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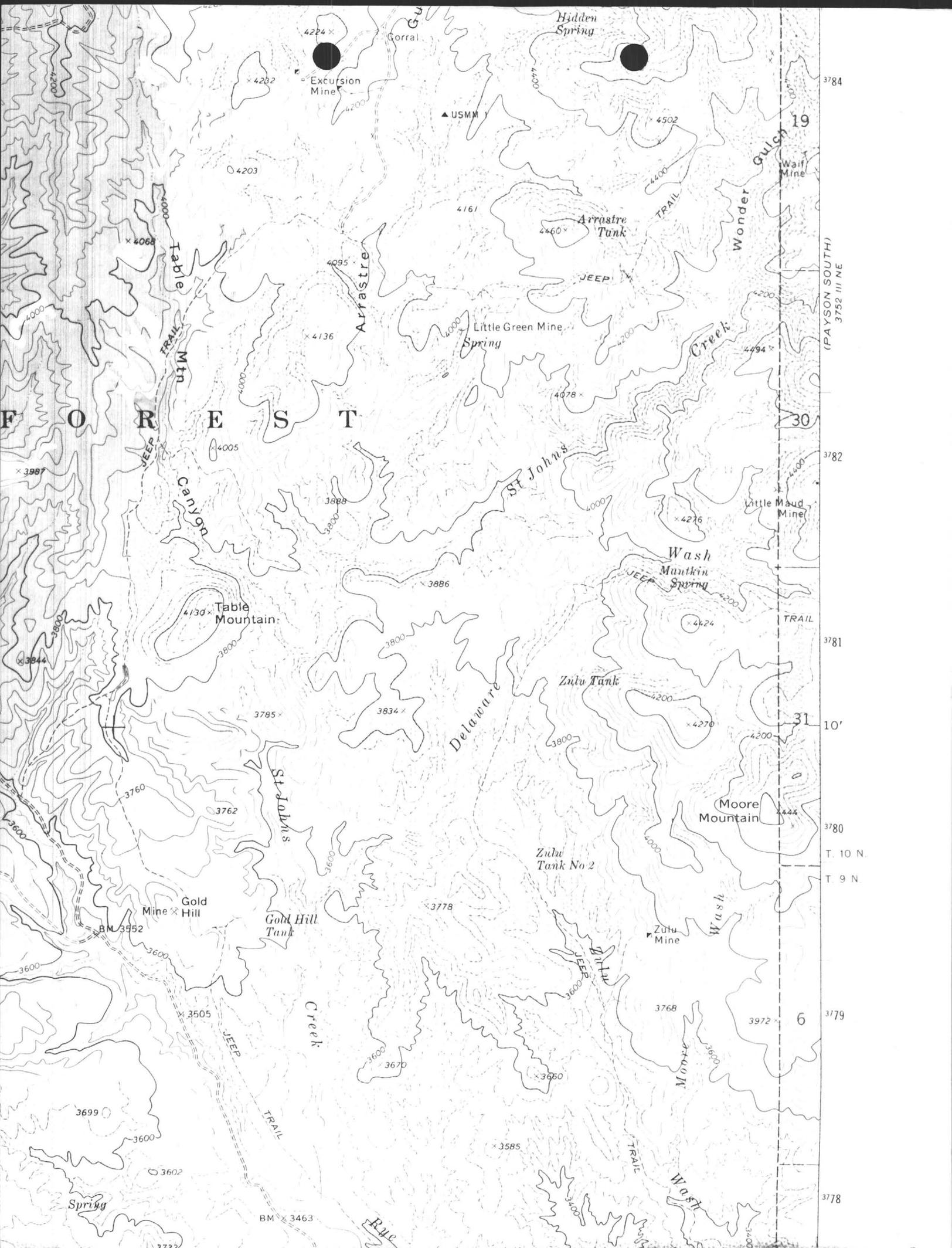
CONSTRAINTS STATEMENT

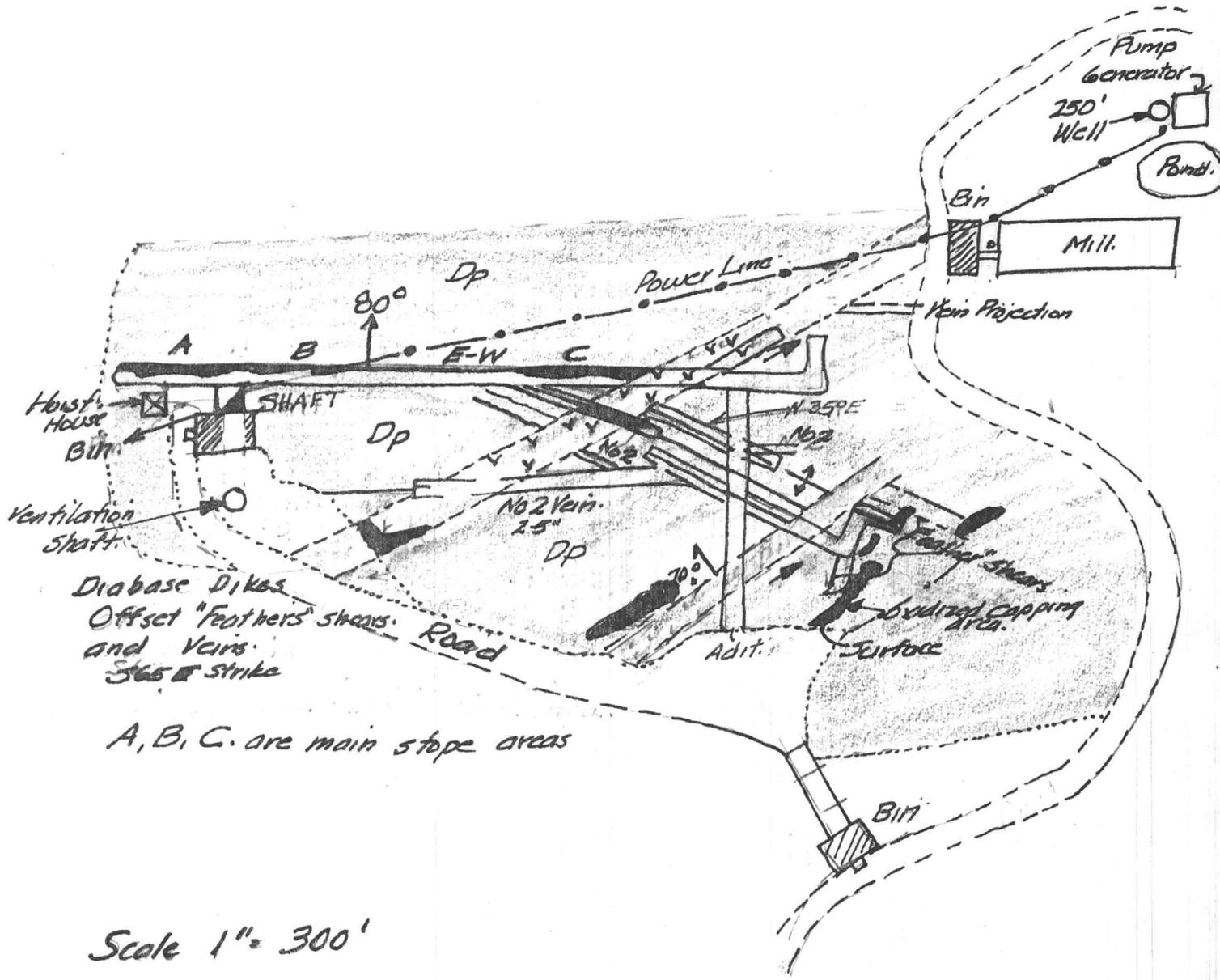
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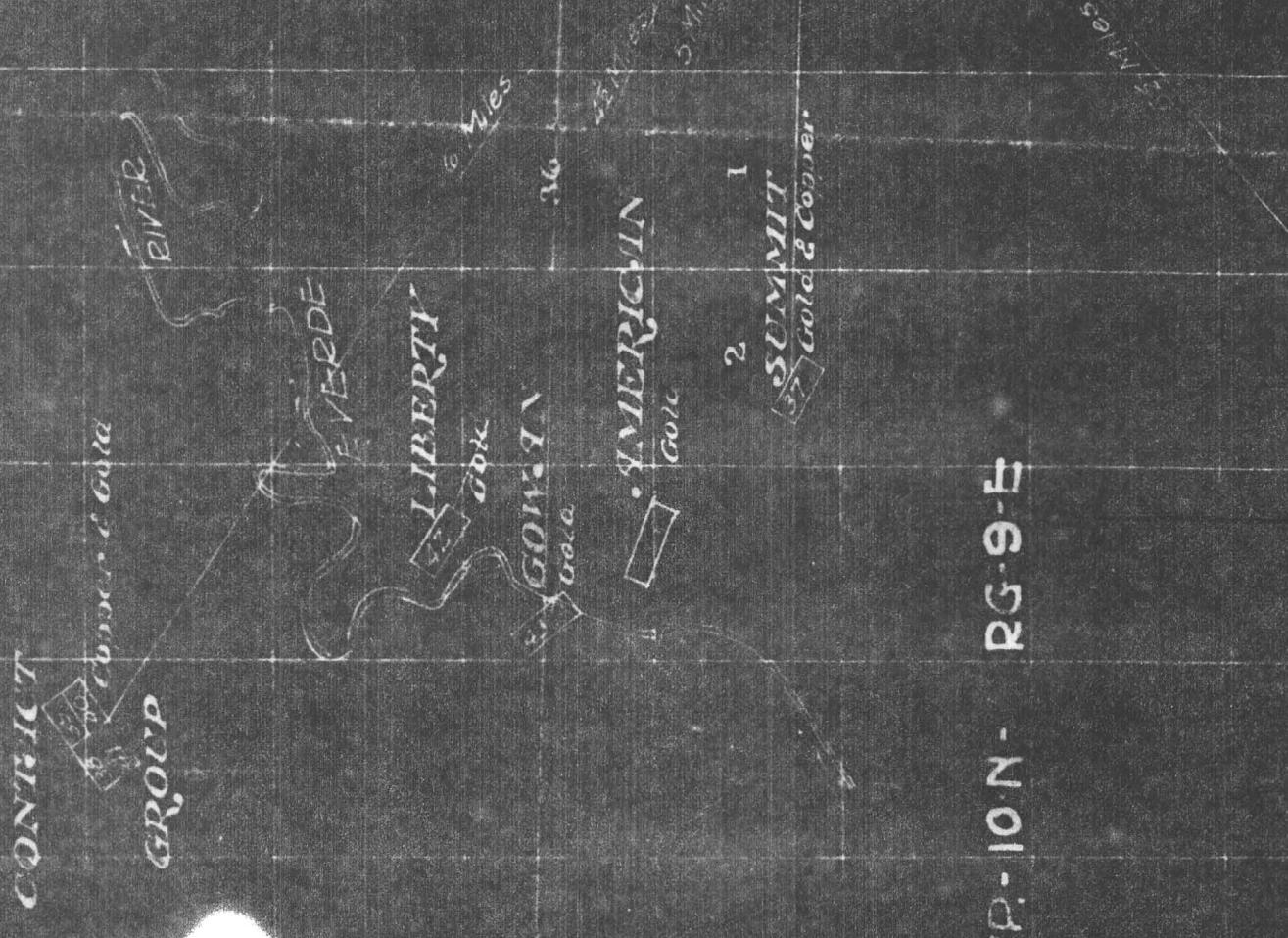
Scale 1" = 300'

**BELONGING TO
THE VERDE FALLS GOLD MINING CO.
GILSA CO. ARIZ.**

**CONTRACT
GROUP**



No	Area
37 Summit	12.49
38 Connection #2	9.72
39 Connection #1	11.02
40 Longfanto	3.08
41 Caribee	6.53
42 Liberty	20.66
43 Gowen	5.66
44 Excursion	10.25
45 Delomare	20.66



DEL. IN. W. R. E. 45
Gold

TWP-10-N- R-9-E

376
 777
 778
 773
 776

41 Contact
 42 Liberty
 43 Gowen
 44 Excursion
 45 Delaware

TWP-10-N R-10-E

LIBERTY 2 1



DEL. IN. 45
Gold

TWP-10-N- RG-9-E

LIBERTY
Gold

GOWEN
Gold

AMERICAN
Gold

2
SUMMIT
Gold & Copper

EXCURSION
Gold & Copper

STATE HIGHWAY

100
40 Miles

12 Miles

5 Miles

SHIP - 117

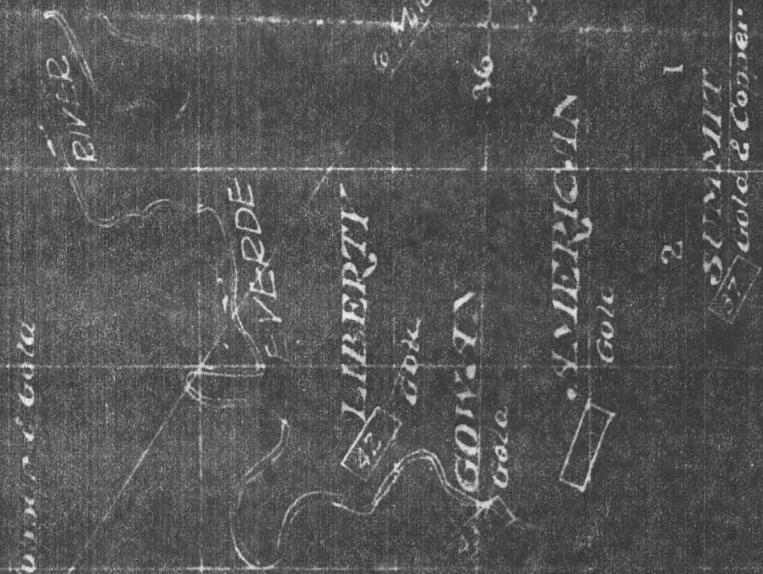
RANGE - 9-E

M. 117
 SHOWING PATENTED MINING CLAIMS
 BELONGING TO
 THE VERDE FALLS GOLD MINING CO.
 GILIA CO. ARIZ.



7 Summit	86	10.25
38 Connection #2	83	10.27
39 Connection #1	82	9.72
40 Longhonto	839	11.02
41 Conifer	837	3.05
42 Liberty	836	6.53
43 Gowen	777	20.66
44 Excursion	778	20.66
45 Delaware	773	20.66
	776	20.66

