



## **CONTACT INFORMATION**

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: YELLOW JACKET

ALTERNATE NAMES:

SANTA CRUZ COUNTY MILS NUMBER: 132B

LOCATION: TOWNSHIP 22 S RANGE 10 E SECTION 22 QUARTER NW  
LATITUDE: N 31DEG 29MIN 48SEC LONGITUDE: W 111DEG 18MIN 53SEC  
TOPO MAP NAME: ORO BLANCO - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD

SILVER

STONE DIMENSION

BIBLIOGRAPHY:

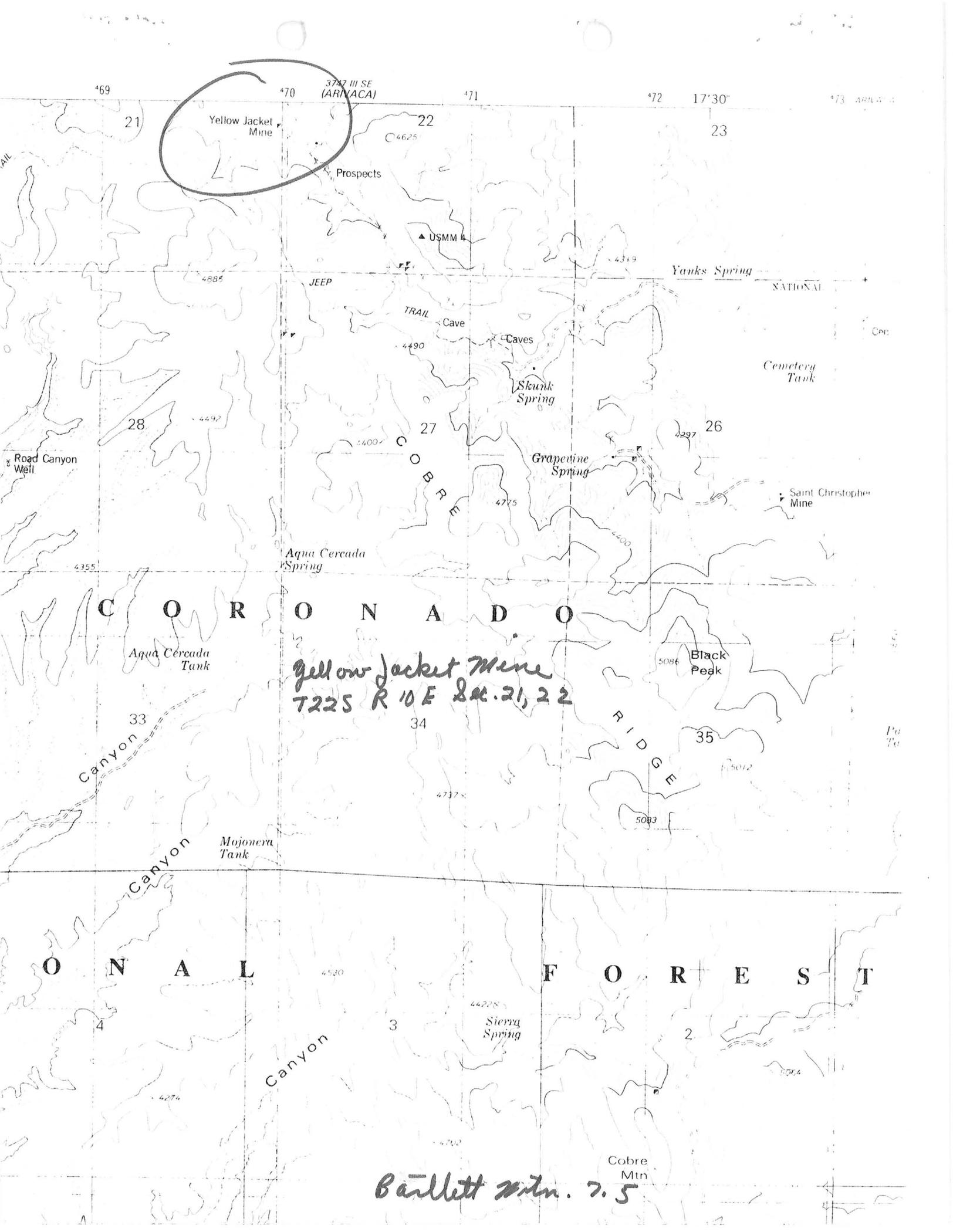
ADMMR YELLOW JACKET FILE

AZBM BULL 137, P 188

AZBM BULL 191, P 69

KNIGHT, L.H. "STRUCT & MINER. ORO BLANCO MNG  
DIST., AZ" PP 123-124; 1970 (ADMMR GEO FILE)

GREGORY, F.E. "RPT FLD WRK, PROSP & GEOL. OF  
DIST TO MONTANA MINE, AZ" 9/1935 (ADMMR GEO  
FILE)



69

70

3747 III SE  
(AR/ACA)

71

72

17'30"

73

21

Yellow Jacket Mine

22

23

C4625

Prospects

USMM 4

4885

JEEP

4359

Yanks Spring

NATIONAL

CPI

TRAIL

Cave

Caves

4490

Skunk Spring

Cemetery Tank

28

4492

27

26

4400

C O B R E M T N

Grapevine Spring

Saint Christopher Mine

Road Canyon Well

4355

Aqua Cercada Spring

C O R O N A D O

Aqua Cercada Tank

Yellow Jacket Mine  
T22S R 10 E Sec. 21, 22

5086 Black Peak

33

34

35

R I D G E

Canyon

Mojoneva Tank

Canyon

4737

5083

O N A L

4530

F O R E S T

4

3

2

44728  
Sierra Spring

Canyon

4274

4270

Cobre Mtn

Barlett mtn. 7.5

**INDEX OF MINING PROPERTIES  
IN  
SANTA CRUZ COUNTY, ARIZONA**

by  
**Stanton B. Keith**  
Geologist

**THE ARIZONA BUREAU OF MINES**

**Bulletin 191  
1975**

Price \$1.50

**THE UNIVERSITY OF ARIZONA  
TUCSON**

Table 4, Cont.

