CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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Arizona Department of Mines and Mineral Resources Mining Collection

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08/19/86

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: DEVILS WASH PLACER

ALTERNATE NAMES:
GOLDEN GREEN

PIMA COUNTY MILS NUMBER: 840

LOCATION: TOWNSHIP 15 S RANGE 2 E SECTION 2 QUARTER ALL
LATITUDE: N DEG MIN SEC LONGITUDE: W DEG MIN SEC
TOPO MAP NAME: QUIJOTOA MTN - 15 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:
GOLD PLACER

BIBLIOGRAPHY:
ADMMR DEVILS WASH PLACER

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

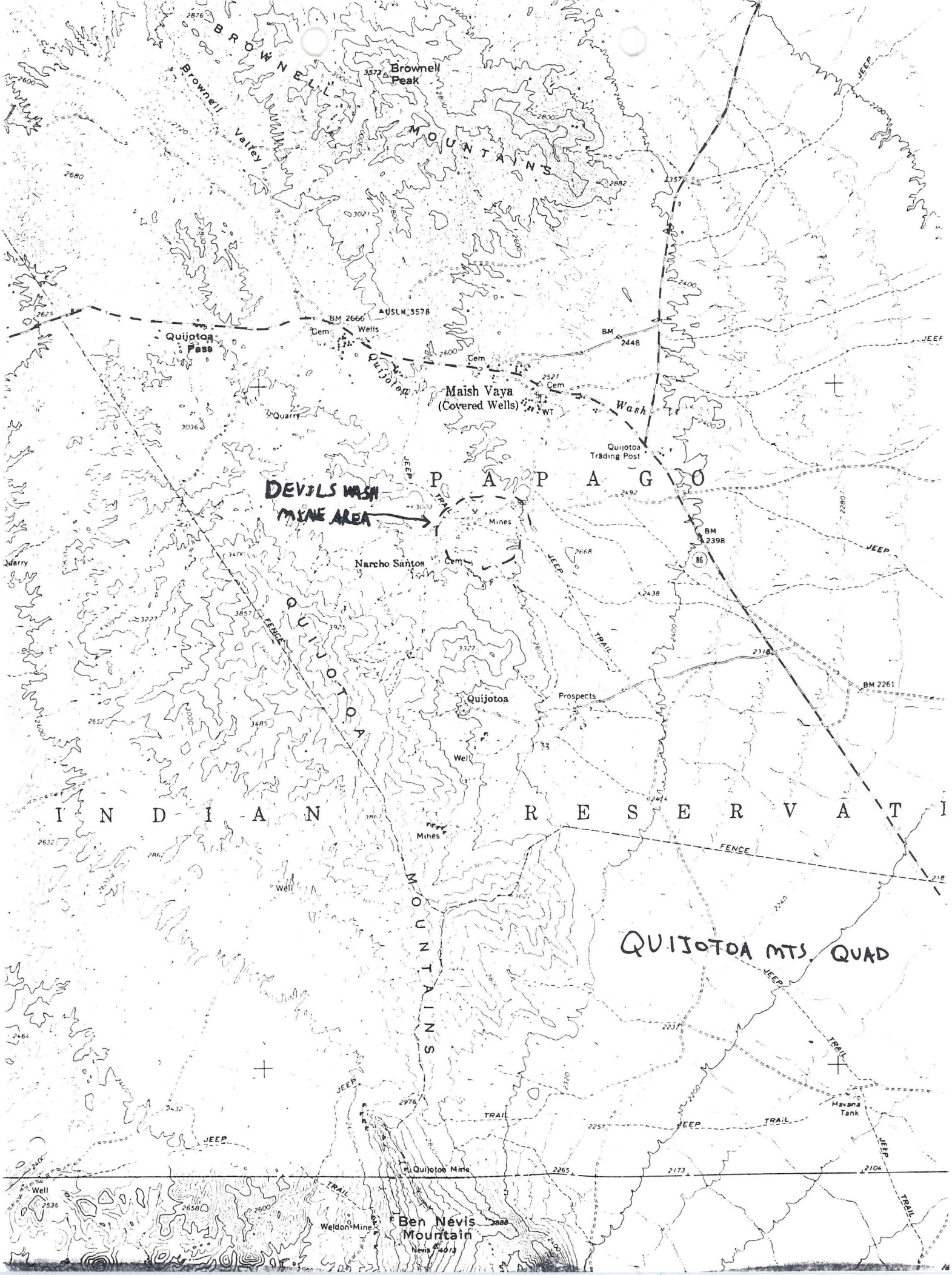
Mine DEVILS WASH PLACERS (COPLEN PLACERS) Date 6/2/64

District QUIJOTOA DISTRICT PIMA COUNTY Engineer LEWIS A. SMITH

Subject: Interview with W. H. Coplen, Star Rt., Box 301, Sells.
(Mr. Coplen runs a trading post at Quijotoa).

Mr. Coplen said that he holds 2 placer areas in the area east of the Quijotoa Mountains. The first lies 1½ miles S-SW (2½ miles by road) from Quijotoa (160 acres) and the second is 3 miles S from Quijotoa (320 acres). He said that at the first (160 acres) the best gravels are in a bed that lies 15-19 feet below the surface. This gold is coarse, the percentage of "flower" being relatively small. This is described under Devils Wash Placers. A visit was made to these claims October 1961, (see report of 1/10/61). The gold, as nuggets, that he had, would range from 1/64" up to ½" and ~~was~~ were clean.

15S 2E ?


BROWNELL MOUNTAINS
Brownell Peak
3572
Brownell Valley
Quijotoa Pass
BM 2666
USLM 3578
Cem
Wells
Quijotoa
Maish Vaya
(Covered Wells)
WT
Wash
BM 2448
JEEP
Quarry
Quijotoa Trading Post
PAPAGO
DEVILS WASH
MINE AREA
TRAIL
Mines
Narcho Santos
BM 2398
86
FENCE
QUIJOTOA MOUNTAINS
Prospects
BM 2261
Well
INDIAN RESERVATION
QUIJOTOA MTS. QUAD
Havana Tank
Quijotoa Mine
Ben Nevis Mountain
Weldon Mine
Nevis 4013

Devils Wash Placers
Pima County

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1992

GOLDEN GREEN PLACER MINING <R>PARTNERSHIP

Devils Wash T15S R2E Sec. 2
HCR Box 840-A, Sells, AZ 85634 - Phone 361-2310- Employees: 4 - Located approximately 1.5 miles southwest of Quijotoa - Gold placer operation - Wet gravity concentration - Capacity 500 yards/week - Expansion underway.
Project Manager Jack Otani

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1991

C. C. C. C. INC.

Devils Wash T15S R2E Sec. 2
HCR Box 840, Sells, AZ 85634 - Phone 361-2388 - Employees: 5 - Located approximately 1 1/2 miles southwest of Quijotoa - Gold placer operation, wet gravity concentration - Capacity 500 yards/week - Expansion underway.
Superintendent.....
Tom Brice

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1990

C. C. C. C. INC.

Devils Wash T15S R2E Sec. 2
HCR Box 840, Sells, AZ 85634 - Phone 361-2388 - Employees: 5 - Located approximately 1 1/2 miles southwest of Quijotoa - Gold placer operation, wet gravity concentration - Capacity 500 yards/week - Expansion underway.
Superintendent..... Tom Brice

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1989

ARIZONA PLACER

Devils Wash T15S R2E Sec. 2

HCR Box 840, Sells 85634 - Phone 361-2391 - Employees 2 - Located approximately 1 1/2 miles southwest of Quijotoa - Gold placer operation, wet gravity concentration - Capacity 500 yards/week.

Operator ..... Don Kilgore

ABSTRACTED FROM ADMMR ACTIVE MINES DIRECTORY, 1988

ARIZONA PLACER

Devils Wash T15S R2E Sec. 2
HCR Box 840, Sells 85634 - Phone 361-2391 - Employees 2 - Located approximately 1 1/2 miles southwest of Quijotoa - Gold placer operation, wet gravity concentration - Capacity 500 yards/week.

Operator ..... Don Kilgore

DEVEIL"S WASH PIMA COUNTY

NJN WR 11/13/87: Don Kilgore (card) reported that he uses the business name of Arizona Placer for his operations at the Devil's Wash (file) Pima County. It was down for nearly a year for an interval covering the end of '85 and the beginning of '86 while he installed a new feeder system. He can now process up to 500 yds a week. He also reports that he does sell course gold and nuggets at twice the spot price or better, by weight depending on the nugget. He also still allows metal detecting and camping on his property provided people do not go in his operations and do not go on the Indian Reservation. As always, Mr. Kilgore would appreciate a visit, being isolated on the Papago Indian Reservation.

DEVILS NASH MINE PIMA COUNTY

NJN WR 2/19/82: Don Killgore visited and reported he is operating the Devil's Wash Mine, Pima County. He's been recovering coarse gold (¼ to 1/8") with a small amount of fine from the gravel 2-3' above bedrock. Overburden ranges from 14 to 25'. He said his average recovery has been $22.00/yard (400 dollar/oz. gold). His maximum daily production is 102 yards with 60 yards/day being overage. Recovery is via combination of trommel, jig and sluice.

NJN WR 4/2/82: With Dick Beard visited the Devil's Wash Placer, Pima County, and the V.O. Mine, Pima County. Dick Beard is writing a report on the Devil's Wash Placer Mine. A separate report has been written on the V.O.

NJN WR 3/4/83: Don Kilgore, General Delivery, Sells, Arizona, phone 383-2391 visited. He reported that he is attempting to buy the Devil's Wash Placer, Pima County. Mr. Kilgore has been the operator there for several years.

MG WR 11/9/84: Cliff Hicks and I visited the Devil's Wash placer operation in Pima County. Although the operation appearts to be active, no one was present when we arrived. There have been no obvious changes in flowsheet or in equipment since the last Department visit. We did notice a bucket of concentrated black sands that contained abundant, rounded fragments of galena. The actual mine is a pit, 30 to 40 feet deep, immediately west of the concentration plant and house.

CJH WR 11/9/84: Mine visit: In the company of Mike Greeley, visited Devils Wash Placer, Quijoitoa district, Pima County (see mine file). There was no one on the property at the time of the visit although the house and two travel trailers indicated constant occupancy and the pit has been worked recently. No new equipment, other than that listed in the mine file was in evidence. This is an operating mine. Sign in yard of house indicated that Don Kilgore still has the property.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine DEVILS WASH MINE, (GOLDEN GREEN &) (Coplan Placers)

Date January 10, '61

District Quijotoa District, Pima Co.

Engineer Lewis A. Smith

Subject: Visit 1-10-61 (Mr. Coplan was away.)

Owner: William Coplan, Covered Wells (Quijotoa)

Property: 8 unpatented claims.

Location: 3/4 mile along Tucon-Ajo highway to east, and thence 2½ miles SW, near the foot of the Quijotoa Mountains.

Work: There are several bulldozer cuts, the largest of which is 400 feet long, 30 feet wide and 35 feet deep at the west end. The floor ramps down on a gradual slope. The bedrock has been reached in several places along two draws by bulldozer cuts and pits. In the bottom of the larger cut is a caliche layer underlain by reddish clayey gravels which are apparently the pay dirt. Some gouges extend into the wall for short distances. The gravels above the caliche do not apparently contain workable values. The area tested is about 300-400 feet wide and a mile long. Some of the pits are old.

According to Mr. George Ballam and others, the placer originates from numerous quartz stringers and a few larger veins which traverse the Quijotoa Mountains to the west of the cross dikes.

MEMORANDUM FOR FILES

From: Ann Turney

11/16/79

Telephone call from Mr. Bill Dusenberry

Mr. Dusenberry says that Mr. Bill Coplen has sold his Golden Green Mine (Devils Wash Mine file) in Pima County, Quijotoa District, to a Dr. Paul Rodriguez of Garden City, Kansas, for $60,000 cash.

The mine is located ½ mile off hard surfaced road, 4 miles from general store. There is a telephone and electricity on property, two trailers, one very large, and several other buildings. There are also three wells on property that pump approximately 30 gallons per minute. There are a total of 161 acres in the claims.

Mr. Dusenberry said he has seen a 8¼ oz nugget that Mr. Coplen took off the property. He says that Mr. Coplen has the nugget at this time.

MINE AND PROSPECT FIELD VISIT DATA SUMMARY

Sheet 1 of 2

COMMODITIES Gold

MILS ID No. 840 (New) Date 3/30/82

ENGINEER Nyal J. Niemuth & Richard R. Beard

INFORMATION FROM: Don Killgore 383-2391 SELW, AZ

PROPERTY SUMMARY

I. MINE NAME Devils Wash Placer OTHER POSSIBLE NAMES INCLUDING ANY CLAIM NAMES NOTED

II. LOCATION: T 15S R 2E SEC(S) 1 W½ 2 E½ (Unsurv.) MINE DISTRICT Quijotoa

ELEV. 2600' COUNTY Pima TOPO QUAD. Quijotoa Mts.

DIRECTIONS As on attached map

MAP ATTACHED Yes

III. OWNERSHIP: NAME Paul L. Rodriguez PHONE

ADDRESS: 2116 N. Center, Garden City, Kansas

COMPANY NAME IF ANY:

PERTINENT PEOPLE Don Killgore, operator 383-2391

IV. PROPERTY AND HOLDINGS: Golden Green Placer - Valid preexisting rights on Papago Reser.

V. PAST PRODUCTION - NOTED, KNOWN, PROBABLE, UNKNOWN, NONE Noted - estimated to be over 100 ounces by previous owner Bill Coplen.

IV. CURRENT STATUS: Active

IIV. WORKINGS: Several bulldozer pits up to 200 yards square. Also some trenches up to 50' wide. Average depth for pits and trenches is 15' to 25'. "Rat hole" drift portals are seen in these openings.- Used for exploration and sampling.

IIV. GEOLOGY AND MINERALOGY: DEPOSIT TYPE: Paleostream Placer

LENGTH: WIDTH: VEIN STRIKE

HOST ROCK:

ECONOMIC MINERALS: Mostly nugget gold

COMMENTS: Most values are in a caliche layer within 4' of bed rock covered by 15 to 25' of overburden. Paleostreams appear to have flowed south to southwest.

IX. EQUIPMENT ON SIGHT: 10-13 ton per hour mill (as shown in sketch) consisting of a combination ball mill and trommel, two 10" x 12" Denver duplex mineral jigs, and a sluice box. Water is supplied by a 22 gpm well on the property and is stored in a 3,000 gal

-Continued on next page-

X. SAMPLING: NOTE TYPE IF ANY, DRILLING?

XI. REFERENCES AND REMARKS

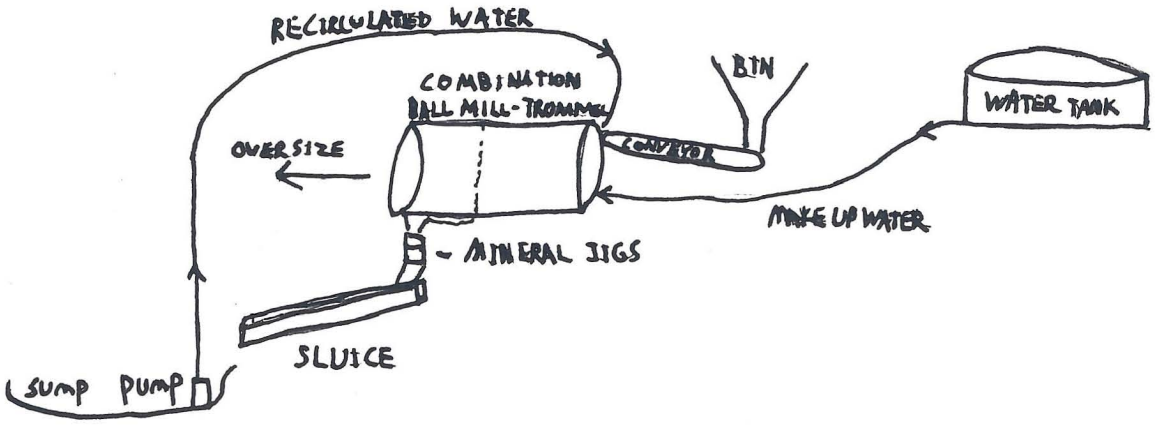
IX Continued

tank. Mining equipment consists of one dozer, one track-loader, dump truck with grizzly, rubber tire tractor with loader.

Sampling equipment consists of 4' shaker sluice, stock tank and gold pan for clean up.

cc: Tucson Office

MILL



ARIZONA DEPARTMENT OF MINERAL RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: Don Kilgore

   Address: HCR Box 840, Sells, Arizona 85634

2. Mine: Devils Wash Placer 3. No. of Claims - Patented

   Unpatented

4. Location: See Map in Devils Wash Mine (file)

5. Sec W½1, E½2 Tp 15S Range 2E 6. Mining District Quijotoa

7. Owner:

8. Address:

9. Operating Co.: Don Kilgore

10. Address: Same as above

11. President: 12. Gen. Mgr.:

13. Principal Metals: Gold (placer) 14. No. Employed: 1-2

15. Mill, Type & Capacity: Gravity, trommel, sluice, jig

16. Present Operations: (a) Down ☐ (b) Assessment work ☐ (c) Exploration ☐
    (d) Production ☒ (e) Rate 100 yards pd.

17. New Work Planned:

18. Miscl. Notes: Currently operating at about 100 yards per day. Recover $8-$10 per yard. Have purchased D08 Cat dozer which will help maintain production.

Date: 12/27/83

(Signature) (Field Engineer)

~~AAA~~
JOE

Add 2D Wash

~~85-#3300~~
85 813700

STATE MINE INSPECTOR

SEP 16 1985

Office of State Mine Inspector

705 West Wing, Capitol Building
Phoenix, Arizona 85007
602-255-5971

NOTICE TO ARIZONA STATE MINE INSPECTOR

In compliance with Arizona Revised Statute Section 27-303* we are submitting this written notice to the Arizona State Mine Inspector (705 West Wing, Capitol Building, Phoenix, Arizona 85007) of our intent to start/stop (please circle one) a mining operation.

COMPANY NAME SRB INC

CHIEF OFFICER John Yannuzzi JR

COMPANY ADDRESS PO Box 1056 Yarnell Ariz.

COMPANY TELEPHONE NUMBER (602) 427 3556

MINE OR PLANT NAME Quijotoa Mine

MINE OR PLANT LOCATION (including county and nearest town, as well as directions for locating by vehicle)

Quijotoa Village

TYPE OF OPERATION Placer PRINCIPAL PRODUCT Gold

STARTING DATE 1 July 85 CLOSING DATE open

DURATION OF OPERATION Indefinite

PERSON SENDING THIS NOTICE John Yannuzzi JR

TITLE OF PERSON SENDING THIS NOTICE Treasurer

DATE NOTICE SENT TO STATE MINE INSPECTOR 11 SEPT 85

*A.R.S. Section 27-303 NOTIFICATION TO INSPECTOR OF BEGINNING OR SUSPENDING OPERATIONS: When mining operations are commenced in any mine or when operations therein are permanently suspended, the operator shall give written notice to the inspector at his office prior to commencement or suspension of operations.

ABSTRACTED FROM ADMMR 1986
DIRECTORY OF ACTIVE MINES
April 24, 1987

DON KILLGORE

Devils Wash
HCR Box 840, Sells - Employees 1 - Located approximately 1 1/2 miles southwest of Quijotoa - Gold placer operation using wet gravity separation equipment.

Operator ..... Don Killgore

Pima

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date: February 29, 1940.

Mine: DEVILS WASH PLACER

District: Quijotoa Mining District, Pima County

Location: 1¼ miles southeasterly from Quijotoa.

Former Name: The New Deal Placer

Owner: Bill Coplen and others

Address: Quijotoa, Arizona.

Operator:

Address:

President:

Gen. Mgr:

Mine Supt:

Mill Supt:

Principal Metals: Placer Gold.

Men Employed:

Production Rate: A few nuggets and dust.

Mill - Type & Cap:

Power - Amt. & Type:

Operations - Present: Testing by small dry washers.

Operations Planned: Larger scale dry washing.

Number Claim, Title, etc: 8 claims located by Bill Coplen.

Description - Topog. and Geog: 160 acres in all. We have 5 or 6 acres tested - will run 50¢ a yard so far as I have tested.

Mine Workings - Amt. & Condition: Most all of work shallow. Dry washing a few open cuts in gravel bars up to 10 ft. in depth, also pits sunk to bed rock - the average gravel is 10 ft. or more in thickness.

(SIGNED) BILL COPLEN,
Quijotoa, Arizona

Geology & Mineralization: This placer ground is found 2 miles from base of mountains, much placer iron is to be found also; all is located on old channel which carried gold all the way to the mountains.

Ore - Positive & Probable, Ore Dumps, Tailings: We have 3 million yards of gold gravel which will run 25¢ average per yard.

Mine, Mill Equipment & Flow Sheet:

Road Conditions, Route: Good route by way of Tucson, Ajo Highway to Quijotoa.

Water Supply: Hauled from Quijotoa for camp use.

Brief History: Dry washing was carried on by a number of Indians in 1900 to 1912, reports a few thousand dollars taken out. I worked on this ground in 1932 to 1935 making a good living, also others, dry washing gravel. Very little is known as yet about what this land will produce.

Special Problems, Reports Filed:

Remarks: We would like very much to contact real mining people and not promoters.

If property for sale - Price, terms and address to negotiate:

We are asking $4,000 on leasing bond proposition, 90 days for testing, $250.00 down and the balance on 10% of net till paid in full.

(SIGNED) BILL COPLEN,
Quijotoa, Arizona

Devils Wash Mine

DEPARTMENT OF MINERAL RESOURCES
State of Arizona
MINE OWNER'S REPORT

Date 2/17/58

1. Mine: Golden Queen
2. Location: Sec. ..... Twp. ..... Range ..... Nearest Town Sells Distance 2 miles
   Direction S. East Nearest R.R. Coal Creek Distance 60 miles
   Road Conditions Good 1½ miles from Hwy 9 Highway 8
3. Mining District and County: Gila Co
4. Former Name of Mine: Devils Wash
5. Owner: W M J Copelan
   Address: .....
6. Operator: W M J Copelan
   Address: Box 107 Sells Ariz
7. Principal Minerals: Gold in Gravels
8. Number of Claims: Lode 4 Patented / Unpatented .....
   Placer 9 Patented ..... Unpatented 160 acres
9. Type of Surrounding Terrain: Rolling Hills

10. Geology and Mineralization: Covers Gold in gravel
    deposits up to 40 ft. deep. Covers
    Quarter mile wide. Small gold
    stringers up to 5 ft. deep gravel and
    to bed rock.

11. Dimension and Value of Ore Body: Unknown
    Last two years

Please give as complete information as possible and attach copies of engineer's reports, shipment returns, maps, etc. if you wish to have them available in this Department's files for inspection by prospective leasors or buyers.

(over)

Also Tungsten, Lead Silver copper & Barium

12. Ore "Blocked Out" or "In Sight":

Ore Probable:

13. Mine Workings—Amount and Condition: 7 or 8 large Dredges operating on

	No.	Feet	Condition
Shafts			
Raises			
Tunnels			
Crosscuts			
Stopes			

14. Water Supply: good well 40 or 50 ft deep, 20 ft to water, with pump & diesel plant deep well submersible pump

15. Brief History: I have owned & worked at/ and off this group of claims for 20 yrs. have very high grade ground & total clean up. last three years working on the dredge

16. Remarks: Ground will go about $30 a yd. I have recently removed some nuggets, ones $ value on top. Area is developing more but this could be many years as our trade gets in trouble

17. If Property for Sale, List Approximate Price and Terms: $50,000.

Lease & option $500.00 per year min. royalty 10% which ever is greater. Happy to

18. Signature: [illegible]

MD9

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date February 29, 1940

Mine Devils Wash

District Quijotoa

Location 1¼ miles southeasterly from Quijotoa.

