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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 09/05/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: VEKOL MINE

ALTERNATE NAMES:
- STEBBINS PROPERTY
- ARGOSY SHAFT
- WALKER BROS PROPERTY
- WILSON PROPERTY
- CORKSCREW
- DAGGS PROPERTY
- FLAT IRON
- GRANDFATHER
- LOOKOUT
- MOUNT VERNON

PINAL COUNTY MILS NUMBER: 683B

LOCATION: TOWNSHIP 9 S RANGE 2 E SECTION 34 QUARTER NE
LATITUDE: N 32DEG 36MIN 27SEC LONGITUDE: W 112DEG 08MIN 12SEC
TOPO MAP NAME: COPPEROSITY HILLS - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
- GOLD
- SILVER
- COPPER
- LEAD SULFIDE

BIBLIOGRAPHY:

- BLM MINING DISTRCIT SHEET 552
- TENNEY, J.B., ECONOMIC GEOLGOICAL RECONN. OF CASA GRANDE MINING DIST. AZBM 1934, P.11-12
- TENNEY, JAMES HISTORY OF MINING IN AZ, 1927-29, P. 336
- ADMMR VEKOL MINE FILE
- ADMMR U FILE, PINAL AG14

* GENERAL REFERENCES

REFERENCE 1 F1 < ABGMT CLIPPINGS FILES >

REFERENCE 2 F2 < ABGMT - USBM FILE DATA >

REFERENCE 3 F3 < ADMR FILE DATA >

REFERENCE 4 F4 < USGS MF 931 >

L110 cont. < 15 UNPATENTED CLAIMS; PREVIOUS OWNERS AND OPERATORS INCLUDE WALKER BROS. (1880 to 1894), P.P. DAGGS (1905), W. S. FORBACH (1907-1913), COMPTON COPPER CO. (1907), RAMON CRUZ (1907), VEKOL MINING CO. (1910-1913), M.M. CARPENTER AND GEORGE E. HARMSEN (1914-1917), P.P. DAGGS (1920's to 1931), VEKOL MINING AND MILLING (1927), CHARLES AND PAUL R. DAGGS (1931-1951), ELLIOT BROS. (1951-1965) >

A83 cont. < to VEKOL SHAFT >

F5 < BLM DISTRICT SHEET 542 >

F6 < TENNEY, JAMES, HISTORY OF MINING IN ARIZONA, 1927-1929 p 333-335

F7 < TENNEY, JAMES B., ECONOMIC GEOLOGICAL RECONNAISSANCE OF CASA GRANDE MINING DISTRICT, ARIZONA BUREAU OF MINES, 1934 >

F8 < USAEC PRELIM RECONN REPORT 1953 >

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

*RECORD NUMBER B10 < > *RECORD TYPE B20 < X, 1, M > DEPOSIT NUMBER B40 < >

*REPORT DATE G1 < 8, 2, ¥, 0, 3 > (YR. MO.) *INFORMATION SOURCE B30 < , , 2 , , > *FILE LINK IDENT. B50 < USBM - 004 021 >

*REPORTER (SUPERVISOR) G2 < ROTH, FRANCES A. (last, first, middle initial) (GEST, DON (last, first, middle initial))

*REPORTER AFFILIATION G5 < ABGMT > *SITE NAME A10 < VEKOL MINE >

*SYNONYMS A11 < >

LOCATION

*MINING DISTRICT/AREA A30 < VEKOL DISTRICT >

*COUNTY A60 < PINAL > *STATE A50 < A, Z, > *COUNTRY A40 < U, S, >

*PHYSIOGRAPHIC PROV A63 < 1, 2, ¥, >

*DRAINAGE AREA A62 < 1, 5, 9, 5, 0, 3, 0, 6, ¥, > *LAND STATUS A64 < 0, 0, ¥, , ¥, (, , , , ,) >

*QUADRANGLE NAME A90 < VEKOL MOUNTAINS , (1, 9, 6, 3,) > *QUADRANGLE SCALE A100 < 6, 2, 5, 0, 0, >

SECOND QUAD NAME A92 < , (, , , , ,) > SECOND QUAD SCALE A91 < >

*ELEVATION A107 < , 2, 3, 5, 0, ¥, F, T, >

UTM

*NORTHING A120 < 3, 6, 0, 7, 9, 5, 0, >

*EASTING A130 < 3, 9, 2, 8, 7, 0, >

*ZONE NUMBER A110 < +, 1, 2, >

*ACCURACY

ACCURATE ACC (circle)

ESTIMATED EST < >

GEODETIC

*LATITUDE A70 < _ _ N >

*LONGITUDE A80 < _ _ W >

CADASTRAL

*TOWNSHIP(S) A77 < 0, 0, 9, S, : ¥, : ¥, : ¥, : ¥, > *RANGE(S) A78 < 0, 0, 2, E, : ¥, : ¥, : ¥, : ¥, >

*SECTION(S) A79 < 34 : ¥, : ¥, : ¥, >

*SECTION FRACTION(S) A76 < NE >

*MERIDIAN(S) A81 < GILA AND SALT RIVER >

*POSITION FROM NEAREST PROMINENT LOCALITY A82 < ABOUT 4.7 MILES NORTH EAST OF CATHEDRAL ROCK >

LOCATION COMMENTS A83 < LOCATED ON THE SOUTH WEST SLOPE OF A RIDGE RUNNING TO THE NORTH WEST FROM THE MAIN BODY OF THE VEKOL MOUNTAINS; UNPATENTED CLAIMS MAY EXTEND INTO T10S R2E SEC 4; UTMS MEASURED >

* ESSENTIAL INFORMATION
- ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

COMMODITIES PRESENT C10: AG, PB, CU
ORE MINERALS C30: HORNSILVER, ARGENTITE, SILVER BEARING TETRAHEDRITE, GALENA, MALACHITE, AZURITE
COMMODITY SUBTYPES C41:
GEN. ANALYTICAL DATA C43:
COM. INFO. COMMENTS C50:

* SIGNIFICANCE

PRODUCER		NON-PRODUCER	
MAJOR PRODUCTS MAJOR	AG	MAIN COMMODITIES PRESENT C11	
MINOR PRODUCTS MINOR	PB, CU	MINOR COMMODITIES PRESENT C12	
POTENTIAL PRODUCTS POTEN			
OCCURRENCES OCCUR		OCCURRENCES OCCUR	

*PRODUCTION

PRODUCER	NON-PRODUCER
PRODUCTION (YES) (circle) PRODUCTION SIZE (SML) MED LGE (circle one)	PRODUCTION UND NO (circle one)

EXPLORATION OR DEVELOPMENT

*STATUS

PRODUCER	NON-PRODUCER
STATUS AND ACTIVITY A20: 4	STATUS AND ACTIVITY A20:

DISCOVERER L20: JOHN D. WALKER, P.R. BRADY, LUCIEN WALKER
YEAR OF DISCOVERY L10: 1879 — NATURE OF DISCOVERY L30: — YEAR OF FIRST PRODUCTION L40: 1882 — YEAR OF LAST PRODUCTION L45: 1965
PRESENT/LAST OWNER A12: VEKOL MINE DEV. CO. (DIVISION OF SUNBURST MINING CO. INC) (1980)
PRESENT/LAST OPERATOR A13: AMERICAN LAND CO. (1965)
EXPL./DEV. COMMENTS L110: DEPOSIT WAS KNOWN TO PAPAGO INDIANS, WHO SHOWED IT TO J.D. WALKER IN 1879; CLAIMS INCLUDE PATENTED CLAIMS MS 4143 (GRANDFATHER, FLATIRON, VEKOL, ARGOSY, LOOKOUT, MOUNT VERNON), AND

DESCRIPTION OF DEPOSIT

DEPOSIT TYPE(S) C40: REPLACEMENT
DEPOSIT FORM/SHAPE M10: IRREGULAR
DEPTH TO TOP M20: — UNITS M21: — MAXIMUM LENGTH M40: — UNITS M41:
DEPTH TO BOTTOM M30: — UNITS M31: — MAXIMUM WIDTH M50: 400 — UNITS M51: FT
DEPOSIT SIZE M15 (SMALL) M15 MEDIUM M15 LARGE (circle one) — MAXIMUM THICKNESS M60: 10 — UNITS M61: FT
STRIKE M70: N30W TO N-S — DIP M80: 50E AND 50W
DIRECTION OF PLUNGE M100: — PLUNGE M90:
DEP. DESC. COMMENTS M110: ORE CONCENTRATED ALONG N-S TRENDING FAULTS, IN A SHALY LIMESTONE DIPPING 10 TO 30 DEGREES TO THE SOUTH WEST

DESCRIPTION OF WORKINGS

Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one) — OVERALL LENGTH M190: 320 — UNITS M191: FT
DEPTH BELOW SURFACE M160: 400 — UNITS M161: FT — OVERALL WIDTH M200: 1070 — UNITS M201: FT
LENGTH OF WORKINGS M170: — UNITS M171: — OVERALL AREA M210: — UNITS M211:
DESC. OF WORK. COM. M220: ARGOSY SHAFT (300 FT DEEP), MAIN (VEKOL) SHAFT (400 FT DEEP), SERIES OF TUNNEL ALONG SOUTH SIDE OF THE ARROYO EAST OF MAIN SHAFT; WORKINGS ARE INTERCONNECTED UNDERGROUND