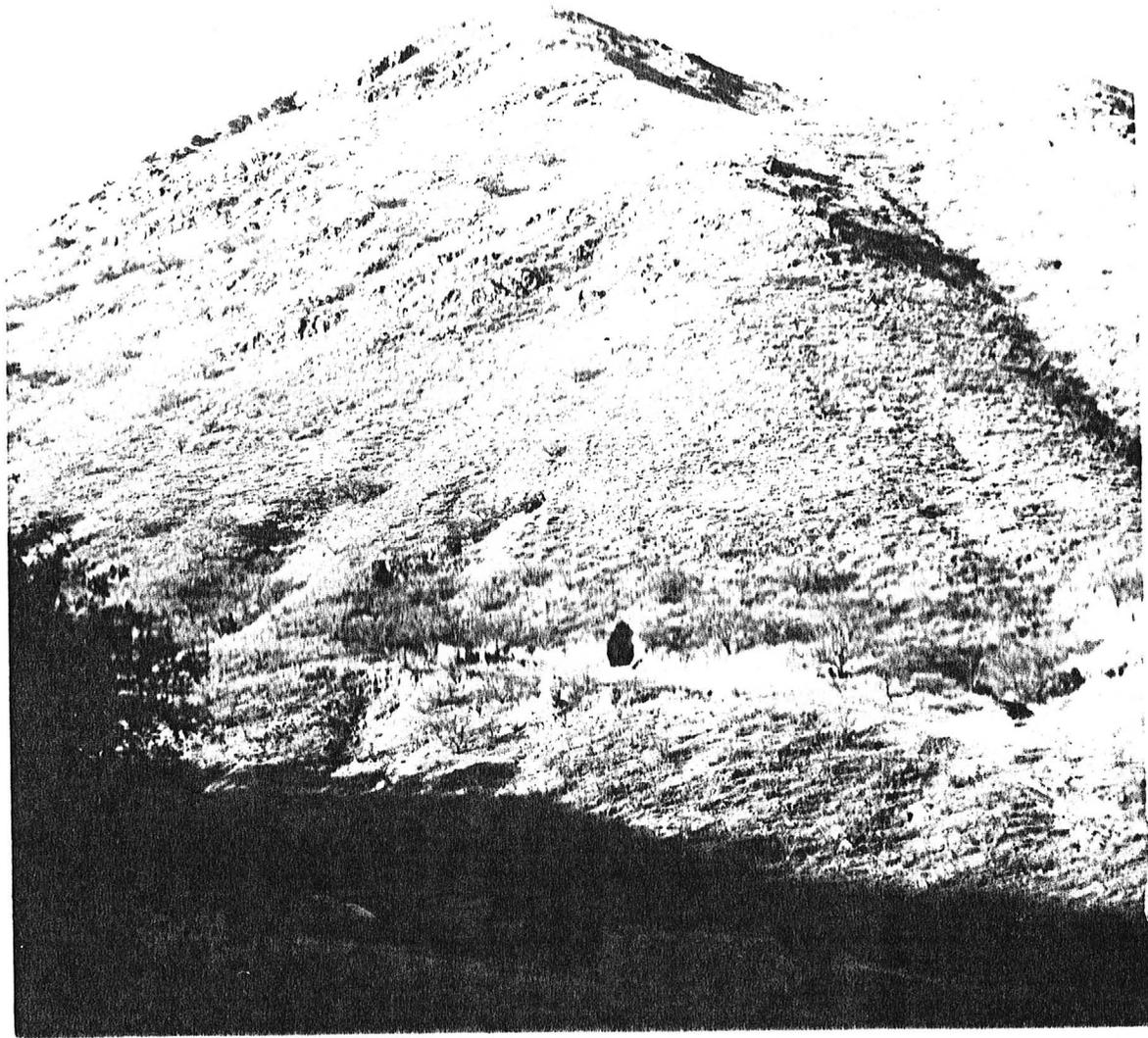
MINING DISTRICT AND MINES	LOCATION			MINERAL PRODUCTS	GEOLOGY	TYPE OF OPERATION AND PRODUCTION	REFERENCE
	T.	R.	Sec.				
25. Ragnaroc mine	22S	10E	E. Cen. 36	Au, Ag, Pb-, Cu-, Zn-	Flat, shallow, silicified zone of quartz veinlets and stringers and strong pyritization containing sparse base metal sulfides, oxidized and supergene enriched in gold and silver. Fracture filling and replacement in Jurassic volcanic tuff and Cretaceous sediments.	Shallow operations. Sporadic production from 1890's through 1904 of some 100 tons of ore averaging about 0.3 oz. Au/T, 7 oz. Ag/T and minor Pb.	Knight, 1970 ABM file data
26. Rubiana mine group (Green, Miller)	23S	11E	Cen. 6	Ag, Au, Cu-, Pb-, Zn-	Lensing, quartz-fissure vein with disseminated pyrite and minor base metal sulfides, oxidized and supergene enriched in silver and gold. Some silver chlorides. Wall rock is Jurassic volcanic tuff.	Open cut, adit, and tunnel operations. Worked sporadically from 1890's through 1942, producing some 600 tons of ore averaging about 28 oz. Ag/T, 0.2 oz. Au/T and minor Cu and Pb.	Knight, 1970 ABM file data
27. Smuggler Gulch mine group (Gold Base, Monster; Smuggler Gulch Gold Mg. Co., Fairchild)	23S	11E	SE $\frac{1}{2}$ 18	Au, Ag, Cu-, Pb-, Zn-	Irregular, lensing fissure zone of brecciated and pulverized, sericitized Jurassic welded tuff wall rock cemented by finely crystalline quartz containing disseminated pyrite and minor base metal sulfides, oxidized and enriched with gold and silver.	Tunnel and shaft operations. Probably worked since late 1800's and mainly in the 1930's. Total production would be some 250 tons of ore averaging about 1.2 oz. Au/T, 1.5 oz. Ag/T and minor Cu.	Knight, 1970 ABM file data
28. Warsaw mine group (Pittsburg, Reich; Huntington, Pyeatt, Hack, Anderson, Roxy Mg. Co., Bruce)	23S	11E	S. Cen. 18 N. Cen. 19	Ag, Au, Cu, Pb, Zn	Lensing quartz vein along a fault zone with pyrite stringers and associated disseminated chalcopyrite, galena, and sphalerite, largely oxidized and supergene enriched to chalcocite, covellite, malachite, native silver, embolite and possibly other silver halides. Wall rock at the Warsaw mine is Jurassic diorite while the Reich is an offset section in Jurassic tuff and diorite cut by rhyolite dikes.	Shaft and adit workings. Located in the late 1800's and produced through 1964 some 800 or more tons of ore averaging about 11 oz. Ag/T, 0.2 oz. Au/T, 2% Cu, and 1% Pb.	Knight, 1970 ABM file data
29. Yellow Jacket mine (Yellow Jacket Mines Co., Kelso, Reay & Setka, North Star Mines Inc.)	22S	10E	W. Cen. 22	Au, Ag, Cu-	Lensing quartz vein along a major fault zone containing disseminated pyrite and sparse base metal sulfides, mostly oxidized with supergene enrichment of gold and silver. Wall rock is Jurassic welded tuff cut by rhyolite dikes.	Shaft operations. One of oldest mines of district dating back to the 1800's and intermittently productive through 1938. Total estimated and recorded production would be some 200 or more tons of ore averaging about 1.5 oz. Au/T, 1.6 oz. Ag/T, and minor Cu.	Knight, 1970 ABM file data

# Yellow Jacket Mine, Arizona

by Edgar B. Heylmun, Ph. D.

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MAR



MAR

72

YELLOW JACKET MINE

SANTA CRUZ COUNTY  
ORO BLANCO DIST.

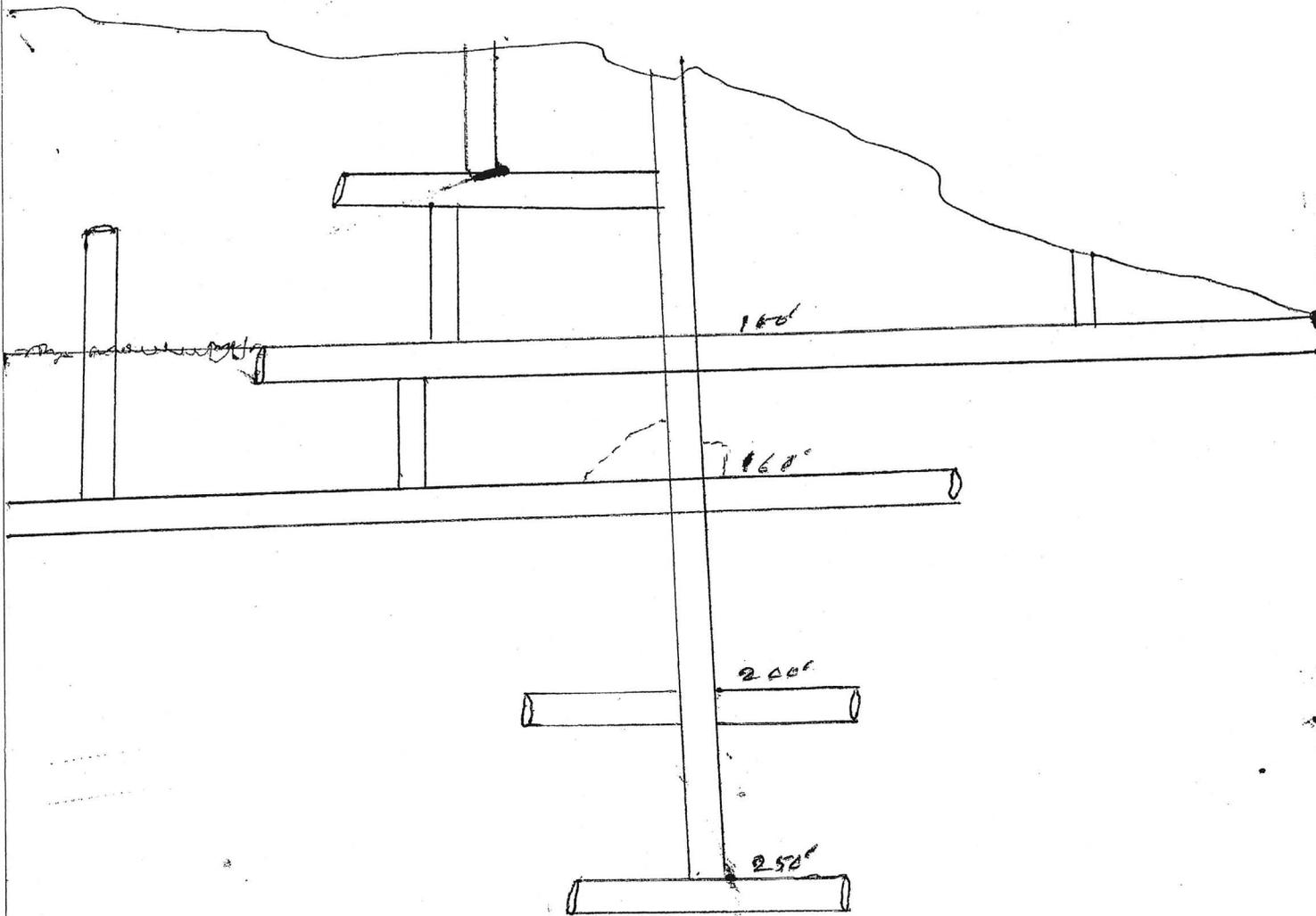
Walter G. Edwards, Arivaca, Ariz., stated that the YELLOW JACKET and BIG THREE GROUP of mining claims are still idle, and that no work has been done on the YELLOW JACKET, since repair work and sampling was suspended on Nov. 26, 1959.

