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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: ROYAL

ALTERNATE NAMES:
DEER HORN

SANTA CRUZ COUNTY MILS NUMBER: 66F

LOCATION: TOWNSHIP 24 S RANGE 16 E SECTION 2 QUARTER NW
LATITUDE: N 31DEG 22MIN 36SEC LONGITUDE: W 110DEG 41MIN 12SEC
TOPO MAP NAME: HARSHAW - 7.5 MIN

CURRENT STATUS: UNKNOWN

COMMODITY:
ZINC
LEAD
COPPER
SILVER
GOLD
CALCIUM LIMESTONE

BIBLIOGRAPHY:
ADMMR ROYAL FILE
USGS MAP I-762
SCHRADER F.C. USGS BULL. 582 P. 335-338
LEHMAN, NORMAN GEOLOGY AND PYROMETASOMATIC
DEPOSITS OF WASHINGTON-DUQUESNE AREA, PHD
DISSERTATION. U. ARIZONA 1978 P 126-143 MAPS

ROYAL MINE (and Deer Horn)

SANTA CRUZ COUNTY

Skillings Mining Review May 21, 1966 p. 21

E&MJ Vol 167 No. 6 June 1966 p. 695

BLM Mining District Sheet 727

USGS Bull. 582, p. 335-338

Was with Bonanza in MILS, now has separate map number

PAY DIRT 5/20/66

[REDACTED]

Pay dirt 11/1966

[REDACTED]

him

[REDACTED]

E + M J. 7/1966

BAUC

THE ROYAL PROSPECT

Patagonia Mining District
Santa Cruz County, Arizona

By D. C. Gilbert
February 1961

The Royal claim was located in 1930 by Hugo W. Miller, mining engineer of Nogales, Arizona, to acquire the northerly extension of the Bonanza vein. It was purchased from Miller by the writer in 1951, several months after starting geological work in the district. The adjoining Deer Horn claim was located in 1951 to cover existing fractions and to acquire a strong, oxidized vein outcrop on this ground. Under U. S. Mineral Survey No. 4423 all requirements for patent to these claims have now been met and the "Manager's Final Certificate" has been issued.

The Bonanza vein zone, along or near the contact between limestones of the district and the quartz-latite and other igneous country rocks (referred to collectively as "porphyry") has been developed and mined at intervals for a length of 2300 feet in the Estelle & Louise, the Illinois and the Bonanza claims. This contact zone extends into the Royal claim an additional 700 feet and the known mineralization and structural features suggest that the zone will likewise be productive in this area.

GENERAL SITUATION

The general situation is shown on the map in the pocket. On this the location of both the Holland-Smuggler and the Royal faults is taken from a recent map by R. C. Baker who is at present geologist with the Climax Molybdenum mine at Climax, Colorado. The diorite, diorite-porphyry and the quartz-latite are also Baker's mapping and nomenclature and are the results of field work extending over a period of several months.

The principal Bonanza ore shoot was 300 to 400 feet long, extending to the 635 level where it is presumed that some ore can still be developed downward. In this main ore shoot the near-surface portion was characterized by copper ore of excellent grade, while below the 100 ft. level the ores were chiefly copper-zinc sulphides with some zones in which the galena content was important. Molybdenum occurred in a few places in the upper levels but there has been no commercial development of this metal. No records of the mine production prior to 1951 are available, but many of the old stopes were quite wide and the tonnage is known to have been considerable.

In 1953 the first substantial development of the Bonanza claim north of the old main ore shoots was performed on 235 level, and the 335 level was driven some distance north the following year. This work resulted in the discovery of the Elayer ore body, a highly profitable shoot of 12 % copper ore which was 50 to 90 feet long, 12 to 20 feet wide and 70 feet high, and from which 5200 tons were shipped in a very short time. Later the 235 level was again extended northerly from the Elayer stope and 1800 tons of mixed copper-lead-zinc-silver ore were shipped from the Knight ore body. Much of the work in this area north of the old Bonanza ore shoots has been in porphyry, off the ore zone, and many excellent prospects remain in this north portion of the Bonanza claim.