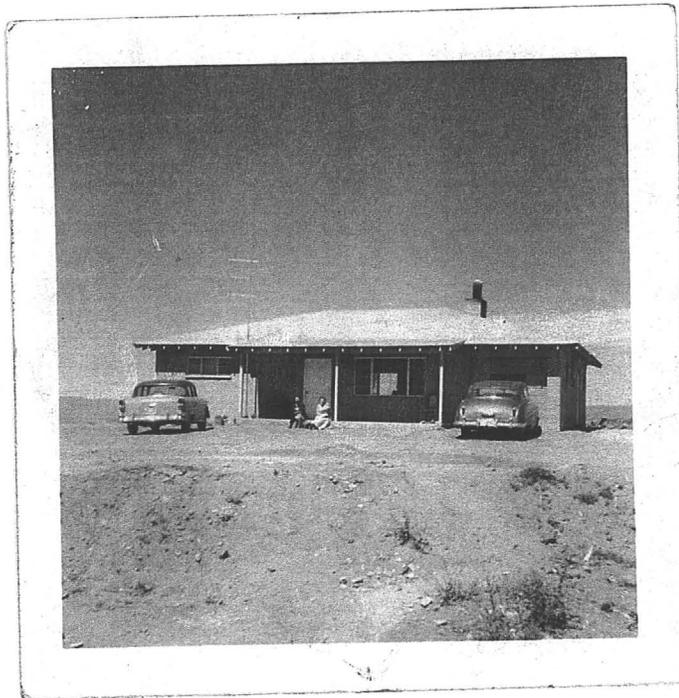
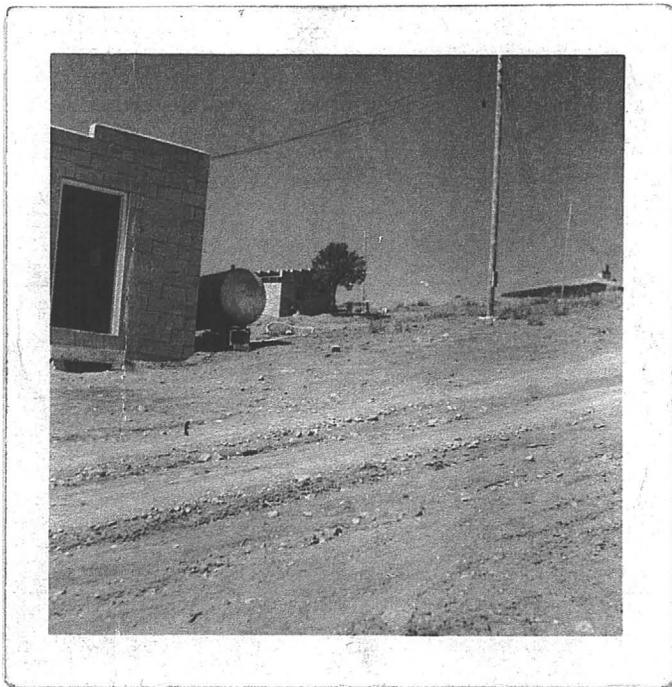
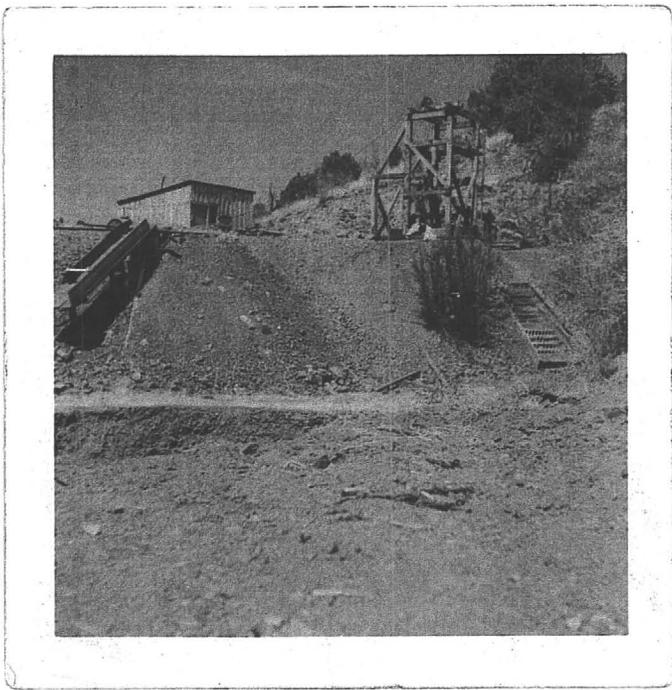
CONTRACT
 GROUP



TWP-10-N R-10-E

LIBERTY 2 1

SUMMIT
 Gold & Copper



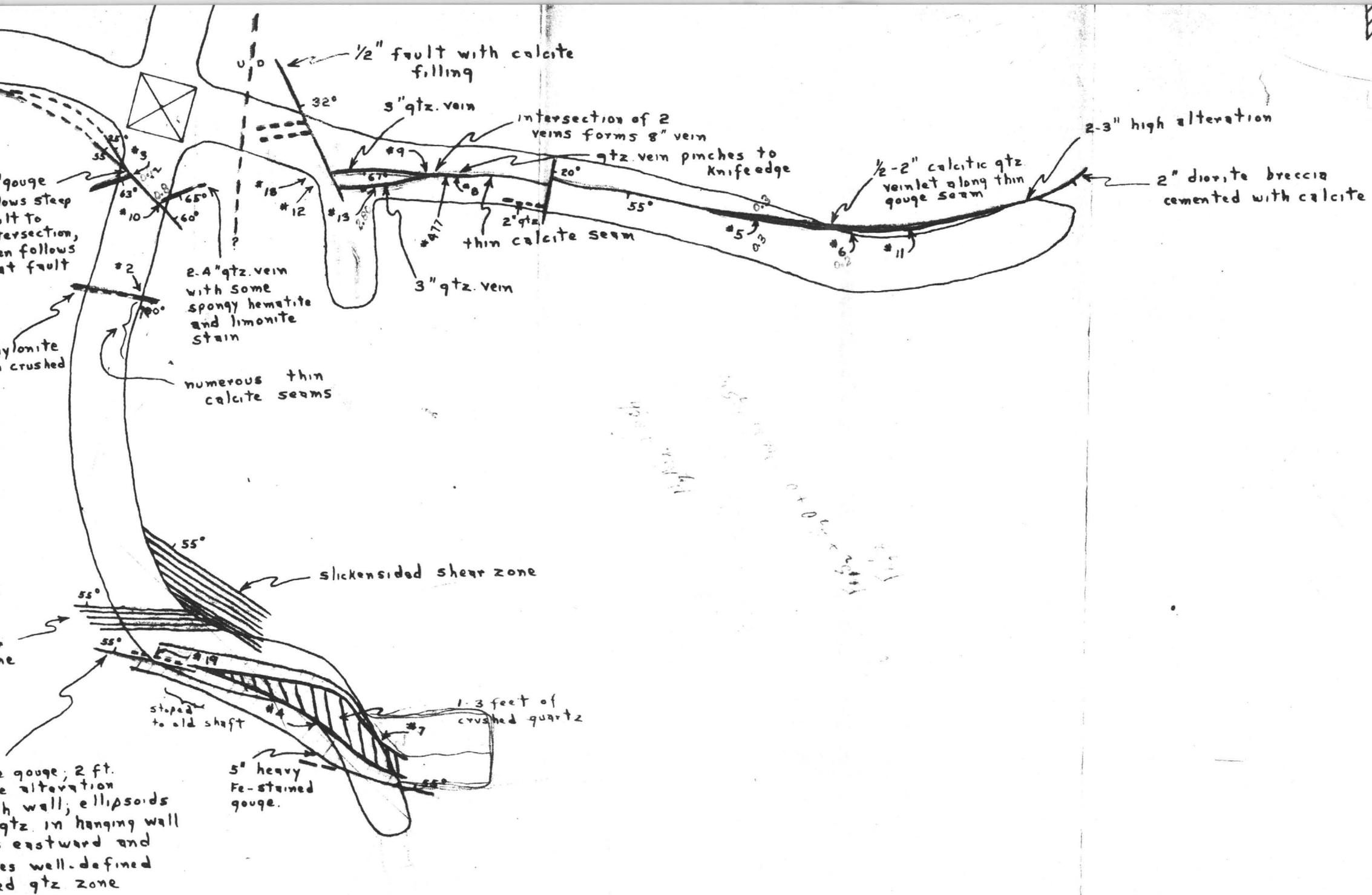
MINE Delaware
 LEVEL Adit Level.
 DRIFT _____

TRAVERSE

 American Smelting & Refining Company
 SALT LAKE CITY, UTAH
SHEET NO. 1
 SURFACE } SURVEY
 UNDERGROUND } NO. _____

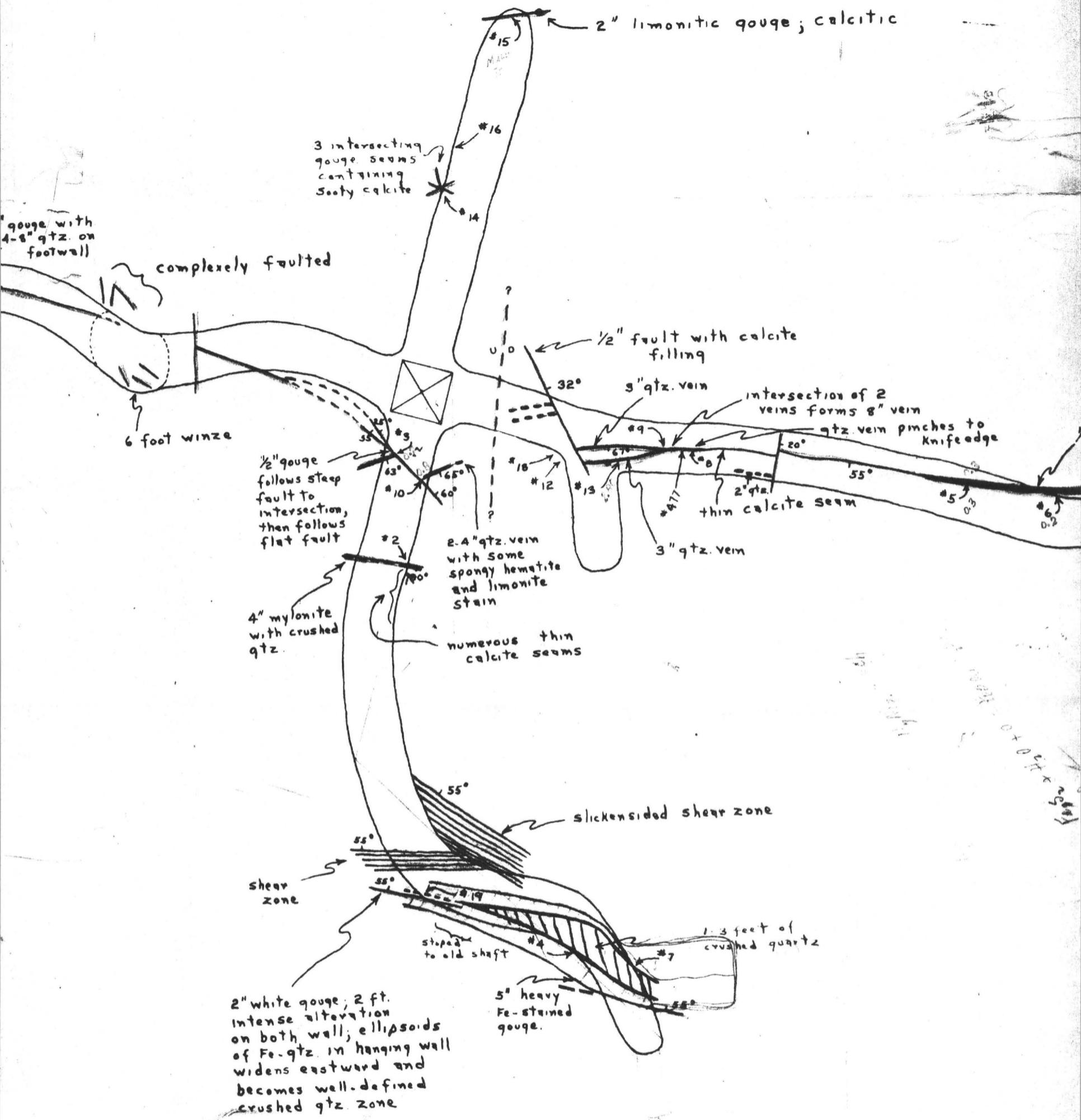
COMP. BK. _____ PAGE _____

DATE	STATION			SLOPE OR MEASURED DISTANCE	VERT. ANGLE	VERT. DIST.	HORIZONTAL ANGLE	HOR. DISTANCE	H. I.	H. P.	PT. TO RAIL	ELEVATION	ENG.	REMARKS
	B. S.	INST.	F. S.											
	cen. End	SW Cor	Iron Pipe 1				51-24					1162-43 E 4000.00 5-56-32 E 3996		Near old shaft.
	SW Cor	IP-1	IP-2				241-06							
	IP-1	IP-2	Glory Hole.	175 ^e	+14-25	542 ^v	61-20	170 ^e	+4.98	-3.9	-3.9	4041	447	W. side - 21' 25" to E. side
			1-1	85.80	+0-08		91-32		"	+3.08	-7.7			Adit station
	IP-2	1-1	1-2	89.14	+0-02		179-41		-2.60	+2.10	-6.5			Intersection
	1-1	1-2	Face	48 ^e			67-50							West Drift
			Face	15 ^e			137-30							N. Drift & cut
			Face.	28 ^e			229-10							East Drift.
	MM-2	SW Cor	"A"				157-18							
	SW Cor	A"	SE Cor shaft	119.93	+4-07		129-05		+3.85	-3.6	-2.6			572° E N 18° E 7 E W - 9 N. S. SE Cor
			Incline shaft	-36.13	-6-35		133-42			-0.0				Top of pipe
			"B"	116.60	-3-42		241-10			-0.0				Top of Pipe



DELAWARE MINE
 110 FOOT LEVEL
 Brunton-Tape Survey
 Gila County, Arizona
 Scale: 1 in = 10 ft
 July 19, 1955