AXEL L. JOHNSON - Conf. Report - 6-7-60  
(Arivaca)

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Walter G. Edwards - Dec'd April 1962

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Aprox copy of underground workings  
on  
yellow jacket mine

7-7-58

Mr. L. B. Gaskill  
2653 W. Catalina Dr.  
Phoenix

Mr. Gaskill does not know name of  
owner but will try to find out for us  
and let us know.

lp

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Mr. C. A. Johnson, Route 1, Box 301  
Apache Junction, Ariz.  
says he owns the YELLOW JACKET CLAIMS,  
Arivaca Dist., Santa Cruz County.  
2-3-59 LAS

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

1. Information from: MINE VISIT AND CHARLES (C.M.) LEMONS  
Address: 8350 E. WOODLANE ROAD TUCSON 85715 (298-5553)
2. Mine: YELLOW JACKET 3. No. of Claims - Patented 2  
Unpatented ?
4. Location: YELLOW JACKET WASH 4½ MILES SOUTH OF ARIVACA IN SANTA CRUZ COUNTY
5. Sec 21 Tp 22S Range 10E 6. Mining District ORO BLANCO
7. Owner: CHARLES LEMONS OWNS TWO OF THE THREE PATENTED CLAIMS IN THE GROUP.
8. Address: AS ABOVE
9. Operating Co.: AS ABOVE
10. Address: \_\_\_\_\_
11. President: \_\_\_\_\_ 12. Gen. Mgr.: \_\_\_\_\_
13. Principal Metals: \_\_\_\_\_ 14. No. Employed: VARIABLE (FEW)
15. Mill, Type & Capacity: CRUSHER, BALL MILL, TABLE AND MAY INSTALL FLOTATION
16. Present Operations: (a) Down  (b) Assessment work  (c) Exploration   
(d) Production  (e) Rate \_\_\_\_\_ tpd.
17. New Work Planned: COMPLETE THE MILL AND PERHAPS DO SOME CUSTOM MILLING  
AND POSSIBLE MINING AT THE YELLOW JACKET.
18. Misc. Notes: MILL IS SUPPOSED TO HAVE A CAPACITY OF 7 TONS PER DAY
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
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- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Date: 2-26-74

[Signature]  
(Signature)

(Field Engineer)

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MG WR 11/14/80: Received information that should correct files: Mr. Bob Johnson did not purchase the Yellow Jacket and Phoenix patented claims on the Ostrich Group of unpatented claims (all in Santa Cruz Co.). He merely took an option on the claims and then returned them to their owners. Mr. Charlie Lemmons of Arivaca owns the Yellow Jacket.

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RRB WR 10/23/81: Bill Baxter also talked to Charlie Little who used to work at one of the mines in the area. Mr. Little has bought the Yellow Jacket and is trying to promote it to mining companies.

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CJH WR 3/8/85: Mr. Charlie Lemons (c) visited and gave the ADMMR some assay returns on the Yellow Jacket Mine (f), Santa Cruz County. Unfortunately, they are not on an assay map. He also furnished us information relating to his Carbonate King #1-2 patented claims located in the Big Hatchet Mountains Wilderness Study Area in New Mexico. The BLM has requested permission to enter and examine his claims. Mr. Lemons says that he will not grant permission for fear of possible condemnation. He is going to seek council (Victor Verity) to explore the possibility of gaining patent on some of his unpatented mining claims adjacent to the Yellow Jacket as a swap for the New Mexico claims.

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YELLOW JACKET MINE

SANTA CRUZ

Charles Lemons installed small mill at the Yellow Jacket and since the rains started, is reported to be getting into production (not confirmed). GWI AR 73-74

MG/WR 3/14/79 - Mr. Charlie Lemons, 8350 E. Woodland Road, Tucson, Az., phone: 298-5553 is the owner. He has two patented claims, the Yellow Jacket and the Phoenix, and six unpatented claims. The road to the mine is in bad condition. Equipment on site includes a crusher, table, and 35 KW generator. 4/18/79 a. p.

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GI/WR 7/19/79 - G. Bott reports that the Yellow Jacket Mine is for sale.

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MG/WR 12/18/79 - Mr. Johnson in to get info on starting mining operations. He may buy the patented Yellow Jacket and Skunk (Ostrich) claims in Santa Cruz Co. He has begun to clean out the Ostrich tunnel.

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MG WR 8/7/80: Bob Johnson, Apache International Mining Co., 1005 Paseo Iris, Green Valley, 625-0312, called to give me information on his operations. He has spent more than \$50,000 purchasing and developing the Yellow Jacket and Phoenix Patented Claims, and three unpatented claims of the Ostrich Group (all in Santa Cruz Co.). He also has a section of claims called the Margarita Group in California Gulch (Santa Cruz) and six claims known as the New Jupiter (Pima Co.) in the Baboquivari Mts. Hazen Research has completed various gold recovery tests on ore from all these claims and some ores appear promising.

## NEWS ARTICLES= WESTERN PROSPECTOR &amp; MINER

JAN. 1975

Charlie Lemmens has slackened his work at the old Yellow Jacket Mine in the Arivaca District but is expected to have a crew hitting it hot and heavy again in the near future. The Yellow Jacket was a great gold mine back around the turn of the century.

Mar. 1975

Charlie Lemmens continues work on his Yellow Jacket Mine out from Arivaca and is believed to be in pay ore on the gold property, although Charlie isn't saying a word.

April 1975

Charlie Lemon continues his activities at his Yellow Jacket Mine in the Arivaca District.

Sept. 1975

Charlie Lemons is plugging away on development work at his old Yellow Jacket gold mine in the Arivaca country. The Yellow Jacket was a major producer of the precious metal in the early days of that District and bids fair to again become an important property.

YELLOW JACKET MINE

SANTA CRUZ

Mine visit. Yellow Jacket mine, road repaired, no sign of mining activity.  
GWI WR 1/4/72

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Charlie Lemons, 8350 East Woodland Road, Tucson, in office. States he purchased from Mrs. C.A. Johnson the Yellow Jacket and Phoenix mines. LP 7/5/72

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Mine visit, Yellow Jacket Mine. Talked to C. Lemons, owner, doing a little clean up work. GWI WR 3/6/73

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Field interview with Charlie Lemons in regard to progress of work at the Yellow Jacket mine south of Arivaca. GWI WR 2/7/74

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Mine visit at Yellow Jacket. GWI WR 2/26/74

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Pat. Phoenix & Yellow  
Jacket mines in  
Santa Cruz Co.  
Owned by -  
Charlie M Lemons  
8350 E Woodland Rd.  
Tucson Arizona 85715

9/13/77

L. B. Gaskill  
2653 W. Catalina Dr.,  
Phoenix, Arizona

June 4, 1955

C  
O  
P  
Y

REPORT ON THE YELLOW JACKET MINE

Oro Blanco Mining District  
Santa Cruz County, Arizona

Kind of Mine

Gold, with a small amount of silver.

Location

The property is located seventy miles southwest of Tucson, Arizona, in the Oro Blanco Mining District of Santa Cruz County. It is situated in Township 22 S, Range 10 East, and is approximately 10 miles south of Arivaca, a small mining community.

Accessibility

A county-maintained dirt road runs within four miles of the property. The mine is reached from this point over a mine-access road. This road has been rebuilt recently and is now in condition to handle the hauling of heavy mining equipment.

Elevation

This mine lies at an elevation of 4583 feet above sea-level.

Climate

Climatic conditions are such that this property can be worked the year around. The mean average precipitation is 26 inches.

Topography

The property is located in low, rolling hills, serrated by various small gulleys and gulches.

Vegetation

In the particular vicinity of the mine, the terrain is sparsely dotted with scrub oak, juniper and manzanita, none of which is commercial size or quantity and cannot be used for mining purposes.

Extent of Property

There are 2 full patented lode mining claims and 2 unpatented, comprising an area of approximately 40 acres. The names of these claims are the Yellow Jacket Mining Claim, comprising 20.32 acres, and the Phoenix Mining Claim, comprising 19.47 acres. They are recorded in Pima County, in the office of County Recorder, in Book of Deeds to Mines, at the Book and Page numbers as follows:

<u>Name of Claim</u>	<u>Book No.</u>	<u>Page No.</u>	<u>Mineral Certificate No.</u>	<u>General Land Office No.</u>
Yellow Jacket	16	264	93	6776
Phoenix	22	91	499	26055

Although this mine is located in Santa Cruz County the original recordings including the deeds are recorded in the Office of the County Recorder of Pima County, because at the time of the issuance of these deeds Santa Cruz County had not been formed, however the taxes on the property are paid at Nogales, Arizona, county seat of Santa Cruz County.

Values

Following are listed a number of settlement sheet and certificate of assay results, which were received by Mr. T. E. Kelso, from an extensive sampling program that he carried out on the property from September through December, 1932, to determine the value of the mine:

<u>Laboratory No.</u>	<u>Amount in Tons</u>	<u>Gold per Ton</u>	<u>Silver per Ton</u>
50361	50.00	1.20 oz.	2.30 oz.
50392	1.50	1.90 "	2.00 "
50466	4.42	0.75 "	1.50 "
50502	2.89	1.30 "	1.60 "
50509	5.45	1.76 "	2.25 "
50519	2.67	1.67 "	2.00 "
50521	2.70	3.15 "	4.20 "
50657	2.35	0.90 "	3.60 "
50593	2.55	1.31 "	3.00 "
50685	1.15	3.80 "	1.00 "
50686	.68	0.84 "	0.50 "
50727	1.78	1.51 "	1.50 "
50728	.91	5.12 "	2.00 "

Miller's Assay Office, Nogales, Arizona  
Signed: Hugo W. Miller, Assayer.

Below are some average values from samples taken from the main shaft by Mr. E. E. Noon, E.M., now deceased:

\$13.60	\$16.00	\$42.00	\$23.15	\$42.16
.68 oz.	.80 oz.	2.10 oz.	1.16 oz.	2.16 oz. - \$47.95

These values were taken at the \$20.00 price for gold.