South of the old Bonanza ore shoots the Bonanza vein has been mined near the surface in the Illinois claim but the old stope outlines are not available. Some recent mining at 235 level in the Illinois claim is not shown on the enclosed section but this work was preliminary development only. In the Estelle & Louise claim the "contact vein" was known as the Estella and it produced some exceptionally valuable ore from a body 5 to 18 feet wide. Again there is no record of past production, although the Callahan company produced 27,800 tons from the Estella ore shoot during some three years of World War II. In 1956 the writer operated a lease on the 100 level and made 22 shipments from the two small stopes south of the main ore body. Typical assays were 2 $\frac{1}{2}$ % Cu, 7% Pb, 11% Zn and 9 oz. Ag per ton. The ore was clean sulphide and was 4 feet to 8 feet wide.

GEOLOGICAL DATA

Usually the ore bodies of the Bonanza zone are in limestone against the porphyry contact or against garnet zones at this contact. However many important ore shoots were found in the limestone at considerable distances from the contact, usually along intersecting pre-mineral faults. The Elayer ore shoot is typical of these.

The major faults of the series are the Louise, Estella, the Bonanza series, the Holland-Smuggler and the Royal. The section does not show the many smaller faults of the series which cut the ore zone and whose combined effect on ore deposition has been considerable. Since at least two major faults occur in the Royal ground it is assumed that the usual number of minor faults will be found as the development proceeds.

Much of the outcrop of the Bonanza "contact" is concealed in the Royal claim. The only good exposure is in the road cut just north of the old school building where there is a relatively wide zone of iron-stained material from which the low assays of 0.3% Cu and 0.4% Zn were obtained. Au and Ag were not determined.

In 1954 Luis De La Ossa of Lochiel who had started a prospect incline on a small molybdenum-zinc showing on Bonanza claim near the Royal end line, made a 33 ton shipment to the A. S. & R. Co. Trench Mill. This ore came from a drift at the bottom of his 60 ft. incline and assayed 12.62 % Pb, 12.90 % Zn and 10.12 oz. Ag. Further development of this small ore shoot entailed double hoisting by winzing into the Royal claim and the ore was therefore not followed. De La Ossa also drilled several core holes and these show encouraging zones of high-grade sulphide streaks as indicated on the long section.

Since the collar of the De La Ossa incline is in the bottom of a gulch and subject to flooding, a road was built from the school area to a proposed new shaft site and the ground was levelled for sinking. The proposed shaft would be about 200 feet northeast of the De La Ossa incline and near an area of mineralized limestone adjacent to a "nubbin" of the porphyry, a situation which has been a guide to ore elsewhere in the district.

PROPOSED DEVELOPMENT

It is proposed to sink a vertical prospect shaft about 80 feet deep in the porphyry, then crosscut some 70 feet westerly to the mineralized limestone area, with further development depending upon ore findings. Due to the topography and location of the main road, sinking in the limestone would require expensive surface preparation.

In the low-wage Duquesne area the above development should not be expensive. The De La Ossa incline was sunk at a labor cost of \$15 per

foot on contract, and at an overall cost of \$ 28 per foot. This included labor and supplies but no charges for equipment rental, supervision etc.

The proposed vertical shaft need be large enough only for a hoisting bucket and a small manway. Timbering would be light since portions of the Bonanza shaft and drifts in the porphyry have been found to stand well for many years. By contracting the labor the total cost of the shaft might be in the neighborhood of \$ 50 per foot and the crosscut \$ 22 per foot. This would bring the cost of the proposed work to \$ 5540.

There is an excellent chance that upon entering the limestone the crosscut will be in or very near an ore shoot, and the vertical shaft will be so located that it will also serve for any development related to the "gossan" near the school house.

It should be noted that the Estella ore body did not outcrop and in fact there is little evidence of the vein at the surface. The discovery was made from the old 70 level driven south from Bonanza shaft. In a broad sense the geological conditions on the Royal claim are similar to those on the Estelle & Louise.