GEOLOGY

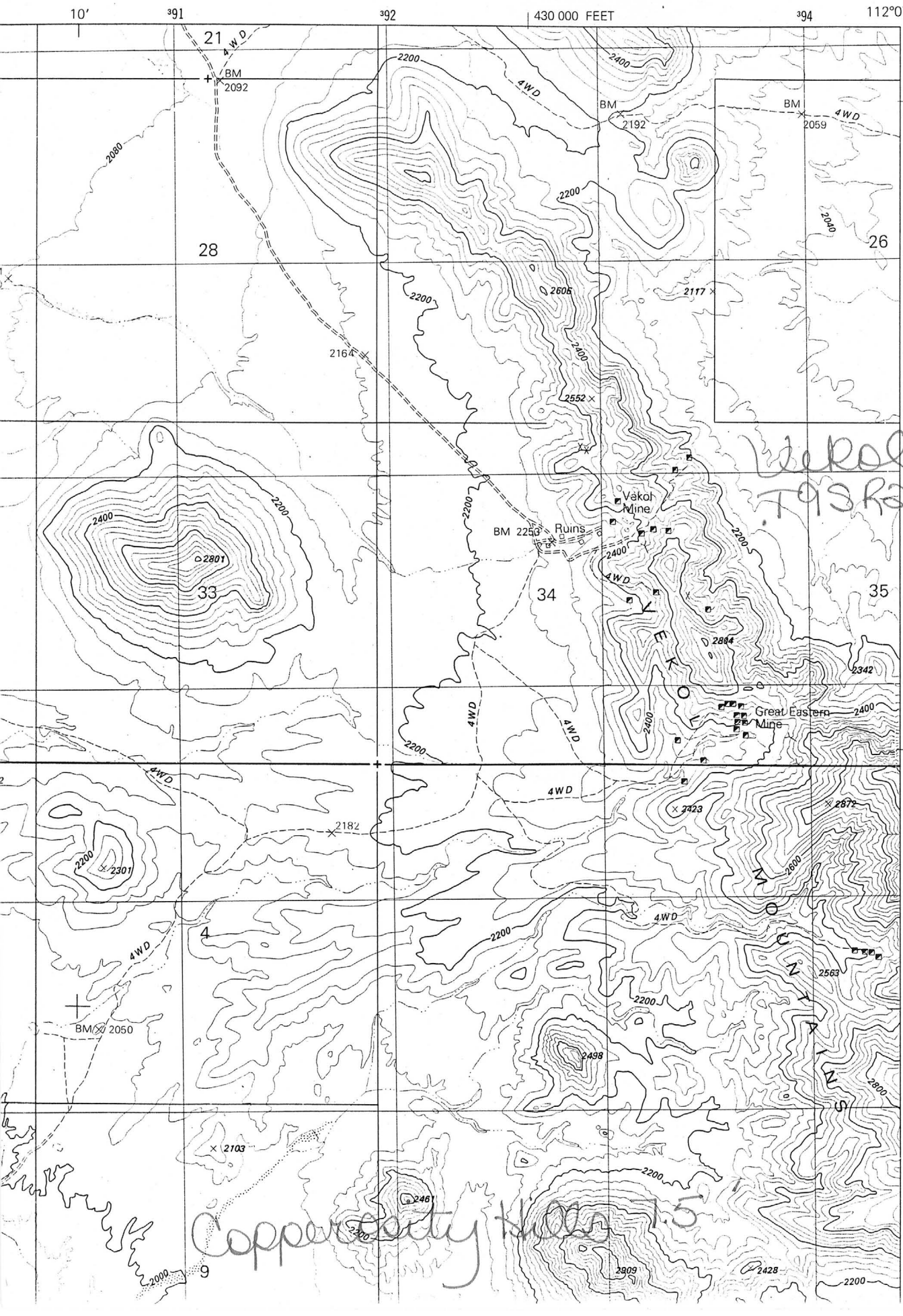
AGE OF HOST ROCK(S) K1: MISS-PENN
HOST ROCK TYPE(S) K1A: LIMESTONE
AGE OF IGNEOUS ROCK(S) K2: LCREJ-TERT
IGNEOUS ROCK TYPE(S) K2A: ANDESITE
AGE OF MINERALIZATION K3: LCRET-TERT
PERT. MINERALS (NOT ORE) K4: LIMONITE, CALCITE, KAOLINITE, QUARTZ, HEMATITE
ORE CONTROL/LOCUS K5: SMALL, CLOSELY SPACED N-S TRENDING FAULTS
MAJ. REG. TRENDS/STRUCT. N5: LIMESTONE DIPS W, EAST TO NORTH EAST TRENDING FAULTS IN GENERAL AREA
TECTONIC SETTING N15:
SIGNIFICANT LOCAL STRUCT. N70: SMALL N-S FAULTS AT MINE
SIGNIFICANT ALTERATION N75: STRONG OXIDATION
PROCESS OF CONC./ENRICH. N80:
FORMATION AGE N30: MISS
FORMATION NAME N30A: ESCABROSA LIMESTONE
SECOND FM AGE N35: PENN
SECOND FM NAME N35A: NACO LIMESTONE
IGNEOUS UNIT AGE N50:
IGNEOUS UNIT NAME N50A:
SECOND IG. UNIT AGE N55:
SECOND IG. UNIT NAME N55A:
GEOLOGY COMMENTS N85: MINERALIZATION ASSOCIATED WITH LCRET-TERT VOLCANISM. ANDESITE MAPPED 1/2 MILE NORTH OF MINE ON MF-931.

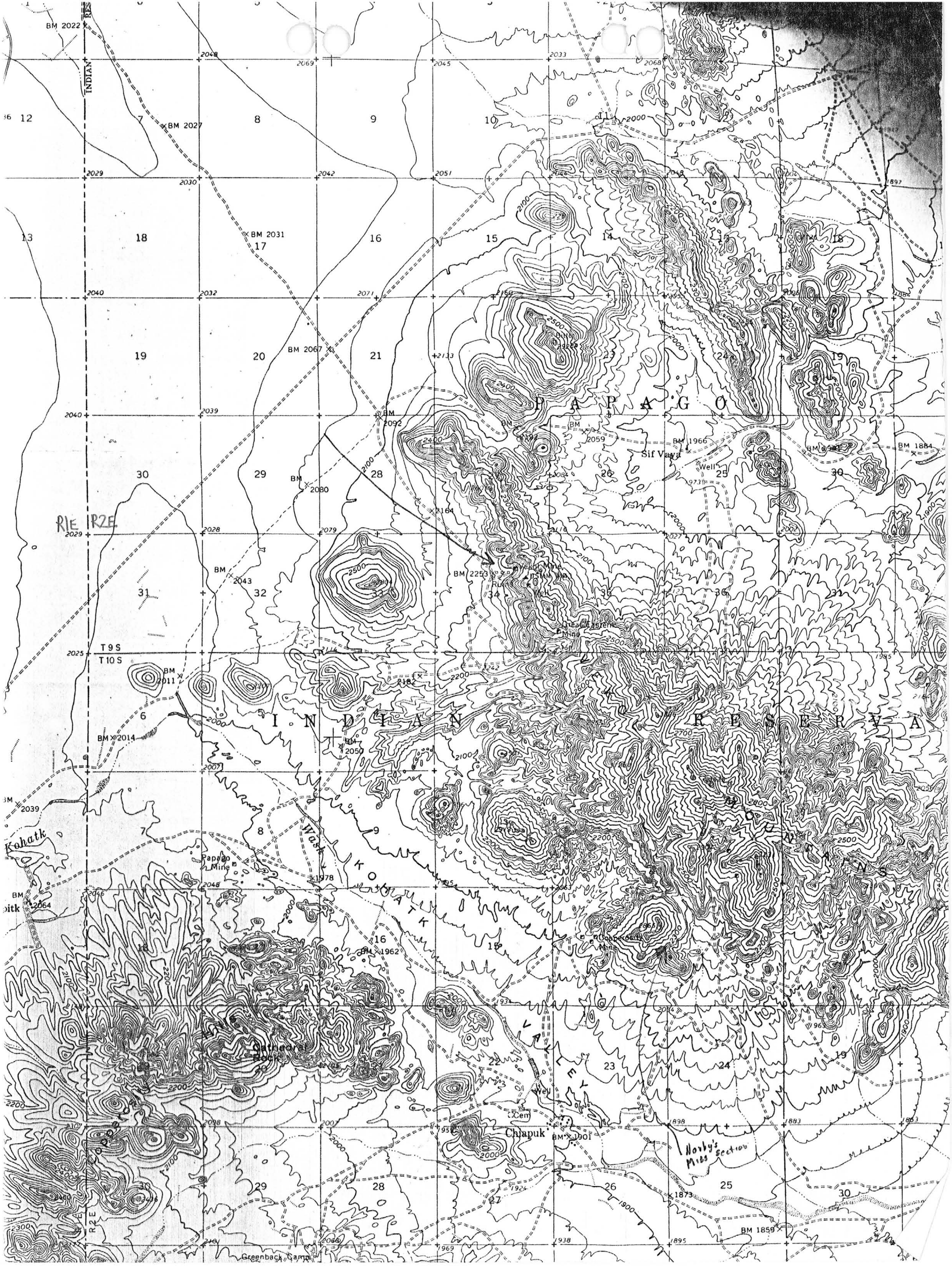
GENERAL COMMENTS

GENERAL COMMENTS GEN:

COPPEROSITY HI[illegible]S QUADRANGLE
ARI[illegible]NA
7.5 MINUTE SERIES (TOPOGRAPHIC)
SW/4 VEKOL MOUNTAINS 15' QUADRANGLE