These averages compiled with those taken by Mr. Kelso give a mean average assay in the mine of 1.63 oz. of Gold per ton and 2.11 oz. of Silver per ton. This means a gross value per ton, at present day prices, of Gold and Silver - \$58.85.

Geology

The entire length of three thousand feet of the property is traversed by two parallel dikes of diabase many feet in width. The dikes assume a near-vertical pitch, dipping approximately four feet to the hundred. The trend of these dikes is from the northwest to the southeast, dipping to the northeast. The porphyritic materials which cut by these dikes are not distinguishable in the upper or shallow workings on account of heavy leaching, which has taken place in the brecciated quartz area adjacent to the dikes for a good distance. The zone of brecciation in some places has a width of over a hundred feet from dike contacts. These shattered areas have made a natural access path for descending solutions, which in turn leached the contact zones, the former country rock being now altered to an aluminous oxide or silicate. There are four contact zones in these two claims, but only one of the foot-wall side of the northernmost dike has ever been opened for mining.

Development

There has been considerable development work done on these claims, consisting of the main shaft which is 250 feet deep, the original location shaft which is 38

feet in depth, shaft No. 2 which is 62 feet in depth, a 22 foot winze, 2 raises, 62 feet and 50 feet in length, as well as 1937 feet of drifting and cross cutting.

The main shaft, while sunk on the vein, was not on the foot-wall, and with the various cross cuts that have been driven the true width of the main vein has not as yet been determined. However, on the 100 foot level, some of the old square-sets show that between 25 and 30 feet were mined.

According to Mr. T. E. Kelso, a retired mining engineer and geologist, crosscuts on the 150 foot level show a vein width of 42 feet.

Above the 100 foot level two small stopes were mined. The one to the southeast of the shaft was 105 feet in length, the one to the northwest of the shaft was 90 feet in length. All of the original values and productions, with the exception of the ore taken from the shafts, drifts, winzes and cross-cuts, was derived from these two small stopes.

Due to the milling methods used by the original company, which was amalgamation, only 40% of the Gold value was recovered. See accompanying map.

#### Water Supply

According to Mr. Kelso, who de-watered this mine in order to carry out his sampling program in 1932, the mine made 40 gallons of water per minute. This water has been tested and is free from acidic solutions and can be used for milling purposes as well as domestic use. There is a 40,000 gallon water tank situated on the surface. This tank was dug into solid rock, lined with brick and with guniting could be restored to excellent condition.

#### Power

There is no available power within a reasonable distance of this property. Power would have to be obtained from butane or diesel-generated units.

#### Mill Site

There is an excellent mill site located within some 150 feet of the main shaft of the mine. The benches are already cut in the side of the hill, and could be utilized for any type of future mill.



DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Yellow Jacket Mine

Date Dec. 1, 1959

District Oro Blanco District, Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from Walter G. Edwards. No Visit.

References Report of Oct. 6, 1959.

Present Mining Activity The mine was closed down on Nov. 26, 1959. Mr. Edwards did not know if the mine is closed down permanently, or only temporary. Mr. Bradbury, the operator, however, took the 2 rented air compressors back to Phoenix.

Review of Mining Operations Since my last report of Oct. 6, the water in the shaft was pumped out to a few feet below the 150 ft. level. The 150 ft. level workings were then sampled, which included one drift going east for 600 ft., one drift going west for 300 ft., and two small stopes.

The operators, then, did a considerable amount of long hole drilling, drilling from the sides of the 150 ft. level drifts, and samples were taken of the sludge from the drill holes. Mr. Edwards reported that several hundred samples were taken and sent in for assays.

Mr. Edwards stated that he did not know if the results of the sampling proved favorable. The fact that operations closed down, however, would seem to indicate that they did not come up to expectations.

Remarks Mr. Bradbury also had the "Option to Purchase" the Big Three claims, adjoining the Yellow Jacket on the NW, and owned by Walter G. Edwards.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Not for publication

Mine Yellow Jacket Mine

Date Oct. 6, 1959

District Oro Blanco District, Santa Cruz Co.

Engineer Axel L. Johnson

Subject: Field Engineers Report. Information from William C. Bradbury. No visit.

Location About 9 miles south of Arivaca. Take the Arivaca-Ruby road for a distance of about 5 miles. Turn right (W) and drive 4 miles to the mine. Last mile is steep and rough.

Number of Claims 2 patented claims, the Yellow Jacket and the Phoenix.

Owner C. A. Johnson, Lakeside, Arizona.

Option to Purchase William C. Bradbury, Rte. # 1, Box 104, Miami, Arizona, representing a Canadian company. The name of the company is not yet open for publication.

Principal Minerals Principally Gold, with a small amount of Silver.

Present Mining Activity Repairing the main shaft. 7 men working, the work being done on 3 shifts.

Geology The country rock is rhyolite and andesite. The ore is found in fissure veins, with cross feeder veins, intersected by cross faults. Vein material is principally quartz breccia. There are 3 main parallel veins, striking NW-SE, viz:

- (1) Yellow Jacket vein, averaging 20 ft. in width, & dipping 70 deg. to the NE.
- (2) Phoenix vein, averaging 11 ft. in width, and dipping 85 deg. to the SW.
- (3) Green vein, averaging 2 ft. in width, and dipping 40 deg. to the NE.

Ore Values The Phoenix vein is reported to average about \$ 16.50 per ton in Gold values.

Milling & Marketing Facilities None. A mill will, no doubt, be required to upgrade the ore.

Past History & Production The Yellow Jacket claim was patented in 1883, and the Phoenix claim in 1887. Mine was last operated in 1895 by the Pittsburgh Co.

Old Mine Workings and Condition

- (1) Main shaft (inclined 70 degrees) -- 250 ft. deep. The shaft is caved in near the top, and in need of repairs the balance of the way. Water stands at 7 ft. below the 100 ft. level.
- (2) Main adit -- 500 ft. long, intersecting the main shaft at the 100 ft. level. This has recently been repaired and retimbered by the new operators.
- (3) 150 ft. level ---- about 900 ft. of drifts and 200 ft. of crosscuts.
- (4) 200 ft. level ---- about 150 ft. of drifts.
- (5) 250 ft. level ---- about 50 or 60 ft. of drifts.
- (6) Two additional shallow shafts, 60 and 40 ft. deep respectively.

Present Mining Operations Present operators started work on June 27, 1959. Since that time, they have cleaned out and retimbered the main adit, 500 ft. in length, and sampled same. They are now repairing the main shaft below the 100 ft. level in order to get down to the 150 ft. level for geological examinations and sampling.

Proposed Plans If sufficient ore showings are found on the 150 ft. level, operators will repair the shaft down to the 250 ft. level. The drifts and cross cuts on the 200 and 250 ft. levels will then be sampled, and exploration work by underground diamond drilling will also be done if indications are favorable.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Yellow Jacket Mine Date April 7, 1959  
District Oro Blanco District, Santa Cruz Co. Engineer Axel L. Johnson  
Subject: Field Engineer's Report. Information from Walter G. Edwards

References: See previous report on file under date of June 4, 1955.

Location: Near Ruby and about 10 miles south of Arivaca.

Number of Claims: 2 patented mining claims, the Yellow Jacket and the Phoenix.  
Also 2 unpatented claims.

Owner: C. A. Johnson, Lakeside, Arizona

Principal Minerals: Principally gold, with a small amount of silver.

Present Mining Activity: Inactive.

Geology: See report on file under date of June 4, 1955.

Ore Values: See report described above.

Milling & Marketing Facilities: No mill on the property.

Mine Workings: 1 main shaft -- 250 ft. deep (inclined 70°) with about 2,000 ft. of drifting and crosscutting on five levels. There is approximately 150 ft. of water in this shaft.

There are also two additional shafts, one about 60 ft. deep, and the other about 40 ft. in depth.

COPY

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COPY

COPY

COPY

\* \* \* \* \* REPORT ON \* \* \* \* \*

\* \* \* \* \* YELLOW JACKET MINES COMPANY \* \* \* \* \*

NOTE

This report is a copy of the original report.

The original was written by A. E. Noon, Nogales, Arizona.

This is only part of the report which Mr. Noon now has.

This mine is owned by Charles A. Johnson. *See*

For complete information write to:

Mr. C. A. Johnson  
Lakeside, Arizona

## YELLOW JACKET MINES COMPANY

The property of this Company consists of the five valuable lode claims known as the YELLOW JACKET, CROWN POINT, WASP, and BLACK POINT. Each claim contains over 20 acres, being 1500 feet long and 600 feet wide. They are all contiguous and make a total acres of over 100 acres of rich gold mining land, which has been extensively developed and equipped with complete mining plants and residences for manager and employees, and boarding house.

### THE COMPANY HAS NO DEBTS

The entire property, including the mines, plants for mining and milling its ores, all the extensive developments and improvements of every kind, has been paid for in full. There are no back taxes, liens or encumbrances of any kind against this Company's property.

### LOCATION OF PROPERTY

These mines are located in the Oro Blanco Mining District, Santa Cruz County, Arizona, close to the town of Oro Blanco, six miles from the town of Arivaca, twenty-eight miles from the town of Nogales, the county seat of Santa Cruz County, which is on the Sonora Railway, a branch of the S.P. Railway running from Benson, Arizona to Calabassas, a railroad station on the same road to the border of Sonora, Mexico. It is sixty miles to Tucson, Arizona, the principal city of Arizona, on the main line of the S.P. Railroad.

