< 1	* 210	6.6	50.0	18	52	2000	* 1800
T063	>100	71	5060	310	11	< 10	27	< 10	430	< 1	< 2	4.0	< 2	< 100	18	< 0.5	35	< 0.05	29	64	333.0	< 0.5	< 10	2.2	* 630	< 1	< 1	* 47	3.9	11.0	12	7	450	< 500
T064	21	21	571	< 100	5	< 10	10	< 10	560	< 1	< 2	0.9	< 2	< 100	< 5	< 0.5	8	< 0.05	< 20	16	105.0	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	0.8	0.8	< 2	< 5	< 200	< 500
T065	< 5	5	37	< 100	2	< 10	10	< 10	630	2	< 2	1.0	< 2	< 100	< 5	< 0.5	8	< 0.05	< 20	33	18.0	1.0	< 10	0.6	< 200	< 1	< 1	< 20	2.1	0.5	6	< 5	< 200	< 500
T066	>100	54	5710	180	17	< 10	44	< 10	670	1	< 2	2.7	< 2	< 100	9	< 0.5	20	< 0.05	< 20	32	227.0	< 0.5	< 10	0.9	< 200	< 1	< 1	< 20	< 0.5	6.5	8	< 5	480	< 500
T067	24	8	1400	< 100	3	< 10	10	< 10	580	< 1	< 2	1.7	< 2	< 100	< 5	< 0.5	14	< 0.05	< 20	21	20.4	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	0.8	0.6	2	< 5	< 200	< 500
T068	8	18	2470	< 100	6	< 10	18	< 10	580	< 1	< 2	1.7	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	33	61.5	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	1.3	3.3	4	< 5	240	< 500
T069	6	18	647	580	7	< 10	80	< 10	430	5	< 2	1.8	3	< 100	33	< 0.5	5	0.09	< 20	210	62.8	3.0	< 10	4.2	< 200	< 1	< 1	< 20	16.0	3.6	18	< 5	570	< 500
T070	>100	746	5660	* 700	* 258	* 84	140	< 10	* 560	* 3	* 8	* 3.7	* 11	* 340	* 20	* 2.9	* 68	* 1.20	* 96	* 76	4090.0	< 0.5	* 80	* 5.4	* 2800	< 1	< 1	* 190	* 5.4	* 14.0	* 32	* 86	* 1100	* 1800
T071	< 5	53	986	400	20	< 10	27	< 10	380	5	< 2	2.1	< 2	< 100	17	0.6	4	0.09	< 20	210	227.0	2.5	< 10	2.6	< 200	< 1	< 1	< 20	10.0	2.3	8	8	300	< 500
T072	< 5	13	87	< 100	2	< 10	10	< 10	710	1	< 2	0.9	< 2	< 100	< 5	< 0.5	13	< 0.05	< 20	15	9.4	0.7	< 10	0.4	< 200	< 1	< 1	< 20	0.9	< 0.5	4	< 5	< 200	< 500
T073	81	92	3260	230	44	* 25	25	< 10	180	2	< 2	1.1	< 2	< 100	7	< 0.5	40	< 0.05	< 20	110	390.0	1.2	< 10	1.0	* 860	< 1	< 1	* 61	5.8	3.8	7	< 5	710	< 500
T074	7	8	210	840	3	< 10	68	< 10	170	9	< 2	1.9	6	< 100	34	< 0.5	3	0.08	< 20	370	20.0	4.9	< 10	3.8	< 200	1	1	< 20	19.0	3.9	12	< 5	220	< 500
T075	39	59	3390	< 100	27	< 10	42	< 10	570	1	< 2	1.9	< 2	< 100	< 5	< 0.5	30	< 0.05	< 20	50	218.0	0.9	< 10	0.3	< 200	< 1	< 1	< 20	2.4	4.0	9	< 5	310	< 500
T076	9	20	1310	390	7	< 10	43	< 10	290	5	< 2	2.0	< 2	< 100	19	< 0.5	9	< 0.05	< 20	220	64.5	2.7	< 10	2.7	< 200	< 1	< 1	< 20	12.0	3.0	10	< 5	330	< 500
T077	< 5	4	140	< 100	1	< 10	10	< 10	610	< 1	< 2	1.0	< 2	< 100	< 5	< 0.5	8	< 0.05	< 20	37	8.3	0.5	< 10	0.4	< 200	< 1	< 1	< 20	2.0	< 0.5	4	< 5	< 200	< 500
T078	23	55	2660	< 100	19	< 10	16	< 10	360	2	< 2	2.4	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	34	188.0	0.7	< 10	< 0.2	< 200	< 1	< 1	< 20	2.0	10.0	12	< 5	440	< 500
T079	8	19	2680	400	4	< 10	18	< 10	400	3	< 2	1.9	2	< 100	15	< 0.5	19	< 0.05	< 20	170	33.3	2.0	< 10	2.2	< 200	< 1	< 1	< 20	9.1	2.8	5	< 5	220	< 500
T080	< 5	5	110	960	2	< 10	89	< 10	140	6	< 2	2.4	7	< 100	40	< 0.5	< 2	0.12	< 20	430	11.0	4.6	< 10	5.1	< 200	2	< 1	< 20	25.0	4.2	10	< 5	340	< 500
T081	16	106	6520	< 100	31	< 10	27	10	450	4	< 2	3.5	< 2	< 100	15	< 0.5	44	< 0.05	< 20	160	293.0	2.1	* 20	1.6	* 710	< 1	< 1	< 20	8.2	11.0	16	< 5	570	< 500
T082	>100	98	5860	< 100	52	* 22	20	< 10	550	< 1	< 2	3.6	< 2	< 100	< 5	< 0.5	74	< 0.05	44	< 10	376.0	< 0.5	< 10	< 0.2	* 480	< 1	< 1	< 20	* 1.4	10.0	10	6	890	< 500
T083	14	61	6120	< 100	18	< 10	65	< 10	600	< 1	< 2	1.8	< 2	< 100	< 5	< 0.5	23	< 0.05	< 20	39	180.0	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	3.3	2.6	6	< 5	230	< 500
T084	52	367	^ 0.281	* 490	117	* 60	99	< 10	350	* 2	* 5	4.1	* 7	* 240	< 5	* 2.0	160	0.25	* 66	* 53	1350.0	< 0.5	* 54	* 0.5	* 1900	2	< 1	* 130	* 3.5	14.0	14	29	1200	* 1300
T085	16	39	2570	220	13	< 10	63	< 10	520	5	< 2	2.8	5	< 100	24	0.5	7	< 0.05	< 20	190	121.0	4.3	< 10	3.5	< 200	< 1	< 1	< 20	11.0	3.9	12	< 5	340	< 500
T086	49	25	3850	250	12	< 10	46	< 10	390	4	< 2	1.8	5	< 100	22	< 0.5	6	0.06	24	190	73.3	2.7	< 10	3.1	< 200	< 1	< 1	< 20	12.0	2.0	7	< 5	220	< 500
T087	< 5	12	340	270	5	< 10	46	< 10	490	4	< 2	1.8	< 2	< 100	18	< 0.5	7	< 0.05	< 20	180	26.8	4.0	< 10	2.3	< 200	< 1	< 1	< 20	7.6	2.7	7	< 5	300	< 500
T088	< 5	3	200	120	< 1	< 10	10	< 10	550	< 1	< 2	0.8	< 2	< 100	< 5	< 0.5	7	< 0.05	< 20	19	12.0	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	1.0	< 0.5	3	< 5	< 200	< 500
T089	7	9	68	250	2	< 10	20	< 10	590	1	< 2	1.2	< 2	< 100	10	< 0.5	8	< 0.05	< 20	77	58.2	2.0	< 10	1.4	< 200	< 1	< 1	< 20	3.7	1.5	5	< 5	< 200	< 500
T090	< 5	6	280	150	2	< 10	30	< 10	510	7	< 2	1.5	< 2	< 100	13	< 0.5	6	< 0.05	< 20	150	37.1	2.8	< 10	2.0	< 200	< 1	< 1	< 20	7.7	2.0	10	< 5	< 200	< 500
T091	< 5	5	< 5	780	< 1	< 10	63	< 10	210	7	< 2	2.1	5	< 100	32	< 0.5	2	0.06	20	300	8.9	4.1	< 10	4.8	< 200	1	< 1	< 20	20.0	4.4	10	< 5	270	< 500
T092	42	47	1260	270	18	< 10	50	< 10	370	3	< 2	2.3	< 2	< 100	11	0.8	44	< 0.05	< 20	120	163.0	2.1	< 10	1.5	< 200	< 1	< 1	< 20	5.6	3.8	10	< 5	410	< 500
T093	>100	158	2480	1100	64	< 10	26	< 10	430	< 1	< 2	1.1	< 2	< 100	< 5	< 0.5	75	< 0.05	56	< 10	567.0	< 0.5	< 10	< 0.2	* 950	< 1	< 1	* 62	* 1.7	7.3	7	8	280	< 500
T094	34	43	3500	270	16	< 10	26	< 10	350	4	< 2	1.4	< 2	< 100	7	< 0.5	5	< 0.05	< 20	100	157.0	1.5	< 10	1.0	< 200	< 1	< 1	< 20	5.9	3.1	6	< 5	< 200	< 500
T095	< 5	13	68	590	5	< 10	90	< 10	< 50	12	< 2	3.4	5	< 100	40	< 0.5	< 2	0.08	< 20	450	29.6	8.3	< 10	5.6	< 200	< 1	< 1	< 20	18.0	8.6	14	< 5	340	< 500
T096	< 5	27	877	240	11	< 10	40	< 10	380	3	< 2	1.4	< 2	< 100	21	< 0.5	5	< 0.05	< 20	99	96.5	1.8	< 10	2.6	< 200	< 1	< 1	< 20	5.9	1.5	8	< 5	220	< 500
T097	45	49	3800	240	19	< 10	29	< 10	570	1	< 2	2.4	< 2	< 100	18	< 0.5	13	< 0.05	< 20	40	179.0	0.9	< 10	1.9	< 200	< 1	< 1	< 20	3.4	5.2	27	6	1100	< 500
T098	< 5	11	390	740	4	< 10	55	< 10	220	7	< 2	1.9	4	< 100	30	< 0.5	73	0.14	< 20	310	29.9	3.3	< 10	3.4	< 200	< 1	< 1	< 20	16.0	2.7	9	< 5	310	< 500
T099	31	19	579	< 100	8	< 10	45	< 10	320	7	< 2	1.6	3	< 100	19	< 0.5	14	0.10	< 20	220	60.9	2.3	< 10	2.3	< 200	< 1	< 1	< 20	11.0	2.7	10	< 5	< 200	< 500
T100	10	59	1770	< 100	26	< 10	22	< 10	510	1	< 2	1.5	< 2	< 100	< 5	< 0.5	11	< 0.05	< 20	< 10	232.0	< 0.5	< 10	0.2	< 200	< 1	< 1	< 20	* 1.2	2.3	8	< 5	350	< 500
T101	14	25	37	590	6	< 10	46	< 10	150	5	< 2	2.0	< 2	< 100	29	< 0.5	< 2	0.07	< 20	290	64.5	2.5	< 10	3.4	< 200	1	< 1	< 20	14.0	2.9	8	< 5	290	< 500
T102	>100	709	9830	* 1000	* 334	* 120	230	* 22	* 620	* 4	* 13	* 2.6	* 18	* 560	< 5	* 4.9	* 65	* 0.86	* 140	* 110	3970.0	* 1.7	* 110	* 2.5	* 4000	* 3	* 2	* 320	* 7.2	* 8.4	* 39	* 100	* 1400	* 2900
T103	< 5	159	1780	* 310	63	* 34	61	< 10	* 170	< 1	< 2	2.8	* 5	< 100	11	* 1.2	37	< 0.05	47	89	631.0	0.9	* 32	0.9	* 1200	< 1	< 1	* 84	7.2	10.0	8	17	960	< 500
T104	8	8	12	1400	< 1	< 10	180	44	180	7	< 2	6.0	8	< 100	74	< 0.5	< 2	0.69	75	110	5.8	17.0	< 10	7.3	< 200	1	1	< 20	18.0	7.9	< 2	< 5	570	< 500
T105	16	14	170	1600	3	< 10	19	< 10	320	8	2	3.4	< 2	< 100	15	< 0.5	6	< 0.05	49	100	40.9	2.1	< 10	1.2	< 200	< 1	< 1	< 20	4.5	3.9	5	< 5	< 200	< 500
T106	< 5	18	180	360	6	< 10	55	< 10	230	5	< 2	1.7	3	< 100	34	< 0.5	3	0.06	< 20	290	65.4	3.0	< 10	4.1	< 200	< 1	< 1	< 20	12.0	2.1	5	< 5	< 200	< 500
T107	>100	276	1320	780	68	* 33	62	< 10	440	< 1	< 2	1.4	* 5	< 100	< 5	* 1.2	32	< 0.05	* 48	* 37	809.0	0.5	* 36	0.4	* 1300	< 1	< 1	* 82	* 2.4	12.0	* 4	22	520	< 500
T108	>100	988	2130	* 690	* 553	* 83	170	< 10	* 360	* 3	* 7	* 3.4	* 11	* 340	* 12	* 2.9	* 54	* 1.20	* 95	* 74	4490.0	< 0.5	* 77	* 1.2	* 2700	< 1	< 1	* 180	* 5.0	* 34.0	* 63	* 85	* 1200	* 1900