ROYAL MINE

SANTA CRUZ COUNTY

D. C. Gilbert applying for patent a/c to Pardee. FPK 6-8-61

Pardee said patent was granted. FPK 5-13-66

Exploring with aid of OME loan north of Bonanza mine of Duquesne property. Have shaft with "6 x 7 ft. pipe of dandy ore going down and possibly getting bigger" according to note from Don Gilbert to FPKnight dated 3-20-67. FPK Note 3-22-67

Don Gilbert called 5-6-67. He has leased a place in Green Valley for one year. 366A LaCanada, Green Valley 85614. Telephone - 625-8503

He has found some rather high grade ore in the Royal mine. The mining is being done by Seminco under the direction of Don. 6 men are employed and the mine is working 2 shifts. As exploration continues the ore is being stockpiled. GWI Memo 5-8-67

Mine visit to the Royal mine - men underground - no one else around. Ore pile has been shipped. GWI WR 9-3-67

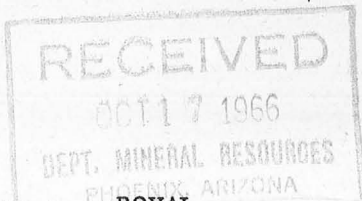
Dick Taylor and Alfredo Heredia have leased the Royal Mine near Patagonia and will start operations soon. Pay Dirt 5-1968

Mine visit to Don Gilberts' Royal mine - no one around. GWI WR 7-6-68

Mine visit to Don Gilberts' Royal mine - no one around. GWI WR 9-7-68

Don Gilbert shipped ore from his Royal mine. It is reported that he has recently leased this mine to another party. GWI Annual Report 7-1968

No activity since last mine visit. GWI WR 11-7-68



DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine ROYAL Date September 8, 1966
District DUQUESNE- SANTA CRUZ COUNTY Engineer G. W. IRVIN
Subject: MINE REPORT- Information from Don. C. Gilbert

LOCATION - Between Washington Camp and Duquesne.

REFERENCES - Report by A. Johnson 10-9-52
PAY DIRT- May 20, 1966 page 8. Regarding a GSA loan of \$10,500

OWNER - Mrs. D. C. Gilbert.

OPERATOR - Don C. Gilbert.

PRINCIPAL MINERALS - Silver, Lead & Zinc.

NUMBER OF MEN WORKING - Three.

MINE WORKINGS - An inclined 60' shaft, dipping 55 degrees in a westerly direction.
From this a drift extends toward the Bonanza Mine.

PLANS - The shaft is to be dewatered, and a drift from the bottom will be run
opposite the present drift, in a northerly direction.

CLAIMS - (Two) The Royal and the Deerhorn.

Mine visited by Field Engineer about noon on September 8, 1966.
The information is from Mr. Gilbert, who was on the property at the time.

Mine Visit to Don Gilbert's Deerhorn Claim, shaft dewatered, driving north on
contact. 30feet) from shaft. Small headframe and hoist.

GWI WR 11/5/66

COMMODITY INFORMATION

*COMMODITIES PRESENT C10 <Ag, Pb, Zn, Au, ...>
 *ORE MINERALS C30 <GALENA, SPHALERITE, CHALCOPYRITE, PYRITE>
 *COMMODITY SUBTYPES C41 <>
 *GEN. ANALYTICAL DATA C43 <>
 *COM. INFO. COMMENTS C50 <>

SIGNIFICANCE

MAJOR PRODUCTS	MAJOR <Zn, Pb, Au, ...>	NON-PRODUCER	MAIN COMMODITIES PRESENT C11 <>
MINOR PRODUCTS	MINOR <Ag, ...>	NON-PRODUCER	MINOR COMMODITIES PRESENT C12 <>
POTENTIAL PRODUCTS	POTEN <>		
OCCURRENCES	OCCUR <C1, ...>		OCCUR <>

*PRODUCTION

PRODUCTION <input checked="" type="radio"/> YES (circle)	PRODUCTION SIZE <input checked="" type="radio"/> SMALL <input type="radio"/> MED <input type="radio"/> LGE (circle one)	NON-PRODUCER	PRODUCTION <input type="radio"/> UND <input checked="" type="radio"/> NO (circle one)
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EXPLORATION OR DEVELOPMENT