W.E. Mead



2" limonitic gouge; calcitic

3 intersecting gouge seams containing sooty calcite

complexly faulted

gouge with 4-8" qtz. on footwall

6 foot winze

1/2" fault with calcite filling

3" qtz. vein

intersection of 2 veins forms 8" vein
qtz vein pinches to knife edge

1/2" gouge follows steep fault to intersection, then follows flat fault

2.4" qtz. vein with some spongy hematite and limonite stain

thin calcite seam

3" qtz. vein

4" mylonite with crushed qtz.

numerous thin calcite seams

slickensided shear zone

shear zone

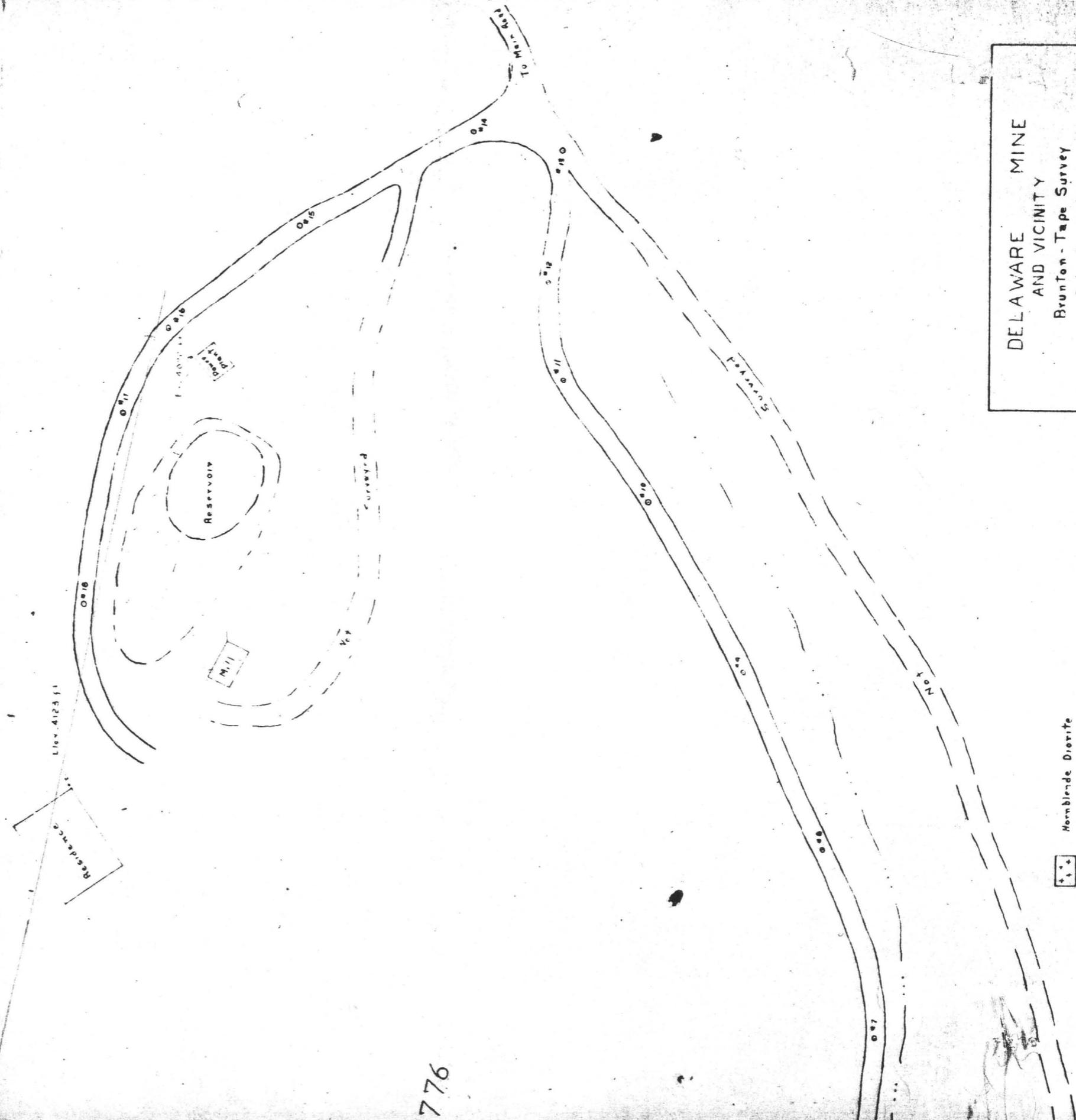
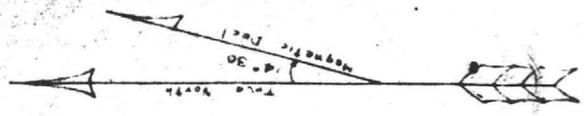
stepped to old shaft

1.3 feet of crushed quartz

2" white gouge; 2 ft. intense alteration on both wall; ellipsoids of Fe-qtz. in hanging wall widens eastward and becomes well-defined crushed qtz. zone

5" heavy Fe-stained gouge.

Handwritten notes:
 10 + 0.5 ft + 2.5 ft
 1.5 ft



DELAWARE MINE
AND VICINITY
Brunton - Tape Survey
Gila County, Ariz.
Scale: 1 in. = 400 ft.
July 19, 1955

- Hornblende Diorite
- fine-grained Basic Intrusive
- D.P. Strike symbol
- Quartz Vein

W.E. Mead

NORTH

SOUTH PARALLEL

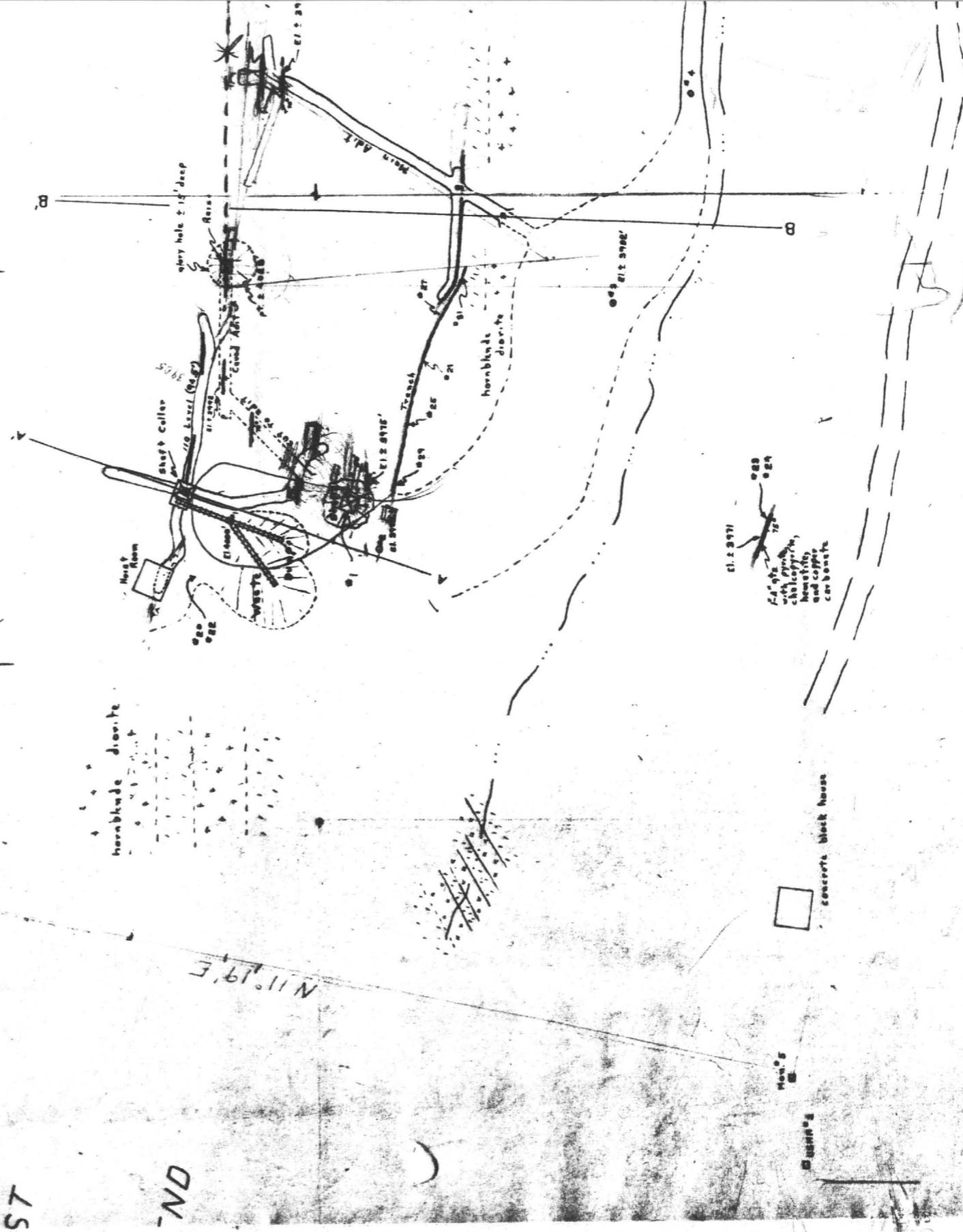
Approx position NW corner

3501110
3501110
3501110

mine to 5 $\frac{25}{32}$ inches

ST

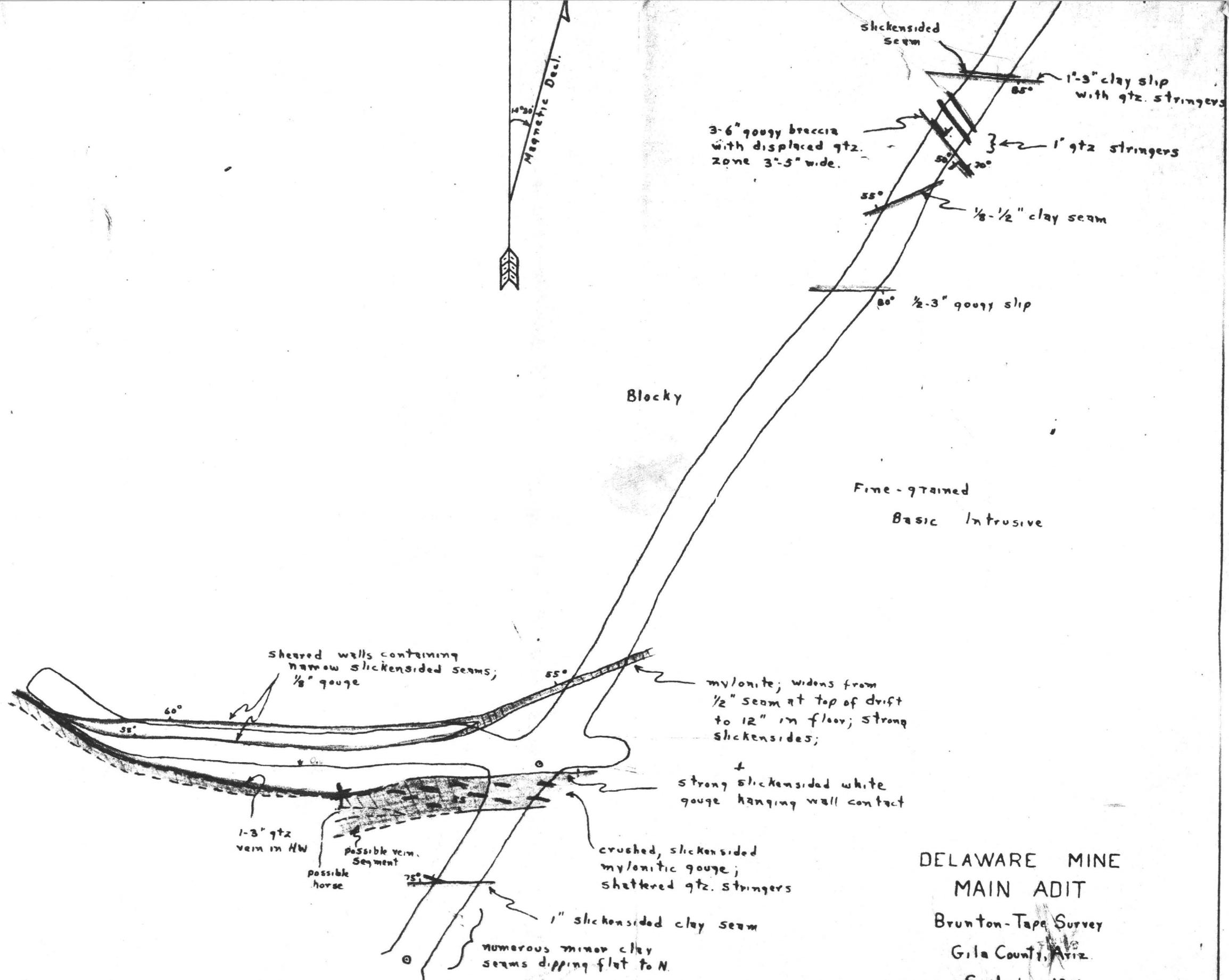
ND



el. 2 3971
el. 2 3972
el. 2 3973
el. 2 3974
el. 2 3975
el. 2 3976
el. 2 3977
el. 2 3978
el. 2 3979
el. 2 3980
el. 2 3981
el. 2 3982
el. 2 3983
el. 2 3984
el. 2 3985
el. 2 3986
el. 2 3987
el. 2 3988
el. 2 3989
el. 2 3990

concrete block house

Note: Arbitrary datum of 4000 feet elevation taken at mine shaft collar



DELAWARE MINE
 MAIN ADIT
 Brunton-Tape Survey
 Gila County, Ariz.

Scale: 1 in = 10 ft
 July 25, 1955

W.E. Mead

W. E. Mead Report 7-30-1955

-2-

HISTORY

Early Spanish inhabitants undoubtedly knew of the existence of precious metals in this locality, but the first historical accounts begin in the year 1875 with the discovery of gold-and-silver-bearing quartz veins by the settlers of the new Territory of Arizona. By 1881, the influx of prospectors and miners had reached its peak--men who had departed from the gold fields of California and Nevada for greener pastures. Between 1881 and 1886, as the shallow, easily-recoverable deposits were worked out, mining activity gradually waned. It was during this period, sometime prior to 1886, when the Delaware property was originally located by a man named Herbert Logan. A patent was granted on the Delaware claim on March 22, 1890, then still in Yavapai County of the Arizona Territory. The eight surrounding claims are also believed to have been located at about this time.