### VEIN FORMATION

The vein formation of this district is porphyry, rhyolite, granite and shale; the ore generally being in soft quartz and sometime in porphyry.

The vein as a rule is almost perpendicular. The YELLOW JACKET vein is a true (fissure) in porphyry, with not a break in the wall, in length or depth, as far as discovered, being well defined and strong, and varying from 10 to 30 feet wide between walls. It is the Mother Lode of this section of this country and can be traced by its outcroppings for several miles into Sonora, Mexico and many miles beyond the border, where some of the best and richest mines in the world are located on this belt.

Several well known gold mines, just south of the YELLOW

JACKET GROUP, on this belt are being developed and equipped with plants of machinery for working them, and they all promise well.

This Main Vein extends for a distance of 6000 feet through the entire length of the YELLOW JACKET, WASP, HORNET, and CROWN POINT.

The Parallel Vein, on the PHOENIX and BLACK POINT CLAIMS, with all the spurs and cross-veins found on the other claims, have been partially developed (as noted further on). They add 4000 feet to the 6000 feet, noted above, making a total length of 10,000 feet which is an immense area which to mine ore.

The Green Ledge Vein, on the YELLOW JACKET MINE is parallel to and about 12 feet east of the Main Vein, and is from 3 to 7 feet wide. Its pitch is about 65 degrees, while the Main Vein pitches about 70 degrees. The character of this ore is quite different from that in the Main Vein, being a dark gray siliceous quartz, covered with green spots, with native or free gold scattered through it, and being visible to the naked eye.

This ore is High Grade, and has made handsome returns from Mill Runs.

#### DISCOVERY OF ORE

The ores of this district were discovered by early Mexican Explorers by their outcroppings from the surface. Numerous remains of Old Arastras, scattered all over the country, show plainly that the surface ores were very extensively worked by those crude Mexican methods.

The discoverers of the YELLOW JACKET MINE found bold, high out-croppings of rich ore, from which they took down many tons, sending it to Oro Blanco, where it was worked in small mills. They then sunk a shaft on the ore to a depth of 38 feet and drifted 85 feet from the bottom on a wide vein.

They mined and milled from that ground over 1000 tons of rich ore at a value of Twenty Dollars a ton. They then obtained a United States patent for the YELLOW JACKET MINE and located the PHOENIX MINE.

#### YELLOW JACKET DEVELOPMENT

The main shaft is 250 feet deep, with 4 levels driven north and south on the vein.

The First level, 100 feet from the surface, runs 323 feet north and 268 feet south. Two Wings are sunk 50 and 20 feet deep, and one up raise is made in this level. The big ore shute on this level show a total length of 300 feet by 85 feet high, and from 10 to 30 feet wide and furnished 12,000 tons of ore.

The Second level, 150 feet from the surface, runs 105 feet north then 265 feet south. The vein is cross cut 4 distances of 24, 12, 24 and 42 feet in length.

The Third level, 200 feet from the surface, runs 10 feet south, and is cross cut from its south end a distance of 3 feet east and 28 feet west.

The Fourth level, 250 feet from the surface, is the deepest point reached on the property. It runs 12 feet north and 10 feet south. The vein is cross cut at north end 25 feet and at the end 75 feet in length.

The third Shaft was sunk at a point at 200 feet northwest from the main shaft, going from the surface to the First level, which was reached at this point at a depth of 62 feet.

A cross cut Tunnel was recently driven west a distance of 200 feet from a point in the gulch about 200 feet northwest from the Main shaft, intending to cross cut the Green Ledge Vein, and which it will do a short distance further on.

This Tunnel cuts several feeders of veins of very high grade ore, which will be developed by this Company shortly.

This Green Ledge Vein has been developed but very little below 38 feet from the surface, where it was drifted on for some distance. But some of the best and high grade ore on the YELLOW JACKET has been taken from this vein.

Further development will no doubt produce large bodies of rich ore similar to that already found.

#### SURFACE IMPROVEMENTS

These have been made mainly on the YELLOW JACKET and PHOENIX MINE and consists of first class mining and milling plants and several buildings for carrying on the business of the Company, and are described below.

A TWENTY STAMP MILL, and complete amalgamating plant, for ore treatment.

A LARGE ROCK CRUSHER, to prepare the ore for the stamps, set below the ore bins.

TWO 60 H.P. BOILERS which supply more steam than is required.

#### ESTIMATED ORE PRODUCTION

Mined from 1st workings (1000 tons valued at 20 dollars)	20,000.00
Mined from 1st level (12,000 tons valued at 18 dollars)	216,000.00
Mined from Green Ledge (70 tons valued at 55.6 dollars)	3,560.00
Mined from Green Ledge (70 tons at 30.85 dollars)	1,357.00
Concentrates one lot of (1,140 pounds at 83.88 dollars)	47.81
Concentrates one lot of (60 pounds at 324.69 dollars)	9.74

Total amount produced (Approx.) 13,200 tons, bringing in 234,134 dollars.

The above estimate is as accurate as can be gotten from data obtained, and is borne out by an examination and measurements made of the ground worked out and of the waste dumps. The average value of the ore is shown by the exhaustive assays taken from all the parts of the exposed ore bodies in the mine which run from a few dollars to 904 dollars a ton.

This ore production has come from comparatively small area of the veins so far developed, leaving nearly all of the ore in that ground untouched and ready to be blocked out and mined.

Considerable Float ore taken from the surface of the YELLOW JACKET MINE was worked by Mexicans in Arastras some years ago, and is said to have yielded 70 dollars a ton. Quantities of this rich ore (Float) were recently collected and mixed with some low grade ore and was milled in the YELLOW JACKET MILL, some of the Float assayed 800 dollars a ton. More of this ore will no doubt be found in many places on the property when the veins are further opened up and explored by this company in the future.

#### PRESENT ORE RESERVES

The Main Shaft is all in ore from the surface to a depth of 250 feet. The First level is all in ore for the entire distance

of 591 feet drifted on, and 220 feet in 5 cross cuts from 15 to 83 feet long. The up raise from this level, the first shaft 38 feet deep with its drift of 85 feet long, the main and third shaft, the two winzes 0 to 20 feet and the other 50 feet, sunk to the second level, all show ore.

The Second Level is all in ore in the 379 feet of drifting, and 102 feet of 4 cross cuts from 12 to 42 feet long. This develops a block of ground from the surface to the floor of the second level 150 feet deep, and for a length on the vein of 581 feet, showing the ore to be continuous to these points.

The Third Level is all in ore in its drifting and cross cut work of a total of 71 feet, showing the ore to be continuous to that depth.

The Fourth Level is still in ore in its drifts of 22 feet and  $\phi$  cross cuts of 21 and 75 feet, the vein being a strong and rich in ore as it has been from the surface to this point, 250 feet below, with every indication of going to great depths, as all-true fissure Veins always do.

The present development shows a body of ore 250 feet deep and 591 feet long, and if only 20 feet wide (which the cross cut shows is much wider) should contain 2,955,000 cubic feet of ore, and allowing 10 cu. feet to a ton, it makes 295,500 tons of ore.

#### THE PHOENIX MINE

This is a patented property. It lays adjacent to and side lines of the YELLOW JACKET and WASP on the east. It is 1500 feet long and 600 ft. wide, and contains over 20 acres. The mill and some of the principal buildings are located on this ground. A fine spring on this mine supplies good water for drinking and other domestic purposes.

The development, consist of a tunnel 200 feet long, running to cross cut the main. There are several shafts, with enough work done to prove the existence of a strong vein running parallel to the YELLOW JACKET and GREEN LEDGE VEINS, no doubt this mine will prove, with further developments, to be as valuable as the YELLOW JACKET.

#### THE BLACK POINT MINE

This is the first south extension of the PHOENIX MINE, and is adjacent to and side lines the WASP on the east. It is 1500 feet long and 600 feet wide, the same as the PHOENIX

and other mines, and it carries the south extension of the PHOENIX VEIN the whole length of the property. There is a shaft sunk to prove the vein. The work done so far on this claim shows it to be prospectively as valuable as the other mines and adds much to the value of the group, which expert mining men pronounce to be among the best known.

Mr. Stephen Monteleone  
806 Security Bldg.  
Los Angeles, California

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Yellow Jacket Mine  
file

Dear Sir:

In compliance with your verbal request, I have made a careful investigation of the properties owned by the Oro Blanco Mining Company in Oro Blanco Mining District, Santa Cruz County, Arizona. The Company, I find, have claims located to cover a large vein which is traceable for several miles through this District, having a trend northwesterly and southeasterly. Development work on the property consists of shafts from ten to twenty feet in depth. In addition to this a tunnel has been started at the base of the mountain at the south end of this group of claims of which you have maps which also shows this work.

The tunnel has been driven with a view of intersecting the large vein referred to and which, at the surface, shows copper carbonates containing from one and one half to eight percent copper with occasional fragments of red oxide. General conditions indicate leaching of the oxidized copper-bearing sulphides and an enriched ore zone below. There are also numerous smaller veins on the property but the assay results from samples taken, which are hereto attached, show that the metal values are not sufficient to permit the ore to be mined and shipped to smelters at a profit. A number of the veins could however, be worked profitably with a modern well equipped mill operating in the district.