Former name The New Deal Placer

Owner Bill Coplen, and others.

Address Quijotoa, Arizona.

Operator

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Placer Gold

Men Employed

Production Rate A few nuggets and dust.

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present Testing by small Dry Washers.

Operations Planned Larger scale Dry Washing.

Number Claims, Title, etc. 8 claims located by Bill Coplen.

Description: Topog. & Geog. 160 acres inall. We have 5 or 6 acres tested will run 50¢ a yd. so far as I have tested.

Mine Workings: Amt. & Condition Most all of work shallow. Dry washing a few open cuts in gravel bars up to 10 ft. in depth, also pits sunk to bed rock the average gravel is 10 ft. or more in thickness.

(over)

Geology & Mineralization This placer grand is found 2 miles from base of mts., much placer iron is to be found also, all is located on old channel which carries gold all the way to the mountains.

Ore: Positive & Probable, Ore Dumps, Tailings We have 3 million yards of Gold gravel which will run 25¢ average per yard.

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route Good route by way of Tucson, Ajo Highway to Quijotoa.

Water Supply Hauled from Quijotoa for camp use.

Brief History Dry washing was carried on by a number of Indians in 1900 to 1912, reports a few thousand dollars taken out then. I worked on this ground in 1932 to 1935 making a good living, also others, dry washing gravel. Very little is known as yet about what this land will produce.

Special Problems, Reports Filed

Remarks We would like very much to contact real mining people and not promoters.

If property for sale: Price, terms and address to negotiate. We are asking $4000, on leasing Bond proposition, 90 days for testing, $250 down and the balamce on 10% of net till paid in full.

Signed Bill Coplen, Quijotoa, Arizona.

Use additional sheets if necessary.

MD-9

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date **February 29, 1940**

Mine **Devils Wash**

District **Quijotoa** Location **1½ miles southeasterly from Quijotoa**

Former name **The New Deal Placer**

Owner **Bill Coplen and others** Address Quijotoa, Ariz

Operator Address

President Gen. Mgr.

Mine Supt. Mill Supt.

Principal Metals **Placer Gold** Men Employed

Production Rate **A few nuggets and dust** Mill: Type & Cap.

Power: Amt. & Type

Operations: Present **Testing by small Dry Washers.**

Operations Planned **Larger scale Dry Washing**

Number Claims, Title, etc. **8 claims located by Bill Coplen**

Description: Topog. & Geog. **160 acres in all. We have 5 or 6 acres tested will run 50¢ a yd. so far as I have tested.**

Mine Workings: Amt. & Condition **Most all of work shallow. Dry washing a few open cuts in gravel bars up to 10 ft. in depth, also pits sunk to bed rock the average gravel is 10 ft. or more in thickness.**

(over)

Geology & Mineralization **This placer grand is found 2 miles from base of mts., much placer iron is to be found also, all is located on old channel which carries gold all the way to the mountains.**

Ore: Positive & Probable, Ore Dumps, Tailings **We have 3 million yards of Gold gravel which will run 25¢ average per yard.**

Mine, Mill Equipment & Flow Sheet

Road Conditions, Route **Good route by way of Tucson, Ajo Highway to Quijotoa**

Water Supply **Hauled from Quijotoa for camp use.**

Brief History **Dry washing was carried on by a number of Indians in 1900 to 1912, reports a few thousand dollars taken out then. I worked on this ground in 1932 to 1935 making a good living, also others, dry washing gravel. Very little is known as yet about what this land will produce.**

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If property for sale: Price, terms and address to negotiate.

We are asking $4000, on leasing Bond proposition, 90 days for testing, $250 down and the balance on 10% of net till paid in full.

Signed **Bill Coplen, Quijotoa, Arizona**

Use additional sheets if necessary.

Arizona Department of Mines and Mineral Resources
Verbal Information Summary

Mine: Devils Wash
County: Pima

Date: , November 15, 1999
Engineer: Nyal Niemuth

GOLDEN GREEN PLACER

MINING PARTNERSHIP
HC2 Box 100, Sells, AZ 85634 - Phone/fax (520) 361-2310 - Employees: 4.
Devils Wash T15S R2E Sec. 2
Located approximately 1.5 miles southwest of Quijotoa - Gold placer operation - Wet gravity concentration - Capacity 750 yards/day.
Project Manager ..... Jack Otani

Golden Green reported they have not been producing on regular basis with the low gold prices ($290/ounce). They are still occupying the camp and are continuing to clean up the diesel spill that occurred. This information was obtained during a call to update the above listing for the 2000 Directory of Active Mines.

April 5, 1995

Memo to File FROM H. MASON COGGIN, DIRECTOR ADMMR
Devils Wash Placers
AKA. Golden Green Placers
Pima County

Visited with Jack Otani of the Golden Green Placer H.C.R. Box 840-A, Sells, Arizona 85634, Pho.520 361-2310, FAX 520 361-2310

Otani is working with his sons and they just about their new 100 cy per hr plant ready to run. Materials will be hauled to the plant where they will run over a horizontal grizzly to feed and scalp off the +9inch material. The 5+/-by 40 trommel has a 20 scrubbing section followed by 15 feet of 3/8" punch plate and 5' of 3/4" punch plate. The -3/8 inch fraction will run onto a well designed 5 foot sluice with carpeting before dropping into three 42 inch duplex Yuba jigs with new diaphragms. The hutch product will pass through a Bowl before the tails are sent to a sand rake. Tails from the jigs will also report to the sand rake. They also intend to pump the overflow from the rake to a series of hydrocyclones for further dewatering and desliming before sending the materials into the first of three settling pond. The Otanis have built a very impressive plant. They claim they will be back into production by the end of April. There has been an active placer operation on this property since the 1970's.

5/91

OWNERS/OPERATORS
OF DEVILS WASH

C.C.C.C., Inc.
(801) 448-9225
(602) 361-2310

Star Route, Clear Creek
Box 555
Helper, Utah 84526

H.C.R. Box 840
Sells, Arizona 85634

• Kenji Otani • Jack Otani • Randy Otani
Kay Otani

OCT23-N

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

1. Mine file: DEVILS WASH
2. Mine name if different from above:
3. County: Pima
4. Information from: Don Kilgore

   Company: DBA Arizona Placer

   Address: HCR Box 840

   Sells, AZ 85634

   Phone: 361-2391

5. Summary of information received, comments, etc.:

The new phone number for the Devils Wash Mine and Don Kilgore (c) is 361-2391. This is a new non-indian prefix.

Date: October 19, 1988

Nyal J. Niemuth, Mining Engineer

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2420 N. Huachuca, Suite 9
(602) 882-8701

Validity Report

VALIDITY EXAMINATION

Golden Green Placer Claim

William H. Coplen, Claimant

Contract #H50C14209834

U. S. Bureau of Indian Affairs

Phoenix, Arizona

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L. FAIR
DEC. 31, 1977
ARIZONA, U. S. A.

Charles L. Fair
September 26, 1977

RECEIVED
B. L. M. AZ STATE OFFICE
OCT 11 1977
10:00 A.M.
PHOENIX, ARIZONA

File No. 3-030-047
Tucson, Arizona

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2320 N. Kwahoca, Suite 9
(602) 882-8701

PREFACE

Placer Sampling Procedures Used on Unpatented Mining Claims on Papago Indian Reservation June, 1976 to June, 1977

by

Charles L. Fair

INTRODUCTION

Handling methods for placer samples were standardized as much as possible. A sample weighing between 25 and 60 pounds was usually collected. Larger samples were coned and split in the field. After appropriate screening and panning (described herein), the sample concentrate was fire assayed at Skyline Labs, Inc., 1700 W. Grant Road, Tucson, Arizona. Assaying procedure is also described herein.

FLOWSHEET

The flowsheet for samples is shown on Attachment A. Large cobbles and boulders were hand sorted and separately weighed in the field (see photos) Attachments B and C. The sample was then wet screened through ¼ inch mesh and panned.

CONCENTRATING SEQUENCE

A twenty gallon tub was filled with water and a wash pan was placed in the tub with the top of the pan 2-3 inches under the water.

The placer sample was strained through a ¼ inch mesh screen into the wash pan resting in the tub. The gravel greater than ¼ inch in diameter was removed from the screen and placed in a pan of water to soak.

The wash pan with the strained sample was removed and the water was drained back into the tub.

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A 13 inch gold pan was used to separate the gold and black sand from the silt, sand and gravel.

The sample was placed in the gold pan to a depth of 1-2 inches and covered with water from the tub. The sample was then rotated and agitated back and forth with the water in it allowing the heavier minerals, including any gold, to migrate to the bottom of the pan.

Every 2 to 3 minutes, the upper layer of the sample was allowed to wash off into the tub decreasing the sample size in the gold pan but allowing the gold to remain in the bottom.

When the sample has decreased to the point where only gold, black sand and some gravel remain, the larger gravel was removed by hand and the remaining concentrate was funneled into a plastic vial.

The plastic vial sat in a small pan of water to catch any of the concentrate that should spill out of the funnel or vial. At the end of the panning, the water in the pan, as well as any of the concentrate that was spilled, was funneled into the vial as it rested in another pan.

After the sample had been completely panned, the gravel greater than ¼ inch was again strained through the mesh into the wash pan as it rested in the tub. In this way, any clay that wasn't recovered in the first straining was recovered along with any gold, or smaller gravel embedded in the clay. This was then panned as before.

The greater-than-¼ inch gravel that still remained was removed and placed in a sample sack and saved.

When the panning was complete, the water was drained off and the tailings remaining in the tub were placed in a smaller pan to dry. After drying, the tailings were placed in another sample sack and stored.

At the completion of the process, the gravel greater-than-¼ inch was placed in a sample sack, and the dry tailings were placed in a separate sack. The concentrate in the vials, which contain the gold, black sand and some small gravel, was capped and taped to prevent leakage. This was then taken to the Assayer.

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ASSAYING SEQUENCE

The assaying sequence is outlined in the attached report by William L. Lehmbeck, Registered Assayer and Manager of the Tucson Office of Skyline Labs, Inc. I personally visited the Lab and observed samples being processed through each of these steps.

RESULTS

Results are reported in milligrams of gold (if any) present in the samples. This is then related to the weight of the original sample, and a value per short ton, and per yard of gravel, is arrived at in the report. This figure is evaluated against the estimated volume of gravel present, and an opinion of validity is rendered in light of the prudent man concept.

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L. FAIR
DEC. 31, 19 77
ARIZONA, U. S. A.

August 30, 1977

Charles L. Fair

Charles L. Fair

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2020 N. Hawthorne, Suite 9
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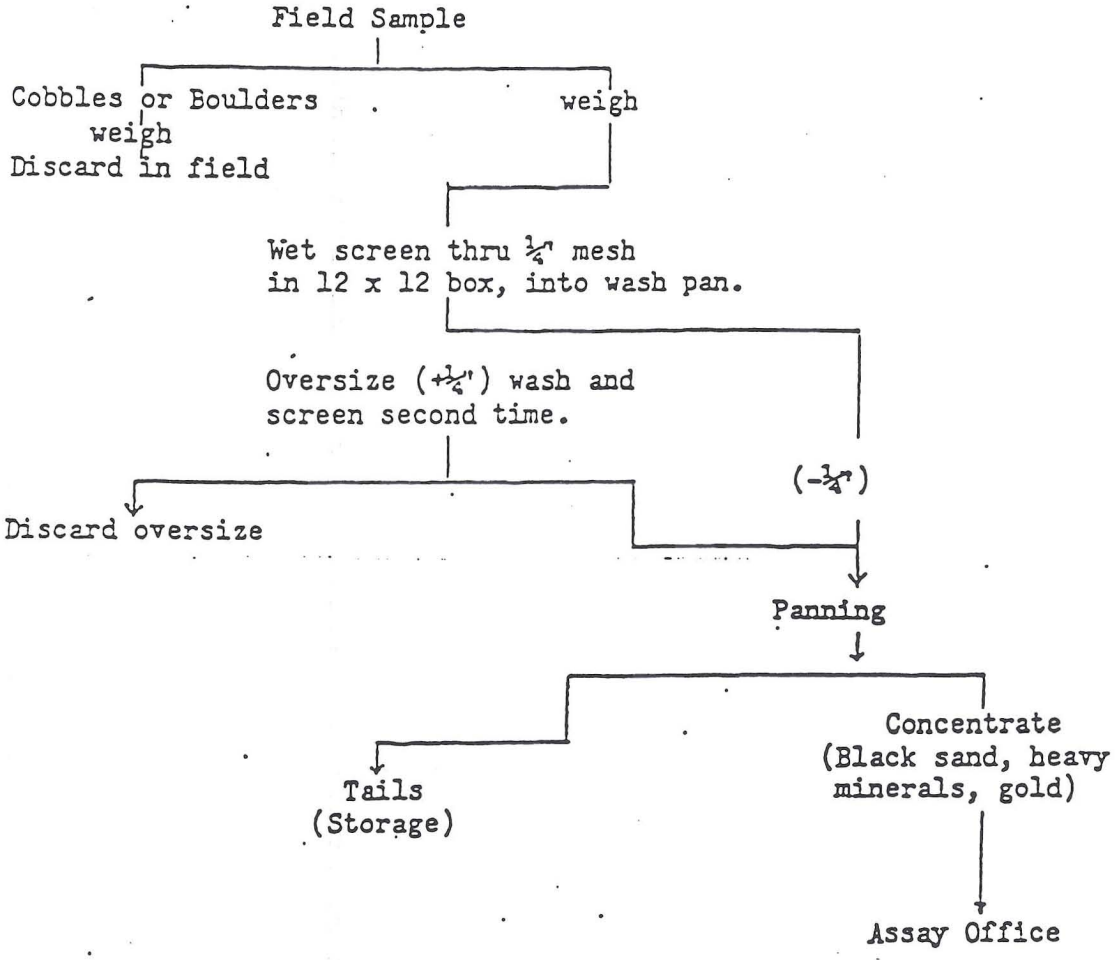
FLOWSHEET FOR PLACER SAMPLES



ATTACHMENT A

C. L. Fuis and Associates
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Tucson, Arizona 85705

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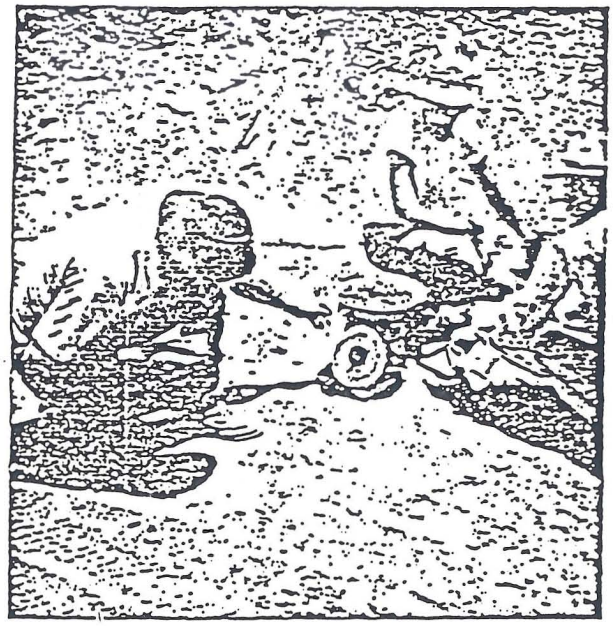
PLACER SAMPLES

Sorting Cobbles for
Separate Weighing.

ATTACHMENT B

C. L. Fuiz and Associates
Consulting Geologists
Tucson, Arizona 85705

2320 N. Huachuca, Suite 9
(602) 882-8701



PLACER SAMPLES

Weighing the Sample in
the Field.

ATTACHMENT C

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

January 3, 1977

Dr. Charles L. Fair
2420 North Huachuca Drive
Tucson, Arizona 85705

Dear Dr. Fair:

Pursuant to our recent conversation, I have outlined below the standard fire assay procedure used by Skyline Labs, Inc. for the analysis of gold and silver.

1) The samples are logged and assigned a job number when submitted for assay.

2) Prepared samples are weighed and placed into a clay crucible containing a litharge (lead oxide) based flux. The sample and flux are carefully mixed and placed into an electric muffle furnace pre-heated to 1850°F. During the fusion process the material is attacked by the molten flux, dissolving the sample. The lead oxide is reduced to molten lead which acts as a collector of precious metals while settling to the bottom of the crucible.

3) After a fusion time of one hour, the crucible is removed from the furnace and the molten material poured into a mold.

4) The lead "button" is separated from the slag and placed into a cupel (a small porous vessel made of bone ash) which has been preheating in the muffle at 1600°F. The lead again becomes molten, the majority of which is sorbed into the cupel. The temperature is lowered to 1280°F until the cupellation process is complete (usually 40 to 70 minutes). The cupel is then removed from the muffle furnace.

5) If precious metals are present they remain in the cupel as a small metallic bead called a 'dore' bead.

6) The 'dore' is removed from the cupel and weighed on an analytical balance and the weight recorded in milligrams (mg).

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

Dr. Charles L. Fair
2420 North Huachuca Drive
Tucson, Arizona 85705

January 3, 1977
Page 2

7) The 'dore' is then placed into a small glazed ceramic cup and the silver is dissolved away from the gold by heating with a dilute nitric acid solution for a period of 30 to 60 minutes.

8) The acid solution is carefully decanted off of the gold bead, if gold is present, and washed several times with water.

9) The cup is then placed into a small preheated muffle furnace for a period of 15 minutes to anneal the gold bead.

10) After removing the cup and allowing it to cool, the gold bead is then weighed and weight recorded in milligrams.

11) Step 6 gives the weight of the gold plus silver. Step 10 gives the weight of gold. The weight of the silver is the weight of the gold plus silver, less the weight of the gold.

$$(Au + Ag) \text{ in mg} - Au \text{ in mg} = Ag \text{ in mg}$$

12) Results are given in milligrams of gold, and silver, or in troy ounces per short ton, depending on the type and weight of the initial sample used.

Sincerely,

William L. Lehmbeck
Manager

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

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VALIDITY EXAMINATION
Golden Green Placer Claim
William H. Coplen, Claimant

INTRODUCTION

The existence of this claim was determined from its inclusion on the list of surface fee payees maintained by the Papago Tribe in Sells. In addition, it was listed as a valid claim in the Bureau of Land Management P. A. Report #119. The claimant or record is Mr. William H. Coplen, Santa Rosa Star Route, Box 21, Sells, Arizona, 85634, Telephone 383-2450.

Mr. Coplen was first notified of our survey of mining claims by letter on June 20, 1976. This claim was examined on July 26, 1976, by myself and Harold Downey, Wallace Platt and Edward Robb, Geologists.

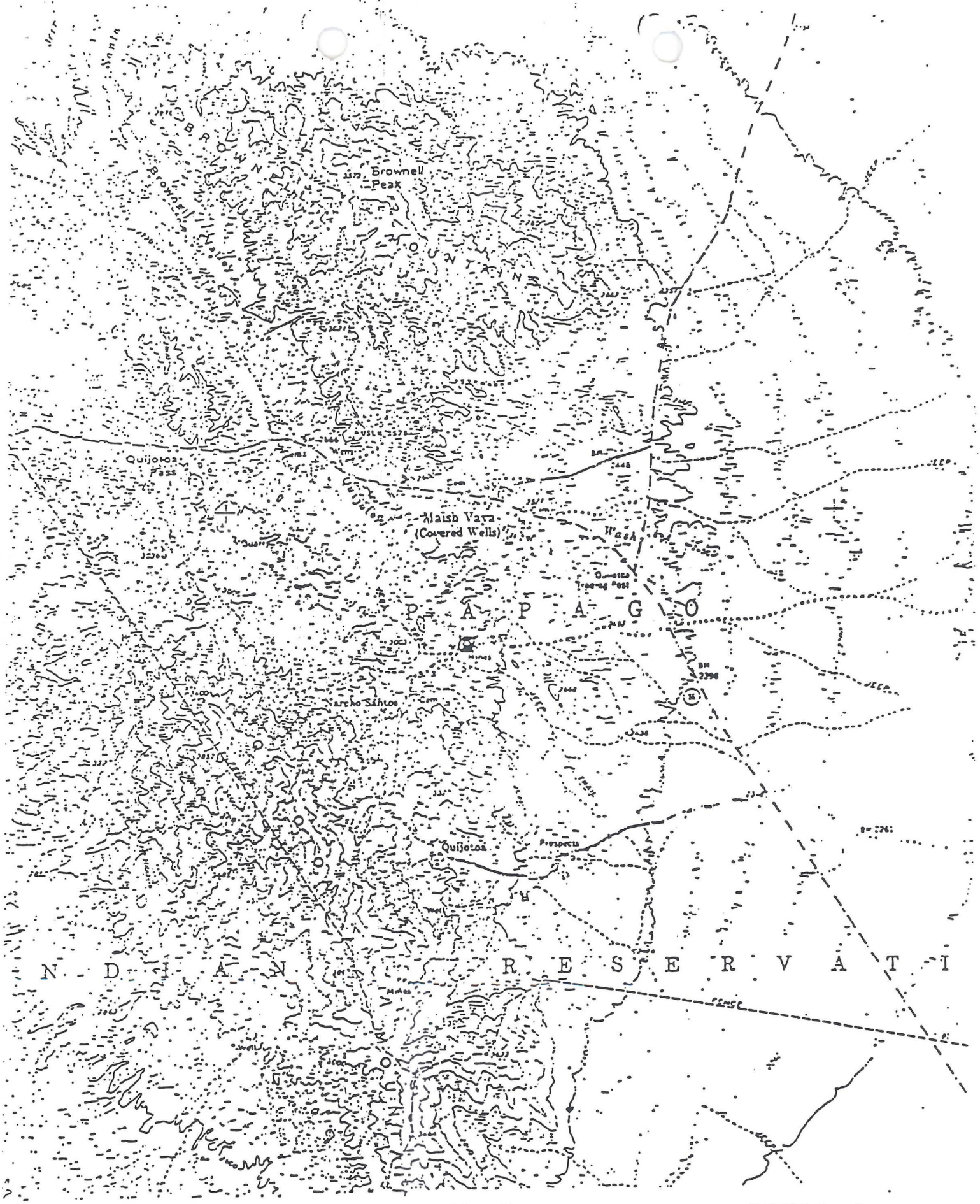
The claim is located about one mile west-southwest of the village of Quijotoa, on the east flank of the Quijotoa Mountains, on unsurveyed land that is approximately in the center of T. 15 S., R. 2 E. This location is shown on the Index Map, Figure 1.

GENERAL GEOLOGY

Most of the area of the claim is underlain by alluvial gravels, consisting of boulders and cobbles of volcanic rocks, mainly andesite and dacite porphyry, with occassional cobbles of granite. There are local areas of outcropping bedrock, particularly along the north edge of the claim where volcanics can be seen, and in very local spots in the center and south edge of the claim where the granite bedrock crops out. The granite bedrock is coarse grained and somewhat sheared and altered.