No production is recorded for the Delaware, although it is known that several of the early operators did encounter pockets of high-grade ore which yielded a substantial quantity of nuggets and dust.

The present owner, Robert W. Thompson, acquired the 9 claims of the Delaware group in 1942 and held the deed to the property in the name the Verde Falls Mining Company until January, 1951, at which time the ground was transferred directly to Mr. Thompson.

DEVELOPMENT

The principal working on the Delaware is a 95-foot single compartment shaft having two North-South crosscuts and two East-West drifts at the bottom of the shaft, and an east drift at the 35-foot level. These laterals off the main shaft aggregated possibly 250 feet prior to the work done by the present owner. Also part of this early development, along with several shallow pits and cuts, was a 60-foot edit crosscut having a 60-foot drift ending in a 40-foot raise. This raise, now caved, formed the "glory hole". Lastly, a vertical shaft 60 feet south of the main shaft was put down at some unknown time in the past to about the same level as the bottom of the main shaft. It is believed that a drift has been driven to the east off this old shaft about 20 feet below its collar, but the length is unknown.

LIST OF EQUIPMENT AT DELAWARE MINE

- 1 Fairbanks Morse mine hoist 15 HP with 350 ft. 7/8" cable
- 1 Portable Sullivan compressor on steel wheels 105-A -
- 1 Five ton Gibson Mill
- 1 Ore Feeder Belt
- 1 Five ton Denver Jig
- 1 Five ton Stephan Concentrating Table
- 1 Sump Pump
- 1 Denver Impact Amalgamator
- 1 400 gallon portable water tank trailer on rubber tires
- 2 High Pressure water tanks for drilling
- Air and Water Hose
- Worm sand Elevators
- Ore Elevator to Hopper
- Ore Leader, (portable) 4 cylinder with gas motor
- 1 High pressure water pump for reclaiming water
- Miscellaneous pipes, valves and fittings
- 1 12" x 20' Portable sand leader on rubber wheels with
1 HP electric motor
- New Copco air tools and jack leg (hoses and repair parts)
- 1 New High pressure water pump with 1 1/2 HP gas motor
- Pipe, rail, water and air lines
- 100 New hanging rods, nuts and washers
- 1 400 gallon water tank for hoist at mine
- 1 Small ore pulverizer with 1/2 HP motor
- ~~1 2000 ft. roll blasting fuse~~
- ~~500 Blasting caps~~
- 1 Wire or rope puller with 1 1/2 HP motor
- 1 Small Gold Retort
- 1 Onan 10 CW, 1 phase, 60 cycle, 110 or 230 volt power
plant (Butane driven)
- 1 Onan 3 1/2 KW, 1 phase, 60 cycle, 110 volt automatic power
plant (Butane driven)
- 1 320 gallon Butane storage tank
- 1 500 gallon high pressure water tank
- ~~1 45 gallon Butane hot water heater~~
- ~~1 Coleman gas furnace with 1 HP electric motor for blower~~
- 1 3 HP Jet water pump, 1 phase, 220 volt
- 1 Cooler and blower with 1/2 HP motor
- 1 1941 Dodge Recon truck
- 2 1 Ton ore buckets
- 1 1 Ton ore car

- 1 - Sullivan Staper
- 1 - FR-105A compressor - new wheels.
- 1 - 500 gal Butane tank
- 1 - Buffalo forge - 061 061
- 1 - large gold retort.
- 2 - Railroad jacks, 15 ton
- 1 - set blacksmith tools (non priced)

- 2 - Sm. bottles of oxy (full)
- 2 - " " acety - 1/2 full
- 1 - set welding & cutting set;
- 10 - 3/4" galv. corr. pipe &
connectors
- 1 1 1/2 ton chain pull.
- 1 - set wheel pullers.

VERDE FALLS GOLD MINING CO.

GILA COUNTY

RRB WR 4/23/82: Hanen H. Williams, Civil Engineer and Land Surveyor, 5835 W. Wolf, Phoenix, AZ 85301, Phone 846-0507 was in to look at files for the Delaware and Verde Falls Gold Mining Co. near Payson. He is doing a feasibility study on the properties.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Delaware Mine ✓ Date February 7, 1958
 District Green Valley Dist. Engineer LEWIS A. SMITH
 Subject: Mine Visit SUPPLEMENTARY REPORT
 Lessee: Richard Mieritz 307 E. Indian School Rd., Phoenix, Arizona

The mine lies in a strong shear zone, with finger shears branching off in a "Feather Structure" in diorite porphyry. The main shear has a pinching and swelling quartz vein along its hanging wall a parallel vein 50' West, dips 70°N and strikes E.W. The branching shears also have white "bull" quartz in them, but these are barren. The ore, in the main shear, varies from an inch up to one foot in width and the wall dips north at about 80° and strikes East-West. The valuable quartz is vuggy and contains frequent breccia fragments of diorite. The vugs are lined with quartz crystal aggregates and red to black iron oxides. The gold is largely free and is associated with the iron oxides. The vein is offset at one place by a diabase dike, striking S 65° E and dips 67° NE.

The mine is developed by means of a 100 foot adit off of which are several hundred feet of drifts and cross cuts. The main drift connects with a shaft, 300 feet to the north of the tunnel. This shaft is 80 feet deep and is vertical. West of the shaft is an inclined ventilation shaft, lined with 36" corrugated metal pipe. Mining is now being carried out along the main vein, north of the main shaft, by means of stull stoping.

The mill has a capacity of 5 tons, per 24 hours, and consists of a 3X8" Blade Crusher, Gibson Mill, a Jig, Amalgamation Plates and a Riffle Table equipped with plates. The Crusher reduces the rock to 1-inch, while the Gibson Mill reduces the 1-inch material to between 30 and 50 mesh. The ore, when crushed to 30 mesh, yields \$35.00 in gold with \$2.50 tails, but when crushed to 50 mesh the tails are reduced to \$0.35. A batch agglomerator, or mixing vat, accelerates the amalgamation at the discharge from the Gibson Mill. The mill has a 3½ KW generator operated by a gasoline engine, and this produces power for the Mill and Mine hoist. The compressor is run by gasoline engine. The rock breaks readily and is mined by stoping the waste away from the vein, followed by removing the vein quartz. This minimized the delution.

Thus far the operation has been carried out by batching. The 3 men operated underground, but one runs the mill for 8 hours. At present, with a head of less than 2 oz. gold, the operation is an even break. Above 2 oz. will show a profit.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine Delaware Mine Date November 19, 1957
District Green Valley - Payson area - Gila County Engineer Lewis A. Smith
Subject: Mine Report (interview) Office.

Location: Sec. 30, T10N R10E

Owner: R. W. Thompson, 3030 E. Indian School Rd, Phoenix (Squaw Peak Trailer Court).

Lessee: Richard E. Mieritz, Mayer-Heard Bldg., Phoenix (Phone: AL 2-2795).
2 men working as partners.

Property: 13 Claims.

Equipment: 15 H.P. Hoist, Small Crusher, 5-ton Gibson Mill, 5-ton Denver Gig, 5-ton Stephen table, and small ball mill. Whole set-up is for amalgamation. The ore is free milling and crushing to 30-mesh appears, from tests, to free about 80% of the gold, which is in limonite.

Development: The property has a new 100' shaft and an old 100' shaft which now is filled. Considerable drifting was done along two sides of a wide shear zone. A new drift has encountered the old shaft fill.

Geology: According to Mieritz, the mineralized zone lies in a wide shear with quartz veins, lenses, and pockets following the two sides of the shear. The main values are associated with limonite within the quartz. The wall rock is a hornblende diorite of probable pre-Cambrian age. Quartz stringers and small blebs are prevalent out along fractured areas between the shear walls. The hornblende-diorite contains limonite specks and tiny veinlets which appear to be of a somewhat different character and may have been developed from pyrite-chalcopyrite. However, their concentration is weak. Remnants of quartz ^{pockets} run from 0.2 to 10 oz. in gold and it is hoped that the mill heads can be kept at about \$125.00 a ton, for the time being, while exploration for new ore is under way. A fair amount of \$10-15 ore, in addition to the higher grade material, is available for mining. The better ore favors the Footwall of the shear.

A 250-foot well can more than supply the needed water for the 5-ton daily operation.

Mining equipment includes 3 drills, a mine car, and some rails.

There is good topography for placers immediately below the mine outcrops.

Richard E. Mieritz
MINING CONSULTANT

DELAWARE MINE
Gila County, Arizona

Mr. R. W. Thompson, owner of the Delaware Mine advised me during a May 24, 1957 conversation that several improvements had been made at the Delaware Mine since my last visit there several months ago.

The following is a short memorandum completed from notes made during the conversation. I have not visited the property to examine these improvements, consequently no personal conclusions can be resolved.

MINE

Surface:

Trenching with bulldozer has been accomplished to expose veins developed by underground work and other veins untouched by such development.

A small ore bin with service road has been installed and constructed at the portal of the East Adit. Approximately six tons of 3 ounce gold ore is in the bin. This production is in part a result of some underground development in the mentioned adit.

The caved shaft, east of the main operating shaft, is currently being cleared of its cave by drawing material from the accessible 100 foot level and lowering from the surface a 36 inch, iron runged, 12 guage galvanized pipe in ten foot sections. When completed this will provide an escape way and a good ventilation shaft. At present the pipe is set at 50 feet below the collar. Solid material from the footwall of this shaft and some "muck" assays from 3 to 13.5 ounces of gold. The quantity available has not been determined.

Underground:

Other than converting the old shaft into an air and escape shaft, no additional work has been done in the main underground workings.

Seventy feet of drifting has been done on the fissure just inside the portal of the East Adit. An

advance of 20 feet to the east and 50 feet to the west has been completed. As of this writing, no drift samples were taken.

MILL AND SURFACE

The 5-ton mill is complete except for a coarse crusher unit which apparently has been difficult to find.

A generalized mill flow sheet is as follows:

Crusher
 1" screen (closed circuit)
 Hopper
 30 mesh rolls
 Impact plates-amalgamation
 Jigs-amalgamation
 Table-amalgamation-Conc. off table.
 Retort Concentrates
 Bullion.

Two products are made, bullion and concentrates. Some mill "bugs" need correction.

Twenty to thirty tons of ore are stockpiled at the mill site.

Water has been developed on the property. A 251 foot well is now equipped with a 3HP centrifugal pump which is set at 238 feet. Static water level is at 21 feet. The well produces 55 to 60 gpm the first few minutes and declines to a constant pumping rate of 18 gpm, with a pumping water level at 238 feet.

The tailing pond has been dredged and ready for mill operation. A surface water storage pond has been water-proofed by plastering. This tank has a storage capacity of 16,500 gallons.

EQUIPMENT

Some equipment has been added to the already complete list in the report. The added equipment is, a 105A I. R. compressor, a 500 gallon Butane storage tank and a Sullivan stoper.

Mr. Thompson also advises a concrete block machine capable of making 1000 blocks per day is available and that he saw no reason why the tailings could not be used as one of the constituents for the cement block mixture.

1998-2002
 Shop No. 1936 MI
 File No.

15 OCT 1956

CHAS. A. DIEHL

Phone AL 3-4001

Phoenix, Arizona

P. O. Box 1148

VALUES
 Latest Quotation

1 oz. Gold.....
 1 oz. Silver.....
 1 lb. Copper.....
 1 lb. Lead.....
 1 lb. Zinc.....

Arizona Assay Office

815 North First Street

MR. ROBT. E. MIERITZ

Short Ton - - - - 2000 Lbs.
 Short Ton Unit - - - - 20 Lbs.
 Long Ton - - - - 2240 Lbs.
 Long Ton Unit - - - 22.4 Lbs.

THIS CERTIFIES

samples submitted for assay
 contain as follows:

MARKS	SILVER PER TON		VALUE	GOLD PER TON		VALUE	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE				REMARKS	
	Ozs.	Tenths		Ozs.	100ths								
1				.10		\$ 3.50							
2				.08		\$ 2.80							
3				TRACE									
4				.56		\$19.60							
5				1.80		\$63.00							

Charges \$ 7.50 PAID

Assayer ARIZONA ASSAY OFFICE

GEOLOGIC REPORT

ON THE

DELAWARE MINE

**Gila County
Arizona**

William E. Mead

**William E. Mead
Consulting Geologist**

August 1, 1955

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MAP OF MAIN ADIT WORKINGS	(In folder)
GENERAL PLAN MAP OF DELAWARE CLAIM	(In folder)

GEOLOGIC REPORT ON THE DELAWARE MINE
Gila County, Arizona

INTRODUCTION

The following report has been prepared at the request of Robert W. Thompson, owner of the Delaware property, and is the result of three days of field examination during July, 1955 and one or two days' work during September of 1954.

The Delaware patented lode mining claim and the eight unpatented claims surrounding it are located in the west central portion of Section 30 of Township 10 North and Range 10 East, Green Valley Mining District, Gila County, Arizona, and are about 5 miles airline distance in a southwesterly direction from the town of Payson. From the gravelled Roosevelt-Payson highway a two-mile dirt road leads to the mine.

CLIMATE AND TOPOGRAPHY

Sharp ravines dissect this upland hill country into an area of moderate relief in which outcrops are rarely exposed through the rather heavy cover of residual mantle. The vegetation consists mainly of grasses, thick undergrowths of oak, and sparse scatterings of juniper and scrub pine. Elevations range from 4300 to 4600 feet above sea level in the immediate area.

Except for intermittent snowfalls of short duration in January and February, which rarely leave a cover for more than 24 hours, the only climatic problem in this region is the rainy season coming at two periods during the year, early Spring and in Mid-Summer. The dirt road to the mine is occasionally in poor condition during such time, but is soon restored to passibility by wind and sunlight.

HISTORY

Early Spanish inhabitants undoubtedly knew of the existence of precious metals in this locality, but the first historical accounts begin in the year 1875 with the discovery of gold-and-silver-bearing quartz veins by the settlers of the new Territory of Arizona. By 1881, the influx of prospectors and miners had reached its peak--men who had departed from the gold fields of California and Nevada for greener pastures. Between 1881 and 1886, as the shallow, easily-recoverable deposits were worked out, mining activity gradually waned. It was during this period, sometime prior to 1886, when the Delaware property was originally located by a man named Herbert Logan. A patent was granted on the Delaware claim on March 22, 1890, then still in Yavapai County of the Arizona Territory. The eight surrounding claims are also believed to have been located at about this time.