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T109	45	165	240	* 290	62	* 32	53	< 10	180	7	< 2	1.9	* 4	< 100	26	* 1.0	9	< 0.05	* 42	230	579.0	3.3	* 30	3.2	* 1100	< 1	< 1	* 71	16.0	10.0	7	10	970	< 500
T110	< 5	8	81	800	2	< 10	71	< 10	130	13	< 2	2.3	4	< 100	37	< 0.5	< 2	0.10	< 20	340	17.0	6.2	< 10	3.9	< 200	1	< 1	< 20	20.0	3.2	6	< 5	250	< 500
T111	>100	338	987	* 370	72	* 37	92	< 10	* 210	4	6	3.7	* 6	< 100	20	* 1.5	69	< 0.05	* 56	140	870.0	1.2	* 40	0.8	* 1400	< 1	< 1	* 100	16.0	36.0	* 6	24	1200	* 1100
T112	36	154	380	660	39	< 10	54	22	160	6	< 2	1.8	< 2	< 100	10	< 0.5	20	0.06	< 20	120	458.0	1.8	* 25	1.2	* 900	< 1	< 1	* 58	8.4	16.0	6	11	880	960
T113	66	68	^ 3.300	280	18	* 22	* 59	< 10	400	2	< 2	>10.0	< 2	< 100	9	* 1.1	* 8	< 0.05	< 20	72	235.0	1.1	* 25	0.9	* 870	< 1	< 1	* 72	4.1	5.5	< 2	< 5	290	< 500
T114	< 5	12	11	1500	< 1	< 10	95	26	< 50	14	3	7.4	5	< 100	38	< 0.5	2	2.20	< 20	380	14.0	18.0	< 10	5.5	< 200	< 1	< 1	< 20	9.4	3.4	5	< 5	520	< 500
T115	>100	51	8340	630	18	< 10	* 29	< 10	400	4	< 2	2.9	< 2	< 100	14	0.8	19	< 0.05	< 20	110	201.0	1.2	< 10	1.3	* 490	< 1	< 1	* 44	5.3	4.1	< 2	7	670	< 500
T116	16	8	27	3100	2	< 10	66	12	430	12	< 2	3.6	4	< 100	24	< 0.5	150	0.08	< 20	390	13.0	11.0	< 10	3.6	< 200	< 1	< 1	< 20	11.0	7.6	17	< 5	200	< 500
T117	18	15	892	1000	5	< 10	86	12	260	8	2	2.5	7	< 100	31	< 0.5	42	0.76	< 20	330	47.6	5.5	< 10	4.2	< 200	1	< 1	< 20	19.0	15.0	13	< 5	320	< 500
T118	< 5	5	130	1000	2	< 10	71	< 10	170	20	< 2	2.0	3	< 100	37	< 0.5	5	0.11	< 20	380	6.0	5.8	< 10	4.9	< 200	1	< 1	< 20	19.0	5.9	10	< 5	< 200	< 500
T119	6	5	9	860	3	< 10	83	< 10	200	11	< 2	1.8	6	< 100	36	0.5	4	0.13	< 20	320	6.6	5.6	< 10	5.1	< 200	< 1	< 1	< 20	20.0	4.5	11	< 5	< 200	< 500
T120	7	8	42	1200	2	< 10	74	< 10	200	8	< 2	2.4	4	< 100	36	< 0.5	9	1.70	< 20	370	11.0	8.2	< 10	4.0	< 200	< 1	< 1	< 20	10.0	6.2	4	< 5	330	< 500
T121	< 5	2	430	< 100	< 1	< 10	10	< 10	540	< 1	< 2	0.9	< 2	< 100	< 5	< 0.5	6	< 0.05	< 20	24	2.0	< 0.5	< 10	0.2	< 200	< 1	< 1	< 20	1.8	0.8	3	< 5	< 200	< 500
T122	>100	132	6970	< 100	11	< 10	33	< 10	490	3	< 2	2.6	< 2	< 100	15	< 0.5	39	< 0.05	< 20	100	77.9	< 0.5	< 10	0.9	< 200	< 1	< 1	< 20	6.9	21.0	< 2	< 5	< 200	< 500
T123	49	53	1940	< 100	6	< 10	10	< 10	430	1	< 2	2.4	< 2	< 100	< 5	< 0.5	75	< 0.05	< 20	21	45.6	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	2.9	10.0	3	< 5	< 200	< 500
T124	< 5	16	87	590	3	< 10	69	< 10	270	12	< 2	2.2	5	< 100	36	< 0.5	5	0.09	< 20	310	14.0	6.2	< 10	4.1	< 200	< 1	< 1	< 20	20.0	5.6	8	< 5	260	< 500
T125	13	9	43	480	2	< 10	60	< 10	390	7	< 2	1.7	5	< 100	22	< 0.5	19	0.07	< 20	240	15.0	4.4	< 10	2.9	< 200	< 1	< 1	< 20	14.0	3.4	8	< 5	< 200	< 500
T126	15	30	180	440	2	< 10	51	< 10	370	7	< 2	2.1	3	< 100	20	< 0.5	27	< 0.05	< 20	230	13.0	3.6	< 10	2.6	< 200	< 1	< 1	< 20	11.0	3.8	10	< 5	< 200	< 500
T127	< 5	4	44	190	< 1	< 10	20	< 10	550	3	< 2	1.2	< 2	< 100	10	< 0.5	12	< 0.05	< 20	100	4.0	2.0	< 10	1.4	< 200	< 1	< 1	< 20	6.3	1.4	5	< 5	< 200	< 500
T128	10	7	60	1100	2	< 10	76	< 10	160	14	< 2	2.5	6	< 100	36	< 0.5	< 2	0.51	< 20	390	12.0	6.6	< 10	5.3	< 200	2	< 1	< 20	20.0	4.9	10	< 5	300	< 500
T129	< 5	10	180	1500	2	< 10	85	< 10	180	12	< 2	2.1	5	< 100	43	< 0.5	2	0.55	< 20	330	11.0	6.8	< 10	5.4	< 200	1	< 1	< 20	27.0	3.8	6	< 5	290	< 500
T130	10	93	^ 0.914	200	2	< 10	37	< 10	290	13	< 2	3.5	< 2	< 100	22	< 0.5	< 2	0.05	< 20	210	8.0	2.8	< 10	1.2	* 910	< 1	< 1	< 20	11.0	27.0	7	< 5	1300	< 500
T131	< 5	14	^ 0.379	570	< 1	< 10	87	< 10	390	6	< 2	2.5	4	< 100	30	0.6	6	0.51	< 20	250	9.5	3.3	< 10	3.0	< 200	< 1	< 1	< 20	13.0	5.7	4	< 5	620	< 500
T132	< 5	8	2880	610	< 1	< 10	68	< 10	160	11	< 2	2.2	5	< 100	35	< 0.5	2	0.16	23	330	5.9	5.2	< 10	3.5	< 200	< 1	< 1	< 20	15.0	6.2	5	< 5	320	< 500
T133	27	59	7560	480	7	10	* 21	< 10	410	1	< 2	2.2	< 2	< 100	< 5	< 0.5	19	< 0.05	< 20	44	69.0	< 0.5	< 10	* 0.4	* 310	< 1	< 1	* 27	1.8	11.0	6	< 5	960	< 500
T134	29	30	300	450	9	< 10	89	12	260	8	< 2	3.0	6	< 100	39	< 0.5	225	0.12	29	460	111.0	6.6	< 10	4.8	< 200	< 1	< 1	< 20	10.0	6.1	32	< 5	690	< 500
T135	47	56	3630	610	27	< 10	21	< 10	420	2	< 2	3.0	< 2	< 100	6	< 0.5	21	< 0.05	< 20	86	221.0	< 0.5	< 10	* 0.5	< 200	< 1	< 1	< 20	5.3	17.0	4	< 5	760	< 500
T136	>100	845	^ 0.543	650	107	* 45	* 59	< 10	290	< 1	* 6	2.6	* 6	* 200	17	* 2.0	295	* 1.00	* 50	120	480.0	0.8	* 27	0.7	* 1000	< 1	< 1	* 100	6.5	43.0	* 14	27	850	< 500
T137	>100	186	4380	520	43	* 28	* 58	< 10	230	2	< 5	5.3	< 5	< 100	20	< 0.5	40	* 0.14	* 46	110	511.0	2.0	* 22	1.7	* 850	< 1	< 1	* 78	6.1	19.0	10	12	1200	< 500
T138	>100	75	2440	< 100	63	< 10	71	< 10	220	6	< 2	4.1	< 2	< 100	29	0.6	8	< 0.05	< 20	230	217.0	3.0	< 10	2.8	* 550	2	< 1	< 50	13.0	10.0	15	9	760	< 500
T139	< 5	12	490	700	1	< 10	85	< 10	130	6	< 2	2.0	5	< 100	37	0.7	3	0.10	< 20	390	17.0	4.1	< 10	3.7	< 200	< 1	< 1	< 20	18.0	3.3	9	< 5	550	< 500
T140	< 5	13	< 5	1100	1	< 10	62	< 10	120	8	< 2	1.9	4	< 100	36	< 0.5	< 2	0.42	< 20	290	6.3	4.1	< 10	4.5	< 200	1	< 1	< 20	22.0	3.0	3	< 5	< 200	< 500
T141	< 5	27	< 5	1200	1	< 10	56	< 10	160	8	< 2	1.8	5	< 100	34	< 0.5	< 2	1.10	< 20	260	4.0	4.5	< 10	4.5	< 200	< 1	< 1	< 20	20.0	4.2	3	< 5	< 200	< 500
T142	10	9	2520	1000	< 1	< 10	47	< 10	230	13	< 2	2.1	3	< 100	26	< 0.5	< 2	0.21	< 20	270	10.0	4.3	< 10	3.5	< 200	1	< 1	< 20	17.0	5.5	6	< 5	480	< 500
T143	5	8	320	570	1	< 10	47	< 10	220	14	< 2	1.6	3	< 100	27	< 0.5	< 2	0.07	< 20	220	7.7	3.9	< 10	3.8	< 200	1	< 1	< 20	17.0	8.8	6	< 5	< 200	< 500
T144	10	68	2300	440	2	< 10	50	< 10	260	6	< 2	2.3	3	< 100	26	< 0.5	319	0.06	< 20	250	28.3	3.7	< 10	3.3	< 200	1	< 1	< 20	14.0	13.0	8	< 5	640	< 500
T145	< 5	3	400	< 100	< 1	< 10	10	< 10	550	1	< 2	0.8	< 2	< 100	< 5	< 0.5	12	< 0.05	< 20	45	3.2	0.7	< 10	0.6	< 200	< 1	< 1	< 20	2.2	0.5	5	< 5	< 200	< 500
T146	< 5	8	765	< 100	< 1	< 10	< 10	13	440	1	< 2	4.4	< 2	< 100	< 5	< 0.5	16	< 0.05	< 20	16	0.9	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	2.1	5.8	7	< 5	< 200	< 500
T147	8	9	690	100	< 1	< 10	< 10	< 10	340	< 1	< 2	1.5	< 2	< 100	< 5	< 0.5	21	< 0.05	< 20	30	1.7	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	3.1	1.0	4	< 5	< 200	< 500
T148	< 5	1	240	< 100	< 1	< 10	< 10	< 10	570	< 1	< 2	0.6	< 2	< 100	< 5	< 0.5	7	< 0.05	< 20	22	0.5	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	2.8	< 0.5	6	< 5	< 200	< 500
T149	10	3	3290	< 100	< 1	< 10	< 10	< 10	610	< 1	< 2	0.5	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	< 10	0.4	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	< 0.5	< 0.5	3	< 5	< 200	< 500
T150	21	68	7350	< 100	< 1	< 10	< 10	< 10	550	< 1	< 2	1.0	< 2	< 100	< 5	< 0.5	255	< 0.05	< 20	16	0.7	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	1.6	2.1	130	< 5	< 200	< 500
T151	110	66	2920	6100	< 1	23	140	21	350	2	3	1.2	< 2	< 100	49	2.0	47	0.17	< 20	71	10.0	4.9	< 10	16.0	< 200	< 1	2	< 49	15.0	6.4	2020	10	620	< 500
T152	6	2	8020	< 100	< 1	< 10	< 10	< 10	590	< 1	< 2	0.5	< 2	< 100	< 5	< 0.5	6	< 0.05	< 20	< 10	0.6	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	1.3	< 0.5	< 2	< 5	< 200	< 500
T153	< 5	1	52	< 100	< 1	< 10	< 10	< 10	690	< 1	< 2	0.6	< 2	< 100	< 5	< 0.5	8	< 0.05	< 20	< 10	0.4	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	< 0.5	< 0.5	4	< 5	< 200	< 500
T154	12	8	1150	550	< 1	< 10	29	< 10	370	4	< 2	1.9	3	< 100	18	< 0.5	40	0.07	< 20	240	9.2	2.0	< 10	2.1	< 200	< 1	< 1	< 20	12.0	2.7	6	< 5	< 200	< 500
T155	< 5	4	1730	880	< 1	< 10	48	< 10	250	6	< 2	2.2	3	< 100	25	< 0.5	11	0.34	< 20	290	2.6	3.2	< 10	2.9	< 200	< 1	< 1	< 20	15.0	3.3	3	< 5	< 200	< 500
T156	< 5	4	110	1400	< 1	< 10	62	< 10	140	5	< 2	1.7	4	< 100	35	< 0.5	3	0.90	< 20	370	2.9	3.9	< 10	4.1	< 200	1	< 1	< 20	21.0	3.4	4	< 5	< 200	< 500
T157	11	8	^ 0.515	< 100	< 1	< 10	16	< 10	680	< 1	< 2	1.6	< 2	< 100	8	< 0.5	22	< 0.05	< 20	37	4.5	< 0.5	< 10	0.8	< 200	< 1	< 1	< 20	1.4	1.8	5	< 5	< 200	< 500
T158	< 5	6	45	1300	1	< 10	63	< 10	150	6	< 2	1.8	4	< 100	35	< 0.5	3	1.80	< 20	300	6.4	3.7	< 10	4.1	< 200	1	< 1	< 20	21.0	3.7	3	< 5	< 200	< 500
T159	< 5	4	300	< 100	< 1	< 10	14	< 10	680	< 1	< 2	1.3	< 2	< 100	8	< 0.5	22	< 0.05	< 20	34	1.1	0.6	< 10	1.0	< 200	< 1	< 1	< 20	2.2	0.7	6	< 5	< 200	< 500
T160	14	6	1220	< 100	< 1	< 10	10	< 10	580	< 1	< 2	1.5	< 2	< 100	< 5	< 0.5	18	< 0.05	< 20	15	2.1	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	1.2	0.8	15	< 5	< 200	< 500
T161	5	10	73	3400	4	< 10	88	< 10	190	6	< 2	1.9	6	< 100	49	< 0.5	6	0.12	25	440	29.0	3.5	< 10	4.6	< 200	1	< 1	< 20	24.0	13.0	8	< 5	16000	< 500
T162	23	7	646	1500	2	< 10	47	< 10	210	6	< 2	4.8	3	< 100	37	< 0.5	14	0.06	21	270	7.6	2.9	< 10	0.6	< 200	< 1	< 1	< 20	19.0	59.4	7	< 5	2200	< 500
T163	14	25	36	4100	12	< 10	98	< 10	200	8	< 2	2.1	4	< 100	43	< 0.5	6	0.15	< 20	470	115.0	3.8	< 10	3.9	< 200	< 1	< 1	< 20	22.0	8.8	8	< 5	2100	< 500
T164	16	37	69	2800	1	< 10	69	96	230	7	< 2	3.0	4	< 100	25	< 0.5	327	0.07	< 20	310	4.3	3.1	< 10	0.7	< 200	< 1	< 1	< 20	17.0	40.0	16	< 5	4400	< 500
T165	10	9	22	4200	< 1	< 10	51	< 10	160	8	< 2	2.7	5	< 100	24	< 0.5	8	0.15	20	460	2.4	4.1	< 10	2.5	< 200	< 1	< 1	< 20	21.0	10.0	7	< 5	760	< 500
T166	6	14	1250	450	1	< 10	60	< 10	270	3	< 2	2.3	2	< 100	24	< 0.5	33	0.07	< 20	260	10.0	3.1	< 10	2.2	< 200	< 1	< 1	< 20	12.0	5.2	5	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T167	< 5	3	39	280	1	< 10	80	< 10	110	14	< 2	1.2	3	< 100	30	< 0.5	< 2	0.06	< 20	290	2.7	3.2	< 10	3.2	< 200	< 1	< 1	< 20	16.0	4.4	3	< 5	220	< 500
T168	< 5	5	280	320	< 1	< 10	91	< 10	280	5	< 2	2.1	4	< 100	28	< 0.5	16	0.06	< 20	270	5.2	3.5	< 10	3.6	< 200	< 1	< 1	< 20	17.0	6.6	7	< 5	260	< 500
T169	< 5	7	110	1400	1	< 10	89	< 10	130	8	< 2	1.8	6	< 100	55	0.5	2	1.40	< 20	360	3.0	4.1	< 10	6.2	< 200	1	< 1	< 20	26.0	3.9	4	< 5	< 200	< 500
T170	< 5	7	9	1200	1	< 10	110	< 10	150	6	< 2	2.7	5	< 100	50	< 0.5	< 2	3.30	< 20	290	4.0	6.7	< 10	6.3	< 200	2	< 1	< 20	25.0	5.7	7	< 5	< 200	< 500
T171	6	16	919	1900	2	< 10	110	< 10	160	17	< 2	3.6	3	< 100	35	< 0.5	3	1.90	< 20	370	3.4	7.0	< 10	4.3	< 200	< 1	< 1	< 20	12.0	7.3	6	< 5	< 200	< 500
T172	< 5	4	11	1100	3	< 10	120	14	240	11	< 2	3.1	5	< 100	51	< 0.5	< 2	0.53	43	350	2.8	9.4	< 10	7.0	< 200	< 1	< 1	< 20	24.0	3.5	8	< 5	< 200	< 500
T173	13	4	1820	670	< 1	< 10	82	< 10	150	9	< 2	2.0	3	< 100	29	< 0.5	13	0.35	< 20	330	3.4	2.8	< 10	3.0	< 200	< 1	< 1	< 20	11.0	3.5	7	< 5	< 200	< 500
T174	< 5	7	27	2000	2	< 10	150	40	400	9	< 2	8.0	7	< 100	75	0.5	< 2	0.46	150	430	3.1	24.0	< 10	13.0	< 200	1	1	< 20	16.0	4.3	7	< 5	480	< 500
T175	< 5	2	643	1400	< 1	< 10	73	16	230	5	< 2	2.9	5	< 100	38	< 0.5	7	1.30	76	300	3.4	7.3	< 10	4.5	< 200	< 1	< 1	< 20	13.0	3.4	3	< 5	< 200	< 500
T176	< 5	5	7	1300	< 1	< 10	74	< 10	140	8	< 2	3.2	10	< 100	49	< 0.5	< 2	2.50	< 20	460	7.2	8.5	< 10	5.4	< 200	2	1	< 20	23.0	5.6	6	< 5	< 200	< 500
T177	< 5	4	67	1100	< 1	< 10	130	21	220	12	< 2	3.7	8	< 100	58	< 0.5	3	0.36	45	470	5.1	10.0	< 10	8.0	< 200	1	< 1	< 20	25.0	7.0	7	< 5	260	< 500
T178	< 5	5	7	1100	< 1	< 10	100	< 10	120	7	< 2	1.7	5	< 100	41	0.6	3	2.00	< 20	320	4.2	4.3	< 10	5.9	< 200	1	< 1	< 20	26.0	3.1	2	< 5	< 200	620
T179	57	6	526	870	< 1	< 10	94	23	380	8	< 2	4.6	5	< 100	48	< 0.5	216	0.55	120	280	7.8	15.0	< 10	6.5	< 200	< 1	< 1	< 20	16.0	6.2	13	< 5	910	< 500
T180	< 5	4	9	1300	2	< 10	85	< 10	150	7	< 2	1.6	6	< 100	44	< 0.5	2	1.50	< 20	370	5.0	4.1	< 10	5.6	< 200	1	< 1	< 20	27.0	3.8	5	< 5	< 200	< 500
T181	< 5	3	100	540	2	< 10	53	< 10	500	4	< 2	1.8	4	< 100	31	< 0.5	3	0.62	< 20	330	5.8	4.2	< 10	3.9	< 200	1	< 1	< 20	25.0	4.8	6	< 5	< 200	< 500
T182	< 5	3	21	790	2	< 10	110	< 10	310	6	< 2	2.2	6	< 100	47	< 0.5	3	1.80	< 20	410	4.2	5.7	< 10	6.3	< 200	2	1	< 20	33.0	5.8	6	< 5	< 200	< 500
T183	< 5	4	39	570	< 1	< 10	160	11	260	6	< 2	2.3	8	< 100	75	< 0.5	< 2	1.40	< 20	370	3.6	5.2	< 10	10.0	< 200	2	1	< 20	38.0	10.0	9	6	< 200	< 500
T184	< 5	15	2350	110	< 1	< 10	130	< 10	280	3	< 2	4.4	5	< 100	55	< 0.5	10	0.06	25	280	4.0	3.3	< 10	4.9	< 200	1	< 1	< 20	27.0	8.0	6	< 5	< 200	< 500
T185	9	12	7720	170	< 1	< 10	56	< 10	350	2	< 2	6.0	< 2	< 100	22	< 0.5	7	0.09	< 20	150	3.7	1.9	< 10	2.3	< 200	< 1	< 1	< 20	12.0	3.9	5	< 5	< 200	< 500
T186	< 5	4	522	370	2	< 10	82	< 10	220	4	< 2	2.2	4	< 100	37	< 0.5	5	0.49	< 20	320	3.6	3.9	< 10	3.8	< 200	1	< 1	< 20	24.0	4.4	7	< 5	< 200	< 500
T187	< 5	7	3010	250	< 1	< 10	65	< 10	260	4	< 2	3.7	3	< 100	26	< 0.5	6	0.11	< 20	260	4.1	3.0	< 10	2.9	< 200	1	< 1	< 20	20.0	4.9	6	< 5	< 200	< 500
T188	< 5	4	< 5	460	1	< 10	100	< 10	210	7	< 2	2.2	5	< 100	48	< 0.5	< 2	0.18	< 20	470	4.4	4.6	< 10	6.5	< 200	2	< 1	< 20	39.0	4.5	9	< 5	< 200	< 500
T189	< 5	8	< 5	560	< 1	< 10	82	< 10	130	9	< 2	1.4	4	< 100	56	< 0.5	11	0.47	< 50	240	11.0	3.7	< 10	7.4	< 200	2	2	< 20	33.0	6.0	3	< 5	< 200	< 500
T190	< 5	12	19	880	< 1	< 10	77	18	150	24	< 2	4.1	3	< 100	47	< 0.5	17	1.00	< 50	250	20.9	12.0	< 10	7.5	< 200	1	< 1	< 20	16.0	6.9	8	< 5	320	< 500
T191	< 5	29	48	130	< 1	< 10	100	14	230	10	< 2	2.9	4	< 100	57	< 0.5	17	0.24	< 50	240	6.1	4.4	< 10	6.2	< 200	1	1	< 20	34.0	34.0	6	6	< 200	< 500
T192	< 5	4	150	970	< 1	< 10	69	12	160	6	< 2	3.1	3	< 100	39	< 0.5	4	0.70	29	240	3.7	7.5	< 10	5.2	< 200	< 1	1	< 20	17.0	6.6	3	< 5	280	< 500
T193	< 5	5	21	1100	1	< 10	100	< 10	170	8	2	2.4	5	< 100	62	0.8	< 2	1.50	< 20	250	1.9	8.1	< 10	7.3	< 200	1	1	< 20	28.0	6.5	3	< 5	210	< 500
T194	< 5	13	51	1000	< 1	< 10	62	< 10	130	8	< 2	2.1	4	< 100	33	< 0.5	3	1.10	< 20	310	2.0	7.4	< 10	4.1	< 200	1	< 1	< 20	23.0	6.2	4	< 5	< 200	< 500
T195	< 5	1	7	190	< 1	< 10	22	< 10	350	1	< 2	0.9	< 2	< 100	12	< 0.5	5	0.28	< 20	63	2.2	1.4	< 10	1.3	< 200	< 1	< 1	< 20	3.5	1.4	3	< 5	< 200	< 500
T196	< 5	9	110	350	< 1	< 10	110	26	180	10	< 2	4.7	4	< 100	50	0.8	7	0.07	21	350	2.8	4.0	< 10	6.2	< 200	2	1	< 20	35.0	6.4	5	< 5	< 200	< 500
T197	7	6	1220	400	< 1	< 10	61	12	190	4	< 2	3.8	3	< 100	30	< 0.5	3	0.07	< 20	260	3.4	2.9	< 10	3.2	< 200	1	< 1	< 20	22.0	4.4	4	< 5	< 200	< 500
T198	87	14	^ 0.561	< 100	< 1	< 10	35	16	230	2	< 2	6.6	< 2	< 100	9	< 0.5	13	0.05	< 20	72	3.5	1.4	< 10	0.9	< 200	< 1	< 1	< 20	7.0	13.0	5	< 5	< 200	< 500
T199	24	3	4140	690	< 1	< 10	38	< 10	320	2	< 2	1.6	< 2	< 100	19	< 0.5	8	0.12	< 20	140	2.0	1.9	< 10	1.8	< 200	< 1	< 1	< 20	11.0	9.4	4	< 5	< 200	< 500
T200	38	10	^ 0.645	260	< 1	< 10	16	20	230	1	< 2	8.1	< 2	< 100	9	< 0.5	18	< 0.05	< 20	100	4.4	1.7	< 10	0.7	< 200	< 1	< 1	< 20	9.0	10.0	5	< 5	< 200	< 500
T201	< 5	4	731	980	< 1	< 10	91	12	170	10	< 2	2.6	4	< 100	44	< 0.5	2	1.00	< 20	250	2.6	7.0	< 10	5.1	< 200	< 1	< 1	< 20	19.0	6.7	4	< 5	< 200	< 500
T202	< 5	4	59	850	2	< 10	81	< 10	120	10	< 2	2.5	4	< 100	46	< 0.5	< 2	1.80	< 20	240	3.0	6.1	< 10	4.7	< 200	< 1	< 1	< 20	17.0	4.2	3	< 5	200	< 500
T203	20	2	6220	150	< 1	< 10	40	< 10	340	3	< 2	1.4	2	< 100	17	< 0.5	3	< 0.05	< 20	150	3.0	1.8	< 10	2.1	< 200	< 1	< 1	< 20	12.0	2.6	3	< 5	< 200	< 500
T204	5	5	320	370	< 1	< 10	99	17	170	9	< 2	3.4	5	< 100	53	0.8	< 2	0.07	< 20	370	3.6	4.8	< 10	6.7	< 200	2	1	< 20	38.0	7.6	7	< 5	< 200	< 500
T205	33	7	^ 0.507	100	< 1	< 10	39	< 10	320	3	< 2	4.1	< 2	< 100	15	< 0.5	7	< 0.05	< 20	130	4.6	1.7	< 10	1.7	< 200	< 1	< 1	< 20	14.0	5.4	5	< 5	< 200	< 500
T206	11	7	4070	170	< 1	< 10	74	13	290	6	< 2	3.9	3	< 100	29	0.7	3	0.06	< 20	220	4.0	2.9	< 10	3.1	< 200	1	< 1	< 20	23.0	7.0	7	< 5	< 200	< 500
T207	66	24	^ 1.864	< 100	< 1	< 10	24	14	330	1	< 2	8.0	< 2	< 100	14	1.0	8	< 0.05	< 20	40	15.0	0.5	< 10	1.7	< 200	< 1	< 1	< 20	7.6	4.5	4	< 5	< 200	< 500
T208	< 5	21	57	250	4	< 10	99	< 10	120	7	< 2	1.2	3	< 100	54	< 0.5	< 2	0.12	< 20	250	77.9	4.4	< 10	5.9	< 200	2	< 1	< 20	35.0	2.6	5	< 5	< 200	< 500
T209	8	13	1690	490	< 1	< 10	75	15	190	9	< 2	4.3	3	< 100	35	0.7	3	0.08	< 20	350	22.8	4.1	< 10	4.4	< 200	2	< 1	< 20	33.0	3.9	10	< 5	< 200	< 500
T210	< 5	15	69	410	1	< 10	11	16	190	8	< 2	6.9	4	< 100	10	< 0.5	2	0.07	< 20	280	39.9	3.2	< 10	1.0	< 200	1	< 1	< 20	16.0	3.6	12	< 5	< 200	< 500
T211	8	7	3450	630	< 1	< 10	35	12	230	3	< 2	2.9	3	< 100	22	< 0.5	5	0.50	< 20	180	2.2	3.4	< 10	1.4	< 200	< 1	< 1	< 20	12.0	4.4	4	< 5	< 200	< 500
T212	10	6	1380	320	< 1	< 10	59	30	280	2	< 2	2.7	< 2	< 100	30	< 0.5	3	0.60	< 20	140	2.4	2.8	< 10	2.7	< 200	< 1	< 1	< 20	11.0	4.1	< 2	< 5	< 200	< 500
T213	< 5	5	120	660	< 1	< 10	130	< 10	280	8	< 2	1.4	4	< 100	54	0.7	3	0.65	20	390	4.1	3.8	< 10	7.8	< 200	2	1	< 20	40.0	3.5	8	5	< 200	< 500
T214	< 5	25	13	980	4	< 10	130	20	190	23	< 2	7.7	5	< 100	53	< 0.5	< 2	1.40	40	500	38.4	16.0	< 10	8.5	< 200	1	< 1	< 20	20.0	13.0	25	5	270	1000
T215	26	14	^ 0.373	540	< 1	< 10	36	18	260	4	< 2	4.9	3	< 100	17	< 0.5	6	0.49	< 20	280	6.9	3.4	< 10	1.7	< 200	< 1	< 1	< 20	13.0	8.6	6	< 5	< 200	< 500
T216	< 5	10	180	< 100	< 1	< 10	36	13	180	6	< 2	5.0	7	< 100	19	0.6	3	0.51	< 20	230	3.6	7.9	< 10	3.9	< 200	2	< 1	< 20	37.0	5.4	8	< 5	200	< 500
T217	8	13	9260	< 100	< 1	< 10	< 10	< 10	490	< 1	< 2	7.5	< 2	< 100	* 5	< 0.5	18	< 0.05	< 20	14	8.6	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	2.8	4.2	< 2	< 5	< 200	< 500
T218	11	11	6030	< 100	< 1	< 10	45	12	500	4	< 2	5.0	< 2	< 100	13	< 0.5	10	< 0.05	< 20	300	4.8	4.9	< 10	2.2	< 200	< 1	< 1	< 20	4.3	3.8	17	< 5	< 200	< 500
T219	6	7	2410	290	< 1	< 10	51	< 10	390	3	< 2	2.7	3	< 100	22	< 0.5	5	0.06	< 20	290	3.8	2.0	< 10	2.8	< 200	< 1	< 1	< 20	18.0	3.8	5	< 5	< 200	< 500
T220	14	7	73	430	< 1	< 10	69	46	< 50	9	< 2	5.1	4	< 100	35	< 0.5	< 2	0.12	< 20	520	5.8	11.0	< 10	4.7	< 200	< 1	< 1	< 20	13.0	13.0	19	< 5	< 200	< 500
T221	< 5	4	40	410	< 1	< 10	130	< 10	130	10	< 2	6.7	7	< 100	60	< 0.5	< 2	0.13	< 20	700	4.4	5.9	< 10	7.5	< 200	3	< 1	< 20	45.0	5.3	10	< 5	< 200	< 500
T222	22	7	170	330	< 1	< 10	80	< 10	150	9	< 2	3.5	4	< 100	34	< 0.5	2	0.57	21	340	3.4	5.1	< 10	5.5	< 200	1	< 1	< 20	26.0	6.5	11	< 5	< 200	< 500
T223	9	8	^ 0.407	130	< 1	< 10	37	< 10	350	2	< 2	3.9	< 2	< 100	12	< 0.5	54	0.06	< 20	100	4.6	1.0	< 10	1.9	< 200	< 1	< 1	< 20	8.2	4.4	5	< 5	< 200	< 500
T224	< 5	3	300	< 100	< 1	< 10	57	< 10	220	2	< 2	2.9	4	< 100	28	< 0.5	5	0.35	< 20	80	1.2	4.5	< 10	4.2	< 200	1	< 1	< 20	24.0	5.2	2	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T225	6	6	2390	250	< 1	< 10	37	< 10	390	2	< 2	2.5	< 2	< 100	16	< 0.5	29	< 0.05	< 20	150	5.6	0.8	< 10	2.2	< 200	< 1	< 1	< 20	12.0	1.9	3	< 5	< 200	< 500
T226	< 5	4	968	170	< 1	< 10	36	< 10	410	1	< 2	1.6	< 2	< 100	14	< 0.5	20	< 0.05	< 20	120	6.5	1.0	< 10	1.9	< 200	< 1	< 1	< 20	8.0	1.0	5	< 5	< 200	< 500
T227	< 5	3	160	240	< 1	< 10	41	< 10	300	3	< 2	2.2	3	< 100	23	< 0.5	9	0.15	< 20	210	3.7	2.4	< 10	3.1	< 200	1	< 1	< 20	26.0	4.3	9	< 5	< 200	< 500
T228	< 5	11	150	210	4	< 10	59	< 10	260	4	< 2	1.1	< 2	< 100	12	< 0.5	4	< 0.05	< 20	47	40.8	1.7	< 10	2.6	< 200	< 1	< 1	< 20	5.1	0.7	< 2	< 5	< 200	< 500
T229	< 5	4	1200	< 100	< 1	< 10	24	< 10	350	1	< 2	1.8	< 2	< 100	12	< 0.5	19	0.06	< 20	53	3.0	1.0	< 10	1.5	< 200	< 1	< 1	< 20	5.4	2.0	< 2	< 5	< 200	< 500
T230	8	13	6090	250	< 1	< 10	45	< 10	100	4	< 2	5.2	< 2	< 100	19	0.5	38	0.44	< 20	190	4.6	4.2	< 10	2.4	< 200	< 1	< 1	< 20	8.7	3.1	12	< 5	< 200	< 500
T231	< 5	17	54	360	6	< 10	16	< 10	81	2	< 2	0.5	< 2	< 100	6	< 0.5	3	< 0.05	< 20	50	44.0	1.1	< 10	0.7	< 200	< 1	< 1	< 20	4.1	0.7	< 2	< 5	< 200	< 500
T232	17	12	490	320	4	< 10	15	< 10	150	2	< 2	< 0.5	< 2	< 100	< 5	< 0.5	3	< 0.05	< 20	48	25.1	0.7	< 10	0.6	< 200	< 1	< 1	< 20	2.1	< 0.5	< 2	< 5	< 200	< 500
T233	< 5	6	514	200	< 1	< 10	110	10	< 50	7	< 2	4.5	6	< 100	44	3.5	39	< 0.05	< 20	530	2.8	4.8	< 10	0.4	< 200	1	1	< 20	28.0	89.6	< 2	< 5	< 200	< 500
T234	< 5	8	120	380	1	< 10	80	< 10	< 50	8	< 2	5.4	3	< 100	43	0.9	23	< 0.05	< 20	600	2.6	3.4	< 10	1.7	< 200	2	< 1	< 20	29.0	25.0	7	< 5	< 200	< 500
T235	< 5	2	17	550	< 1	< 10	130	11	98	3	< 2	1.7	5	< 100	53	1.1	22	1.30	< 20	350	0.9	3.3	< 10	5.2	< 200	2	< 1	< 20	34.0	22.0	< 2	< 5	< 200	< 500
T236	< 5	4	1570	270	< 1	< 10	69	< 10	81	6	< 2	3.3	5	< 100	34	0.6	9	< 0.05	< 20	390	4.1	3.4	< 10	3.5	< 200	1	< 1	< 20	21.0	5.2	7	< 5	230	< 500
T237	< 5	3	250	230	< 1	< 10	44	< 10	< 50	5	< 2	2.5	4	< 100	21	0.6	4	0.08	< 20	380	2.9	3.1	< 10	2.0	< 200	1	< 1	< 20	17.0	3.8	3	< 5	< 200	< 500
T238	< 5	4	3460	340	< 1	< 10	61	< 10	110	3	< 2	3.1	5	< 100	28	0.7	32	0.08	< 20	270	4.9	2.4	< 10	2.9	< 200	< 1	< 1	< 20	12.0	2.7	9	< 5	< 200	< 500
T239	13	6	1230	380	5	< 10	44	< 10	110	5	< 2	3.6	2	< 100	20	0.5	28	0.16	< 20	290	4.4	4.7	< 10	2.0	< 200	< 1	< 1	< 20	12.0	3.6	16	< 5	< 200	< 500
T240	< 5	5	809	300	< 1	< 10	85	< 10	56	5	< 2	3.5	2	< 100	39	0.6	2	< 0.05	< 20	390	4.8	2.6	< 10	4.4	< 200	< 1	< 1	< 20	18.0	2.2	5	< 5	< 200	< 500
T241	41	7	2780	840	< 1	< 10	54	< 10	90	4	< 2	2.9	3	< 100	27	0.7	9	< 0.05	< 20	320	4.6	2.5	< 10	2.6	< 200	< 1	< 1	< 20	16.0	5.2	< 2	< 5	< 200	530
T242	< 5	4	37	360	< 1	< 10	86	< 10	< 50	4	< 2	1.6	4	< 100	34	0.7	11	0.09	< 20	370	3.8	3.3	< 10	3.8	< 200	1	< 1	< 20	17.0	2.7	5	< 5	< 200	< 500
T243	< 5	9	1210	350	2	< 10	85	< 10	57	5	< 2	2.4	4	< 100	34	0.7	43	0.09	< 20	260	11.0	2.3	< 10	3.3	< 200	1	< 1	< 20	16.0	3.4	4	< 5	< 200	< 500
T244	< 5	3	14	1000	< 1	< 10	81	< 10	52	7	< 2	2.1	5	< 100	30	0.7	< 2	0.81	< 20	320	3.1	4.5	< 10	4.2	< 200	< 1	< 1	< 20	18.0	5.7	5	< 5	260	< 500
T245	< 5	5	90	280	< 1	< 10	86	< 10	53	7	< 2	2.1	5	< 100	39	0.8	5	< 0.05	< 20	390	7.7	3.4	< 10	4.6	< 200	1	< 1	< 20	20.0	3.5	< 2	< 5	360	< 500
T246	67	4	833	580	13	< 10	71	16	90	4	< 2	2.3	4	< 100	29	0.7	19	< 0.05	< 20	310	5.2	2.3	< 10	3.5	< 200	< 1	< 1	< 20	17.0	4.9	< 2	< 5	240	< 500
T247	25	4	180	200	< 1	< 10	49	< 10	120	3	< 2	2.1	3	< 100	24	< 0.5	6	0.06	< 20	250	3.7	1.6	< 10	2.6	< 200	< 1	< 1	< 20	8.9	1.6	< 2	< 5	< 200	< 500
T248	< 5	3	82	200	< 1	< 10	41	< 10	110	3	< 2	2.3	< 2	< 100	18	0.5	6	< 0.05	< 20	310	4.1	2.3	< 10	2.0	< 200	< 1	< 1	< 20	13.0	1.8	6	< 5	< 200	< 500
T249	95	292	1200	* 310	98	* 51	* 62	< 10	* 150	< 1	* 7	2.8	* 6	< 100	14	1.6	150	* 0.91	* 55	91	50.0	< 0.5	* 27	1.5	* 1100	1	< 1	* 190	5.9	* 1.8	* 14	18	< 200	* 1000
T250	23	23	2740	< 100	2	< 10	< 10	< 10	97	2	< 2	>10.0	< 2	< 100	< 5	< 0.5	25	< 0.05	< 20	30	13.0	0.7	11	0.5	< 200	< 1	< 1	< 20	5.1	1.0	< 2	< 5	< 200	< 500
T251	>100	7	^ 1.109	250	5	< 10	* 25	< 10	230	1	< 2	2.9	< 2	< 100	11	< 0.5	58	< 0.05	< 20	110	4.3	< 0.5	< 10	1.4	< 200	< 1	< 1	* 41	6.7	* 1.2	* 6	< 5	< 200	< 500
T252	62	26	1220	150	3	< 10	13	< 10	200	1	< 2	5.2	< 2	< 100	7	< 0.5	47	< 0.05	< 20	110	8.4	< 0.5	15	0.7	< 200	< 1	< 1	< 20	6.1	1.8	< 2	< 5	< 200	< 500
T253	>100	16	5910	< 100	12	< 10	< 10	< 10	230	< 1	< 2	5.2	< 2	< 100	< 5	< 0.5	90	< 0.05	< 20	29	8.7	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	5.1	1.9	< 2	< 5	< 200	< 500
T254	28	9	200	530	3	< 10	58	20	53	5	< 2	3.3	5	< 100	27	0.6	21	0.12	< 20	280	3.3	2.2	< 10	2.9	< 200	< 1	< 1	< 20	14.0	4.9	< 2	< 5	< 200	< 500
T255	< 5	5	51	390	< 1	< 10	87	< 10	< 50	5	< 2	1.8	5	< 100	36	0.8	< 2	< 0.05	< 20	340	3.8	2.5	< 10	3.9	< 200	1	< 1	< 20	22.0	3.9	< 2	< 5	< 200	< 500
T256	7	6	110	510	< 1	< 10	82	< 10	65	4	< 2	2.4	3	< 100	35	0.7	4	< 0.05	< 20	300	5.2	2.2	< 10	3.5	< 200	1	< 1	< 20	21.0	4.1	5	< 5	< 200	< 500
T257	10	6	400	270	2	< 10	37	< 10	120	3	< 2	2.6	< 2	< 100	17	< 0.5	50	< 0.05	< 20	200	8.0	1.7	< 10	1.6	< 200	< 1	< 1	< 20	6.8	2.0	5	< 5	< 200	< 500
T258	< 5	3	100	170	< 1	< 10	25	< 10	130	1	< 2	2.1	< 2	< 100	10	< 0.5	34	< 0.05	< 20	160	4.4	1.2	< 10	0.9	< 200	< 1	< 1	< 20	5.7	1.0	< 2	< 5	< 200	< 500
T259	7	6	430	320	2	< 10	59	< 10	70	5	< 2	3.1	4	< 100	26	0.6	71	< 0.05	< 20	340	5.6	2.9	< 10	2.6	< 200	< 1	< 1	< 20	13.0	2.6	< 2	< 5	< 200	< 500
T260	7	8	611	140	2	< 10	32	< 10	68	3	< 2	3.6	< 2	< 100	15	< 0.5	43	< 0.05	< 20	200	6.8	1.5	< 10	1.6	< 200	< 1	< 1	< 20	8.5	2.4	3	< 5	< 200	< 500
T261	>100	5	1920	< 100	2	< 10	23	< 10	190	1	< 2	1.7	< 2	< 100	11	< 0.5	21	< 0.05	< 20	110	3.7	< 0.5	17	1.1	< 200	< 1	< 1	< 20	5.6	< 0.5	< 2	< 5	< 200	< 500
T262	7	4	120	180	< 1	< 10	23	< 10	160	3	< 2	2.0	< 2	< 100	11	< 0.5	19	< 0.05	< 20	190	6.7	1.2	< 10	1.1	< 200	< 1	< 1	< 20	7.8	1.4	< 2	< 5	< 200	< 500
T263	>100	10	1630	170	3	< 10	< 10	70	96	2	< 2	6.1	< 2	< 100	7	< 0.5	74	< 0.05	< 20	150	5.8	< 0.5	< 10	0.6	< 200	< 1	< 1	< 20	2.2	0.8	< 2	< 5	< 200	< 500
T264	63	12	5480	230	9	< 10	14	< 10	210	2	< 2	5.8	2	< 100	11	< 0.5	16	< 0.05	< 20	170	4.6	0.7	< 10	1.0	< 200	< 1	< 1	< 20	6.7	1.3	7	< 5	< 200	< 500
T265	7	7	270	240	< 1	< 10	66	< 10	120	4	< 2	3.5	4	< 100	31	0.7	4	< 0.05	23	340	4.8	3.4	< 10	3.3	< 200	< 1	< 1	< 20	12.0	1.7	7	< 5	< 200	< 500
T266	57	12	^ 0.401	< 100	2	< 10	< 10	69	150	2	< 2	>10.0	< 2	< 100	5	< 0.5	82	0.12	< 20	31	11.0	1.4	< 10	0.7	< 200	< 1	< 1	< 20	3.8	8.1	< 2	< 5	1500	< 500
T267	12	4	120	690	< 1	< 10	52	71	90	6	< 2	5.8	3	< 100	23	< 0.5	5	2.20	< 20	220	4.0	5.1	< 10	2.9	< 200	< 1	< 1	< 20	12.0	9.1	< 2	< 5	260	< 500
T268	< 5	4	83	800	1	< 10	55	19	120	4	< 2	6.6	4	< 100	26	0.9	4	1.40	< 20	260	2.2	4.8	< 10	3.6	< 200	< 1	< 1	< 20	14.0	22.0	7	< 5	830	< 500
T269	62	15	3230	160	5	< 10	< 10	< 10	180	3	< 2	4.3	< 2	< 100	8	< 0.5	70	0.05	< 20	180	12.0	1.0	< 10	0.7	< 200	< 1	< 1	< 20	8.2	3.0	< 2	< 5	< 200	< 500
T270	38	16	4470	210	4	< 10	17	< 10	240	3	< 2	4.8	2	< 100	7	< 0.5	100	< 0.05	< 20	160	21.2	1.1	< 10	0.4	< 200	< 1	< 1	< 20	4.8	3.6	6	< 5	< 200	< 500
T271	53	18	2380	390	15	< 10	48	< 10	80	6	< 2	5.9	4	< 100	26	0.6	99	< 0.05	< 20	290	20.0	2.0	< 10	2.1	< 200	< 1	< 1	< 20	17.0	3.4	< 2	< 5	270	< 500
T272	23	19	9540	< 100	7	< 10	24	< 10	160	3	< 2	>10.0	3	< 100	13	< 0.5	130	< 0.05	< 20	98	15.0	2.3	< 10	1.2	< 200	< 1	< 1	< 20	7.0	5.2	11	< 5	< 200	< 500
T273	37	12	7'10	260	5	< 10	26	< 10	160	3	< 2	7.7	4	< 100	18	< 0.5	68	0.09	< 20	240	12.0	3.1	< 10	1.2	< 200	< 1	< 1	< 20	12.0	4.1	15	< 5	< 200	< 500
T274	34	6	3960	210	< 1	< 10	< 10	22	210	3	< 2	5.5	< 2	< 100	9	< 0.5	110	< 0.05	< 20	160	10.0	1.5	< 10	1.1	< 200	< 1	< 1	< 20	4.2	1.7	< 2	< 5	< 200	< 500
T275	44	28	3680	160	3	< 10	13	< 10	260	< 1	< 2	8.4	2	< 100	10	< 0.5	372	< 0.05	< 20	140	10.0	< 0.5	< 10	1.0	< 200	< 1	< 1	< 20	5.4	2.1	5	< 5	< 200	< 500
T276	95	12	^ 0.365	170	18	< 10	11	< 10	230	1	< 2	5.1	< 2	< 100	6	0.6	170	< 0.05	< 20	66	16.0	< 0.5	< 10	0.6	< 200	< 1	< 1	< 20	3.6	2.5	8	< 5	< 200	< 500
T277	13	11	864	150	2	< 10	11	< 10	390	< 1	< 2	3.0	< 2	< 100	< 5	< 0.5	202	< 0.05	< 20	48	14.0	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	1.7	0.9	< 2	< 5	< 200	< 500
T278	10	5	3630	280	2	< 10	20	< 10	280	1	< 2	4.2	3	< 100	13	< 0.5	140	< 0.05	< 20	150	7.1	1.7	< 10	1.6	< 200	< 1	< 1	< 20	5.4	1.6	9	< 5	< 200	< 500
T279	6	3	110	470	< 1	< 10	44	< 10	100	5	< 2	2.7	6	< 100	21	0.6	4	0.09	< 20	440	3.9	5.3	< 10	1.9	< 200	1	< 1	< 20	16.0	3.0	13	< 5	220	< 500
T280	17	6	1580	370	2	< 10	25	< 10	180	2	< 2	3.3	4	< 100	13	< 0.5	42	0.05	< 20	220	8.2	3.4	< 10	1.1	< 200	< 1	< 1	< 20	9.5	2.4	10	< 5	< 200	< 500
T281	< 5	6	170	740	< 1	< 10	69	< 10	55	6	< 2	3.6	6	< 100	44	0.7	7	0.13	< 20	420	4.6	6.4	< 10	2.8	< 200	< 1	< 1	< 20	21.0	4.3	15	< 5	480	< 500
T282	8	4	460	380	< 1	< 10	26	< 10	81	4	< 2	3.2	5	< 100	20	0.6	5	< 0.05	< 20	430	4.0	4.7	< 10	1.6	< 200	< 1	< 1	< 20	15.0	3.5	10	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T283	40	19	210	< 100	4	< 10	< 10	< 10	67	1	< 2	2.8	< 2	< 100	< 5	< 0.5	160	< 0.05	< 20	62	27.3	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	4.4	2.5	< 2	< 5	380	< 500
T284	52	7	1150	200	10	< 10	36	< 10	170	2	< 2	1.3	< 2	< 100	15	< 0.5	36	< 0.05	< 20	100	12.0	< 0.5	< 10	0.9	< 200	< 1	< 1	< 20	6.6	3.3	< 2	< 5	240	< 500
T285	>100	3	1550	190	42	< 10	33	< 10	70	2	< 2	1.2	< 2	< 100	15	< 0.5	20	0.08	< 20	150	6.2	< 0.5	< 10	1.5	< 200	< 1	< 1	< 20	7.8	2.4	< 2	< 5	< 200	< 500
T286	>100	4	1210	290	22	< 10	47	< 10	180	3	< 2	1.8	< 2	< 100	23	0.6	150	< 0.05	< 20	230	10.0	< 0.5	< 10	2.3	< 200	< 1	< 1	< 20	14.0	4.4	< 2	< 5	770	< 500
T287	23	9	190	290	3	< 10	54	< 10	120	4	< 2	2.0	3	< 100	22	0.5	81	0.09	< 20	260	17.0	2.1	< 10	2.4	< 200	< 1	< 1	< 20	18.0	5.0	4	< 5	620	< 500
T288	12	5	290	410	2	< 10	77	< 10	110	5	< 2	2.2	5	< 100	22	0.6	93	< 0.05	< 20	320	6.1	4.5	< 10	2.3	< 200	< 1	< 1	< 20	15.0	5.8	11	< 5	620	< 500
T289	33	7	130	500	2	56	52	< 10	110	4	< 2	2.6	< 2	< 100	34	0.6	14	0.69	< 20	240	12.0	3.0	< 10	3.6	< 200	< 1	< 1	< 20	15.0	5.1	< 2	< 5	10000	< 500
T290	54	6	150	210	2	26	56	< 10	180	4	< 2	1.7	< 2	< 100	22	< 0.5	110	< 0.05	< 20	190	8.7	0.7	< 10	2.1	< 200	< 1	< 1	< 20	11.0	6.3	< 2	< 5	1800	< 500
T291	5	5	33	650	2	16	56	< 10	84	7	< 2	2.5	4	< 100	23	0.6	< 2	0.10	21	300	8.9	4.6	< 10	3.1	< 200	< 1	< 1	< 20	13.0	5.3	9	< 5	870	< 500
T292	6	6	260	430	2	< 10	90	< 10	< 50	5	< 2	1.6	4	< 100	44	0.9	< 2	< 0.05	< 20	370	4.2	3.1	< 10	4.4	< 200	1	< 1	< 20	22.0	6.0	4	< 5	390	< 500
T293	5	4	1030	380	< 1	< 10	90	< 10	< 50	5	< 2	2.5	6	< 100	32	0.7	4	< 0.05	< 20	420	5.6	3.1	< 10	3.6	< 200	1	< 1	< 20	24.0	6.8	3	< 5	260	< 500
T294	24	7	3670	780	1	< 10	48	< 10	97	3	< 2	4.8	3	< 100	17	< 0.5	< 2	< 0.05	< 20	250	5.5	1.9	< 10	2.1	< 200	< 1	< 1	< 20	11.0	1.8	< 2	< 5	230	< 500
T295	15	11	150	420	3	< 10	49	< 10	94	6	< 2	1.2	2	< 100	21	0.5	6	< 0.05	< 20	270	17.0	2.2	< 10	2.7	< 200	< 1	< 1	< 20	14.0	3.4	< 2	< 5	510	< 500
T296	< 5	7	64	810	1	< 10	46	< 10	88	5	< 2	2.2	2	< 100	19	< 0.5	5	0.15	< 20	370	7.1	4.5	< 10	2.4	< 200	< 1	< 1	< 20	6.5	3.8	4	< 5	430	< 500
T297	< 5	4	18	650	< 1	< 10	65	< 10	89	10	< 2	1.7	4	< 100	28	0.7	< 2	0.68	< 20	320	4.7	3.9	< 10	3.3	< 200	1	< 1	< 20	25.0	5.1	< 2	< 5	< 200	< 500
T298	< 5	8	46	800	1	< 10	90	< 10	79	8	< 2	1.9	4	< 100	34	< 0.5	< 2	0.62	< 20	260	6.4	4.3	< 10	4.4	< 200	< 1	< 1	< 20	14.0	3.1	< 2	< 5	< 200	< 500
T299	< 5	9	28	630	< 1	< 10	37	< 10	69	3	< 2	1.4	2	< 100	16	< 0.5	< 2	1.80	< 20	260	5.4	3.3	< 10	1.9	< 200	< 1	< 1	< 20	8.5	3.9	< 2	< 5	< 200	< 500
T300	< 5	5	15	1400	< 1	< 10	64	18	66	4	< 2	3.4	4	< 100	25	< 0.5	< 2	1.50	31	300	3.9	7.4	< 10	3.7	< 200	< 1	< 1	< 20	3.4	1.3	< 2	< 5	< 200	< 500
T301	35	28	4470	< 100	6	12	28	< 10	340	2	< 2	2.7	< 2	< 100	9	< 0.5	40	< 0.05	< 20	96	69.6	1.9	< 10	1.5	< 200	< 1	< 1	< 20	6.5	2.0	3	< 5	1700	< 500
T302	57	24	4020	< 100	4	< 10	< 10	< 10	340	5	< 2	5.5	< 2	< 100	5	< 0.5	49	< 0.05	< 20	74	51.7	1.2	< 10	0.7	< 200	< 1	< 1	< 20	3.3	2.4	< 2	< 5	910	< 500
T303	>300	* 5430	* 590	* 3100	*1110	* 770	* 540	* 63	* 1100	* 12	* 47	* 3.3	* 43	# 0	* 39	* 11.0	* 140	# 0	* 500	* 400	> 999.0	* 3.7	* 270	* 2.7	* 3100	* 9	* 5	* 450	* 20.0	* 33.0	* 290	* 100	* 2300	* 7700
T304	220	709	1470	* 510	* 249	* 130	* 81	< 10	210	* 2	* 8	2.2	* 7	* 250	15	* 1.7	120	* 6.00	* 87	* 71	890.0	< 0.5	* 41	* 2.8	* 490	* 2	< 1	* 73	* 3.3	* 5.5	* 68	* 20	* 430	* 1300
T305	300	163	1130	1900	10	* 61	* 36	< 10	340	1	4	2.7	< 2	< 100	12	< 0.5	120	* 0.10	* 42	120	170.0	< 0.5	< 10	1.4	< 200	< 1	< 1	< 20	5.3	* 1.8	* 7	13	5400	< 500
T306	210	270	1690	980	51	* 68	* 37	19	320	3	* 4	3.9	< 2	< 100	16	1.0	83	* 5.00	* 51	93	180.0	1.8	< 10	2.4	< 200	1	< 1	< 20	7.8	* 2.4	* 6	16	7100	860
T307	20	26	646	2400	5	< 10	< 10	< 10	490	1	< 2	3.8	< 2	< 100	6	< 0.5	56	< 0.05	< 20	83	59.5	1.3	< 10	1.0	< 200	< 1	< 1	< 20	3.1	1.3	4	< 5	430	< 500
T308	29	23	887	500	4	24	20	11	330	4	< 2	3.7	3	< 100	13	< 0.5	30	< 0.05	25	140	80.4	2.6	< 10	2.0	< 200	< 1	< 1	< 20	11.0	2.7	4	< 5	2500	< 500
T309	49	16	160	370	4	24	34	< 10	290	6	< 2	4.3	6	< 100	24	< 0.5	17	0.07	35	300	37.7	4.4	< 10	3.5	< 200	< 1	< 1	< 20	16.0	11.0	5	< 5	3300	< 500
T310	6	15	69	400	2	14	46	< 10	230	12	< 2	3.8	4	< 100	27	< 0.5	84	0.07	< 20	250	27.7	5.9	< 10	3.2	< 200	1	< 1	< 20	16.0	14.0	4	< 5	2700	570
T311	18	27	1270	750	6	< 10	< 10	< 10	290	2	< 2	1.3	< 2	< 100	7	< 0.5	326	< 0.05	< 20	50	99.5	1.4	< 10	0.8	< 200	< 1	< 1	< 20	4.9	4.7	4	< 5	< 200	< 500
T312	140	47	1580	>20000	14	< 10	< 10	< 10	250	2	< 2	7.0	< 2	< 100	13	< 0.5	57	< 0.05	< 20	55	76.0	1.2	< 10	1.9	< 200	< 1	< 1	< 20	8.2	10.0	3	< 5	990	< 500
T313	130	135	^ 0.537	7700	14	* 40	35	< 10	250	3	< 2	4.7	< 2	< 100	16	< 0.5	150	* 0.10	< 20	140	788.0	2.0	< 10	1.5	< 200	1	< 1	< 20	9.0	16.0	* 5	< 5	540	< 500
T314	17	21	210	5000	3	52	41	< 10	320	6	< 2	3.8	3	< 100	19	< 0.5	22	< 0.05	< 20	160	41.6	4.1	< 10	3.3	< 200	< 1	< 1	< 20	12.0	4.7	6	< 5	5100	< 500
T315	22	28	91	< 100	< 1	< 10	< 10	42	< 50	1	< 2	>10.0	3	< 100	9	< 0.5	27	0.06	< 20	68	4.4	4.1	14	1.0	< 200	< 1	< 1	< 20	8.3	29.0	9	< 5	< 200	< 500
T316	11	10	27	970	< 1	< 10	65	27	140	3	< 2	8.5	3	< 100	30	< 0.5	17	0.10	< 20	280	3.1	3.6	< 10	3.0	< 200	< 1	< 1	< 20	21.0	6.4	8	< 5	< 200	< 500
T317	13	16	150	780	< 1	< 10	21	30	120	2	< 2	>10.0	3	< 100	12	< 0.5	72	0.09	< 20	240	3.4	3.4	< 10	0.9	< 200	< 1	< 1	< 20	17.0	11.0	7	< 5	< 200	< 500
T318	< 5	4	< 5	420	< 1	< 10	< 10	11	92	13	< 2	7.6	6	< 100	10	< 0.5	< 2	0.08	< 20	670	2.6	2.9	< 10	1.8	< 200	1	< 1	< 20	26.0	5.6	35	< 5	< 200	< 500
T319	< 5	13	12	200	5	< 10	52	< 10	370	3	< 2	1.9	< 2	< 100	25	< 0.5	6	0.05	< 20	130	61.7	3.5	< 10	3.6	< 200	< 1	< 1	< 20	18.0	3.5	4	< 5	370	< 500
T320	8	20	13	2400	< 1	< 10	26	< 10	260	4	< 2	2.3	5	< 100	11	< 0.5	48	2.10	38	280	2.0	3.3	< 10	2.1	< 200	< 1	< 1	< 20	13.0	4.2	6	< 5	< 200	< 500
T321	94	371	571	1400	3	< 10	< 10	35	130	4	< 2	>10.0	< 2	< 100	12	< 0.5	734	1.00	< 20	210	1.6	2.2	< 10	1.5	< 200	< 1	< 1	< 20	11.0	4.9	4	< 5	570	< 500
T322	< 5	10	42	100	< 1	< 10	< 10	13	440	1	< 2	2.0	< 2	< 100	< 5	< 0.5	26	< 0.05	< 20	45	3.9	0.8	< 10	0.2	< 200	< 1	< 1	< 20	2.8	0.5	< 2	< 5	< 200	< 500
T323	27	10	1910	150	< 1	< 10	< 10	96	600	2	< 2	4.4	< 2	< 100	< 5	< 0.5	70	< 0.05	< 20	61	2.7	0.7	< 10	0.4	< 200	< 1	< 1	< 20	1.9	0.8	3	< 5	< 200	< 500
T324	< 5	4	15	780	< 1	< 10	59	< 10	66	5	< 2	2.9	6	< 100	28	0.7	4	0.16	< 20	390	3.6	6.4	< 10	3.3	< 200	< 1	< 1	< 20	17.0	4.3	6	< 5	660	< 500
T325	6	7	59	570	3	< 10	120	< 10	< 50	8	< 2	1.3	5	< 100	46	1.1	< 2	0.18	< 20	250	2.8	3.6	< 10	5.5	< 200	1	< 1	< 20	29.0	3.3	< 2	< 5	< 200	< 500
T326	95	8	2760	290	3	< 10	< 10	< 10	210	1	< 2	0.6	< 2	< 100	< 5	< 0.5	< 2	< 0.05	< 20	42	16.0	< 0.5	< 10	0.7	< 200	< 1	< 1	< 20	1.7	0.6	< 2	< 5	430	< 500
T327	>100	5	930	350	6	27	24	< 10	130	2	< 2	1.1	< 2	< 100	8	< 0.5	3	< 0.05	< 20	72	10.0	< 0.5	< 10	0.7	< 200	< 1	< 1	< 20	1.5	2.4	< 2	< 5	750	< 500
T328	16	5	90	480	2	< 10	61	< 10	110	4	< 2	1.0	3	< 100	26	0.5	< 2	< 0.05	< 20	290	5.9	2.0	< 10	2.7	< 200	< 1	< 1	< 20	15.0	4.8	< 2	< 5	320	< 500
T329	< 5	5	130	990	< 1	< 10	99	< 10	100	6	< 2	0.9	4	< 100	37	0.7	< 2	< 0.05	< 20	350	3.8	2.3	< 10	4.1	< 200	1	< 1	< 20	19.0	4.8	< 2	< 5	< 200	< 500
T330	31	10	230	570	2	< 10	27	< 10	140	5	< 2	1.2	< 2	< 100	12	< 0.5	< 2	< 0.05	< 20	160	15.0	1.4	< 10	1.3	< 200	< 1	< 1	< 20	5.9	2.9	< 2	< 5	710	< 500
T331	20	3	210	370	< 1	< 10	220	< 10	75	6	< 2	3.0	3	< 100	97	< 0.5	< 2	< 0.05	< 20	430	5.6	6.4	< 10	10.0	< 200	< 1	< 1	< 20	3.6	4.7	10	< 5	1000	< 500
T332	>100	9	2040	440	< 1	83	60	< 10	56	5	< 2	1.3	< 2	< 100	31	< 0.5	41	< 0.05	29	260	16.0	< 0.5	< 10	3.1	< 200	< 1	< 1	< 20	15.0	2.6	* 4	< 5	4000	< 500
T333	70	5	530	490	< 1	< 10	65	< 10	< 50	5	< 2	1.5	3	< 100	26	0.5	22	< 0.05	< 20	290	7.2	1.7	< 10	2.9	< 200	< 1	< 1	< 20	19.0	3.7	< 2	< 5	550	< 500
T334	>100	13	1990	500	15	72	46	< 10	91	4	< 2	1.4	< 2	< 100	26	0.7	15	< 0.05	< 20	270	27.1	< 0.5	< 10	2.5	< 200	< 1	< 1	< 20	14.0	2.8	< 5	< 5	4900	< 500
T335	>100	6	5490	250	4	260	26	< 10	100	4	< 2	0.6	< 2	< 100	14	< 0.5	67	< 0.05	< 20	130	11.0	< 0.5	< 10	1.3	< 200	< 1	< 1	< 20	5.6	1.7	* 6	< 5	8400	< 500
T336	>100	6	2170	760	15	42	48	< 10	74	5	< 2	1.1	< 2	< 100	26	< 0.5	10	< 0.05	< 20	270	6.3	< 0.5	< 10	2.6	< 200	< 1	< 1	< 20	15.0	3.6	* 5	< 5	2300	< 500
T337	15	3	190	690	2	89	79	< 10	< 50	8	< 2	1.8	4	< 100	36	0.7	5	< 0.05	< 20	360	3.4	2.1	< 10	3.9	< 200	< 1	< 1	< 20	20.0	3.3	< 2	< 5	3500	< 500
T338	< 5	8	24	1300	< 1	< 10	73	20	93	7	< 2	4.3	4	< 100	34	< 0.5	2	1.80	48	230	3.9	10.0	< 10	5.3	< 200	< 1	< 1	< 20	4.5	1.4	< 2	< 5	450	< 500
T339	10	4	13	1500	< 1	< 10	70	21	110	6	< 2	4.9	5	< 100	27	< 0.5	16	0.67	50	240	3.2	9.3	< 10	4.5	< 200	< 1	< 1	< 20	3.6	0.9	< 2	< 5	400	< 500
T340	>100	23	773	440	7	< 10	33	< 10	120	6	< 2	2.1	< 2	< 100	17	< 0.5	26	< 0.05	< 20	250	37.3	1.7	< 10	2.7	< 200	< 1	< 1	< 20	2.7	0.9	< 2	< 5	560	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (ppm)	As (ppm)	Au (ppb)	Ba (ppm)	Br (ppm)	Cd (ppm)	Ce (ppm)	Co (ppm)	Cr (ppm)	Cs (ppm)	Cu (ppm)	Fe (Pct)	Hf (ppm)	Ir (ppb)	La (ppm)	Lu (ppm)	Mo (ppm)	Na (Pct)	Ni (ppm)	Rb (ppm)	Sb (ppm)	Sc (ppm)	Se (ppm)	Sm (ppm)	Sn (ppm)	Ta (ppm)	Tb (ppm)	Te (ppm)	Th (ppm)	U (ppm)	W (ppm)	Yb (ppm)	Zn (ppm)	Zr (ppm)
T341	6	2	41	< 100	< 1	< 10	34	< 10	230	< 1	< 2	2.3	< 2	< 100	13	< 0.5	< 2	1.20	< 20	46	2.0	1.6	< 10	1.5	< 200	< 1	< 1	< 20	7.5	1.5	3	< 5	< 200	< 500
T342	8	19	130	< 100	< 1	< 10	19	29	250	2	< 2	4.3	< 2	< 100	8	< 0.5	25	0.23	< 20	54	2.7	0.7	< 10	1.0	< 200	< 1	< 1	< 20	4.6	1.2	< 2	< 5	< 200	< 500
T343	70	8	480	430	2	30	55	< 10	71	4	< 2	4.6	2	< 100	26	0.8	6	< 0.05	23	280	8.0	0.7	< 10	2.5	< 200	< 1	< 1	< 20	14.0	2.9	< 2	< 5	3300	< 500
T344	25	6	470	270	< 1	110	52	< 10	< 50	3	< 2	4.0	2	< 100	23	< 0.5	39	< 0.05	< 20	240	7.4	1.4	< 10	2.2	< 200	< 1	< 1	< 20	13.0	2.9	< 2	< 5	10000	< 500
T345	>100	9	1840	730	36	26	51	< 10	99	4	< 2	1.4	< 2	< 100	20	0.6	110	< 0.05	< 20	240	13.0	< 0.5	< 10	1.9	< 200	< 1	< 1	< 20	13.0	4.4	4	< 5	2000	< 500
T346	>100	6	563	320	4	< 10	62	< 10	69	5	< 2	1.9	3	< 100	24	< 0.5	6	< 0.05	< 20	280	7.4	< 0.5	< 10	2.4	< 200	< 1	< 1	< 20	16.0	2.7	< 2	< 5	340	< 500
T347	93	6	617	400	2	110	41	< 10	52	4	< 2	2.9	3	< 100	18	< 0.5	17	< 0.05	< 20	250	6.7	< 0.5	< 10	1.9	< 200	< 1	< 1	< 20	13.0	2.7	< 2	< 5	8900	< 500
T348	38	7	889	650	1	< 10	17	< 10	230	2	< 2	1.4	< 2	< 100	8	< 0.5	2	0.10	< 20	150	10.0	1.6	< 10	1.4	< 200	< 1	< 1	< 20	1.3	< 0.5	< 2	< 5	210	< 500
T349	< 5	5	15	200	< 1	< 10	69	< 10	170	3	< 2	0.7	3	< 100	26	0.8	< 2	< 0.05	< 20	190	6.0	3.0	< 10	4.1	< 200	< 1	< 1	< 20	18.0	1.4	< 2	< 5	< 200	< 500
T350	6	10	70	600	1	< 10	32	< 10	130	7	< 2	2.2	< 2	< 100	12	< 0.5	< 2	< 0.05	27	290	13.0	3.8	< 10	1.8	< 200	< 1	< 1	< 20	1.9	1.0	< 2	< 5	350	< 500
T351	< 5	4	18	740	< 1	< 10	64	15	100	7	< 2	3.4	3	< 100	25	< 0.5	< 2	0.07	< 20	340	8.5	7.5	< 10	4.4	< 200	< 1	< 1	< 20	3.8	2.3	11	< 5	790	< 500
T352	22	7	794	180	1	36	33	16	160	7	< 2	4.1	3	< 100	19	< 0.5	26	0.06	30	280	18.0	5.8	< 10	3.1	< 200	< 1	< 1	< 20	3.2	2.9	11	< 5	3000	< 500
T353	13	7	480	110	< 1	< 10	11	< 10	200	2	< 2	6.3	< 2	< 100	8	< 0.5	62	< 0.05	< 20	89	4.5	2.7	< 10	0.8	< 200	< 1	< 1	< 20	1.8	0.7	4	< 5	< 200	< 500
T354	< 5	2	42	< 100	< 1	580	24	27	150	3	< 2	6.8	< 2	< 100	13	< 0.5	7	0.17	< 20	170	3.7	4.0	< 10	2.4	< 200	< 1	< 1	< 20	1.3	0.8	7	< 5	>30000	710
T355	51	6	1170	200	2	< 10	< 10	< 10	300	2	< 2	0.7	< 2	< 100	< 5	< 0.5	4	< 0.05	< 20	30	22.9	< 0.5	< 10	0.7	< 200	< 1	< 1	< 20	1.4	< 0.5	< 2	< 5	990	< 500
T356	35	5	54	210	< 1	< 10	37	23	230	4	< 2	3.4	< 2	< 100	18	< 0.5	16	0.05	33	220	8.6	5.6	< 10	2.4	< 200	< 1	< 1	< 20	2.0	2.3	8	< 5	1100	< 500
T357	7	8	60	160	< 1	< 10	< 10	< 10	310	5	< 2	7.7	< 2	< 100	10	< 0.5	110	0.06	< 20	150	7.8	4.2	< 10	1.1	< 200	< 1	< 1	< 20	1.5	1.3	9	< 5	860	< 500
T358	6	8	21	190	< 1	< 10	35	26	280	5	< 2	>10.0	2	< 100	23	< 0.5	31	0.07	38	170	6.5	5.6	< 10	2.7	< 200	< 1	< 1	< 20	1.9	1.6	10	< 5	1300	< 500
T359	90	9	649	< 100	2	< 10	< 10	< 10	230	2	< 2	>10.0	< 2	< 100	8	< 0.5	42	0.06	< 20	62	16.0	2.9	< 10	1.0	< 200	< 1	< 1	< 20	0.8	1.5	5	< 5	1200	< 500
T360	>300	28	^ 0.347	>20000	61	< 10	26	14	< 50	4	< 2	2.1	5	< 100	14	< 0.5	160	< 0.05	< 20	120	135.0	< 0.5	< 10	0.6	< 200	< 1	< 1	< 20	3.8	19.0	< 2	< 5	780	< 500
T361	>300	43	1160	8300	14	< 10	58	10	110	8	< 2	2.2	< 2	< 100	17	< 0.5	454	< 0.05	< 20	130	214.0	< 0.5	< 10	2.6	< 200	< 1	< 1	< 20	5.8	2.5	4	7	1100	< 500
T362	20	23	140	200	2	10	55	< 10	78	8	< 2	4.2	5	< 100	25	< 0.5	84	0.07	41	270	28.7	7.2	< 10	3.7	< 200	< 1	< 1	< 20	5.2	8.9	7	< 5	1000	< 500
T363	29	28	790	710	4	< 10	30	< 10	230	3	< 2	1.7	< 2	< 100	11	< 0.5	110	< 0.05	< 20	120	62.5	2.7	< 10	< 0.2	< 200	< 1	< 1	< 20	2.0	30.0	4	< 5	890	< 500
T364	15	17	96	500	2	< 10	53	< 10	< 50	5	< 2	1.4	< 2	< 100	25	< 0.5	62	0.07	< 20	220	33.3	3.0	< 10	2.0	< 200	< 1	< 1	< 20	10.0	24.0	4	< 5	960	< 500
T365	37	20	1040	950	5	< 10	55	< 10	160	4	< 2	2.5	3	< 100	17	< 0.5	207	< 0.05	< 20	150	61.7	3.4	< 10	1.0	< 200	< 1	< 1	< 20	4.6	27.0	5	< 5	510	< 500
T366	33	36	310	< 100	2	16	59	12	90	10	< 2	3.8	4	< 100	25	< 0.5	80	0.05	25	250	27.8	6.9	< 10	2.2	< 200	< 1	< 1	< 20	5.9	41.0	8	< 5	1900	< 500
T367	130	21	681	< 100	5	14	39	13	130	6	< 2	2.8	3	< 100	20	< 0.5	110	< 0.05	30	200	35.8	2.1	< 10	1.5	< 200	< 1	< 1	< 20	4.8	34.0	6	< 5	1500	< 500
T368	>300	69	8520	980	512	* 35	58	< 10	76	7	< 2	3.9	< 2	< 100	34	< 0.5	257	0.15	< 20	200	364.0	< 0.5	< 10	3.0	< 200	< 1	< 1	< 20	5.7	4.9	14	< 5	3000	< 500
T369	120	27	1460	380	21	< 10	57	< 10	62	9	2	3.3	4	< 100	26	< 0.5	190	0.16	< 20	270	37.7	4.6	< 10	3.9	< 200	< 1	< 1	< 20	5.6	6.6	3	< 5	1000	< 500
T370	290	45	644	160	80	< 10	42	< 10	170	5	< 2	3.0	< 2	< 100	18	< 0.5	180	0.06	< 20	240	81.9	1.4	< 10	2.6	< 200	< 1	< 1	< 20	3.1	4.8	< 2	< 5	540	790
T371	14	39	280	900	5	< 10	67	< 10	88	9	< 2	3.4	3	< 100	28	< 0.5	247	1.00	< 20	210	27.5	3.0	< 10	1.9	< 200	< 1	< 1	< 20	2.6	14.0	3	< 5	240	< 500
T372	52	21	52	420	6	< 10	52	< 10	73	11	< 2	2.9	< 2	< 100	24	< 0.5	130	0.10	< 20	310	44.7	5.9	< 10	3.1	< 200	< 1	< 1	< 20	4.5	4.8	3	< 5	620	< 500
T373	26	20	150	170	1	< 10	120	29	80	3	< 2	>10.0	7	< 100	12	< 0.5	26	0.11	< 20	210	2.9	2.9	< 10	0.8	< 200	< 1	< 1	< 20	16.0	25.0	140	< 5	920	< 500
T374	18	9	120	760	< 1	< 10	28	11	59	5	< 2	>10.0	4	< 100	22	< 0.5	16	0.10	< 20	290	6.4	4.9	< 10	2.0	< 200	1	< 1	< 20	16.0	8.5	21	< 5	410	< 500
T375	20	5	130	240	< 1	< 10	39	11	160	3	< 2	6.0	3	< 100	17	< 0.5	8	0.11	< 20	190	3.9	3.5	< 10	1.7	< 200	< 1	< 1	< 20	11.0	9.2	14	< 5	450	< 500
T376	17	10	180	440	3	< 10	45	< 10	110	5	< 2	2.8	5	< 100	25	< 0.5	44	0.14	< 20	340	3.3	4.9	< 10	1.6	< 200	< 1	< 1	< 20	11.0	5.4	14	< 5	240	< 500
T377	75	16	170	680	< 1	< 10	35	68	74	3	< 2	>10.0	< 2	< 100	24	< 0.5	18	0.08	31	160	5.5	5.1	< 10	1.4	< 200	< 1	< 1	< 20	13.0	32.0	13	< 5	330	< 500
T378	< 5	6	23	130	< 1	< 10	37	18	150	1	< 2	4.2	5	< 100	20	0.6	98	0.95	24	65	1.2	3.5	< 10	3.0	< 200	< 1	< 1	< 20	20.0	5.1	3	< 5	< 200	< 500
T379	< 5	2	677	220	< 1	< 10	34	< 10	210	3	< 2	2.2	3	< 100	16	< 0.5	17	0.05	< 20	210	2.1	2.0	< 10	1.6	< 200	1	< 1	< 20	10.0	1.3	4	< 5	< 200	< 500
T380	< 5	2	1070	210	< 1	< 10	78	< 10	160	4	< 2	2.8	4	< 100	34	< 0.5	25	0.09	< 20	400	1.7	3.0	< 10	3.5	< 200	1	< 1	< 20	13.0	2.8	4	< 5	< 200	< 500
T381	< 5	2	2240	390	< 1	< 10	62	< 10	270	3	< 2	2.0	4	< 100	25	< 0.5	36	0.07	< 20	330	1.9	2.3	< 10	2.8	< 200	2	< 1	< 20	13.0	1.5	5	< 5	< 200	< 500
T382	< 5	4	220	580	< 1	< 10	77	< 10	230	4	< 2	1.4	4	< 100	33	< 0.5	6	0.12	< 20	470	1.9	3.0	< 10	4.1	< 200	1	< 1	< 20	24.0	2.6	5	< 5	< 200	< 500
T383	< 5	4	290	500	< 1	< 10	35	< 10	160	4	< 2	5.2	4	< 100	21	< 0.5	32	0.10	< 20	420	2.0	3.1	< 10	1.8	< 200	1	< 1	< 20	26.0	2.4	5	< 5	< 200	< 500
T384	< 5	2	130	280	< 1	< 10	31	< 10	260	3	< 2	2.2	3	< 100	16	< 0.5	30	< 0.05	< 20	300	1.8	2.3	< 10	1.6	< 200	1	< 1	< 20	13.0	1.7	3	< 5	< 200	< 500
T385	9	3	3240	360	< 1	< 10	35	< 10	350	1	< 2	1.5	2	< 100	15	< 0.5	45	< 0.05	< 20	170	2.2	1.2	< 10	1.9	< 200	< 1	< 1	< 20	5.2	1.4	4	< 5	< 200	< 500
T386	10	6	5790	280	< 1	< 10	21	< 10	280	3	< 2	6.8	2	< 100	12	< 0.5	140	0.05	< 20	240	2.2	2.0	< 10	1.3	< 200	1	< 1	< 20	18.0	1.9	< 2	< 5	< 200	< 500
T387	< 5	3	614	190	< 1	< 10	49	< 10	170	3	< 2	1.7	3	< 100	22	< 0.5	33	0.06	< 20	290	1.7	2.2	< 10	2.6	< 200	1	< 1	< 20	13.0	1.7	5	< 5	< 200	< 500
T388	< 5	2	55	640	< 1	< 10	70	< 10	180	5	< 2	1.4	5	< 100	29	< 0.5	13	0.21	< 20	460	1.2	3.3	< 10	3.4	< 200	2	< 1	< 20	22.0	3.8	4	< 5	< 200	< 500
T389	< 5	4	3160	< 100	< 1	< 10	< 10	< 10	290	< 1	< 2	1.2	< 2	< 100	< 5	< 0.5	95	< 0.05	< 20	55	2.9	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	1.7	< 0.5	< 2	< 5	< 200	< 500
T390	< 5	3	190	470	< 1	< 10	72	< 10	210	6	< 2	1.4	4	< 100	31	< 0.5	11	0.19	< 20	460	2.0	3.0	< 10	3.5	< 200	2	< 1	< 20	29.0	4.2	4	< 5	< 200	< 500
T391	< 5	2	110	690	< 1	< 10	88	< 10	110	21	< 2	1.9	3	< 100	38	< 0.5	4	0.14	< 20	420	2.4	3.7	< 10	5.5	< 200	1	< 1	< 20	24.0	10.0	4	< 5	< 200	< 500
T392	14	4	3250	370	< 1	< 10	24	< 10	380	3	< 2	3.2	2	< 100	10	< 0.5	75	< 0.05	< 20	130	1.9	2.1	< 10	1.4	< 200	< 1	< 1	< 20	5.0	1.3	2	< 5	< 200	< 500
T393	9	5	3780	120	< 1	< 10	< 10	< 10	300	2	< 2	3.6	< 2	< 100	< 5	< 0.5	32	< 0.05	< 20	140	7.8	1.3	< 10	1.3	< 200	< 1	< 1	< 20	2.8	1.1	3	< 5	< 200	< 500
T394	< 5	5	1570	280	< 1	< 10	< 10	< 10	320	4	< 2	2.3	< 2	< 100	9	< 0.5	33	0.17	< 20	230	11.0	2.0	< 10	1.9	< 200	< 1	< 1	< 20	9.3	2.4	< 2	< 5	< 200	< 500
T395	< 5	5	3300	440	< 1	< 10	78	< 10	74	8	< 2	6.7	5	< 100	32	< 0.5	3	0.09	27	720	4.8	11.0	< 10	4.8	< 200	< 1	< 1	< 20	11.0	8.1	39	< 5	< 200	< 500
T396	< 5	6	4910	150	< 1	< 10	< 10	< 10	200	4	< 2	8.6	4	< 100	12	< 0.5	7	< 0.05	< 20	290	1.6	3.2	< 10	1.5	< 200	1	< 1	< 20	12.0	2.7	4	< 5	< 200	< 500
T397	12	12	420	110	1	< 10	12	13	320	2	< 2	5.6	< 2	< 100	7	< 0.5	110	< 0.05	21	98	18.0	1.7	< 10	1.2	< 200	< 1	< 1	< 20	1.1	1.2	4	< 5	220	< 500
T398	13	7	290	190	2	< 10	31	< 10	300	3	< 2	2.9	3	< 100	15	< 0.5	75	0.06	< 20	210	12.0	3.4	< 10	2.0	< 200	< 1	< 1	< 20	1.7	1.0	6	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T399	< 5	2	360	< 100	< 1	< 10	18	< 10	320	3	< 2	1.2	< 2	< 100	8	< 0.5	6	< 0.05	< 20	130	1.5	1.4	< 10	1.4	< 200	< 1	< 1	< 20	9.5	1.5	< 2	< 5	< 200	< 500
T400	< 5	2	330	< 100	< 1	< 10	< 10	< 10	390	< 1	< 2	1.2	< 2	< 100	< 5	< 0.5	5	< 0.05	< 20	33	2.7	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	1.2	< 0.5	< 2	< 5	< 200	< 500
T401	< 5	2	220	150	< 1	< 10	20	< 10	300	2	< 2	1.4	< 2	< 100	9	< 0.5	4	< 0.05	< 20	190	1.9	2.8	< 10	1.3	< 200	< 1	< 1	< 20	4.2	1.5	9	< 5	< 200	< 500
T402	< 5	2	5240	150	< 1	< 10	25	< 10	300	2	< 2	2.5	< 2	< 100	11	< 0.5	7	< 0.05	< 20	220	3.0	2.3	< 10	1.2	< 200	< 1	< 1	< 20	4.2	1.9	9	< 5	< 200	< 500
T403	13	3	751	< 100	< 1	< 10	24	< 10	270	3	< 2	1.5	< 2	< 100	8	< 0.5	6	< 0.05	< 20	170	2.6	1.6	< 10	0.8	< 200	< 1	< 1	< 20	5.6	1.6	4	< 5	< 200	< 500
T404	< 5	4	360	< 100	< 1	< 10	13	< 10	330	3	< 2	1.4	< 2	< 100	9	< 0.5	9	< 0.05	< 20	120	2.7	1.4	< 10	0.5	< 200	< 1	< 1	< 20	8.6	1.1	3	< 5	< 200	< 500
T405	< 5	2	470	320	< 1	< 10	20	< 10	210	7	< 2	3.6	5	< 100	14	< 0.5	3	0.07	< 20	570	2.5	5.3	< 10	1.1	< 200	1	< 1	< 20	13.0	2.8	10	< 5	< 200	< 500
T406	< 5	2	220	< 100	< 1	< 10	18	< 10	320	2	< 2	2.1	< 2	< 100	9	< 0.5	3	< 0.05	< 20	150	1.9	1.7	< 10	0.8	< 200	< 1	< 1	< 20	4.9	1.7	6	< 5	< 200	< 500
T407	< 5	3	4360	240	< 1	< 10	93	< 10	190	4	< 2	3.4	5	< 100	38	< 0.5	3	0.05	< 20	440	3.6	4.6	< 10	4.3	< 200	1	< 1	< 20	8.5	3.9	19	< 5	< 200	< 500
T408	< 5	7	1670	430	< 1	< 10	150	< 10	110	9	< 2	8.9	5	< 100	72	< 0.5	< 2	0.08	< 20	830	5.3	10.0	< 10	5.9	< 200	1	< 1	< 20	28.0	21.0	40	8	< 200	610
T409	< 5	3	1660	260	< 1	< 10	110	< 10	180	7	< 2	4.4	4	< 100	43	< 0.5	< 2	0.06	< 20	530	4.1	6.1	< 10	4.5	< 200	< 1	< 1	< 20	11.0	7.4	24	< 5	< 200	< 500
T410	< 5	2	1170	< 100	< 1	< 10	< 10	12	390	2	< 2	1.7	< 2	< 100	< 5	< 0.5	7	< 0.05	< 20	110	2.4	0.9	< 10	0.5	< 200	< 1	< 1	< 20	4.9	0.8	< 2	< 5	< 200	< 500
T411	< 5	3	340	< 100	< 1	< 10	< 10	< 10	360	2	< 2	1.4	< 2	< 100	< 5	< 0.5	17	< 0.05	< 20	120	3.9	1.0	< 10	0.5	< 200	< 1	< 1	< 20	6.4	1.0	< 2	< 5	< 200	< 500
T412	11	4	1880	180	< 1	< 10	22	< 10	210	5	< 2	5.6	4	< 100	15	< 0.5	24	0.07	< 20	380	3.5	3.8	< 10	1.5	< 200	< 1	< 1	< 20	15.0	2.5	16	< 5	< 200	< 500
T413	10	2	1300	370	< 1	< 10	54	< 10	130	6	< 2	3.2	6	< 100	26	< 0.5	12	0.10	< 20	520	2.4	4.2	< 10	3.1	< 200	2	< 1	< 20	24.0	3.3	5	< 5	< 200	< 500
T414	10	5	2720	200	< 1	< 10	16	< 10	410	1	< 2	4.3	< 2	< 100	8	< 0.5	22	< 0.05	< 20	98	2.9	0.8	< 10	1.3	< 200	< 1	< 1	< 20	6.9	1.2	3	< 5	< 200	< 500
T415	7	11	6690	110	1	< 10	< 10	< 10	130	3	< 2	>10.0	4	< 100	10	< 0.5	28	< 0.05	< 20	120	2.9	2.1	< 10	1.1	< 200	1	< 1	< 20	15.0	3.4	2	< 5	< 200	< 500
T416	12	4	5660	180	< 1	< 10	14	< 10	200	4	< 2	8.1	4	< 100	13	< 0.5	22	0.06	< 20	370	2.7	2.7	< 10	1.5	< 200	2	< 1	< 20	9.3	2.3	6	< 5	< 200	< 500
T417	< 5	< 1	240	580	< 1	< 10	38	10	120	5	< 2	2.2	3	< 100	18	< 0.5	3	3.50	< 20	210	1.2	4.9	< 10	2.4	< 200	2	< 1	< 20	13.0	5.8	< 2	< 5	< 200	< 500
T418	13	6	6280	< 100	< 1	< 10	140	93	320	7	< 2	7.7	3	< 100	48	< 0.5	86	0.15	< 20	270	2.5	3.8	< 10	11.0	< 200	< 1	1	< 20	65.1	19.0	3	< 5	< 200	< 500
T419	< 5	3	69	440	< 1	< 10	120	< 10	230	6	< 2	1.4	5	< 100	46	< 0.5	3	0.15	< 20	510	2.0	3.7	< 10	6.1	< 200	2	1	< 20	37.0	17.0	4	< 5	< 200	< 500
T420	< 5	2	280	340	< 1	< 10	83	< 10	200	6	< 2	2.3	4	< 100	42	< 0.5	3	0.07	< 20	470	4.0	4.0	< 10	4.2	< 200	2	< 1	< 20	60.4	6.1	5	< 5	< 200	< 500
T421	< 5	3	140	410	< 1	< 10	120	< 10	200	6	< 2	1.9	5	< 100	49	< 0.5	3	0.08	20	510	2.8	3.8	< 10	6.4	< 200	2	< 1	< 20	36.0	10.0	4	< 5	< 200	< 500
T422	5	3	1660	310	< 1	< 10	66	< 10	180	4	< 2	6.3	4	< 100	26	< 0.5	5	0.06	21	450	3.1	2.6	< 10	2.9	< 200	1	< 1	< 20	11.0	3.0	4	< 5	< 200	< 500
T423	5	6	1180	320	1	< 10	68	< 10	190	5	< 2	7.2	5	< 100	31	< 0.5	15	0.08	< 20	450	2.9	3.7	< 10	2.6	< 200	2	< 1	< 20	41.0	5.5	5	< 5	< 200	< 500
T424	< 5	4	270	< 100	< 1	< 10	14	< 10	340	2	< 2	1.9	< 2	< 100	< 5	< 0.5	9	< 0.05	< 20	120	3.0	1.1	< 10	0.7	< 200	< 1	< 1	< 20	6.6	2.3	3	< 5	< 200	< 500
T425	< 5	3	1170	290	1	< 10	120	< 10	140	7	< 2	3.5	6	< 100	53	< 0.5	10	0.09	< 20	600	2.7	4.4	< 10	6.6	< 200	2	1	< 20	34.0	7.7	9	< 5	< 200	< 500
T426	< 5	< 1	79	540	< 1	< 10	44	11	63	10	< 2	2.1	3	< 100	23	< 0.5	4	3.30	33	180	1.2	4.9	< 10	2.9	< 200	< 1	< 1	< 20	11.0	4.0	3	< 5	390	< 500
T427	9	13	1660	< 100	2	< 10	< 10	< 10	130	3	< 2	10.0	< 2	< 100	5	< 0.5	82	0.08	< 20	63	17.0	0.8	< 10	0.6	< 200	< 1	< 1	< 20	16.0	1.7	< 2	< 5	< 200	< 500
T428	6	< 1	190	700	< 1	< 10	130	32	70	10	3	2.9	4	< 100	40	< 0.5	2	2.60	< 20	270	1.4	4.9	< 10	7.4	< 200	< 1	< 1	< 20	11.0	7.5	3	< 5	630	< 500
T429	230	3	8540	480	< 1	< 10	35	< 10	120	6	< 2	3.4	2	< 100	12	< 0.5	82	1.10	< 20	170	6.5	1.7	< 10	1.2	< 200	< 1	< 1	< 20	7.8	3.1	< 2	< 5	220	< 500
T430	6	2	160	780	< 1	< 10	53	< 10	59	5	< 2	2.2	4	< 100	24	< 0.5	< 2	3.20	24	240	1.1	5.1	< 10	3.0	< 200	1	< 1	< 20	13.0	5.3	< 2	< 5	< 200	< 500
T431	< 5	1	28	760	< 1	< 10	40	< 10	66	7	< 2	1.9	3	< 100	20	< 0.5	< 2	2.40	< 20	250	1.0	5.0	< 10	2.5	< 200	< 1	< 1	< 20	11.0	5.2	3	< 5	< 200	< 500
T432	< 5	38	64	160	1	< 10	1020	16	360	5	9	1.8	7	< 100	460	1.9	< 2	0.90	< 20	450	1.4	3.9	< 10	62.9	< 200	2	9	< 20	78.0	71.7	5	21	< 200	< 500
T433	220	4	^ 0.482	330	2	< 10	42	< 10	330	4	< 2	3.3	< 2	< 100	15	< 0.5	16	0.67	< 20	200	6.5	1.0	< 10	1.5	< 200	< 1	< 1	< 20	7.4	2.2	5	< 5	< 200	< 500
T434	210	5	^ 1.268	< 100	< 1	< 10	▪ 37	< 10	440	2	< 2	3.7	< 2	< 100	8	< 0.5	14	< 0.05	< 20	110	7.6	< 0.5	< 10	0.9	< 200	< 1	< 1	< 20	3.5	1.7	5	< 5	< 200	< 500
T435	110	5	^ 0.602	< 100	< 1	< 10	< 10	15	250	2	< 2	3.0	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	41	5.9	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	0.8	< 0.5	< 2	< 5	< 200	< 500
T436	63	2	788	160	3	< 10	19	< 10	110	4	< 2	2.1	< 2	< 100	5	< 0.5	6	0.23	< 20	140	3.4	1.3	< 10	0.7	< 200	< 1	< 1	< 20	4.2	2.1	5	< 5	840	< 500
T437	39	6	4430	100	< 1	< 10	< 10	< 10	200	< 1	< 2	3.3	< 2	< 100	< 5	< 0.5	37	< 0.05	< 20	15	3.6	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	1.7	0.5	< 2	< 5	< 200	< 500
T438	84	6	^ 0.463	< 100	< 1	< 10	< 10	16	240	< 1	< 2	3.1	< 2	< 100	< 5	< 0.5	45	< 0.05	< 20	< 10	3.5	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	< 0.5	1.0	< 2	< 5	< 200	< 500
T439	13	2	290	< 100	< 1	< 10	< 10	< 10	250	< 1	< 2	1.3	< 2	< 100	< 5	< 0.5	11	< 0.05	< 20	26	2.0	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	1.5	0.7	< 2	< 5	< 200	< 500
T440	36	5	1490	< 100	2	< 10	22	< 10	140	2	< 2	3.1	< 2	< 100	10	< 0.5	22	< 0.05	< 20	99	3.1	0.7	< 10	1.3	< 200	< 1	< 1	< 20	4.8	4.4	2	< 5	< 200	< 500
T441	12	7	1390	< 100	1	< 10	16	< 10	200	2	< 2	2.1	< 2	< 100	8	< 0.5	27	0.11	< 20	100	7.2	0.9	< 10	1.0	< 200	< 1	< 1	< 20	4.5	2.1	3	< 5	< 200	< 500
T442	< 5	2	48	220	< 1	< 10	82	< 10	93	7	< 2	1.8	6	< 100	43	< 0.5	3	0.10	< 20	480	2.4	4.4	< 10	2.3	< 200	2	< 1	< 20	22.0	3.9	6	< 5	< 200	< 500
T443	< 5	3	11	600	< 1	< 10	110	< 10	97	9	< 2	1.5	5	< 100	46	< 0.5	< 2	0.26	< 20	510	3.0	4.6	< 10	7.7	< 200	2	1	< 20	32.0	8.1	5	6	< 200	< 500
T444	< 5	10	48	190	4	< 10	61	< 10	110	6	< 2	2.7	4	< 100	29	< 0.5	< 2	0.07	< 20	510	2.4	3.7	< 10	4.1	< 200	1	< 1	< 20	26.0	6.9	9	< 5	< 200	< 500
T445	41	6	4590	< 100	1	< 10	17	12	230	2	< 2	2.4	< 2	< 100	10	< 0.5	327	< 0.05	< 20	65	8.4	< 0.5	< 10	1.6	< 200	< 1	< 1	< 20	3.1	2.7	4	< 5	< 200	< 500
T446	17	3	2040	130	1	< 10	39	< 10	340	5	< 2	2.1	3	< 100	15	< 0.5	38	< 0.05	< 20	220	4.7	2.2	< 10	1.8	< 200	< 1	< 1	< 20	6.0	2.0	4	< 5	< 200	< 500
T447	21	4	1940	290	4	< 10	63	< 10	150	19	< 2	4.2	2	< 100	27	< 0.5	60	0.44	< 20	250	4.4	3.7	< 10	2.3	< 200	< 1	< 1	< 20	15.0	6.6	4	< 5	210	< 500
T448	100	5	7440	100	16	< 10	19	< 10	310	5	< 2	3.2	< 2	< 100	11	< 0.5	110	0.07	< 20	130	5.5	0.8	< 10	1.4	< 200	< 1	< 1	< 20	6.2	2.2	5	< 5	< 200	< 500
T449	28	5	2280	380	3	< 10	40	< 10	370	6	< 2	3.6	< 2	< 100	14	< 0.5	65	0.18	< 20	140	5.8	1.6	< 10	1.6	< 200	< 1	< 1	< 20	6.9	2.5	4	< 5	< 200	< 500
T450	< 5	2	440	< 100	< 1	< 10	< 10	< 10	540	< 1	< 2	1.0	< 2	< 100	< 5	< 0.5	9	< 0.05	< 20	46	2.8	0.7	< 10	0.5	< 200	< 1	< 1	< 20	2.3	< 0.5	4	< 5	< 200	< 500
T451	17	12	2020	< 100	1	< 10	< 10	< 10	600	< 1	< 2	1.6	< 2	< 100	5	< 0.5	15	< 0.05	< 20	11	2.5	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	1.4	< 0.5	5	< 5	< 200	< 500
T452	15	24	3180	< 100	< 1	< 10	< 10	< 10	540	< 1	< 2	1.6	< 2	< 100	< 5	< 0.5	29	< 0.05	< 20	< 10	3.3	< 0.5	< 10	0.2	< 200	< 1	< 1	< 20	0.7	< 0.5	2	< 5	< 200	< 500
T453	7	22	568	< 100	< 1	< 10	< 10	< 10	590	< 1	< 2	1.3	< 2	< 100	< 5	< 0.5	17	< 0.05	< 20	< 10	3.0	< 0.5	< 10	0.3	< 200	< 1	< 1	< 20	< 0.5	< 0.5	3	< 5	< 200	< 500
T454	32	5	1880	< 100	3	< 10	< 10	< 10	640	< 1	< 2	1.3	< 2	< 100	·< 5	< 0.5	13	< 0.05	< 20	< 10	3.4	< 0.5	< 10	0.4	< 200	< 1	< 1	< 20	< 0.5	< 0.5	< 2	< 5	< 200	< 500
T455	26	6	6680	< 100	< 1	< 10	< 10	< 10	740	< 1	< 2	1.5	< 2	< 100	< 5	< 0.5	13	< 0.05	< 20	< 10	5.2	< 0.5	< 10	0.6	< 200	< 1	< 1	< 20	0.6	< 0.5	4	< 5	< 200	< 500
T456	14	7	2930	< 100	< 1'	< 10	14	< 10	580	< 1	< 2	3.1	< 2	< 100	9	0.6	22	< 0.05	< 20	21	5.5	0.7	< 10	1.6	< 200	< 1	< 1	< 20	2.5	1.1	5	< 5	< 200	< 500