MINERALIZATION

Gold is well documented in the alluvial gravels along the east flank of the Quijotoa Mountains. According to the Arizona Bureau



Location Map

Golden Green Placer

FIGURE 1

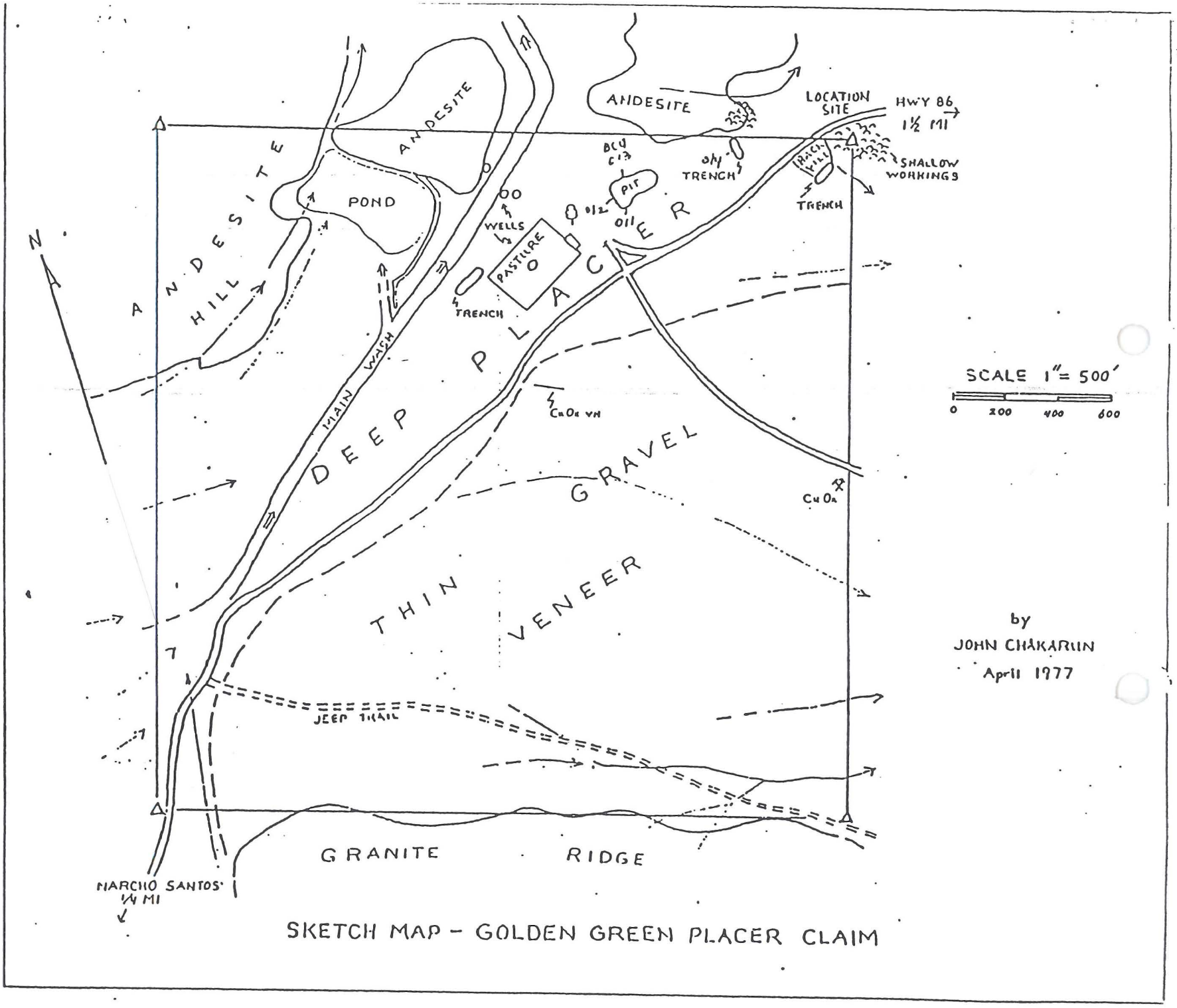
of Mines (Bulletin 142, Page 59), the placer area covers at least 100 square miles, and has a history of production going back at least to 1774. In the early 1880's, lode gold deposits were discovered in the Quijotoas, and shortly thereafter placering was renewed, and there has been a small amount of activity ever since.

Gold is known to occur on several horizons or levels within the alluvium, but usually the best values occur at the bottom of the gravel on the old bedrock surface. A view of this somewhat irregular surface on the Golden Green Placer Claim is shown by the dotted red line on Photo 1, Figure 3.

SAMPLING

The principal development work on the claim is in an open cut which varies from 60 to 150' (18.3 m to 45.7 m) wide and approximately 200' (61 m) long. The location of this cut is shown on the map, Figure 2, which was provided to us by Mr. Coplen, and a general view is also shown in Photo 1, Figure 3. Three samples, BCQ-011, BCQ-012 and BCQ-013 were cut above bedrock in various parts of this pit. A fourth sample, BCQ-014 was cut at the bottom of a trench which is located approximately 400' (122 m) east-northeast of the open cut. The trench is also shown on Figure 2.

Sample BCQ-011: BCQ-011 was a vertical channel sample cut for approximately 18" (46 cm) immediately above the bedrock in the southwestern center of the open cut. This location is shown on Figure 2, and also on Photo 2, Figure 3. Photo 1, Figure 4 shows the actual cutting of sample BCQ-011. The material was from a channel cut with an air hammer, caught on canvas, coned, quartered and weighed in the field as described in the Preface to this report. The total weight of the original sample of BCQ-011 was 77 lbs, 4 oz. Twenty two lbs, three oz were large rejects removed in the field. This sample contained 358.27 mg of Au and 93.16 mg of Ag. The Certificate of Analysis for this and the remaining samples is appended to this report.



SKETCH MAP - GOLDEN GREEN PLACER CLAIM

FIGURE 2

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FIGURE 3

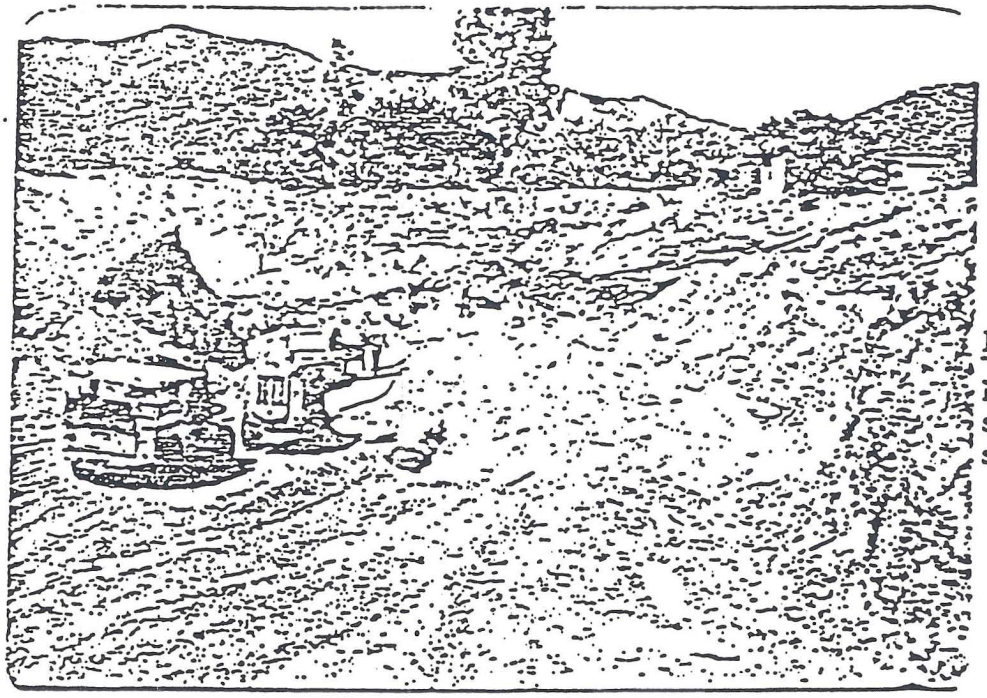

Photo 1:

Dotted red line shows bedrock surface.

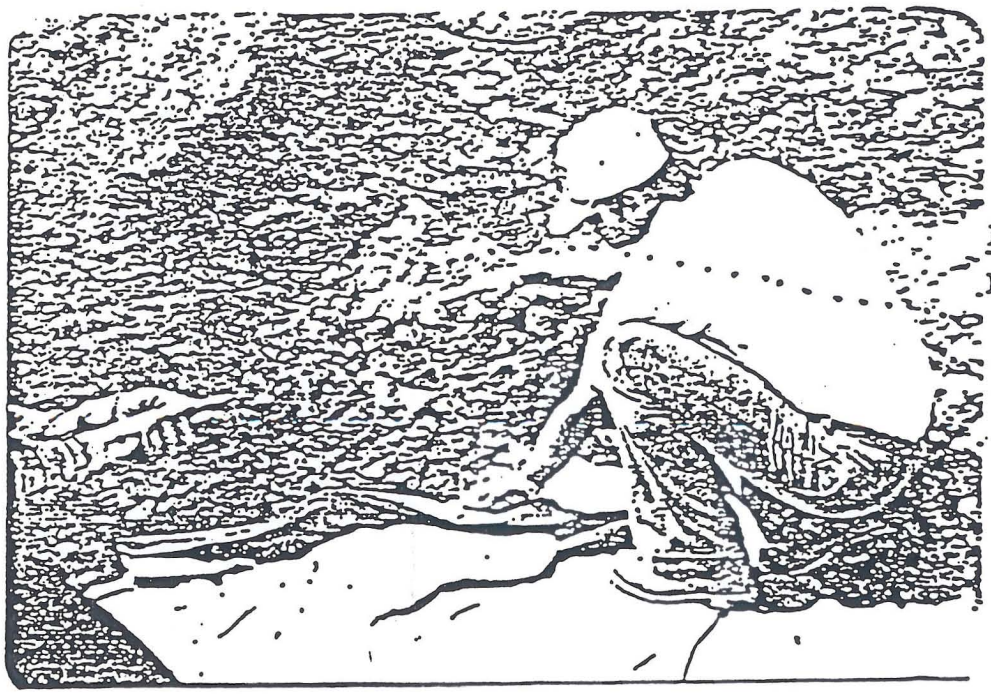

Photo 2:

BCQ-011.

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Sample BCQ-012: This sample was a 2' (61 cm) vertical channel cut from a gravel zone above bedrock as shown in Photo 2, Figure 4. This was on the west side of the open cut as shown in Figure 2. This sample weighed 30 lbs, 5 oz of which 2 lbs were large rejects removed in the field. The sample contained 204.08 mg of Au and 72.41 mg of Ag.

Sample BCQ-013: This was a 2' (61 cm) vertical channel cut on the north side of the open cut as shown in Figure 2. This site is shown in Photo 1, Figure 5. Sample BCQ-013 weighed 49 lbs, 1 oz of which 9 lbs, 3 oz were large rejects removed in the field. The sample contained 307.57 mg of Au and 85.75 mg of Ag.

Sample BCQ-014: A vertical channel for approximately 2' (61 cm) taken above bedrock in the trench shown on Figure 2. This site is also shown in the Photo 2, Figure 5. The sample contained 240.78 mg of Au and 54.44 mg of Ag.

Results of this sampling are shown in Table I.

DISCUSSION AND INTERPRETATION

The alluvial material underlying this claim is generally loose to semi-consolidated, and can be removed by scraper, backhoe, loader, tools or by hand. It generally does not require the use of explosives. We have obtained various estimates of the cost for moving material of this sort. These range from as low as 22¢ per cubic yard, given to us by one contractor in Casa Grande, to as high as 50¢ per cubic yard. For purposes of our evaluation, we will use the figure of 40¢ per cubic yard as an average cost for stripping, moving or mining this alluvial material. This was arrived at using extrapolations of shipping costs from two open cut mines in Arizona.

The thickness of alluvial material above bedrock in the open cut on this claim varies from 6' to 25' (see Photo 1,

SAMPLE	TOTAL WT. OF SAMPLE		PRECIOUS METAL CONTENT		GRAMS/SH.TON		TROY OZ/SH.TON		VALUE/SH.TON		VALUE/YD^3		TOTAL VALUE
Number	ounces	grams	Mg-Au	Mg-Ag	Au	Ag	Au	Ag	Au	Ag	Au	Ag	Yd^3
BCQ-011	1236	35,041	358.27	93.16	9.275	2.412	0.298	0.077	$44.70	$0.35	$37.24	$0.29	$37.53
BCQ-012	485	13,750	204.08	72.41	13.46	4.779	0.433	0.154	$64.95	$0.69	$54.10	$0.57	$54.67
BCQ-013	785	22,255	307.57	85.75	12.54	3.495	0.403	0.112	$60.45	$0.50	$50.35	$0.42	$50.77
BCQ-014	506	14,345	240.78	54.44	15.23	3.443	0.490	0.111	$73.50	$0.50	$61.23	$0.42	$61.65
												AVERAGE	$51.15

One oz (avoir.) = 28.35 grams
One Sh. ton = 907,184 grams
One gram = 0.03215 Troy oz.
Gold Market value estimated at $150/oz.
Silver market value estimated at $4.50/oz.
One Short ton estimated = .833 yd^3 (semi dry).
Gold is estimated at 1000 fine.

BCQ-011 (907,184 ÷ 35,041) x 0.35827 = grams/sh.ton Au
BCQ-012 (907,184 ÷ 13,750) x 0.20408 = grams/sh.ton Au
BCQ-013 (907,184 ÷ 22,255) x 0.30757 = grams/sh.ton Au
BCQ-014 (907,184 ÷ 14,345) x 0.24078 = grams/sh.ton Au

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L. FAIR
DEC. 31, 1977
ARIZONA, U. S. A.

TABLE I
Golden Green Placer

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Consulting Geologists
Tucson, Arizona 85705

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Figure 3). Assuming an average of 18' above bedrock and an average mineralized zone at the bottom of the column of 18" (or ½ yard), then every column of 6 cubic yards above bedrock would contain ½ yard of mineralized material or ½ the average grade shown in Table I, which is $25.57. By simple division this gives a value of $4.26 per cubic yard for all material above bedrock exposed in the open cut on the claim.

Referring again to Figure 2 it can be seen that the deep placer area occupies a northeast trending zone in the claim which is approximately 1,000' wide, 2,500' long, and -- according to our above measurements -- about 18 feet deep. By simple multiplication, this gives a figure of approximately 16,666,666 cubic yards. — ✱ SEE BELOW

Assuming that a cleaning concentration plant which would handle 100 cubic yards per day could be assembled on the property for $25,000, the following estimated costs are involved: $1.25 per yd^3 for repayment of mill cost, based on 100 yd^3 production per day for a period of one year (240 days). Mining and stripping cost, 40¢ per yd^3, trucking and handling of waste and gravels, 15¢ per yd^3. Total estimated costs are $1.80 per yd^3.

This leaves an estimated possible profit of $2.46 per yd^3 of material on the claim. If the estimates on total yardage and average mineralization are correct, this is a possible total gross value of $40,000,000 for the gold contained on the claim.

Mr. Coplen has a water well on his claim which could provide water for milling operations. In addition, as can be seen in Photo 1, Figure 2, a fairly large open cut is already present, which would facilitate mining operations. The material could, in fact, probably be handled at less than 40¢ per yard.

✱
NJN – 1998

1,000 × 2,500 × 18 = 45,000,000 ÷ 27 = 1,666,666 yd^3 !!

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Consulting Geologists
Tucson, Arizona 85705

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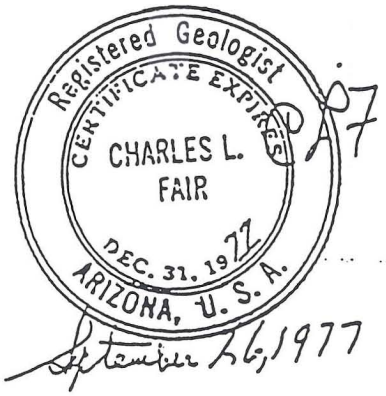
CONCLUSIONS AND RECOMMENDATIONS

It is my Professional Opinion that the mineralization on the Golden Green Placer Claim meets the requirements for validity under the U. S. mining laws. I recommend, therefore, that the claim be allowed to remain as a valid claim on the Papago Indian Reservation.



September 26, 1977

Charles L. Fair

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2620 N. Huachuca, Suite 9
(602) 882-8701

FIGURE 4

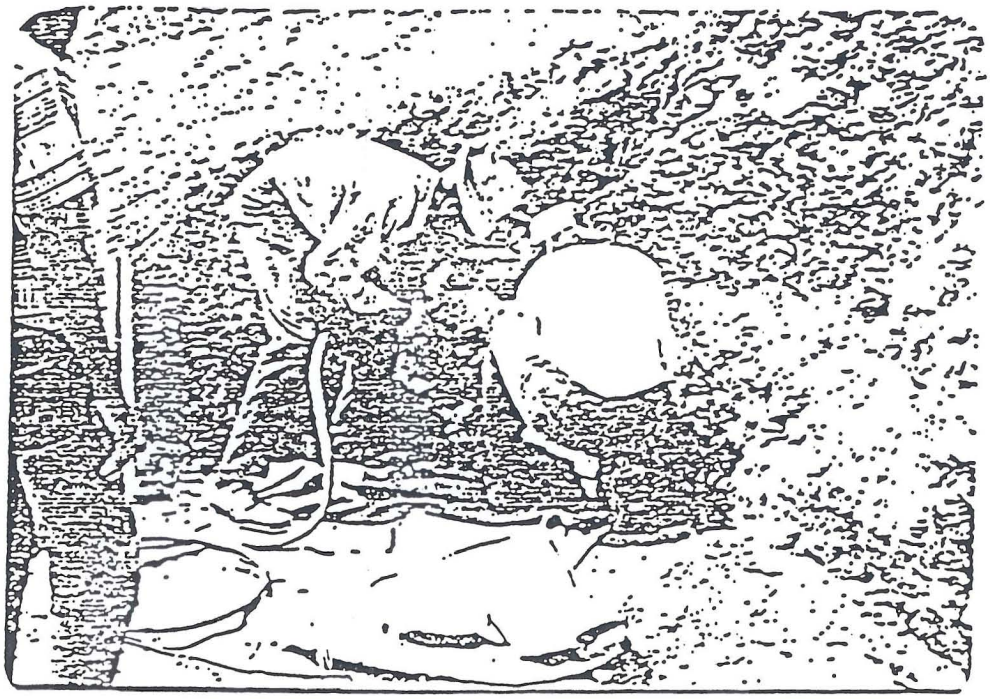


Photo 1:

Cutting the Sample.
BCQ-011

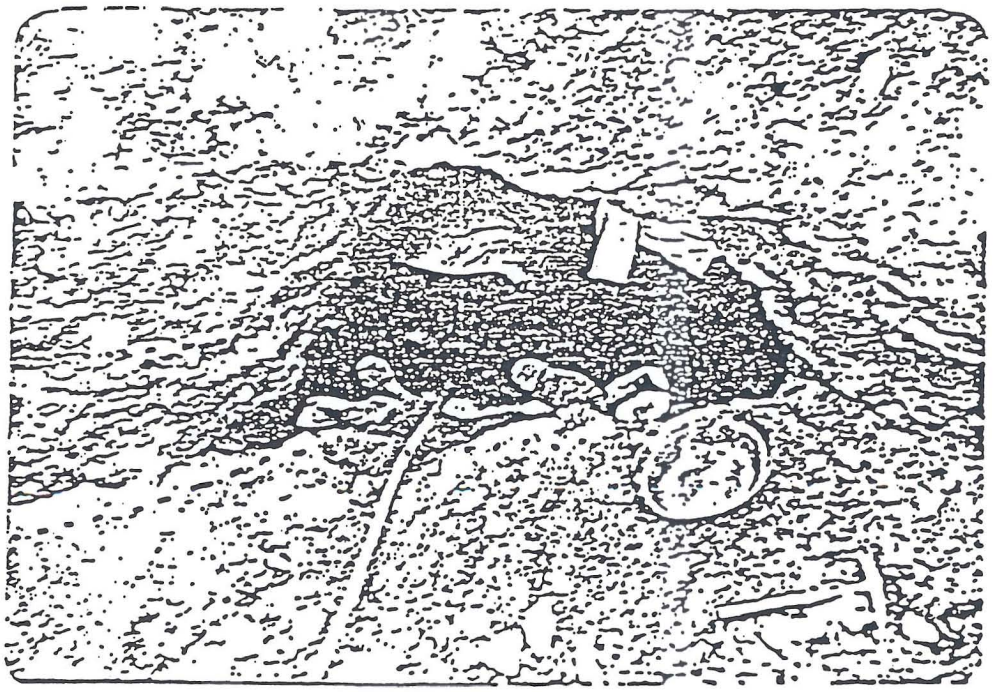


Photo 2:

Site of Sample BCQ-012.

SKY[illegible]NE LABS, INC.
Haw[illegible]wley, Assayers and Chemists Division
1700 W.[illegible]ant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au mg*	Ag mg	Sample Weight grams (dry)
1	BCQ 011	358.27	93.16	114.966
2	BCQ 012	204.08	72.41	16.033
3	BCQ 013	307.57	85.75	67.127
4	BCQ 014	240.78	54.44	83.112

TO:
C. L. Fair & Associates
2420 North Huachuca Drive
Tucson, Arizona 85705

REMARKS:
Single analysis by fire assay
* Accuracy to nearest 0.01 of a Mg
Project: P.I.R.

CERTIFIED BY: [signature]

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
12/27/76	1/12/77	762674

2-802
(February 1958)

Serial Number

Pi-119

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

~~Land~~ Office
Phoenix, Arizona

MINERAL REPORT

PAPAGO INDIAN RESERVATION

Township Report

Involving

Validity of Mining Claims

(Title)

LANDS INVOLVED

Pima County, Arizona

G.& S.R.M.

T. 15 S., R. 2 E.
(Unsurveyed)

July 24, 1961

(Date)

By
Luther S. Clemmer
Valuation Engineer (Mining)

Approved AUG 10 1961
C. L. Cramblett
Chief, Division of
Lands and Minerals 31748

P.A. 119

cc: 1 & 1 cc: LSM
1 cc: USGS
2 cc: BIA

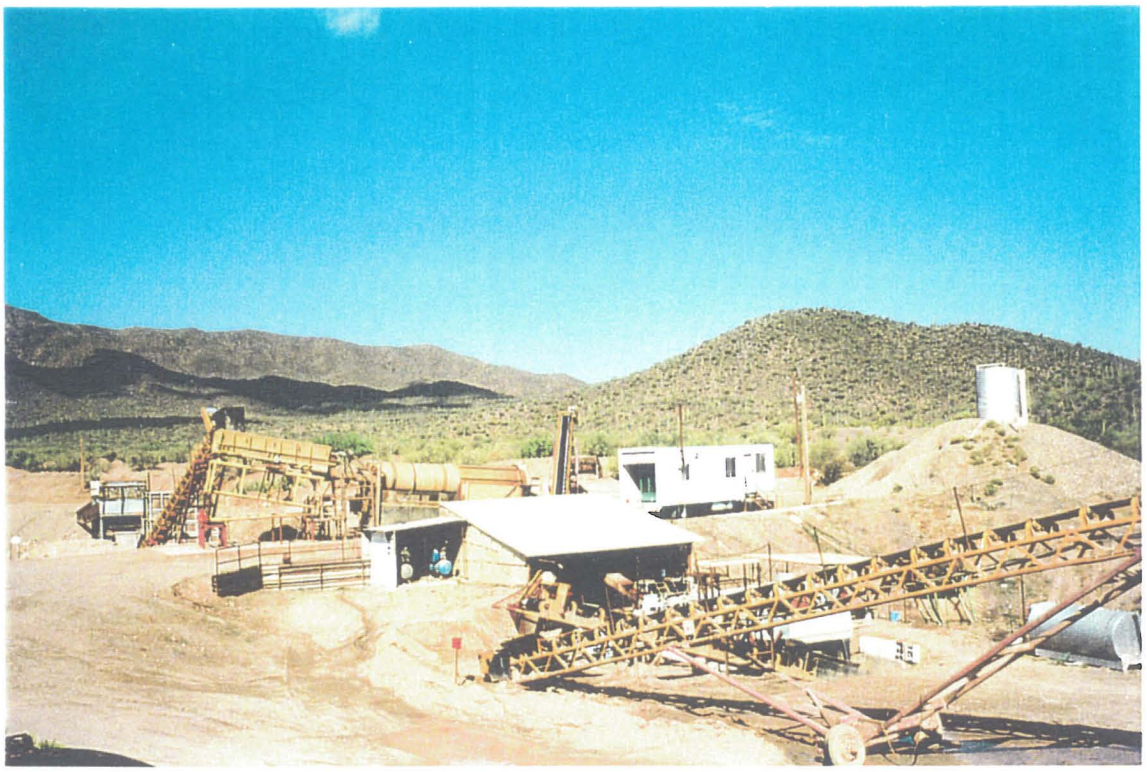
PA-119 - S. 15 S., R. 2 E.