*STATUS	PRODUCER	NON-PRODUCER
	STATUS AND ACTIVITY A20 <4>	STATUS AND ACTIVITY A20 <L>

*DISCOVERER L20 <>
 *YEAR OF DISCOVERY L10 <> *NATURE OF DISCOVERY L30 <> *YEAR OF FIRST PRODUCTION L40 <> *YEAR OF LAST PRODUCTION L45 <>
 *PRESENT/LAST OWNER A12 <>
 *PRESENT/LAST OPERATOR A13 <DONALD C. GILBERT (1967)>
 *EXPL./DEV. COMMENTS L110 <PROPERTY COMPRISES 2 PATENTED CLAIMS = (ROYAL DEER HORN); OWNERS INCLUDED DUQUESNE MINING AND REDUCTION CO.>

DESCRIPTION OF DEPOSIT

*DEPOSIT TYPE(S) C40 <REPLACEMENT>
 *DEPOSIT FORM/SHAPE M10 <PODS AND LENSES>
 *DEPTH TO TOP M20 <> *UNITS M21 <> *MAXIMUM LENGTH M40 <> *UNITS M41 <>
 *DEPTH TO BOTTOM M30 <> *UNITS M31 <> *MAXIMUM WIDTH M50 <> *UNITS M51 <>
 *DEPOSIT SIZE M15 <SMALL> M15 <MEDIUM> M15 <LARGE> (circle one) *MAXIMUM THICKNESS M60 <> *UNITS M61 <>
 *STRIKE M70 <N-S> *DIP M80 <>
 *DIRECTION OF PLUNGE M100 <> *PLUNGE M90 <>
 *DEP. DESC. COMMENTS M110 <>

DESCRIPTION OF WORKINGS

*Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
 *DEPTH BELOW SURFACE M160 <> *UNITS M161 <> *OVERALL LENGTH M190 <> *UNITS M191 <>
 *LENGTH OF WORKINGS M170 <> *UNITS M171 <> *OVERALL WIDTH M200 <> *UNITS M201 <>
 *DESC. OF WORK. COM. M220 <SEVERAL SHAFTS ON ROYAL CLAIM; EXTENT OF DEVELOPMENT UNKNOWN>

GEOLOGY

*AGE OF HOST ROCK(S) K1 <E.PERM>
 *HOST ROCK TYPE(S) K1A <CHERTY MARBLE, MASSIVE LIMESTONE>
 *AGE OF IGNEOUS ROCK(S) K2 <JUR.-TRI.>
 *IGNEOUS ROCK TYPE(S) K2A <VOLCANICS - RHYOLITE AND TRACHYTE TUFFS OF DUQUESNE VOLCANICS>
 *AGE OF MINERALIZATION K3 <L.CRET.-TERT.>
 *PERT. MINERALS (NOT ORE) K4 <LIMONITE, MANGANESE OXIDES, TREMOLITE, DIOPSIDE>
 *ORE CONTROL/LOCUS K5 <CLUSTERS OF IRREGULAR REPLACEMENT BODIES ALONG N-S TRENDING FAULT>
 *MAJ. REG. TRENDS/STRUCT. N5 <MINERAL DEPOSITS OF WASHINGTON-DUQUESNE AREA OCCUPY A LIMESTONE->
 *TECTONIC SETTING N15 <N-S TRENDING BONANZA FAULT ZONE; WASHINGTON CAMP FAULT BLOCK TO>
 *SIGNIFICANT LOCAL STRUCT. N70 <RIGHT LATERAL OFFSET OF BONANZA FAULT BY TEXAS FAULT JUST SOUTH OF ROYAL>
 *SIGNIFICANT ALTERATION N75 <STRONG PYRITE GOSSAN; LIMESTONE CONTACT METAMORPHOSED TO MARBLE>
 *PROCESS OF CONC./ENRICH. N80 <METASOMATIC REPLACEMENT AND SECONDARY ENRICHMENT FOLLOWING INTRUSION>
 *FORMATION AGE N30 <E.PERM>
 *FORMATION NAME N30A <SCHERRER FORMATION>
 *SECOND FM AGE N35 <>
 *SECOND FM NAME N35A <>
 *IGNEOUS UNIT AGE N50 <>
 *IGNEOUS UNIT NAME N50A <>
 *SECOND IG. UNIT AGE N55 <>
 *SECOND IG. UNIT NAME N55A <>
 *GEOLOGY COMMENTS N85 <>

GENERAL COMMENTS

GENERAL COMMENTS GEN <>

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Royal Date January 5, 1967
District Duquesne- Santa Cruz County Engineer G. W. Irvin
Subject: Mine Report- Information from Don Gilbert. Visit to mine by Engineer.