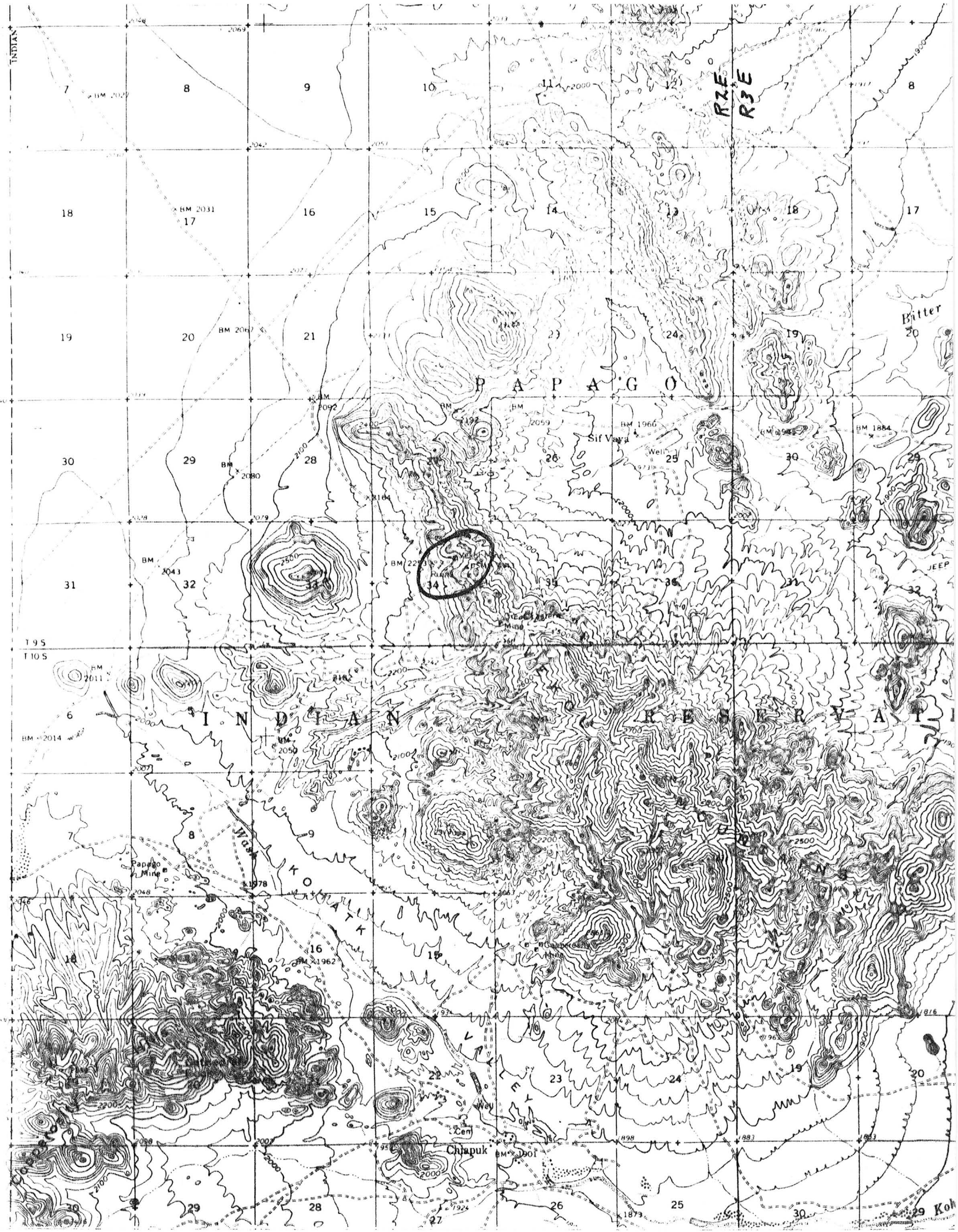
3549 II NE (VEKOL MTN NE)





P A P A G O
I N D I A N R E S E R V A
M O U N T A I N S
K O H A T K
V A L L E Y
Wash
Kohatk
Sif Vaya
Chiapuk
Cathedral Rock
Great Eastern Mine
Papago Mine
Copperosity Mine
Greenback Camp
Well
Cem
INDIAN
T 9 S
T 10 S
R1E R2E
Norby's Miss Section
BM 2022
BM 2027
BM 2031
BM 2067
BM 2092
BM 2080
BM 2043
BM 2011
BM 2014
BM 2050
BM 2039
BM 2064
BM 2253
BM 2059
BM 1966
BM 1884
BM 1962
BM 1901
BM 1859
1878
1873

Vekol Mine



R2E
R3E
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BM 2031
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BM 2067
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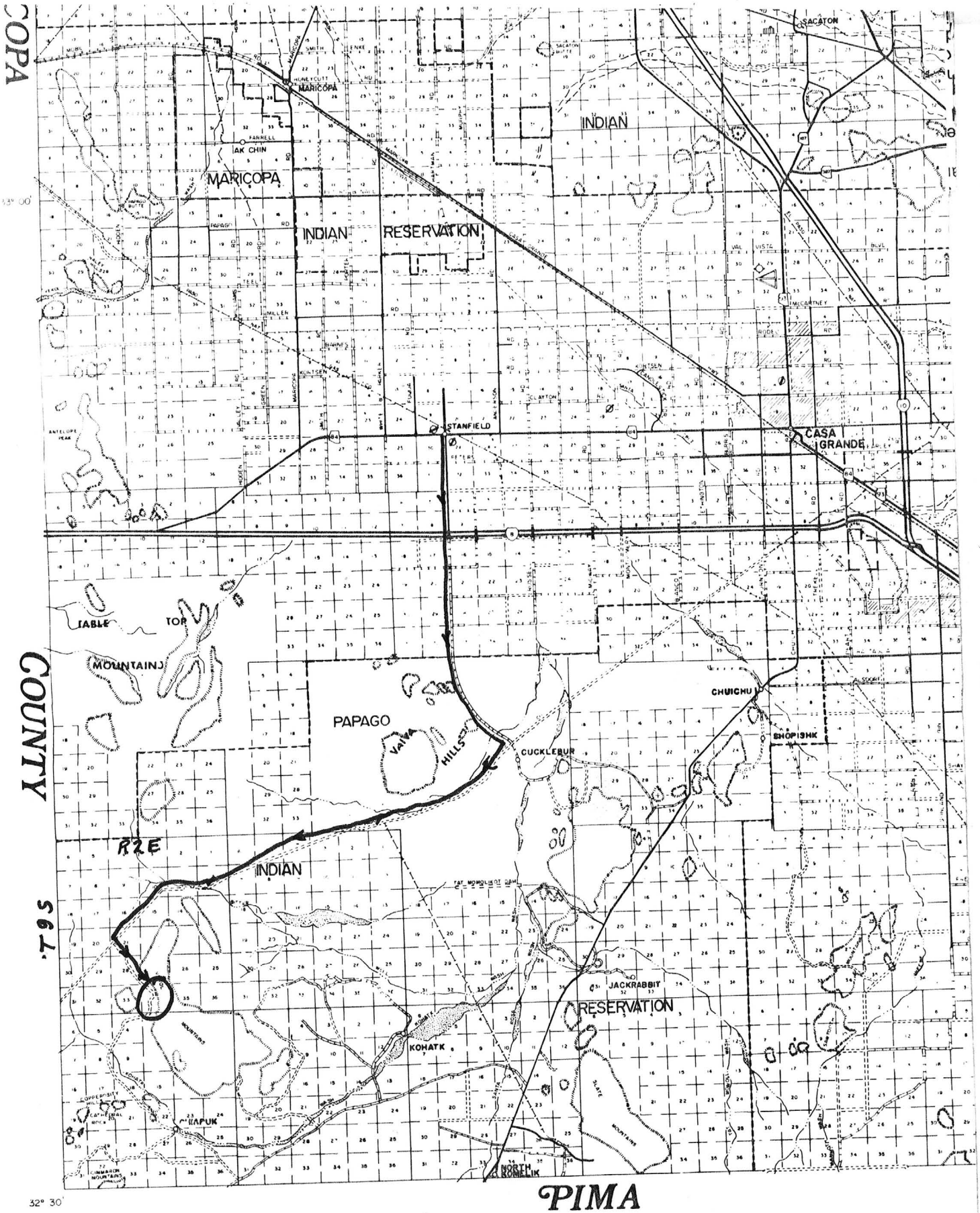


CHURCH D

VEKOL MINE

PINAL COUNTY
Vekol District
T9N R2E Sec 34

MILS #683B (Not in print out, MILS worksheet has Vekol Hills Project references and Vekol Mine alternative names listed on the same worksheet (Vekol Hills Project).

AKA: Stebbins Property
Argosy Shaft
Walker Bros Property
Wilson Property
Corkscrew
Flatiron
Grandfather
Lookout
Mount Vernon
Daggs Property

E & MJ Vol 167 No. 8, Aug. 1966, p. 130, 131

E & MJ Vol 167 No. 10. Oct. 1966, p. 106 (Included in file)

USBM U File reports vanadium "none of interest"

Skillings Mining Review, June 15, 1974, p. 8

Casa Grande (file) Casa Grande History Report

Maps- upstairs in the ABM rolled file boxes - all underground

Krason, Jan et al - Geology, Energy and Mineral REsources Assessment in the Maricopa AREa, 1982, p/. 85

Mineralogical Record, Arizona IV, Volume 14, #2, p. 91 (Included in file)

IC 8969 - Gold and Silver Leaching Practices in the U.S., p. 16, 19-21, 23

Arizona Department of Mines and Mineral Resources

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

PINAL CO.

Vekol Mine

Casa Grande Dist.

T9S R2E Sec. 34-35

MILS 683B

10 - AKA's

Vekol mine file

MM 5865 Ankerite - deep Brown

MM 5866 Ankerite - Dolomitic Crystals

MM 6130 Ankerite

MM 9141 Dolomite, Ferroan

MM 9159 "

MM 9160 "

MM 9161 "

MM9162 "

MM 9163 "

MM 9164 "

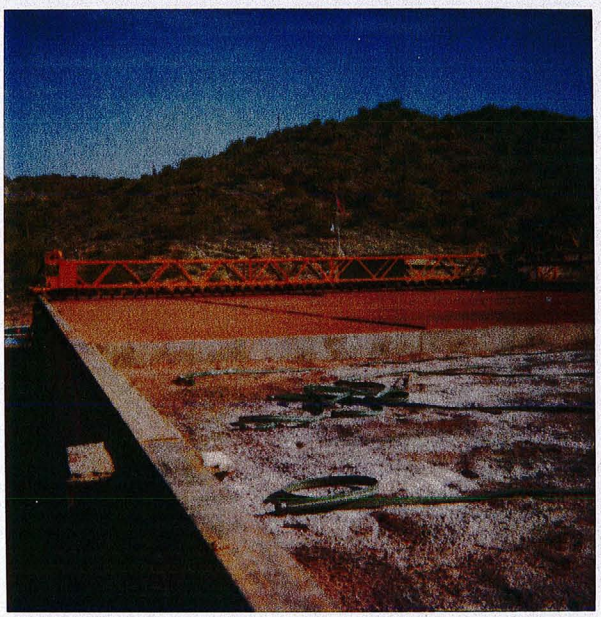
MM 9165 "

MM 9166 "

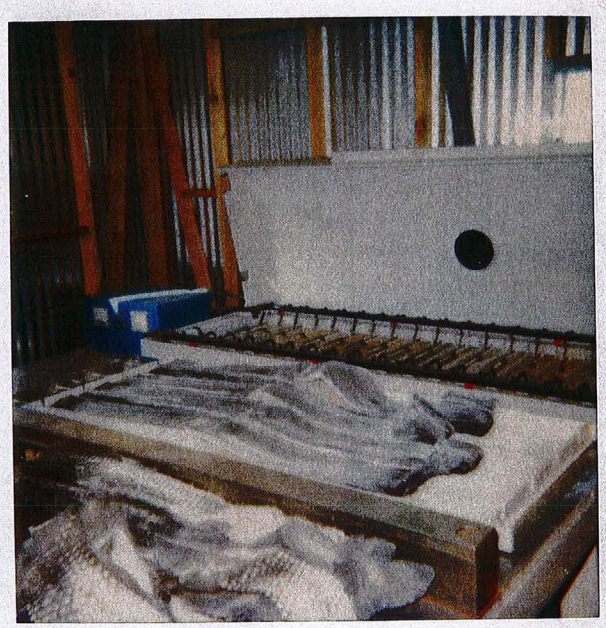
9176 "