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T457	12	6	1360	< 100	< 1	< 10	< 10	< 10	580	< 1	< 2	2.3	< 2	< 100	< 5	< 0.5	36	< 0.05	< 20	< 10	4.0	< 0.5	< 10	0.2	< 200	< 1	< 1	< 20	0.6	< 0.5	3	< 5	< 200	< 500
T458	52	10	2170	160	4	< 10	< 10	< 10	470	< 1	< 2	1.3	< 2	< 100	< 5	< 0.5	8	< 0.05	< 20	16	4.1	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	0.8	0.6	< 2	< 5	< 200	< 500
T459	73	8	^ 0.651	< 100	2	< 10	< 10	19	560	< 1	< 2	2.9	< 2	< 100	< 5	< 0.5	14	< 0.05	< 20	< 10	7.5	< 0.5	< 10	1.0	< 200	< 1	< 1	< 20	< 0.5	0.9	< 2	< 5	< 200	< 500
T460	< 5	5	56	950	< 1	< 10	140	< 10	190	7	< 2	1.8	7	< 100	49	1.1	2	0.48	< 20	470	1.7	4.9	< 10	8.4	< 200	1	1	< 20	34.0	5.0	< 2	< 5	< 200	< 500
T461	< 5	2	25	770	< 1	< 10	120	18	180	11	< 2	2.5	5	< 100	46	1.1	< 2	0.22	< 20	460	2.4	6.3	< 10	6.4	< 200	2	< 1	< 20	32.0	8.4	< 2	< 5	< 200	< 500
T462	< 5	3	19	680	2	< 10	120	14	150	10	< 2	3.3	6	< 100	49	1.0	< 2	0.10	< 20	480	2.5	6.3	< 10	6.6	< 200	1	1	< 20	30.0	10.0	< 2	< 5	< 200	< 500
T463	< 5	3	1080	880	< 1	< 10	110	< 10	130	6	< 2	2.2	7	< 100	45	1.0	< 2	1.10	< 20	410	1.6	5.4	< 10	7.6	< 200	1	< 1	< 20	30.0	8.7	< 2	< 5	210	< 500
T464	< 5	5	6	740	2	< 10	110	18	150	14	< 2	4.7	5	< 100	43	1.1	< 2	0.14	< 20	450	3.0	5.3	< 10	6.0	< 200	2	< 1	< 20	29.0	6.1	6	< 5	< 200	< 500
T465	10	3	190	1100	6	< 10	97	31	170	7	< 2	3.9	6	< 100	37	1.3	< 2	0.18	< 20	430	3.5	6.7	< 10	5.4	< 200	1	1	< 20	31.0	11.0	6	< 5	< 200	< 500
T466	29	6	6710	< 100	< 1	< 10	< 10	12	550	< 1	< 2	2.1	< 2	< 100	< 5	< 0.5	10	< 0.05	< 20	< 10	5.4	< 0.5	< 10	0.5	< 200	< 1	< 1	< 20	< 0.5	< 0.5	< 2	< 5	< 200	< 500
T467	39	5	1360	< 100	2	< 10	< 10	< 10	560	< 1	< 2	2.7	< 2	< 100	< 5	< 0.5	23	< 0.05	< 20	32	4.6	< 0.5	< 10	< 0.2	< 200	< 1	< 1	< 20	1.6	0.6	9	< 5	< 200	< 500
T468	9	6	842	< 100	< 1	< 10	< 10	< 10	550	1	< 2	2.4	< 2	< 100	< 5	< 0.5	19	< 0.05	< 20	67	6.9	0.8	< 10	0.7	< 200	< 1	< 1	< 20	4.1	1.0	< 2	< 5	< 200	< 500
T469	86	24	1430	220	1	< 10	16	< 10	290	4	< 2	2.5	2	< 100	7	< 0.5	16	< 0.05	< 20	200	2.6	1.3	< 10	0.7	< 200	< 1	< 1	< 20	6.1	1.7	3	< 5	< 200	< 500
T470	14	9	260	140	< 1	< 10	37	< 10	400	3	< 2	1.8	< 2	< 100	17	< 0.5	8	0.07	< 20	140	1.5	1.2	< 10	2.0	< 200	< 1	< 1	< 20	13.0	2.3	< 2	< 5	240	< 500
T471	12	10	190	130	< 1	< 10	43	11	170	3	< 2	2.2	2	< 100	19	< 0.5	12	0.06	< 20	150	1.6	1.5	< 10	1.9	< 200	< 1	< 1	< 20	12.0	7.1	< 2	< 5	550	< 500
T472	< 5	6	29	390	< 1	< 10	85	< 10	77	6	< 2	2.6	5	< 100	32	< 0.5	< 2	0.15	< 20	390	1.9	4.0	< 10	4.2	< 200	1	< 1	< 20	26.0	4.2	10	< 5	< 200	< 500
T473	11	8	2190	930	2	< 10	15	< 10	290	4	< 2	1.9	4	< 100	8	< 0.5	46	< 0.05	< 20	200	27.8	2.2	< 10	0.9	< 200	< 1	< 1	< 20	10.0	1.8	3	< 5	250	< 500
T474	43	9	5100	270	1	< 10	21	< 10	320	5	< 2	4.8	< 2	< 100	8	< 0.5	72	< 0.05	< 20	130	17.0	2.2	< 10	1.4	< 200	< 1	< 1	< 20	8.8	2.3	2	< 5	440	< 500
T475	9	7	1760	130	< 1	16	23	< 10	260	3	< 2	2.8	4	< 100	16	< 0.5	19	< 0.05	< 20	210	15.0	2.9	< 10	1.4	< 200	< 1	< 1	< 20	8.1	3.3	7	< 5	1000	< 500
T476	17	14	4070	< 100	2	< 10	35	< 10	260	3	< 2	3.2	3	< 100	15	< 0.5	35	< 0.05	< 20	190	23.8	3.5	< 10	1.6	< 200	< 1	< 1	< 20	6.4	2.7	10	< 5	270	< 500
T477	< 5	24	585	150	2	< 10	63	< 10	160	9	< 2	3.7	3	< 100	27	< 0.5	88	0.14	< 20	300	18.0	6.3	< 10	3.0	< 200	< 1	< 1	< 20	13.0	6.5	13	< 5	< 200	< 500
T478	57	59	^ 0.359	< 100	6	< 10	< 10	< 10	290	2	< 2	4.6	< 2	< 100	9	< 0.5	34	0.05	< 20	140	28.8	1.5	< 10	1.1	< 200	< 1	< 1	< 20	5.0	2.5	9	< 5	300	< 500
T479	< 5	4	300	820	< 1	< 10	53	11	81	12	< 2	3.0	3	< 100	23	< 0.5	6	1.70	< 20	240	4.4	5.8	< 10	3.6	< 200	< 1	< 1	< 20	7.0	2.9	4	< 5	300	< 500
T480	< 5	12	230	450	2	< 10	48	11	210	5	< 2	3.0	2	< 100	19	< 0.5	13	0.91	26	230	28.9	4.3	< 10	3.0	< 200	< 1	< 1	< 20	7.1	1.7	6	< 5	250	< 500
T481	8	8	110	530	< 1	< 10	57	< 10	250	5	< 2	1.8	4	< 100	24	< 0.5	11	0.07	21	330	10.0	4.5	< 10	3.1	< 200	1	< 1	< 20	12.0	3.8	5	< 5	280	< 500
T482	31	11	1150	150	3	< 10	< 10	< 10	330	3	< 2	3.4	< 2	< 100	7	< 0.5	18	< 0.05	< 20	110	14.0	0.9	< 10	0.9	< 200	< 1	< 1	< 20	5.6	2.7	< 2	< 5	620	< 500
T483	37	15	170	< 100	3	130	30	15	400	2	< 2	3.1	< 2	< 100	12	< 0.5	56	< 0.05	< 20	120	23.5	1.0	< 10	1.7	< 200	< 1	< 1	< 20	5.5	1.7	5	< 5	13000	< 500
T484	< 5	7	52	570	< 1	< 10	70	< 10	220	7	< 2	2.5	4	< 100	33	0.5	23	0.08	< 20	290	12.0	6.1	< 10	4.6	< 200	< 1	< 1	< 20	21.0	7.4	3	< 5	490	< 500
T485	17	24	370	370	< 1	11	47	17	62	12	< 2	5.4	5	< 100	22	< 0.5	23	0.13	36	420	11.0	6.8	< 10	3.0	< 200	< 1	< 1	< 20	3.7	3.8	12	< 5	3200	< 500
T486	120	27	3610	340	5	< 10	59	< 10	390	9	< 2	2.6	5	< 100	24	< 0.5	57	0.08	< 20	300	44.7	5.9	< 10	2.4	< 200	< 1	< 1	< 20	15.0	4.8	8	< 5	220	< 500
T487	11	39	100	550	4	< 10	79	< 10	210	7	< 2	3.7	5	< 100	28	< 0.5	58	0.06	< 20	290	39.8	8.3	< 10	3.8	< 200	1	< 1	< 20	23.0	8.7	4	< 5	770	< 500
T488	15	50	160	550	11	12	26	< 10	360	4	< 2	2.3	< 2	< 100	9	< 0.5	180	< 0.05	< 20	120	107.0	2.1	< 10	1.1	< 200	< 1	< 1	< 20	5.2	1.8	4	< 5	1000	< 500
T489	11	27	330	700	5	< 10	58	32	260	8	< 2	5.9	3	< 100	18	< 0.5	9	0.05	43	230	47.4	10.0	< 10	2.8	< 200	< 1	< 1	< 20	2.1	7.6	13	< 5	1900	< 500
T490	< 5	9	33	770	< 1	< 10	64	18	71	7	< 2	6.7	4	< 100	29	0.7	29	0.17	< 20	360	2.7	6.7	< 10	3.2	< 200	< 1	< 1	< 20	17.0	10.0	11	< 5	390	< 500
T491	< 5	12	1490	510	< 1	< 10	38	< 10	150	6	< 2	3.9	4	< 100	18	0.5	13	0.08	< 20	340	2.1	3.8	< 10	1.6	< 200	< 1	< 1	< 20	14.0	5.3	8	< 5	< 200	< 500
T492	< 5	9	88	450	< 1	< 10	40	< 10	130	5	< 2	3.3	3	< 100	22	0.6	15	0.06	< 20	350	3.2	3.6	< 10	2.0	< 200	< 1	< 1	< 20	15.0	4.6	9	< 5	< 200	< 500
T493	9	20	2600	390	1	< 10	82	13	180	10	< 2	6.3	4	< 100	41	0.8	110	0.10	< 20	460	3.8	5.5	< 10	4.3	< 200	< 1	< 1	< 20	13.0	7.4	12	< 5	< 200	< 500
T494	< 5	11	230	390	< 1	< 10	33	< 10	120	9	< 2	4.7	4	< 100	19	0.6	39	0.09	< 20	470	3.6	4.1	< 10	1.7	< 200	< 1	< 1	< 20	14.0	4.7	17	< 5	< 200	< 500
T495	< 5	39	1770	520	2	< 10	58	< 10	160	12	< 2	7.5	4	< 100	32	0.8	45	0.21	26	500	4.5	12.0	< 10	3.8	< 200	1	< 1	< 20	13.0	9.4	33	< 5	720	< 500
T496	31	18	6060	410	2	< 10	41	12	62	4	< 2	3.4	2	< 100	20	0.5	76	0.14	< 20	260	4.4	2.9	< 10	2.1	< 200	< 1	< 1	< 20	7.3	3.2	10	< 5	410	< 500
T497	< 5	17	754	500	2	< 10	63	< 10	150	11	< 2	4.9	3	< 100	29	0.6	27	0.21	< 20	420	4.4	4.7	< 10	2.1	< 200	< 1	< 1	< 20	14.0	8.7	11	< 5	320	< 500
T498	< 5	34	1770	380	2	< 10	35	< 10	200	8	< 2	6.6	5	< 100	20	< 0.5	75	0.18	< 20	410	3.1	5.1	< 10	2.1	< 200	< 1	< 1	< 20	17.0	4.6	16	< 5	< 200	< 500
T499	26	45	4010	320	2	< 10	30	< 10	270	2	< 2	3.6	3	< 100	13	< 0.5	24	0.10	< 20	180	2.5	1.3	< 10	1.3	< 200	< 1	< 1	< 20	6.4	2.6	22	< 5	< 200	< 500
T500	5	10	73	150	< 1	< 10	12	< 10	240	4	< 2	4.2	2	< 100	9	< 0.5	21	0.11	< 20	220	2.2	3.6	< 10	0.7	< 200	< 1	< 1	< 20	7.7	4.6	13	< 5	< 200	< 500
T501	< 5	15	170	800	1	< 10	29	< 10	190	12	< 2	7.0	3	< 100	17	0.5	56	0.20	< 20	400	2.5	6.9	< 10	1.8	< 200	< 1	< 1	< 20	12.0	6.2	20	< 5	< 200	< 500
T502	10	37	1960	170	< 1	< 10	16	< 10	160	5	< 2	7.9	2	< 100	13	< 0.5	99	0.14	< 20	190	4.6	2.8	< 10	1.3	< 200	< 1	< 1	< 20	7.7	4.9	10	< 5	< 200	< 500
T503	< 5	17	4380	590	< 1	< 10	42	< 10	260	5	< 2	3.5	< 2	< 100	20	< 0.5	16	0.13	< 20	210	1.4	1.9	< 10	1.7	< 200	< 1	< 1	< 20	17.0	4.2	6	< 5	< 200	< 500
T504	< 5	13	320	860	< 1	< 10	70	11	150	16	< 2	5.6	3	< 100	47	0.7	9	0.15	23	440	2.2	5.6	< 10	4.3	< 200	1	< 1	< 20	28.0	8.2	27	< 5	< 200	< 500
T505	< 5	5	647	990	< 1	< 10	73	13	77	8	< 2	4.8	3	< 100	32	0.6	2	0.50	< 20	470	2.2	6.7	< 10	4.1	< 200	< 1	< 1	< 20	20.0	5.2	11	< 5	< 200	< 500
T506	< 5	37	1300	1100	< 1	< 10	60	14	83	12	< 2	6.5	4	< 100	29	1.1	48	0.25	< 20	540	3.7	11.0	< 10	4.1	< 200	< 1	< 1	< 20	18.0	13.0	26	< 5	260	< 500
T507	< 5	3	220	2200	< 1	< 10	69	< 10	120	13	< 2	4.5	3	< 100	26	0.8	5	0.15	< 20	440	2.7	2.8	< 10	2.7	< 200	1	< 1	< 20	23.0	6.9	7	< 5	< 200	< 500
T508	< 5	4	6	770	< 1	< 10	160	< 10	100	10	< 2	2.2	4	< 100	66	0.9	5	0.31	< 20	500	2.0	3.0	< 10	5.7	< 200	2	< 1	< 20	30.0	7.1	6	< 5	290	< 500
T509	< 5	4	12	790	< 1	< 10	88	< 10	86	16	< 2	3.0	3	< 100	40	0.7	3	0.83	< 20	380	2.1	3.9	< 10	4.1	< 200	1	< 1	< 20	20.0	6.0	7	< 5	220	< 500
T510	< 5	3	< 5	940	< 1	< 10	78	< 10	79	7	< 2	2.8	3	< 100	33	0.9	2	1.10	< 20	390	1.5	2.8	< 10	2.7	< 200	1	< 1	< 20	22.0	14.0	5	< 5	< 200	< 500
T511	< 5	5	5	230	< 1	< 10	83	< 10	97	9	< 2	4.2	3	< 100	34	1.6	7	0.13	< 20	390	1.2	2.3	< 10	2.1	< 200	1	< 1	< 20	21.0	32.0	5	< 5	< 200	< 500
T512	7	4	28	650	< 1	< 10	110	< 10	110	20	< 2	2.7	3	< 100	46	1.0	5	0.50	22	440	3.6	3.5	< 10	4.1	< 200	1	< 1	< 20	30.0	11.0	4	< 5	260	< 500
T513	< 5	4	400	* 490	< 1	28	120	< 10	85	21	< 2	2.7	2	< 100	42	0.9	22	0.09	< 20	480	3.0	3.0	< 10	* 4.8	< 200	1	< 1	< 20	29.0	154.0	7	< 5	1300	< 500
T514	< 5	4	28	1100	< 1	< 10	270	< 10	220	12	< 2	5.9	3	< 100	120	0.6	6	0.08	42	340	2.4	3.9	< 10	9.4	< 200	1	< 1	< 20	19.0	7.8	8	< 5	250	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T515	< 5	16	15	2300	< 1	< 10	80	< 10	200	13	< 2	2.0	4	< 100	33	1.4	8	0.49	< 20	420	5.3	2.4	< 10	2.6	< 200	1	< 1	< 20	26.0	29.0	6	< 5	350	< 500
T516	< 5	3	7	1400	< 1	< 10	58	< 10	140	16	< 2	1.6	4	< 100	24	0.9	< 2	1.20	< 20	380	2.1	2.6	< 10	3.0	< 200	1	< 1	< 20	25.0	7.5	5	< 5	< 200	< 500
T517	< 5	3	5	1300	< 1	< 10	130	< 10	170	6	< 2	1.6	4	< 100	52	0.7	3	1.70	< 20	290	1.1	2.5	< 10	4.6	< 200	1	< 1	< 20	23.0	4.7	< 2	< 5	< 200	< 500
T518	< 5	2	< 5	530	< 1	< 10	60	< 10	< 50	20	< 2	2.4	3	< 100	30	< 0.5	< 2	1.20	< 20	260	1.4	5.2	< 10	3.3	< 200	1	< 1	< 20	11.0	5.0	5	< 5	< 200	< 500
T519	< 5	2	< 5	650	< 1	< 10	49	< 10	65	21	< 2	2.4	3	< 100	26	< 0.5	< 2	2.40	24	250	2.0	5.7	< 10	3.3	< 200	< 1	< 1	< 20	11.0	4.6	4	< 5	< 200	< 500
T520	< 5	1	5	690	< 1	< 10	52	< 10	94	18	< 2	2.4	4	< 100	21	< 0.5	< 2	2.80	< 20	230	1.6	5.8	< 10	2.8	< 200	< 1	< 1	< 20	11.0	3.9	9	< 5	< 200	< 500
T521	< 5	2	92	3800	< 1	< 10	61	< 10	140	11	< 2	2.0	4	< 100	26	0.9	3	0.20	< 20	510	1.9	3.0	< 10	1.9	< 200	1	< 1	< 20	25.0	14.0	6	< 5	520	< 500
T522	< 5	3	9	850	< 1	< 10	120	< 10	98	13	< 2	1.8	4	< 100	52	1.9	< 2	0.22	< 20	450	2.1	2.6	< 10	2.6	< 200	1	< 1	< 20	26.0	40.0	7	< 5	< 200	< 500
T523	< 5	9	40	570	< 1	< 10	100	< 10	160	17	< 2	2.9	3	< 100	45	1.0	22	0.10	< 20	410	2.4	3.6	< 10	4.8	< 200	< 1	< 1	< 20	23.0	12.0	< 2	< 5	< 200	< 500
T524	< 5	13	24	180	< 1	< 10	110	< 10	110	15	< 2	3.0	3	< 100	47	1.8	18	0.16	32	430	2.5	4.9	< 10	3.3	< 200	2	< 1	< 20	19.0	39.0	9	< 5	< 200	< 500
T525	< 5	4	9	1100	< 1	32	130	< 10	130	10	< 2	1.2	3	< 100	55	0.9	3	0.08	< 20	370	3.1	4.0	< 10	7.4	< 200	< 1	< 1	< 20	21.0	7.3	4	< 5	800	< 500
T526	< 5	10	4030	180	< 1	< 10	19	< 10	260	7	< 2	4.1	< 2	< 100	10	1.1	16	0.15	< 20	170	3.2	2.3	< 10	0.5	< 200	< 1	< 1	< 20	9.0	25.0	< 2	< 5	480	< 500
T527	< 5	3	200	750	< 1	< 10	71	< 10	190	9	< 2	2.6	3	< 100	32	0.6	4	0.26	< 20	290	2.3	2.6	< 10	2.6	< 200	1	< 1	< 20	23.0	8.3	6	< 5	260	< 500
T528	< 5	2	< 5	1200	< 1	< 10	72	12	140	8	< 2	3.1	4	< 100	34	0.8	< 2	0.59	< 20	490	1.4	3.4	< 10	2.9	< 200	1	< 1	< 20	30.0	8.4	14	< 5	< 200	< 500
T529	< 5	3	55	570	< 1	< 10	33	< 10	160	6	< 2	2.3	< 2	< 100	17	< 0.5	2	0.24	< 20	280	1.7	2.5	< 10	1.3	< 200	< 1	< 1	< 20	19.0	4.1	2	< 5	< 200	< 500
T530	< 5	13	787	410	< 1	< 10	42	< 10	220	5	< 2	2.5	< 2	< 100	23	< 0.5	56	0.09	< 20	300	2.0	2.0	< 10	1.7	< 200	< 1	< 1	< 20	19.0	6.3	5	< 5	< 200	< 500
T531	< 5	7	< 5	1400	< 1	< 10	71	< 10	160	5	< 2	4.6	3	< 100	34	< 0.5	6	0.53	< 20	440	1.3	2.6	< 10	2.4	< 200	1	< 1	< 20	25.0	4.1	14	< 5	< 200	< 500
T532	< 5	4	130	790	< 1	< 10	50	< 10	140	3	< 2	1.9	3	< 100	19	< 0.5	5	0.60	< 20	260	1.4	3.5	< 10	1.6	< 200	< 1	< 1	< 20	16.0	3.4	12	< 5	< 200	< 500
T533	< 5	4	120	990	< 1	< 10	83	< 10	130	11	< 2	2.3	5	< 100	32	0.7	12	0.18	< 20	410	2.6	4.6	< 10	3.3	< 200	< 1	< 1	< 20	22.0	6.7	6	< 5	< 200	< 500
T534	17	51	^ 2.557	130	< 1	< 10	* 45	42	260	4	< 2	10.0	< 2	< 100	7	< 0.5	* 6	< 0.05	< 20	200	1.9	1.1	< 10	0.5	* 1100	< 1	< 1	* 66	* 1.1	2.7	* 4	< 5	< 200	< 500
T535	< 5	5	57	510	< 1	< 10	36	< 10	160	5	< 2	3.0	3	< 100	21	< 0.5	21	0.17	< 20	310	2.2	3.7	< 10	2.1	< 200	< 1	< 1	< 20	20.0	4.7	9	< 5	< 200	< 500
T536	< 5	7	77	240	< 1	< 10	26	< 10	130	7	< 2	3.4	3	< 100	13	< 0.5	14	0.19	< 20	280	2.4	5.2	< 10	1.3	< 200	< 1	< 1	< 20	17.0	7.2	7	< 5	< 200	< 500
T537	< 5	7	15	2800	< 1	< 10	55	< 10	90	9	< 2	4.3	4	< 100	31	< 0.5	3	0.64	< 20	440	3.1	3.4	< 10	3.1	< 200	1	< 1	< 20	30.0	6.2	6	< 5	< 200	< 500
T538	< 5	10	12	540	< 1	< 10	66	< 10	110	14	< 2	3.5	2	< 100	30	< 0.5	13	0.15	< 20	490	2.2	3.2	< 10	2.2	< 200	1	< 1	< 20	27.0	4.9	10	< 5	< 200	< 500
T539	< 5	9	37	520	< 1	< 10	70	< 10	130	13	< 2	4.5	4	< 100	36	0.7	10	0.16	< 20	490	2.0	3.6	< 10	2.7	< 200	2	< 1	< 20	35.0	8.9	11	< 5	< 200	< 500
T540	< 5	5	12	510	< 1	< 10	38	< 10	79	9	< 2	4.9	3	< 100	22	0.5	56	0.25	< 20	420	2.9	1.9	< 10	1.5	< 200	< 1	< 1	< 20	15.0	5.1	18	< 5	< 200	< 500
T541	< 5	14	8	730	< 1	< 10	49	< 10	97	8	< 2	4.2	4	< 100	23	< 0.5	14	0.15	< 20	540	1.7	2.6	< 10	1.4	< 200	1	< 1	< 20	23.0	5.0	20	< 5	< 200	< 500
T542	< 5	5	< 5	630	< 1	< 10	55	< 10	98	9	< 2	3.4	3	< 100	29	0.5	4	0.63	< 20	450	2.0	2.2	< 10	2.2	< 200	1	< 1	< 20	21.0	9.0	7	< 5	< 200	< 500
T543	< 5	3	23	690	< 1	< 10	33	< 10	140	4	< 2	2.7	3	< 100	15	0.5	14	0.23	< 20	280	0.8	3.0	< 10	1.5	< 200	< 1	< 1	< 20	14.0	5.6	9	< 5	< 200	< 500
T544	< 5	6	290	490	< 1	< 10	33	< 10	190	4	< 2	3.1	3	< 100	17	< 0.5	23	0.31	< 20	270	1.2	2.9	< 10	1.0	< 200	< 1	< 1	< 20	15.0	4.6	7	< 5	< 200	< 500
T545	5	5	120	770	< 1	< 10	42	< 10	180	5	< 2	2.8	3	< 100	19	< 0.5	9	0.12	< 20	420	1.8	3.0	< 10	1.5	< 200	1	< 1	< 20	13.0	3.2	8	< 5	< 200	< 500
T546	< 5	9	14	440	< 1	< 10	18	< 10	160	5	< 2	3.9	3	< 100	10	< 0.5	47	0.07	< 20	360	1.5	2.5	< 10	0.6	< 200	< 1	< 1	< 20	21.0	4.1	12	< 5	< 200	< 500
T547	< 5	20	30	320	< 1	< 10	11	< 10	180	5	< 2	4.7	2	< 100	9	< 0.5	25	0.19	< 20	310	1.2	2.3	< 10	0.5	< 200	< 1	< 1	< 20	15.0	2.9	8	< 5	< 200	< 500
T548	9	18	100	410	< 1	< 10	< 10	< 10	170	3	< 2	7.4	4	< 100	10	< 0.5	31	0.19	< 20	170	1.5	1.9	< 10	0.8	< 200	< 1	< 1	< 20	11.0	2.5	5	< 5	< 200	< 500
T549	9	11	32	200	< 1	< 10	15	< 10	190	4	< 2	4.1	< 2	< 100	8	< 0.5	25	0.16	< 20	180	1.5	1.8	< 10	0.7	< 200	< 1	< 1	< 20	21.0	3.9	5	< 5	< 200	< 500
T550	8	28	66	150	< 1	< 10	19	26	290	6	< 2	5.2	< 2	< 100	14	< 0.5	6	< 0.05	< 20	200	2.5	1.1	< 10	0.9	< 200	< 1	< 1	< 20	8.5	2.9	< 2	< 5	< 200	< 500
T551	< 5	11	24	210	< 1	< 10	60	< 10	190	6	< 2	3.0	2	< 100	26	0.7	9	< 0.05	< 20	300	2.2	2.2	< 10	1.7	< 200	< 1	< 1	< 20	20.0	11.0	4	< 5	< 200	< 500
T552	6	30	32	380	1	< 10	10	13	180	7	< 2	7.9	< 2	< 100	13	< 0.5	140	0.10	< 20	290	2.2	1.4	< 10	0.9	< 200	< 1	< 1	< 20	24.0	2.7	12	< 5	< 200	< 500
T553	< 5	12	19	580	< 1	< 10	48	17	140	7	< 2	4.9	4	< 100	26	0.5	140	0.21	< 20	430	1.4	3.4	< 10	1.9	< 200	1	< 1	< 20	34.0	9.3	8	< 5	< 200	< 500
T554	48	24	450	620	8	< 10	38	10	190	7	< 2	2.1	< 2	< 100	13	< 0.5	< 2	0.29	< 20	210	68.8	2.7	< 10	2.2	< 200	< 1	< 1	< 20	1.7	1.0	9	< 5	230	< 500
T555	< 5	5	230	790	< 1	< 10	71	< 10	140	3	< 2	1.2	3	< 100	26	0.6	2	0.27	< 20	300	3.8	2.3	< 10	3.1	< 200	< 1	< 1	< 20	19.0	3.3	< 2	< 5	< 200	< 500
T556	15	4	410	590	< 1	< 10	52	< 10	140	2	< 2	1.0	< 2	< 100	18	< 0.5	8	0.10	< 20	140	3.4	1.5	< 10	2.5	< 200	< 1	< 1	< 20	12.0	2.4	< 2	< 5	280	< 500
T557	< 5	3	21	770	1	< 10	92	< 10	58	4	< 2	1.3	4	< 100	40	0.9	< 2	2.30	< 20	240	2.1	3.0	< 10	5.0	< 200	1	< 1	< 20	26.0	4.8	< 2	< 5	< 200	< 500
T558	< 5	3	110	600	1	< 10	45	< 10	230	4	< 2	0.9	2	< 100	16	< 0.5	7	0.21	< 20	240	1.8	1.5	< 10	2.2	< 200	< 1	< 1	< 20	11.0	1.9	< 2	< 5	< 200	< 500
T559	14	3	^ 0.667	720	< 1	< 10	61	< 10	260	4	< 2	1.0	3	< 100	27	0.7	6	1.00	< 20	290	1.9	2.2	< 10	3.3	< 200	< 1	< 1	< 20	17.0	3.1	< 2	< 5	420	< 500
T560	< 5	5	74	760	1	< 10	81	< 10	140	5	< 2	1.5	5	< 100	35	< 0.5	4	0.36	38	300	3.4	2.9	< 10	3.9	< 200	1	< 1	< 20	17.0	3.2	3	< 5	290	< 500
T561	12	6	9200	820	< 1	< 10	98	< 10	130	7	< 2	1.7	4	< 100	36	< 0.5	5	0.15	21	400	4.0	3.2	< 10	4.2	< 200	1	< 1	< 20	21.0	4.9	2	< 5	350	< 500
T562	< 5	4	71	1100	< 1	< 10	54	< 10	140	7	< 2	1.1	4	< 100	28	< 0.5	< 2	0.16	< 20	480	3.7	2.3	< 10	3.4	< 200	< 1	< 1	< 20	18.0	2.9	3	< 5	200	< 500
T563	< 5	3	100	820	< 1	< 10	76	< 10	270	4	< 2	1.1	3	< 100	29	< 0.5	5	1.20	26	270	1.8	2.2	< 10	3.9	< 200	1	< 1	< 20	19.0	3.5	3	< 5	< 200	< 500
T564	< 5	3	9	1100	< 1	< 10	74	< 10	220	7	< 2	1.3	5	< 100	32	< 0.5	3	0.87	< 20	410	1.9	3.8	< 10	3.9	< 200	< 1	< 1	< 20	24.0	3.3	3	< 5	< 200	< 500
T565	6	6	58	410	< 1	< 10	49	< 10	510	3	< 2	2.2	< 2	< 100	17	< 0.5	21	0.07	< 20	94	11.0	1.1	< 10	3.1	< 200	< 1	< 1	< 20	5.7	2.1	4	< 5	730	< 500
T566	11	5	3770	1000	< 1	< 10	67	< 10	110	6	< 2	1.6	4	< 100	35	0.5	4	0.25	< 20	450	2.3	2.8	< 10	4.0	< 200	1	< 1	< 20	22.0	4.9	3	< 5	390	< 500
T567	< 5	4	190	950	< 1	< 10	79	< 10	130	6	< 2	1.2	4	< 100	40	< 0.5	3	0.60	< 20	410	1.6	3.0	< 10	4.5	< 200	1	< 1	< 20	24.0	3.7	3	< 5	680	< 500
T568	< 5	2	110	850	< 1	< 10	91	< 10	92	5	< 2	1.2	5	< 100	44	0.5	< 2	0.69	< 20	390	2.6	2.9	< 10	5.5	< 200	1	< 1	< 20	26.0	3.9	< 2	< 5	< 200	< 500
T569	< 5	4	26	590	< 1	< 10	52	< 10	120	5	< 2	7.6	6	< 100	28	< 0.5	< 2	0.12	< 20	390	2.6	2.9	< 10	3.7	< 200	< 1	< 1	< 20	21.0	4.8	82	< 5	230	< 500
T570	6	4	^ 0.339	1300	< 1	< 10	78	< 10	350	4	< 2	1.5	3	< 100	28	0.9	3	0.11	< 20	340	2.8	3.0	< 10	4.8	< 200	< 1	< 1	< 20	16.0	2.9	5	< 5	460	< 500
T571	< 5	4	702	1200	< 1	< 10	110	< 10	260	8	< 2	2.5	5	< 100	43	0.6	3	0.23	< 20	450	1.6	5.9	< 10	6.4	< 200	2	< 1	< 20	28.0	4.5	4	< 5	430	< 500
T572	13	7	8900	2000	< 1	12	150	< 10	220	8	< 2	2.2	5	< 100	59	0.6	7	0.28	< 20	510	2.3	6.0	< 10	8.7	< 200	< 1	1	< 20	29.0	5.8	4	< 5	1000	< 500

