

SKYLINE LABS, INC.
 1775 W. Sahuaro Dr. • P.O. Box 50106
 Tucson, Arizona 85703
 (602) 622-4836

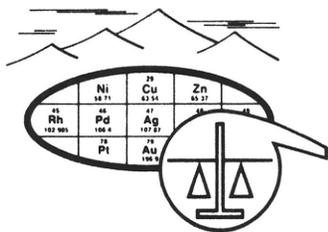
REPORT OF ANALYSIS

JOB NO. UGH 048
 April 29, 1985
 A-1801 TO A-1819
 PAGE 1 OF 2

NICOR MINERAL VENTURES
 Attn: Mr. Mike Dennis
 2341 So. Friebus, Suite 12
 Tucson, Arizona 85713

Analysis of 19 Rock Samples

ITEM	SAMPLE NO.	Au (ppm)	Ag (ppm)	Cu (ppm)	Pb (ppm)
Newsboy	1 A-1801	.28	23.0	25.	25.
	2 A-1802	1.60	22.0	40.	760.
	3 A-1803	2.10	55.0	135.	11000.
	4 A-1804	.02	.4	<5.	155.
	5 A-1805	.22	5.0	135.	290.
	6 A-1806	.14	2.0	55.	150.
	7 A-1807	.38	4.0	65.	130.
	8 A-1808	<.02	.4	100.	15.
	9 A-1809	.03	.2	105.	105.
	10 A-1810	.32	4.4	4400.	12000.
Belmont-Tencopa	11 A-1811	1.60	62.0	10500.	13500.
	12 A-1812	3.10	>350.0 *	89000.	17000.
Black Diamond	13 A-1813	.83	2.8	205.	55.
	14 A-1814	.06	6.2	950.	200.
Pump Mine	15 A-1815	2.70	11.0	445.	1800.
U.S. Mine	16 A-1816	1.90	3.4	1300.	245.
	17 A-1817	1.10	1.4	800.	170.
	18 A-1818	.86	1.4	740.	60.
	19 A-1819	8.50	2.4	1450.	15.



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ITEM	SAMPLE NO.	Zn (ppm)	As (ppm)	Hg (ppm)	Sb (ppm)
1	A-1801	180.	130.	.05	4.
2	A-1802	1400.	70.	.05	4.
3	A-1803	3600.	870.	.08	26.
4	A-1804	20.	60.	.02	2.
5	A-1805	400.	70.	.02	2.
6	A-1806	165.	50.	.02	4.
7	A-1807	315.	60.	.02	4.
8	A-1808	160.	30.	.02	2.
9	A-1809	430.	40.	.02	2.
10	A-1810	40000.	130.	.06	2.
11	A-1811	16000.	20.	.63	22.
12	A-1812	24000.	220.	.16	16.
13	A-1813	40.	90.	.01	<2.
14	A-1814	305.	20.	.01	<2.
15	A-1815	335.	140.	.03	8.
16	A-1816	155.	40.	.01	2.
17	A-1817	70.	<10.	.01	<2.
18	A-1818	65.	30.	.01	2.
19	A-1819	100.	30.	.01	<2.

*NOTE: Greater than normal geochemical range.
 Please advise if fire assay is needed.

BLCHORN

W. B. Knabe

LOCATION: @ THE WYASE MINE
IN W. B. HORNS NW NE SEC 33
" NEAR SHAF. SHAFT."