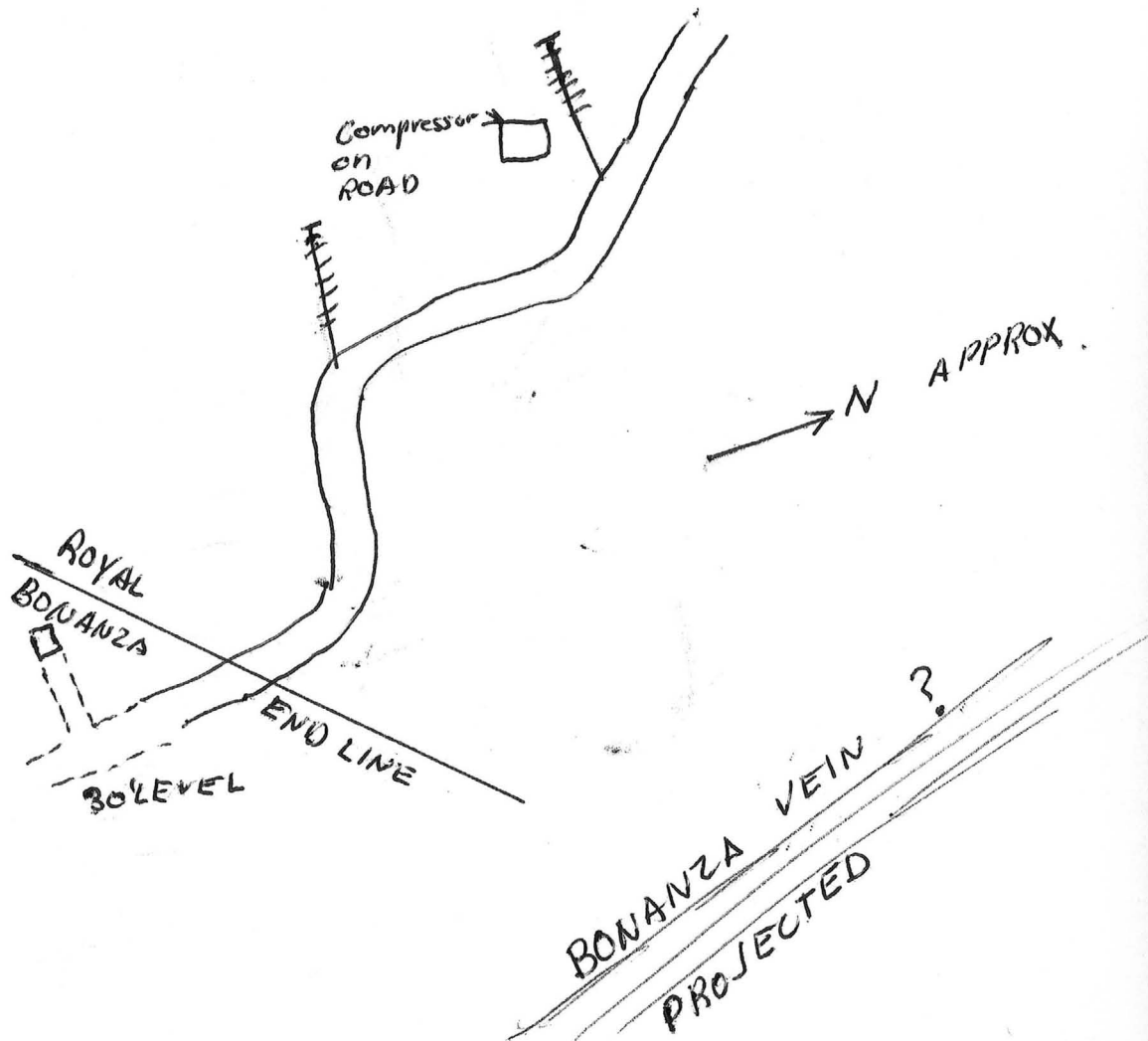
See report of September 8th by G. W. Irvin.

Below is a copy of a sketch from Mr. Gilbert's field sheets.