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T573	11	7	6580	1400	3	< 10	110	< 10	140	7	< 2	2.2	6	< 100	49	< 0.5	< 2	0.14	< 20	440	1.9	5.6	< 10	7.0	< 200	1	< 1	< 20	25.0	5.4	< 2	< 5	420	< 500
T574	7	3	200	1500	< 1	< 10	53	18	230	7	< 2	2.8	4	< 100	26	< 0.5	4	0.26	44	360	1.2	6.1	< 10	3.7	< 200	< 1	< 1	< 20	12.0	4.7	3	< 5	940	< 500
T575	5	5	70	600	< 1	< 10	71	< 10	260	4	< 2	1.5	5	< 100	39	< 0.5	3	0.62	< 20	300	3.2	3.6	< 10	4.8	< 200	2	< 1	< 20	27.0	3.8	4	< 5	< 200	< 500
T576	30	5	3490	660	< 1	< 10	80	< 10	280	7	< 2	1.3	3	< 100	37	0.7	4	0.09	< 20	310	1.9	3.4	< 10	4.8	< 200	< 1	< 1	< 20	26.0	2.9	3	< 5	240	< 500
T577	21	7	1750	540	< 1	< 10	69	< 10	210	7	< 2	1.4	2	< 100	36	< 0.5	2	0.07	< 20	240	1.9	3.3	< 10	4.6	< 200	< 1	< 1	< 20	30.0	2.6	2	< 5	< 200	< 500
T578	10	5	965	500	< 1	< 10	73	< 10	300	10	< 2	1.2	3	< 100	35	0.5	3	0.12	23	270	1.9	3.0	< 10	4.5	< 200	1	< 1	< 20	25.0	2.6	4	< 5	< 200	< 500
T579	< 5	5	400	770	2	< 10	90	< 10	150	4	< 2	1.5	5	< 100	37	< 0.5	< 2	0.25	< 20	300	3.4	4.4	< 10	5.2	< 200	1	< 1	< 20	21.0	3.1	< 2	< 5	200	< 500
T580	5	4	280	740	1	< 10	83	< 10	130	6	< 2	1.2	5	< 100	34	< 0.5	< 2	0.11	< 20	430	1.7	3.8	< 10	4.6	< 200	1	< 1	< 20	24.0	4.1	< 2	< 5	210	< 500
T581	< 5	2	22	< 100	< 1	< 10	94	< 10	140	7	< 2	0.8	5	< 100	45	< 0.5	< 2	0.07	< 20	200	3.0	3.4	< 10	5.2	< 200	1	< 1	< 20	35.0	12.0	3	< 5	< 200	< 500
T582	< 5	3	260	270	< 1	< 10	91	< 10	190	4	< 2	0.9	4	< 100	46	< 0.5	3	0.21	< 20	190	1.4	3.1	< 10	5.9	< 200	1	< 1	< 20	31.0	3.3	< 2	< 5	< 200	< 500
T583	< 5	11	69	570	< 1	< 10	12	< 10	200	5	< 2	1.0	< 2	< 100	7	< 0.5	4	0.09	< 20	270	6.2	1.9	< 10	1.0	< 200	< 1	< 1	< 20	4.6	2.6	2	< 5	< 200	< 500
T584	< 5	8	330	790	< 1	< 10	31	< 10	170	7	< 2	1.3	3	< 100	13	< 0.5	4	1.20	< 20	260	1.9	2.9	< 10	2.2	< 200	1	< 1	< 20	7.2	4.4	< 2	< 5	< 200	< 500
T585	< 5	11	81	700	< 1	< 10	31	< 10	130	19	< 2	1.6	< 2	< 100	15	< 0.5	7	0.62	< 20	240	1.7	3.6	< 10	2.2	< 200	< 1	< 1	< 20	6.5	7.0	< 2	< 5	< 200	< 500
T586	< 5	7	250	700	< 1	< 10	20	< 10	170	4	< 2	1.2	< 2	< 100	12	< 0.5	3	0.71	< 20	230	2.3	2.3	< 10	1.8	< 200	< 1	< 1	< 20	7.1	3.4	< 2	< 5	< 200	< 500
T587	< 5	10	588	660	< 1	< 10	21	< 10	170	5	< 2	1.5	< 2	< 100	10	< 0.5	6	0.11	< 20	300	2.9	2.4	< 10	1.3	< 200	< 1	< 1	< 20	5.3	3.0	2	< 5	< 200	< 500
T588	24	9	777	540	2	< 10	64	< 10	62	6	< 2	1.7	3	< 100	33	< 0.5	27	2.20	< 20	180	6.9	3.4	< 10	3.5	< 200	< 1	< 1	< 20	14.0	6.4	< 2	< 5	< 200	< 500
T589	34	8	703	540	2	< 10	67	< 10	350	3	< 2	0.9	4	< 100	27	< 0.5	6	0.25	< 20	310	7.5	1.6	< 10	3.8	< 200	< 1	< 1	< 20	21.0	4.6	< 2	< 5	< 200	< 500
T590	12	8	846	630	1	< 10	85	< 10	230	4	< 2	1.0	3	< 100	41	< 0.5	6	0.28	< 20	300	4.5	2.3	< 10	6.2	< 200	1	1	< 20	22.0	8.8	3	< 5	< 200	< 500
T591	< 5	8	110	810	< 1	< 10	89	< 10	270	4	< 2	1.1	5	< 100	37	< 0.5	4	0.68	< 20	430	1.9	3.4	< 10	5.2	< 200	2	< 1	< 20	32.0	6.8	3	< 5	250	< 500
T592	17	10	370	820	< 1	< 10	120	< 10	270	7	< 2	1.8	4	< 100	49	< 0.5	28	0.53	< 20	430	2.2	4.1	< 10	6.6	< 200	1	< 1	< 20	32.0	7.4	4	< 5	280	< 500
T593	11	14	652	780	1	< 10	91	< 10	300	5	< 2	1.6	6	< 100	42	< 0.5	22	0.25	< 20	490	3.4	3.4	< 10	5.7	< 200	2	< 1	< 20	34.0	5.9	< 2	< 5	270	< 500
T594	< 5	7	49	680	< 1	< 10	80	14	110	20	< 2	4.6	5	< 100	32	0.5	< 2	0.91	< 20	350	1.4	12.0	< 10	5.6	< 200	1	< 1	< 20	14.0	4.4	15	< 5	270	590
T595	< 5	5	22	720	< 1	< 10	64	14	130	15	< 2	3.6	5	< 100	31	< 0.5	< 2	1.40	23	320	3.0	10.0	< 10	5.2	< 200	1	< 1	< 20	10.0	5.1	14	< 5	< 200	< 500
T596	< 5	8	130	680	< 1	< 10	120	< 10	230	4	< 2	1.2	5	< 100	51	0.7	3	1.00	< 20	460	2.0	4.0	< 10	6.9	< 200	2	< 1	< 20	34.0	4.1	4	< 5	< 200	< 500
T597	>300	11	2670	740	2	< 10	110	< 10	350	7	< 2	1.2	2	< 100	52	0.7	32	0.07	< 20	290	10.0	1.7	< 10	8.0	< 200	1	< 1	< 20	23.0	7.5	< 2	5	590	< 500
T598	150	8	1520	260	< 1	< 10	62	< 10	390	4	< 2	1.1	< 2	< 100	28	< 0.5	9	0.05	< 20	280	8.9	1.8	< 10	3.5	< 200	1	< 1	< 20	22.0	4.2	< 2	< 5	340	< 500
T599	23	10	4160	630	1	< 10	84	< 10	240	7	< 2	1.8	5	< 100	41	0.8	< 2	0.36	< 20	380	2.6	3.8	< 10	4.7	< 200	< 1	< 1	< 20	26.0	2.5	3	< 5	210	< 500
T600	7	11	1790	1100	< 1	< 10	57	< 10	120	9	< 2	2.2	5	< 100	32	< 0.5	4	1.30	< 20	280	2.2	6.2	< 10	3.6	< 200	< 1	< 1	< 20	10.0	4.3	2	< 5	< 200	< 500
T601	7	8	1200	360	1	< 10	85	< 10	200	9	< 2	1.5	4	< 100	41	0.7	< 2	0.11	21	280	3.9	3.8	< 10	5.3	< 200	1	< 1	< 20	29.0	4.7	< 2	< 5	< 200	< 500
T602	17	13	^ 0.629	420	< 1	< 10	92	< 10	170	15	< 2	2.9	3	< 100	46	0.8	< 2	0.09	< 20	360	6.1	6.1	< 10	5.8	< 200	1	< 1	< 20	28.0	6.8	< 2	< 5	610	< 500
T603	7	9	876	620	< 1	< 10	87	11	150	20	< 2	3.7	4	< 100	39	0.8	< 2	0.12	< 20	290	5.9	5.6	< 10	5.3	< 200	< 1	< 1	< 20	26.0	3.7	4	< 5	260	< 500
T604	6	11	4530	380	< 1	< 10	120	15	98	10	3	4.7	6	< 100	51	1.0	< 2	4.50	< 20	180	2.1	6.0	< 10	6.8	< 200	2	< 1	< 20	36.0	4.5	14	< 5	430	< 500
T605	< 5	5	1420	700	< 1	< 10	67	< 10	180	9	< 2	1.3	4	< 100	36	0.6	< 2	0.44	< 20	260	11.0	3.3	< 10	4.3	< 200	< 1	< 1	< 20	23.0	3.1	3	< 5	< 200	< 500
T606	11	4	6090	490	< 1	< 10	110	< 10	250	9	< 2	1.3	5	< 100	56	1.3	< 2	0.37	< 20	350	1.6	4.3	< 10	7.2	< 200	2	< 1	< 20	37.0	2.6	< 2	< 5	270	< 500
T607	25	4	4000	520	< 1	< 10	54	< 10	230	7	< 2	1.5	3	< 100	27	0.5	2	0.11	< 20	240	6.6	2.9	< 10	3.5	< 200	< 1	< 1	< 20	20.0	2.0	2	< 5	< 200	< 500
T608	< 5	31	330	250	< 1	< 10	63	< 10	150	7	< 2	>10.0	4	< 100	32	0.7	70	0.06	< 20	270	5.5	4.5	< 10	3.7	< 200	1	< 1	< 20	28.0	2.7	25	< 5	< 200	< 500
T609	15	4	533	630	< 1	< 10	67	< 10	260	6	< 2	1.4	4	< 100	31	< 0.5	3	0.61	< 20	220	1.7	4.2	< 10	3.9	< 200	< 1	< 1	< 20	21.0	2.8	3	< 5	< 200	< 500
T610	< 5	9	13	510	< 1	< 10	100	< 10	160	6	< 2	1.0	5	< 100	46	0.5	< 2	0.83	< 20	440	3.3	3.7	< 10	6.1	< 200	2	< 1	< 20	36.0	3.9	< 2	< 5	< 200	< 500
T611	13	1	130	760	< 1	< 10	37	11	110	5	< 2	1.7	3	< 100	19	< 0.5	< 2	1.70	< 20	200	0.7	5.3	< 10	2.8	< 200	< 1	< 1	< 20	9.5	5.1	< 2	< 5	1100	< 500
T612	17	2	86	940	< 1	< 10	44	< 10	110	9	< 2	2.5	5	< 100	22	< 0.5	< 2	2.20	< 20	340	1.9	5.4	< 10	3.3	< 200	< 1	< 1	< 20	10.0	5.3	4	< 5	790	< 500
T613	32	6	500	600	< 1	< 10	98	10	87	7	< 2	1.3	4	< 100	40	< 0.5	5	0.61	< 20	340	7.6	3.0	< 10	6.3	< 200	1	< 1	< 20	26.0	12.0	< 2	< 5	350	< 500
T614	54	4	730	800	< 1	< 10	81	< 10	110	5	< 2	1.2	3	< 100	35	< 0.5	3	1.60	< 20	310	2.4	2.6	< 10	4.8	< 200	1	< 1	< 20	18.0	7.6	< 2	< 5	440	< 500
T615	< 5	6	39	610	< 1	< 10	90	< 10	130	7	< 2	1.3	5	< 100	37	< 0.5	< 2	0.79	< 20	350	7.2	3.4	< 10	4.7	< 200	2	< 1	< 20	22.0	8.2	< 2	< 5	400	< 500
T616	25	4	54	180	< 1	52	26	< 10	320	4	< 2	2.8	< 2	< 100	11	< 0.5	50	< 0.05	21	120	15.0	3.4	< 10	1.8	< 200	< 1	< 1	< 20	1.0	1.1	7	< 5	3200	< 500
T617	13	4	771	330	< 1	< 10	32	< 10	400	5	< 2	5.8	< 2	< 100	17	< 0.5	17	0.08	< 20	240	11.0	6.1	< 10	1.7	< 200	< 1	< 1	< 20	2.5	1.1	14	< 5	580	< 500
T618	20	6	330	260	< 1	< 10	21	< 10	410	5	< 2	6.7	< 2	< 100	13	< 0.5	21	0.11	31	190	11.0	4.2	< 10	1.3	< 200	< 1	< 1	< 20	1.7	0.9	7	< 5	620	< 500
T619	57	32	260	360	1	< 10	21	61	250	4	< 2	>10.0	2	< 100	14	< 0.5	42	0.10	29	210	21.0	6.9	< 10	1.1	< 200	< 1	< 1	< 20	2.4	1.3	9	< 5	270	< 500
T620	>300	5	5470	100	32	< 10	< 10	< 10	620	1	< 2	8.4	< 2	< 100	< 5	< 0.5	12	< 0.05	< 20	48	19.0	1.0	< 10	0.5	< 200	< 1	< 1	< 20	< 0.5	0.7	8	< 5	1600	< 500
T621	130	4	500	210	2	33	36	25	250	6	< 2	4.5	< 2	< 100	19	< 0.5	10	0.05	23	290	14.0	6.3	< 10	2.5	< 200	< 1	< 1	< 20	2.3	1.9	12	< 5	4400	< 500
T622	14	6	46	680	< 1	17	28	28	200	3	< 2	>10.0	< 2	< 100	17	< 0.5	16	1.60	< 20	120	13.0	5.9	< 10	2.2	< 200	< 1	< 1	< 20	2.4	1.1	5	< 5	2200	< 500
T623	63	9	22	1300	8	< 10	75	130	150	6	< 2	6.6	3	< 100	29	< 0.5	20	0.74	55	290	6.8	8.0	< 10	5.2	< 200	< 1	< 1	< 20	3.1	3.9	6	< 5	910	< 500
T624	20	6	21	860	< 1	< 10	38	49	240	14	< 2	8.0	< 2	< 100	17	< 0.5	50	0.09	< 20	250	5.2	5.5	< 10	1.8	< 200	< 1	< 1	< 20	4.6	7.9	8	< 5	360	< 500
T625	37	9	22	310	1	< 10	26	23	210	4	< 2	>10.0	3	< 100	19	< 0.5	69	0.08	28	260	5.2	4.2	< 10	1.7	< 200	< 1	< 1	< 20	15.0	5.9	7	< 5	1100	< 500
T626	22	9	22	610	< 1	< 10	22	23	170	5	< 2	>10.0	2	< 100	22	< 0.5	57	0.08	< 20	320	3.9	3.6	< 10	1.3	< 200	< 1	< 1	< 20	14.0	5.0	3	< 5	1300	< 500
T627	74	8	53	300	< 1	< 10	34	16	330	4	< 2	8.9	2	< 100	14	< 0.5	140	< 0.05	< 20	200	4.4	5.5	12	3.0	< 200	< 1	< 1	< 20	2.8	4.7	8	< 5	610	< 500
T628	5	5	14	840	< 1	< 10	76	130	110	10	< 2	>10.0	3	< 100	29	< 0.5	11	0.83	< 20	290	3.1	7.2	< 10	5.4	< 200	< 1	< 1	< 20	7.2	11.0	5	< 5	8000	570
T629	6	6	180	510	2	< 10	50	40	140	14	< 2	5.7	4	< 100	27	< 0.5	14	0.16	< 20	420	10.0	8.6	< 10	4.4	< 200	< 1	< 1	< 20	3.5	2.4	21	< 5	530	< 500
T630	< 5	11	48	340	4	< 10	68	14	160	18	< 2	5.2	3	< 100	24	< 0.5	17	0.08	31	410	44.7	9.2	< 10	4.2	< 200	< 1	< 1	< 20	3.8	4.0	15	< 5	1200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T631	< 5	10	38	350	3	< 10	62	27	150	11	2	3.6	3	< 100	24	< 0.5	9	0.09	41	330	40.9	7.0	< 10	4.5	< 200	< 1	< 1	< 20	3.4	3.3	12	< 5	2200	< 500
T632	< 5	8	21	3300	< 1	110	110	210	110	4	< 2	3.3	4	< 100	25	< 0.5	14	0.20	92	740	2.0	2.1	< 10	4.2	< 200	1	< 1	< 20	24.0	8.4	4	< 5	11000	< 500
T633	37	16	1390	150	5	< 10	35	< 10	330	3	< 2	4.0	< 2	< 100	16	< 0.5	150	0.09	< 20	200	54.8	3.5	< 10	3.5	< 200	< 1	< 1	< 20	2.0	1.8	18	< 5	320	< 500
T634	49	10	939	290	4	< 10	35	< 10	190	7	< 2	4.5	5	< 100	22	< 0.5	71	0.09	< 20	410	36.4	6.4	< 10	2.0	< 200	< 1	< 1	< 20	2.9	3.0	22	< 5	570	< 500
T635	11	5	83	480	< 1	13	25	< 10	130	9	< 2	6.6	3	< 100	18	< 0.5	89	0.08	< 20	470	8.2	7.2	< 10	1.5	< 200	< 1	< 1	< 20	3.7	1.7	11	< 5	1600	< 500
T636	< 5	6	14	1600	< 1	15	130	91	230	8	< 2	2.1	4	< 100	35	< 0.5	40	0.07	< 20	340	8.3	4.1	< 10	4.6	< 200	1	< 1	< 20	18.0	3.7	3	< 5	1500	< 500
T637	17	11	74	100	3	< 10	15	13	480	3	< 2	3.4	< 2	< 100	< 5	< 0.5	295	< 0.05	< 20	110	26.2	1.0	< 10	0.5	< 200	< 1	< 1	< 20	4.5	1.1	3	< 5	< 200	< 500
T638	190	102	310	19000	48	< 25 *	36	< 10	560	2	< 2	1.8	< 2	< 100	< 5	< 0.5	28	< 0.05	< 41 *	29	481.0	< 0.5	< 10	0.9	< 200	1	< 1	< 20	3.7	< 0.5	10	14	< 200	< 500
T639	12	5	200	1400	< 1	< 10	64	< 10	200	9	< 2	1.6	5	< 100	35	< 0.5	5	0.11	< 20	440	12.0	4.6	< 10	5.1	< 200	2	< 1	< 20	27.0	4.9	< 2	< 5	780	< 500
T640	< 5	5	70	900	< 1	< 10	63	< 10	270	7	< 2	1.7	6	< 100	32	< 0.5	5	0.10	41	410	13.0	4.6	< 10	4.8	< 200	1	< 1	< 20	29.0	4.2	3	< 5	580	< 500
T641	150	4	10000	2500	< 1	< 10	54	26	170	9	< 2	4.1	< 2	< 100	26	< 0.5	< 2	0.16	53	750	2.6	6.4	< 10	4.3	< 200	< 1	< 1	< 20	3.3	1.7	12	< 5	2300	< 500
T642	150	17	3590	210	5	< 10	21	26	430	3	< 2	6.9	< 2	< 100	8	< 0.5	170	< 0.05	28	150	20.0	1.2	< 10	< 0.2	< 200	< 1	< 1	< 20	3.5	27.0	7	< 5	820	< 500
T643	31	15	893	410	12	< 10	23	13	270	3	< 2	4.4	3	< 100	10	< 0.5	15	0.06	35	290	8.0	3.9	< 10	1.0	< 200	< 1	< 1	< 20	1.8	1.7	26	< 5	330	< 500
T644	< 5	5	23	310	< 1	< 10	68	< 10	190	7	< 2	2.5	5	< 100	35	< 0.5	7	0.08	< 20	410	5.1	4.7	< 10	4.5	< 200	1	< 1	< 20	25.0	4.9	10	< 5	530	< 500
T645	< 5	4	48	320	2	49	74	27	140	9	2	4.3	7	< 100	34	< 0.5	10	0.13	< 20	460	8.7	7.7	< 10	5.7	< 200	< 1	< 1	< 20	3.5	3.1	31	< 5	4600	< 500
T646	< 5	4	18	450	1	14	74	28	120	8	< 2	6.3	5	< 100	36	< 0.5	8	0.16	37	500	7.1	8.5	< 10	4.4	< 200	< 1	< 1	< 20	3.4	3.6	25	< 5	1600	< 500
T647	< 5	5	61	780	1	< 10	63	22	140	8	< 2	10.0	4	< 100	27	< 0.5	10	0.09	< 20	490	12.0	7.8	< 10	3.5	< 200	< 1	< 1	< 20	4.9	2.6	14	< 5	1500	< 500
T648	< 5	2	< 5	350	< 1	110	74	18	130	7	< 2	4.0	4	< 100	30	< 0.5	4	0.09	67	490	7.9	10.0	< 10	6.2	< 200	< 1	< 1	< 20	4.0	8.5	37	< 5	9800	< 500
T649	16	4	25	130	< 1	< 10	11	13	520	1	< 2	4.2	< 2	< 100	< 5	< 0.5	46	0.05	< 20	82	2.7	1.0	< 10	0.7	< 200	< 1	< 1	< 20	0.7	< 0.5	6	< 5	660	< 500
T650	21	5	78	190	< 1	< 10	19	< 10	270	3	< 2	7.3	< 2	< 100	10	< 0.5	100	< 0.05	< 20	210	5.0	2.7	< 10	1.0	< 200	< 1	< 1	< 20	1.3	0.5	11	< 5	390	< 500
T651	64	27	1830	140	8	< 10	< 10	< 10	370	2	< 2	>10.0	< 2	< 100	< 5	< 0.5	150	0.13	< 20	92	25.5	1.2	< 10	0.6	< 200	< 1	< 1	< 20	0.8	1.2	11	< 5	280	< 500
T652	250	2	130	< 100	< 1	320	46	30	290	2	< 2	5.0	< 2	< 100	16	< 0.5	8	1.90	53	80	2.4	3.8	< 10	2.8	< 200	< 1	< 1	< 20	1.8	1.0	6	< 5	>30000	< 500
T653	>300	22	470	360	15	< 10	19	< 10	240	3	< 2	0.9	< 2	< 100	7	< 0.5	< 2	< 0.05	< 20	120	97.3	< 0.5	< 10	0.7	< 200	< 1	< 1	< 20	4.6	3.5	< 2	< 5	< 200	< 500
T654	12	5	745	560	< 1	< 10	56	< 10	160	4	< 2	0.8	3	< 100	25	< 0.5	< 2	0.26	< 20	320	2.5	1.7	< 10	3.0	< 200	< 1	< 1	< 20	17.0	3.0	< 2	< 5	< 200	< 500
T655	48	5	797	550	< 1	< 10	60	< 10	180	4	< 2	0.8	3	< 100	25	< 0.5	< 2	0.19	< 20	290	4.0	1.1	< 10	3.2	< 200	< 1	< 1	< 20	13.0	1.6	< 2	< 5	< 200	< 500
T656	>300	16	^ 0.763	1400	120	< 10	72	< 10	240	11	< 2	1.8	< 2	< 100	27	1.4	32	0.11	27	300	9.0	< 0.5	< 10	3.4	< 200	1	< 1	< 20	14.0	3.6	34	< 5	1500	< 500
T657	63	7	798	370	2	< 10	48	< 10	300	8	< 2	1.0	3	< 100	23	< 0.5	3	0.08	< 20	220	6.1	1.4	< 10	2.6	< 200	< 1	< 1	< 20	14.0	2.1	2	< 5	< 200	< 500
T658	220	14	^ 0.385	620	7	< 10	59	< 10	210	15	< 2	1.6	2	< 100	34	0.6	15	0.12	< 20	480	4.7	1.3	< 10	4.1	< 200	< 1	< 1	< 20	20.0	3.4	< 2	< 5	260	< 500
T659	83	14	1660	440	3	< 10	< 10	35	280	6	< 2	7.2	3	< 100	16	< 0.5	93	0.39	23	230	20.3	4.5	< 10	2.2	< 200	< 1	< 1	< 20	3.3	2.6	8	< 5	750	< 500
T660	72	10	9020	550	< 1	< 10	98	< 10	55	8	< 2	1.5	6	< 100	44	< 0.5	< 2	0.10	< 20	420	4.3	2.6	< 10	5.4	< 200	< 1	< 1	< 20	24.0	4.5	< 2	< 5	330	< 500
T661	41	10	1450	900	< 1	< 10	87	< 10	< 50	7	< 2	1.2	4	< 100	45	0.6	< 2	0.14	< 20	420	2.4	2.5	< 10	5.4	< 200	2	< 1	< 20	23.0	6.5	3	< 5	350	< 500
T662	35	6	^ 0.540	680	< 1	< 10	86	< 10	81	6	< 2	1.6	3	< 100	44	0.8	< 2	0.17	< 20	260	2.4	3.2	< 10	4.6	< 200	< 1	< 1	< 20	20.0	2.8	< 2	< 5	< 200	< 500
T663	40	9	^ 0.403	790	< 1	< 10	84	< 10	160	7	< 2	1.9	3	< 100	44	0.8	< 2	1.20	23	240	6.2	3.4	< 10	4.6	< 200	< 1	< 1	< 20	22.0	4.2	< 2	< 5	200	< 500
T664	24	7	7470	810	< 1	< 10	99	< 10	120	8	< 2	1.5	4	< 100	50	1.0	< 2	1.10	< 20	280	2.8	4.1	< 10	5.3	< 200	1	< 1	< 20	23.0	4.2	3	< 5	< 200	< 500
T665	25	6	3990	1400	< 1	< 10	56	< 10	170	7	< 2	1.8	3	< 100	31	< 0.5	36	0.28	< 20	360	3.0	4.1	< 10	3.6	< 200	< 1	< 1	< 20	15.0	3.5	6	< 5	< 200	< 500
T666	33	5	3540	590	< 1	< 10	72	< 10	180	8	< 2	1.7	3	< 100	31	0.5	6	0.11	< 20	350	4.5	3.0	< 10	3.8	< 200	< 1	< 1	< 20	17.0	2.6	4	< 5	< 200	< 500
T667	43	6	^ 0.693	460	< 1	< 10	85	< 10	130	10	< 2	1.7	3	< 100	35	1.1	9	0.10	21	340	5.3	2.6	< 10	4.2	< 200	< 1	< 1	< 20	19.0	2.4	< 2	< 5	250	< 500
T668	46	6	^ 0.930	610	< 1	< 10	94	< 10	190	10	< 2	1.3	3	< 100	35	0.9	4	0.10	< 20	270	3.8	2.3	< 10	3.9	< 200	< 1	< 1	< 20	17.0	3.1	4	< 5	230	< 500
T669	50	8	2200	610	< 1	< 10	76	< 10	180	10	< 2	1.5	3	< 100	35	0.6	5	0.08	25	270	7.0	2.8	< 10	3.6	< 200	< 1	< 1	< 20	17.0	3.1	3	< 5	240	< 500
T670	30	9	220	830	< 1	< 10	68	< 10	210	10	< 2	1.5	2	< 100	34	0.6	4	0.08	29	290	3.2	2.8	< 10	3.7	< 200	1	< 1	< 20	18.0	3.2	2	< 5	< 200	< 500
T671	23	5	1790	1300	< 1	< 10	55	10	76	11	< 2	2.5	3	< 100	26	< 0.5	3	0.39	< 20	540	2.3	6.3	< 10	3.7	< 200	< 1	< 1	< 20	14.0	4.1	6	< 5	290	< 500
T672	47	8	3070	880	< 1	< 10	79	< 10	140	9	< 2	1.6	5	< 100	44	0.6	4	0.38	< 20	400	2.2	4.6	< 10	4.7	< 200	1	< 1	< 20	20.0	3.7	< 2	< 5	370	< 500
T673	14	4	310	640	< 1	< 10	38	13	90	15	< 2	2.3	4	< 100	25	< 0.5	< 2	1.30	< 20	220	2.6	8.7	< 10	3.3	< 200	< 1	< 1	< 20	11.0	4.3	7	< 5	350	< 500
T674	13	6	3010	570	< 1	< 10	83	< 10	150	9	< 2	1.4	4	< 100	59	0.6	< 2	0.11	< 20	270	7.5	3.3	< 10	4.7	< 200	< 1	< 1	< 20	23.0	3.0	3	< 5	< 200	< 500
T675	14	6	9	840	1	< 10	51	< 10	270	7	< 2	1.5	6	< 100	23	< 0.5	29	0.61	< 20	360	15.0	3.8	< 10	3.2	< 200	1	< 1	< 20	21.0	4.1	4	< 5	< 200	500
T676	44	10	1550	690	< 1	< 10	37	< 10	460	3	< 2	1.3	4	< 100	17	< 0.5	5	1.00	< 20	250	14.0	3.0	< 10	2.1	< 200	< 1	< 1	< 20	15.0	2.5	4	< 5	< 200	< 500
T677	30	9	619	980	< 1	< 10	63	11	160	10	< 2	2.4	4	< 100	32	< 0.5	4	1.10	25	390	14.0	5.1	< 10	5.1	< 200	1	< 1	< 20	16.0	4.2	4	< 5	690	< 500
T678	6	4	43	1100	< 1	< 10	58	< 10	150	12	< 2	2.7	5	< 100	31	< 0.5	7	1.10	21	400	6.7	6.6	< 10	4.4	< 200	1	< 1	< 20	19.0	4.4	8	< 5	360	< 500
T679	10	2	597	800	< 1	< 10	87	< 10	78	8	< 2	1.7	6	< 100	43	< 0.5	< 2	0.66	< 20	370	1.5	5.5	< 10	5.7	< 200	2	< 1	< 20	25.0	5.7	< 2	< 5	820	610
T680	< 5	8	200	930	< 1	< 10	92	< 10	230	11	< 2	2.3	6	< 100	36	< 0.5	7	0.12	< 20	470	5.2	4.4	< 10	5.4	< 200	1	< 1	< 20	40.0	6.2	4	< 5	990	< 500
T681	< 5	5	803	500	< 1	< 10	100	< 10	210	8	< 2	1.7	6	< 100	39	0.7	243	0.08	< 20	440	9.2	3.6	< 10	5.8	< 200	2	< 1	< 20	28.0	4.3	4	< 5	670	< 500
T682	< 5	5	13	750	< 1	14	81	< 10	270	9	< 2	2.6	6	< 100	36	< 0.5	34	0.13	< 20	490	8.0	4.2	< 10	4.9	< 200	2	< 1	< 20	27.0	4.3	7	< 5	1600	< 500
T683	< 5	5	44	1100	< 1	< 10	75	< 10	200	10	< 2	1.7	5	< 100	31	< 0.5	6	0.43	< 20	450	2.6	4.1	< 10	4.6	< 200	2	< 1	< 20	27.0	3.8	2	< 5	350	< 500
T684	< 5	5	14	870	< 1	< 10	78	< 10	250	8	< 2	1.5	6	< 100	40	< 0.5	< 2	1.70	< 20	410	1.7	4.3	< 10	5.4	< 200	2	< 1	< 20	28.0	4.8	4	< 5	510	< 500
T685	< 5	5	18	910	< 1	< 10	83	< 10	230	9	< 2	1.8	6	< 100	35	0.6	3	1.00	25	400	3.8	4.6	< 10	5.0	< 200	2	< 1	< 20	30.0	5.0	5	< 5	510	< 500
T686	< 5	5	31	1000	< 1	< 10	80	< 10	210	9	< 2	1.6	6	< 100	35	< 0.5	10	0.87	< 20	460	3.6	4.0	< 10	4.7	< 200	2	< 1	< 20	27.0	3.9	3	< 5	240	< 500
T687	< 5	8	55	1000	1	< 10	82	< 10	210	9	< 2	1.9	5	< 100	38	< 0.5	8	0.72	< 20	450	10.0	4.4	< 10	5.0	< 200	2	< 1	< 20	27.0	4.9	4	< 5	390	< 500
T688	< 5	4	84	940	< 1	< 10	65	< 10	250	7	< 2	1.6	6	< 100	29	< 0.5	7	0.48	< 20	390	3.6	5.4	< 10	3.9	< 200	1	< 1	< 20	24.0	8.6	< 2	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T689	26	9	150	< 100	2	< 10	24	19	500	2	< 2	2.2	< 2	< 100	15	< 0.5	56	< 0.05	< 20	130	20.0	2.0	< 10	1.5	< 200	< 1	< 1	< 20	4.6	2.7	9	< 5	< 200	< 500
T690	< 5	9	40	230	1	< 10	42	< 10	220	7	< 2	3.9	4	< 100	28	< 0.5	21	0.07	< 20	260	15.0	4.7	< 10	1.1	< 200	< 1	< 1	< 20	15.0	6.2	5	< 5	240	< 500
T691	11	5	470	1100	< 1	< 10	57	< 10	220	9	< 2	2.0	6	< 100	24	< 0.5	3	0.88	< 20	460	3.9	5.0	< 10	3.2	< 200	< 1	< 1	< 20	24.0	4.3	3	< 5	< 200	< 500
T692	< 5	7	87	1100	< 1	< 10	110	< 10	240	13	< 2	2.6	6	< 100	45	0.6	4	1.00	< 20	510	4.7	6.7	< 10	7.0	< 200	2	1	< 20	26.0	5.0	< 2	< 5	320	590
T693	12	14	200	160	2	< 10	48	12	300	6	< 2	4.0	5	< 100	20	< 0.5	23	0.05	< 20	210	20.5	5.2	< 10	3.1	< 200	< 1	< 1	< 20	14.0	9.3	11	< 5	3200	< 500
T694	< 5	12	160	330	2	< 10	66	< 10	290	7	< 2	3.8	4	< 100	27	< 0.5	77	0.06	< 20	280	19.0	4.9	< 10	3.5	< 200	1	< 1	< 20	19.0	4.5	9	< 5	280	< 500
T695	11	8	200	380	2	< 10	66	12	61	28	< 2	7.2	< 2	< 100	29	< 0.5	43	0.09	< 20	170	28.5	3.8	< 10	5.2	< 200	< 1	1	< 20	14.0	16.0	10	< 5	700	< 500
T696	8	12	61	210	3	19	27	11	390	3	< 2	5.0	< 2	< 100	12	< 0.5	23	0.05	25	130	31.7	3.4	< 10	1.7	< 200	< 1	< 1	< 20	8.4	3.7	5	< 5	2800	< 500
T697	< 5	6	47	330	< 1	< 10	40	< 10	410	3	< 2	2.6	3	< 100	20	< 0.5	9	0.06	< 20	230	7.7	3.8	< 10	2.6	< 200	< 1	< 1	< 20	10.0	2.3	6	< 5	320	< 500
T698	8	13	460	1100	< 1	< 10	86	< 10	250	8	< 2	3.2	6	< 100	39	< 0.5	6	0.83	< 20	470	11.0	7.0	< 10	5.9	< 200	1	< 1	< 20	21.0	5.0	7	< 5	210	< 500
T699	30	10	3700	300	3	< 10	< 10	< 10	460	3	< 2	1.0	< 2	< 100	8	< 0.5	5	0.06	24	110	33.1	1.5	< 10	1.4	< 200	< 1	< 1	< 20	3.6	1.2	< 2	< 5	< 200	< 500
T700	28	15	490	220	2	< 10	19	< 10	410	3	< 2	2.9	3	< 100	13	< 0.5	45	< 0.05	< 20	190	25.9	2.2	< 10	1.6	< 200	< 1	< 1	< 20	6.6	2.6	3	< 5	610	< 500
T701	7	11	130	870	2	< 10	55	< 10	270	6	< 2	2.0	4	< 100	29	< 0.5	4	0.67	< 20	350	16.0	5.7	< 10	4.4	< 200	1	< 1	< 20	14.0	2.8	5	< 5	200	< 500
T702	< 5	7	616	690	1	< 10	53	< 10	320	5	< 2	1.6	4	< 100	25	< 0.5	5	1.00	< 20	220	14.0	4.0	< 10	3.6	< 200	< 1	< 1	< 20	12.0	2.4	3	< 5	< 200	< 500
T703	< 5	6	210	540	< 1	< 10	48	< 10	340	4	< 2	1.5	2	< 100	16	< 0.5	5	0.37	< 20	240	9.1	4.1	< 10	2.8	< 200	< 1	< 1	< 20	9.4	1.4	4	< 5	< 200	< 500
T704	< 5	9	88	600	2	< 10	35	< 10	360	4	< 2	1.5	< 2	< 100	15	< 0.5	7	0.07	< 20	270	7.6	3.1	< 10	2.2	< 200	< 1	< 1	< 20	12.0	1.1	< 2	< 5	< 200	< 500
T705	18	5	180	140	< 1	< 10	34	< 10	630	2	< 2	4.6	< 2	< 100	13	< 0.5	25	< 0.05	22	120	7.3	1.8	< 10	1.3	< 200	< 1	< 1	< 20	5.5	1.8	5	< 5	500	< 500
T706	15	5	590	130	< 1	< 10	< 10	< 10	570	2	< 2	5.9	< 2	< 100	< 5	< 0.5	91	< 0.05	21	79	7.6	1.2	< 10	0.7	< 200	< 1	< 1	< 20	3.7	1.8	5	< 5	1100	< 500
T707	13	7	180	570	< 1	13	73	< 10	250	9	< 2	3.9	6	< 100	31	< 0.5	18	0.10	< 20	520	10.0	6.7	< 10	4.4	< 200	1	< 1	< 20	23.0	7.8	11	< 5	900	< 500
T708	17	6	340	790	< 1	< 10	78	< 10	210	8	< 2	1.7	5	< 100	35	0.7	3	0.22	< 20	360	5.1	5.6	< 10	5.0	< 200	< 1	< 1	< 20	24.0	3.2	2	< 5	< 200	< 500
T709	47	10	1400	550	1	< 10	60	< 10	270	7	< 2	2.3	3	< 100	29	< 0.5	7	0.17	< 20	160	4.8	5.8	< 10	4.6	< 200	< 1	< 1	< 20	15.0	2.6	2	< 5	220	< 500
T710	53	7	1370	700	< 1	< 10	53	< 10	290	6	< 2	2.0	3	< 100	25	< 0.5	7	0.33	< 20	210	3.4	4.4	< 10	4.0	< 200	< 1	< 1	< 20	15.0	2.8	3	< 5	350	< 500
T711	58	5	938	680	< 1	< 10	80	< 10	320	6	< 2	1.9	4	< 100	35	0.5	6	1.10	< 20	210	2.2	5.6	< 10	4.7	< 200	1	< 1	< 20	21.0	3.0	3	< 5	< 200	< 500
T712	31	3	539	460	< 1	< 10	38	< 10	210	5	< 2	1.0	< 2	< 100	22	< 0.5	5	0.08	< 20	200	13.0	1.8	< 10	2.1	< 200	< 1	< 1	< 20	10.0	3.5	< 2	< 5	< 200	< 500
T713	63	4	1540	660	8	< 10	50	< 10	210	9	< 2	2.6	4	< 100	27	< 0.5	4	0.72	< 20	210	4.3	6.0	< 10	3.7	< 200	1	< 1	< 20	18.0	3.4	4	< 5	370	< 500
T714	< 5	2	32	780	< 1	< 10	54	< 10	130	6	< 2	2.2	4	< 100	28	< 0.5	< 2	0.47	< 20	210	2.4	6.3	< 10	3.6	< 200	< 1	< 1	< 20	12.0	4.3	3	< 5	< 200	< 500
T715	53	4	1370	220	< 1	< 10	17	< 10	380	2	< 2	1.2	< 2	< 100	7	< 0.5	5	0.08	< 20	100	6.7	1.3	< 10	1.1	< 200	< 1	< 1	< 20	5.6	1.0	< 2	< 5	< 200	< 500
T716	180	7	4340	270	4	< 10	46	< 10	470	7	< 2	2.2	< 2	< 100	22	< 0.5	7	0.42	< 20	110	6.6	4.0	< 10	3.5	< 200	< 1	< 1	< 20	11.0	1.9	4	< 5	630	< 500
T717	23	8	1270	760	2	< 10	75	< 10	300	8	< 2	2.5	4	< 100	37	0.7	3	0.92	25	260	2.8	6.4	< 10	5.8	< 200	< 1	< 1	< 20	22.0	2.7	2	< 5	340	< 500
T718	140	6	2730	320	< 1	11	35	< 10	550	3	< 2	2.0	< 2	< 100	18	< 0.5	10	0.24	< 20	130	8.3	2.1	< 10	2.3	< 200	< 1	< 1	< 20	7.8	1.9	3	< 5	1000	< 500
T719	60	6	3070	380	< 1	< 10	29	< 10	370	4	< 2	1.9	2	< 100	15	< 0.5	5	0.34	34	120	7.1	3.8	< 10	2.1	< 200	< 1	< 1	< 20	7.9	1.6	< 2	< 5	260	< 500
T720	210	7	1890	790	< 1	< 10	41	< 10	450	5	< 2	1.7	3	< 100	18	< 0.5	8	0.25	41	98	10.0	3.2	< 10	2.8	< 200	< 1	< 1	< 20	9.1	1.6	4	< 5	300	< 500
T721	140	8	7050	690	24	< 10	94	< 10	110	10	< 2	1.8	4	< 100	37	< 0.5	3	0.11	< 20	440	3.1	2.7	< 10	4.7	< 200	1	< 1	< 20	20.0	3.4	< 2	< 5	880	< 500
T722	180	9	^ 0.369	430	< 1	< 10	62	< 10	190	7	< 2	2.1	4	< 100	33	< 0.5	< 2	0.25	< 20	370	3.5	2.9	< 10	3.9	< 200	1	< 1	< 20	22.0	3.2	4	< 5	500	< 500
T723	23	7	390	390	< 1	< 10	86	< 10	100	8	< 2	3.3	6	< 100	40	< 0.5	< 2	0.11	22	450	3.2	4.4	< 10	5.4	< 200	2	< 1	< 20	28.0	5.4	3	< 5	300	< 500
T724	140	5	1810	320	14	< 10	25	< 10	190	3	< 2	1.0	< 2	< 100	10	< 0.5	< 2	0.53	< 20	150	13.0	1.8	< 10	1.4	< 200	< 1	< 1	< 20	4.8	1.4	< 2	< 5	340	< 500
T725	< 5	4	68	460	< 1	< 10	55	< 10	350	4	< 2	2.5	4	< 100	30	< 0.5	10	0.06	< 20	240	6.0	5.3	< 10	2.8	< 200	< 1	< 1	< 20	14.0	2.1	8	< 5	< 200	< 500
T726	14	41	210	370	13	< 10	40	< 10	330	5	< 2	4.4	3	< 100	22	< 0.5	18	0.06	< 20	200	135.0	3.0	< 10	2.9	< 200	< 1	< 1	< 20	9.4	2.7	7	< 5	< 200	< 500
T727	7	8	160	640	2	< 10	110	< 10	270	12	< 2	3.9	7	< 100	43	< 0.5	7	0.25	30	520	17.0	7.9	< 10	5.3	< 200	1	< 1	< 20	24.0	5.8	11	< 5	250	< 500
T728	93	6	2190	150	< 1	35	38	33	110	2	< 2	10.0	< 2	< 100	19	< 0.5	< 2	0.08	< 20	170	5.2	2.4	< 10	3.9	< 200	< 1	< 1	< 20	5.9	2.1	7	< 5	2700	< 500
T729	170	4	9560	830	3	< 10	64	< 10	93	7	< 2	2.4	4	< 100	29	0.7	< 2	0.66	< 20	410	3.3	4.7	< 10	4.2	< 200	1	< 1	< 20	14.0	3.3	5	< 5	400	< 500
T730	6	4	140	1000	< 1	< 10	120	< 10	73	9	< 2	3.7	7	< 100	51	0.7	< 2	2.10	< 20	420	1.2	11.0	< 10	8.2	< 200	1	1	< 20	26.0	4.9	8	< 5	< 200	< 500
T731	10	5	79	910	< 1	< 10	110	< 10	120	8	< 2	2.9	7	< 100	43	0.5	< 2	2.40	< 20	400	2.3	8.6	< 10	6.3	< 200	1	1	< 20	24.0	4.3	5	< 5	220	< 500
T732	110	11	6300	190	2	< 10	14	< 10	280	2	< 2	4.0	< 2	< 100	8	< 0.5	190	< 0.05	27	85	38.8	2.4	< 10	0.9	< 200	< 1	< 1	< 20	4.4	1.0	4	< 5	330	< 500
T733	37	5	2140	370	< 1	< 10	20	< 10	400	2	< 2	4.5	< 2	< 100	11	< 0.5	39	0.06	28	120	10.0	3.2	< 10	1.2	< 200	< 1	< 1	< 20	5.8	1.6	7	< 5	420	< 500
T734	58	14	6320	820	4	< 10	92	< 10	130	8	< 2	4.0	4	< 100	44	0.6	18	0.09	< 20	380	81.2	9.3	< 10	5.1	< 200	1	< 1	< 20	20.0	6.0	11	< 5	1100	< 500
T735	71	5	1680	1100	14	< 10	100	< 10	170	9	< 2	2.6	6	< 100	47	0.7	< 2	1.10	< 20	480	2.3	8.7	< 10	6.5	< 200	1	< 1	< 20	27.0	5.1	< 2	< 5	210	< 500
T736	9	8	758	< 100	1	26	33	28	65	3	2	9.3	< 2	< 100	15	< 0.5	492	0.05	< 20	60	12.0	3.1	< 10	4.2	< 200	< 1	1	< 20	6.8	3.6	14	< 5	1300	< 500
T737	< 5	6	57	120	< 1	< 10	40	11	130	4	< 2	[illegible]	3	< 100	17	< 0.5	99	< 0.05	< 20	130	15.0	3.9	< 10	3.0	< 200	< 1	< 1	< 20	13.0	3.0	16	< 5	1000	< 500
T738	< 5	7	220	410	< 1	< 10	73	< 10	140	9	< 2	4.0	5	< 100	36	0.5	42	0.10	< 20	430	9.1	7.1	< 10	5.6	< 200	1	< 1	< 20	21.0	4.2	17	< 5	640	< 500
T739	< 5	4	19	710	< 1	< 10	90	< 10	260	10	< 2	2.7	9	< 100	38	< 0.5	3	1.80	23	380	2.6	8.1	< 10	5.9	< 200	2	< 1	< 20	25.0	4.1	4	< 5	260	< 500
T740	< 5	10	50	780	< 1	< 10	71	< 10	130	8	< 2	6.0	6	< 100	31	< 0.5	31	0.10	< 20	370	15.0	5.7	< 10	5.3	< 200	< 1	< 1	< 20	21.0	5.2	18	< 5	730	< 500
T741	< 5	4	29	870	< 1	< 10	110	< 10	99	8	< 2	3.4	6	< 100	43	0.6	< 2	2.00	< 20	410	3.2	9.4	< 10	6.9	< 200	2	< 1	< 20	28.0	4.3	4	< 5	320	620
T742	130	26	799	870	< 1	< 10	77	< 10	59	6	< 2	2.6	5	< 100	34	< 0.5	10	1.30	< 20	290	2.6	6.5	< 10	5.1	< 200	1	< 1	< 20	18.0	5.5	6	< 5	320	< 500
T743	>300	23	290	< 100	< 1	10	< 10	17	150	2	< 2	>10.0	< 2	< 100	8	< 0.5	492	< 0.05	30	55	8.8	0.6	46	0.5	< 200	< 1	< 1	< 20	2.7	19.0	12	< 5	300	< 500
T744	260	19	210	< 100	68	< 10	10	< 10	300	< 1	< 2	10.0	< 2	< 100	< 5	0.5	242	< 0.05	< 20	< 10	12.0	< 0.5	41	0.4	< 200	< 1	< 1	< 20	1.9	4.1	5	< 5	< 200	< 500
T745	140	4	130	270	29	< 10	24	17	250	7	< 2	7.4	2	< 100	15	< 0.5	324	0.09	20	150	4.4	4.3	16	1.8	< 200	< 1	< 1	< 20	2.9	9.2	10	< 5	220	< 500
T746	37	8	76	190	6	< 10	14	< 10	270	3	< 2	3.4	3	< 100	11	< 0.5	785	< 0.05	< 20	73	30.9	1.6	< 10	0.7	< 200	< 1	< 1	< 20	8.6	3.7	3	< 5	< 200	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T747	34	21	698	4900	6	< 10	< 10	< 10	410	3	2	1.2	< 2	< 100	5	< 0.5	25	< 0.05	< 20	46	194.0	0.5	< 10	0.7	< 200	< 1	< 1	< 20	4.6	1.2	3	< 5	< 200	< 500
T748	>300	35	3380	400	11	12	< 10	< 10	420	4	< 2	1.1	< 2	< 100	< 5	< 0.5	89	< 0.05	38	26	325.0	< 0.5	< 10	0.6	< 200	< 1	< 1	< 20	< 0.5	< 0.5	5	< 5	290	< 500
T749	99	22	540	320	19	< 10	26	< 10	450	3	< 2	1.2	< 2	< 100	5	< 0.5	22	< 0.05	< 20	64	209.0	1.2	< 10	0.8	< 200	< 1	< 1	< 20	2.3	0.8	7	< 5	< 200	< 500
T750	5	10	140	380	1	< 10	48	< 10	430	3	< 2	1.3	2	< 100	17	< 0.5	11	0.15	< 20	230	20.6	3.4	< 10	2.4	< 200	< 1	< 1	< 20	10.0	1.7	4	< 5	710	< 500
T751	60	7	130	370	2	480	20	23	180	3	< 2	3.0	< 2	< 100	10	< 0.5	313	< 0.05	< 20	89	18.0	2.4	< 10	1.3	< 200	< 1	< 1	< 20	5.2	3.2	4	< 5	>30000	< 500
T752	>300	26	525	160	155	< 10	< 10	< 10	450	2	< 2	1.3	< 2	< 100	9	< 0.5	11	< 0.05	< 20	150	113.0	< 0.5	< 10	1.3	< 200	< 1	< 1	< 20	0.9	< 0.5	13	< 5	< 200	< 500
T753	33	12	89	220	5	< 10	< 10	< 10	280	1	< 2	>10.0	4	< 100	< 5	< 0.5	51	< 0.05	24	87	7.3	1.3	< 10	0.3	< 200	< 1	< 1	< 20	5.5	1.2	190	< 5	< 200	< 500
T754	210	5	583	160	2	< 10	23	< 10	380	2	< 2	4.6	< 2	< 100	8	< 0.5	75	0.14	< 20	79	3.0	0.9	< 10	1.2	< 200	< 1	< 1	< 20	4.4	4.7	6	< 5	230	< 500
T755	5	13	25	180	< 1	< 10	13	< 10	260	4	< 2	8.7	3	< 100	12	< 0.5	150	< 0.05	< 20	120	3.8	3.9	< 10	1.2	< 200	< 1	< 1	< 20	11.0	3.9	4	< 5	620	< 500
T756	91	3	2110	900	1	< 10	17	< 10	380	2	< 2	1.3	< 2	< 100	14	< 0.5	7	0.24	< 20	65	13.0	1.5	< 10	2.0	< 200	< 1	< 1	< 20	3.4	0.9	2	< 5	250	< 500
T757	36	< 1	2050	< 100	< 1	< 10	< 10	< 10	140	< 1	< 2	0.6	< 2	< 100	< 5	< 0.5	6	< 0.05	< 20	10	4.2	< 0.5	< 10	0.8	< 200	< 1	< 1	< 20	< 0.5	< 0.5	< 2	< 5	< 200	< 500
T758	29	4	68	130	< 1	< 10	15	20	240	3	< 2	3.6	< 2	< 100	7	< 0.5	493	< 0.05	< 20	85	11.0	7.1	< 10	1.1	< 200	< 1	< 1	< 20	3.8	4.3	2	< 5	1100	< 500
T759	< 5	7	230	600	< 1	< 10	85	11	64	13	< 2	3.7	5	< 100	34	< 0.5	12	1.90	< 20	220	1.8	11.0	< 10	5.7	< 200	< 1	< 1	< 20	12.0	2.7	5	< 5	< 200	< 500
T760	< 5	19	24	370	1	< 10	84	< 10	220	14	< 2	1.5	4	< 100	40	< 0.5	8	0.06	< 20	340	29.2	3.1	< 10	5.5	< 200	2	< 1	< 20	30.0	5.6	4	< 5	< 200	< 500
T761	< 5	19	< 5	250	< 1	< 10	92	< 10	190	11	< 2	1.2	5	< 100	46	0.7	< 2	0.06	< 20	340	17.0	3.1	< 10	6.3	< 200	2	1	< 20	37.0	5.7	9	5	< 200	< 500
T762	< 5	14	29	310	2	< 10	67	< 10	270	10	< 2	1.2	2	< 100	33	< 0.5	6	0.07	< 20	250	39.4	2.6	< 10	4.5	< 200	1	< 1	< 20	22.0	3.4	3	< 5	< 200	< 500
T763	< 5	34	25	450	2	< 10	83	< 10	110	159	< 2	1.5	< 2	< 100	37	2.4	< 2	0.08	< 20	390	45.8	3.6	< 10	6.5	< 200	2	< 1	< 20	31.0	11.0	8	< 5	1400	< 500
T764	50	39	150	370	< 1	< 10	62	< 10	160	21	< 2	1.7	3	< 100	33	2.8	15	0.16	< 20	350	29.5	3.4	< 10	5.2	< 200	1	< 1	< 20	26.0	26.0	6	< 5	2700	< 500
T765	< 5	18	< 5	730	< 1	< 10	100	< 10	73	40	< 2	2.1	3	< 100	42	1.5	< 2	0.83	< 20	380	12.0	4.0	< 10	6.8	< 200	2	1	< 20	33.0	11.0	4	< 5	500	< 500
T766	< 5	23	8	470	< 1	< 10	94	< 10	69	39	< 2	1.5	< 2	< 100	38	2.1	< 2	0.46	21	370	14.0	2.9	< 10	6.4	< 200	1	1	< 20	31.0	18.0	5	< 5	1100	< 500
T767	>100	82	40	310	10	< 10	83	< 10	100	22	< 2	1.5	< 2	< 100	36	2.1	< 2	0.06	< 20	280	32.4	2.3	< 10	5.4	< 200	1	< 1	< 20	27.0	14.0	13	< 5	490	< 500
T768	73	527	< 5	390	3	< 10	55	< 10	< 50	40	< 2	1.3	< 2	< 100	32	0.9	< 2	0.15	< 20	340	25.9	2.1	< 10	5.4	< 200	2	< 1	< 20	29.0	5.5	4	< 5	260	< 500
T769	>100	2400	270	250	86	< 10	37	< 10	* 190	9	3	1.5	* 5	< 100	7	1.1	* 4	< 0.05	* 63	72	244.0	< 0.5	< 10	1.4	* 500	< 1	< 1	* 70	4.7	3.1	14	10	270	< 500
T770	>100	34	< 5	270	< 1	< 10	77	< 10	< 50	25	< 2	1.0	< 2	< 100	36	2.5	< 2	0.07	< 20	270	43.1	2.9	< 10	5.5	< 200	2	< 1	< 20	28.0	23.0	7	< 5	420	< 500
T771	>100	42	< 5	360	2	< 10	68	< 10	140	17	< 2	1.5	4	< 100	38	1.9	< 2	0.52	< 20	330	21.7	3.7	< 10	5.2	< 200	2	< 1	< 20	31.0	14.0	4	< 5	300	< 500
T772	72	929	* 26	610	18	< 10	56	< 10	* 230	29	* 5	2.7	* 6	< 100	36	1.5	* 5	0.31	* 53	370	572.0	3.3	< 10	4.8	* 610	1	< 1	* 88	28.0	7.9	28	19	480	< 500
T773	>100	64	* 17	< 100	7	< 10	86	< 10	* 120	31	< 2	1.5	< 2	< 100	32	5.9	7	0.09	< 20	310	286.0	1.9	< 10	3.5	* 410	1	< 1	* 57	28.0	56.0	11	9	920	< 500
T774	>100	116	45	< 100	7	< 10	64	< 10	* 140	23	< 2	1.1	* 5	< 100	35	4.5	67	0.12	39	290	238.0	2.2	< 10	4.4	< 200	1	< 1	* 52	28.0	42.0	38	8	3400	< 500
T775	43	129	< 5	520	1	< 10	72	< 10	< 50	27	< 2	1.3	4	< 100	34	1.2	< 2	0.06	< 20	330	32.0	3.5	< 10	5.7	< 200	1	< 1	< 20	30.0	4.6	8	< 5	760	< 500
T776	32	74	8	420	< 1	< 10	77	< 10	< 50	13	< 2	0.9	5	< 100	35	1.9	< 2	0.10	< 20	370	20.0	2.6	< 10	5.3	< 200	1	< 1	< 20	31.0	16.0	7	< 5	1200	< 500
T777	>100	1140	190	< 100	5	< 10	10	< 10	230	7	< 2	0.9	< 2	< 100	7	2.4	63	< 0.05	44	51	53.1	< 0.5	< 10	1.1	< 200	< 1	< 1	< 20	5.8	18.0	5	< 5	560	< 500
T778	29	2160	21	< 100	7	< 10	40	< 10	230	5	< 2	0.9	< 2	< 100	7	4.8	6	< 0.05	< 20	28	77.1	0.8	< 10	0.3	< 200	< 1	< 1	* 48	* 1.1	49.0	< 2	< 5	410	< 500
T779	10	76	< 5	580	< 1	< 10	90	< 10	140	15	< 2	1.3	6	< 100	39	1.9	< 2	0.72	< 20	320	11.0	3.7	< 10	5.8	< 200	2	< 1	< 20	31.0	12.0	< 2	< 5	1600	< 500
T780	>100	428	* 22	< 100	12	< 10	50	< 10	* 160	32	< 2	1.9	* 5	< 100	38	4.9	8	< 0.05	* 45	310	418.0	2.9	< 10	4.0	* 520	3	< 1	* 73	29.0	49.0	7	11	1500	< 500
T781	>100	144	< 5	300	5	< 10	66	< 10	120	16	2	1.7	< 2	< 100	36	2.6	< 2	0.15	< 20	340	88.0	3.2	< 10	5.0	< 200	1	< 1	< 20	30.0	26.0	8	< 5	2000	< 500
T782	>100	117	20	< 100	3	< 10	74	< 10	110	21	< 2	1.4	< 2	< 100	34	2.9	< 2	0.06	< 20	260	39.9	2.2	< 10	5.1	< 200	< 1	< 1	< 20	26.0	21.0	7	< 5	1000	< 500
T783	>100	973	* 23	* 210	44	< 10	44	< 10	* 130	10	4	1.7	* 4	< 100	32	8.0	11	< 0.05	* 52	280	273.0	2.4	< 10	2.3	* 430	< 1	< 1	* 61	27.0	65.1	9	18	1600	< 500
T784	>100	725	320	* 240	37	< 10	57	< 10	* 220	14	5	1.8	* 6	< 100	31	7.4	40	* 0.29	* 54	480	1490.0	3.0	* 22	2.8	* 720	1	< 1	* 110	32.0	76.7	* 5	37	2900	< 500
T785	< 5	8	10	490	< 1	< 10	79	< 10	97	18	< 2	1.0	4	< 100	36	1.2	< 2	0.95	< 20	360	9.5	2.7	< 10	7.1	< 200	2	1	< 20	34.0	6.8	3	< 5	< 200	< 500
T786	>100	1380	44	440	7	< 10	84	< 10	< 50	14	< 2	1.0	< 2	< 100	37	1.8	65	0.28	< 20	330	57.3	2.4	< 10	5.0	< 200	< 1	< 1	< 20	27.0	13.0	6	5	16000	< 500
T787	>100	149	19	< 100	9	< 10	36	< 10	130	11	2	1.7	< 2	< 100	15	3.0	10	< 0.05	39	110	69.8	0.6	< 10	1.5	< 200	< 1	< 1	< 20	11.0	34.0	8	5	1800	< 500
T788	< 5	21	< 5	490	1	< 10	120	< 10	240	27	< 2	1.6	5	< 100	55	0.8	< 2	0.78	< 20	450	27.5	3.8	< 10	7.2	< 200	2	< 1	< 20	37.0	4.2	5	< 5	360	< 500
T789	< 5	254	10	580	3	< 10	110	< 10	240	21	< 2	1.5	3	< 100	53	0.7	4	0.63	< 20	430	35.2	3.6	< 10	7.3	< 200	1	< 1	< 20	38.0	4.5	5	7	240	< 500
T790	17	211	19	330	8	< 10	110	< 10	380	48	< 2	2.2	< 2	< 100	51	0.6	< 2	0.08	< 20	390	191.0	4.4	< 10	6.9	< 200	2	< 1	< 20	34.0	12.0	20	7	1900	< 500
T791	74	56	11	550	2	< 10	84	< 10	150	30	< 2	1.8	4	< 100	40	0.6	< 2	0.08	< 20	470	62.4	4.1	< 10	5.7	< 200	3	< 1	< 20	36.0	7.9	10	7	2100	< 500
T792	97	107	200	< 100	6	< 10	83	< 10	330	25	< 2	1.4	< 2	< 100	39	0.6	6	< 0.05	< 20	390	130.0	3.3	< 10	5.1	< 200	2	< 1	< 20	30.0	6.6	12	< 5	560	< 500
T793	5	62	11	610	2	< 10	110	< 10	240	24	< 2	1.8	3	< 100	55	0.7	< 2	0.10	< 20	380	45.3	4.4	< 10	7.2	< 200	2	< 1	< 20	35.0	5.1	4	5	420	650
T794	52	42	8	380	2	< 10	120	< 10	170	32	< 2	2.3	3	< 100	57	0.6	4	0.08	< 20	420	80.8	4.3	< 10	7.8	< 200	2	2	< 20	37.0	9.2	12	8	630	< 500
T795	>100	19	< 5	470	1	< 10	77	< 10	160	19	< 2	< 0.5	3	< 100	30	1.8	< 2	0.48	< 20	310	23.0	2.5	< 10	4.3	< 200	2	< 1	< 20	28.0	14.0	4	< 5	210	< 500
T796	>100	722	100	< 100	60	< 10	36	< 10	* 110	19	< 2	1.3	< 2	< 100	24	3.7	87	0.10	< 20	220	69.5	< 0.5	< 10	2.1	< 200	< 1	< 1	< 20	20.0	35.0	19	< 5	390	< 500
T797	>100	32	13	350	< 1	< 10	75	< 10	< 50	39	< 2	1.2	< 2	< 100	36	2.1	< 2	0.15	< 20	350	22.3	2.7	< 10	5.2	< 200	2	< 1	< 20	29.0	18.0	6	< 5	700	< 500
T798	>100	174	110	* 390	66	< 10	66	< 10	220	21	< 2	1.1	< 2	< 100	29	11.0	* 5	< 0.05	< 20	170	69.8	< 0.5	< 10	1.1	< 200	2	< 1	* 45	20.0	122.0	8	< 5	600	< 500
T799	>100	25	16	630	39	< 10	78	< 10	< 50	28	< 2	1.4	< 2	< 100	35	2.3	< 2	0.08	< 20	410	27.3	1.5	< 10	5.4	< 200	1	< 1	< 20	28.0	24.0	15	< 5	760	< 500
T800	>100	42	< 5	< 100	5	< 10	34	< 10	< 50	20	< 2	1.0	5	< 100	25	4.1	< 2	0.08	< 20	290	72.6	1.1	< 10	2.8	< 200	< 1	< 1	< 20	21.0	40.0	11	< 5	460	< 500
T801	>100	15	< 5	570	3	< 10	29	< 10	230	11	< 2	0.7	< 2	< 100	12	0.8	3	0.05	< 20	120	68.2	1.0	< 10	2.6	< 200	< 1	< 1	< 20	9.5	5.3	4	< 5	< 200	< 500
T802	>100	26	22	540	1	< 10	69	< 10	100	21	3	1.1	3	< 100	32	1.4	< 2	0.39	< 20	380	26.1	2.5	< 10	6.2	< 200	2	< 1	< 20	31.0	9.1	13	< 5	450	< 500
T803	< 5	115	160	430	2	< 10	74	< 10	< 50	156	< 2	1.2	< 2	< 100	35	2.2	< 2	0.08	< 20	320	45.4	2.5	< 10	4.9	< 200	1	< 1	< 20	29.0	18.0	9	< 5	510	< 500
T804	< 5	113	17	< 100	3	< 10	65	< 10	< 50	28	< 2	1.4	< 2	< 100	36	5.0	6	< 0.05	< 20	330	58.9	2.8	< 10	3.4	< 200	1	< 1	< 20	26.0	51.2	10	< 5	860	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T805	< 5	12	88	200	1	< 10	38	< 10	130	15	< 2	1.3	6	< 100	16	2.5	< 2	< 0.05	< 20	280	22.8	2.5	< 10	2.5	< 200	1	< 1	< 20	26.0	24.0	7	< 5	1500	< 500
T806	23	39	310	* 500	2	27	22	22	< 50	26	< 2	2.7	< 2	< 100	11	13.0	* 5	< 0.05	< 20	150	39.7	1.4	< 10	* 2.7	< 200	< 1	< 1	< 20	17.0	155.0	8	< 5	2800	< 500
T807	84	51	43	* 2000	2	< 10	87	32	< 50	19	< 2	0.5	< 2	< 100	18	65.6	* 16	0.06	63	260	56.9	1.6	< 10	* 12.0	< 200	2	1	* 61	25.0	626.0	7	5	1300	< 500
T808	13	1980	645	< 100	6	< 10	83	< 10	< 50	18	< 2	1.3	< 2	< 100	32	3.9	* 4	< 0.05	< 20	260	27.2	2.0	< 10	6.2	< 200	< 1	< 1	* 42	27.0	30.0	5	8	810	< 500
T809	32	309	140	< 100	1	< 10	36	< 10	110	19	< 2	0.7	3	< 100	22	4.1	26	< 0.05	24	290	17.0	2.3	< 10	3.7	< 200	1	< 1	< 20	29.0	42.0	5	< 5	860	< 500
T810	< 5	31	73	550	2	< 10	69	< 10	< 50	211	< 2	3.6	< 2	< 100	25	1.4	< 2	0.24	< 20	430	23.4	6.6	< 10	4.8	< 200	< 1	< 1	< 20	16.0	11.0	6	< 5	380	< 500
T811	< 5	14	10	450	< 1	< 10	110	< 10	120	36	< 2	1.9	5	< 100	46	1.4	< 2	0.41	< 20	430	19.0	4.5	< 10	7.1	< 200	2	1	< 20	35.0	5.8	8	< 5	680	< 500
T812	18	777	15	410	2	< 10	93	< 10	110	32	< 2	0.5	4	< 100	42	1.9	75	0.08	< 20	450	13.0	3.0	< 10	5.2	< 200	1	< 1	< 20	34.0	12.0	10	< 5	3400	< 500
T813	85	391	90	< 100	2	< 10	45	< 10	140	18	< 2	1.2	< 2	< 100	19	4.9	90	< 0.05	< 20	160	34.4	1.2	< 10	1.1	< 200	< 1	< 1	< 20	16.0	54.1	30	< 5	3300	< 500
T814	< 5	22	< 5	440	1	< 10	190	< 10	190	18	< 2	1.2	5	< 100	96	0.7	3	0.17	< 20	310	30.2	4.1	< 10	13.0	< 200	1	2	< 20	28.0	4.3	4	< 5	< 200	< 500
T815	23	17	59	330	1	< 10	67	< 10	210	16	< 2	1.9	3	< 100	38	< 0.5	6	0.08	< 20	330	15.0	3.4	< 10	4.8	< 200	< 1	< 1	< 20	27.0	18.0	11	< 5	1600	< 500
T816	< 5	30	< 5	280	1	< 10	110	< 10	92	49	< 2	1.8	4	< 100	46	1.8	< 2	0.10	< 20	380	16.0	4.4	< 10	6.7	< 200	2	< 1	< 20	36.0	10.0	10	< 5	1300	< 500
T817	13	66	59	490	1	< 10	79	< 10	58	15	< 2	0.7	5	< 100	37	1.8	< 2	0.09	< 20	360	20.0	2.7	< 10	5.0	< 200	2	< 1	< 20	31.0	14.0	< 2	< 5	880	< 500
T818	< 5	1210	61	240	5	< 10	60	< 10	< 50	13	< 2	1.7	< 2	< 100	35	2.4	28	0.12	< 20	380	11.0	2.7	< 10	4.8	< 200	1	< 1	< 20	30.0	20.0	5	6	680	< 500
T819	22	2100	480	< 100	6	< 10	54	< 10	< 50	11	< 2	1.0	< 2	< 100	28	3.1	219	0.06	< 20	260	53.2	1.8	< 10	2.6	< 200	1	< 1	< 20	20.0	33.0	< 2	< 5	1300	< 500
T820	30	1200	532	< 100	5	< 10	37	< 10	< 50	11	< 2	0.8	< 2	< 100	23	5.0	251	< 0.05	< 20	170	40.0	1.7	< 10	3.5	< 200	< 1	1	< 20	16.0	43.0	5	10	370	< 500
T821	31	1660	1840	< 100	6	< 10	22	< 10	410	3	< 2	1.3	< 2	< 100	< 5	2.6	72	< 0.05	< 20	25	42.5	0.6	< 10	0.8	< 200	< 1	< 1	* 50	2.5	28.0	< 2	< 5	< 200	< 500
T822	>100	476	290	< 100	6	< 10	38	< 10	150	20	< 2	1.3	< 2	< 100	31	3.5	16	< 0.05	26	220	77.5	1.9	< 10	3.2	< 200	1	< 1	< 20	24.0	34.0	10	10	1500	< 500
T823	39	169	77	< 100	2	< 10	10	< 10	320	6	< 2	0.7	< 2	< 100	10	0.9	10	< 0.05	< 20	40	37.8	0.9	< 10	2.0	< 200	< 1	< 1	< 20	8.5	10.0	3	< 5	< 200	< 500
T824	6	14	10	560	< 1	< 10	81	< 10	< 50	36	< 2	1.9	< 2	< 100	34	2.0	< 2	0.45	< 20	410	13.0	4.2	< 10	5.9	< 200	2	< 1	< 20	31.0	12.0	6	< 5	380	< 500
T825	68	62	5240	* 200	5	< 10	31	< 10	< 50	16	< 2	0.7	< 2	< 100	14	5.2	< 2	0.06	< 20	130	38.4	1.1	< 10	* 1.0	< 200	< 1	< 1	< 20	24.0	63.1	7	< 5	610	< 500
T826	7	79	33	210	5	< 10	56	10	120	29	< 2	3.1	< 2	< 100	29	2.7	12	0.25	22	360	20.4	5.7	< 10	4.1	< 200	1	< 1	< 20	20.0	29.0	5	< 5	820	< 500
T827	48	100	620	< 100	3	< 10	10	< 10	330	7	< 2	0.7	< 2	< 100	7	5.5	22	< 0.05	< 20	53	70.6	1.5	< 10	0.9	< 200	< 1	< 1	< 20	2.7	50.1	< 2	10	< 200	< 500
T828	14	118	46	360	2	< 10	82	< 10	150	14	< 2	0.7	3	< 100	34	2.0	7	0.06	< 20	320	27.1	2.7	< 10	5.1	< 200	2	< 1	< 20	30.0	13.0	4	< 5	590	< 500
T829	62	100	280	< 100	7	< 10	65	< 10	* 110	16	< 2	1.1	< 2	< 100	31	4.3	45	< 0.05	< 20	95	260.0	0.8	< 10	1.6	< 200	< 1	< 1	* 49	10.0	52.6	9	8	760	< 500
T830	15	86	35	< 100	10	< 10	10	11	* 120	26	< 2	7.4	* 4	< 100	20	8.4	* 6	< 0.05	< 20	360	285.0	7.5	< 10	* 2.2	< 200	< 1	< 1	* 53	15.0	91.4	9	< 5	3800	< 500
T831	>100	84	2430	460	8	< 10	31	< 10	< 50	5	< 2	1.4	< 2	< 100	10	2.3	41	< 0.05	37	31	96.9	< 0.5	< 10	< 0.2	< 200	< 1	< 1	* 48	1.7	30.0	9	< 5	550	< 500
T832	28	333	260	< 100	5	< 10	35	< 10	* 100	18	< 2	3.1	< 2	< 100	24	5.0	36	< 0.05	< 20	190	209.0	4.5	< 10	0.8	< 200	1	< 1	* 47	15.0	60.0	5	7	2100	< 500
T833	< 5	81	17	250	2	< 10	68	< 10	92	18	< 2	2.0	5	< 100	28	1.4	< 2	0.08	< 20	320	34.0	3.0	< 10	4.5	< 200	1	< 1	< 20	30.0	4.8	34	< 5	400	< 500
T834	22	746	120	< 100	4	< 10	32	< 10	< 50	24	< 2	2.6	5	< 100	17	5.4	53	< 0.05	< 20	240	64.3	3.1	< 10	1.5	< 200	< 1	< 1	< 20	24.0	59.7	17	5	1600	< 500
T835	40	16	29	130	2	< 10	38	48	< 50	18	< 2	1.6	< 2	< 100	27	6.6	< 2	< 0.05	< 20	170	57.0	2.6	< 10	* 1.3	< 200	< 1	< 1	< 20	17.0	70.9	6	< 5	2300	< 500
T836	21	11	5	< 100	1	< 10	42	20	92	17	< 2	5.1	< 2	< 100	16	3.8	< 2	< 0.05	21	170	11.0	3.1	< 10	* 1.0	< 200	1	< 1	< 20	19.0	40.0	5	< 5	2800	< 500
T837	8	184	29	180	1	< 10	57	< 10	< 50	17	< 2	1.2	< 2	< 100	27	3.8	47	0.06	< 20	340	49.4	2.5	< 10	4.2	< 200	< 1	< 1	< 20	30.0	34.0	6	< 5	580	< 500
T838	9	103	20	430	1	< 10	80	< 10	110	16	< 2	1.0	5	< 100	35	3.0	6	0.15	< 20	350	25.2	2.9	< 10	5.0	< 200	2	1	< 20	33.0	27.0	4	< 5	560	< 500
T839	< 5	44	< 5	410	1	< 10	77	< 10	130	17	< 2	1.5	4	< 100	34	1.7	< 2	0.06	< 20	300	37.3	2.6	< 10	5.8	< 200	1	1	< 20	28.0	5.4	4	< 5	280	< 500
T840	< 5	25	30	120	2	< 10	43	< 10	< 50	49	< 2	2.9	< 2	< 100	22	2.7	6	0.07	< 20	270	68.9	3.9	< 10	3.3	< 200	1	< 1	< 20	22.0	23.0	19	6	1400	< 500
T841	20	44	17	110	2	< 10	52	< 10	< 50	25	< 2	1.2	< 2	< 100	32	1.8	< 2	0.06	< 20	280	99.1	2.4	< 10	4.4	< 200	< 1	< 1	< 20	23.0	17.0	3	< 5	610	< 500
T842	18	46	11	240	1	< 10	80	< 10	< 50	28	< 2	1.2	6	< 100	36	3.7	9	0.08	31	420	48.3	3.2	< 10	4.4	< 200	2	< 1	< 20	34.0	40.0	4	< 5	590	< 500
T843	55	225	150	< 100	3	< 10	47	< 10	< 50	13	< 2	1.2	< 2	< 100	25	3.6	19	0.06	< 20	190	101.0	1.7	< 10	2.1	< 200	1	< 1	< 20	23.0	32.0	12	< 5	950	< 500
T844	16	21	14	270	1	< 10	76	< 10	150	11	< 2	1.5	4	< 100	28	1.9	< 2	0.07	< 20	300	32.1	2.8	< 10	5.1	< 200	1	1	< 20	31.0	11.0	9	< 5	950	< 500
T845	47	513	556	< 100	4	< 10	48	< 10	140	16	< 2	1.9	< 2	< 100	28	2.7	24	0.05	< 20	260	93.4	2.9	< 10	3.2	< 200	< 1	< 1	< 20	22.0	24.0	33	< 5	540	< 500
T846	37	1700	* 33	* 290	37	< 10	54	< 10	* 220	15	* 5	3.1	* 6	< 100	24	5.6	120	* 0.29	* 52	180	1420.0	2.1	* 22	0.6	* 700	< 1	< 1	* 100	27.0	45.0	18	39	520	< 500
T847	>100	3090	789	* 790	65	* 32	91	< 10	* 390	4	* 9	2.1	* 11	* 280	12	22.0	24	* 0.55	* 96	86	2800.0	* 1.0	* 38	* 3.9	* 1200	3	< 1	* 180	10.0	248.0	* 10	78	3500	* 1200
T848	24	581	* 16	< 100	25	< 10	48	< 10	160	6	< 2	0.7	< 2	< 100	30	1.2	170	0.34	< 20	160	654.0	2.8	< 10	2.1	< 200	1	< 1	* 43	23.0	42.0	* 5	12	230	< 500
T849	6	352	* 12	300	13	< 10	31	< 10	240	7	< 2	1.1	< 2	< 100	23	0.8	9	* 0.24	< 20	230	322.0	3.1	< 10	3.1	< 200	< 1	< 1	< 20	21.0	10.0	7	6	240	< 500
T850	< 5	16	< 5	330	< 1	< 10	83	< 10	200	8	< 2	1.2	5	< 100	35	1.2	3	0.38	< 20	270	12.0	2.8	< 10	4.9	< 200	2	< 1	< 20	33.0	16.0	2	< 5	600	< 500
T851	27	1320	* 41	< 100	50	* 40	49	< 10	* 180	8	6	< 0.5	* 5	< 100	17	* 1.1	11	* 0.92	* 44	210	1340.0	2.9	* 30	2.5	* 990	1	< 1	* 110	28.0	32.0	* 10	30	270	* 1100
T852	8	347	< 5	300	4	< 10	57	< 10	200	12	< 2	1.4	2	< 100	29	1.4	30	0.11	< 20	260	126.0	3.4	< 10	3.8	< 200	2	< 1	< 20	34.0	17.0	6	5	340	< 500
T853	53	757	150	< 100	10	< 10	52	< 10	260	13	< 2	1.7	< 2	< 100	31	2.1	22	0.07	< 20	240	282.0	3.4	< 10	3.6	< 200	2	< 1	< 20	32.0	30.0	8	8	< 200	< 500
T854	< 5	242	< 5	< 100	4	< 10	45	< 10	230	10	< 2	1.7	< 2	< 100	23	0.7	47	< 0.05	< 20	110	90.8	1.7	< 10	2.3	< 200	< 1	< 1	< 20	20.0	9.3	6	< 5	< 200	< 500
T855	< 5	28	< 5	350	< 1	< 10	94	< 10	290	10	< 2	0.8	4	< 100	41	1.1	3	0.09	< 20	240	13.0	2.5	< 10	6.7	< 200	2	1	< 20	32.0	7.8	2	< 5	220	< 500
T856	15	61	100	< 100	5	< 10	68	< 10	* 130	19	< 2	1.8	* 4	< 100	35	4.6	6	0.06	< 20	390	229.0	3.2	< 10	4.4	< 200	2	< 1	* 49	33.0	43.0	6	12	7500	< 500
T857	>100	576	* 62	* 560	63	* 34	96	< 10	* 400	* 3	* 10	< 0.5	* 12	* 300	24	11.0	40	* 0.56	* 99	120	3050.0	* 1.1	* 40	* 2.3	* 1300	< 1	< 1	* 190	17.0	112.0	32	74	940	* 1200
T858	33	38	27	< 100	4	< 10	49	< 10	* 110	14	< 2	0.6	< 2	< 100	19	2.8	6	< 0.05	< 20	190	173.0	1.1	< 10	1.9	< 200	1	< 1	* 41	14.0	28.0	4	6	240	< 500
T859	>100	32	11	300	2	< 10	94	< 10	< 50	30	< 2	1.4	< 2	< 100	41	1.5	< 2	0.32	< 20	410	58.2	3.2	< 10	6.6	< 200	2	< 1	< 20	31.0	16.0	7	< 5	550	< 500
T860	>100	113	* 25	< 100	154	< 10	43	< 10	* 180	9	* 5	0.9	* 6	< 100	19	4.2	* 7	0.16	* 57	170	584.0	< 0.5	< 10	1.8	* 610	1	< 1	* 84	14.0	34.0	8	26	7700	< 500
T861	>100	59	380	160	6	< 10	63	< 10	* 110	36	< 2	1.0	< 2	< 100	36	2.8	< 2	0.07	< 20	280	183.0	3.1	< 10	4.3	< 200	1	< 1	< 20	26.0	28.0	7	8	330	< 500
T862	>100	87	* 26	1100	11	< 10	57	< 10	* 190	20	6	0.7	* 6	< 100	36	5.1	* 7	0.26	* 53	330	667.0	1.8	< 10	3.9	* 630	2	< 1	* 88	23.0	46.0	10	16	6800	< 500

APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T863	10	16	< 5	370	2	< 10	81	< 10	100	21	< 2	0.9	< 2	< 100	37	1.8	< 2	0.55	< 20	360	43.2	2.8	< 10	6.0	< 200	2	< 1	< 20	32.0	8.6	5	< 5	3300	< 500
T864	< 5	27	9	300	3	< 10	75	< 10	< 50	32	< 2	1.2	4	< 100	38	2.2	< 2	0.22	< 20	380	63.0	4.1	< 10	5.6	< 200	1	< 1	< 20	26.0	22.0	5	< 5	1200	< 500
T865	6	11	< 5	* 320	1	< 10	90	< 10	270	35	< 2	1.3	4	< 100	40	10.0	* 4	0.07	< 20	330	43.7	3.3	< 10	4.6	< 200	2	< 1	< 20	31.0	101.0	6	< 5	910	< 500
T866	63	53	* 16	2100	4	31	33	< 10	* 160	19	< 2	1.2	< 2	< 100	40	26.0	* 8	0.46	< 20	370	236.0	2.8	< 10	* 5.5	< 200	2	< 1	* 73	28.0	235.0	< 2	14	9200	< 500
T867	>100	135	* 24	* 1300	5	18	90	< 10	* 230	40	6	1.2	* 7	< 100	41	48.0	* 15	0.48	* 53	420	423.0	1.6	< 10	* 8.8	* 590	< 1	< 1	* 82	36.0	414.0	13	12	2700	< 500
T868	11	116	< 5	< 100	4	11	65	< 10	< 50	3	< 2	1.5	< 2	< 100	35	4.6	< 2	< 0.05	< 20	30	133.0	7.0	< 10	9.1	< 200	< 1	3	< 20	5.1	14.0	< 2	19	1500	< 500
T869	7	12	12	140	< 1	< 10	100	< 10	210	33	2	2.4	5	< 100	36	2.1	4	0.12	< 20	370	15.0	6.5	< 10	5.8	< 200	1	1	< 20	28.0	14.0	3	< 5	< 200	< 500
T870	< 5	33	9	260	< 1	< 10	82	< 10	110	22	< 2	3.2	6	< 100	36	1.9	< 2	0.07	< 20	290	35.5	11.0	< 10	6.3	< 200	1	< 1	< 20	21.0	10.0	7	6	200	< 500
T871	< 5	10	< 5	230	< 1	< 10	57	< 10	110	10	< 2	1.8	4	< 100	24	1.1	< 2	< 0.05	< 20	240	29.0	5.4	< 10	4.5	< 200	< 1	< 1	< 20	18.0	5.2	5	< 5	< 200	< 500
T872	6	20	20	< 100	6	< 10	33	< 10	180	16	< 2	1.6	< 2	< 100	24	1.6	< 2	0.08	< 20	220	185.0	3.8	< 10	3.5	< 200	2	< 1	* 47	16.0	10.0	4	9	< 200	< 500
T873	< 5	29	7	860	< 1	< 10	43	< 10	130	7	< 2	2.4	4	< 100	22	0.9	1490	1.10	< 20	190	8.2	5.4	< 10	4.0	< 200	< 1	1	< 20	13.0	5.3	5	< 5	760	< 500
T874	10	29	75	620	2	32	21	11	< 50	5	< 2	4.0	< 2	< 100	17	1.4	190	0.06	< 20	86	73.8	2.0	< 10	2.4	< 200	< 1	< 1	< 20	6.9	11.0	4	< 5	8500	< 500
T875	< 5	9	< 5	520	< 1	< 10	68	19	120	26	< 2	4.4	4	< 100	28	1.2	< 2	1.00	26	280	9.3	13.0	< 10	5.0	< 200	1	< 1	< 20	18.0	6.0	4	< 5	< 200	< 500
T876	26	77	180	360	2	400	10	< 10	310	4	< 2	1.7	< 2	< 100	7	0.7	180	< 0.05	< 20	88	44.1	0.8	< 10	0.9	< 200	< 1	< 1	< 20	3.1	8.1	< 2	< 5	>20000	< 500
T877	< 5	38	24	850	< 1	< 10	40	< 10	< 50	20	< 2	2.5	< 2	< 100	24	1.0	89	0.89	< 20	230	11.0	4.5	< 10	3.5	< 200	< 1	< 1	< 20	13.0	7.7	4	< 5	< 200	< 500
T878	< 5	8	250	110	1	< 10	49	< 10	< 50	30	< 2	0.8	< 2	< 100	17	0.8	120	0.05	< 20	210	31.2	1.3	< 10	2.7	< 200	< 1	< 1	< 20	7.9	9.1	3	< 5	2100	< 500
T879	8	10	420	160	< 1	33	48	< 10	< 50	18	< 2	1.0	3	< 100	19	1.0	100	0.06	< 20	250	47.5	1.7	< 10	2.7	< 200	< 1	< 1	< 20	10.0	10.0	< 2	< 5	9400	< 500
T880	< 5	73	17	860	< 1	< 10	56	20	98	28	< 2	5.7	4	< 100	22	1.0	3	0.08	47	350	14.0	19.0	< 10	4.5	< 200	< 1	< 1	< 20	13.0	5.3	8	< 5	1200	< 500
T881	< 5	13	9	570	< 1	< 10	67	< 10	89	13	< 2	2.0	5	< 100	27	0.9	6	0.94	21	300	8.7	3.7	< 10	4.9	< 200	1	< 1	< 20	24.0	4.6	5	< 5	300	< 500
T882	< 5	17	13	420	< 1	< 10	84	< 10	120	16	< 2	1.9	5	< 100	33	1.3	5	0.33	< 20	310	6.7	3.9	< 10	5.3	< 200	1	< 1	< 20	22.0	6.9	5	< 5	930	< 500
T883	< 5	22	430	1300	2	< 10	34	< 10	140	12	< 2	1.7	3	< 100	20	0.6	43	0.06	28	250	31.1	4.0	< 10	3.0	< 200	< 1	< 1	< 20	19.0	3.4	4	< 5	360	< 500
T884	54	68	4020	* 220	10	< 10	41	< 10	340	2	< 2	3.3	* 5	< 100	9	* 1.1	262	< 0.05	* 42	48	489.0	1.1	< 10	0.9	* 530	< 1	< 1	* 74	* 2.1	3.0	< 2	13	690	< 500
T885	< 5	8	110	170	1	< 10	39	< 10	120	12	< 2	2.6	4	< 100	23	0.8	15	0.07	< 20	270	27.5	3.2	< 10	3.6	< 200	< 1	< 1	< 20	11.0	4.5	8	< 5	< 200	< 500
T886	< 5	18	25	280	< 1	< 10	74	< 10	110	19	< 2	2.8	4	< 100	32	1.3	< 2	0.42	< 20	300	11.0	6.6	< 10	5.6	< 200	< 1	< 1	< 20	22.0	6.2	5	< 5	< 200	< 500
T887	< 5	66	30	480	< 1	< 10	83	< 10	170	20	< 2	1.5	5	< 100	38	1.1	< 2	0.36	24	290	9.1	4.1	< 10	5.4	< 200	< 1	< 1	< 20	25.0	5.3	5	< 5	< 200	< 500
T888	< 5	41	170	300	4	< 10	53	< 10	< 50	29	< 2	1.4	< 2	< 100	23	1.2	9	0.06	< 20	320	144.0	4.3	< 10	3.5	< 200	< 1	< 1	< 20	16.0	4.7	9	< 5	630	< 500
T889	< 5	8	32	850	< 1	< 10	62	< 10	98	22	< 2	2.1	7	< 100	27	1.1	< 2	0.24	< 20	410	16.0	5.8	< 10	6.2	< 200	1	< 1	< 20	19.0	4.8	11	< 5	1400	< 500
T890	6	10	741	< 100	< 1	54	10	11	130	6	< 2	2.4	< 2	< 100	10	0.6	100	< 0.05	< 20	110	58.5	1.8	< 10	1.6	< 200	< 1	< 1	< 20	4.4	2.1	5	< 5	16000	< 500
T891	85	56	4840	< 100	8	< 10	50	< 10	* 180	19	< 2	2.5	* 4	< 100	17	1.4	17	< 0.05	< 20	200	402.0	2.6	< 10	1.9	* 470	< 1	< 1	* 65	14.0	5.6	< 2	< 5	1200	< 500
T892	36	26	2820	610	3	15	29	< 10	< 50	8	< 2	3.0	< 2	< 100	18	2.0	14	0.08	< 20	180	164.0	1.7	< 10	2.8	< 200	< 1	< 1	< 20	11.0	7.5	5	9	810	< 500
T893	11	25	3020	280	< 1	< 10	61	< 10	< 50	17	< 2	2.9	5	< 100	28	0.9	61	0.48	< 20	250	7.6	5.4	< 10	4.5	< 200	1	< 1	< 20	19.0	5.7	3	< 5	290	< 500
T894	< 5	80	81	590	1	< 10	68	< 10	< 50	13	< 2	2.3	3	< 100	26	1.0	27	0.06	< 20	250	30.8	5.5	< 10	4.0	< 200	1	< 1	< 20	17.0	4.3	3	< 5	< 200	< 500
T895	< 5	21	5	590	< 1	< 10	64	< 10	57	14	< 2	2.2	5	< 100	29	0.6	< 2	0.80	< 20	260	19.0	5.5	< 10	5.3	< 200	1	< 1	< 20	22.0	5.0	4	< 5	< 200	< 500
T896	< 5	42	16	1300	2	10	54	< 10	< 50	22	< 2	1.6	4	< 100	26	1.2	3	0.06	< 20	280	56.8	4.0	< 10	4.4	< 200	1	< 1	< 20	22.0	7.9	4	< 5	620	< 500
T897	67	74	* 28	2300	14	83	60	< 10	* 210	15	* 5	1.0	* 6	< 100	29	1.8	8	* 0.10	77	260	787.0	4.1	* 21	4.4	* 700	< 1	< 1	* 97	20.0	4.2	< 2	16	2700	< 500
T898	< 5	38	23	310	< 1	< 10	29	< 10	91	12	< 2	1.4	< 2	< 100	19	1.0	70	0.19	< 20	210	35.0	4.7	< 10	3.1	< 200	< 1	< 1	< 20	10.0	4.7	3	< 5	< 200	< 500
T899	6	33	120	1400	3	< 10	37	< 10	230	5	< 2	1.2	< 2	< 100	17	0.8	53	0.05	< 20	160	128.0	2.9	< 10	2.7	< 200	< 1	< 1	< 20	10.0	3.9	2	< 5	< 200	< 500
T900	< 5	3	< 5	580	1	< 10	24	< 10	60	< 1	< 2	5.2	3	< 100	10	0.9	2	1.40	< 20	74	0.9	5.4	< 10	2.1	< 200	< 1	< 1	< 20	6.3	8.3	< 2	< 5	1100	< 500
T901	< 5	2	20	100	< 1	< 10	38	< 10	150	< 1	< 2	1.5	3	< 100	14	< 0.5	3	< 0.05	< 20	20	1.7	5.7	< 10	2.3	< 200	< 1	< 1	< 20	6.6	3.8	3	< 5	< 200	< 500
T902	< 5	3	< 5	170	< 1	< 10	45	< 10	130	1	< 2	2.1	2	< 100	16	< 0.5	< 2	0.24	< 20	86	1.0	7.6	< 10	4.1	< 200	< 1	< 1	< 20	7.4	3.7	2	< 5	< 200	< 500
T903	< 5	3	< 5	< 100	4	< 10	58	< 10	< 50	7	< 2	0.9	5	< 100	24	1.5	< 2	2.20	< 20	300	0.5	1.0	< 10	5.0	< 200	3	< 1	< 20	43.0	9.0	< 2	< 5	< 200	< 500
T904	< 5	3	< 5	< 100	< 1	< 10	46	< 10	< 50	6	< 2	0.9	3	< 100	23	2.3	< 2	0.55	22	170	1.0	1.1	< 10	3.2	< 200	2	< 1	< 20	32.0	21.0	< 2	< 5	< 200	< 500
T905	< 5	3	8	< 100	< 1	< 10	44	< 10	120	2	< 2	0.7	3	< 100	22	1.7	< 2	0.43	< 20	160	1.3	0.6	< 10	2.7	< 200	2	< 1	< 20	26.0	16.0	< 2	< 5	< 200	< 500
T906	< 5	3	< 5	< 100	< 1	< 10	44	< 10	150	12	< 2	0.7	3	< 100	20	2.4	< 2	0.41	< 20	88	1.1	0.8	< 10	2.5	< 200	2	< 1	< 20	23.0	21.0	< 2	< 5	< 200	< 500
T907	< 5	4	< 5	< 100	< 1	< 10	54	< 10	< 50	14	< 2	0.8	2	< 100	22	1.5	< 2	0.59	< 20	100	1.0	0.6	< 10	3.2	< 200	2	< 1	< 20	26.0	13.0	< 2	< 5	< 200	< 500
T908	< 5	3	< 5	< 100	< 1	< 10	23	< 10	300	4	< 2	0.8	< 2	< 100	8	1.4	< 2	0.18	< 20	62	2.1	0.6	< 10	1.0	< 200	< 1	< 1	< 20	10.0	14.0	< 2	< 5	< 200	< 500
T909	< 5	4	< 5	< 100	< 1	< 10	70	< 10	260	6	< 2	0.8	5	< 100	25	0.8	< 2	< 0.05	< 20	130	2.0	2.9	< 10	4.4	< 200	1	< 1	< 20	32.0	5.1	< 2	< 5	< 200	< 500
T910	< 5	4	< 5	370	< 1	< 10	83	< 10	310	9	< 2	1.3	4	< 100	35	0.8	3	0.07	< 20	200	4.5	2.7	< 10	5.2	< 200	1	< 1	< 20	31.0	5.3	2	< 5	< 200	< 500
T911	30	129	* 13	< 100	18	< 10	10	45	260	10	< 2	1.8	< 2	< 100	9	2.1	9	* 0.34	27	76	496.0	12.0	< 10	3.8	< 200	< 1	< 1	< 20	1.2	63.0	* 5	10	1300	< 500
T912	58	1630	* 150	* 1000	205	* 140	190	260	* 660	13	* 17	* 1.5	* 17	* 680	21	* 4.1	46	2.70	* 140	240	>5000.0	16.0	* 120	1.9	* 3600	* 3	* 2	* 400	14.0	117.0	* 33	130	730	* 3500
T913	< 5	6	< 5	< 100	< 1	< 10	78	< 10	290	17	< 2	1.8	4	< 100	31	0.8	3	0.05	< 20	190	5.3	3.8	< 10	5.5	< 200	2	< 1	< 20	33.0	11.0	5	< 5	< 200	< 500
T914	7	86	17	< 100	4	< 10	110	< 10	260	8	< 2	1.1	4	< 100	43	1.3	3	< 0.05	34	170	119.0	3.3	< 10	6.1	< 200	2	< 1	< 20	31.0	17.0	4	< 5	< 200	< 500
T915	35	163	* 27	< 100	* 29	* 26	40	69	310	5	< 2	1.4	< 2	< 100	21	* 1.1	* 10	* 0.53	< 20	98	688.0	2.5	< 10	4.3	* 620	2	< 1	* 70	* 21.0	38.0	* 7	* 17	< 200	< 500
T916	< 5	5	< 5	< 100	< 1	< 10	100	< 10	230	19	< 2	1.2	4	< 100	38	0.7	< 2	< 0.05	< 20	220	4.0	4.4	< 10	5.8	< 200	2	< 1	< 20	37.0	8.5	< 2	< 5	< 200	< 500
T917	< 5	4	< 5	< 100	< 1	< 10	90	< 10	230	16	< 2	1.0	3	< 100	39	0.6	< 2	0.06	< 20	150	6.9	3.0	< 10	5.5	< 200	1	< 1	< 20	29.0	4.1	< 2	< 5	< 200	< 500
T918	35	51	* 12	< 100	4	< 10	33	21	400	10	2	1.1	< 2	< 100	10	3.1	13	< 0.05	< 20	63	195.0	4.5	< 10	< 0.2	< 200	< 1	< 1	< 20	3.0	58.0	< 2	5	< 200	< 500
T919	33	21	400	< 100	1	< 10	48	11	360	11	< 2	2.9	< 2	< 100	17	2.3	8	< 0.05	< 20	110	47.2	5.8	< 10	3.6	< 200	< 1	< 1	< 20	8.2	42.0	4	< 5	< 200	< 500
T920	< 5	15	< 5	360	1	< 10	47	< 10	460	5	< 2	1.0	< 2	< 100	16	< 0.5	6	1.00	< 20	120	30.3	1.9	< 10	2.8	< 200	< 1	< 1	< 20	16.0	3.4	< 2	< 5	< 200	< 500