MUSCOVITE (SERICITE?) ABUNDANT ~ 4%
25% QTZ
20% LIM. AFT PYRITHEMERAL PT AVE
1mm DIAM
50% PARTIAL ARCELL ALL FLOS
POSSIBLE FLING SLIME

APACHE Mn MINE:

LOCATION: WEST B. HORN MTS
SW SEC 29

- GEOCHEM SAMPLE - GRAB SAMPLE
OFF OF MILKED DUMPS
- pt GRANITE HOST
- Mn OXIDES

BLACK NUGGET:

LOCATION: WEST B. HORN MTS
NEAR EAGLE EYE RD. NW SEC 20

- GEOCHEM SAMPLE: CALCITE, BLACK
CALCITE, Mn OXIDES IN VNLETS
? REPLACEMENTS IN BASALTIC
ANDESITE HOST

WISCONSIN MINE:

LOCATION: WEST B. HORN MTS
SE SEC 32. SHAFT ON LONG
HILL TOP

El Tigre - small sample for cutting
thin sections

B76A - Evening Star Mine - quartz-granitoid
w/ abund FeOx

B536A - Kold Cord - hematitic quartz gneiss

- GENERALIZATION, BASEMENT
& SILICIC FLOW-TUFF HOSTED
Mn HAVE LESS CALSITE YMINES
THAN BASALTIC ANDESITE HOSTED
DEPOSITS.

- NOTE THAT THE BLACK ROCK
CROSS SECTION DEMONSTRATES
WHY MOST OF THESE BASALTIC
ANDESITE HOSTED DEPOSITS CANNOT
BE ZONED @ DEPTH TO PRECIOUS
METALS. THAT IS, MINERALIZATION
IS PRE FAULTING AND IS THERE-
FORE TRUNCATED AT THE LISTRIK
FAULT. BASEMENT HOSTED Mn MAY BE

GEOCHEM SAMPLE: FN TO MBIUM
GRAINS GRANITE IN PLACES REPLACES
BY QTZ. IRON OXIDE STAIN IS
ABUNDANT. SERICITE ~ 1%.
SPECULARITE IS INFILLING IN
SMALL CAVITIES.

MOLLEY DAVENPORT #1

LOCATION: WEST B. HORNS
SW NW SEC 33, 3/4 NE
WEST OF KINASE MINE

GEOCHEM SAMPLE: IN IRON OXIDE
STAINED FINE GRAINED GRANITE
- ~ 0.5% SERICITE
- TRACE SPECKLARIITE.

PURPLE PANSEY Mn

LOCATION: WEST CENTRAL B. HORNS,
~~SW~~ NE EXTREME SEC 19

- CALCITE VAG FIELINGS AND
VULETS IN BASALTIC ANDESITE
- Mn OXIDE VULETS & COATINGS.

CONTACT MINE

LOCATION: NORTH-EAST B. HORN
MTS, NW SEC 31.

"WELL MINE" LOCATION: EAST-CENTRAL
BELL HORNS, NE SEC 25

- 150' SOUTH OF MAIN SHAFT IS PIT
W INTENSLEY BRECCIATED & QUARTZ
FLOODED GRANITE - TRENS N22W 90°
VN 6-8' WIDE X 35' LONG.
- VN IS MOSTLY BULL QTZ BRECCIA
- FLUORITE IN QTZ FOUND
- N20 W 50 TO 75 SW IS TRENS ON
MAIN SHAFT WHICH HAS 8' EXPOSED
OPEN CUT.

- GRANITE IS 70% FELSIC 30%
QUARTZ

- GEOCHEM SAMPLE - SILICIFIED
QTZ UNING, IRON OXIDE STAINING
IN FN GRANITE GRANITOID - LESS
IN CHLORITIC MAFIC DUNE MATERIAL.

- MILK QTZ UNING & IRON OXIDE
STAIN IS SEEN OVER @ LEAST 3 ACRES.

- THIS SEEMS LIKE A US AFFINITY
MINE

- MUCH OF HOST IS ANITIC GRANITE.

- FN GRNBL HIGHLY QTZOSE

- TRACE MAGNETITE

- GEOCHEM SAMPLE AS ABOVE + ARGILLIC
ALTERATION.