EXHIBIT H

These mining claims have sufficient mineral to be considered valid at this time. They consist of pre-1932 and post-1932 locations.

Field Number	Claim Name	Type Claim	Location date	Recording Date	Volume	Page	Claimant
P-12136	Golden Green	~~Lode~~ Placer	10-15-54	10-23-54	766	468	Wm. H. Coplen et al

THE GOLDEN GREEN



~2008

Golden Green Placer Mining
HC 2 Box 100
Sells, Az, 85634
520-361-2310

The Golden Green Mine is located 80 miles west of Tucson, Az, on highway 86 and 1.8 miles south of Covered Wells.

The mine consists of a 160 acre mining claim, a 100 yd./ hr. wash plant, mining equipment, living quarters, water wells, electric power, phones, etc...

Also, included in this package is 720 acres of mining claims, adjoining the Golden Green. The 720 acres contains 640 acres of placer and 80 acres of hard rock.

The purchase price is $20 million but is negotiable. Estimated reserves in placer (free gold) and black sand values range from $600 million to $650 million.

The owner is 75 years old and wishes to retire. If you have any questions please feel free to call.
Contact Don Haddenham 520-361-2634 or Jack Otani 520-361-2310.

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Consulting Geologists
Tucson, Arizona 85705

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(602) 882-8701

VALIDITY EXAMINATION

Golden Green Placer Claim

William H. Coplen, Claimant

Contract #H50C14209834

U. S. Bureau of Indian Affairs

Phoenix, Arizona

Charles L. Fair
September 26, 1977

File No. 3-030-047
Tucson, Arizona

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2420 N. Huachuca, Suite 9
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PREFACE

Placer Sampling Procedures Used on Unpatented Mining Claims on Papago Indian Reservation June, 1976 to June, 1977

by

Charles L. Fair

INTRODUCTION

Handling methods for placer samples were standardized as much as possible. A sample weighing between 25 and 60 pounds was usually collected. Larger samples were coned and split in the field. After appropriate screening and panning (described herein), the sample concentrate was fire assayed at Skyline Labs, Inc., 1700 W. Grant Road, Tucson, Arizona. Assaying procedure is also described herein.

FLOWSHEET

The flowsheet for samples is shown on Attachment A. Large cobbles and boulders were hand sorted and separately weighed in the field (see photos) Attachments B and C. The sample was then wet screened through ¼ inch mesh and panned.

CONCENTRATING SEQUENCE

A twenty gallon tub was filled with water and a wash pan was placed in the tub with the top of the pan 2-3 inches under the water.

The placer sample was strained through a ¼ inch mesh screen into the wash pan resting in the tub. The gravel greater than ¼ inch in diameter was removed from the screen and placed in a pan of water to soak.

The wash pan with the strained sample was removed and the water was drained back into the tub.

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The plastic vial sat in a small pan of water to catch any of the concentrate that should spill out of the funnel or vial. At the end of the panning, the water in the pan, as well as any of the concentrate that was spilled, was funneled into the vial as it rested in another pan.

After the sample had been completely panned, the gravel greater than ¼ inch was again strained through the mesh into the wash pan as it rested in the tub. In this way, any clay that wasn't recovered in the first straining was recovered along with any gold, or smaller gravel embedded in the clay. This was then panned as before.

The greater-than-¼ inch gravel that still remained was removed and placed in a sample sack and saved.

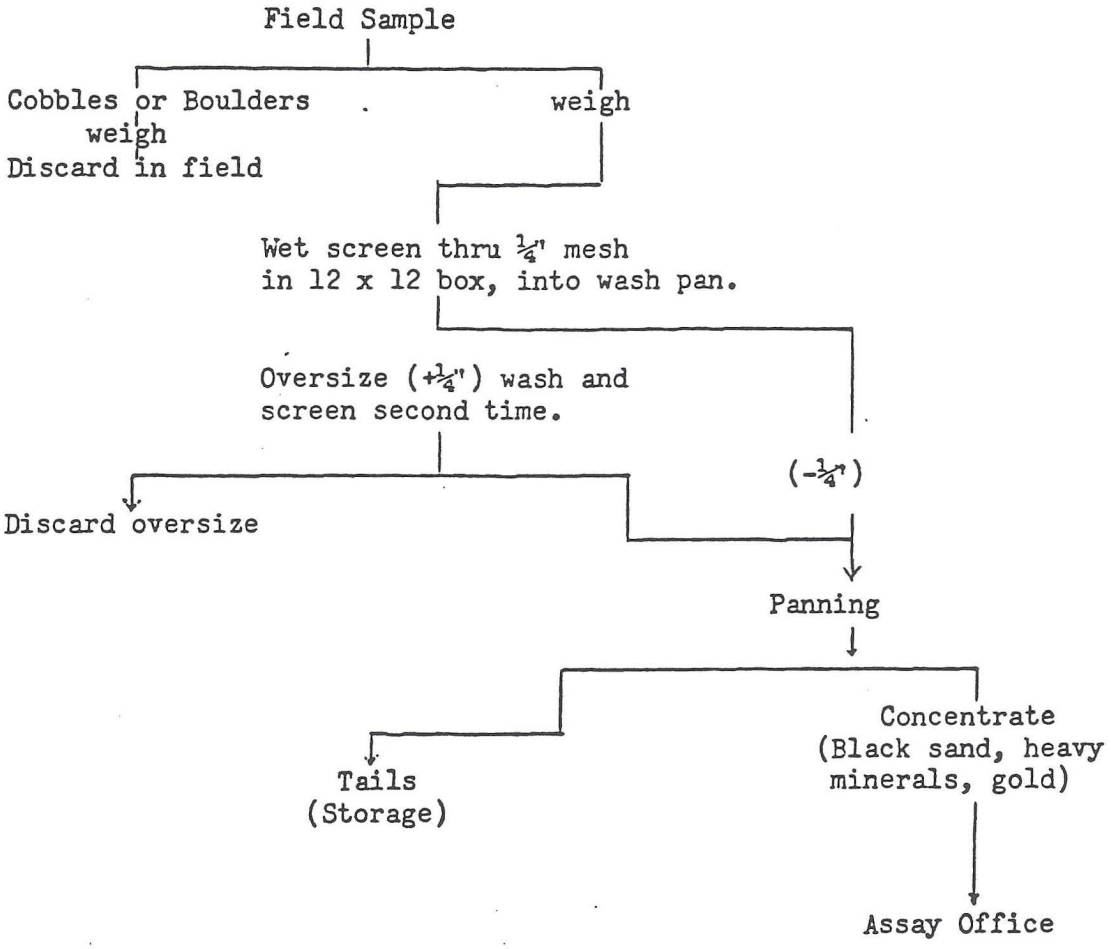
When the panning was complete, the water was drained off and the tailings remaining in the tub were placed in a smaller pan to dry. After drying, the tailings were placed in another sample sack and stored.

At the completion of the process, the gravel greater-than-¼ inch was placed in a sample sack, and the dry tailings were placed in a separate sack. The concentrate in the vials, which contain the gold, black sand and some small gravel, was capped and taped to prevent leakage. This was then taken to the Assayer.

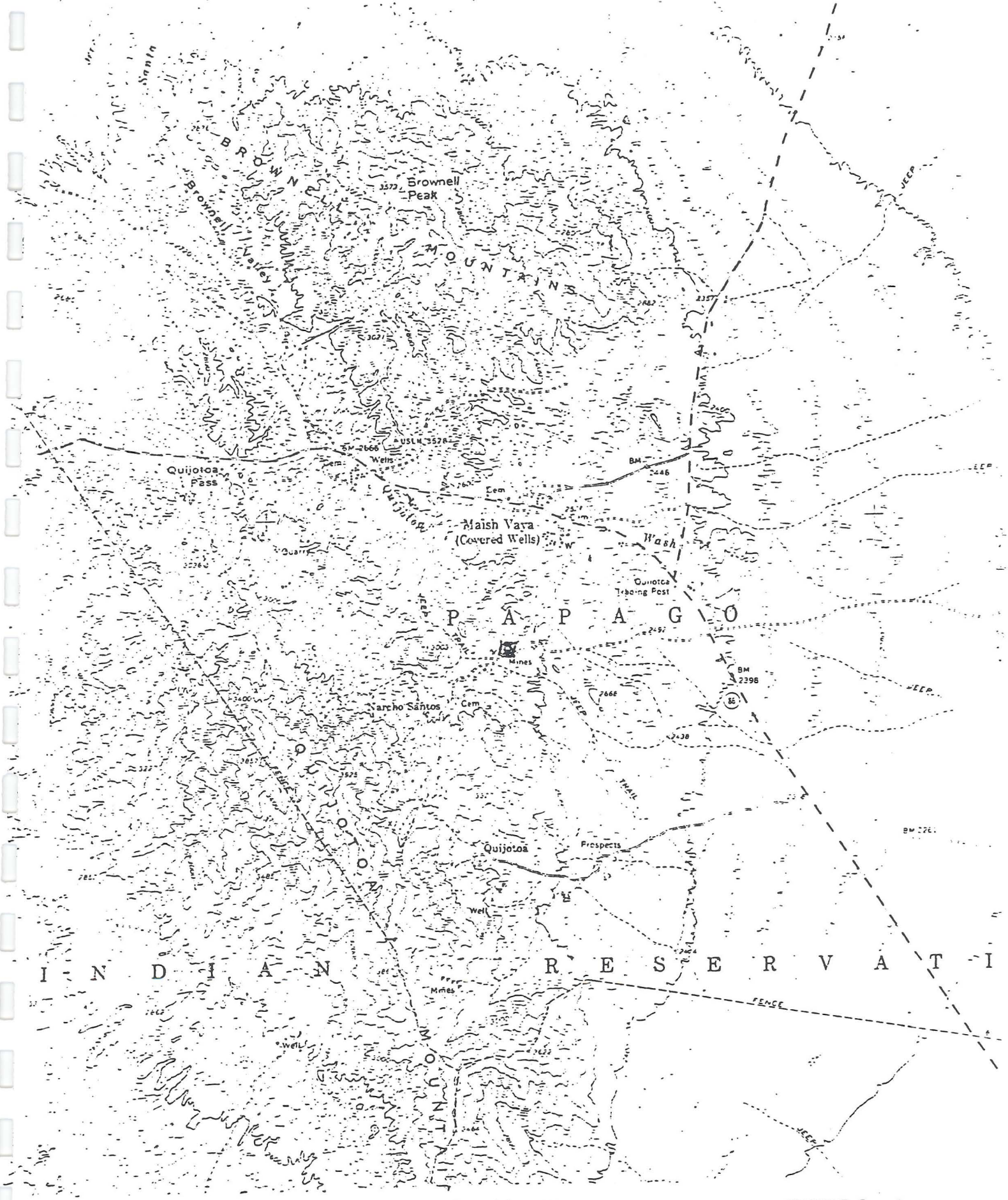
C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2420 N. Huachuca, Suite 9
(602) 882-8701

FLOWSHEET FOR PLACER SAMPLES



ATTACHMENT A



Location Map
Golden Green Placer

FIGURE 1

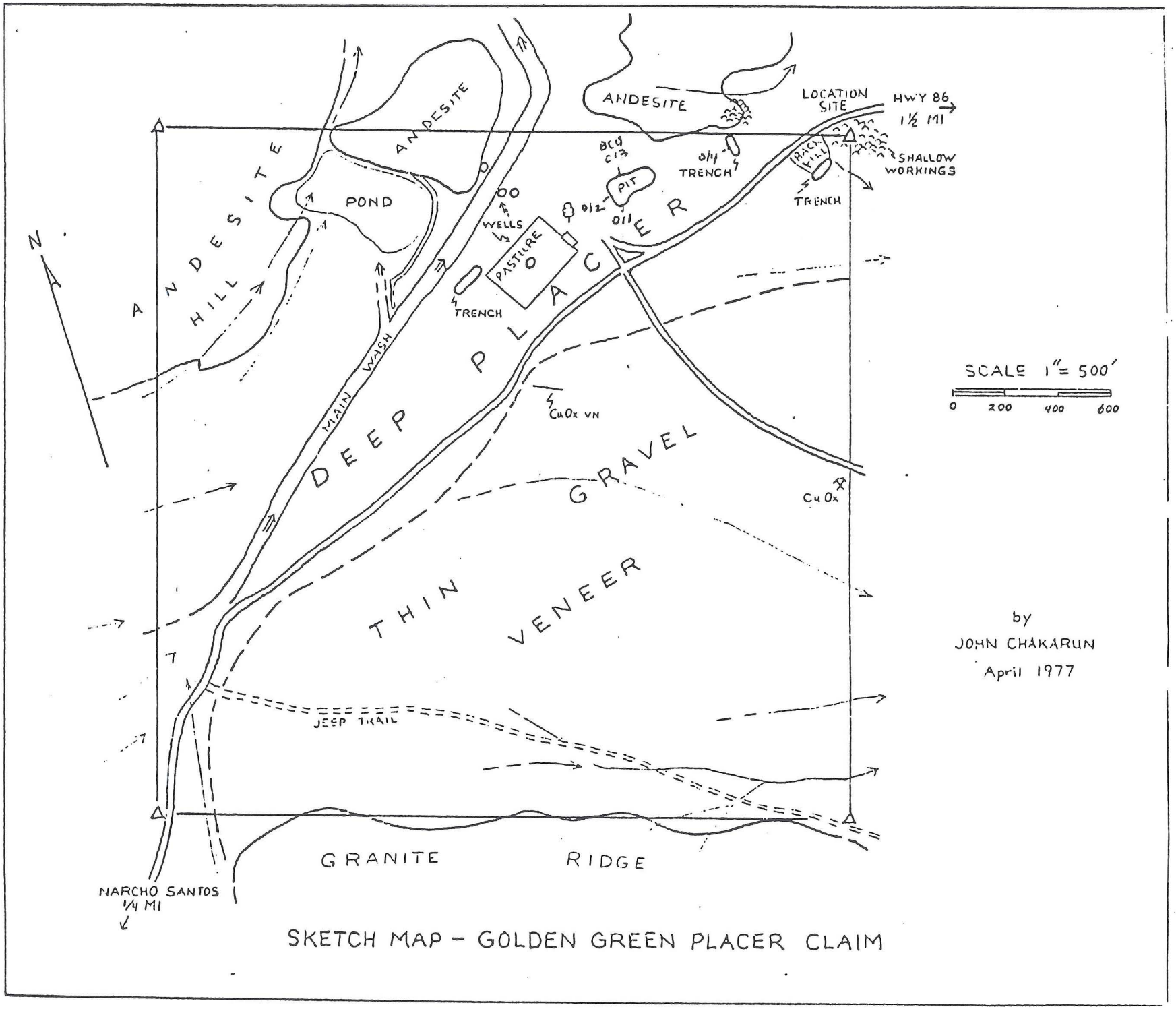


FIGURE 2

SKETCH MAP - GOLDEN GREEN PLACER CLAIM

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

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FIGURE 3

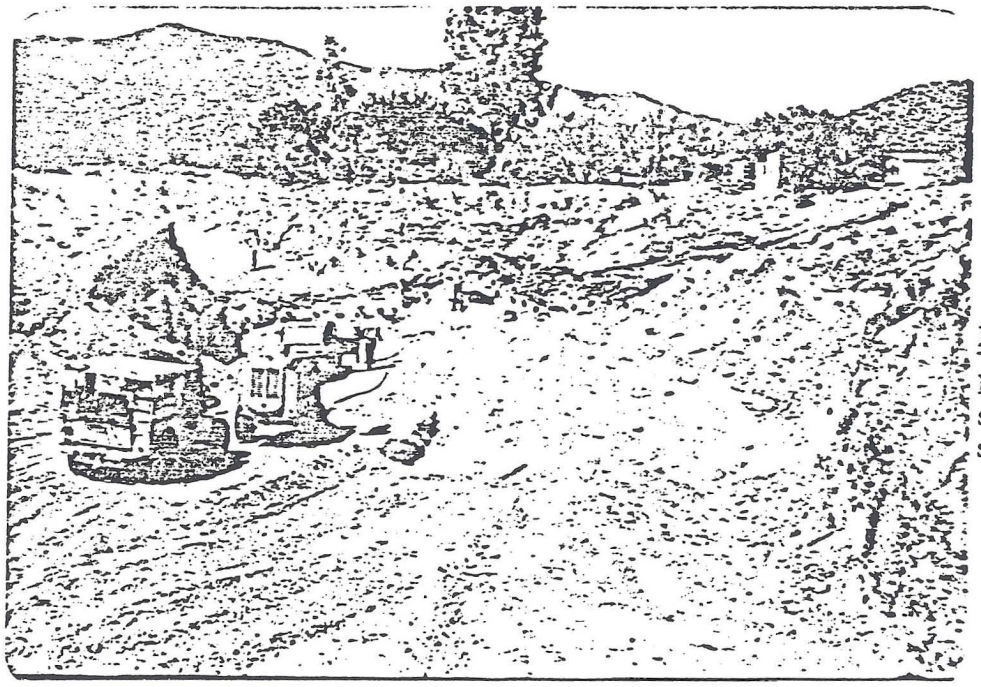

Photo 1:

Dotted red line shows bedrock surface.

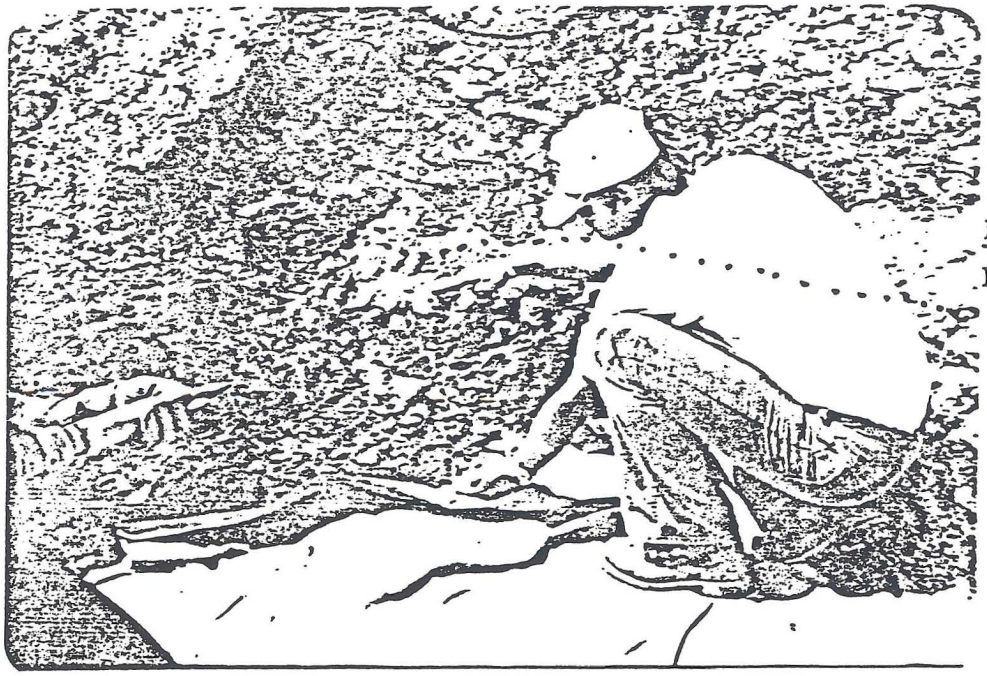

Photo 2:

BCQ-011.

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Tucson, Arizona 85705

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FIGURE 4

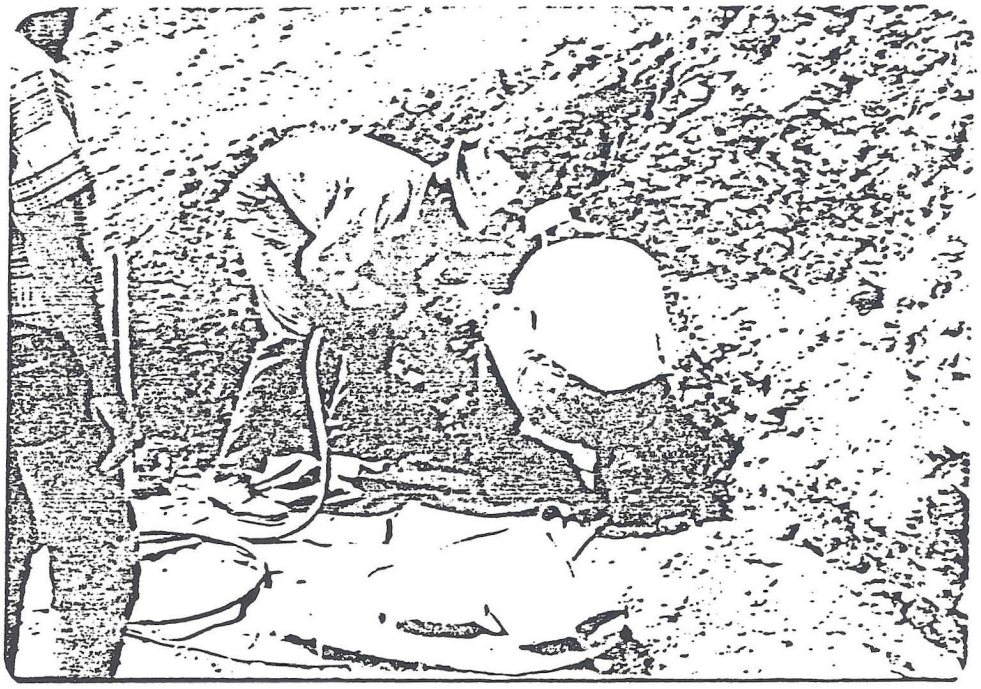

Photo 1:
Cutting the Sample.
BCQ-011

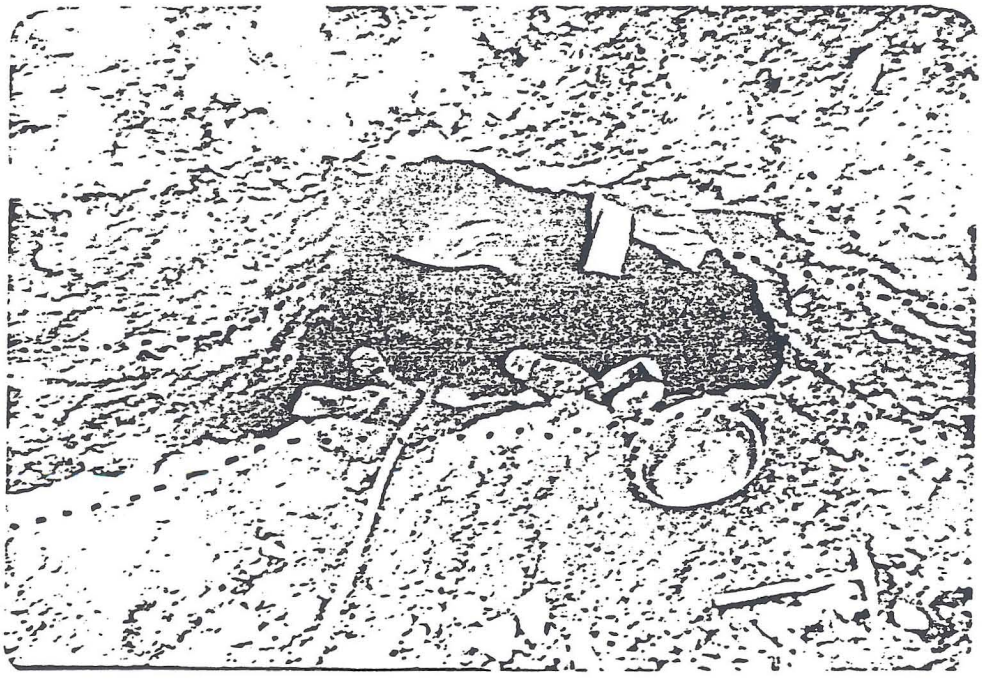

Photo 2:
Site of Sample BCQ-012.