No production is recorded for the Delaware, although it is known that several of the early operators did encounter pockets of high-grade ore which yielded a substantial quantity of nuggets and dust.

The present owner, Robert W. Thompson, acquired the 9 claims of the Delaware group in 1942 and held the deed to the property in the name the Verde Falls Mining Company until January, 1951, at which time the ground was transferred directly to Mr. Thompson.

DEVELOPMENT

The principal working on the Delaware is a 95-foot single compartment shaft having two North-South crosscuts and two East-West drifts at the bottom of the shaft, and an east drift at the 35-foot level. These laterals off the main shaft aggregated possibly 250 feet prior to the work done by the present owner. Also part of this early development, along with several shallow pits and cuts, was a 60-foot adit crosscut having a 60-foot drift ending in a 40-foot raise. This raise, now caved, formed the "glory hole". Lastly, a vertical shaft 60 feet south of the main shaft was put down at some unknown time in the past to about the same level as the bottom of the main shaft. It is believed that a drift has been driven to the east off this old shaft about 20 feet below its collar, but the length is unknown.

Since the property has been operated by Mr. Thompson, the main shaft has been retimbered, a wooden headframe constructed, the bottom laterals extended an aggregate amount of about 90 feet, an adit crosscut driven 125 feet with a 50-foot drift, and a considerable amount of bulldozer leveling and stripping done. A substantial frame hoist-house with hoist, cable and bucket have been installed and are in good operating condition. A 14' x 16' concrete block house has been constructed about 400 feet south of the mine. A mill building of similar construction now stands containing all necessary components of a 5-ton mill, including jig, amalgamator and concentrating table. Assembly of this apparatus can quickly put the mill into operation.

Erected within the past year on the Delaware claim is a modern residence valued at \$30,000 which commands a superb view of the surrounding countryside. Water from a 220-foot well supplies this domicile and would also meet the needs of the mill. Two Butane-driven, 60 cycle, 110 volt power plants provide the electrical requirements. A reservoir capable of impounding 200,000 gallons of water has been excavated near the mill and concrete block power house.

A complete inventory of equipment and machinery is given on the following page.

GEOLOGY

Diorite, a pre-Cambrian intrusive, is the predominant rock type in the district, and is typically a medium-to-dark gray, coarse-grained, hornblende-rich diorite that weathers to an olive-drab soil. Intruding the diorite are abundant dikes principally basic in composition. Several miles to the northeast pre-Cambrian granite is the major rock type, while several miles to the southeast, pre-Cambrian Pinal schist predominates. Quaternary gravels and sands form a North-South belt west of the diorite outcroppings. Overlying the several pre-Cambrian formations are scattered remnants of Paleozoic sediments.

*Inventory of Equipment
Delaware Mine
Nov 20, 1957*

-4-

LIST OF EQUIPMENT AT DELAWARE MINE

- 1 Fairbanks Morse mine hoist 15 HP with 350 ft. 7/8" cable
- 1 Portable Sullivan compressor on steel wheels 105-A -
- 1 Five ton Gibson Mill
- 1 Ore Feeder Belt
- 1 Five ton Denver Jig
- 1 Five ton Stephan Concentrating Table
- 1 Sump Pump
- 1 Denver Impact Amalgamator
- 1 400 gallon portable water tank trailer on rubber tires
- 2 High Pressure water tanks for drilling
- Air and Water Hose
- Worm sand Elevators
- Ore Elevator to Hopper
- Ore Loader, (portable) 4 cylinder with gas motor
- 1 High pressure water pump for reclaiming water
- Miscellaneous pipes, valves and fittings
- 1 12" x 20" Portable sand loader on rubber wheels with
1 HP electric motor
- New Copco air tools and jack leg (hoses and repair parts)
- 1 New High pressure water pump with 1 1/2 HP gas motor
- Pipe, rail, water and air lines
- 100 New hanging rods, nuts and washers
- 1 400 gallon water tank for hoist at mine
- 1 Small ore pulverizer with 1/2 HP motor
- ~~1 2000 ft. roll blasting fuse~~
- 500 ~~Blasting caps~~
- 1 Wire or rope puller with 1 1/2 HP motor
- 1 Small Gold Retort
- 1 Onan 10 CW, 1 phase, 60 cycle, 110 or 230 volt power
plant (Butane driven)
- 1 Onan 3 1/2 KW, 1 phase, 60 cycle, 110 volt automatic power
plant (Butane driven)
- 1 320 gallon Butane storage tank
- 1 500 gallon high pressure water tank
- ~~1 45 gallon Butane hot water heater~~
- ~~1 Coleman gas furnace with 1 HP electric motor for blower~~
- 1 3 HP Jet water pump, 1 phase, 220 volt
- 1 Cooler and blower with 1/2 HP motor
- 1 1941 Dodge Recon truck
- 2 1 Ton ore buckets
- 1 1 Ton ore car

- 1 - Sullivan Staper
- 1 - ER-105A compressor - no wheels.
- 1 - 500 gal Butane tank
- 1 - Buffalo forge - 061 061
- 1 - large gold retort.
- 2 - Railroad jacks, 15 ton
- 1 - Set blacksmith tools. (non picus)

- 2 - Sm bottles of oxy (full)
- 2 - " " acety (1 full)
- 1 - Set welding & cutting set.
- 10 - 3/4" galv. corr. pipe &
connectors
- 1 1 1/2 Ton chain pull.
- 1 - set wheel pullers.

GEOLOGY (Continued)

Without known exception, the gold deposits occur in the hornblende diorite, normally where it has been sheared and fractured by the injection of fine-grained basic dikes. In this process, not only the contact zones but also the dikes themselves have been fractured, thus creating favorable channels for the ascent of silica-rich mineral-bearing solutions. These dikes vary in width from a few feet to several tens of feet and at the Delaware have an east or northeast strike. Gold-bearing quartz veins 1/2 to 12 inches in width fill many of the contact zones and fractures complementary to them and therefore they too generally exhibit an east or northeast strike, and may dip either northward or southward at 50 degrees or greater. Post-mineral deformation has resulted in two directions of stress--one which parallels the quartz veins and shears them into a crushed mylonite zone oftentimes several feet wide, and another which transects the mineralized veins, offsetting them from inches to several feet. In both stress directions, the movement is largely horizontal.

MINERALOGY

In the oxidized portions of the quartz veins, hematite and limonite occupy the spaces once filled with pyrite, and with the earthy oxides remaining to partially fill the cavities, the quartz takes on a cellular, spongy, iron-stained aspect. It is in such places where the native gold has been set free by the process of oxidation, thus rendering it free-milling and frequently detectable by eye. Copper occasionally occurs as the green carbonate malachite, along with the iron oxides and gold.

No significance is attributed to a zone of supergene enrichment in these deposits, because the gold is not affected by such a process except by being freed, and not enough copper is present to be of commercial interest.

As the primary, unoxidized zone is approached, more and more of the pyrite and copper sulfides are present, and the gold remains locked in these other minerals so that physical means of separation can no longer be used. The encountering of this sulfide zone was one of the reasons

for abandoning the early gold deposits. Also, in the Green Valley Mining District as in other mining districts, the water table often coincided with the sulfide zone and necessitated a pumping operation which was normally prohibitive in cost. None of the Delaware workings have reached the water table, and projecting from the position of the water level (220 feet) in the well, and in the spring about 800 feet downstream, the main shaft can be sunk another 50 to 75 feet with reasonable assurance of dry ground the entire distance.

Some silver occurs with the gold in these deposits, but the ratio is usually low and the silver cannot be depended upon to appreciably affect the total unit dollar value of the ore.

Calcite seams are quite abundant in certain places in the mine but do not appear to bear any direct relationship to the gold mineralization. The calcite often fills post-mineral seams and fractures.

Alteration products in the wall rock adjacent to the quartz veins are the usual trio of sericite (alkaline hydrothermal effects), chlorite (alteration of ferromagnesian minerals in the wall rock), and Kaolinite (alteration of the feldspars in the wall rock).

CONCLUSIONS

The potentialities of the Delaware mine stimulate the imagination. Nature has been generous with quartz vein mineralization on the property and it can safely be said judging from known outcrops, that an aggregate of several thousand feet of strike length along gold-quartz leads remains undeveloped and virtually unexplored. The Delaware is situated close to the center of the Green Valley Mining District, and is flanked on all compass points by noted producers of the past. Official records show that over \$3,000,000 in gold has come from this district over the past years. It is also well-known that these mines were in almost every case shut down not because

of a loss of values with depth, but rather because of

1. The water disposal problem below the ground water table,
2. The refractory character of the ore below the oxidized zone, and
3. Unfavorable economic conditions.

The Delaware is not hampered by any of these obstacles. The potential in a vertical direction is also promising, with several of the richest veins showing projections to intersection probably well above the water table.

It is well-recognized that gold is spotty in nature, and that the high-grade pockets are connected by lean segments of the vein. Ample evidence exists in the form of assay and panning results, and favorable exposures, that the Delaware can expect to have a profitable frequency of ore pods and shoots along the vein trends. I have personally observed numerous pannings at various places in the workings that show heavy gold values. One may select, almost at random, any of the several dumps and with a bit of diligent searching, find attractive specimens of free gold, almost always in a hematite matrix.

The prevailing attitude in this present age is to frown upon gold deposits as wise investments. Many feel this way without having a sound reason for doing so. Actually the reasoning is fallacious. Admittedly the mineralization is erratic, but so are tungsten, rare earths and uranium, to name a few. It is not coincidence that metals with a high unit value are of this character. The current activity in the fields of these other metals is known to every mining man. To discriminate against gold through broad generalization and unfounded assumptions is not warranted. How often one hears these days, "I'd trade all my uranium holdings for one good small gold mine."

The Delaware offers a good investment possibility to venture capital, even disregarding for a moment the added attractions of a gracious residence and a new mill. I therefore strongly recommend serious consideration of the potentialities of the Delaware to any prospective buyer.

RECOMMENDATIONS

In order to develop ore reserves at the maximum possible rate at the Delaware, the following recommendations are made in the order of priority deemed most feasible in the opinion of the authors:

Main Shaft

1. Extend the East drift in the South crosscut in an easterly direction along the 1 to 3 foot crushed quartz zone.
2. Raise on the \$35 ore in which the six-foot winze in the West drift was sunk.
3. Extend the East drift at least 25 feet eastward along the vein structure, to pass beneath the strong quartz lead in the glory hole.
4. Sink the shaft vertically another 40 feet and crosscut southward approximately 30 feet to the intersection of the two main quartz veins and then drift in either direction, preferably East, along this intersection.
5. Extend the West drift.

Main Adit

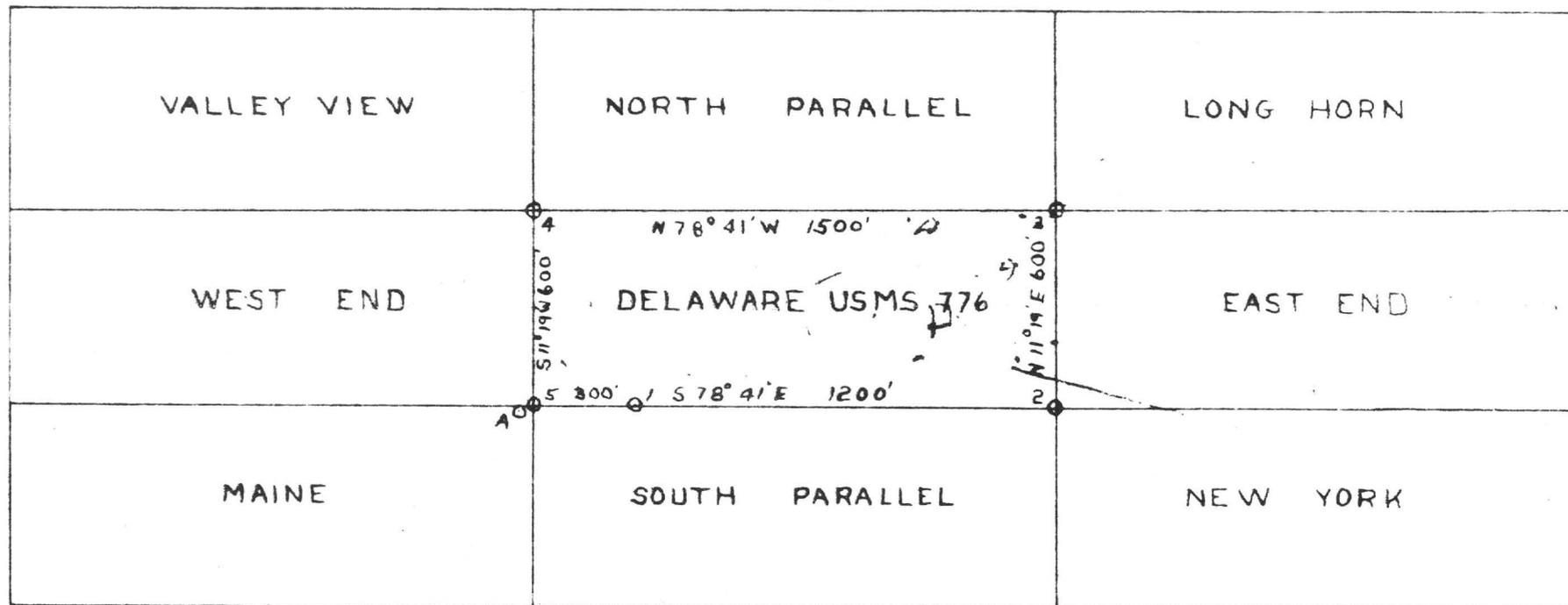
1. Extend the East and West drifts to determine the position of the ore shoots so that the East drift off the South crosscut at the 95 foot level in the main shaft may be driven to pass beneath them.
2. Drift westward on the vein in the face of the North crosscut, where the values exceed 1.5 ounces of gold per ton. Later drift eastward on this quartz vein.

Surface

1. With a bulldozer, strip the surface exposure at least 100 feet eastward on the vein that is exposed in the glory hole, and on the vein which surfaces just above the main adit (that which has already been trenched at its western extremity).
2. Strip with a dozer the east and west extensions of the quartz vein exposed on the south side of the wash south of the shaft.