PEGREN WELL

LOCATION: IN WEST-CENTRAL
B. HORN MTS. SE SEC 23
1/4 MI SSE OF PEGREN WELL,

- PROSPECT IS A CLASSIC BIG HORN DISTRICT PRECIOUS METALS OCCURRENCE
- 5-8' UN ON N62E 60 SE STRUCTURE EXTENDS 30-40' ALONG STRIKE
- 30' INCLINE TO COLLAPSED WORKINGS

VALLEY VIEW #2

LOCATION: N. CENTRAL B. HORNS.
SW SEC 16

GEOCHEM SAMPLE: Mn OXIDE STAINS; UNLETS IN SILICIC HOST OF VOLCANIC FLOW,

"DEAD HORSE MINE"

LOCATION: N. CENTRAL BIG HORNS,
NE SEC 15.

HAND SPECIMEN DESCRIPTIONS:

- COUNTY ROCK IS MEDIUM GRAINED TO PORPHYRIC Biotite GRANITE, K-SPAR PHENOS UP TO 4 CM LONG. ~ 25% K-SPAR, ~ 35% PLAG, ~ 30% QZ, ~ 7% Biotite
- MAGNETITE (?) ~ 0.2% Sphene ~ 0.3%
- GRANITE IS SILICIFIED IN MINERALIZED AREAS.

MOLLIE DAVENPORT #2

LOCATION: WEST B. HORNS NW NW
SEC. 33, 1/4 MI SW OF MOLLIE D
MINE

GEOCHEM SAMPLE: FINE GRAINED,
EPIDORANULAR GRANITE WITH PERVASIVE
IRON OXIDE STAIN, ~ 1% SERICITE,
SOME SPONGEY BOXWORM (MAYBE
FROM PYRETAHERAL PYRITE),

- NE TRENCH HILL 200' NW OF MAIN SHAFT HAS FELSITE VEIN IN CENTER THAT IS SILICIFIED. FRACTURE ? IRON OXIDE STAINED, ALSO HAS < 1mm sq LENS. IN STAINS.
- Host Rock IS μ E GRANITE w MODERATE IRON OXIDE STAIN FOR $\sim \frac{1}{2}$ ACRE.
- SERICITE IS COMMON, - SOME SPECULARITE
- GEOCHEM SAMPLE: FINE GRAINED, EQW - GRANULAR GRANITE; 70% FLOS, 30% QTZ; IRON OXIDE STAIN; $\sim 1\%$ MUSCOVITE

- VEIN MATERIAL IS MASSIVE + SUBHORIZONTAL OPAQUE QTZ w SPECULARITE, CHRYSOCOLLA, AND GASEN UNSEEN MINERAL THAT IS ASSUMED TO BE FUSCHITE-MARIPOSITE.
- SERICITE IS INTERSPERSED IN PIECES OF OPAQUE w HIGHEST FUSCHITE CONCENTRATION.
- CHRYSOCOLLA + FUSCHITE ARE COMINGLES IN MOST MINERALIZED MATERIAL.

SCOTT MINE

LOCATION: EASTERN BEE HORNS, NE
SEC 21, BELMONT MTN 15'

GEOCHEM SAMPLE: MASSIVE BLACK
CALCITE CHUNKS OFF OF DUMP
WITH TRACE MINIMUM OR WILFENITE.

VALLEY VIEW #1

LOCATION: NORTH CENTRAL B. HORNS,
NE SEC 20

- MR. HEWITT (1964) REPORTS A
VALUE OF 2.902 Ag/Ton IN
ONE ASSEY IN VALLEY VIEW
GROUP - BUT DOES NOT SPECIFY

SW

LOCATION: WESTERN EXTREME OUTCROP
OF BIGHORN MTS. IN ALLEGHANIANS
PALEOZOIC BLOCK. SW SEC 4
LONG MTN 15' TAKEN NEAR MIDDLE
SAMPLE OF 3 SADDLES ON BLOCK

- GEOCHEM SAMPLE: IS LENSING
AFTER PYRITE (~ D. 7 cm) BEARING
FN GRAINED, WELL LAMINATED
ARBITLITE.