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Tucson, Arizona 85705

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PLACER SAMPLES

Sorting Cobbles for
Separate Weighing.

ATTACHMENT B

C. L. Fair and Associates
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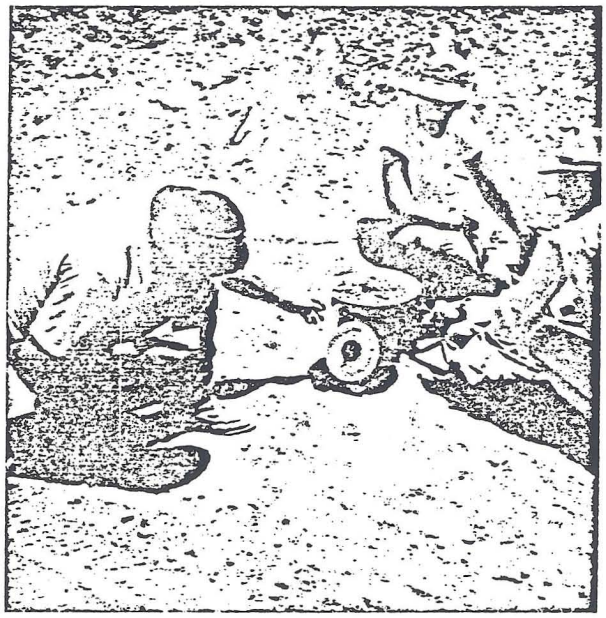

PLACER SAMPLES

Weighing the Sample in
the Field.

ATTACHMENT C

C. L. Fair and Associates
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Tucson, Arizona 85705

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ASSAYING SEQUENCE

The assaying sequence is outlined in the attached report by William L. Lehmbeck, Registered Assayer and Manager of the Tucson Office of Skyline Labs, Inc. I personally visited the Lab and observed samples being processed through each of these steps.

RESULTS

Results are reported in milligrams of gold (if any) present in the samples. This is then related to the weight of the original sample, and a value per short ton, and per yard of gravel, is arrived at in the report. This figure is evaluated against the estimated volume of gravel present, and an opinion of validity is rendered in light of the prudent man concept.

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L.
FAIR
DEC. 31, 19 77
ARIZONA, U. S. A.

August 30, 1977

Charles L. Fair

Charles L. Fair

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

January 3, 1977

Dr. Charles L. Fair
2420 North Huachuca Drive
Tucson, Arizona 85705

Dear Dr. Fair:

Pursuant to our recent conversation, I have outlined below the standard fire assay procedure used by Skyline Labs, Inc. for the analysis of gold and silver.

1) The samples are logged and assigned a job number when submitted for assay.

2) Prepared samples are weighed and placed into a clay crucible containing a litharge (lead oxide) based flux. The sample and flux are carefully mixed and placed into an electric muffle furnace pre-heated to 1850°F. During the fusion process the material is attacked by the molten flux, dissolving the sample. The lead oxide is reduced to molten lead which acts as a collector of precious metals while settling to the bottom of the crucible.

3) After a fusion time of one hour, the crucible is removed from the furnace and the molten material poured into a mold.

4) The lead "button" is separated from the slag and placed into a cupel (a small porous vessel made of bone ash) which has been preheating in the muffle at 1600°F. The lead again becomes molten, the majority of which is sorbed into the cupel. The temperature is lowered to 1280°F until the cupellation process is complete (usually 40 to 70 minutes). The cupel is then removed from the muffle furnace.

5) If precious metals are present they remain in the cupel as a small metallic bead called a 'dore' bead.

6) The 'dore' is removed from the cupel and weighed on an analytical balance and the weight recorded in milligrams (mg).

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
P.O. Box 50106 • 1700 West Grant Road
Tucson, Arizona 85703
(602) 622-4836

Dr. Charles L. Fair
2420 North Huachuca Drive
Tucson, Arizona 85705

January 3, 1977
Page 2

7) The 'dore' is then placed into a small glazed ceramic cup and the silver is dissolved away from the gold by heating with a dilute nitric acid solution for a period of 30 to 60 minutes.

8) The acid solution is carefully decanted off of the gold bead, if gold is present, and washed several times with water.

9) The cup is then placed into a small preheated muffle furnace for a period of 15 minutes to anneal the gold bead.

10) After removing the cup and allowing it to cool, the gold bead is then weighed and weight recorded in milligrams.

11) Step 6 gives the weight of the gold plus silver. Step 10 gives the weight of gold. The weight of the silver is the weight of the gold plus silver, less the weight of the gold.

(Au + Ag) in mg - Au in mg = Ag in mg

12) Results are given in milligrams of gold, and silver, or in troy ounces per short ton, depending on the type and weight of the initial sample used.

Sincerely,

Wm. L. Lehmbeck

William L. Lehmbeck
Manager

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

SK[illegible]NE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au mg*	Ag mg	Sample Weight grams (dry)
1	BCQ 011	358.27	93.16	114.966
2	BCQ 012	204.08	72.41	16.033
3	BCQ 013	307.57	85.75	67.127
4	BCQ 014	240.78	54.44	83.112

TO:
C. L. Fair & Associates
2420 North Huachuca Drive
Tucson, Arizona 85705

14

REMARKS:
Single analysis by fire assay
* Accuracy to nearest 0.01 of a Mg
Project: P.I.R.

CERTIFIED BY: [signature]

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
12/27/76	1/12/77	762674

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2420 N. Huachuca, Suite 9
(602) 882-8701

VALIDITY EXAMINATION
Golden Green Placer Claim
William H. Coplen, Claimant

INTRODUCTION

The existence of this claim was determined from its inclusion on the list of surface fee payees maintained by the Papago Tribe in Sells. In addition, it was listed as a valid claim in the Bureau of Land Management P. A. Report #119. The claimant or record is Mr. William H. Coplen, Santa Rosa Star Route, Box 21, Sells, Arizona, 85634, Telephone 383-2450.

Mr. Coplen was first notified of our survey of mining claims by letter on June 20, 1976. This claim was examined on July 26, 1976, by myself and Harold Downey, Wallace Platt and Edward Robb, Geologists.

The claim is located about one mile west-southwest of the village of Quijotoa, on the east flank of the Quijotoa Mountains, on unsurveyed land that is approximately in the center of T. 15 S., R. 2 E. This location is shown on the Index Map, Figure 1.

GENERAL GEOLOGY

Most of the area of the claim is underlain by alluvial gravels, consisting of boulders and cobbles of volcanic rocks, mainly andesite and dacite porphyry, with occassional cobbles of granite. There are local areas of outcropping bedrock, particularly along the north edge of the claim where volcanics can be seen, and in very local spots in the center and south edge of the claim where the granite bedrock crops out. The granite bedrock is coarse grained and somewhat sheared and altered.

MINERALIZATION

Gold is well documented in the alluvial gravels along the east flank of the Quijotoa Mountains. According to the Arizona Bureau

of Mines (Bulletin 142, Page 59), the placer area covers at least 100 square miles, and has a history of production going back at least to 1774. In the early 1880's, lode gold deposits were discovered in the Quijotoas, and shortly thereafter placering was renewed, and there has been a small amount of activity ever since.

Gold is known to occur on several horizons or levels within the alluvium, but usually the best values occur at the bottom of the gravel on the old bedrock surface. A view of this somewhat irregular surface on the Golden Green Placer Claim is shown by the dotted red line on Photo 1, Figure 3.

SAMPLING

The principal development work on the claim is in an open cut which varies from 60 to 150' (18.3 m to 45.7 m) wide and approximately 200' (61 m) long. The location of this cut is shown on the map, Figure 2, which was provided to us by Mr. Coplen, and a general view is also shown in Photo 1, Figure 3. Three samples, BCQ-011, BCQ-012 and BCQ-013 were cut above bedrock in various parts of this pit. A fourth sample, BCQ-014 was cut at the bottom of a trench which is located approximately 400' (122 m) east-northeast of the open cut. The trench is also shown on Figure 2.

Sample BCQ-011: BCQ-011 was a vertical channel sample cut for approximately 18" (46 cm) immediately above the bedrock in the southwestern center of the open cut. This location is shown on Figure 2, and also on Photo 2, Figure 3. Photo 1, Figure 4 shows the actual cutting of sample BCQ-011. The material was from a channel cut with an air hammer, caught on canvas, coned, quartered and weighed in the field as described in the Preface to this report. The total weight of the original sample of BCQ-011 was 77 lbs, 4 oz. Twenty two lbs, three oz were large rejects removed in the field. This sample contained 358.27 mg of Au and 93.16 mg of Ag. The Certificate of Analysis for this and the remaining samples is appended to this report.

140 ft

Sample BCQ-012: This sample was a 2' (61 cm) vertical channel cut from a gravel zone above bedrock as shown in Photo 2, Figure 4. This was on the west side of the open cut as shown in Figure 2. This sample weighed 30 lbs, 5 oz of which 2 lbs were large rejects removed in the field. The sample contained 204.08 mg of Au and 72.41 mg of Ag.

Sample BCQ-013: This was a 2' (61 cm) vertical channel cut on the north side of the open cut as shown in Figure 2. This site is shown in Photo 1, Figure 5. Sample BCQ-013 weighed 49 lbs, 1 oz of which 9 lbs, 3 oz were large rejects removed in the field. The sample contained 307.57 mg of Au and 85.75 mg of Ag.

Sample BCQ-014: A vertical channel for approximately 2' (61 cm) taken above bedrock in the trench shown on Figure 2. This site is also shown in the Photo 2, Figure 5. The sample contained 240.78 mg of Au and 54.44 mg of Ag.

Results of this sampling are shown in Table I.

DISCUSSION AND INTERPRETATION

The alluvial material underlying this claim is generally loose to semi-consolidated, and can be removed by scraper, backhoe, loader, tools or by hand. It generally does not require the use of explosives. We have obtained various estimates of the cost for moving material of this sort. These range from as low as 22¢ per cubic yard, given to us by one contractor in Casa Grande, to as high as 50¢ per cubic yard. For purposes of our evaluation, we will use the figure of 40¢ per cubic yard as an average cost for stripping, moving or mining this alluvial material. This was arrived at using extrapolations of shipping costs from two open cut mines in Arizona.

The thickness of alluvial material above bedrock in the open cut on this claim varies from 6' to 25' (see Photo 1,

Figure 3). Assuming an average of 18' above bedrock and an average mineralized zone at the bottom of the column of 18" (or ½ yard), then every column of 6 cubic yards above bedrock would contain ½ yard of mineralized material or ½ the average grade shown in Table I, which is $25.57. By simple division this gives a value of $4.26 per cubic yard for all material above bedrock exposed in the open cut on the claim.

Referring again to Figure 2 it can be seen that the deep placer area occupies a northeast trending zone in the claim which is approximately 1,000' wide, 2,500' long, and -- according to our above measurements -- about 18 feet deep. By simple multiplication, this gives a figure of approximately 16,666,666 cubic yards.

Assuming that a cleaning concentration plant which would handle 100 cubic yards per day could be assembled on the property for $25,000, the following estimated costs are involved: $1.25 per yd^3 for repayment of mill cost, based on 100 yd^3 production per day for a period of one year (240 days). Mining and stripping cost, 40¢ per yd^3, trucking and handling of waste and gravels, 15¢ per yd^3. Total estimated costs are $1.80 per yd^3.

This leaves an estimated possible profit of $2.46 per yd^3 of material on the claim. If the estimates on total yardage and average mineralization are correct, this is a possible total gross value of $40,000,000 for the gold contained on the claim.

Mr. Coplen has a water well on his claim which could provide water for milling operations. In addition, as can be seen in Photo 1, Figure 2, a fairly large open cut is already present, which would facilitate mining operations. The material could, in fact, probably be handled at less than 40¢ per yard.

SAMPLE	TOTAL WT. OF SAMPLE		PRECIOUS METAL CONTENT		GRAMS/SH.TON		TROY OZ/SH.TON		VALUE/SH.TON		VALUE/YD^3		TOTAL VALUE
Number	ounces	grams	Mg-Au	Mg-Ag	Au	Ag	Au	Ag	Au	Ag	Au	Ag	Yd^3
BCQ-011	1236	35,041	358.27	93.16	9.275	2.412	0.298	0.077	$44.70	$0.35	$37.24	$0.29	$37.53
BCQ-012	485	13,750	204.08	72.41	13.46	4.779	0.433	0.154	$64.95	$0.69	$54.10	$0.57	$54.67
BCQ-013	785	22,255	307.57	85.75	12.54	3.495	0.403	0.112	$60.45	$0.50	$50.35	$0.42	$50.77
BCQ-014	506	14,345	240.78	54.44	15.23	3.443	0.490	0.111	$73.50	$0.50	$61.23	$0.42	$61.65
												AVERAGE	$51.15

One oz (avoir.) = 28.35 grams
One Sh. ton = 907,184 grams
One gram = 0.03215 Troy oz.

Gold Market value estimated at $150/oz.
Silver market value estimated at $4.50/oz.
One Short ton estimated = .833 yd^3 (semi dry).

Gold is estimated at 1000 fine.

BCQ-011 (907,184 ÷ 35,041) x 0.35827 = grams/sh.ton Au
BCQ-012 (907,184 ÷ 13,750) x 0.20408 = grams/sh.ton Au
BCQ-013 (907,184 ÷ 22,255) x 0.30757 = grams/sh.ton Au
BCQ-014 (907,184 ÷ 14,345) x 0.24078 = grams/sh.ton Au

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L. FAIR
DEC. 31, 1977
ARIZONA, U. S. A.
Dec 27, 1977

TABLE I
Golden Green Placer

C. L. Fair and Associates
Consulting Geologists
Tucson, Arizona 85705

2420 N. Huachuca, Suite 9
(602) 882-8701

CONCLUSIONS AND RECOMMENDATIONS

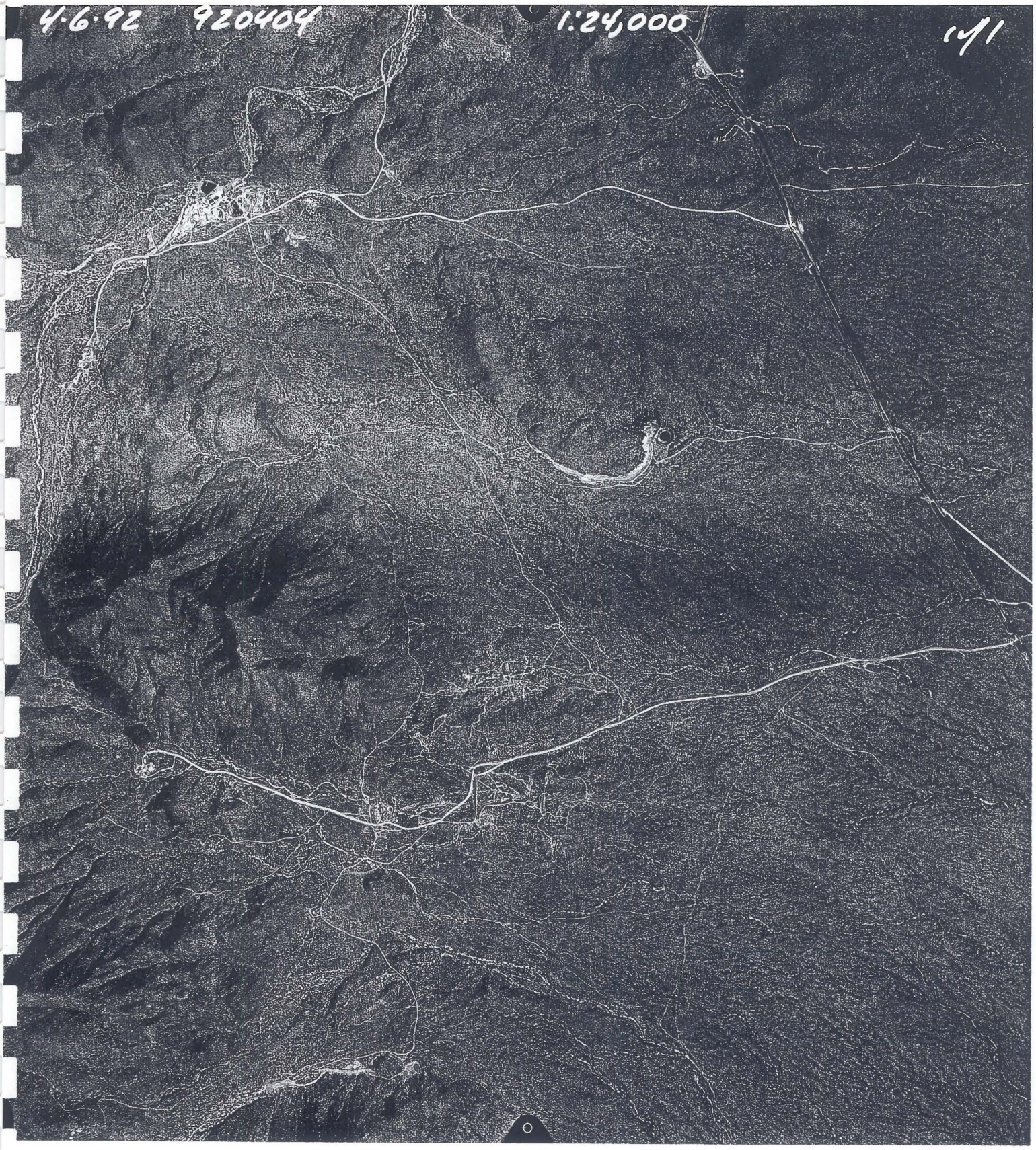
It is my Professional Opinion that the mineralization on the Golden Green Placer Claim meets the requirements for validity under the U. S. mining laws. I recommend, therefore, that the claim be allowed to remain as a valid claim on the Papago Indian Reservation.

Registered Geologist
CERTIFICATE EXPIRES
CHARLES L.
FAIR
DEC. 31, 1977
ARIZONA, U.S.A.