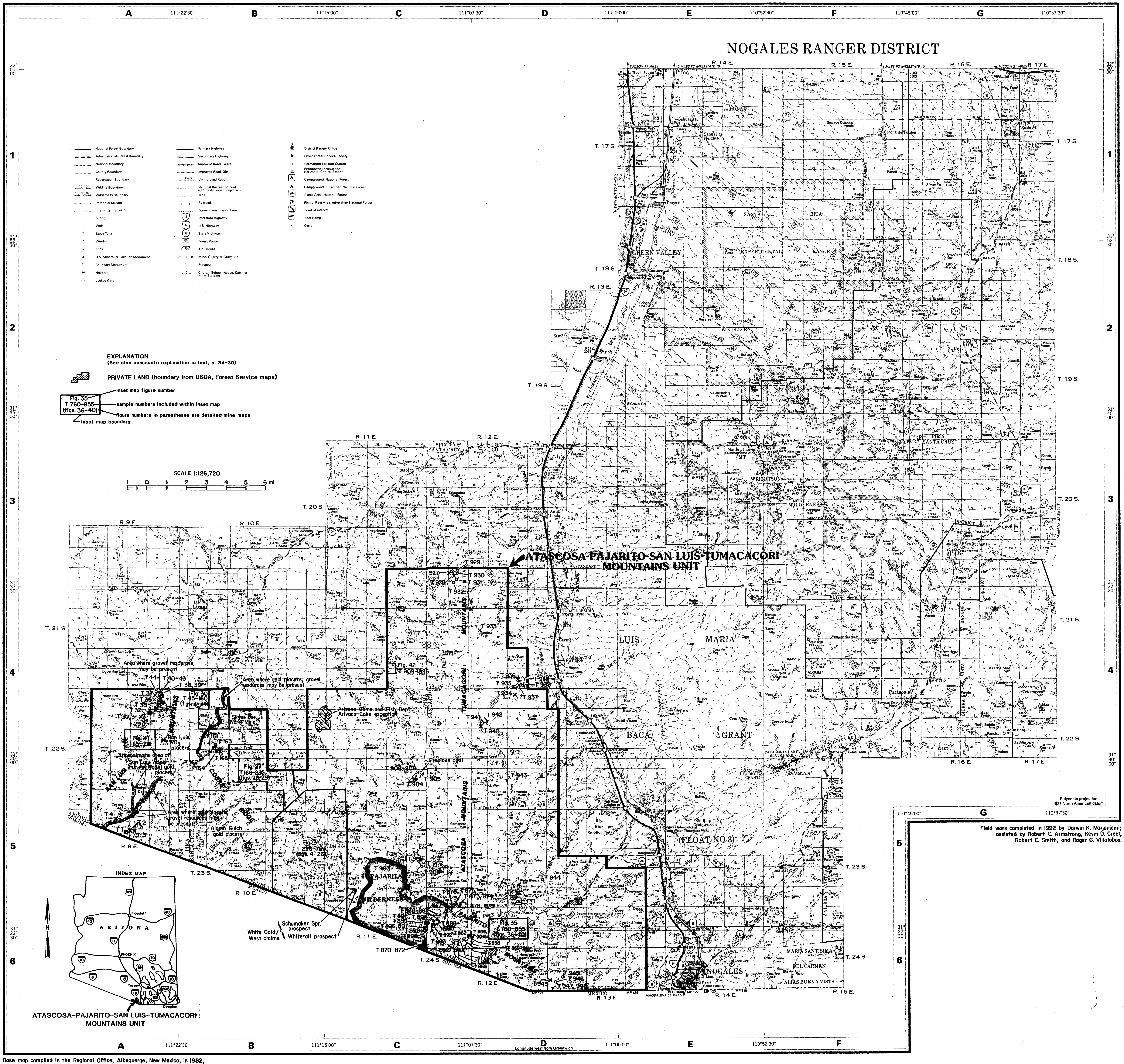
APPENDIX D. ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI UNIT--Contin.