DELAWARE GROUP

GREEN VALLEY DISTRICT, ARIZONA



A - USMM NO 2 S 85° W 37 F

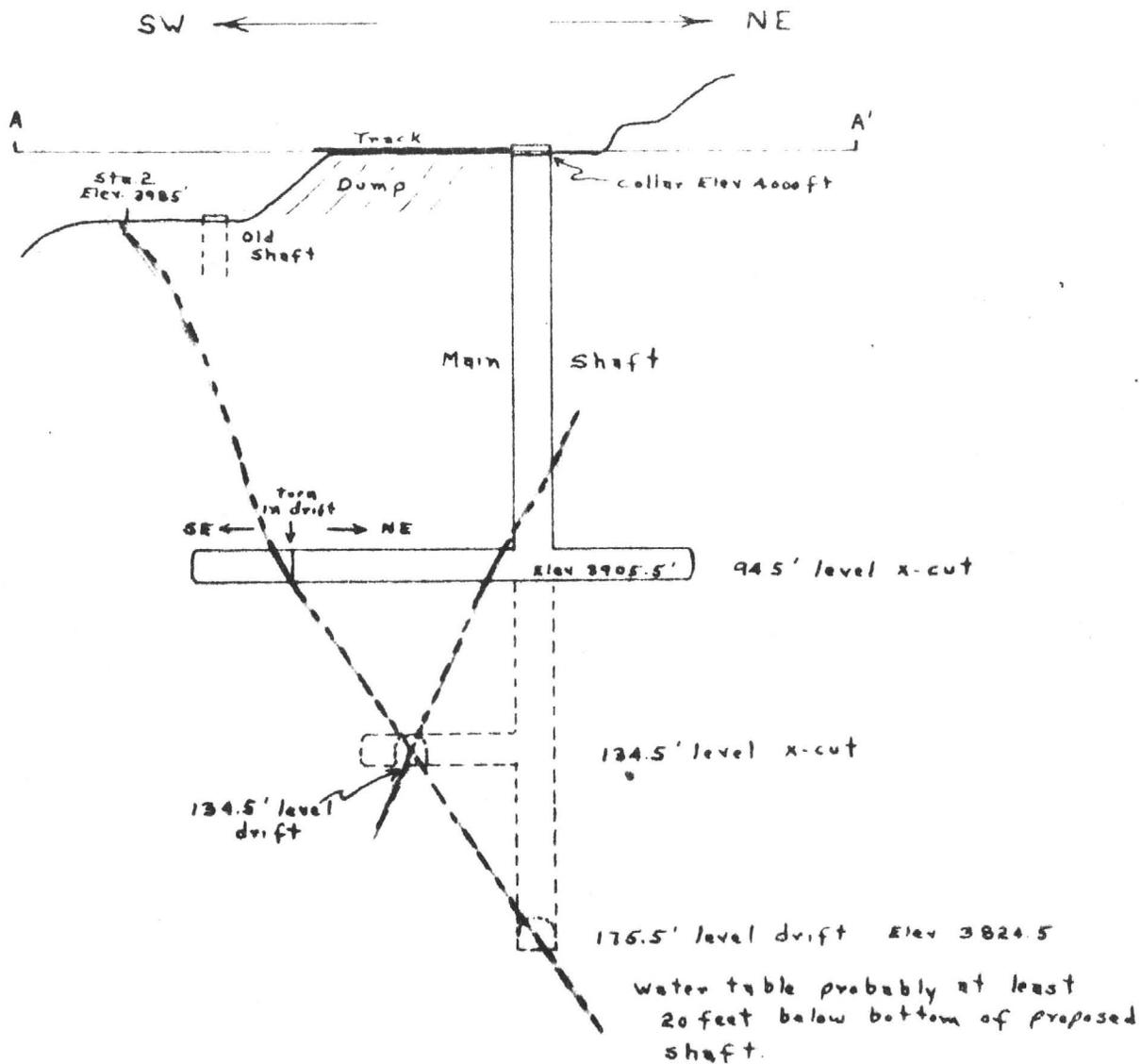
SCALE - 1 inch = 500 feet

Arizona.

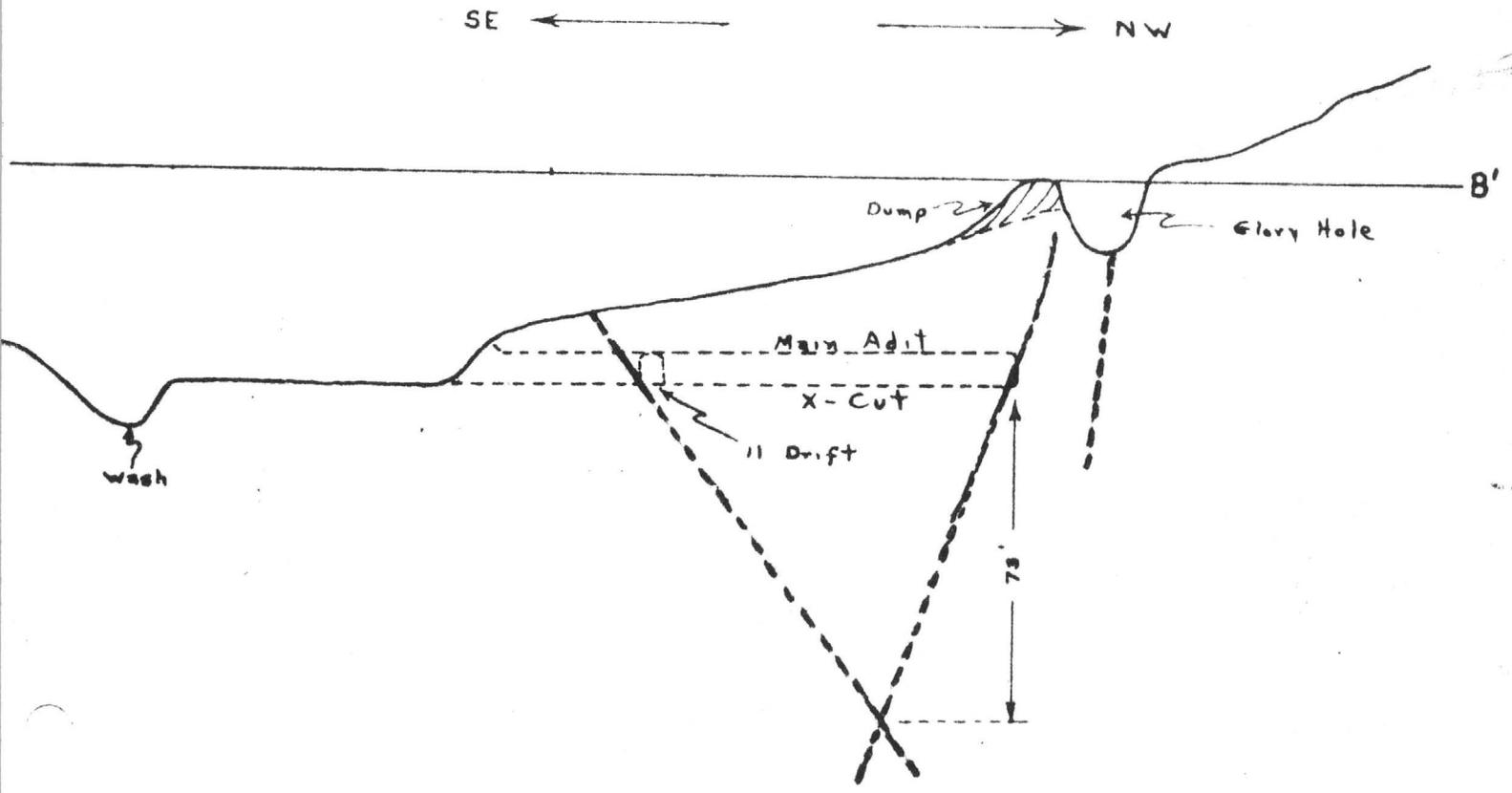
Nevada

California

*Copper on
these claims*



DELAWARE MINE
 Section A-A'
 Proposed Shaft
 Extensions
 Gila County, Ariz.
 Scale: 1in = 40ft
 July 30, 1955



DELAWARE MINE
 Section B-B'
 Gila County, Ariz.
 Scale: 1 in = 50 ft.
 July 30, 1955

SAMPLE DATA

<u>Sample No.</u>	<u>Description</u>
1	3 ft. vein; bottom of old shaft
2	95 ft. level; main shaft; 1-4" quartz vein; E. wall S. drift; 17' from shaft center
3	95 ft. level; main shaft; composite from 5" quartz vein; W. side S. drift; 8' from shaft center
4	95 ft. level; main shaft; 1.5 ft. hematitic quartz; S. wall S. drift; 65' from shaft center
5	95 ft. level; main shaft; 3" swell in quartz vein; E. drift; 52' from shaft center
6	95 ft. level; main shaft; 3" non-hematitic quartz vein; E. drift; 61' from shaft center
7	95 ft. level; main shaft; 2.5 ft. rotten quartz breccia; N. wall S. drift; 71' from shaft center
8	95 ft. level; main shaft; E. tail of vein system; E. drift; 26' from shaft center
9	95 ft. level; main shaft; 8" swell in N. vein; center E. drift; 20' from shaft center
10	95 ft. level; main shaft; 3" vein high in hematite; E. side S. drift; 8' from shaft center
11	95 ft. level; main shaft; 3" quartz vein with 2" hematite; H.W. zone; E. drift; 66' from shaft center
12	95 ft. level; main shaft; 5" quartz vein; S. side E. drift; 12' from shaft center
13	95 ft. level; main shaft; 5" quartz vein; S. side E. drift; 20' from shaft center
14	95 ft. level; main shaft; composite; 3 intersecting gouge seams with sooty calcite; N. X-cut; 19' from shaft center
15	95 ft. level; main shaft; composite from 2" clay seam; face N. X-cut; 37' from shaft center
16	95 ft. level; main shaft; composite from 6" crushed zone; N. X-cut; 23' from shaft center

SAMPLE DATA (Continued)

<u>Sample No.</u>	<u>Description</u>
17	95 ft. level; main shaft; composite 4-8" quartz veins; face W.drift; 44' from shaft center
18	95 ft. level; main shaft; 4-8" quartz vein; S.side E.drift; 12' from shaft center
19	95 ft. level; main shaft; 2 ft. cut of vein; S.drift; 50' from shaft center
20	Dump; main shaft
21	87 ft. S78°E. from station 2; 2" quartz vein and 3" red clay on hanging wall; from trench
22	Dump; main shaft
23	Quartz vein S. side of gulch
24	Quartz vein S. side of gulch
25	57 ft. S78°E. from station 2; 2 ft. quartz vein
26	1.0 ft. crushed quartz and wall zone; hanging wall of gouge; 37 ft. in W. drift of main adit
27	109 ft. S78°E. from station 2; 1.0 ft. cut in alteration zone; some quartz
28	21 ft. in W.drift; main adit; 1.0 ft. Fe-quartz; white clay gouge on footwall
29	29 ft. S78°E. from station 2; 1 inch of quartz
30	2.0 ft. crushed quartz; E.side of main adit on S.side of new E.drift
31	129 ft. S78°E. from Station 2; 8" quartz

ASSAY REPORT

ASSAY REPORT

DESCRIPTION	AG	AU	CU	H ₂ O	DESCRIPTION	AG	AU	CU	H ₂ O
1 4/4/42	6.95	1.50	11.90%		1 10/17/55	1.14			
2 4/26/35	0.56		1.60%		2 12/22/44	0.36			
3 4/29/42	0.80	0.20			3 12/22/45	0.06			
4 4/28/88	11.60	4.00			4 12/22/46	0.06		3.90%	
5 10/4/49	0.75	.3			5 6/21/56	6.60	0.80		
6 7/4/58	0.74	.2			6				
7 10/5/49	0.34	.4			7				
8 7/4/77	1.85	.3			8				
9 1/18/53	1.01	0.3			9				
10 7/700	0.02	.80			10				
11 7/701	0.06	10.20			11				
12 7/702	5.85	4.00	0.30		12				
13 7/703	0.54	2.80	0.10		13				
14 7/700 2nd Cut	13.50				14 8-16-57 -				
15 11/10/53	3.50				15 8-27-57 -				
16 7/701					16 4-1-57 -				

from west of old shaft

Phoenix, Arizona

Dec. 20, 1932

Mr. W. B. Twitchell,
Phoenix, Arizona.

My dear Sir:

Have recently made a study of the mineral deposits in the Payson district, and in so doing visited the Gowan Mine, which is one of the holdings of the Verde Falls Gold Mining Co., of which you are President.

Throughout the district one is impressed with the number of inactive mines which bear mute evidence of the struggle of the pioneers of the early eighties, who under a great handicap, compared with the facilities now at hand, accomplished much superficial development work. This is also proof of an intensely mineralized district in which values were necessarily high to pay for such development, as much of it was accomplished by hand work and windlass by men of small means, and limited knowledge of mining.

As the primary ore zone is reached, in which the gold was closely associated with the sulphides, it became impossible to save the gold by amalgamation, which was then the only process available. This, together with the difficulty involved in working the deposits at depth, without adequate hoisting facilities, caused them to discontinue operation, leaving ore bodies whose potential value is well worthy of proof by further development.

Have read a report on the holdings of your company in this district. The description therein contained together with the fact that these claims bear very early patent numbers indicating that they were deemed worthy of patent when the camp was active, and that they were acquired by your company over a period of years as individual units of one organization, point to the fact that they are more meritorious than the average property that can now be acquired.

To place this group into operation it is likely that it would be impossible under present conditions to raise sufficient funds to start each unit going at one, but believe the Gowan could be started at comparative small expense. The framework of the old mill is intact, and could be quickly and cheaply repaired. The 10 stamp battery is in place and no doubt considerable ore could be obtained from which a fair saving could be made by amalgamation, the tailings being stored for further treatment.

A sufficient power plant should be installed to permit of the addition of concentrating tables and flotation cells as the process of treatment is perfected and more base ores encountered. By this procedure the mill thus devised would not only be a source of revenue, but serve as a pilot plant to determine a proper flow sheet, and be a unit of a more elaborate mill when more funds are available and such construction fully justified by more development.

A fund of at least ten thousand (\$10,000.00) dollars should be provided to start operation which would have to be supplemented by at least twice this

amount by a cooperative organization that would make it possible to exchange stock certificates for both labor and supply. To do this it would be necessary that the corporation be governed by a directorate, composed of men of unquestionable reputation and business ability, so as to insure proper management.