SNOWBALL MINE

LOCATION: SE HARGRAHALA MTS,
SE SEC 29, LONG MTN 15'

ALASKA MINE

LOCATION: SE HARGRAHALA FOOT
HILLS, SW SEC 33 LONG MTN QUAD

UN ES ~ 110' LONG AVE 2'
DITCH WEST - TRENDS N70W 65NE

HOST IS BASALTIC ANDESITE
- LEMONITE AFTER PYRITE
NEARBY

DUMP HAS MAJOR CALCITE ?
BLACK CALCITE GANOME, PROBABLY
ALUNA, PYRITE, CHRYSOCOLLA,
ITE, MAYBE RHODOCHROSITE.

MA DYKES REPLACING ? COATING
ANDESITE?

45W

LOCATION: WESTERN EXTREME OUTCROP
OF BIGHORN MTS. IN ALLOCTHONOUS
ALGOZIC BLOCK. SW SEC 4
CONE MTN 15' TAKEN NEAR MIDDLE
SAMPLE OF 3 SADDLES ON BLOCK

GEOCHEM SAMPLE: IS LAMINATING
AFTER PYRITE (~ 0.7 cm) BEARING
W GRAINED, WELL LAMINATED,
RUBILLITE.

GEOCHEM: CALCITE REPLACED !
FLUORETE VNEA CHLORITIC BRECCIA.
PROTOLITH IS ASSUMED TO BE SCHIST.
SOME PIECES ARE HEMATITE
STAINED.
FLUORETE VN IS ALONG MAJOR
FAULT.

CALCITE ? CHRYSOCOLLA VN LETS IN
CHLORITIZED SCHIST.

CLEAR TO OPAQUE FLUORETE VN LETS TOO.
MOST OF GEOCHEM MATERIAL IS
DULL BROWN SCHIST.

BIGHORN B156A cont'd.

LOCATION: WEST B. HORNS NW NW SEC
32, 1 ME E OF BLACK QUEEN
LARGE PIECE

SOFT FULL OILY LON 100 SMOKE
POSSIBLE ALUMITE.
POSSIBLE SILICE OR GARNET.
PY & QZ.

BIGHORN B156A

LOCATION: WEST B. HORNS, NW
NW SEC 32, 1 ME E. OF
BLACK QUEEN M.

ONE PIECE

DEFINITE MASCOVITE 2 1/2
MOSTLY OPAQUE QZ
17. FINEST PY
ONE OCCURRENCE OF LINK BAN

BIGHORN B476A

LOCATION: @ GOLD BULLION M,
WEST B. HOEN MTNS, N 1/2
SEC 12.

A 675um ↓ - AMYBRITE COATING IN
PLACES, SIALITE POSSIBLE. DEFINITE
HEMATITE AND LESSER SIALITE
COMMON. DISSAGGREGATIONS QZ IS
HELD IN INTERSTITIAL HEMATITE

KNASE 4

LOCATION: @ THE KNASE MINE
IN W. B. HORNS NW NE SEC 33
@ PASS ON JEE P TRAIL 200 M
N OF MAI SHAFT.

SALT & PEPPER MED - IN GRNES
EQUILIBRIUM, 25% BIC 70% FLSS
5% LENS APT PY QUANTIFIABLE
ALTERED TO GOSAN

MINERAL \bar{v} TRAPEZOHEDRAL OUTLINE -
SPHENE? $< 5\%$ FLOS.

ROCK PIECE - MAJOR PART IS MISCELL
WT PORCELONADO MINERAL \bar{v} COARSED.
free possible alunite. WITH OLIVE BLEN
DRUSEY MINERAL OVER SOFT GRANITES.
PROBABLY BARITE.
 \bar{v} SMALL 17 X ALL $< 0.1 \mu$.
QZ IS 30%.

RAINBOW MINE #1:

LOCATION: SE HARQUAHALA, E 1/2 SEC 6

- DUMP IS ON N. SLOPE OF MAIN W-E DIRT ROAD - 1/2 MILE N OF WELDON HILL.