Sample No.	Ag (Ppm)	As (Ppm)	Au (Ppb)	Ba (Ppm)	Br (Ppm)	Cd (Ppm)	Ce (Ppm)	Co (Ppm)	Cr (Ppm)	Cs (Ppm)	Eu (Ppm)	Fe (Pct)	Hf (Ppm)	Ir (Ppb)	La (Ppm)	Lu (Ppm)	Mo (Ppm)
T921	< 5	11	10	< 100	< 1	< 10	82	< 10	290	8	< 2	1.1	3	< 100	32	0.7	5
T922	8	9	< 5	< 100	< 1	< 10	54	< 10	220	14	< 2	1.0	4	< 100	18	0.8	< 2
T923	< 5	11	< 5	< 100	< 1	< 10	68	< 10	240	11	< 2	0.8	4	< 100	26	0.8	3
T924	< 5	4	< 5	< 100	< 1	< 10	82	< 10	230	7	< 2	1.1	4	< 100	33	1.0	3
T925	< 5	6	< 5	400	< 1	< 10	68	< 10	370	5	< 2	0.9	3	< 100	28	0.7	7
T926	< 5	18	< 5	180	2	< 10	23	< 10	520	3	< 2	0.7	< 2	< 100	6	< 0.5	9
T927	< 5	31	< 5	360	< 1	< 10	26	< 10	56	12	< 2	3.9	< 2	< 100	13	0.7	< 2
T928	< 5	19	< 5	< 100	< 1	< 10	45	15	99	1	< 2	5.3	6	< 100	21	1.1	< 2
T929	< 5	23	< 5	470	2	< 10	53	27	65	17	< 2	7.8	3	< 100	18	0.6	3
T930	< 5	65	< 5	< 100	2	< 10	24	15	120	8	< 2	3.5	< 2	< 100	10	0.7	2
T931	< 5	21	< 5	430	5	< 10	< 10	< 10	340	18	< 2	1.1	< 2	< 100	7	< 0.5	5
T932	< 5	22	< 5	270	7	< 10	20	< 10	370	5	3	1.1	< 2	< 100	8	< 0.5	7
T933	< 5	4	< 5	1300	< 1	< 10	53	11	66	5	< 2	2.0	4	< 100	38	< 0.5	< 2
T934	< 5	6	< 5	1000	< 1	< 10	72	< 10	62	9	< 2	2.2	5	< 100	36	< 0.5	< 2
T935	< 5	3	< 5	1100	< 1	< 10	81	< 10	59	3	< 2	2.4	5	< 100	37	< 0.5	< 2
T936	< 5	7	< 5	820	< 1	< 10	68	< 10	110	8	< 2	1.5	4	< 100	36	< 0.5	< 2
T937	< 5	7	< 5	680	< 1	< 10	46	< 10	72	3	< 2	2.7	5	< 100	21	< 0.5	< 2
T938	< 5	12	9	740	< 1	< 10	82	< 10	68	4	< 2	2.8	6	< 100	39	< 0.5	< 2
T939	< 5	54	39	1100	4	< 10	69	< 10	180	6	< 2	2.3	4	< 100	37	0.7	3
T940	< 5	2	< 5	1600	< 1	< 10	80	< 10	75	7	< 2	2.4	4	< 100	35	< 0.5	< 2
T941	< 5	2	< 5	1000	< 1	< 10	63	< 10	87	6	< 2	1.9	5	< 100	35	< 0.5	< 2
T942	< 5	2	< 5	790	< 1	< 10	68	10	64	4	< 2	2.2	4	< 100	34	< 0.5	< 2
T943	< 5	2	< 5	610	< 1	< 10	41	10	110	5	< 2	2.3	4	< 100	18	< 0.5	< 2
T944	< 5	8	< 5	220	< 1	< 10	64	< 10	140	7	< 2	1.4	10	< 100	25	1.4	< 2
T945	< 5	7	7	690	< 1	< 10	110	< 10	210	14	< 2	1.6	5	< 100	50	0.6	< 2
T946	< 5	10	6	300	< 1	< 10	120	< 10	210	20	< 2	1.1	5	< 100	50	0.6	< 2
T947	< 5	71	31	< 100	11	66	130	< 10	390	5	< 2	2.1	< 2	< 100	56	0.7	14
T948	< 5	61	32	< 100	6	< 10	28	< 10	480	4	< 2	0.8	< 2	< 100	10	< 0.5	11
T949	< 5	112	12	420	4	< 10	50	< 10	310	7	< 2	2.5	3	< 100	24	< 0.5	6