With conditions throughout the country as they now are, I believe that you should have the undivided support of all to whom you may appeal, that an enterprise such as this may be started which would not only result in employment for many idle men, and provide a market for latent commodities, but be a step in the right direction toward rehabilitating this state as a leader in the mining industry, the loss of which in the depreciation of the price of copper, it has so sorely felt.

Very truly yours,

W. M. Snow
Mining Engineer

COPY

COPY

Phoenix, Arizona
Aug. 30, 1932

Mr. W. B. Twitchell, Pres.
Verde Falls Gold Mining Co.
Phoenix, Arizona

My Dear Mr. Twitchell:-

Our conversation this morning regarding the Verde Falls mining property, near Payson, Arizona.

In my opinion you are working along the proper lines, in interesting people of high financial standing to become interested in this property.

The geology of the section on which this property is located is such as to interest any geologist as a good mining venture, and has been greatly neglected by the mining world, on account of its inaccessibility to the traveled thoroughfares, of recent years this has been over come, and good roads traverse this section at the present time, trucks can now handle supplies and the products of these mines at rates much lower than the cost of rail haul in the early days.

The property is located on the Globe-Jerome mineral belt, and lies about midway between these two great mining camps, which as you know produced many million dollars in dividends from the mines, and whose operations covered many years.

As I explained to you after my examination of the property last year, the property with the proper financial backing, and a systematic plan of development properly carried out, will in my opinion become one of the large producing Gold-Copper properties of the state.

Very truly yours,

J. R. McDonald, M.E.
Reg. Prof. Engineer
Cer.296

COPY

August 25, 1931.

Mr. W. B. Twitchell,
Phoenix, Arizona.

My Dear Sir:-

Since writing you the above letter, I have made further investigations regarding the merits of the different holdings of your company, especially the economic possibilities of developing them into producers of gold, silver, and copper ores of a commercial grade.

Of the properties investigated, I was very favorably impressed with the surface showing on the Contact Group, this property consisting of four contiguous mining claims embracing an area of approximately eighty acres of patented land, extending along the outcrop for over twelve hundred feet and situated at the base of the high plateau, two miles a little west of north from the Gowan Mine.

From a geological and economical stand point, and from the showing outlined by nature on the surface, and from the character of the material removed from the ancient workings, I can verify the statements which in opinion are very conservative, made by Prof. F. C. Smith in his report covering this property, under date of Dec. 3, 1930, that this property has all the essentials necessary for the development of a Gold-Copper mining property of unlimited possibilities, and that the plan of development outlined in his report, for this property, if carried out will prove his contentions to be well founded.

Very truly yours,

J. R. McDonald, M.E.

Reg. Prof. Engineer
Cer. 296

COPY

August 5, 1931.

Mr. W. B. Twitchell,
Phoenix, Arizona.

My Dear Sir:-

A few days ago I made a superficial examination of a portion of the workings of the Gowan Mine, as well as the workings on the American Mine, these mines are part of the holdings of the Verde Falls Gold Mining Company, of which you are President, and are situated close to the East Fork of the Verde River, Green Valley Mining District, Gila County, Arizona.

From the Geological conditions existing along the strike of these veins on the surface, and from my observations taken underground in the different workings its obvious that these mines in the past have produced a considerable tonnage of ores. From tests made by me on the ground, I find that these ores above the ground water level are amenable to amalgamation; a large percentage of the gold contents can be extracted by this sulphide zone are more complex, and will have to be cyanided or flotated, to save the values.

These veins I find to be these of the deep seated variety and should carry values to a great depth.

With the rehabilitation of your milling plant now on the Gowan property, and with the acquisition of the ground adjacent to the Gowan patented claim, on the north side lines, also on the east end lines, and the ground along the American gulch, between the American mine, and the East Fork of the Verde River, you will have a mining property of unquestioned magnitude, which has produced a considerable tonnage of gold ore in the past, and which with a small amount of development will again be ranked among the gold producers of the state, and will pay dividends for many years to come.

As the mines are adjacent to the East Fork of the Verde River you have an unlimited water supply for all purposes mine timbers and lumber can be procured at reasonable rates close to the mine.

Very truly yours,

J. P. McDonald, M.E.
Reg. Prof. Engineer
Cer. 296.

AMERICAN CLAIM

Verde Falls Gold Mining Company,
Phoenix, Arizona.

Gentlemen:-

While preparing my report of the different groups owned by your company, I overlooked my notes regarding the American claim.

I herewith submit my opinion as well as results of my investigation.

Your American patented mining claim, as shown on the attached print, is situated about one mile from the Gowan gold mine, on the American gulch. This property has been opened up sufficiently along the strike of the veins to permit an intelligent sampling whereby conclusions could be arrived at, so as to advise future development.

The vein varies in width from eight to fifteen feet and is a contact between porphyry and granite.

Samples taken gave results as follows.

No-1--Open cut six feet in width	0.80 ozs. gold	or \$12.00.
No-2--Tunnel Pyretic ore, select	2.00 " "	" \$40.00.
No-3--Waste Material	0.10 " "	" \$ 2.00.
No-4--Outcrop, porphyry dyke	0.20 " "	" \$ 4.00.

It would not be an unreasonable stretch of the imagination since metamorphism has played its part along the contact, thereby oxidizing a certain portion of a very large and prominent intrusive porphyry dyke, to believe that a very large ore body exists for the full width of the dyke with a distinct length of more than one thousand feet. I refer you to sample No. 4, as shown above, which is the result of careful sampling taken the full width, or, one hundred and twenty-five feet.

I certainly recommend the development of this property.

Respectfully submitted,

F. C. Smith, M.E.

COPY

SUPPLEMENTARY REPORT
UPON THE PROPERTIES OF
THE VERDE FALLS GOLD MINING CO.

Dec. 4th/30

My original Report upon the Verde Falls Gold Mining Company was made some ten years ago; since which time I have kept quite thoroughly posted upon all items of progress, and upon all general and particular conditions. A very considerable amount of work has been done, during this time, for the general betterment of conditions (such as somewhat wide-spread development of a sort; great improvement of roads etc.) but, in a case where the various claims are so scattered, the changes worked are not readily visible.

I may say that all items of test have only served to confirm, and even to better, my former opinion as to the very great prospective value of these claims, and a few of them I shall enumerate below.

The possibility of railroad development which might serve these properties has, since the time of my former report, been temporarily abandoned, doubtless by reason changes of policy and conditions; so that, so far as I know, no railroad construction is to be expected at any early date. The vastly improved condition of the wagon-roads, however, together with the wonderful strides made in motor-truck transportation, make this a matter of relatively small importance.

When the first work was done (now nearly fifty years ago) upon these mines, it must be remembered that the old-timers who located and worked the claims, and who finally patented them and left them--never to return--were hampered in many ways;--by the almost utter lack of roads (which made it difficult to bring in supplies of all kinds, and equally difficult to ship anything out) by insufficient and inadequate machinery (whereby they lacked pumps and also any sort of concentrating machinery) and, finally, by very different markets for metals from those existent today. Emphasis must also be laid upon the fact that these old-time miners were gold miners pure and

simple, and knew (or probably cared) very little indeed about the copper which was so widely present on all the claims, and which, indeed may one day exhibit the major values of the whole group.

In probably every case (such as can now be discerned in the ores of the Gowan and Summit) it is most probable that, after a short depth below the oxidized surface zones, the gold became, in large part, so mixed with sulphides of copper and iron as to become much less easily amalgamable with mercury, which was the only process then in use for its saving.

In the case of the Gowan ores, the level of the East Verde River was reached at a depth of about 70 feet from surface, and below this water-level it is an important fact that, no matter what reasonable gold content might be found in the ore, they not only had no adequate means of saving it from its mixture with copper and iron sulphides, but they had no pumps with which to remove sufficient water to permit mining operations. It is an important and favorable condition, however, that they did mine down to the water level, and they did stope to surface on both sides of the shaft, and all of this dirt they did mill; presumably at a profit. Since they left--un-mined and un-milled--the two feet of hanging-wall breccia (which gave me an assay of about \$11.00 per ton) it seems likely that the pure quartz which they did mine and mill must have assayed considerably higher; thus establishing a very probable condition that the continuation of the quartz vein in depth may carry good values; and values which will not be decreased by their sulphide contents under the present-day methods of milling, but will increase them.

The same reasoning may well also apply to the Summit.

With reference to the great losses attendant upon the former lack of concentration, about the only available method consisted in taking a sample of the old mill-tails at the Gowan Mill, and concentrating the same, with subsequent assay of the concentrate. These tails were, naturally, much more completely oxidized by the passage of 40 years, and the weights taken and concentrated by hand (panned) and

only an estimate possible; but at the same time, they conclusively show what a valuable product had formerly been wasted (and from a presumably oxidized gold ore) which could, today, be certainly saved. The assay of the concentrate was as follows:--

<u>Silver</u>	<u>Gold</u>	<u>Value per ton.</u>
0.7, oz. per ton.	8.43 oz. per ton.	\$174.36

One claim, The American, which lies about one mile from the Gowan--was not included in my former report, since it was then under bond and lease to Mr. Cl. McFarland. It is now shown on the new map herewith. At the time Mr. McFarland took it over, the opening on the property showed a gold bearing vein of about eight feet in thickness, which yielded on assay very good gold values. He installed a small free-gold mill, and did a considerable amount of development (exposing several veins or stringers, in a quartz-porphry matrix; one of them approximating four feet in thickness) but he found, at a small distance below the surface oxidation, the same old story iron sulphides, which made amalgamation difficult; so, not being able to install concentrators, the property came back to the Company. A rough general assay recently gave \$12.00 per ton in gold.

In conclusion I would say that my high opinion of these properties has been only increased by the passage of nine years. As indicated in my former report, I was deeply impressed by the possibilities of the Contact Group as a function of development in depth of its great sulphide deposit. It seems to me inevitable that when development of this group and other claims has been made, there will be "a world of ore" available which will supply a modern flotation mill with material for an exceedingly profitable copper-gold concentrate, which may be further concentrated to a matte-- or shipped by truck to custom-smelter as may be found desirable.

With electric power now available (and possibly at least 100 H.P. available from local water-fall) with abundant timber for mining and enough for ordinary fuel consumption, the enterprise looks to me like a sure winner, if backed by sufficient capital.

Yours truly,

1916
6/2/1931

REPORT
Upon the Patented Mining Claims
of the
VERDE FALLS GOLD MINING CO.
Gila County, Ariz.

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The passing of forty years has so-forgotten much of the early history of these claims, so that we can only guess at the reasons for their inactivity.

The district in which they are located is, however, somewhat remote from railroad facilities, and is to some extent outside the usual lines of travel, as well as somewhat difficult to examine by reason of its roughness and the lack of good trails. Aside from the Gowan mine, all of the claims have practically lapsed to their pristine condition; all workings being caved and obliterated as far as they might afford data from which conclusions might be drawn to form anything like a comprehensive report upon their value. However, the general surface conditions observed have been amply sufficient to arouse a very considerable interest, while the assay results of various samples taken have extended this interest to what amount enthusiasm concerning the probable results of adequate development. The town of Payson may be considered the proper point from which to visit the properties. It is situated at an elevation of 5000 feet above sea-level, 137 miles from Phoenix, 102 miles from Flagstaff and 96 miles from Globe; in a well-wooded and watered country. While it is somewhat remote from railroads, it is more than probable that this condition will not long prevail since the Verde Extension Company

1916

REPORT
Upon the Patented Mining Claims
of the
VERDE FALLS GOLD MINING CO.
Gila County, Ariz.

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has made a railroad survey down the Verde River, and is said to be seriously contemplating construction of a railroad for the transportation of copper products to a shipping point on the Gulf of California. In such case of Payson country would be within about 15 miles of this road.

GEOLOGICAL AND ECONOMIC CONDITIONS

Geologically the country is granitic; certain areas of same being cut by a wide variety of igneous rocks, with extensive dikes of a dark greenish black basic varieties. Sedimentary rocks, consisting of Cambrian red sandstone, overlain by (probable) Devonian dolomite, still rest unconformably upon wide areas of the primary rocks, but everywhere emphasize the tremendous faulting which the region has suffered by their degradation and change of level and dip. Economically, the conditions found in this region are vastly better than those common to Arizona; for throughout there are many fertile valleys (which doubtless gave the district name of Green Valley) running streams and other sources of water, wide spread soft and hardwood timber suitable for fuel, large pine forests from which sawed lumber is today obtainable at the mill for \$25.00 per M. and finally a vast cypress forest from which the best mine timbers can be obtained. Game is plentiful, and general living conditions much more agreeable than in other parts of the state. Mining and living costs only await the advent of the copper railroad to become the lowest in the state.

EXAMINATION OF THE VARIOUS MINING CLAIMS

THE GOVAN

As noted on the sketch map, this claim is located in Section 34, Twp. 10 N. Range 9 East; its lower or southerly portion being crossed by the East Verde river. It stretches thus N.W. by S. E. across the bot-

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tom of a deep canyon, on the northerly side. As now visible, the vein consists of two distinct portions: one consisting of porphyry with persistent quartz veinlets or stringers in which free gold is easily visible, and the other of an earthy, iron stained breccia; all lying between porphyry walls and dipping north-easterly at about 45 degrees; the total thickness being from four to seven feet. An inclined shaft was first sunk on the vein to a depth of about 75 feet after which a vertical shaft was sunk to intersect the first near its bottom. Probably most of the ore removed from the first shaft was milled, together with ore taken from the stopes which were carried to the surface from both sides of the shaft and for considerable distances. It is said that the last round of shots fired was in the bottom of the vertical shaft, that much water came in, but that such ore as was taken out was good. It is also said that the foreman had the idea that the ore below water-level would be "no-good," and that, as they had no pumps, the work ceased temporarily; also that some difficulties overtook the company, and that they never resumed work. Just what the conditions may have been cannot be definitely established. Most of the available free-gold ore having been removed from the present workings, while the ferruginous breccia or gouge was visible generally, my only sample was taken from the latter, from a pile lying near the bottom of the shaft. Upon assay by Mr. Geo. Diehl of Phoenix it yielded as follows:

Silver--0.20 Oz. Gold--0.52 Oz., or \$10.60 per ton.

This result was somewhat surprising, since this portion of the vein has apparently never been considered of value.