RAINBOW MINE #2

LOCATION: SE HARQUAHALA FOOTHILLS CENTER SEC 6

- TAKEN FROM RANDOM CHIPS OVER 200' DIAMETER HILL 1/2 MI NNW OF WELDON HILL
- SEE TYPES DESCRIPTION FOR MORE DETAIL.
- IN CONTRAST TO ALASKA SNOWBALL MINE, ROCKS ARE ONLY SLIGHTLY SPORADICALLY CHLORITIZED

WELDON HILL:

LOCATION: SE HARQUAHALA FOOTHILLS N 1/2 SEC 7 LONE MTN 15'

- MINOR SPECULARITE, HEMATITE, SERICITE OR FLUORITE
- MINERALIZATION IS CONCORDANT W FOLIATION
- QTZ ? SPECULARITE LOOK VIRTUALLY CO-PRECIPITATED
- BARITE LAST

BEEGA

LOCATION: SOUTH WEST BIG HORNS CENTER OF E 1/2 SEC 7.

- WILMINGS ARE MINOR PITS
- MINERALIZATION IS 100' X 30' SWATH OF IRON OXIDE STAINED GRANITE ? STEEL GREY ? WHITE QTZ
- SOME ANGLIC ALTERATION - MINOR CALCITE
- POSSIBLE TURQUOISE ? VARISITE

BLACK QUEEN

LOCATION: NORTH WEST B. HORNS, NW CORNER SEC 29,

- Mn OXIDE STAINED ? REILACED TUFF.

RECOVERED SAMPLE: - RANDOM GRAB OFF
30' X 30' DUMP OF CHLORITICALLY
ALTERED HEMATITE STAINED, MYLONITIZED
BRECCIA.

- 0.3 cm QTZ EYE MEGA CRYSTS,

HERE,

- PROTOLITH LOOKS LIKE MUSCOVITE
GRANITE AS HOST HAS 1% MUSCOVITE

- A PORTION OF SAMPLE ~ 10-20%
IS DARK GREEN DUNE MATERIAL

HYPOTHESIZED PARAGENESIS

CHALCOPYRITE? - ?

FLUORITE _____

QTZ _____

SPECKLARDITE _____

BARITE _____

CALCITE _____ ?

- MINERALIZED DUMP MATERIAL IS IRON OXIDES
STAINED, ARGILLICALLY ALTERED FINE GRAINED
GRANITOID. - IRON OXIDE STAINED
OPAQUE QUARTZ TOO.

- DRUSES OF UNIDENTIFIED LIGHT GREEN
MINERAL

- SOME CHRYSOCOLLA

- SOME AVENTURENE QTZ

BLACK QUEEN
LOCATION: NORTH WEST B. HORNS,
NE CORNER SEC 29,

ORDER FOR ANALYTICAL SERVICES

Samples Sent to:

SKYLINE LABS, INC.

1775 W. SAHUARO • P.O. BOX 50106
TUCSON, ARIZONA 85703
(602) 622-4836

(Report and invoice in duplicate will be sent to address below unless otherwise instructed)

Address Report To:

NICOR Mineral Ventures

2341 S. Eric bus #12

Tucson AZ 85713

Gary Parkison Tel.

As Above

Send Invoice To:

PROJ. NO. _____

P.O. NO.: _____

SHIPMENT NO.: _____

DATE SHIPPED: _____

SHIPPED VIA: _____

NO. OF CARTONS: _____

NO. OF SAMPLES: _____

(Information above helps us trace lost shipments)

Send Copy of Report To:

George Allen

40 Arizona Bureau of Geology

845 N. Park Ave, Tucson, AZ 85719

LIST SAMPLE NOS.	DESCRIBE MATERIAL (ROCK CHIP, SOIL, WATER, DRILL CORE, ETC.)	LIST ELEMENTS TO BE DETERMINED (Give anticipated range of values, if possible) Describe any special sample preparation procedures desired.	INDICATE METHOD OF ANALYSIS*	✓ IF 31 - ELEMENT EMISSION SPEC SCAN DESIRED
<i>Scott Mine</i>				
<i>Valley View #1</i>				
<i>Valley View #2</i>				
<i>Contact Mine</i>				
<i>Well Mine</i>				
<i>Dead Horse Mine</i>				
<i>Purple Pansy</i>				
<i>Peggin Well</i>				
<i>Mollie D #1</i>				
<i>Mollie D #2</i>				
<i>Knake 4</i>				
<i>Wisconsin Mine</i>				
<i>B156A</i>				
<i>Black Queen</i>				
<i>Black Nuggett</i>				
<i>B526A</i>				
<i>B476A</i>				
<i>Apache</i>				
<i>SW</i>				
<i>Rainbow Mine #1</i>				
<i>Rainbow Mine #2</i>				
<i>Weldon Hill</i>				

PAYMENT FOR SERVICES REQUESTED MUST ACCOMPANY ORDER UNLESS CREDIT ARRANGED

Signature of person authorizing work: _____

(Use Continuation Sheet If Necessary)

INSTRUCTIONS

*METHOD OF ANALYSIS: G-Geochem, Q-Routine Quantitative Assay
F-Fire Assay

†SAMPLE STORAGE: Pulps stored 90 days pending instructions, bulk rejects stored 30 days pending instructions.

Enclose yellow original with samples; send white copy by mail, retain pink copy. White copy will be returned to shipper as an acknowledgement that shipment has been received.

INDICATE DESIRED DISPOSITION OF SAMPLES AFTER ANALYSIS	Bulk Rejects	Pulp
Return at customer's expense via:		
Store temporarily pending instructions†		
Discard immediately		

CLIENT

BIG HORN DISTRICT

Location:

The Big Horn Mining District as used in this report essentially covers the Big Horn Mountains and the northern portion of the Belmont Mountains. It is contiguous with the Osborne district to the southeast and at times has been referred to as the Aguila district.

Geology and History:

Like the Osborne district to the south, the Big Horn district has received little detailed geologic study. Much of the region is composed of low, rolling, pediment covered hills that separate local patches of rugged topography. Much of the western portion of the district is underlain by Precambrian gneisses that resemble similar rocks from the nearby Vulture Mountains. This western portion of the district is separated from the Harquahala Mountains by a valley that roughly coincides with the projected trace of the Harquahala detachment surface. Most of the range is covered by mid-Tertiary volcanic rocks that range from andesite to rhyolite in composition. In places, the volcanics display considerable hydrothermal alteration. The volcanic pile is generally believed to be of a more felsic character towards the northeastern part of the district and of a more intermediate character in the central and southern portions of the district. A northward-trending septum, 1½-2 miles wide, of Precambrian schist generally separates the two areas. The exact nature of the volcanic field, however, is so poorly known that detailed study might considerably change the current geologic picture. The district is cut by pronounced, northwest-trending faults and Tertiary dike swarms. In places the dikes appear to be related to mineralization and probably mark exhumed source regions that fed the volcanic deposits. Low-angle Tertiary faults are also common in parts of the district and in places are mineralized with either Mn or Au. Portions of the Laramide Wickenburg batholith (see Vulture district, this study) poke out through windows in the younger volcanic rocks. These outcrops form a general northeast trend similar to, and on strike with, the batholith in the Wickenburg Mountains.

Mines in the district have been exploited for both gold and manganese. While both types of mineralization must in part be of Tertiary age, they seem to be mutually exclusive in any given mine. The manganese ores are the typical low temperature replacement and vein deposits that are so common to this part of Arizona. Several gold properties have had production in the district and some sampling was being conducted by a small Canadian firm in February, 1984, on the U.S. (Big Horn) mine. Keith and others (1983a) credit the district with 12,000 tons of gold-bearing ore that contained 2,800 oz Au; 1,000 oz Ag; 20,000 lbs Cu; 6,000 lbs Pb; and 65,300 tons of manganese ores that contained 42,457,000 lbs of Mn.