September 26, 1977

Charles L. Fair

Charles L. Fair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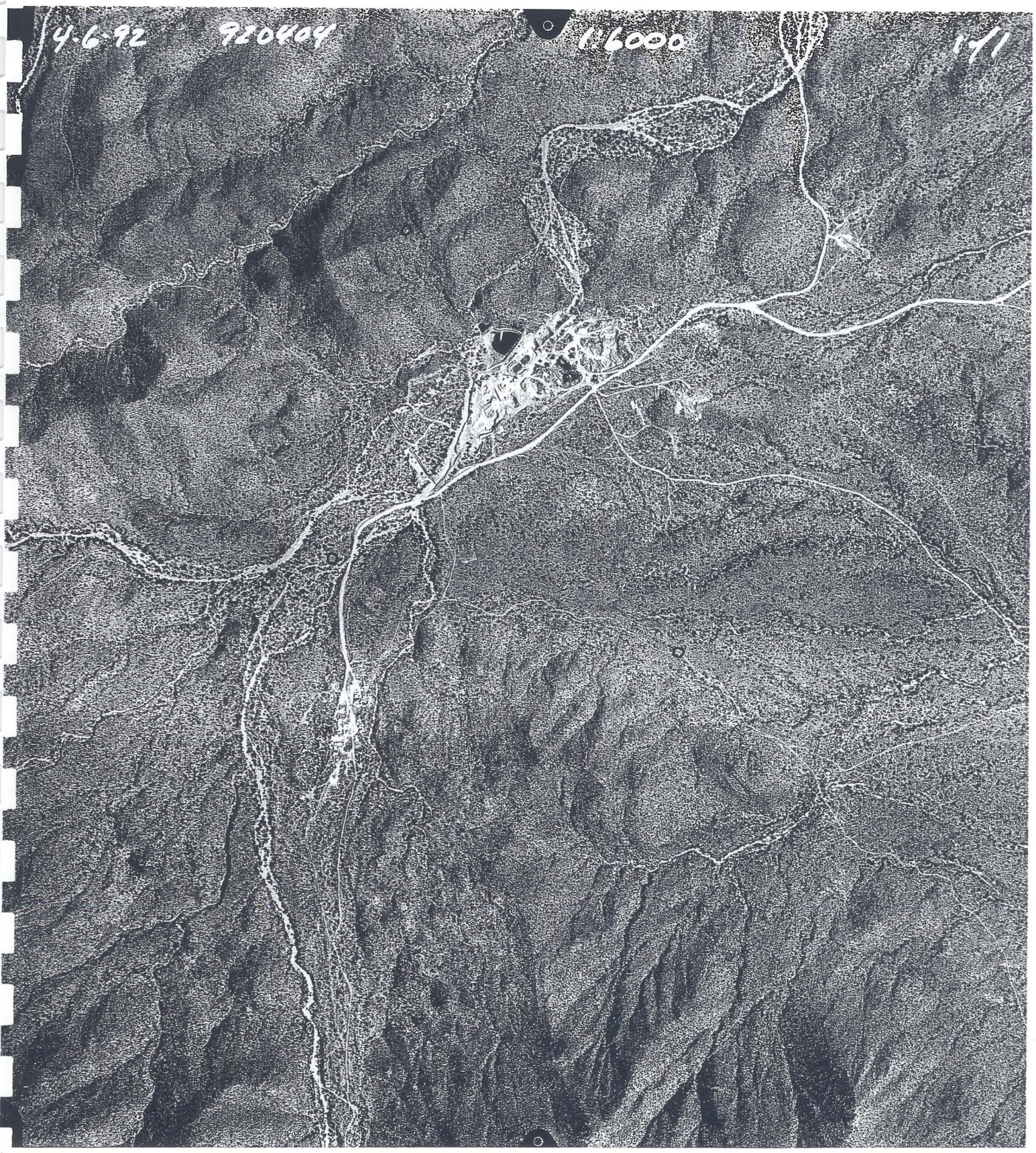
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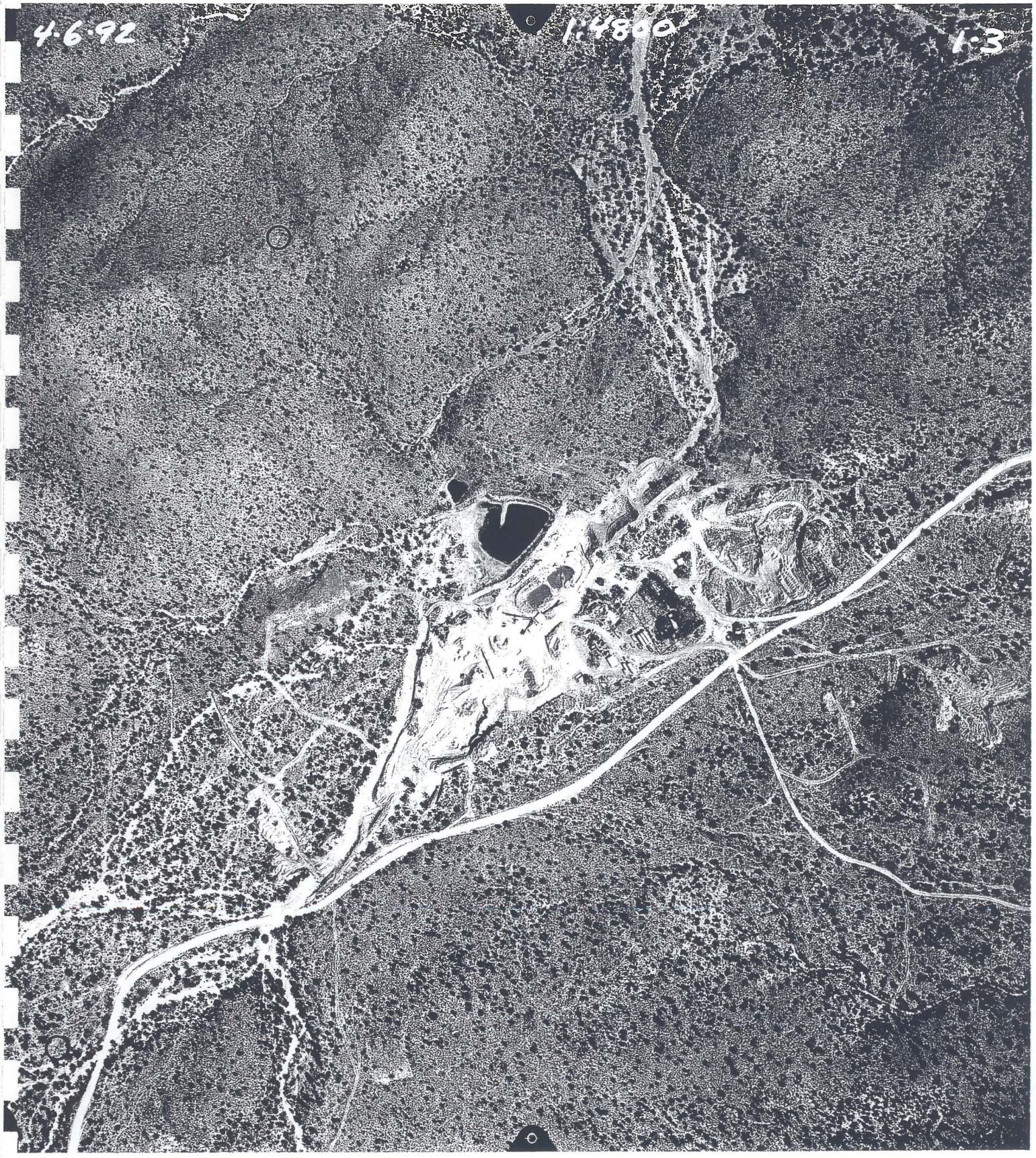
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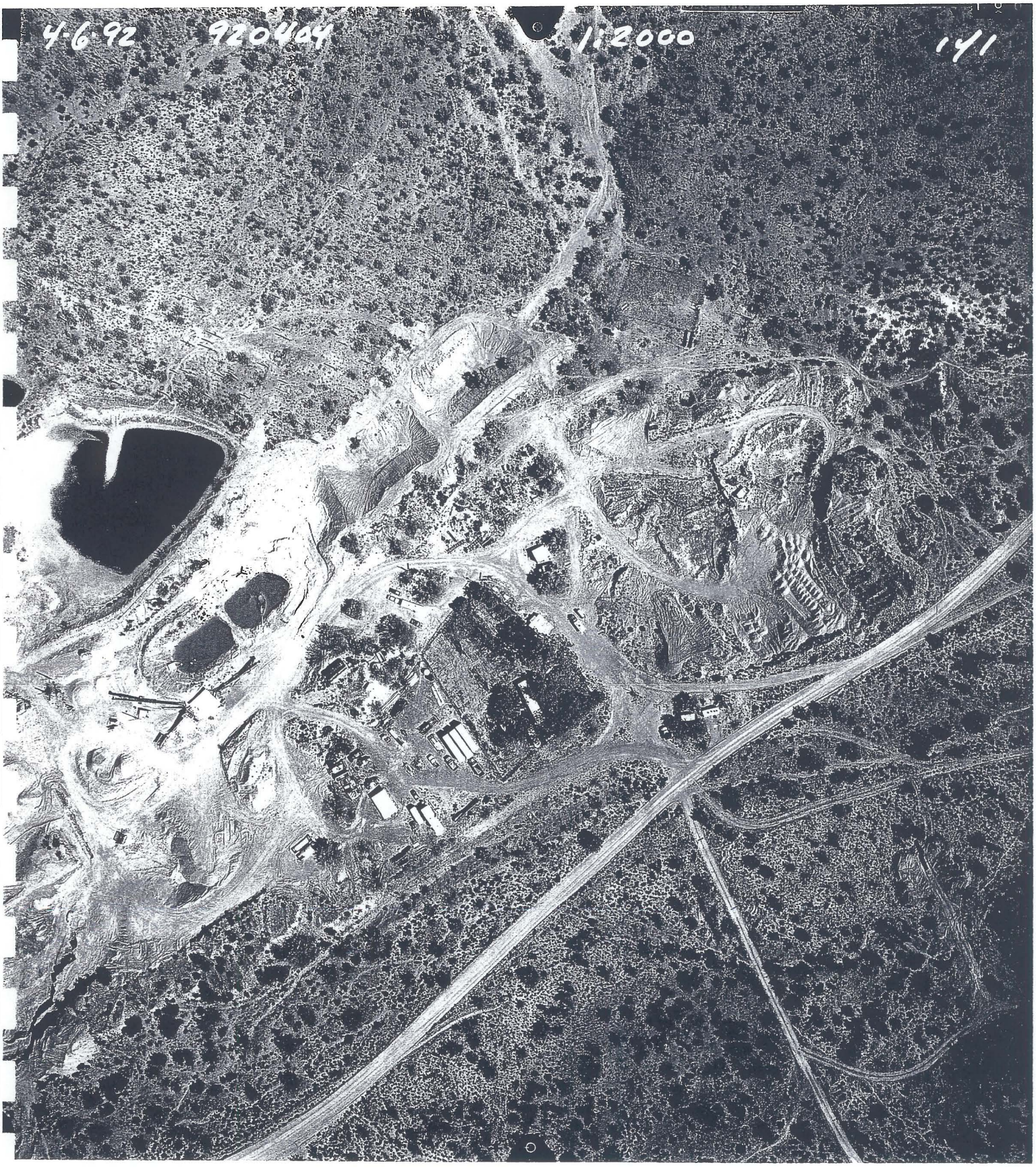
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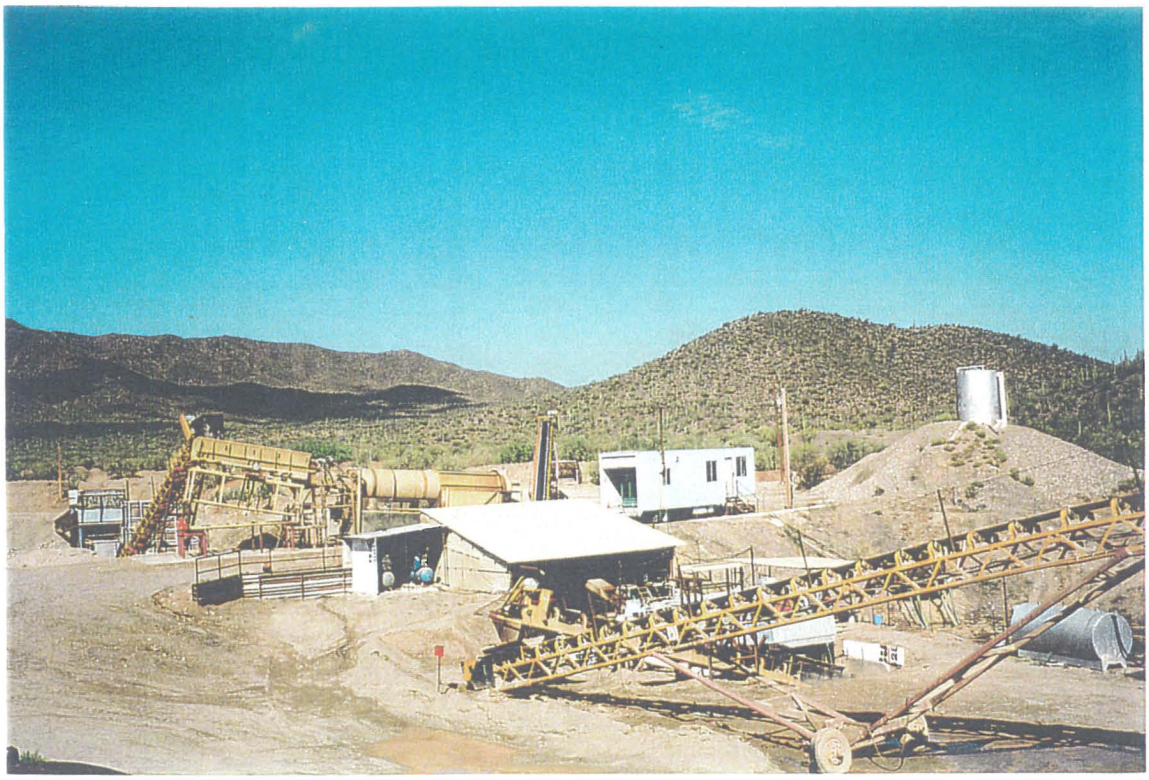
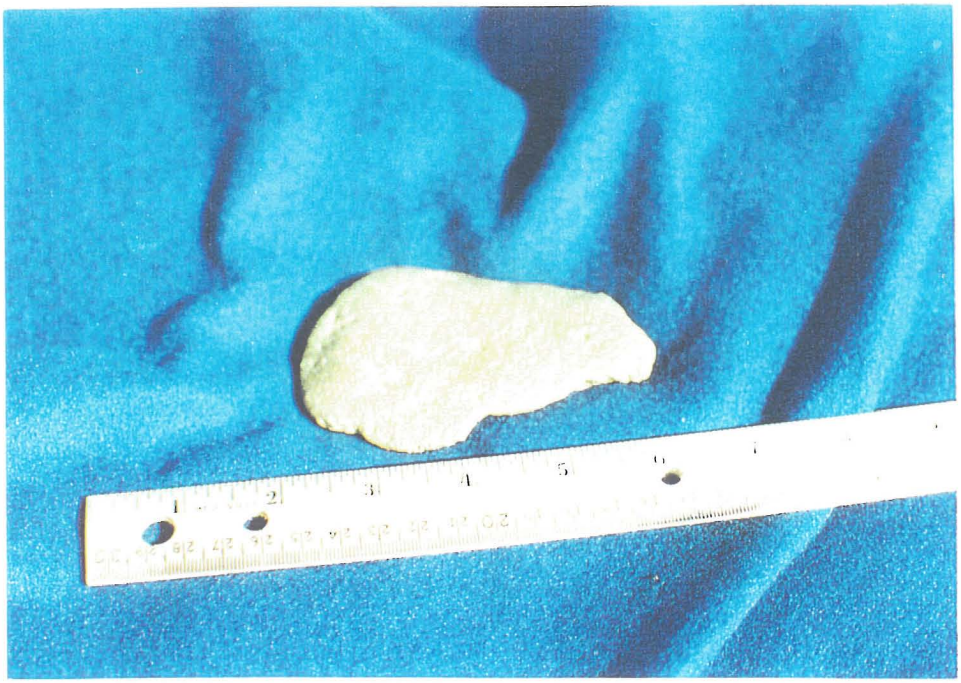
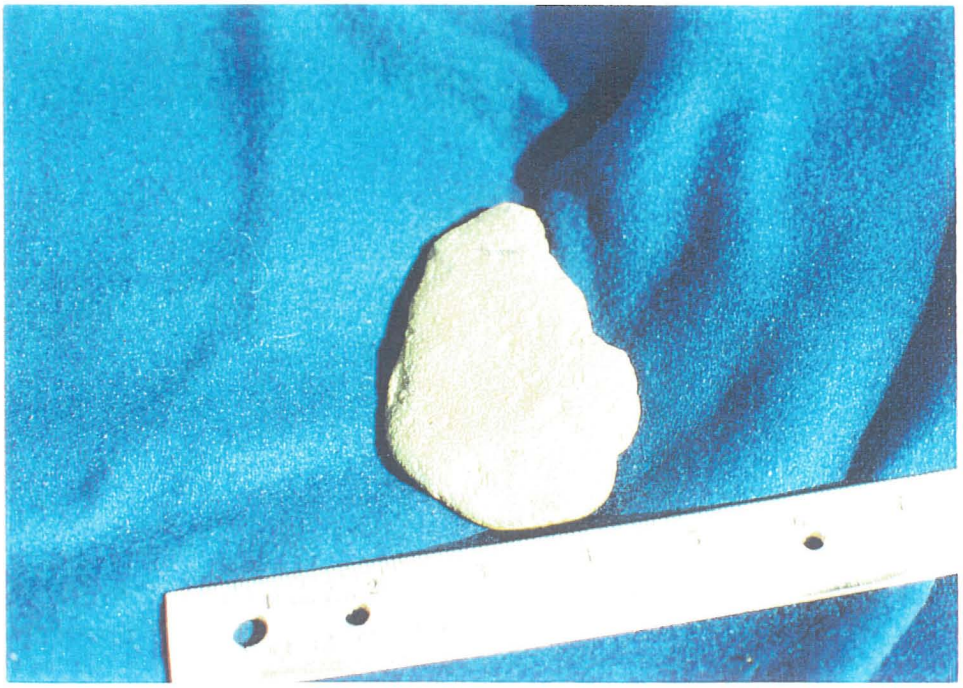


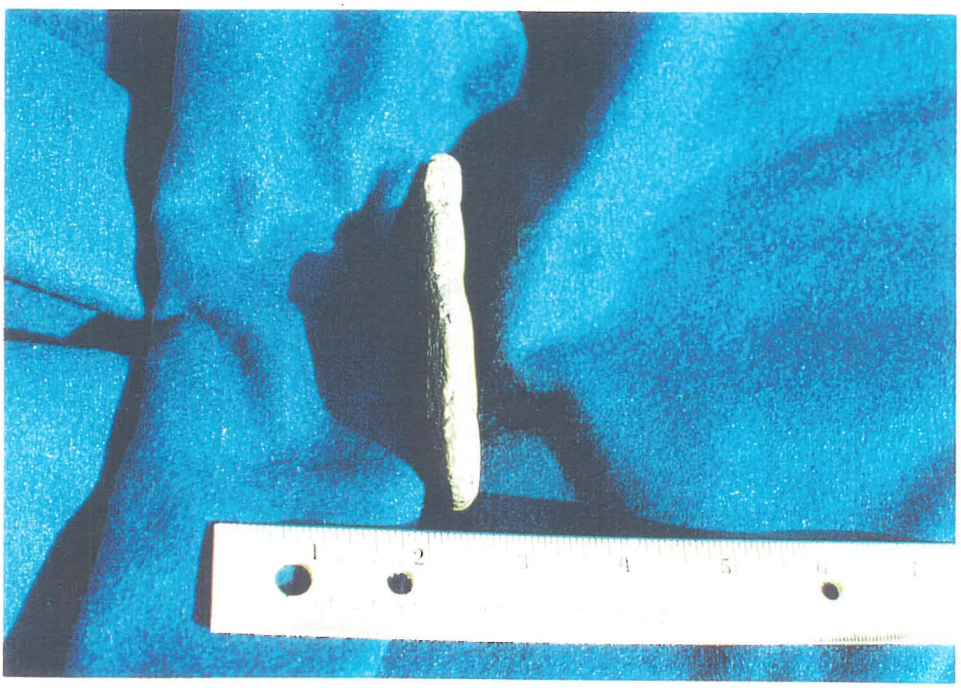

DAN
DO NOT


WARNING
LOW
CLEARANCE
WARNING
WATCH YOUR STEP


Nomad







ASSAY REPORT

Sample name or I.D. BLACK SANDS

Date 10/4/96 PRINT

All analysis has been performed in good faith by using both time honored and of state of the art techniques. Results should not be used as a monetary guarantee.

INVOICE TO/AT XPAS, LLC PHONE 520-455-8012 FAX 520-455-5965

SAMPLE TYPE:

☐ QUARTZ ORE ☐ BLACK SAND ☐ DORE

☐ ANODE MUD ☐ CORE DRILLINGS

☐ CARBON ☐ ASHES ☐ PRECIPITATES

SAMPLE TYPE OTHER

SAMPLE SIZE: Approx.

SAMPLE SIZE ASSAYED IN GRAMS OR 'RATIO' 10

We reserve the right to assay any size of sample based on metal content and difficulty (Complex).

LABORATORY:

☐ WET CHEMICAL (ACID) ☐ WET CHEMICAL BASIC ☐ ACID FUSION ☐ ALKALI FUSION

☐ SELECTIVE DROP ☐ SELECTIVE LEACH ☐ BULK DROP ☐ HYDROXIDE DROP ☐ SPOT TEST

LABORATORY OTHER

FURNACE:

☐ FIRE ASSAY ☐ HIGH TEMPERATURE SMELT ☐ LEAD COLLECTOR ☐ REDUCTIVE LEAD COLLECTOR

☐ SILVER COLLECTOR ☐ COPPER COLLECTOR ☐ GOLD COLLECTOR ☐ REDUCTION SMELT

☐ CUPELED FURNACE OTHER

NOTES:

ASSAYER

ASSAY DATE 10/4/96

GRAMS RATIO 10	LEACH ML RATIO 19	GRAMS TO LEACH RATIO 1.900

COMPLETE UN-PARTED BEAD → ○ UN-PARTED BEAD WEIGHT ☐ 0 BEAD WAS TO SMALL TO RETURN ☐

READINGS SHOW TOTAL METAL CONTAINED IN THE SUBMITTED SAMPLE. CHEM-TRON DOES NOT OFFER BACK CALCULATIONS.

	OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM
PD	0.062	2.1	AG	0.000	0.0	AU	0.079	2.7	PT	0.083	2.8
	OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM
RH	4.341	148.8	RU	0.087	3.0	OS	0.016	0.5	IR	0.481	16.5

OZ.PT READINGS ARE MORE ACCURATE SINCE THEY ARE THREE DIGIT. PPM FIGURES ARE GIVEN IN ONE DIGIT SO SOME OF THE PPM FIGURES WILL BE ROUNDED TO THE NEXT PROBABLE DIGIT.

PD $7.44	AG $0.00	AU $30.42	PT $34.94	RH $2387.55	RU $6.98	OS $1.04	IR $266.58

(34.286 PPM = 1 OZ. PT) FIGURES ABOVE ARE DOLLARS PER TON OF SAMPLE SUBMITTED TOTAL VALUE PER TON $2,554.03

- SAMPLE PREPARATION. $65.00 For micro wave AR digestion or $25.00 for standard type AR or Halox. (For PT group, microwave recommended).
- SPECTRAL ANALYSIS ON D_2 CORRECTING ELECTRIC INSTRUMENT. Metal detection - •Gold $19.00 •Palladium $15.00 •Platinum $25.00
- •Rhodium $28.00 •Ruthenium $30.00 •Osmium $45.00 •Iridium $32.00 •All 7 metals for only $99.00 *(For Silver assays call for special quote)*
- •5 ASSAY TON METAL IN HAND ASSAYS. INCLUDING RETURN OF DORE' BEADS • •LEACH ASSAYS $175.00 •SMELT ASSAYS $175.00

CHEMTRON LABS 14300 DAVENPORT RD. #38 SAUGUS, CA 91350 PH. 805-298-5432 FAX 805-298-7160

ASSAY REPORT

Sample name or I.D. BLACK PEBBLES Date 10/4/96 PRINT

All analysis has been performed in good faith by using both time honored and of state of the art techniques. Results should not be used as a monetary guarantee.

INVOICE TO: R.P.A.S. LLC PHONE 520-458-8042 FAX 520-458-5949

SAMPLE TYPE:

☐ QUARTZ ORE ☐ BLACK SAND ☐ DORE

☐ ANODE MUD ☐ CORE DRILLINGS

☐ CARBON ☐ ASHES ☐ PRECIPITATES

SAMPLE TYPE OTHER

SAMPLE SIZE: Approx.

SAMPLE SIZE ASSAYED IN GRAMS OR 'RATIO': 10

We reserve the right to assay any size of sample based on metal content and difficulty (Complex).

LABORATORY:

☐ WET CHEMICAL (ACID) ☐ WET CHEMICAL BASIC ☐ ACID FUSION ☐ ALKALI FUSION

☐ SELECTIVE DROP ☐ SELECTIVE LEACH ☐ BULK DROP ☐ HYDROXIDE DROP ☐ SPOT TEST

LABORATORY OTHER

FURNACE:

☐ FIRE ASSAY ☐ HIGH TEMPERATURE SMELT ☐ LEAD COLLECTOR ☐ REDUCTIVE LEAD COLLECTOR

☐ SILVER COLLECTOR ☐ COPPER COLLECTOR ☐ GOLD COLLECTOR ☐ REDUCTION SMELT

☐ CUPELED FURNACE OTHER

NOTES:

ASSAYER

ASSAY DATE 10/4/96

GRAMS RATIO	10	LEACH ML RATIO	21	GRAMS TO LEACH RATIO	2.100

COMPLETE UN-PARTED BEAD → ○ UN-PARTED BEAD WEIGHT ☐ 0 BEAD WAS TO SMALL TO RETURN ☐

READINGS SHOW TOTAL METAL CONTAINED IN THE SUBMITTED SAMPLE. CHEM-TRON DOES NOT OFFER BACK CALCULATIONS.

	OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM
PD	0.089	2.0	AG	0.000	0.0	AU	0.066	2.3	PT	0.090	3.1
	OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM		OZ. PT	PPM
RH	3.513	120.5	RU	0.076	2.6	OS	0.011	0.4	IR	0.455	15.6

OZ.PT READINGS ARE MORE ACCURATE SINCE THEY ARE THREE DIGIT. PPM FIGURES ARE GIVEN IN ONE DIGIT SO SOME OF THE PPM FIGURES WILL BE ROUNDED TO THE NEXT PROBABLE DIGIT.