K 631 Chlorargyrite

MMO 156 Calcite

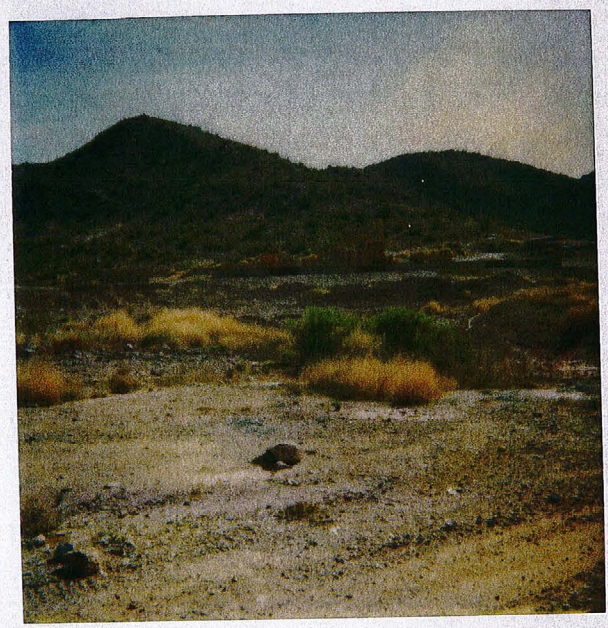


Vekol (Pinal Co) 3/1/84

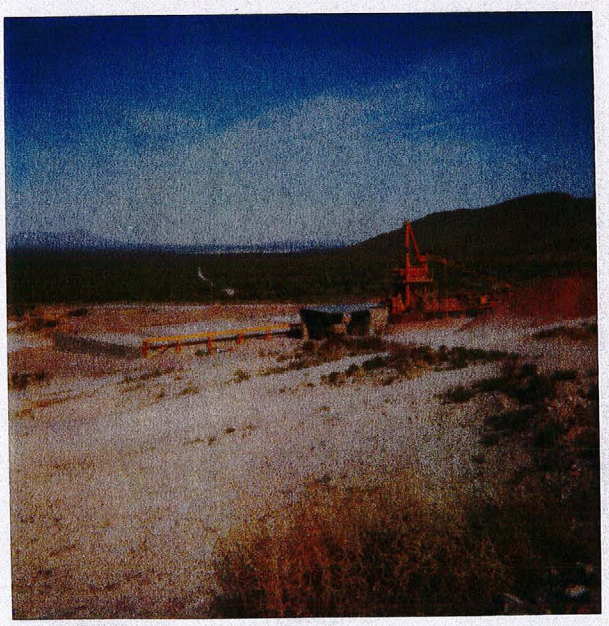


Vekol (Pinal Co) 3/1/84

Vekol (Pinal Co) 3/1/84
Argosy shaft Dump
being processed



Vekol (Pinal Co) 3/1/84



Vekol (Pinal Co) 3/1/84

Vekol (Pinal Co) 3/1/84

Production by District continued

DURATION	MINERAL DISTRICT	COUNTY	BASE AND/OR PRECIOUS METAL TONNAGE	COPPER(Cu) (pounds)	LEAD Pb) (pounds)	ZINC (Zn) (pounds)	MOLYBDENUM (Mo) (pounds)
1884-1942	Tuscumbia	Yavapai	850	1,700	500	---	---
1883	*Tuscumbia* (1)	*Yavapai*	---	---	---	---	---
unknown	Tussock (W)	Yavapai	---	---	---	---	---
1906-1970	Twin Peaks	Greenlee	2,000	15,000	17,000	---	---
1908-1976	Tyndall	Santa Cruz	41,000	161,000	14,754,000	6,805,000	---
1958	(Mn)		---	---	---	---	---
1868-1943	Union Pass	Mohave	704,000	---	---	---	---
	(includes 1880s estimates for Minnie and Cold Crown Mines.)						
1937-1940	Valle	Coconino	*	25,000	---	---	---
1882-1965	Vekol	Pinal	100,000	753,000	95,000	---	(reserves)
1883-1885	*Vekol* (1)	*Pinal*	---	---	---	---	---
1884-1975	Verde	Yavapai	36,180,000	3,625,051,000	693,000	97,352,000	---
1954-1957	Vermilion Cliffs (U)	Coconino	---	---	---	---	---
1907-1955	Virginia	Mohave	76,000	1,000	3,000	---	---
1867-1966	Vulture	Maricopa	970,000	298,000	1,796,000	---	---
	(includes estimate 1867-1890, Vulture Mine.)						
unknown	Wagner (W)	Gila	---	---	---	---	---
1887-1975	Walker	Yavapai	213,000	3,940,000	4,473,000	524,000	---
	(includes 1880s estimate for Sheldon Mine.)						
1901-1981	Wallapai	Mohave	96,920,000	666,137,000	80,096,000	126,487,000	53,180,000
unknown	*Wallapai* (1)	*Mohave*	---	---	*10,524,000*	---	---
1941-1964	Walnut Grove	Yavapai	6,000	40,000	560,000	---	---
unknown	Warhoop (U)	Apache	---	---	---	---	---
1903-1963	Warm Springs	Coconino	33,000	4,252,000	2,000	---	---
1880-1981 1916-1943	Warren (Bisbee) (Mn)	Cochise	167,242,000	7,865,827,000	324,255,000	355,048,000	---

(1) *Italic entries in above table are estimates based on data in Elsing and Heineman (1936).*

GOLD (Au) (ounces)	SILVER (Ag) (ounces)	OTHER TONNAGE (Mn-long tons others-short tons)	MANGANESE (Mn) (pounds)	TUNGSTEN (W) (short ton units)	URANIUM (U) (pounds) U_3O_8	VANADIUM (V) (pounds) V_2O_5
500	45,800	---	---	---	---	---
400	*45,000*	---	---	---	---	---
---	---	---	---	(reserves)	---	---
500	10,500	---	---	---	---	---
200	238,000	---	---	---	---	---
---	---	125	1,200	---	---	---
128,000	313,000	---	---	---	---	---
---	*	---	---	---	---	---
500	1,000,000	---	---	---	---	---
2,400	---	---	---	---	---	---
1,579,000	57,313,000	---	---	---	---	---
---	---	1,524	---	---	6,100	---
17,800	17,700	---	---	---	---	---
350,000	264,000	---	---	---	---	---
---	---	---	---	~ 30	---	---
65,000	871,000	---	---	---	---	---
151,000	11,535,000	---	---	---	---	---
41,000	*2,833,000*	---	---	---	---	---
200	30,000	---	---	---	---	---
---	---	579	---	---	1,516	49
200	17,000	---	---	---	---	---
2,792,000	102,215,000	---	---	---	---	---
---	---	35,000	28,000,000	---	---	---

VEKOL GROUP

PINAL COUNTY

MG WR 12/21/84: Leaching operations at the Vekol mine (Pinal Co.) have been suspended. Argosy Mining Co. is raising money.

CJH WR 6/6/86: Visitor: Bill Ewing (c). He has leased the Vekol property, Pinal County, from the current owners, three men, Wilson , Clemons (lawyer) and Westling. Mr. Ewing has contracted for some air-track drilling of Ag, Pt, Pd. bearing faults from surface. Assays of fault material (Jacobs Assay) show low precious metal values. John Sanders will be the driller and Cecil Baldwin the contractor.

MG WR 12/19/87: Mr. Bill Ewing (card) reportedly did some underground drilling at the Vekol mine (file) Pinal County during the spring of this year.

Arizona Department of Mines and Mineral Resources

VERBAL INFORMATION SUMMARY

May be Reproduced

1. Information from: Richard B. Leisure, c/o Heinrichs Geoexploration
   Address: P.O. Box 5964, Tucson, AZ 85703
2. Mine: Vekol 3. ADMMR Mine File Vekol
4. County: Pinal 5. District Vekol
6. Township 9S Range 2E Sec(s) 34-35
7. Location: see ADMMR mine file; in northwestern Vekol Mtns; Copper Hills 7.5' Quad.
8. No. of Claims - Patented 6 Unpatented ?
9. Owner (if different from above) Federal Mines Co.
10. Address: c/o Richard G. Clemans, P.O. Box 962, Casa Grande, AZ 85222
11. Operating Company: Argosy Mining Co.
12. Pertinent People and/or Firm: Roger A. VanCamp, 7705 E. Greenway Rd., Scottsdale, AZ 85260
13. Commodities: Silver, Lead, Zinc
14. Operational Status: On Standby; seeking additional funds
15. Summary of information received, comments, etc.

Mr. VanCamp, a realtor, has the following office telephone: 948-8778; residence 998-0909. Another senior partner (?) of Argosy Mining is Mr. Stanley Benson, a resident of Toronto, Ontario, Canada, whose Phoenix telephone is 945-9374.

Mr. Leisure, a consulting geologist, completed an extensive evaluation of the property during 1984. He believes the property has an open-pit silver reserve and he believes there is strong potential for additional reserves. He has prepared a geologic map and he has proposed a systematic drilling program. To date, the recommendations made by Leisure and Heinrichs Geoexploration have not been carried out. Funds are needed.

Mr. Leisure reports that the Vekol deposit may be classified basically as a manto. He believes it, and two other occurrences south of the Vekol, are the only mantos in Arizona. Base-metal sulfides and freibergite (silver sulfosalt) were deposited from mineralizing fluids associated with andesite dikes. These fluids altered and dolomitized (?) the Mississippian Escabrosa Limestone beneath an impermeable cap comprised of a shale member of the Naco Group. The manto deposit conforms to bedding and directly underlies the shale. Later faulting has displaced the deposit locally.

Date: February 14, 1985 Michael N. Greeley (Signature)
Michael N. Greeley ADMMR

ENGINEERS REPORT

FROM: Richard R. Beard

March 1, 1984

Vekol Mine Sec 34, T9S R2E, Pinal County

Owner: Federal Mines Co. Inc.
% Mr. Richard G. Clemans, Sec.-Treas.
P.O. Box 962
Casa Grande, Arizona 85222

Lessor-Operator:
Argosy Mining Co.
P.O. Box 295
Stanfield, Arizona 85272

Manager:
Mr. Arthur Hidricks
7705 E. Greenway Road
Scottsdale, Arizona 85260
(Home Phone 956-2061 - can be reached at property by radio.)