Sample No.	Na (Pct)	Ni (Ppm)	Rb (Ppm)	Sb (Ppm)	Sc (Ppm)	Se (Ppm)	Sm (Ppm)	Sn (Ppm)	Ta (Ppm)	Tb (Ppm)	Te (Ppm)	Th (Ppm)	U (Ppm)	W (Ppm)	Yb (Ppm)	Zn (Ppm)	Zr (Ppm)
T921	0.05	< 20	150	31.4	4.4	< 10	5.1	< 200	< 1	< 1	< 20	24.0	12.0	< 2	< 5	< 200	< 500
T922	0.05	< 20	170	37.7	3.5	< 10	3.7	< 200	1	< 1	< 20	26.0	10.0	< 2	< 5	< 200	< 500
T923	0.06	< 20	190	30.4	2.9	< 10	5.4	< 200	2	< 1	< 20	33.0	6.9	< 2	< 5	< 200	< 500
T924	< 0.05	< 20	210	4.3	2.4	< 10	4.7	< 200	2	< 1	< 20	32.0	14.0	< 2	< 5	< 200	< 500
T925	0.08	< 20	210	5.2	1.9	< 10	4.4	< 200	1	< 1	< 20	28.0	5.6	2	< 5	< 200	< 500
T926	0.36	< 20	100	18.0	1.3	< 10	1.4	< 200	< 1	< 1	< 20	14.0	6.2	< 2	< 5	< 200	< 500
T927	1.90	< 20	170	15.0	14.0	< 10	4.3	< 200	< 1	< 1	< 20	6.1	2.7	< 2	< 5	< 200	< 500
T928	3.20	< 20	< 10	10.0	18.0	< 10	6.4	< 200	< 1	2	< 20	8.2	2.7	2	< 5	< 200	< 500
T929	2.40	< 20	220	7.9	20.0	< 10	5.4	< 200	< 1	< 1	< 20	4.2	2.0	3	< 5	< 200	< 500
T930	0.38	< 20	52	50.7	11.0	< 10	3.5	< 200	< 1	< 1	< 20	4.0	2.5	11	< 5	< 200	< 500
T931	0.05	< 20	140	159.0	1.6	< 10	0.9	< 200	< 1	< 1	< 20	2.5	0.9	3	< 5	< 200	< 500
T932	0.09	< 20	190	247.0	1.0	< 10	0.9	< 200	< 1	< 1	< 20	3.7	0.9	4	< 5	< 200	< 500
T933	1.60	< 50	57	0.9	5.5	< 10	5.0	< 200	< 1	< 1	< 20	20.0	5.2	< 2	< 5	< 200	< 500
T934	1.80	< 20	97	1.8	4.8	< 10	4.4	< 200	< 1	< 1	< 20	19.0	4.7	< 2	< 5	< 200	< 500
T935	1.90	21	130	2.1	5.0	< 10	4.4	< 200	< 1	< 1	< 20	22.0	5.0	< 2	< 5	< 200	< 500
T936	1.90	< 20	150	2.5	3.2	< 10	3.7	< 200	< 1	< 1	< 20	23.0	5.7	< 2	< 5	< 200	< 500
T937	1.30	27	110	2.0	5.6	< 10	2.3	< 200	< 1	< 1	< 20	19.0	5.2	< 2	< 5	< 200	< 500
T938	1.80	46	120	3.3	6.0	< 10	4.8	< 200	1	< 1	< 20	24.0	4.5	< 2	< 5	< 200	< 500
T939	1.60	30	120	16.0	4.8	< 10	4.6	< 200	1	< 1	< 20	23.0	10.0	< 2	< 5	< 200	< 500
T940	1.00	36	50	0.9	6.5	< 10	4.5	< 200	< 1	< 1	< 20	20.0	3.6	< 2	< 5	< 200	< 500
T941	1.60	22	120	1.3	5.0	< 10	3.9	< 200	< 1	< 1	< 20	19.0	3.9	< 2	< 5	< 200	< 500
T942	1.80	< 20	110	1.0	6.0	< 10	4.2	< 200	< 1	< 1	< 20	18.0	3.9	< 2	< 5	< 200	< 500
T943	1.90	40	92	1.3	6.6	< 10	3.1	< 200	< 1	< 1	< 20	8.7	3.0	< 2	< 5	< 200	< 500
T944	0.85	< 20	220	1.9	1.7	< 10	7.7	< 200	11	2	< 20	43.0	8.8	< 2	7	< 200	< 500
T945	2.00	< 20	400	3.3	4.1	< 10	7.5	< 200	2	1	< 20	39.0	11.0	3	6	350	< 500
T946	1.30	26	360	2.8	3.6	< 10	7.4	< 200	3	1	< 20	47.0	6.8	5	< 5	< 200	< 500
T947	0.06	< 20	62	125.0	4.1	< 10	8.3	< 200	< 1	2	< 20	4.1	64.4	11	11	1100	500
T948	< 0.05	< 20	79	58.4	1.0	< 10	0.9	< 200	< 1	< 1	< 20	5.9	11.0	< 2	< 5	< 200	< 500
T949	1.00	< 20	250	40.2	8.9	< 10	4.0	< 200	< 1	< 1	< 20	7.0	11.0	2	< 5	640	< 500

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

OPEN FILE REPORT
MLA 24-94
PLATE 1



Base map compiled in the Regional Office, Albuquerque, New Mexico, in 1982, from U.S. Forest Service Primary Base Series. Drafted in 1986 by U.S. Forest Service, Geometronics Service Center, Salt Lake City, Utah.

SAMPLE LOCALITY MAP OF THE ATASCOSA-PAJARITO-SAN LUIS-TUMACACORI MOUNTAINS UNIT, CORONADO NATIONAL FOREST, PIMA AND SANTA CRUZ COUNTIES, ARIZONA

BY

STAFF, U.S. BUREAU OF MINES

1994

Figure 3. Oro Blanco district, southern sheet, with sample localities T236-759.

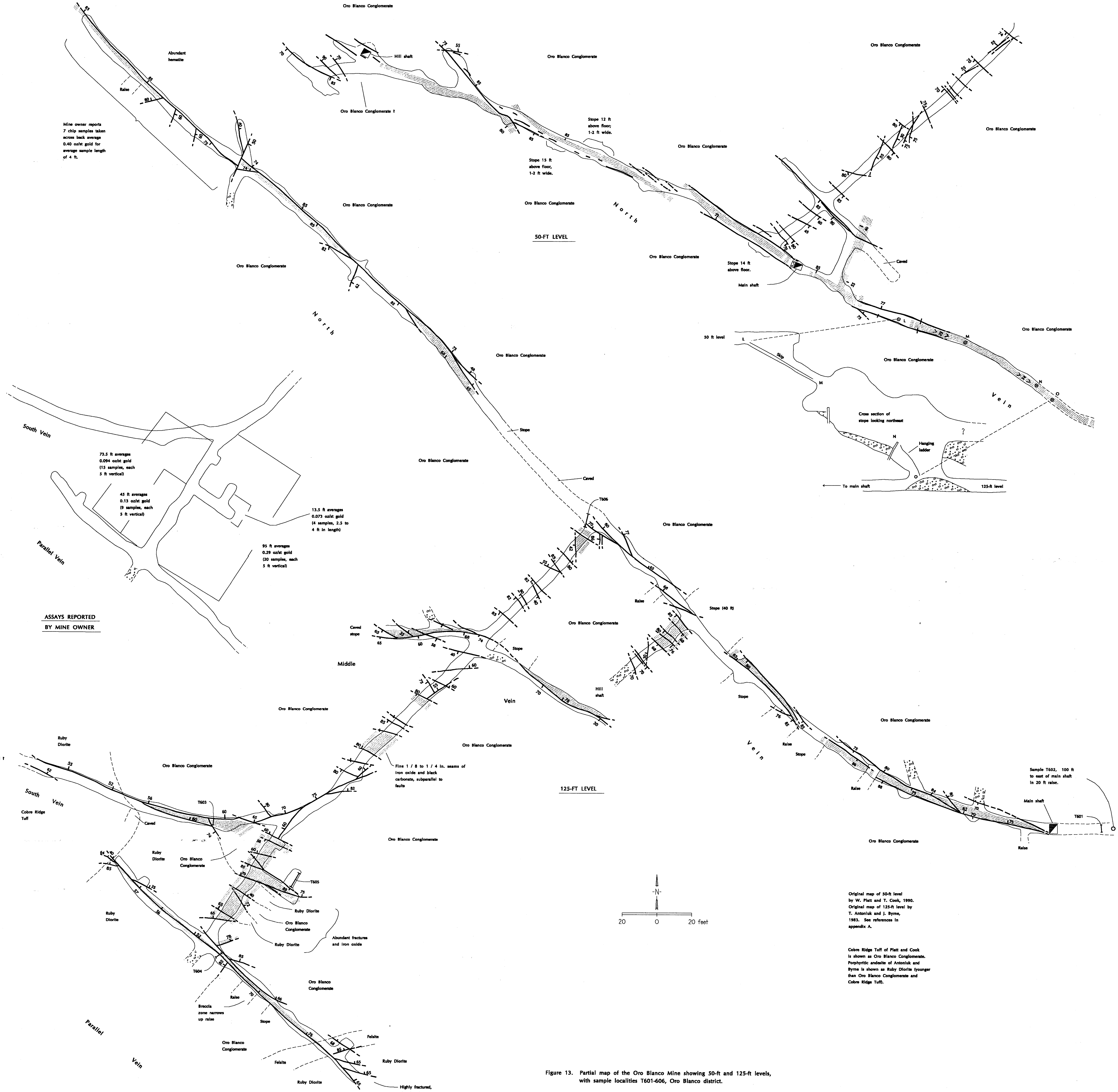


Figure 13. Partial map of the Oro Blanco Mine showing 50-ft and 125-ft levels, with sample localities T601-606, Oro Blanco district.

FIG. 14

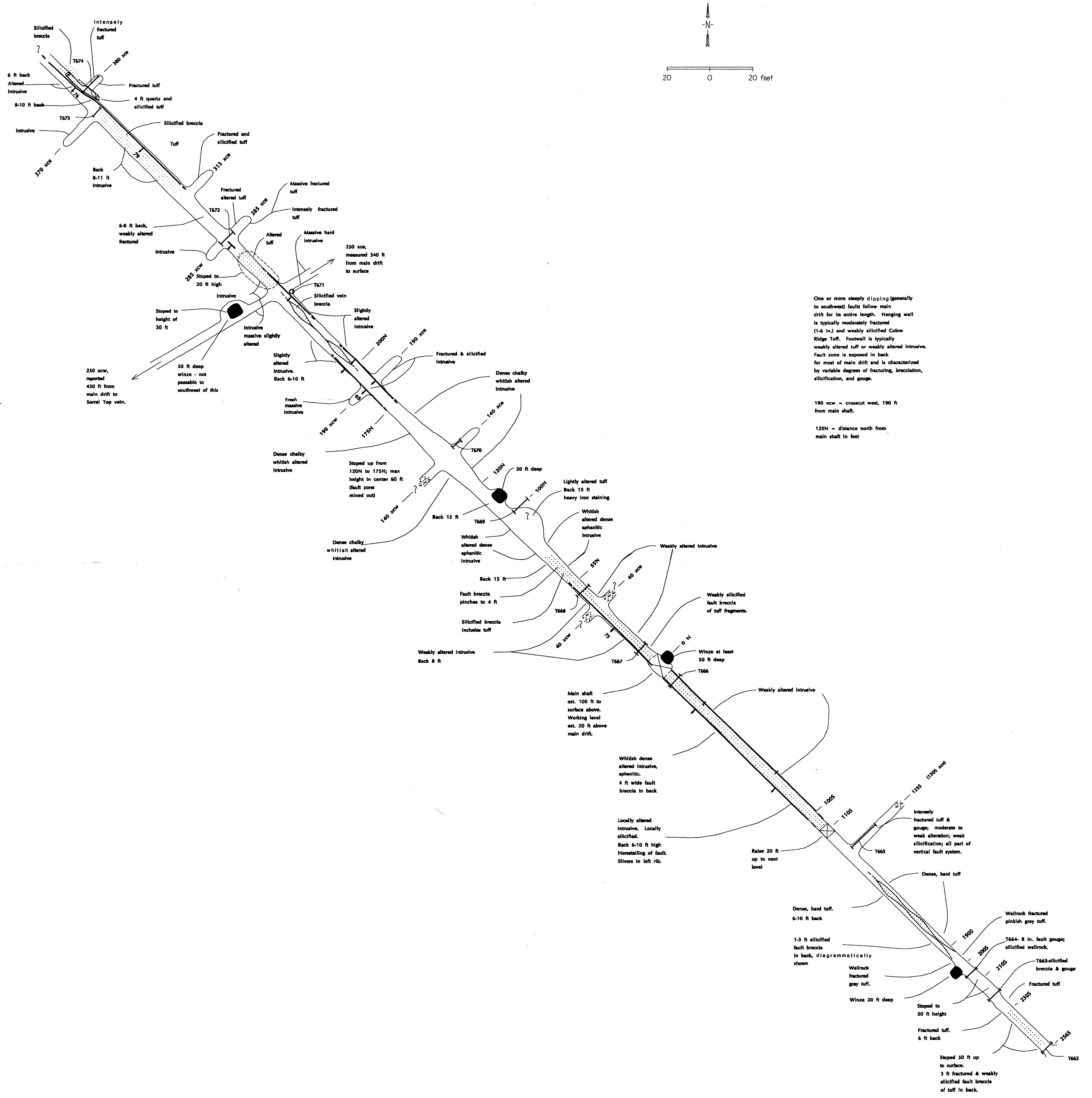
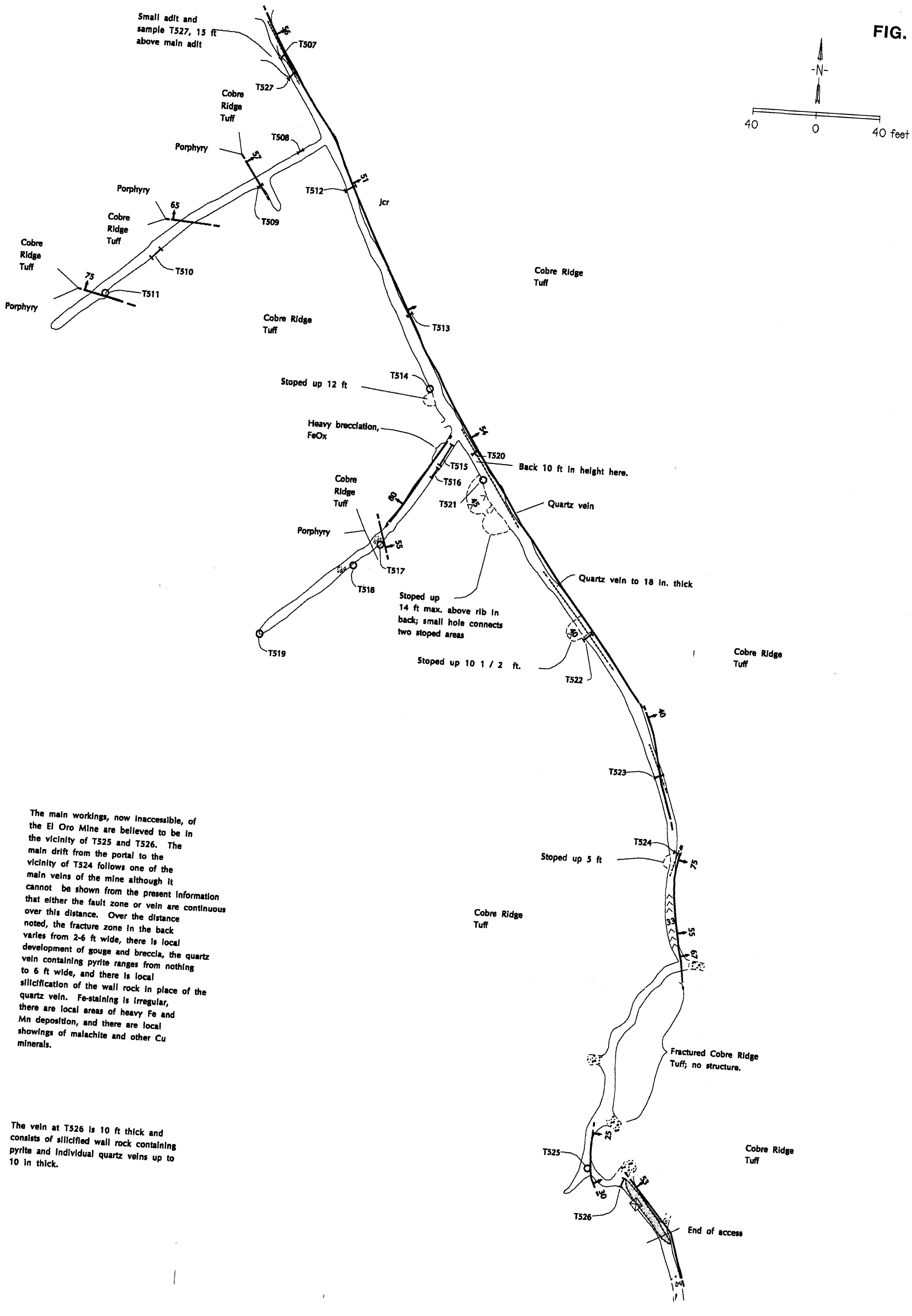


Figure 14. Part of Tres Amigos Mine (main adit), with sample localities T662-674, Oro Blanco district.

FIG. 20



The main workings, now inaccessible, of the El Oro Mine are believed to be in the vicinity of T525 and T526. The main drift from the portal to the vicinity of T524 follows one of the main veins of the mine although it cannot be shown from the present information that either the fault zone or vein are continuous over this distance. Over the distance noted, the fracture zone in the back varies from 2-6 ft wide, there is local development of gouge and breccia, the quartz vein containing pyrite ranges from nothing to 6 ft wide, and there is local silicification of the wall rock in place of the quartz vein. Fe-staining is irregular, there are local areas of heavy Fe and Mn deposition, and there are local showings of malachite and other Cu minerals.

The vein at T526 is 10 ft thick and consists of silicified wall rock containing pyrite and individual quartz veins up to 10 in thick.

... Mine with sample localities, T507-527. Oro Blanco district.

FIG. 27

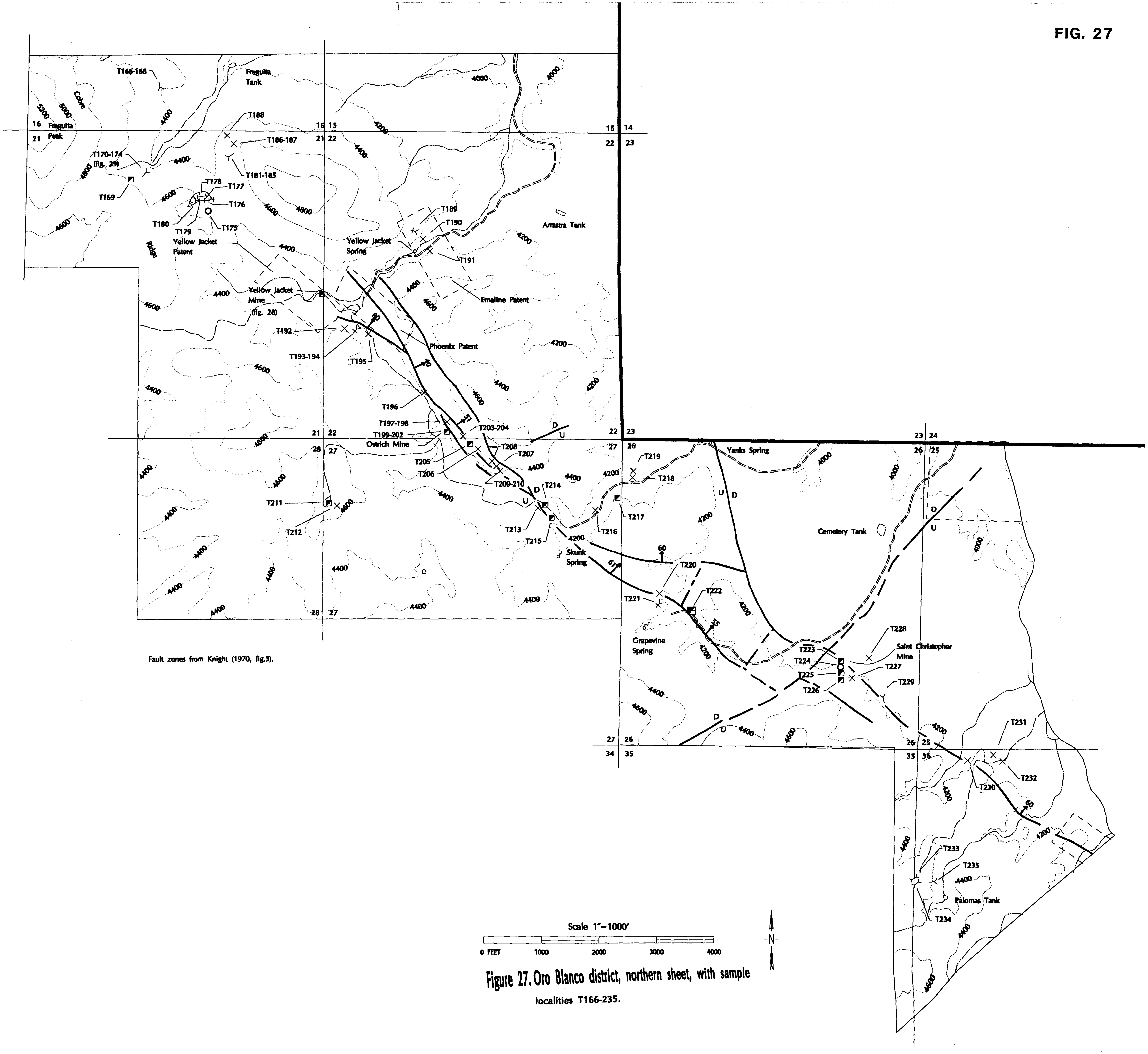


Figure 27. Oro Blanco district, northern sheet, with sample localities T166-235.