PD	$7.08	AG	$0.00	AU	$25.41	PT	$37.88	RH	$1932.15	RU	$6.08	OS	$0.72	IR	$81.90

(34.286 PPM = 1 OZ. PT) FIGURES ABOVE ARE DOLLARS PER TON OF SAMPLE SUBMITTED TOTAL VALUE PER TON $2,091.23

- SAMPLE PREPARATION. $65.00 For micro wave AR digestion or $25.00 for standard type AR or Halox. (For PT group, microwave recommended).
- SPECTRAL ANALYSIS ON D2 CORRECTING ELECTRIC INSTRUMENT. Metal detection - •Gold $18.00 •Palladium $15.00 •Platinum $25.00
- Rhodium $28.00 •Ruthenium $30.00 •Osmium $45.00 •Iridium $32.00 •All 7 metals for only $99.00 *(For Silver assays call for special quote)*
- 5 ASSAY TON METAL IN HAND ASSAYS. INCLUDING RETURN OF DORE' BEADS - •LEACH ASSAYS $175.00 •SMELT ASSAYS $175.00

CHEMTRON LABS 14300 DAVENPORT RD. #3B SAUGUS, CA 91350 PH. 805-298-5432 FAX 805-298-7160

A.C. Johnson, Jr., Ph.D.
Exploration Geochemist

1930 E. Third St. Suite #11
Tempe, Arizona 85281

Tel: 602/829-1529
Fax: 602/966-4446

868-0924 Mitch
520-361-2310 Sarah

6/5/97

TO: Steve Baker
FAX: 520/466-5985
FROM: Al Johnson

Dear Steve:

The atomic absorption analysis of the treated "Sample A" is completed and included with this FAX transmission. The treatment of this sample included the addition of 10% by total weight of silica sand to the ore. This would mean that an assay of the untreated ore could be obtained by multiplying the atomic absorption analysis by a factor of 1.100.

The further treatment of this ore with other fluxes is definitely recommended when viewing how well it turned out with the addition of silica. We might easily increase the extractable metal content three or more times above that which is shown on the Iseman analysis.

Respectfully submitted,

A. C. Johnson, Jr., Ph.D.

LABORATORY REPORT
(ANALYTICAL)

CLIENT: Torka Engineering
PROJECT:

SAMPLE # 9706010
DATE 06/04/97

PROCESS		CONDITIONS	
ASSAY		STRENGTH OF REAGENT	
CYANIDE		% SOLIDS	
THIOUREA		TIME OF TEST	
OTHER		AGITATION	
Microwave Technique		TEMPERATURE	
		MILLIVOLT	
ORE/MATERIAL USED		pH	
see below		PRETREATMENT	
		SAMPLE WEIGHT	
ORE SIZE USED			

(listed in grams per pound (unless otherwise listed))

ID OF SAMPLE	RESULTS Au	Ag	Pt	Pd	Ir	Rh
"SAMPLE A"	2.023	1.731	3.645	0.510	0.455	0.273

The foregoing results were ran using standard analytical procedures and are based solely on the samples submitted. Iseman Consulting strives to do the best to its knowledge and ability but makes no warrantees or promises, written or implied.

AuRIC
Metallurgical Laboratories

May 13 1997

ASSAY REPORT:

To: Mr Nobel LARSEN

Auric Sample No.:	Customer Sample ID No.:	Gold Tr oz/ton	Silver Tr oz/ton	Platinum Tr oz/ton	Palladium Tr oz/ton	Rhodium Tr oz/ton	Other Tr oz/ton
0281A	Black Sands Blue	6.000	0.300				
0282A	Bottom Glory Hole	0.070	0.105				
0283A	Kilgore Plant	0.220	0.660				
0287A	Black Sands 3	0.140	2.060				
0288A	Dan's Trench	25.700	1.900				
0289A	Black S. Pad,Mitch's	0.220	3.480				
0290A	Mitch #1	2.120	2.350				
0291A	Tuneel Hole	0.755	1.775				

Ahmet B. Altinay
Metallurgical Engineer

3260 West Directors Row, Salt Lake City, Utah 84104 USA • Ph: 801-974-7677 • Fax 801-974-9656
AuRIC Metallurgical Laboratories is a Limited Liability Company

PRELIMINARY REPORT

of

QUIJOTOA PLACER AREA
Pima County, Arizona

G. A. Russell

August, 1983

INDEX

PRELIMINARY REPORT OF QUIJOTOA PLACER AREA

Pima County, Arizona

SUMMARY

The claims of Esperanza, Sure Shot, Bonanza, Bell, Horseshoe, Arizona, Nuget and the Goldfield Lode are located in the Horseshoe Basin area of the Quijotoa Mountains on the Papago Indian Reservation in Pima County, Arizona. Norman Montgomery and the ~~Welaby Enterprises~~ H R S Investment are the recorded owners.

The placer grounds have a history of rich production. The gold is coarse and of exceptionally high value, from the surface down to bedrock.

There are two wells drilled on the property, actual gallons-per-minute is unknown, but a deep well could supply needed water. One water reservoir has been built and little work would have to be done on it to make a good catch basin for reclaiming operational waters.

The aluvials are ideal for a placer operation -- there are very few large boulders and the finer material is ideal for jig operation.

The magnetite concentration is exceptionally high with many large boulders 3" to 1' in diameter. These should be saved and sold.

There are high-grade channels throughout the claims that can be located when the first operational cut is made across the upper area of the claims. This could be worked more or less in a projected ore control pattern to ensure an even value of head feed.

The tromel should be set to handle boulders of 5" to 8" to have enough breaking force to clean the caleche off the processed material.

CONCLUSION

The Esperanza placers would make a profitable mining operation. Water can be developed and the cost may be high, but the reserves will justify the expenses.

RECOMMENDATIONS

This property should be acquired and an operation started. A well or series of wells would have to be drilled and pumps installed. Tests should be made as to the type of equipment to be used for the best mineral recovery. Spectographic tests should be made of the materials to be mined. By-products may be of a commercial value.

LOCATION AND ACCESS

The Quijotoa placers are located in the Chu-Achi Mining District in the Quijotoa Mountains of central Pima County, Arizona, approximately 80 miles west-southwest of Tucson. The placer ground covers an area of over 100 square miles, extending north and south for some distance on both sides of the Mexican boundary.

The Quijotoa Mountains rise to nearly 4,000 feet above sea level, about 1500 feet above the desert floor. They extend from Covered Wells on the north to South Mountain on the south. This area encompasses Horseshoe Basin, a pediment area of five miles long and more than a mile wide at the eastern foot of the range south of Covered Wells. The claims lie in sections 11, 23, 14, T15S R2E.

Access to the property is via the Tucson/Ajo Highway #86, or from Casa Grande via a paved Highway to the Quijotoa service station at the jundtion of the Ajo Highway. About 2 miles east of the Quijotoa service station, turn south on a dirt road and proceed about 1/2 mile to the property.

The climate is very hot in summer and moderate in winter. The mean annual rainfall is around 10 inches per year. Water is scarce -- wells and earthen tanks are few and far between.

HISTORY

There is no record of how long these placers have been known. Elliot's History of Arizona (1884) notes that in 1774 a Castilian priest named Lopez carried on an extensive mining operation in an area about 6 miles north of the Quijotoa Mountains. Lopez utilized the docile Papagos for his labor. Later on, Mexicans worked the area until 1849, washing gravels with water packed into the area by Papago squaws. From 1849 to early 1880's, no work was done in the area.

In the early 1880's a very lively boom in lode mining brought thousands of people to the district and four towns were established in the area: Logan City, New Virginia, Brooklyn City and Allen City. After the lode mining boom ceased, a few of the people turned to placer mining, but there has been little activity in the district since then.

The Imperial Gold Mining Company was said to own most of the placer ground in 1906, and were leasing to dry washers.

In 1910 a Quenner pulverizer and a Stebbins dry concentrator are reported to have been installed by the Manhatten Company in the Horseshoe Basin area, but due to the difference in conditions from where those machines had been successfully used, the operation failed.

In the 1932-1933 cool season, approximately 200 men came to the Horseshoe Basin area to mine placer gold, but remained only a short time. In June of 1933, only a few men were carrying on intermittent dry washing there.

Mr. Montgomery drilled a well, but too shallow -- less than 10 gallons per minute. Another well, already dug in the canyon to the east, would produce some water.

GEOLOGY

The Quijotoa Mining District encompases a chain of mountains, named, north-to-south, Brownell Mountain, Ben Navis Mountain and South Mountain. 'Quitotoa' is a corruption of a Papago term for 'Carrying Basket Mountain' because of its shape of a basket used by the Indians.

The Brownell Mountain consists of a cluster of erosional hills and mountains that are residual remnants of a higher, block faulted surface. The rocks are laramide clastic sediments, andesitic to rhyolitic volcanics, and granitic intrusives. A few Tertiary intermediate-to-mafic plugs and dikes cut the older formations. To the north and east, the mountains break off into rolling topography cut on an aluvial covered pediment.

Throughout the Quitotoa District there are numerous scattered small deposits of base and precious metals, barite, and minor rare earth minerals. Locally, high-grade pockets of free gold and silver chlorides have been found, mostly in or adjacent to oxidized and mineralized faults and fracture zones. Quartz, calcite, hematite, manganese oxides, magnetite, and local barite and flourite are the gangue minerals. The erosion of these pockets have been the source of the placer gold deposits on the pediments of Horseshoe Basin. Much of the placer ground was reported to contain over 80¢ per yard (1900 quote: $20 per oz), or $16 at today's price of gold at $400 per oz.

The Bascom A. Stevens report states that the red colored dirt will average $5 per ton (1920 prices), equal to $100 per ton at today's price of $400 oz.

In Horseshoe Basin, which is a pediment area about 5 miles long and over a mile wide, is the eastern foot of the range south of Covered Wells. The gold occurs erratically distributed for many feet down from the surface. The bedrock, where seen, is of a granetic material. Several false bedrocks of a cemented gravel or a caleche lie above the granite.

The gravels containing the best values are over five feet thick and are at a depth twelve to 15+ feet and rest upon the caleche. The gravels below the caleche zones are of damp clayey gravel which is locally rich in coarse gold, with the thickness varying considerable feet between the bottom caleche bed and the granite bedrock. In one of the old excavations, 3 different false bedrocks of caleche were noted. The granite bedrock was not exposed, and loose material from the sides of the excavation had covered the bottom of the excavation.

The ridges extending into the desert floor trend from a high on the southwest to the valley floor on the southeast. Narrow canyons running west-to-east have, for the most

part, isolated the ridges. In a few places in the canyon bottoms, a granite bedrock was noted. In some areas, these granite ribs tend to run north-to-south, making ideal dams for gold concentration pockets.

The gold is crystaline in appearance, and none that I have seen gives any appearance of having been moved any distance -- no flour gold has been noted.

Heavy concentrations of magnetite, from head-size boulders to very fine particles, and some hemitite was noted, but a laterization process appears to be in evidence and may be the process by which the concentrations of gold were derived. Gold in small amounts, evenly distributed throughout ultra basic rocks, can be chemically dissolved and reprecipitated in commercial placer concentration by the normal process of laterization. The caleche beds could have been the neutralizing agent to precipitate the pregnant solutions. The dark red gravels do contain heaviest concentrations of gold. The crystaline structure of the gold, the shapes of the nuggets, the absence of fines, all give an indication of the laterization process.

RESERVES

A rouch calculation of the area shows 43,560 cu ft per acre and a low estimate of reserves of 470 acre feet times 4840 equals 2,274,800 cubic yards of placer material to a depth of one foot.

PRODUCTION

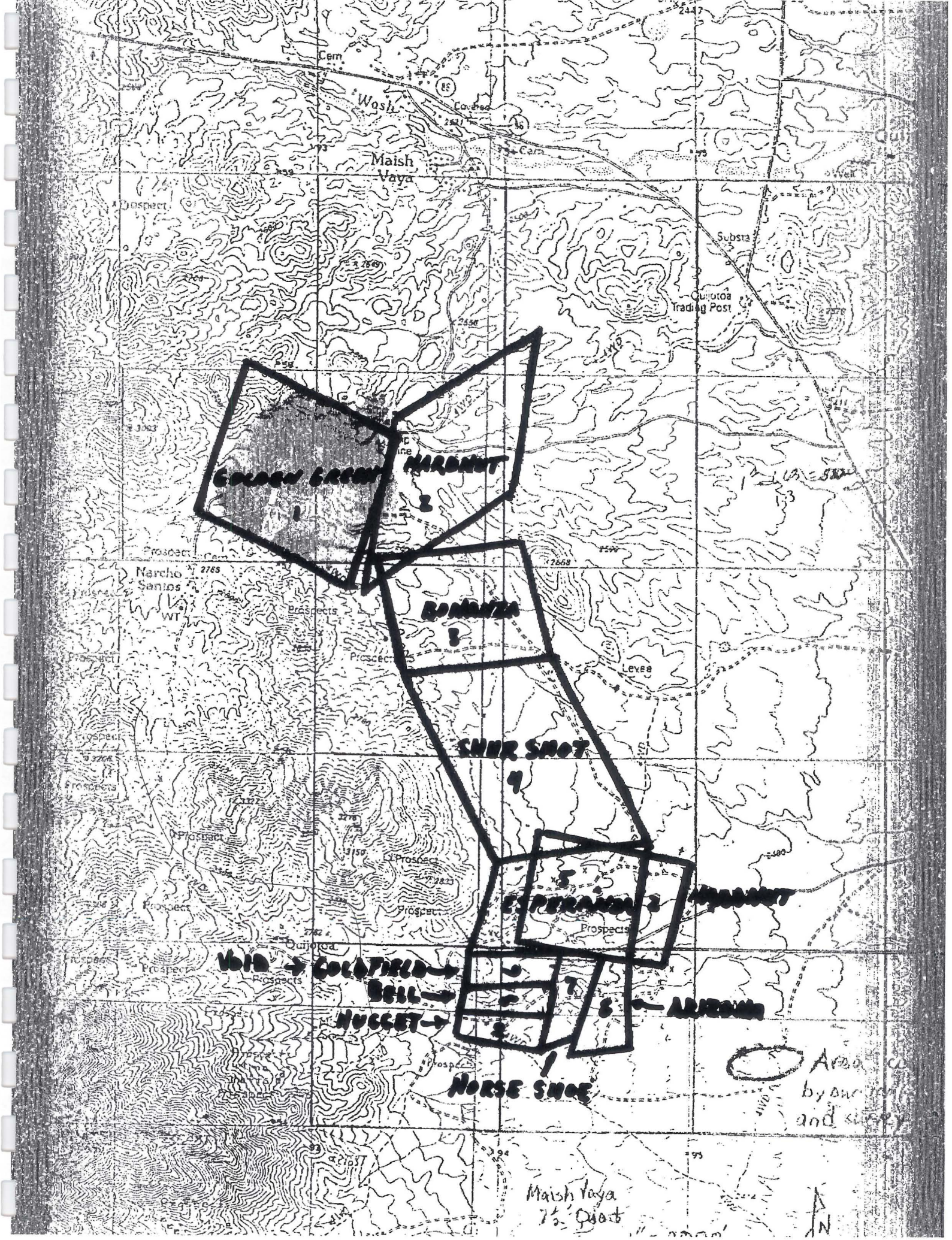
There is no record of production prior to 1899. William P. Blake (Territorial Geologist) reported that the Papago Indians, mining in crude ways, were producing 6 to 7 thousand dollars of gold per year. U.S. Mineral Resources record a production of $29,906 from the district between 1902 and 1913. There is no record of the total ounces of gold taken from this area.

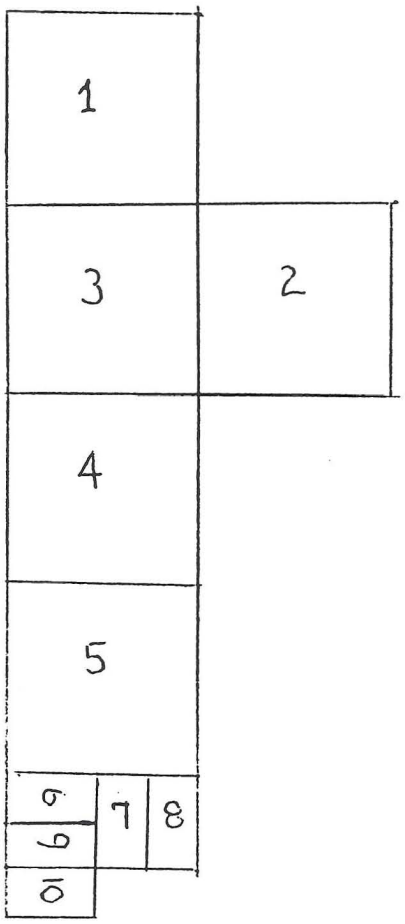
A Mr. Copeland, who owned a property on the west end of the Horseshoe Basin, had a shallow well drilled. He had recovered quite a lot of gold using a small rocker box with a jig and a short sluice box. His water was moved with a 1/2 inch garden hose and he only operated a few hours per week.

Some very large nuggets have been taken out of the area -- a 117 oz gold nugget was taken from the red ridge in the Horseshoe Basin. In June of 1983, the man who purchased the Copeland property found a 28 3/4 oz gold nugget.

Mr. Norman Montgomery, one of the present owners, says that the placer material will average over 0.02 ounces of gold from the surface down for the first 10-15 feet. The area just above the caleche beds will be of a higher grade, plus or minus $40 per yard. The material below the caleche beds is exceptionally rich.

Mr. Montgomery moved 375 tons of gravel to Coolidge, where he processed it. His recovery of coarse gold was about 8.375 oz and he still has 40 tons of material that was not processed and 3 or 4 barrels of hutch product which he has not processed.


Maish Vaya
Quijotoa Trading Post
Narcho Santos
Levee
Prospects
Maish Vaya 7½ Quad



1	GOLDEN GREEN	160
2	HARD NUT	160
3	BONANZA	160
4	SURER SHOT	160
5	ESPERANZA	160
6	VOID	
7	HORSE SHOE	20
8	ARIZONA	20
9	BELL PLACER	20
10	NUGGET PLACER	20

Sample Weight: ___ by ___

Assayer: ___

Job No: IDU[illegible]

MAR 9 1978

	Sample No.	Fire Assay Au / mg *		Type of Material	Type of Flux	PBO Gms	NTR Gms	SA Gms	Cover	wt of Pb Bttn.	Inquart	wt of Au+Ag mg	wt of Au mg	wt of Ag mg
1	Arizona #2	974.86										974.86		
2	Bell #2	406.39										406.39		
3	Hancock #2	223.47										223.47		
4	Nugget #2	1021.42										1021.42		
5														
6		Dog Wt. in grams												
7														
8	Aragon #2	18.55												
9	Bell #2	13.32												
10	Hancock #2	14.62												
11	Nugget #2	11.85												
12				* Wt of [illegible]										
13				[illegible]										
14														
15														
16		Return Gold Doré bead												
17														
18														
19														

SSAY REPORT

DATE July 28, 1973

Sovereign Iron & Stell Inc.
Coolidge, Arizona 85228
Attn: Mr. L. Bischoff.

NORTH AMERICAN LABORATORIES, INC.
Assayers & Chemists
PHONE 262-5467
5217 MAJOR STREET
P.O. Box 7305
MURRAY, UTAH 84107

ab No. 3261 - 3266

ASSAY PER TON OF 2000 POUNDS

DESCRIPTION	GOLD OUNCES	SILVER OUNCES	WET LEAD %	COPPER %	ZINC %					VALUE OF GOLD PER TO
1.	0.005	Tr								
2.	0.050	Tr								
3.	0.010	0.1								
4.	0.018	0.05								
5.	0.015	0.1								
6.	0.040	0.15								

BULK PLACER SAMPLES:

Arizona, Bell, Bonanza, Esperanza, Horse Shoe, Nuget, & Sure Shot.

NOTE: Placer samples are run with three assay ton samples.

Mr. Fric These are the samples of over burden cut on 12 holes

CHARGES $ 90.00

BY Merwin G. White

SOUTHWESTERN ASSAYERS & CHEMISTS, Inc.

REGISTERED ASSAYERS

FELIX K. DURAZO
ARIZONA REG. NO. 0205
WRIGHT
ARIZONA REG. NO. 5878

P.O. BOX 7517
TUCSON, ARIZONA 85725

710 E. EVANS BLVD.
PHONE 602-294-5811

Mr. Norman Montgomery
Box 941
Coolidge, Arizona 85228

JOB# 015913
RECEIVED 6-24-74
REPORTED 6-28-74

SAMPLE NUMBER	GOLD OZ.*	SILVER OZ.*	LEAD %	COPPER %	ZINC %		MOLYBDENUM %
1	.060						
2	.045						
3	.020						
4	.200						
5	.300						
6		4.18					
7	Nil						
8	.260	67.24					

$ 25.00 Paid Check

Please Sample
Above Item
Send Results
to Ed Farrell

ASSAY REPORT

DATE August 4, 1973

Sovereign Iron & Steel Inc.
Coolidge, Arizona 85228

Attn: Mr. L. Bischoff.

NORTH AMERICAN LABORATORIES, INC.
Assayers & Chemists
PHONE 262-5467
5217 MAJOR STREET
P.O. Box 7305
MURRAY, UTAH 84107

Lab No. 3261 - 3266

ASSAY PER TON OF 2000 POUNDS

DESCRIPTION	GOLD OUNCES	SILVER OUNCES	WET LEAD %	COPPER %	ZINC %	Ga%				VALUE OF GOLD PER TON
1.	0.015	0.2				0.010				
2.	0.065	0.25				0.011				
3.	0.020	0.3				0.009				
4.	0.030	0.5				0.013				
5.	0.025	0.4				0.016				
6.	0.060	0.6				0.011				

NOTE: Samples run by electrolytic amalgamation.

CHARGES $ 111.00

BY Merwin G. White

CHADO INDUSTRIES INCORPORATED P.O. BOX 157 • N. ARIZONA BLVD. • COOLIDGE, ARIZONA 85228 • (602) 723-41.

August 27, 1973

Mr. L.W. Bischoff
Vice President & General Manager
Sovereign Iron & Steel, Inc.
P.O. Box 1437
Coolidge, Arizona 85228

Dear Mr. Bischoff:

Reference Lab Work:

Initial samples submitted by Sovereign have shown that there are commercial placer values contained in the placer sands, and furthermore, that the values are recoverable by electrolytical amalgamation techniques.

We are currently in a pilot testing program on the amalgamation process here in Salt Lake, and test results to date have been most incouraging.

Of particular interest in thissprocess, is the partial recovery of Gallium, which can add as much as $10.00 to $15.00 per ton of input ore (note Gallium assays).

I would recommend that the placer be thoroughly sampled to deliniate reserves, while pilot work is continuing on the process.

Sincerely,
Hans W. Rasmussen

Hans W. Rasmussen

CHADO INDUSTRIES INCORPORATED P.O. BOX 157 • N. ARIZONA BLVD. • COOLIDGE, ARIZONA 85228 • (602) 723-4131

August 20, 1973

Mr. L. W. Bischoff
Vice President & General Manager
Sovereign Iron & Steel, Inc.
P. O. Box 1437
Coolidge, Arizona 85228

Dear Mr. Bischoff:

Reference laboratory work on the following claims:

Arizona, Bell, Bonanza, Esperanza, Horse Shoe, Nuget, & Sure Shot.

Assays were run by North American Laboratories, metallurgical tests by Chado personell.

North American invoice dated July 28, 1973	$90.00
North American invoice dated August 4, 1973	$111.00
	$201.00
Six pilot Electrolytic Amalgamation tests at $100.00 per test.	$600.00
TOTAL	$801.00

Assay reports enclosed, Metallurgical report under seperate cover.