Access to many parts of the district is very poor and thus it would seem that the area could hold some potential for undiscovered ore deposits. The volcanic rocks in particular, appear to be of prospecting interest for low-grade disseminated deposits. Reconnaissance geochemistry and aerial surveillance for alteration zones is recommended.

Mines of Interest:

U.S. (Big Horn, Furlough, Hauxhurst) Mine: (Sec. 1, T4N, R8W) This is a very interesting mine that has had some early production. Mineralization consists of gold-bearing, quartz-specular hematite-copper oxide veins and veinlets that form a ribbon stockwork across parts of a major north-northwest-trending dike-like intrusive body of rhyolitic composition. Most of the early exploration and mining activity appear to have concentrated along the margin of the dike with the Precambrian basement. Much of this dike (which is over 1 mile long and 100 ft wide) is highly fractured, silicified and mineralized, and a large tonnage, low-grade target can be easily envisioned. The deposit was located in 1900, and ten claims (Furlough 1-10) were patented in 1916.

During this time a substantial tonnage of gold ore is reported to have been shipped to the Humboldt smelter. This early ore apparently occurred as enriched streaks and bands that varied between 2 and 10 ft in width, that were separated by less intensely mineralized material. The old workings exploited two main brecciated zones that were about 300 ft apart. Each zone ranged in width between 10 and 50 ft. The zones are highly silicified and thus provide excellent outcrops that can be traced for about 1 mile.

Development consists of two vertical shafts, 480 and 500 ft deep, respectively, that are about 300 ft apart. From these shafts numerous crosscuts and drift were run, mainly on the 100 and 200 ft levels. Both shafts reportedly remained in oxidized material to their bottoms. Additional short shafts and tunnels also dot the area. Just before the Vulture mill closed down at the beginning of WW II, a Wickenburg resident trucked and milled about 4,500 tons of dump material from which \$4.50/ton Au and 0.50-0.75% Cu were recovered. At this same general time, 16 carloads of ore were shipped to a smelter and reportedly returned a net of \$5.50-\$12.00/ton. A small bench where a 8 ft wide band of ore was mined in the 1950's, reportedly averaged 0.68 opt Au. Although the shafts have been inaccessible for a long time, a U.S. Bureau of Mines engineer report dated in 1943, indicated that sampling along a 100 ft drift on the 150 ft level produced averaged results of 0.16 opt Au and 1.3% Cu. Unsubstantiated reports from old miners indicated that the gold content increased slightly with depth. This writer has briefly examined the property on the ground and there is obviously potential for several million tons of low-grade material present. According to a Mining Record article (2-8-84) the patented claims are presently held by a joint venture between a Canadian firm, Roddy Resources Inc., of Vernon, B.C., and Black Consulting Inc. of Parker, Colorado. Roddy conducted preliminary sampling and mapping early in 1984. A limited drilling project was supposedly planned for May, 1984. The mineralization is interesting as it is very similar in character (i.e. quartz-specular hematite-FeOx-oxide copper) to that which is associated with nearby metamorphic core complexes. Sampling by Roddy (G. Belik, personal commun., 1984) indicated that the mineralization was strongly anomalous in tungsten (up to several hundred ppm).

Watson (1968) reported that SW of the mine, Precambrian schist is criss-crossed by a large number of tuffaceous dikes which were believed to be feeders for the ignimbrites that cap the geologic section in the area. This would be an interesting area to geochem for low grade gold values.