Some of the ore runs 15%PB 20%Zn 3%Cu & 10-12oz Ag . The grade a widthd are variable. The total drifting as of this date is about 90'. The ore zone is about 12' wide.

Mr. Gilbert hopes to lease to a good small leaser or operator.

If it exists, the Bonanza vein should be about 50 or 60 feet east of the drift.



DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Royal Mine

Date Oct. 9, 1952,

District Duquesne District, Santa Cruz County Engineer Axel L. Johnson

Subject: Mine Report. Source of Information----- D. C. Gilbert, Patagonia, Ariz.

Location Near Washington Camp

Number of Claims Two unpatented claims

Owner Mrs. D. C. Gilbert, Patagonia, Ariz.
Purchased the claims from Hugo W. Miller about a year ago.

Operator D. C. Gilbert

Principal Minerals Zinc and Lead

Number of Men Working Intermittent work diamond drilling.

Ore Production None. Mine being developed by diamond drilling.

Mine Workings None, except assessment work of shallow workings.

Present Operations Diamond drilling from the bottom of a 20 ft. incline. Working
on Hole # 8 now. 7 holes previously drilled average in depth about 75 ft. They
dip from 10 degrees to 60 degrees.

Results Still inconclusive. No findings reported as yet.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

OWNERS MINE REPORT

Geology & Mineralization

Date June 22, 1939

Mine Royal

District Duquesne - Santa Cruz

Location 22 mi E from Nogales
18 mi S Patagonia

Former name

Owner Hugo W. Miller

Address Nogales

Operator "

Address

President

Gen. Mgr.

Mine Supt.

Mill Supt.

Principal Metals Calcite 97%

Men Employed

Production Rate

Mill: Type & Cap.

Power: Amt. & Type

Operations: Present Assessment work Drive tunnel & find width

Looks like it is large

Operations Planned

Grinds to perfect white powder

Paint pigment?

Number Claims, Title, etc. 1 unpatented

Description: Topog. & Geog.

Mine Workings: Amt. & Condition

Geology & Mineralization

Date June 22, 1924

Ore: Positive & Probable, Ore Dumps, Tailings

Location 23 1/2 E from Phoenix
1/2 mi S. PATAGONIA

Mine, Mill Equipment & Flow Sheet

Address Phoenix
Address
Gen. Mgr.

Road Conditions, Route

Mill Sup.
Also Employed
Mtn. Type & Co.

Water Supply

Operations: Present
Assessment work
Drive tunnel & find water
Looks like 10 to 20 days