Mr. Hidricks showed me around the property. They have built vats of 520-550 ton capacity with a travelling loader. Their present crusher is undersized so until a larger one is installed they are screening the ore and feeding the vats with the minus 3/8 inch. The ore is wetted with cyanide solution on the belt to prevent segregation of the fines and coarse which has prevented channelling and blanking in the vats.

This is the first time the vats have been loaded and the process parameters have not yet been established. The first vat was filled with miscellaneous muck from around the area to check out the mechanical operation. The second vat was filled with muck from the dump at the Argosy shaft and the solutions were sprayed on the ore. The third vat filled with the same material will be flooded.

The vats are unloaded by front-end loaders through gates opposite the travelling loader.

When complete, it will be run with a five man crew including supervision.

The plans are to run the dumps through the vats first, then some new surface ore that can be open-pitted and by then they expect to have underground ore developed for extended production. Heinricks Geolexploration of Tucson has been retained to assist in exploration.

Power is provided by diesel generators and they have an ample supply of well water.

VEKOL MINE PINAL COUNTY

KAP WR 3/11/83: A Mr. Roger A. Van Camp, P.O. Box 1903, Scottsdale, AZ phone 941-8222 was in to look at the Vekol Mine file. He reported he has leased the property.

MG WR 11/4/83: Have learned that a new operation at the Vekol Mine has begun. Federal Mines Co. Inc., is still owner. The Secretary-Treasurer is Mr. Richard G. Clemans, P.O. Box 962, Casa Grande, AZ 85222. There is a functioning airstrip on the property and a new cyanide leach pad is being prepared. The operaor is Mr. Arthur ~~Hidricks~~ Hindrichs, Manager-Partner, Argosy Mining Co., 5244 N. 25th St., Phoenix, AZ 85016, phone 956-2061. Another address is Argosy Mining Co., P.O. Box 295, Standfield, AZ 85272. There is no telephone at the mine site. Heinrichs Geoexploration of Tucson has been contracted to make new geologic maps and recommend drilling sites.

MG WR 5/4/84: Mr. Walt Heinrichs reports that Argosy Mining has begun leaching operations at the Vekol mine Pinal Co.).

KAP WR 7/1/84: John Challinor reported he is working as a consultant for Argosy Mining Company at the Vekol Mine (file) Pinal County. He is trying to help evaluate their leaching operation to determine if recovery can be improved above 1.0 ounce silver per ton.

NJN WR 6/15/84: John Challinor (c) reports that Arthur ~~Heinrichs~~ HINDRICHS is no longer at the Vekol Group (file) Pinal County for Argosy Mining. They have spent about $400,000 on the plant and mine there so far. A Mr. Van Camp is managing the project now.

RRB WR 6/29/84: It was reported that the Vekol Mine, Casa Grande District, Pinal County is for sale and that the current operators (Argosy Mining Company) stated that they just intended to start the operation and then turn it over to someone else.

VEKOL MINE PINAL COUNTY

Sunburst Mining Company came in for information on heap leaching of gold. He said his company has a lease of the dump and tailings of the old Vekol mine SW of Casa Grande. We discussed the general principals and a suggestion was made for him to visit some of the operations in Nevada and also to consult with both the U.S.B.M. and the Nevada Bureau while there. GW/WR 1/17/78 , 2/7/78 a.p.

WR KP 1/4/78 - Keith Crandall, Sunburst Mining, 438 South Drew, Mesa, Arizona, phone: 833-8670, is developing a precious metal deposit at the old Vekol Mine, Vekol District, Pinal County. 2/22/78 sef

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KAP WR 2/12/80: Sunburst Mining Co., the reported owners of Vekol Mine, Vekol District, Pinal County, have requested metallurgical help. They reportedly have tried recovery of gold by cyanide leaching and hypo leaching with no success. They then felt the ores may be sulfide and tried flotation. Flotation trials were made with pilot plant before any lab work had been done. It was suggested they contact Dave Rabb at Arizona Bureau of Geology and Mineral Technology, in Tucson, Arizona, and U.S. Bureau of Mines Metallurgical Research Center, in Reno, Nevada, for possible assistance.

RRB WR 3/26/82: In the company of Nyal Niemuth and Art Bloyd a visit was made to the Vekol Mine on the Papago Reservation in Pinal County. The visit was made at the invitation of Lenn Pritchard, Lenn Pritchard Enterprises, Inc. 6530 Scottsdale Road, Suite L 103, Scottsdale, AZ 85253 phone 991-4704 or 6530. Rob Larson geologist and Kevin Schmidt of Seven Cities Mining Company of the same address met us there and gave us a tour of the old underground workings. We collected some siderite specimens for the museum collection and some samples of ore minerals for identification. Mr Larson said that they had done some drilling and intended to do more from both the surface and the underground workings to block out the ore body. They have also mined a few tons by robbing pillars for metallurgical tests. He said that he believes that there is a large porphry copper deposit at depth but that they have not yet drilled to confirm it.

NJN WR 3/26/82: At the Vekol Mine, Pinal County, we met with Rob Larson and Kevin Schmidt of Seven Cities Mining who gave us an underground tour of the mine, showing us where their recent sample drilling has been done. They also showed us an area where speciments of siderite have been collected. With their assistance we collected five "beer flats" of material for the museum's collection and use.

1066 N Highland Tucson Az.

FILED

ƸKOL MINE

PINAL COUNTY
VEKOL DISTRICT

Mailed to Donald E. Coombs 10-11-66 Reply - 10/21/66

The Vekol Mine is reported to have no work in process, although the 3 Coombs are at the property and have set up a multiple screening outfit that did not appear to have been worked. The report is that it cost them $35 to produce a ton of $31 concentrates (obtained from dump material) and they were trying to reduce the costs.

MEMO LAS 10/4/66

Newmont Development Co. is engaged in extensive drilling on several square miles of mineralized zone in the Vekol mining district. The Vekol Mine within the Reservation boundary is owned privately, and has been leased by Mineral Harvestors, an Oregon exploration Group.

E & M J Dec. 1966

Mr. Robt. F. Playter said he was advised that Newmont had left this property.

10/24/67

Visited property 1/17/68 - Closed down GWI (verbal).

Engineer was informed that Newmont is just sitting on Vekol property.
GWI WR 1/20/68

See: Casa Grande (Mines File) Casa Grande History Report

VEKOL MINE

PINAL COUNTY
VEKOL DISTRICT

The Vekol Mine is reported to have no work in process, although the 3 Coombs are at the property and have set up a multiple screening outfit that did not appear to have been worked. The report is that it cost them $35 to produce a ton of $31 concentrates (obtained from dump material) and they were trying to reduce the costs.

MEMO LAS 10/4/66

VEKOL MINE

PINAL COUNTY
VEKOL DISTRICT

Conference with Al Wilson and Richard G. Clemans, Attorney, both of Casa Grande and both interested in the mine 5/18/66.

According to these men Vekol Mine has been leased and optioned to Mineral Harvesters, Inc. Donald E. Coombs, Pres and Gen. Mgr., Box 606, Stanfield, Arizona. This company is now moving in a mill to treat tailings and old dumps. They plan some development work. The present members of mine company are Al Wilson, Richard Clemans, Mildred La Fleur, Ira Wagnon, Paul Henshaw, Cora McDonald, all of Casa Grande. Claims include the Vekol, Mt. Vernon, Argosy, Grand Father, Lookout and Flat Iron all under Mineral Survey 4143, April 2, 1933, Book 52 of Deeds, p138.

Arrangements were made for a visit to the Vekol during the next Ajo trip with Richard Clemans, who has a jeep. Part of the road is impassable with a car or non-4-wheel-drive vehicles.

MEMO LAS 5/18/66

OMB Approval No. 29-R0218

FEDERAL ASSISTANCE

2. Applicant's application	a. Number	3. State application identifier	a. Number AZ 80-85-0239
	b. Date 1980 8 4 (Year Month Day)		b. Date Assigned 1980 09 05 (Year month day)

1. Type Of Action (Mark appropriate box)
- ☐ Preapplication
- ☒ Application
- ☐ Notification Of Intent (Opt.)
- ☐ Report Of Federal Action

Leave Blank

4. Legal Applicant/Recipient

a. Applicant Name : Sunburst Mining Company, Inc.
b. Organization Unit :
c. Street/P.O. Box : 201 So. Roosevelt/P.O. Box 659
d. City : Chandler, Az.
e. County : Maricopa
f. State : Arizona
g. Zip Code : 85224
h. Contact Person (Name & telephone no.) : Jordan Smith or Donald Bailey 961-1220

5. Federal Employer Identification No.
86-0289227

6. Program (From Federal Catalog)
a. Number 10.422
b. Title Business and Industrial Loans
Dept. of Agriculture
Farmers Home Administration

7. Title and description of applicant's project
REFINANCE SUNBURST MINING COMPANY FOR ADDITIONAL OPERATING CAPITAL

Company growth demands additional operating capital above existing S.B.A. limits and due to agricultural related business and rural location, are asking for refinance through Farmers Home Admin. Operation is manufacture and sale of leonardite based fertilizer products. Liquid extraction and blending plant is located at 201 S. Roosevelt, Williams Field Industrial Park, approx. 6 miles west of Chandler.