The property is wholly in a prospective state and from results obtained from adjoining properties, which you have under consideration, I would recommend the holding of this group of claims together as they will undoubtedly, later, on, be of large value.

As you are aware, while I was engaged on the examination of the Oro Blanco Company's property, I was very much interested with the mineral indications on the properties immediately south and adjoining this group of claims and found that this area was owned and controlled by two parties, one property known as the Ragnoroc Group consisting of three patented claims owned by a party at Buffalo, New York, and the adjoining property south of Ragnoroc Group consisting of five claims known as the Austerlitz Group. This property is owned by Dr. Noon of Nogales, Arizona.

On the Austerlitz Group a large amount of surface work has been prosecuted as well as under ground work by means of a tunnel. This work being in the oxidized zone and for some reason, probably lack of mining experience, this tunnel was driven away from the ore vein, having cut the vein at a point not heavily mineralized, they drove on not realizing that the vein had been intersected.

In 1912, Woodworth and Layne opened up a large body of sulphide ore by running a cross cut from this tunnel at the point the vein showed, and from the ore they extracted, their report to the State Commissioner showed that they shipped in 1912, 1414.5 dry tons of ore and 18.4 dry tons of concentrates for which they received \$57,224.44. What they shipped in 1913 is not known as the shipments were reverted to Selby & Company, San Francisco, California, but it is

estimated that over \$96,000.00 was shipped from this property during their term of lease, but due to the method of mining with lack of timber, etc., a cave occurred, at which time they ceased operations, and it will now require a shaft north of their workings to intersect this ore body at a lower depth. Maps accompanying this report will show the proposed shaft.

The Austerlitz and adjoining claims show an oxidized surface ore zone. The ore of which will average well in gold and silver and often run to high grade. The sulphide ores opened up at greater depth are extensive, and as shown by smelter returns, of good commercial value.

I was fortunate enough to secure a report made by Mr. F. B. Schermerhorn which I hereby attach as it is very complete in detail, he having made a thorough and exhaustive examination, as careful reading of his report will show. His examination and also that of another Mining Engineer, Percy C. Sharp, made for another party, practically correspond, and it must be noted that both these reports were made before the sulphide zone and ore at greater depth were discovered or before the operation of Woodworth and Layne who extracted the \$96,000.00 from the property.

In addition shipments made later by Dr. Noon and his son who extracted from the gold bearing oxidized zone in the Barkley tunnel, 5,300 pounds ore, sampled gold \$13.60 and silver 14 ounces per ton and from a point on the Fisher vein 5,100 pounds which ran \$38.86 gold and 18 ounces silver and from other points on the property 20,900 pounds of ore sampling gold \$30.00, silver 17 ounces.

In conclusion I will say while the Austerlitz property has considerable merit, present development work is not sufficient to place ore in sight for economical extraction, but I am led to believe, from my superficial examination and from the facts herein, that further exploration would result in the discovery of important ore bodies such as would place the property in rank with many of the large paying mines of the southwest.

There are producing properties in the district which are operating night and day running their mills to full capacity. The Montana Mine, only a short distance from the Austerlitz, and on the same ore zone, is operating a mill of 200 tons per day capacity and I am reliably informed that these properties are now paying enormous dividends.

The Montana Mine, located on the same ore zone as the Austerlitz, is situated about eight thousand feet in a southwesterly direction from the Austerlitz property, and though a large daily production of commercial ore has been maintained for past years, the workings of the property have only been prosecuted to a depth of two hundred (200) feet, thus indicating that the vein has not only maintained a good average width, but also a uniform metal value. Operations are now under way to sink the present working shaft on this property, to a depth of five hundred (500) feet. Work will then be prosecuted to block out ore for economical extraction so that the present plant may be increased to handle one thousand tons or more of ore per day.

At the Yellow Jacket Mine which is also on the same ledge as the Austerlitz property, and which lies about 15000 feet in a northwesterly direction from the Austerlitz, operations are also under way for increased production. This mine, like the Montana, has been a large producer of gold and silver ore, and considering that its deepest workings are not more than one hundred and fifty feet, this property has made an unusual showing; and taking into consideration these developed mines on both ends of the Austerlitz property and which are located on the same ore zone as the Austerlitz, in connection with the unusual returns from the limited developments the Austerlitz has received, and the large quantity of ore showing on the surface, or in the oxidized zone, and what has been mined and worked in arastras by the Indians and Mexicans, (a primitive method which is sometimes employed to-day by the Indians and Mexicans in remote districts in the Republic of Mexico), as well as the large tonnage which was bought and treated by the different small Mills operating in the earlier days in this District as shown by records, the Austerlitz Mine may be considered a proven property and not an undeveloped prospect, and will under careful management by experienced mining men, be developed into a very large and profitable producer of gold, silver and copper ores, from which large returns may be expected for many years to come, and taking into consideration the price and terms upon which this property has been acquired, I most earnestly recommend the development work as herein set forth.

Conditions as to transportation in this district have been greatly improved upon within the last year. The Montana Mining Company having completed a good auto road from the district to Nogales, a distance of only twenty-three miles.

I enclose blue prints from maps made by engineers employed by the owners of the Austerlitz group, and while I have had no opportunity to make a survey of the property, I am of the opinion, from my personal observation of the workings on the property that these maps are correct. I have added, however, a proposed shaft which you will note to be sunk to a depth of 180 feet. This should intersect the ore vein which I called to your attention during our visit to the property.

Trusting that this report will give you a clear idea of conditions and awaiting your further instructions, I am,

Respectfully submitted.

/s/ J. W. Bible

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Mining Engineer.

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REPORT ON

THE AUSTERLITZ CONSOLIDATED MINING GROUP

By F. B. Schermerhorn, M. E.

HISTORICAL:

The Austerlitz group of mines is situated in the Oro Blanco Mining District, Santa Cruz County, Arizona. The early history of this district is lost in the mystic reaches of the past. It was probably placer mined by the Axtecs and later worked by the Spanish Friars. The Tumacacori Mission was established by the Spanish Friars about 1530 and is known to have been one of the wealthiest missions ever established in the present limits of the United States. They operated these mines until about 1830, when, because of differences with the Mexican Government, they dismantled and closed the mission and returned to Spain.

After the departure of the Spanish Fathers, the Mexicans began working in the district. There are still to be seen in a strip of territory about a mile wide and three miles long, the remains of seventy odd of the old arastras. In all this time that the district had been worked, from the time of the Axtecs down to the American occupation in 1849, nothing but the surface of the ores had been worked. No shafts had been sunk nor tunnels driven. The reason for this is that the surface ores were very rich on the divide and average about sixty feet in width. There are also two parallel ledges, one on either side, each about one hundred feet distant from the main ledge, each of these parallel ledges averaging about eight feet in width. At the time of the American occupation in 1849, the ores upon the surface still averaged about \$30.00 per ton gold and silver, but at this time the discovery of gold in California caused both the Americans and Mexicans to desert this district for the new eldorado.

About 1865 a man by the name of Clinton Thompson returned from California to the district. He located several claims, among them the Austerlitz, and began working the ores in arastras. Some two years later Thompson was killed by the Indians.

In 1869 Mr. Townsend of New York, having heard of the district from Thompson, sent a mining engineer from New York to re-locate the properties. The engineer sent out by Townsend located the Austerlitz Group and began development of the property.

Mr. Townsend for the purpose of better protecting his interests in the district, sent over from San Francisco a Doctor Noon, who is still residing in Santa Cruz County. Mr. Townsend got into financial difficulties and deeded all his right, title and interest in the Austerlitz Group to Dr. Noon, in whose possession the title has since remained. The Doctor has made several attempts to work the property, but has never made more than a trivial success of any of these attempts, because of lack of funds with which to properly equip the property as well as a lack of knowledge of mining operations. He has leased the property a number of times, as a matter of fact, all of the money that has ever been made out of the property has been made by the leasers. I succeeded in getting hold of the details of two lists of ores which were shipped to the Arivaca Mill.



southeasterly into Mexico. The width of this particular belt is about 200 feet. The length, although undeveloped to any particular extent except a short distance both northwest and southeast of the Austerlitz, ~~is probably~~ is probably 40 or 50 miles. Along this gold belt it is worked for the placer gold by both Mexicans and Indians.

#### WOOD, WATER, ETC.

This district is well watered. There are numerous springs in the various gulches of the range of mountains from which an abundant supply of water can be obtained. The rainfall in this section, I am informed, averages 18 inches a year. Timber consists wholly of live oak. A plentiful supply for fuel purposes can be obtained in the Austerlitz Group and purchases from the reserve, but all mining timbers and lumber for other purposes must be obtained elsewhere. There is an excellent wagon road from Tucson some 80 miles northeast, to the property. There is also a very good road from Nogales, some 45 miles to the eastward, but in its present condition, heavy loads of freight could not be brought over it.

#### DEVELOPMENT

Most of the development of this property consists of open cuts exposing large bodies of ore lying blanket form on the eastern side of the mountain. These ore bodies are for the most part simply large fragments or bodies of ore, which have broken off from the ledges and slid down the mountain side. There is a shaft near the western side line of the Austerlitz, which has been sunk to a depth of 130 feet. The shaft was evidently for the purpose of catching various ledges from the Austerlitz-Parallel columns, this group consisting of five claims. The shaft should strike the east parallel vein at a depth of 230 feet. There is also a tunnel known as the Barkley tunnel, 461 feet in length, cutting clear through the mountain. Of this tunnel I will speak more fully later.