Brief History

Operations Planned
Grains to be used while working
Being cleaned

Special Problems, Reports Filed

Number Claims, Title, etc. 1 reported

Remarks

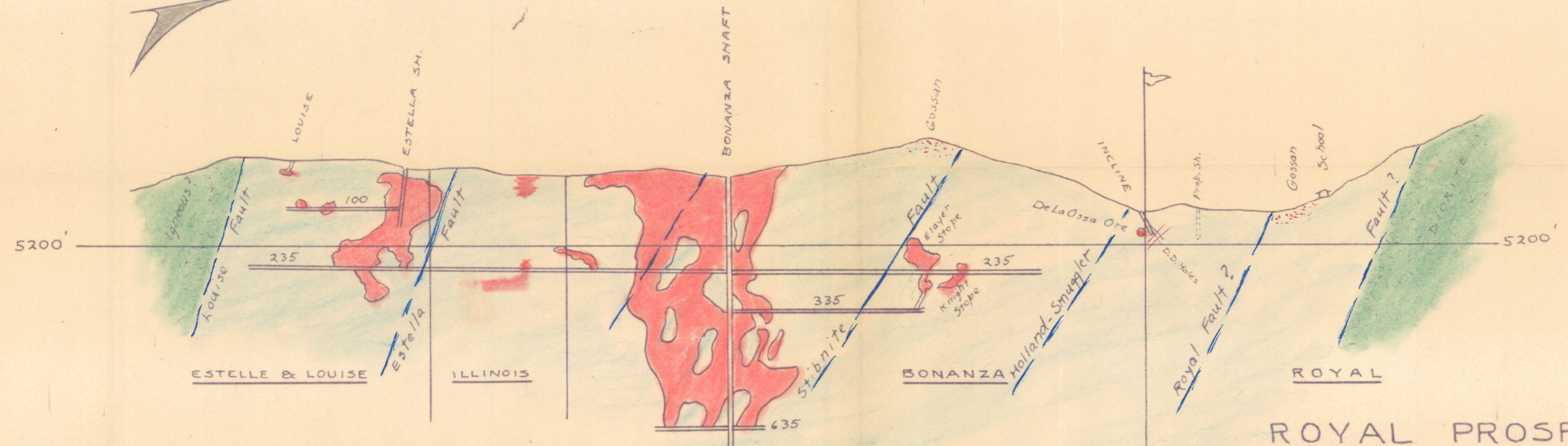
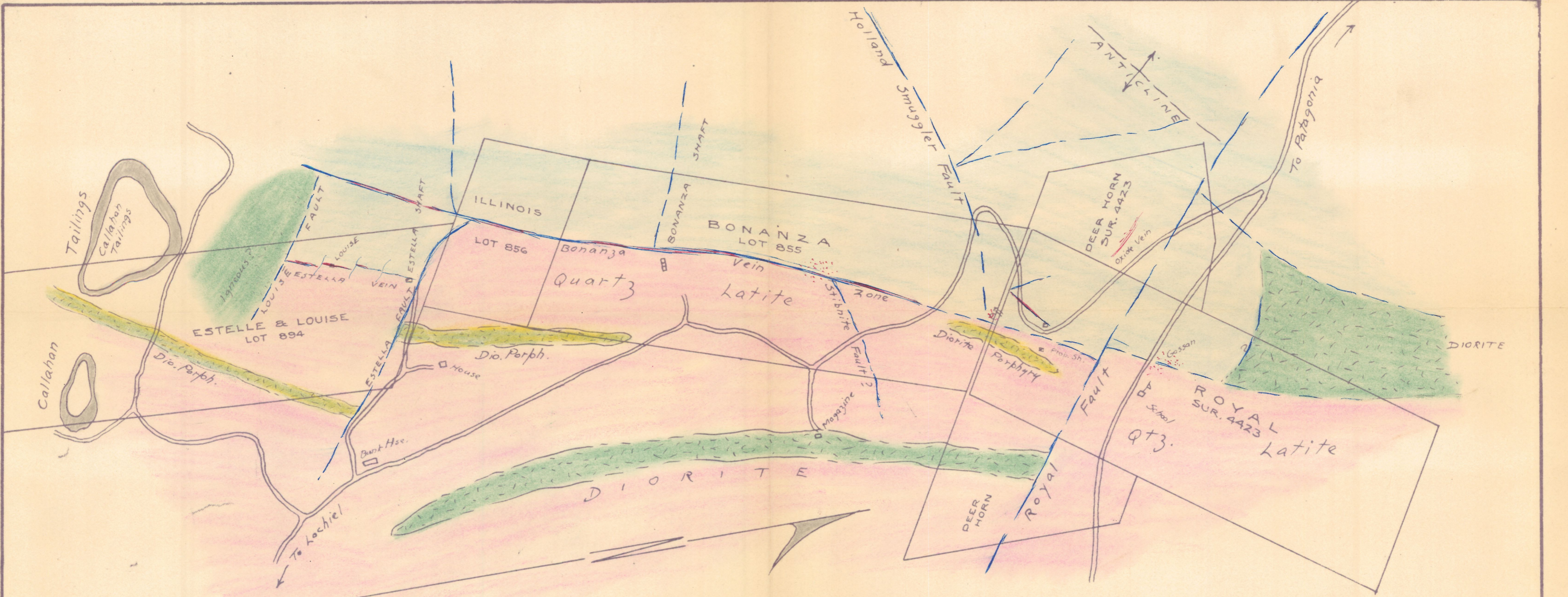
Description: Topog & Geog.

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

Mine Working: Amt & Condition

Signed.....

Use additional sheets if necessary.



ROYAL PROSPECT
 PATAGONIA MINING DISTRICT
 SANTA CRUZ COUNTY, ARIZONA
 1" = 300'

Surface Faulting and Rock Types from R.C. Baker

D. C. Gilbert 1960