8. Type of applicant/recipient
A-State; B-Interstate; C-Substate District; D-County; E-City; F-School District; G-Special Purpose District; H-Community Action Agency; I-Higher Educational Institution; J-Indian Tribe; K-Other
(Specify): Corporation
Enter appropriate letter: K

9. Type of assistance
A-Basic Grant; B-Supplemental Grant; C-Loan; D-Insurance; E-Other
Enter appropriate letter(s): C

10. Area of project impact (Names of cities, counties, states, etc.)
Statewide
Arizona, California, Idaho, Texas
Louisiana, Arkansas, Illinois

11. Estimated number of persons benefiting
150

12. Type of application
A-New; B-Renewal; C-Revision; D-Continuation; E-Augmentation
Enter appropriate letter: A

13. Proposed Funding

a. Federal	$ 850,000	.00
b. Applicant		.00
c. State		.00
d. Local		.00
e. Other		.00
f. Total	$ 850,000	.00

14. Congressional Districts Of:
a. Applicant: 01
b. Project: 01 02 03 04

15. Type of change For 12c or 12e
A-Increase Dollars; B-Decrease Dollars; C-Increase Duration; D-Decrease Duration; E-Cancellation; F-Other Specify:
Enter appropriate letter(s):

16. Project Start Date (Year month day)
19 In Progress

17. Project Duration
On going Months

18. Estimated date to be submitted to federal agency 19 80 8 4 (Year month date)

19. Existing federal identification number
"NA"

20. Federal agency to receive request (Name, city, state, zip code)
Farmer Home Administration 85025

21. Remarks added
☐ Yes ☒ No

Section II - Certification

22. The Applicant Certifies That

a. To the best of my knowledge and belief, data in this preapplication/application are true and correct, the document has been duly authorized by the governing body of the applicant and the applicant will comply with the attached assurances if the assistance is approved

b. If required by OMB Circular A-95 this application was submitted, pursuant to instructions therein, to appropriate clearinghouses and all responses are attached:

	No response	Response attached
(1) Arizona State Clearinghouse	☐	☐
(2)	☐	☐
(3)	☐	☐

23. Certifying representative

a. Typed name and title: Jordan G. Smith, President
b. Signature: Jordan G. Smith
c. Date signed (Year month day): 19 80-8-4

Section III - Federal Agency Action

24. Agency name

25. Application received 19 (Year month day)

26. Organizational Unit

27. Administrative office

28. Federal application identification

29. Address

30. Federal grant identification

31. Action taken
- ☐ a. Awarded
- ☐ b. Rejected
- ☐ c. Returned for amendment
- ☐ d. Deferred
- ☐ e. Withdrawn

32. Funding

a. Federal	$ .00
b. Applicant	.00
c. State	.00
d. Local	.00
e. Other	.00
f. Total	$ .00

33. Action date 19 (Year month day)

34. Starting date 19 (Year month day)

35. Contact for additional information (Name and telephone number)

36. Ending date 19 (Year month day)

37. Remarks added
☐ Yes ☐ No

38. Federal agency A-95 action

a. In taking above action, any comments received from clearinghouses were considered. If agency response is due under provisions of Part 1, OMB Circular A-95, it has been or is being made.

b. Federal Agency A-95 Official (Name and telephone number)

Position 3

80-85-0239

USDA-FHA
Form FHA 449-10
(5-23-73)

FORM APPROVED
OMB NO. 40-R 3872

APPLICANT'S ENVIRONMENTAL IMPACT EVALUATION

No monies or other benefits may be paid out under this program unless this report is completed and filed as required by existing law and regulations (7 C.F.R. 1980, Supart E).

Name and Address of Applicant (Firm Name) (Sreet, City, State and Zip Code)	EMPLOYER ID NO.
Sunburst Mining Company, Inc. 201 S. Roosevelt Chandler, Arizona 85224	86-0289227
	FHA CASE NO.

In order to evaluate the specific impact your proposed project will have on the environment, please complete the following items.

Is a Federal waste discharge permit required under the Federal Water Pollution Control Act Amendments of 1972? ☐ Yes ☒ No

If no, complete parts I through VIII. If yes, has an application been made for the permit? ☐ Yes ☐ No

If so, what is the status of that application? ☐ Approved ☐ Pending ☐ Disapproved?

If above application for permit did not cover all facilities in your project please identify those not covered and complete balance of form, as it pertains to those you list. If the application for permit covered all facilities complete Parts I, VI, VII and VIII.

I. GENERAL *(Briefly describe):*

A. Location of facility - Provide map if possible to show project location and areas which might be affected by the facility.

Our liquid extraction and blending plant is located at the rear of our office building at 201 S. Roosevelt Williams Field Industrial Park, 6 miles west of the townsite of Chandler, Arizona

B. Character of the surrounding area (include terrain, population density, etc.)

We are located in an industrial park which is surrounded by farm land in a rural environment.

C. Type of project (nature of activity)

We extract humic acids in a closed leaching process. These extracts are then mixed in blending tanks with liquid fertilizer mixes, micro-nutrients and other proprietary, non-toxic, organic ingredients. No fumes, dusts or wastes are created.

If your project must conform to approved standards established by the Federal or your state or local environmental protection agencies, please identify for each of Parts II (Air), III (Water), IV (Solid) and V (Other) the appropriate regulating agencies and go on to the next section. If you are not required to conform to such standards, please complete all questions to the best of your knowledge in each part for which standards are not set. You may wish to consult with appropriate State or local agencies in preparing your answers.

II. AIR POLLUTION (include name and address of agencies with cognizance over your project. If you must conform to standards set by these agencies, go on to part III.)

NONE

Cite this project's:

A. Activities which are likely to produce air pollution such as incinerators, exhaust systems, fossil-fuel burning units, and ventilation systems.

NONE

B. Methods and sensor equipment for determining the presence, quantity, and type of air pollutants.

NONE

C. Concentrations in parts per million (ppm) of air pollutants such as sulfur dioxide, carbon monoxide, nitrogen dioxide, carbon dioxide, etc.

NONE

D. Volatile solvents, types, and how used, as well as handling of discharges.

NONE

E. Kind of fuel used in combustion and heating: fossil, liquid, gaseous.

NONE

F. Control equipment to remove particulates and efficiency of such equipment.

NONE

G. Control equipment to remove gaseous pollutants and efficiency of such equipment.

NONE

H. Describe any chemicals used to control pollutants that might themselves cause another form of pollution.

NONE

I. List other major contributors, current or planned, associated with project and which may affect the quality and quantity of emissions to the air.

NONE

III. WATER POLLUTION (include name and address of agencies with cognizance over your project. If you must conform to standards set by these agencies complete questions B and D, then go on to part IV.)

City of Chandler, Arizona.

A. Describe activities that are likely to produce water pollution.

NONE

B. Describe water pollution control codes and/or regulations applicable to the project.

NONE

C. Describe method and sensor equipment used to determine, quantity, and/or type of water pollution.

NONE

D. What levels (concentrations of the following contaminants to result from your project) do your local water pollution standards permit you to discharge in your sewage and/or waste water? No standards set as yet.

	Discharge expected from your project	Standard		Discharge expected from your project	Standard
Total solids			Acidity		
Heavy metals			Alkalinity		
Organic carbon			pH (hydrogen ion concentration)		
Chloride			Hardness		
Cyanide			Color		
Grease			Biochemical oxygen demand		
Lignin			Chemical oxygen demand		
Ammonia nitrogen			Dissolved oxygen		
Nitrate nitrogen			Turbidity		
Organic nitrogen			Temperature		
Phenol			Specific gravity		
Phosphorus			Conductance		
Suspended matter			Oil		
Surface Active Agents					

E. Pretreatment facilities; , pH neutralizers, oil separators, screens, p... ...ling basins, etc.

1. Is a municipality, other local government entity, or industry required to have pretreatment facilities? ☐ Yes ☒ No
2. If an industrial borrower or substantial direct beneficiary, what type of pretreatment facilities do you plan?

None needed--None planned

F. Sanitary sewage discharge *(Check one and describe):*

☒ Municipal treatment ☐ Septic tank ☐ Local treatment plant
☐ Local body of water ☐ Other _____

G. Industrial waste discharge *(Check one and describe):*

☒ Municipal treatment plant ☐ Industrial treatment plant ☐ Local body of water
☐ Other We have no industrial discharge

H. Are sanitary and industrial waste water drainage flows combined? ☐ Yes ☒ No
Is storm flow combined with one or both? ☐ Yes ☐ No
If one, which?

I. Will the project create a substantial increase in the volume of sewage treated by a given facility? ☐ Yes ☒ No
If yes, identify major contributors and kind of discharge from each.

IV. SOLID WASTE DISPOSAL (include name and address of agencies with cognizance over your project. If you must conform to standards set by these agencies, go on to part V.)

City of Chandler, Arizona

A. Does project produce amounts of solid waste which cannot be readily disposed of? ☐ Yes ☒ No
For example, combustibles such as paper, bags, boxes; noncombustibles such as glass, sand, plastics, salvageable materials, sludges or filter residues, tars or oils, cinders or flyash, or others. If yes, identify the solid wastes.

B. What laws, ordinances, or practices govern solid waste management?

C. How are solid wastes disposed of?

Trash from office is disposed of by city garbage service.

D. Are the equipment and techniques employed adequate for the collection, handling, and disposal of solid wastes? ☒ Yes ☐ No
Do they cause noise or dust? ☐ Yes ☒ No

E. Will they accommodate the increased load caused by the project? ☒ Yes ☐ No
This is not to be a new project. It is several years old.

V. OTHER FORMS OF POLLUTION: (these may include, but not be limited to radiation, noise, radio frequency interference, visual):

A. What are they?

NONE

B. How severe?

C. Do codes and/or appropriate regulations govern such pollution to be expected from your project? ☐ Yes ☐ No
If "Yes", identify.

VI. GENERAL PROJECT EFFECTS

A. Describe existing land use, such as Industrial, Recreational, Residential, Sound barriers, Commercial, Semi-private, Public, Farm, etc., including any existing zoning classifications.

Industrial

B. Describe changes in land use.

None

C. Will the project affect transportation by Highway, Rail, Water or Air? ☐ Yes ☒ No
If yes, how?

D. Will the project affect fish, wild life, water-fowl refuges, beaches, historical sites, forested and scenic areas, etc. ☐ Yes ☒ No

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VII. PLEASE DESCRIBE THE INDIRECT EFFECTS THE PROPOSED PROJECT IS EXPECTED TO HAVE ON THE ENVIRONMENT. (In this section include changes which, although brought about by the proposed project, are not caused by the project itself. An access road to serve a proposed industrial park might be included here).

NONE

VIII. UPON EVALUATION OF THE INFORMATION SUPPLIED ABOVE, OR ON THE BASIS OF INFORMATION SUPPLIED TO THE FEDERAL OR STATE ENVIRONMENTAL PROTECTION AGENCY, PLEASE PROVIDE A BRIEF SUMMARY OF THE ENVIRONMENTAL IMPACT OF THE PROPOSED PROJECT. The summary shall include a description of the extent to which the project significantly affects the environment, as provided by the National Environmental Quality Act of 1969, including consideration of:

A. The environmental impact of the proposed project,

This is not a new project. It has been operating at present location for three years.