The silver in these ores is in the form of a chloride, and from long exposure, the dumps have been considerable leached by the action of the elements, the fine gold also being carried down to the bottom of the piles. Therefore, it is fair to conclude that all samples taken from the dumps are below the average value of the ore, the samples having been taken, in every instance, from the top of the dumps. I would expect that in these dumps the actual value recovered would be equal, if not in excess of, the values shown by the assays taken. I commenced sampling near the extreme south end of the Austerlitz Claim very near the top of the mountain.

Sample No. 1. Open cut in the blanket. Blanket about 12 feet thick, much ore exposed. Sample of ore pile of 12 tons.

Sample No. 2. Open cut in blanket. Thickness of blanket never determined. Large amount of ore in sight. Sample ore dump of 20 tons.

Sample No. 3. Opening on small spur vein. Vein 20 inches wide. Hole 4 feet square sunk to a depth of about 5 feet. No. 6 shaft 35 feet deep, sunk on across vein or spur between the main ridge and the west parallel ridge, said shaft was sunk to depth of 35 feet. Sample of this dump and second class ore taken from shaft, all the first class ore having been removed. The first class ore in this vein, was worked in an arastra and the actual value of the ore

from this shaft is unknown to the owner.

No. 7. Over 50 feet open cut run in on the top of the ledge. Face cut 12 feet high. This cut was run so long ago that its history is not known even to the oldest inhabitant. Took grab samples of the waste piled up along the side of the cut.

No. 7A. Was taken from a small pile placed near the entrance of this cut.

No. 8. Sample across the face of this cross ledge, ledge 3 feet wide.

No. 10. Taken from same as No. 9. Over 400 tons second class ore. This ore has been carefully assorted, it is very high grade and was shipped to the smelters, some shipments running as high as \$158.00 per ton in gold and silver. Lower grade ores were shipped to Arivaca, one averaging \$26.75 gold and silver and another lot averaging \$17.67 gold and silver, received and paid for by the Arivaca Mill. This ore, I am informed, all came out of the 65 foot shaft before mentioned.

No. 11. Sample taken from an old pile of 10 tons. This place from which this ore was obtained, is unknown, but probably out of the cut before mentioned as Nos. 4 and 5.

No. 12. A sample from a dump of 20 tons, place from which it was taken is unknown. At this there place are a dozen small piles or lots of ore, which were taken at the bottom of the 65 foot shaft by the present owners, the ore being closely associated, the first class being put into these small piles and the second class being thrown over the dump.

No. 13. Open cut on blanket. Heavy body of sulphate showing underneath the ore. Sampled one pile of 35 tons of these heavy sulphates.

No. 14. Sample pile of 60 tons of unsorted ore taken out above the body of sulphates before mentioned.

No. 15. Open cut on claim known as the Addition. Goodly showing of ore. Sample 21 ton lot.

No. 16. Sampled open cut on blanket. Plenty of ore showing. Sampled pile of 10 tons.

No. 17. Open cut blanket of milky white quartz. Sampled lot of 25 tons. This work was done by Clinton Thompson. So far as the present owners know. This lot of ore has never been sampled.

No. 18. In an open cut down on the Addition claim, about 300 feet from the east side of the Austerlitz. Very large amount of ore showing. Sample lot of 100 tons of all second class ore. The ore from this cut was closely assorted, the first class ore being worked in an arastra.

No. 19. An open cut in an alluvial deposit in the bottom of a little draw. In running this cut 50 tons of ore was taken out and piled up on the dump. Considerable ore still shows on the face and sides of the cut.

No. 20. A lot of 60 tons of ore and waste was taken out at point 12 on map of the Barkley tunnel.

No. 21. Lot of 100 tons taken from point marked "Upraise" on map of Barkley tunnel.

No. 22. In the summer of 1898, Charles J. Barkley, before mentioned as having made an agreement to purchase the property, started to run a cross-cut tunnel through the mountain. This tunnel, either fortunately or unfortunately, as you may wish, as soon as he cut through the surface soil or drift, struck a northeast, southwest fault line. There was both a vertical and lateral movement along this fault line. The fault line is badly broken for a distance of 50 feet. The lateral movement along this line turned the ore from the northwest, southwest course to a southwest northeast course. The bodies along this fault line considerably mixed up, being irregular in occurrence, but as a rule, not badly shattered or leached. The throw so far as I have been able to judge from the surface, is 80 feet. The foot wall side of the fault line seemingly moved farther westward than the hanging wall side did eastward. The first ore struck in this tunnel was at a point 140 feet distant from the portal at the 249 foot station, an upraise was started.

No. 23. Just beyond the upraise a cross-cut was run, intersecting the 65 foot shaft at the bottom, 30 feet distant from the tunnel. Two drifts I understand, are run out on the ore from the bottom of this shaft. Drifts and shafts are caved in so that it was impossible to get into them to examine them. At a point on this cross-cut, 12 feet from the tunnel, another drift has been driven a distance of 135 feet. This drift is very irregular in its course, and was evidently run for the purpose of striking a 3 foot ledge, which shows on the surface spoken of under Nos. 6, 7 & 8. If it was the intention of this cross-cut, it was not run far enough by about 50 or 60 feet. The drift was run during the past winter by T. B. Wilde of Goldfield, Nevada. Coming back to the tunnel, a distance of 30 feet further along the tunnel, Charles J. Barkley ran a cross-cut in the hanging wall of the fault, cutting the top of a very large ore shute. The appearance of the ore is the same as that which appears in the upraise and is evidently a part of the same ore body and separated from it during faulting which took place along the false fissure. Sample 23 was taken 18 feet in length across the top of this ore shute.

No. 24. The tunnel had been driven 69 feet further at the time of Barkley's death. Later at this point a cross-cut had been run to the left into the footwall. The footwall of the fault is a dacite. Evidently the intrusion of this dacite dyke is the cause of the faulting. The width of the dacite dyke has as yet not been determined. Its presence is only indicated on the surface by boulders lying in the soil. Going back to the point at which the Barkley work on the tunnel was stopped, a turn was made at nearly right angles to the course of the drift and a point ten feet farther on the body is badly broken and mixed ore was encountered, which was continued for a distance of 11 feet. From this point, the drift is continued on as a cross-cut for 45 feet, usual signs of ore in the tunnel again appear along the cross-cut. Going back again to the station 21 feet to the right of the face of the tunnel where Barkley stopped work, the general course of the tunnel was changed somewhat and driven forward to the surface on the western side of the hill. At a point marked 12 on the map, ore was struck on the right hand side of the tunnel, a drift was run off at an acute angle to the right for a distance of 25 feet all the way through. The large sample was taken from the side and top of the ore near the middle of the drift.

No. 25. Commencing at the same point marked 12 on the plat another drift was run off at right angles from the tunnel for a distance of 15 feet, at which place

it cut completely through the ore. A large sample from sides, top and bottom was taken in this drift 6 feet back from the face.

No. 26. From point 12 on the plat the ore is exposed on the right side of the tunnel for a distance of 40 feet at a point midway between 12 on the plat and the end of the ore shute, a large sample was taken. The tunnel has been driven ahead from point 12 on a map a distance of 140 feet, to day light on the western side of the hill.

No. 27. Sampled 150 tons of ore lying on the hillside about 200 feet south of the north end land of the parallel plane.

No. 28. Sampled 50 tons of refuse or waste, lying below an open cut upon the parallel near the north end centre.

No. 29. Sampled second class ore and waste of 300 tons, taken from the open cut slightly east of the north end centre of the parallel claim.

No. 30. Sampled 400 tons of second class ore and waste taken from east of No. 29.

No. 31. Sampled 900 tons of second class ore and waste taken from an open cut about 50 feet northeast from No. 30.

No. 32. Sampled 300 tons of second class ore taken from the same open cut as No. 31.

No. 33. Sampled 8 tons of ore taken from the bed immediately under or down the side of the hill from No. 31.

No. 34. Sampled 50 tons of unassorted ore taken from the slide.

No. 35. Open cut. Large amount of ore showing, being evidently in place. One wall showing cut. Sampled 25 ton lot of ore.

No. 36. Large excavation. Thousand of tons of ore have been removed. Opened by the fathers for its rich gold and silver ores. The excavation has slid in so badly that the bottom of the work cannot be seen. There is still considerable ore left, showing above the debris which covers the bottom of this excavation. Sampled a 75 ton lot, evidently second class ore, which I found lying or piled near the outer edge of the dump.

No. 37. Sampled another 100 ton lot lying near No. 36. It is about the same character as No. 36.

No. 38. Sampled another pile of 150 tons of the same character as Nos. 36 and 37. This excavation shows the vein to be very wide, how wide, it is not possible to determine at present. Only the hanging walls is exposed, vein evidently in place.

A deep gulch separates the Austerlitz from the Ragnaroc Mining Claim, which adjoins the Austerlitz upon its northwest end.

The ore of the Ragnaroc comes down the side of the gulch nearly to the

Austerlitz and in fact the vein has been opened upon the line separating the two claims. Upon the Ragnaroc, the width and the dip of the vein can be easily taken. I found that upon the Ragnaroc the width of the vein or ledge taken at right angles to the foot wall is a little over 60 feet while the dip is about 55 degrees east.