Sincerely yours,

Hans W. Rasmussen

1950's. Relatively minor mining operations were undertaken in the Esperanza area in the early 1900's. In the 1940's and early 1950's, the Eagle-Picher Mining and Smelting Company did extensive mining and development work at the San Xavier lead-zinc mine. During World War II years many other mines were reopened or explored for metals, including zinc, lead, molybdenite, and scheelite but in general, production was limited.

Revived interest in the Pima district started with the entrance of the Banner Mining Company into the Mineral Hill and Twin Buttes areas in 1950 and the geophysical discovery of the Pima orebody in the same year. Since then other disseminated deposits of the district have been discovered and developed with the result that the district has become the major copper producer in Arizona.

The total estimated and reported base and precious metal production from the Pima district through 1972 would amount to some 370 million tons of ore containing over 2 million tons of copper, 43 thousand tons of lead, 116 thousand tons of zinc, 53.7 thousand ounces of gold, and 312 million ounces of silver. The total value of this ore would be almost 1.9 billion dollars. From the open pit mines, over 33 thousand tons of molybdenum valued at $108.6 million also has been produced.

The Pima district has been studied geologically over many years and the western section of the exposed formations does not hold promise of the discovery of new major orebodies. To the east and north, however, additional orebodies may be present under the alluvial-covered pediment and in the down faulted valley areas but they will be deep and difficult to find.

QUIJOTOA MINING DISTRICT

The Quijotoa mining district encompasses a chain of mountains, named, north to south, the Brownell Mountains, the Sierra Blanca, the Quijotoa Mountains, Ben Navis Mountain, and South Mountain. Quijotoa is a corruption of a Papago term for carrying basket mountain because of the shape like a basket used by the Indians. Brownell was a storekeeper and miner of the early 1900's. Sierra Blanca was named because of the light colored rocks. Ben Nevis was named by Alex McKay, discoverer of a rich silver outcrop, for his homeland in Scotland, and South Mountain is

the southernmost elevation in the chain. The entire group lies within the Papago Indian Reservation.

The topographic features and geology varies between the areas and each is separated from the neighbors by low-lying passes or pediments. The Brownell Mountains consist of a cluster of erosional hills and mountains that are residual remnants of a higher, block-faulted surface. The rocks are Laramide clastic sediments, andesitic to rhyolitic volcanics, and granitic intrusives. A few Tertiary intermediate to mafic plugs and dikes cut the older formations. To the north and east, the mountain breaks off into rolling topography cut on an alluvial-covered pediment. To the west, a wide drainage valley, cut by numerous washes, in Tertiary clastic sediments, separates the Brownell Mountains from the Sierra Blanca range. The latter is an oval group of ragged peaks with steep irregular slopes cut in light-colored metamorphic schist and gneiss, probably metamorphosed most recently in Laramide time. On the west side there is a small fault block containing Paleozoic quartzite and limestone.

To the south, across a relatively narrow pass, is the large typical sierra-type Quijotoa Mountains with a series of peaks and ragged flanks cut by dry washes. The main mass is a fault block of Laramide granitic to quartz dioritic intrusive. Fault blocks of Tertiary silicic volcanics are exposed to the northeast and Tertiary to Quaternary clastic sediments cover the pediment surface on both sides. At the south end of the range, Ben Nevis Mountain stands as a high, narrow, irregular ridge with almost vertical walls. It is an uplifted and much faulted block of intercalated Cretaceous sediments and volcanics, and Tertiary silicic and andesitic volcanics. South Mountain, at the end of the mountain chain, is an oval, steep-walled ridge of purplish-red Tertiary andesite flows with strong horizontal parting and columnar jointing.

Throughout the Quijotoa district there are numerous, scattered, and small deposits of base and precious metals, barite, and minor, rare earth minerals. Locally, high grade and enriched pockets of free gold and silver chlorides have been found, mostly in or adjacent to oxidized and mineralized faults or fracture zones. Quartz, calcite, hematite, manganese oxides, and local barite and fluorite are the gangue minerals. Traces of uranium also have been detect-

Note

ed. The erosion of these pockets have produced placer gold deposits on the pediments.

The early prospecting of the district was carried out by Indians under the guidance of Jesuit and Franciscan Fathers. In 1883, a two year rush was started by the discovery of a rich silver pocket on Ben Nevis Mountain. For a few years there was active prospecting throughout the district but the boom died rapidly with the apparent exhaustion of the rich ore pockets. Although prospecting and development have continued, there has been only a minor production in the district since that time. The gold placers of the Horseshoe Basin and other areas have been worked sporadically by dry methods.

The estimated and reported production of base and precious metals from the Quijotoa district through 1972 would be some 15,600 tons of ore containing about 245 thousand ounces of silver, 11.6 thousand ounces of gold, 61 tons of copper, and 29 tons of lead for a value of about $509 thousand. The amount of placer gold recovered is unknown but may have amounted to a few thousand ounces. Smelter flux was shipped from the small Paleozoic fault block on the west side of the Sierra Blanca and from several oxidized copper deposits in the Brownell Mountains.

The Quijotoa district has diversified geology and mineralization. The Brownell Mountain area, in particular, appears to have favorable geologic conditions for possible, hidden, porphyry copper deposits and would warrent a careful geologic examination.

QUITOBAQUITO MINING DISTRICT

The Quitobaquito mining district covers a small area in the southwestern corner of the Organ Pipe Cactus National Monument of southwestern Pima County. It was named after a spring just within the United States. Although there are several small prospects in the district, there has been no recorded production. The area is covered in the Montezuma district of this index.

REDINGTON MINING DISTRICT

The Redington mining district covers an undefined area on the east slope of the Santa Catalina Mountains above the San Pedro Valley. It was named after the town of Redington near which the Redfield brothers had a ranch. The moun-

GASS, H. J.
A review of Paleozoic fish of Arizona: Univ. Ariz., MS Thesis, 97 p. (1963)

GASTIL, R. G. (Gordon)
1. An occurrence of authigenic xenotime: Jour. Sed. Pet., v. 24, no. 4, p. 280-281, illus. (1954)
2. Late Precambrian volcanism in southeastern Arizona: Am. Jour. Sci., v. 252, no. 7, p. 436-440, illus. (1954)
3. Older Precambrian stratigraphy of upper Tonto Basin, central Arizona [abst.]: Geol. Soc. Am. Bull., v. 65, no. 12, p. 1255-1256 (1954)
4. Older Precambrian rocks of the Diamond Butte quadrangle, Gila County, Arizona: Geol. Soc. Am. Bull., v. 59, no. 12, p. 1495-1513, illus., maps (1958)
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Quijotoa Placers

Physical features: The Quijotoa gold placer district is in the vicinity of the Quijotoa Mountains of central Pima County, about 70 miles west-southwest of Tucson. According to Stephens,[35] the placers cover probably 100 square miles, and Heikes[14] states that they extend north and south for some distance on both sides of the Mexican boundary.

The Quijotoa Mountains, which rise to about 4,000 feet elevation above sea level, or approximately 1,500 feet above the surrounding plains, extend from Covered Wells on the north to South Mountain on the south, or to within about 20 miles of the Mexican line. This region has a hot climate in summer, and no water supply except from wells and from earth or rock tanks. The mean annual rainfall in the placer area is probably about 10 inches.

History: There is no record of how long these placers have been known, but, in 1774, according to Elliot's History of Arizona (1884), a Castilian priest named Lopez carried on extensive mining in an area about 6 miles north of the Quijotoa Mountains. It is said that Lopez utilized the docile Papagos for his work, and that the Mexicans, who continued mining there until 1849, washed the gravels with water brought by Papago squaws from tanks in the valleys. For many years after 1849, there was little activity in the placers; but, in the early eighties, a very lively boom in lode mining attracted thousands of men to the district, and caused four or five towns to spring up. As this boom subsided, many of the men turned to placering.

In 1906, the Imperial Gold Mining Company was said to own most of the productive ground and to be leasing to dry-washers.

In 1910, a Quenner pulverizer and a Stebbins dry concentrator are reported to have been installed by Manhattan Company in the Horseshoe Basin area, but the experiment failed.

Production: Considerable gold was recovered from the Quijotoa placers during the early days. In 1899, Blake[24] was informed that "The placer mines in the near vicinity of Quijotoa, worked by the Papagos in their crude way, are producing annually between $6,000 and $7,000 worth of gold." 300 to 350 oz/yr

During the cool portion of the 1932-33 season, approximately 200 men came to the Horseshoe Basin area to mine placer gold, but most of them remained only a short time. In June, 1933, only a few men were carrying on intermittent dry-washing there. The average daily returns per man were low. All of the ground was privately owned.

Placer gold has been mined by Papago Indians from an area about 3 miles south of Pozo Blanco and 1 mile west of the foot of the Quijotoa Mountains. The best gravel, which was about 5 feet thick, occurred at depths of 12 or 15 feet and rested upon caliche. The late Miles Carpenter stated[10] that prospecting below this caliche revealed damp clayey gravel which is locally rich in coarse gold.

According to the U.S. Mineral Resources and U.S. Minerals Yearbooks, the output of placer gold from the district was valued at $29,906 for 1902-13 and $4,242 for 1934-42. Noted producers were the Right Spot, Mariposa, New Deal, and Sunshine claims.

Geology: The Quijotoa Mountains, which are made up mainly of granite and lavas, contain numerous deposits of gold, some of which locally contain small, rich pockets. Erosion of the gold-bearing rocks furnished material for the placers. Much of the placer ground is reported to average over 80 cents per yard, and Stephens[35] states that the red-colored dirt averages $5 a ton. This last figure, however, is probably too high for the area as a whole. In general, the gold is coarse.

In Horseshoe Basin, which is a pediment area 4 or 5 miles long by a mile or so wide at the eastern foot of the range, south of Covered Wells, the gold occurs erratically distributed for several feet down from the surface. The bedrock here is cemented gravel or caliche.

LAS GUIJAS OR ARIVACA PLACERS

Physical features: Las Guijas or Arivaca placer district is in southern Pima County, in the vicinity of Las Guijas Mountains and Arivaca, about 50 miles south-southwest of Tucson.

Las Guijas Mountains, whose rounded summits attain an elevation of about 4,400 feet above sea level or about 1,000 to 1,400 feet above the surrounding plains, extend for about 8 miles northwest from Arivaca. Temperatures in the summer are high, and the mean annual rainfall is probably about 14 inches. The drainage of the district flows northwest to Altar Valley through Arivaca and Las Guijas creeks. Arivaca Creek, which occupies a large channel along the southwestern foot of the mountains, contains water in its upper reaches during all of the year, but Las Guijas Creek, along the northeastern foot, is much smaller and drier. The district depends for its water supply upon shallow wells along the creeks and upon the flow of Arivaca Creek itself.

History: According to Bryan,[3] placers were being worked in Las Guijas Creek by Mexicans and Americans in the sixties and seventies. The name "Guijas," is Spanish for "rubble" or "conglomerate." Irregular, small-scale operations have been carried on for the past fifty years. Pits or shallow shafts are sunk to bedrock, and the few inches of richer material is then gathered up and treated in crude, hand dry-washers during the dry seasons, or in rockers after rains. Between 1890 and 1900, according to local reports, as many as 100 placer miners occasionally worked in the district.

During the winter of 1932-33, approximately 100 men attempted placer mining in the gulches near Arivaca, but most of them were transients who won very little gold and remained only a short while. A few of the more experienced and industrious ones averaged about $1 per day. The gold particles generally range in size from flour up to that of a pin head and occur mostly at

At the collar of the old main shaft, several narrow quartz veins form a lode, from one to 3 feet wide, that strikes eastward and dips nearly vertically. This shaft is reported to be 280 feet deep and to connect with some 800 feet of workings. In December, 1933, these workings were full of water to within 80 feet of the surface.

CORONA GROUP

The Corona group of 7½ claims, held by T. P. Quinn and associates, is 1½ miles northwest of the Akron mine. The principal vein strikes northwestward, dips 60° SW., and is traceable southeastward for more than half a mile. In December, 1933, the principal opening on this vein was an 82-foot inclined shaft. Here, the footwall is diorite porphyry and the hanging wall is slate. The vein, which is about 4 feet wide, consists of dense bluish-white quartz with abundant dark inclusions and scattered bunches of pyrite. A 1½ ton test shipment of this ore is reported to have carried about an ounce of gold per ton.

OTHER CLAIMS

Several small lots of rich gold ore have been mined by Gus H. Jaeger from the Hawkview claims, about 2 miles from the Akron camp. This ore was treated in a small amalgamation mill.

The Faro Bank group of claims, held by M. M. Holmes, is at the southern edge of the range, about 4 miles north of Sells. During the past few years, several small shipments of gold ore have been made from this property.

QUIJOTOA MOUNTAINS

The Quijotoa Mountains, in the Papago Indian Reservation, south-central Pima County, contain silver and gold deposits whose total yield amounts to nearly $500,000. Although most of this output has been in silver, the gold deposits have attracted considerable local attention.

This range is about 15 miles long by a maximum of 5 miles wide and rises to approximately 4,000 feet above sea level or 1,500 feet above the plain. It is formed principally of quartz monzonite, minor sedimentary beds, thick andesitic flows, stock-like masses of quartz diorite, and minor dikes. These rocks have been considerably affected by faulting principally of northwestward trend.

This region is hot in summer. Water is obtained from shallow wells and shafts in the pediment on both sides of the mountains.

Gold-bearing veins: Quartz veins and hematitic brecciated zones are numerous in the Quijotoa Range. Although some of them, particularly in the northern half of the area, have afforded spectacular gold specimens, they have yielded only a small production of gold ore.

The Morgan mine,[245] owned by the Larrymade Mines, Inc., is 6 miles south of Covered Wells. Its workings include a 300-foot inclined shaft, a few hundred feet of drifts, and several shallow openings, mostly in a shear zone that strikes northwest and dips 65° NE. The vein filling consists chiefly of banded, coarse, dense, grayish-white quartz, commonly accompanied by dark-red gouge. This quartz forms lenticular masses, from 10 to 30 feet long by one to 4 feet wide, which fray out abruptly into stringers. It is accompanied by calcite, iron oxides, and some manganese dioxide. The ore consists mainly of dense, gray, brecciated quartz cemented in part with hematite and calcite. The gold occurs chiefly in this cementing material and is in places associated with manganese dioxide. The principal streak of relatively high-grade ore was from 6 inches to 2 feet wide. The quartz diorite wall rock has been somewhat altered to calcite and sericite.

One carload of ore, shipped in 1931 from the upper part of this mine, contained 1.39 ounces of gold and 1.11 ounces of silver per ton. Three carloads of similar ore were shipped in 1932.

BABOQUIVARI MOUNTAINS

The Baboquivari Mountains extend for 30 miles northward from the international boundary. For most of this distance, their crest line marks the eastern border of the Papago Indian Reservation.

The middle segment of the range consists mainly of metamorphosed Cretaceous strata which have been intruded by numerous dikes and complexly faulted. Northward, these formations give way to granite and gneiss. The sedimentary rocks tend to form rounded slopes, while the granite outcrops are rugged, and the dike exposures commonly stand out as cliffs and crags. As Bryan states,[246] well-developed pediments extend into the mountains in deep coves and reentrants along the courses of the major mountain canyons.

The principal gold-bearing quartz veins known in these mountains occur northwest and southeast of Baboquivari Peak. Their total production, which amounts to about $142,000, has come mainly from the Allison mine.

WESTERN PORTION

Considerable gold prospecting has been carried on in the western or Papago Indian portion of the Baboquivari Mountains. The only known production from this part of the range has come from the Allison or Chance mine which is accessible from Sells by 21 miles of road.

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[245] Description abstracted from unpublished notes of G. M. Butler and also from Gebhardt, R. C., Geology and mineral resources of the Quijotoa Mountains: Unpublished M. S. Thesis, Univ. of Arizona, 1931

[246] Bryan, Kirk, U. S. Geol. Survey Water-Supply Paper 499, pp. 247-48 1925.

metal, usually lowers it to a range between 15 and 19. Because of its high specific gravity, the native metal concentrates readily in placers and such deposits probably were the source for the gold used by ancient man. The early development of uses for gold in the fashioning of jewelry and simple tools and fastening devices can be directly attributed to its softness, ductility, and malleability, which permitted it to be worked easily by beating and rolling it into desired shapes.

Gold has been used as a medium of exchange since earliest civilizations and the greatest use of gold in modern society is still for monetary purposes. After centuries of use in coinage for transactions between individuals, growth in worldwide commerce and population have placed very heavy demands on the available supply of gold. At present most gold is used to back other forms of money and to satisfy international balances of payments.

Unlike all other commodities, because of its monetary use the price of gold was fixed at $35 per troy ounce from 1934 to early 1968. This price is still maintained for settlement of balance of trade transactions, but the price of gold for industrial and other nonmonetary uses fluctuates in response to demand.

During the past 30 years several industrial uses for gold have been developed. It is used in electronic equipment for transmission and switching components where extreme reliability and resistance to corrosion are required, as coatings on aircraft engine shrouds and earth satellites to provide protection against heat and corrosion, and it is now being used to coat metals and ceramics for architectural applications. Appreciable quantities also are still used for goldleaf, jewelry, laboratory utensils, and for specialized items of glassware and ceramic ware (Ryan, 1965, p. 390). In 1966, our industrial consumption was nearly 6.1 million ounces (U.S. Bur. Mines, 1967).

The problems created by the growing shortage of monetary gold in the United States have been further complicated by these increasing industrial demands, a demand which apparently cannot be met by domestic production. In most mines in this country where gold was the principal metal produced, the costs of mining and treatment have risen above the level where the present (1968) price of gold will permit the profitable extraction of the metal.

The seriousness of these problems has prompted the Federal Government to initiate several programs designed to help alleviate them. In April 1966, the Heavy Metals program was started as a joint project of the U.S. Geological Survey and U.S. Bureau of Mines to stimulate domestic production of a group of metals in short supply; during the first 18 months of the program about 90 percent of the project effort was expended on gold. In addition to the Heavy Metals program, assistance is available to industry in the form of loans for gold exploration projects, through the Office of Minerals Exploration. In March 1968, the Treasury Department, in an additional step to alleviate the situation, announced that, under agreements made with other interested nations, it would no longer buy or sell gold in the private market.

Under these agreements the $35 per ounce price for governmental gold stocks would be retained, but the Treasury would no longer supply gold to the speculative markets. The effect these actions will have on the domestic gold mining industry is not predictable.

Production and History

In 1966, domestic mine production was slightly more than 1.8 million ounces, or only about 10 percent of our industrial consumption plus net exports. Of that production, 58 percent came from dry and siliceous ores, 37 percent from base-metal ores, and 5 percent from placer deposits. Listed in the order of importance, just four states, South Dakota, Utah, Nevada, and Arizona, produced a total of more than 1.5 million ounces of gold in 1966, or about 86 percent of the total domestic production for that year (U.S. Bur. Mines, 1967, p. 236).

Since 1945, Arizona has ranked seventh or higher among the states in yearly production of gold, and since 1960 it has annually ranked either third or fourth. In 1966, of the 25 leading gold-producing mines in the United States, 7 were in Arizona and for the period 1858–1967, the State's total recorded production of gold is more than 13.7 million ounces valued at almost $365.5 million (Elsing and Heineman, 1936; U.S. Bur. Mines, 1935–67; Larson and Henkes, 1968). Over 95 percent of the gold produced in Arizona since 1950 has been derived as a by-product of base-metal mining, with copper mining accounting for about 80 percent and lead-zinc mining about 15 percent. Siliceous and dry ores and placer production have not contributed more than 5 percent to Arizona's gold production since 1950. This is in marked contrast with the period before 1933 when the siliceous and dry ores and placer deposits accounted for at least 50 percent of the production.

The search for gold has played an important part in the development of Arizona. The history of the early period of Arizona's gold mining industry has been well summarized by Wilson (1961), Wilson and others (1934), and Heineman (1938), from which the following sketch has been largely abstracted.

The Spanish explorers, although more frequently identified with the mining of silver, were, nonetheless, continually on the watch for gold, and it is reported that a Castilian priest, Padre Lopez, had by 1774, extensively worked the placer deposits in the Quijotoa district (fig. 21, No. 17). It was not until after the Gadsden Purchase, in 1853, that Americans began entering the area to prospect, but within 10 years a large number of prospectors had arrived and several placer deposits had been discovered. The Chemehuevis district (fig. 21, No. 13), near the confluence of Sacramento Wash with the Colorado River, was found in 1857; the Gila City or Dome placers (fig. 21, No. 50), near Yuma, were discovered in 1858; Capt. Pauline Weaver opened the La Paz diggings (fig. 21, No. 43) in 1862; and several small but rich gold placer deposits, such as those in the Lynx Creek (fig. 21, No. 27) and Big Bug (No. 28) districts in the Bradshaw Mountains, near Prescott, were being exploited in 1863. The districts containing these and other placer deposits in Arizona are listed below in table 13.

While the placer deposits were being developed, many lode deposits also were found in adjacent areas, and between 1853 and 1863 several mines were opened in what are now Maricopa, Mohave, Yavapai, and Yuma Counties. Lode deposits in the Castle Dome district (fig. 22, No. 95), near Yuma, and the Moss deposit in the Oatman district (fig. 22, No. 34), Mohave County, were discovered in about 1860, and the famous Vulture deposit in the Vulture district (fig. 22, No. 24), near Wickenburg, Maricopa County, was found in 1863. Numerous lode deposits were also found in the Prescott region, and in 1863 Prescott was named the Capitol of the newly established Arizona Territory, largely on the strength of the mining developments in the vicinity. The districts containing the lode gold deposits in Arizona are listed below in table 14.

By 1875, most of the placer deposits known in Arizona today had been discovered, and by 1885 the bulk of the placer gold production recorded for the State had been made. In the lode deposits most of the free-milling gold was found to be superficial and, with few exceptions, the deposits were shortly abandoned and mining interests turned to silver and the base metals.

A few large, rich gold deposits were still being found, however, and in 1887, the Congress deposit in the Martinez district (fig. 22, No. 84), Yavapai County, was discovered, and in 1888, development work on the Harquahala gold deposit in the Ellsworth district (fig. 22, No. 91), Yuma County, was started. The demonetization of silver in 1893 was followed by a sharp business recession, and many prospectors regained their interest in gold. The development of the cyanide process for the recovery of gold, in 1887, contributed greatly to the reestablishment of the gold mining industry because this made it possible to reopen many of the lode deposits in which the free-milling gold had been exhausted, but in which gold remained in base-metal sulfides or in very finely divided form.

During the next few years the gold industry in Arizona thrived, and several large deposits were opened. In Yuma County, the Fortuna deposit (fig. 22, No. 97) was discovered in 1895 and the King of Arizona mine in the Kofa district (No. 94) was opened in 1896. Between 1900 and 1917 several large gold lodes were discovered in the Oatman-Katherine district (fig. 22, No. 34), Mohave County, including the Gold Road in 1903, the Tom Reed in 1908, the United Eastern in 1915, and the Big Jim in 1916. During its years of peak production, 1917–23, this district produced gold valued at between $2.3 million and $2.8 million per year, (Wilson and others, 1934, facing p. 80), and its total production has exceeded 2.04 million ounces valued at about $46.9 million (Elsing and Heineman, 1936; U.S. Bur. Mines, 1935–67).

After several years of moderately high gold production (see fig. 23), the metals market began to collapse, and gold production dropped from a high of nearly 300,000 ounces in 1923 to a low of about 65,000 ounces in 1932. With the revaluation of the dollar in 1934, when the price of gold was raised from $20.67 to $35 per troy ounce, production again soared, and until 1941, averaged about 300,000 ounces per year. Because of a wartime labor shortage in 1942, Government Order L–