B. Any adverse environmental effects which cannot be avoided should the proposed project be implemented,

C. Alternatives to the proposed project,

D. The relationship between local short term uses of man's environment and the maintenance and enhancement of long-term productivity, and

E. Any irreversible and irretrievable commitments of resources which would be involved in the proposed project should it be undertaken,

F. Have any questions or objections been raised by any governmental agency, private organization or individual which might indicate that this proposal is, or will become, controversial? ☐ Yes ☒ No
If yes, please describe:

IX. TO BE SIGNED BY APPLICANT.

August 5, 1980
Date

Jordan G. Smith
Applicant

☆ U.S. Government Printing Office: 1979—666 947/309 Region No. 6.

file - Sunburst Mining Co. file

ARIZONA STATE CLEARINGHOUSE Arizona State Clearinghouse

PROPOSALS RECEIVED DURING THE WEEK OF:
Sept. 1, 1980 Thru Sept. 5, 1980

MAJOR PROPOSALS

SAI NO	APPLICANT	FEDERAL AGENCY	PROPOSAL	REGIONS AFFECTED	DEADLINE FOR REQUESTING PROPOSAL FOR REVIEW	AMOUNT REQUESTED	FEDERAL CATALOG NUMBER
FUNCTION: COMMUNITY, REGIONAL AND ECONOMIC DEVELOPMENT							
80-85-0233	Homes by Dave Brown	HUD, FHA	Project 12 Associates, Phase III Elliot Rd. & Hartford St., Chandler Az., approx. 13 acres, 51 lots, typical lot sz. 70 x 100 Price Range $42,000-$72,000	MAG	SEP 19 1980	Other $ 1	14.117
80-85-0237	Sierra Vista Comm. Hospital, Inc.	USDA, FmHA	Sierra Vista Comm. Hospital Expansion-Add two beds by conversion of existing room taken from existing admin. area. Construct an additional space of approx. 12,000 s.f. to be used to expand admin. area, for out-patient facilities, for X-ray, and for a lab.	SEAGO	SEP 19 1980	Fed. $4,615,600	10.422
80-[illegible]-0239	Sunburst Mining Co., Inc.	USDA, FmHA	Refinance Sunburst Mining Co. for Additional Operating Capitol. Co. growth demands additional operating capital above existing S.B.A limits and due to ag. related business and rural location, are asking for re-finance thru FmHA.	Statewide	SEP 19 1980	Fed. $ 850,000	10.422
80-10-0566	PPEP Housing	DOL	Better Housing-To provide administrative support to Rural Farm-worker communities to dev. & implement progs and processes toward improving housing conditions of farm-workers in Az. thru self-help, Rental rehab., Cooperative & Comm. Dev.	PAG, MAG Dist IV, SEAGO	SEP 19 1980	Fed. $ 128,076	17.230

10
10-20-78

OFFICE VISIT WITH JACK PIERCE - MT. STATE ENGINEERS -

SUNBURST MINING MADE A PAD FROM TAILINGS - PUT 35000 T & DUMP MATERIAL. (ABOUT 2 oz/Ag) on PAD - STARTED LEACHING. Recovery about 30% - HAVE AN ESCAPULE RECOVERY PLANT. Zinc precipates TAKEN TO O-BARR ELECTRIC Co in MESA. MR JOE. O-BARR IS A PARTNER OR PART OWNER DON BAILEY IS GENERAL MANAGER

Miami Copper Company

Incorporated under the Laws of Delaware,

R. W. Hughes
General Manager.

Miami, Arizona

August 8, 1949

Mr. Charles H. Dunning, Director
Arizona Department of Mineral Resources
Mineral Building, Fair Grounds
Phoenix, Arizona

Dear Mr. Dunning:

I have been trying to contact someone who is familiar with the Vekol Mines, Inc. whose property is located about 22 miles south of Casa Grande, with the purpose of possibly making an examination.

It occurred to me that you may have knowledge of someone who has the authority to grant an examination, or who may know of such person, and if so I would very much appreciate this information.

Very truly yours,

R. W. Hughes

R. W. Hughes,
General Manager

RWH/p

ARIZONA

THE CONGRESS CONSOLIDATED GOLD MINE. Heap leaching is continuing on the old dump. D. W. Jaquays, President, indicates a 300 ton cyanide plant using agitation and thickeners is in the plan. They are presently using the Merle-Crowl system with very satisfactory results.

SUNBURST MINING CO., leasee and operator of the Vekol Mine in Pinal County, is presently working the dumps of the 1890 underground mine with four employees. Heap and forced-leaching methods use equipment developed by the Machine Development Co., a joint-venture partner with Sunburst. The property, located about 30 miles southwest of Stanfield, Arizona, is owned by Federal Mines. Vekol (file)

MINDY INC reports the Gunslinger Open Pit mine is presently producing 500 tons per day with millheads running 6 ounces per ton silver and 1.5% lead. The concentrates are shipped to Bunker Hill. Waste stripping in the pit is performed by D-10 Cats at the rate of 600 to 1000 tons per hour, a noteworthy feat considering the rock formation according to the owner, Bud Roswell of Canadian Natural Resources, Calgary.

STATE OF ARIZONA
DEPARTMENT OF MINERAL RESOURCES
MINERAL BUILDING, FAIRGROUNDS
PHOENIX, ARIZONA 85007
602/255-3791

MEMORANDUM:

To: John H. Jett, Director
From: Dick Beard, Mineral Resources Specialist
Subject: Vekol Mine Visit, January 7, 1980
Date: January 11, 1980

During the morning of January 7, 1980 I visited the Vekol Mine, 43 miles southwest of Casa Grande. The property is being developed by the Vekol Mine Development Co., Inc. (Division of Sunburst Mining Co. Inc.)

Mr. Grey Iseman, Asst. Supt. and Mr. Gary Houser, Mine Foreman showed me around the plant and mine and later Mr. Gene Stowe, Gen. Supt. arrived and I talked with him.

There is no production at this time. The lower leach pad as described in the Memo from Mike Greeley, March 21, 1979 has been completed and is expected to go into production within a couple of weeks.

The underground mine is to be developed by renovating the existing workings. Initial production will be from the "Galena Room." The ore will be trammed to the shaft in ore cars using tuggers for locomotion and than be hoisted to the surface. The head frame is under construction.

The ore will be fed to a jaw crusher and then split into two streams. One stream will be fed to a pulverizer and then into a homemade ball mill which will be used to mix the reagents with the ore. The other stream will be fed directly to a standard ball mill where it will be ground and the reagents will be added. Each stream will have its own set of flotation cells.

The pulverizer is required in the first stream because the homemade ball mill does not work very well.

They were expecting to make a test run on the first stream Tuesday, January 8.

The flotation concentrate will be taken to the company's Chandler plant for the extraction of the silver.

DB/ap

MEMORANDUM

To: John H. Jett, Director
From: Mike Greeley, Field Engineer
Subject: Vekol Mine Visit on March 1, 1979
Date: March 21, 1979

On March 1, Glenn Miller and I visited the old Vekol Mine on the west side of the Vekol Mountains. To visit we drove south from Stanfield, Arizona, on the Stanfield Road; 12.8 miles to a pipeline road; from that point we traveled southwesterly on the pipeline road 15.2 miles to a road leading southeasterly to the mine (intersection is between mile markers 34 and 35). The road is in good condition.

The General Manager, Mr. Gene B. Stowe of the Vekol Mine Development Co. (Division of Sunburst Mining Co. Inc.), P.O. Box 659, Chandler, Arizona 85224, phone: 961-1220, showed us around.

Currently the old dump near the original Vekol shaft is mined and placed, without crushing, on two leach pads. The older leach pad contains about 30,000 tons built with three lifts six to eight months ago. The base of this older (upper) pad was constructed in the following manner:

(1) The original land surface was graded smooth (on alluvial gravels?)
(2) A layer of sand three to four inches thick was put down.
(3) A plastic sheet was put down and
(4) A second layer of sand three to four inches thick was put down.

Finally a lift of ore was placed on the pad. Lifts are placed on the pad and spread(?) with a rubber-tired front-end loader.

The second or lower leach pad is being constructed now. It will have a larger capacity (about 28,000 tons in one lift three feet high) than the upper pad. This lower pad was constructed by grading the alluvial gravels smooth and spreading screened dump material on the site (the screened material appears to be minus 1/2 to 1 inch). I understand this material will receive an asphalt sealer manufactured by Chevron. Ore will be spread directly onto this sealed surface.

Mr. Stowe told us the old dump near the Vekol shaft averages 2.6 oz Ag/ton. He doesn't know what the recovery is but according to him the company is making money. Leach solutions are maintained at about 11.5 pH.

The pregnant cyanide solution is run through an Escapule 300-ton solution/day filtration-precipitation plant. The zinc precipitates are dissolved in nitric acid. This acid solution is trucked to the company lab in Chandler (201 S. Roosvelt) where the silver is electrolytically plated onto stainless steel cathodes. The silver is then fire refined to 99.9 percent purity.

Mr. Stowe said the nitric acid treatment of zinc precipitates may be used when there is little or no gold cyanide.

The facility generates its own power. There are eight full time employees working twelve hours(?) a day, seven days a week. One well near the toe of the upper pad and a new well south of the lower pad provide a limited water supply.

MNG:mw

Excerpt from: Economic Geological
Reconnaissance of Casa Grande Mining
District, Pinal County, Arizona
By J. B. Tenney

VEKOL MINE

Vekol Mountains

This range has been the most extensively mineralized of any in the district and has furnished the greatest bulk of the ore produced in the past. The principal mines are the Vekol, Reward, Copperosity, Great Eastern, Christmas Gift, Republic and Spondulix.