No. 39. A cut 100 feet southeast of the large excavation before mentioned a ledge has been opened exposing a foot wall.

The ore here is apparently in place and evidently the foot wall of the ledge. Sampled lot of 25 tons.

No. 40. Sampled lot of 60 tons which was picked up out of the creek below No. 33. Nothing is known as to whom or by whom this ore was piled. It was evidently put aside for the purpose of working it through an arastra.

No. 41. Sampled 25 tons taken from an open cut below No. 40.

No. 42. Large excavation on the north bank of the gulch. Very large amount of ore shown in and around the opening. Sampled 400 ton lot second class ore.

No. 43. Ore taken from the bottom of the gulch. The recent rains have stripped the bottom of the gulch at this place immediately below No. 42, exposing the ore along the bottom of the gulch for a distance of 75 feet. How much farther down the gulch it extends cannot be determined accurately, but it is probably less than 20 feet further. Near the lower side of this exposed ore body, Charles J. Barkley sunk a hole in the ore to a depth of ten feet. This exposure at the bottom of the gulch is very important, as it is the lowest point upon the Austerlitz of the Ragnaroc that can be seen. Sampled at lot of 115 tons taken from the bottom of the gulch.

No. 45. Sampled at lot of 50 tons taken from an opening on the hillside immediately upon the line between the Austerlitz and Ragnaroc.

No. 46. Sampled lot of 500 tons taken from an opening made on the ledge upon the Austerlitz just below the line between the two claims. This was done very long time ago.

No. 47. Sampled a lot of 25 tons. This lot is a kind of land mark, it having been known to have been there at least 50 years ago. It was evidently taken out by the Spaniards who worked an arastra. The place from which it was taken is unknown but it was probably taken from an opening in No. 46.

OUNCES PER TON

VALUE PER TON OF 2000 POUNDS

	AU.	AG.	AU.	AG.	TOTAL.
1.	0.76	6.1	\$15.30	\$3.97	\$19.17
2.	0.28	5.4	5.60	3.57	9.11
3.	0.16	2.4	3.20	1.56	4.76
4.	0.18	3.3	3.60	2.80	5.40
5.	0.06	0.4	1.20	-----	1.20
6.	0.08	trace	1.60	-----	1.60
7.	1.48	7.4	29.60	4.81	34.41
8.	0.16	2.3	3.20	1.50	4.70
9.	0.08	7.5	1.60	4.88	6.48
10.	0.68	3.6	13.60	2.34	15.94
11.	0.06	1.4	1.20	.91	2.11
12.	0.28	2.1	5.60	-----	6.97
13.	0.18	3.6	3.60	2.34	5.94
14.	0.10	trace	2.00	-----	2.00
15.	0.56	6.3	11.20	4.10	15.30
16.	0.12	1.5	2.40	.98	3.38
17.	0.24	1.7	4.80	.91	5.71
18.	0.18	0.7	3.60	-----	3.60
19.	0.18	0.7	3.60	-----	3.60
20.	1.76	6.3	35.20	4.10	39.30
21.	0.44	4.0	8.80	3.25	12.05
22.	0.16	1.2	3.20	.78	3.98
23.	0.07	0.8	1.41	-----	1.41
24.	0.08	2.1	1.60	1.37	2.97
25.	0.64	11.6	12.80	7.54	20.34
26.	0.16	7.8	3.20	5.07	8.27
27.	0.38	trace	7.60	-----	7.60
28.	0.24	trace	4.80	-----	4.80
29.	0.20	trace	4.00	-----	4.00
30.	0.14	trace	2.80	-----	2.80
31.	0.04	trace	.80	-----	.80
32.	0.16	trace	3.20	-----	3.20
33.	0.16	5.8	3.77	3.77	6.97
34.	0.14	17.22	2.80	11.18	13.98
35.	0.28	3.9	5.60	2.54	8.14
36.	0.40	6.0	8.00	3.80	11.80
37.	0.32	8.4	6.40	5.46	11.86
38.	0.10	6.1	2.00	3.97	5.97
39.	0.08	2.0	1.60	1.30	2.90
40.	0.18	1.2	3.60	.72	4.38
41.	0.16	0.6	.20	-----	3.20
42.	0.14	trace	2.80	trace	2.80
43.	0.17	1.5	3.40	.98	4.38
44.	0.22	4.0	4.40	2.80	7.00
45.	0.36	4.6	7.20	2.99	10.19
46.	0.16	3.2	3.20	2.08	5.28
47.	0.16	2.5	3.20	1.63	4.83

This table was compiled from lot of ores which according to assays are unmistakably ores.

<u>NO.</u>	<u>AMOUNT</u>	<u>VALUE PER TON</u>	<u>TOTAL VALUE</u>
1.	12	\$19.17	\$230.04
2.	20	9.11	182.20
4.	75	5.40	405.00
7.	50	34.41	1720.50
7A	150	4.70	705.00
9.	50	15.94	797.00
11.	10	6.97	69.70
12.	20	5.94	118.80
14.	40	15.30	612.00
15.	20	3.38	67.60
16.	50	5.71	285.16
17.	25	3.60	90.00
18.	100	3.60	360.00
19.	50	39.30	1965.00
20.	60	12.05	732.00
21.	100	3.98	398.00
27.	150	8.60	1140.00
28.	50	4.80	240.00
29.	300	4.00	1200.00
32.	300	3.20	960.00
33.	8	6.97	56.76
34.	150	13.98	2097.00
35.	25	8.14	203.50
37.	100	11.86	1186.00
38.	150	5.97	895.50
40.	60	4.38	262.80
41.	25	3.20	80.00
43.	115	4.38	503.70
44.	252	7.00	175.00
45.	50	10.19	509.50
46.	500	5.28	2640.00
47.	25	4.83	120.75

An average value per ton of ore on dumps ready for milling \$7.45.

Average of assays per ton, \$8.28 Lots Nos. 1, 7, 14, 19, 20, and 34, were unassorted ore. Average value per ton \$9.28 Lots of these unassorted ores \$20.32.

In case of lots Nos. 5 and 6, I was informed that the waste had been piled upon a lot of good ore. No. 31 is as shown by the assays, to be the only real waste dump of the property. Nos. 10, 13, 23, 30, 39 and 42, should be resampled, as I am of the opinion that they are real ores.

The showing made is really a remarkable one when we take into consideration the fact that with the exception of six lots, viz. Nos. 1, 7, 14, 19, 20 and 34 every lot sampled were thrown out for waste. Further you must remember that with the exception of the lots of unassorted ore, these dumps

have been exposed to the elements for many years, some of them for more than half a century. From the creek bottom ten thousand or more tons (how much more cannot be determined just at present) that will according to the assay average over \$5.00 per ton. At least seven thousand tons of ore of an average value of \$4.00 per ton can be taken out from the above tunnel. On the eastern side of the hill some ten thousand or more tons of ore can be gotten off the surface that should average above \$10.00 per ton. Exploration alone can determine the tonnage to be gotten off from this property. Exploration will also show the real value of these ores, which will probably average considerably higher than the average shown by the samples which I have taken. Mr. Barkley who had the best opportunity to determine the true value of the property, as he spent a great deal more time taking his measurements to make his estimate of the tonnage and spent several months in sampling and testing the ores from the various showings placed the surface tonnage approximately at one hundred thousand tons, with the average of \$7.50. I am inclined to accept his estimate as being more nearly accurate than my own.

In regard to the handling of this property, the deal for the property having been closed upon receipt of analysis and assays, depends a great deal upon the scale upon which it is desired to operate the property. It will take at least \$5000.00 to put the property in good working condition. It will take \$7500.00 more to put a 10 stamp mill upon the property. Would advise as soon as convenient to do so, the erection of a small cyanide plant for the purpose of handling the large amount of ores exposed at the bottom of gulch. This will cost about \$5000.00 or more. At least \$7500.00 more should be set aside as a kind of emergency fund. This amount \$25,000.00, I believe to be amply sufficient with which to commence operation. The entire plant should be enlarged owing to the profits obtained from the property. A deep tunnel should be commenced at a low point as practicable which will be down near the forks of the creek. A tunnel started at this point will encounter the eastern ledge at about one hundred and fifty feet distant from the portal.

The tunnel should be continued not only on to the main ledge, but to the western parallel ledge. It should also turn and follow the main ledge into the hill. A tunnel such as I have outlined, fifteen hundred feet in length would give vertical depth from the ledge of some five hundred feet. It would also have the advantage of being driven for at least 1200 feet of its length upon the main ledge. Such a tunnel would make it possible to handle all ores cheaply and rapidly. It would also develop the character of the ores upon depth and would decide the kind of a plant necessary to operate the property on a large scale. Of course if it should be desired to work this property upon a larger scale, these estimates would have to be proportionately increased. The deepest working is upon Tres Amigos or OLD ORO BLANCO property. A depth of 265 feet has been attained upon that property and the ores at the bottom of the shaft are still free milling and higher values than were obtained anywhere else on the property.

The ledge is also quite as strong upon the Oro Blanco as upon the Austerlitz.

With careful and intelligent management, the Austerlitz will make one of the large gold mines in the United States.

Signed F. B. Schermerborn, M.E.

El Paso, Texas  
Sept. 10th 1907.