El Tigre Mine: (Secs. 27 & 34, T5N, R9W) At the Tigre mine, a flat, lensoidal quartz vein occurs which pinches and swells, and is surrounded by highly sheared material from Precambrian host rocks. The Precambrian gneisses are granitic and amphibolitic much like those that occur in the Vulture Mountains. The quartz vein appears nearly conformable to the foliation in the gneisses. This foliation strikes northeast, and dips variable up to 40° to the northwest. The quartz vein and adjacent sheared gneisses contain considerable iron staining, occasional Cu oxide stain, and apparently carry considerable gold. The geometry of the vein is shallow dipping (nearly flat), apparently in arch form, and outcrops near the top of a ridge. It has been eroded off on two sides. Prospecting in deeper shafts at N and S ends of the vein beneath the shallower mineralized zone reportedly cut two separate veins, but little or no production was made from them.

The deposit was discovered in 1914 and was reportedly most active between 1918 and 1924. During 1921, Wilson and others (1967) report that some bullion was produced in a 10-stamp mill located about 3.5 miles west of the mine. Ore was also run in 1922. The production for 1923 was reported as \$14,454 in gold (± 725 oz). Total production figures are not available.

Ore consists of massive to coarse-grained quartz with abundant specularite and limonite. Wallrock alteration consists mainly of sericitization. Wilson reports that most of the production came from drifts and stopes which extend for a few tens of feet into the vein. The orebody was thought to have had a maximum width of 5 ft. A 1925 mining engineer report housed in the ADMR, estimated blocks of probable ore in the mine as follows: 1 block of 26,300 tons average \$20/ton, 1 block of 12,000 tons averaging \$49.00/ton and another block of 3,500 tons averaging \$30.00/ton. If these figures are anywhere close to being correct, then it seems that a small tonnage of fairly high grade ore could remain in the ground. A few hundred yards to the east, the gneisses are marked by occasional sulfide quartz stringers, some cutting foliation at low angles and some conformable to foliation. A composite sample taken through this iron-stained side of the hill indicated anomalous gold.

Pump Mine: (Sec. 21, T5N, R9W) Country rock consists of schist and granite that form relatively level to rolling pediment surface. The vein strikes approximately east and west and dips to the north at about 46°. The granite host rock is said to contain bands of schist running about parallel with the vein. Upper workings display oxidized ores while ore in the lower levels is not oxidized and the gold is associated with sulfides of iron, copper, lead and zinc. The main development is a 320 ft incline shaft with levels at 18, 75, 100 and 175 ft. A total of 390 ft of drifting has been done from the shaft. Shafts to the east and west of the main shaft show a strong, well mineralized vein. Ore reportedly breaks well with strong walls. The vein has been prospecting for 4,000 ft on the surface by a number of shafts and numerous open cuts. Up to 1936, very little systematic mining had been done. The mill was run for a short time in 1936-37 and then closed because of poor recovery when sulfide ores were run. During the five months the mill operated, it was estimated that the heads ran about \$12/ton. The mine was examined during the war years by the U.S. Bureau of Mines engineers, who granted a DME loan on the basis of indicated or proven reserves. The loan was spent establishing a 4.5 mile

long pipe line, storage tanks, pumps, etc. The RFC took over the property in 1942 to protect its loan. Only a small part of the ore reserves were reportedly mined.

Big Horn Copper: (Sec. 36, T4N, R9W) A group of 43 was claims staked around 1968 and prospected in the early 1970's. Claims cover an area of sheared, coarse- to medium-grained, gray to reddish granite. Sparse copper oxide mineralization occurs in N45°E flat dipping shears and fractures. Veins range from several inches to 2.5 ft in widths. South of an east-west ridge, some thin, fissile, carbonaceous schist and reddish quartzite reportedly crop out. Schist reportedly is cut by copper bearing pegmatite and jasper veins. Area is prospected by dozing. Assays reportedly range from 10% to 30% Cu and from trace to 38 opt Ag (must be high grade sample).

References:

Arizona Dept. Mineral Resources, file data; Keith and others, 19831; Metzger, 1938; Watson, 1968; Wilson and others, 1967; Wilson and Rehrig, unpubl. data and field notes.