History and Production

The outcrop is said to have been shown to the original locator by a Papago Indian about 1879 three years after the completion of the Southern Pacific Railroad from Yuma to Casa Grande which, until 1880, was the eastern terminus of the road. The locations were acquired in 1880 by Judge John D. Walker who started developing the mine by a series of open cuts and tunnels. The ore extracted was carefully sorted to a grade of from 200 ounces up to several thousand ounces in silver and was shipped to the Selby smelter in San Francisco, to the El Paso smelter, and to smelters in Colorado. Operations were gradually expanded as the development proceeded, and in 1884, Judge Walker enlisted the financial aid of his brother Lucian to further expand the scale of operations by building a mill to obviate the expense of sorting, and to beneficiate the accumulation of rejects from past sorting. The mill was completed in 1885 and consisted of ten stamps followed by pan-amalgamation. It was moved from a former site in Queen Creek near the Silver King mine in 1884, but litigation with the former owners prevented its use until 1885. Water for milling was developed at the mine by the drilling of a 350-foot well. The stamps commenced dropping July 8th, 1885, and the mill was run until about April, 1889 at an average rate of about 470 tons a month. It was finally closed due to the lowering of the mill heads below the economic limit. Shipments of sorted high grade ore were resumed, which were made to the El Paso smelter until the death of John D. Walker in 1894 followed shortly by the death of his brother. Litigation then ensued between the heirs of the brothers, and the mine was closed except at intermittent periods. It was not reopened until 1908 when it was bonded to a New Orleans and Texas company. This company confined itself almost entirely to prospecting. A four-hundred foot shaft was sunk and several hundred feet of deep-level prospecting was done with negative results. The mine was closed after four years of work during which time but little production was made. It was reopened in 1918 by a group of Phoenix men. The mill was reconditioned and concentrating tables were added to treat the large accumulation of mine dump as a low grade ore, but the attempt was a failure. A few shipments of concentrate were made.

The property is now owned by Paul R. Daggs of Upland, California. The production figures for the mine have been derived from U. S. Mint

Reports, partly from the yearly production figures published each year by the Tucson Star, in large part from smelter settlement sheets in the possession of the owners of ore shipped and a partial milling record, and in part from the yearly reports of the United States Geological Survey on mine production. After allowing for ore stolen and unrecorded production a figure very close to $1,000,000 was arrived at, almost entirely in silver. A summary is shown in the following table:

Vekol Mine Production

Period	Price of Silver	How treated	Ounces Silver produced	Value in dollars	Source of Information
1882	$1.14	Sorted & shipped	19745	$22,509	Ariz. Star
1883	1.11	" "	75676	84,000	" "
1884	1.11	" "	79279	88,000	" "
1885	1.07	" "	47121	51,171	Company records
1885 to 1889	0.98	Milled and bullion shipped	525030	523,752	Company Rec. to March, 1888 Estimated to Apr. 1889
1889 to 1893	0.93	Sorted & shipped	209345	207,664	Company Records plus estimated unrecorded shipments.
1908	0.53	" "	3961	2,256	U.S.G.S.Min Res. A little lead credited
1909	0.52	" "	5329	3,000	(same as above)
1915	0.51	Ore concentrated & concentrates shipped	30000	16,620	(same as above)
1916	0.66	Ore concentrated & concentrates shipped	8000	5,816	(same as above)
GRAND TOTAL			1,003,486	$1,004,788	

Location and Mining Property

The mine is situated on the western side of the Vekol mountains about midway of the length of the range. There are twenty-two mining claims owned of which six are patented. They lie in T 9 S R 2 E Section 33 and in T 10 S R 2 E Section 4 (Gila & Salt River Meridian). The mine is twenty-nine miles southwest of Casa Grande to which it is connected by a forty-three mile fair road, twenty-nine miles of which is partly graded and the remaining twelve miles of which is a fair desert road passable except in wet weather. The camp, consisting of frame and adobe buildings, four of which are in good repair, has been built in a west-flowing arroya heading in a low pass in the westermost ridge of the mountains.

Mine Development

The major workings of the mine have been driven from a series of tunnels starting from the southern side of the arroya. Most of these tunnels were driven at a down grade of from one to ten degrees in a south ten to thirty degree east direction. They are inter-connected by irregular stopes, raises, and inclines, the whole forming an extremely intricate network of workings which extend a total distance of about 1070 feet to the southeast of the outcrop with a width of about 320 feet. At the southeast end, the workings are connected to the Argosy shaft, an untimbered nearly vertical shaft 300 feet deep. In the arroya northwest of the tunnel entrances the main shaft, a vertical two-compartment timbered shaft, has been sunk to a depth of 400 feet, the bottom 100 feet of which is now under water. At the 250-foot level two drifts have been driven under the upper workings to which they are connected by raises. Very little timbering was necessary and little of the work has been filled. About eight miles was done, the greater part of which is accessible.

Geology and Ore Occurrence.

The ore occurs as irregular replacements of Pennsylvania Limestone within a horizon varying in thickness from a few feet up to ten feet, locally known as the "shale" horizon. It is capped by hard fractured limestone, and underlain by compact dolomitized limestone. All of the ore was either highly oxidized or enriched. The only primary ore or "protore" (as the primary ore is not commercial) was found at the southeastern end of the occurence in the underlying dolomitized beds near the Argosy shaft. The ore bodies were controlled by a series of closely parallel faults of small throw, striking from north-south to north 30 degrees west, with dips varying from 50 degrees to the east to an equal inclination to the west. The width of this zone of faulting is about 400 feet. The dip of the limestone beds varies from ten to thirty degrees about south seventy degrees west, nearly at right angles to the strike of the fault system. The ore horizon in this zone also dips with the limestone beds so that the high part is at the eastern edge and the lower part at the western edge. The surface expression of the fault zone is a partial replacement of limestone beds, especially those with abundant chert, by limonite. No lateral work was done outside of the fault zone in the search for other possible zones. A second equally strong, or stronger belt of limonite stained limestone occure about 400 feet to the west of the prospected zone, under which no work has been done.

At the northwest end of the ore zone, outcropping in the arroya, is a steeply-dipping dike classified in the field as diorite porphyry, 20 to 40 feet thick, striking northeast. It is little altered and contacts with the limestone are generally barren except at the intersection with the north west faults. About 3000 feet west of the outcropping ore is an outcrop about 3000± feet ~~wasxofxthexoutcropping~~ in diameter of andesite lava, tuffs and breccias, dipping to the southwest at about the same inclination as the limestone. It is separated from the limestone by about 2500 feet of recent detritus.

At the southeast end of the workings occur a series of north 60 to 75 degrees east faults, apparently limiting the northwest series or forming fault blocks with them. The limonite stained outcrops of the known ore zone also end at this northeast series of faults.

The ore, judging by the very sparce remaining seams on the edges of the stopes, was almost entirely oxidized. It consisted of small nodules, locally termed nuggets, of horn silver, argentite, and silver-bearing tetrahedrite (freibergite?) in a gangue of iron-stained slightly copper stained kaolinized limestone with abundant secondary calcite veins. Very little silicification exists except at the southeast end of the mine where mineralization was stronger.

There were two ore bodies found and mined: The Corkscrew, whith outcropped in the arroya, and was followed into the hill to the southeast, and the Argosy to the southeast of the Corkscrew, associated with a continuation of the same series of faults and separated from it by about 170 feet of kaolinized limonite-stained limestone with lean silver values. The Argosy ore body at its southeast end is capped by over 300 feet of limestone. The ore here is said to have been less oxidized. Extraction drifts in the underlying dolomite cut a few beds replaced with galena, zinc blend and pyrite with a little attendant silver.

The occurrence of a bedded deposit nearly horizontal on the strike and inclined at a small angle across the strike, consisting of highly enriched silver ore well above the present water table, cannot be explained by the usual processes of vein enrichment. The only satisfactory explanation is that the enrichment was effected by the leaching of values out of a series of closely spaced nearly vertical veinlets and their redeposition at an old watertable. The fact that the ore horizon is now inclined with the dip of the limestone and overlying lavas shows that this old water table was established before the tilting of the beds to their present attitude. The limestone below the old table was altered to dolomite, and all that remained fixed in the old leached area above the water table was the iron, oxidized to the stable form of limonite. The occurrence in this respect, closely parallels those of Magma[1] and Miami[2] where mineralization and enrichment took place before the development of the Basin Range structure, of tilted faults blocks.

Future Possibilities

The ore bodies already exploited have been almost completely denuded of commercial ore. The favorable horizon at the ancient water table has been so well prospected in the one fault zone prospected that the possibility of the existence of sizeable, hidden ore bodies in this zone is remote.

1. Short, N.M. and Ettlinger, I.A. Ore Deposition and Enrichment at the Magma Mine, Superior, Arizona. Trans. Am. Inst. Min. and Met. Eng. Vol LXXIV, 1926, pp 194, 195.
2. Ransome, F. L. The Copper deposits of Ray and Miami, Arizona. U.S. Geol. Surv. Prof. Paper No. 115, 1919, pp 148-149.

As previously mentioned, there exists on the property a second parallel strongly mineralized north west belt of limonite-stained limestone to the southwest of the prospected zone. No work has been done at the old water table horizon under this belt. It is quite possible that high grade enriched silver ore underlies this belt at the same horizon as that of the known ore bodies.

There is also a possibility of an ore zone at the old water table horizon at the zone of north east faults to the south of the Argosy ore body. Evidence to strengthen this possibility is thatat the Great Eastern property about 2000 feet to the south of the Argosy shaft, the ore is associated with an east-west system of faults at the old water table horizon. Additional evidence strengthening this hypothesis is the occurence of a small outcrop at the same horizon on the eastern slope of the ridge, known as the Mount Vernon, 900 feet distant, closely associated with the same series of northeast faults that limits the Argosy ore. A zone such as this one would be an inclined one and therefore more difficult to prospect and mine.

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VEKOL MINE

PINAL COUNTY
VEKOL DIST.

Conference with Art Wilson and Richard Clemans in Casa Grande and D. E. Coombs of Stanfield (At Phoenix)

According to these men, Coombs is now running his mill on dump material. The machine is a straight line motion jig of Coombs own type, with little vertical component. The jig works dry and is said to give about and 8:1 concentration ratio. The dump material runs $8.00 in lead and $4-5 in gold and silver to the ton. It will not exceed (in concentrate) 5 percent SiO_2 . However, the tailings seem to slightly favor zinc in the oxidized material, and will run about the same in SiO_2 and CaO; running 17 and 28 percent respectively. Tests indicate that the dump material after screening will run about $23 per ton and that dump is of fairly even grade throughout. The lead-silver grade is better at 8 mesh, but coarser material seems to favor zinc and copper.

The Company* consists of D. E. Coombs, President
O. C. Coombs, Vice Pres.
Mrs. O. C. Coombs, Stockholder
Stanley Wilson, Stockholder
Carol Antone, Stockholder

* Mineral Harvesters, Inc., Donald E. Coombes, Pres., Box 606, Stanfield, Ariz.

MEMO LAS 6/7/66

Active 10/1966 - Exploration