Just below the mine opening, and in the bank of the river, is located the old ten stamp gold mill, built by the Pacific Iron Works in 1878. The building is about gone to pieces from age, but the battery, with its cam and drive-shafts and pulleys are in as good condition as when they were set up; while the steam boiler is in fine condition,

and the horizontal engine needs some repairs. In this mill was treated all of the ore mined in the Gowan, together with a large amount of ore from various other claims belonging to the company; and residues of highly cupriferous gold ores are yet found on the dump.

In considering these facts, it must be remembered that when this work was done--forty years ago--those interested were gold miners from California, who were only interested in free gold available by the simplest milling processes; and that they were not only unprepared to recover such gold as might be locked up in iron sulphides (and therefore used no concentrators of any sort) but they neglected the copper values entirely. Today conditions are vastly different, and I unhesitatingly advise the installation of a small pumping plant and the further development of this property. Even should it develop no better in depth, it should still yield a profit. Incidentally, the old stopes are timbered with peeled cypress from local supply, and these timbers are as solid and sound as the day they were put in--forty years ago.

THE SUMMIT.

This claim is located in Section 18, Twp. 11N., Range 9 East, and is opened by two shafts, but a short distance below the zone of sedimentary rocks, or near the summit of a highly faulted area. The main shaft could scarcely be found except for its ore and waste dumps, but is said to have been 60 feet deep, with drifts both ways upon the vein. The apparent truth of this statement is borne out by the size of the old dumps.

The surrounding surface is covered with detrital material, so that no rock or ore outcrops are traceable; but from the direction of the drifts (as determined by surface depressions, indicating caves from below) the strike of this vein corresponds with the N. W.--S. E. ore-zone extending for miles below. Old stories about this claim

(which, of course, may be absolutely unreliable so far as we can tell today) report the mining and shipment to mill of a very considerable tonnage of copper-gold ore; the sorted ore as hauled to the mill having a value of \$18.00 per ton in gold and carrying 20% copper; the copper being then of no value. What was probably the ore dump is today nearly as large as the waste dump, although it has evidently been sorted over and such ore removed as would pay to ship.

To get some idea of what the mine had yielded, two samples were taken; No. 1 consisting of a number of scraps of copper stained quartzose material, and No. 2 consisting of a large general sample of fine stuff showing no apparent value whatever, such as constituted the bulk of the old ore-dump. Upon assay they yielded as follows:--

No. 1--Silver--0.60 Oz. Gold--2.264 Oz. Copper--9.79% in which the gold and silver values are \$46.79 per ton.

No. 2--Silver--0.60 Oz. Gold--0.60 Oz. Copper--4.22% in which the gold and silver values are \$11.16 per ton.

Without consideration of the selected sample (although its promise is quite significant) one cannot avoid the idea that the material composing the abandoned ore residue would today, if found in any considerable quantity, constitute a very valuable asset.

From correlation of the scanty data available, it would seem that the vein must have been at least from four to six feet in thickness, and float ore is found for a long distance down the southeasterly slope of the country. I certainly recommend the proper development of this claim, as constituting an enterprise of great promise.

THE CONTACT GROUP.

This group consisting of four contiguous claims, (Contact, Connection No. 1, Connection No. 2, and Long To to) is located in the southern part of Sec. 16, T p. II N. Range 9 East. The area covered by the claims presents a picture of unusual interest, and offers geolog-

ical and mineralogical data promising ore deposits of great size and value. On the northerly edge of the area the ground slopes abruptly into a deep canyon, whose northern wall rises quite as abruptly to the undisturbed sedimentary rocks far above; and a somewhat similar condition occurs on the westerly edge of the area. From the surface of the plateau on which the claims are located the sedimentary rocks are gone, and surface examination shows a remarkable series of rock-bands or zones all striking north-westerly. On the west side is found a thick bank of finely laminated schist, rather light coloured. East of and adjoining this appears a strong igneous dike of from 12 to 20 feet in thickness, of a dark green rock, probably diabase; next comes a thick bank of porphyry; then a great bank of so-called "bull quartz," apparently barren, outcropping in several great bunches; East of this comes a zone of typical "gossan" or "iron hat" 20 feet thick or more; then another huge diorite or diabase dike. A number of ancient prospect holes are found in the gossan; one at least which must have been sunk to a depth of 30 or 40 feet; as evidenced by the dump, but none showing evidence of having gone through the gossan into solid material. Two shallow shafts were also sunk in the first green dike; all doubtless in search for gold ore.

Although copper stain is generally apparent, it may be supposed that no gold ores were found of sufficient value to warrant the necessary long haul. In the gossan itself one could scarcely expect to find more than traces of the metals, since it is very thoroughly oxidized and leached. However, samples were taken from both dike and gossan, with

the following results:--

No. 1--Six Foot pit on dike.	Gold--0.00	Silver--0.50 oz.	Copper 1.48%
No. 2--40 " " " "	" 0.032	" 0.60 "	" 2.10%
No. 3--North Outcrop " "	" 0.224	" 0.30 "	" 3.35%
No. 4--Brown iron gossan	" 0.024	" 1.00 "	" 0.54%
No. 5--Selected sample. Azurite stained	" 1.54	" 1.00 "	" 5.30%

Here is a mineralized zone of some hundreds of feet in thickness and a distinct length of at least one thousand feet which offers the most

interesting possibilities. While the surface facies of the schist-band shows no signs of valuable mineralization, it is of course possible that its unaltered parts may develop valuable ore deposits. The dike seems to show quite constant values in gold, silver and copper, and any considerable body of this rock containing such amounts of those metals as are found in sample (3) could be readily handled by a very simple flotation process, from which the concentrate might even be locally roasted and melted in reverberatory furnaces. Number five sample was selected simply from the attractive appearance as well as from free gold showing by panning. Unless the surface indications are most untruthful, the possible value to be found in the schists and the first dike, constitute but a small part of the mineral values which may be expected as a function of development; for, no matter whether it be the resultant of the primary metal carrier (as seems to be so frequently the case) one cannot doubt but that the great gossan band next to it on the east gives a undant promise of a great mineral deposit below. The highly ferrogineous character of this gossan indicates the former existance of a heavily pyritic vein, and the fact that, after ages of oxidation and progressive leaching, it now shows gold, silver and copper (as shown in the results from samples No's. 4 and 5 offers very promising indications of what may be found in the unaltered sulphides below. This whole series of rock bands may be prospected by diamond drilling; best probably from the western ravine; from which it might easily be cross-cut at satisfactory depth by a series of drill holes.

THE LIBERTY

This claim is located in the southern portion of Sec. 27, Twp. 11N. of Range 9 east. Near the crest of the hill, and just below the remaining sedimentary rocks, there is an old shaft, in bad repair, and showing nothing but some scrape of copper stained ore on an old dump. Further down the hill are several other small openings, nearly oblit-

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erated by the flight of time, but all showing irregular bodies of what appears like ore. There is nothing definite in the way of a continuous vein to suggest ore-values, but all of the openings show rather scrappy bunches of what may be ore. A sample was taken along about 12 feet of an opening (open cut), which assayed as follows:-- Gold-- 0.256. Silver---0.5 Oz. Value \$3.25 per ton. It is a matter of hearsay that a considerable tonnage of good gold ore was taken from this Liberty claim and milled in the Gowan mill.

THE EXCURSION

This claim is located south-westerly from Payson, in Sec. 27, Twp. 10S. of Range 9 east. It shows a strong quartz vein of about six feet in thickness, striking N. W. S. E. and lying between porphyry or highly altered granite walls. It presents a very good appearance though very little work has been done upon it. It is said that a considerable amount of ore from this claim was taken down to the Gowan mill for treatment. From its appearance the ore should be somewhat more valuable than is indicated by the result (below) of the sample taken:-- Gold--0.096 Oz. Silver--2.50 Oz. Copper--4.21%.

THE DELAWARE

This claim lies some four miles south-easterly from Payson in Sec. 13 Twp. 10-N. of Range 10 east. It contains a very small gold vein, about one foot thick; which, however, carries very good values, as per the following assays:--

Silver--0.10 Oz. Gold--0.92 Oz. Value \$19.01.

CONCLUSION

Among the first descriptive items given the writer concerning the mining properties described in this report, one fact was salient---they were quite remote from ordinary travel routes, and difficult of access to a certain extent; while one bit of possible hearsay had a sort of gossip value in favor of the property--that they had been examined by Mr. Treadwell, who advised Senator Clark to take them in place

of the United Verde.

Disregarding the hearsay, the conditions of remoteness and difficult access seemed to, at least partially, offset the rather negative history of an idleness of forty years. The fact that the claims were included in the highly mineralized zone, extending northwesterly through Nevada and south-easterly into Old Mexico covering most of Arizona's big mines, seemed to offer some possibilities of valuable discoveries: these possibilities being supplemented in value by the report of abundant water-supply and abundant timber for fuel and mine uses. Then, too, the region had formally been exploited as a gold region pure and simple, while the copper possibilities had exacted no consideration whatever.

Since my examination, I feel quite certain that no engineers have seen these properties in many years previous to my visit; and I will state that the rather faint hope of the discovery of something worth while, which I entertained upon starting out, has been changed to an interest of solely approaching enthusiasm by what I have seen. I have not only found the gold values to be better and more persistent than I had expected to find then, but with widely spread copper ores (more especially in the Summit claim and the Contact Group) which alone will one day make the claims very valuable; the water and timber conditions being as good as reported. In a region less abundantly mineralized covered in this report would be sufficiently interesting to warrant development; but I cannot help being particularly struck with the great promise of the Contact Group and the Summit claim. Of these, the latter must doubtless be opened up in the usual manner, by shafts and drifts; but, in case of the Contact, it is probable that sufficient initial development can be performed by diamond-drilling, and without serious expense; and I shall be greatly disappointed if such development does not open up very large and valuable ore-bodies.

June 2, 1931

Signed

M.E.

REPORT ON THE
PAYSON GOLD DISTRICT

Payson, Arizona
August 1925

Messrs. Anton Trejanovich and Wm. E. Shalley,
Globe, Arizona.

Gentlemen:

In accordance with your instructions I have visited the various properties near Payson, Arizona, and beg to submit the following report:

All of the mines are at present practically inaccessible, being caved or in dangerous condition. For this reason this report can only be general and details will necessarily be secured from future developments. What information can be obtained from the old workings and their history, production, etc. is very favorable for the project and fully warrants a thorough investigation of the properties. This should be started and when a sufficient amount of ore is assured the development of the water-power and the building of a mill will become advisable.

In general, the prospects of this project becoming a very profitable one are very good. A small amount of money spent in opening and exploring the old workings will, without much doubt, warrant the further expenditure necessary to bring it to the state of production.

Conditions at the different mines are very similar and the following general description applies equally well to any of them. A few notes on individual properties are also appended, but these may be subject to considerable change.

THE PAYSON DISTRICT

The properties included in this project lie in an area about five miles from north to south and from Payson for about three miles west. The country lies at an elevation of about 5000 feet and slopes to the west and south into the valleys of the East Verde River and Rye Creek. The hills are rolling and rather rough, but offer little difficulty to mining operations or road building. The East Verde River flows through the district and can furnish both water for milling and power for operation. Timber can be secured from nearby districts and general working conditions are excellent.

HISTORY

Claims were first located in the district in about 1880 and work on a small scale was carried on intermittently until 1897. Since then only a little leasing has been attempted. A two stamp custom mill was in operation at one time and much ore has been treated in arrastras. No record exist, but probably \$3000,000 or \$400,000 has been produced from the district and possibly more. Old tailings from these operations are said to retain from \$8 to \$10 in gold values.

GEOLOGY

The country-rock of the district is a granodiorite with both red granite and black diorite facies. In general the diorite preponderates in the west and most of the ore is found in or near this rock. It is probable that it is a marginal phase. All ores are found in two series of clean-cut fissure veins which strike either N-60-E or N-10-W. The N-60-E veins dominate in the southern part of the district and the N-10-W veins in the northern. Both have the same type of ore.

The grano-diorite was intrusive into schists which appear west of the district. These formations are pre-Cambrian and the ore deposition is probably also of this age. A few of the hills and ridges in the district are capped by remnants of younger red sandstones and limestones which cover the veins.

VEINS AND ORES

The veins vary up to five feet in thickness. The values are principally in gold with varying percentages of copper and a little silver. The gold has been largely free as far as worked and the copper near the surface is found as carbonates, chrysocolla and a good deal of red oxide. Chalcocite and chalcopyrite show at shallow depth. The gangue is entirely quartz.

The ores are of a high temperature type and much of the gold may remain free mill- ing with depth. The copper will there be as chalcopyrite or bornite. This type of ore deposit has a great vertical range and no change in values, except a prob- able lessening percentage of copper is to be expected in depth.

ORE VALUES

The gold values in the veins are very erratic. High grade streaks up to a foot wide run from \$50 to \$100 per ton. It is thought that the remainder of the ore with a little sorting may average \$20 per ton. This is very uncertain and can only be verified by reopening the mines. It is very possible that a lower mill head and greater tonnage may be more profitable.

GOWAN MINE

This is five miles west-northwest of Payson on the East Verde River and one and a half miles below the site of the proposed power house. It is the most extensively worked property in the district. The vein strikes N-20-W and dips 45°E. The ore shoot, now stoped, was up to five feet thick and 200' long. This ore was run through a ten-stamp mill on the property and recovery is said to have been \$45 per ton. There is much visible gold in the little ore remaining. The bottom of the old workings is at the water level and the ores probably become refractory there.

This vein should be opened up at once as it seems likely to place a considerable tonnage of ore in sight very quickly. This is a central location for a milling plant for the district.

SUMMIT MINE

This is about two and a half miles northwest of Payson. There were quite extensive workings which are now entirely caved. Considerable ore is said to have been produced and a large dump is stated to average \$7 in gold. This is worthy of later investigation.

THE "85" MINE

This property is about two and a half miles southwest of Payson on a branch of Rye Creek. The principal workings are near the intersection of two veins striking N-60-E and N-0-E and dipping 45° northwest and 65 west respectively. The mine was opened by shafts, tunnels and winzes to a depth of 300 feet from surface. Probably 2000 tons have been mined from here and it is said that from \$75,000 to \$100,000 has been received. 455 tons of this ore are said to have been milled in the two-stamp mill with a recovery of \$42.28 per ton. About 1000 tons of \$20 ore are blocked out in the mine. The above is taken from a report by Chas. L. Ratliff, dated August 30, 1904, in Globe. The mine is inaccessible and nothing can be verified, but the report seems reliable.

This mine should be opened up through the lower tunnel and the values and width of the vein ascertained. The so-called "blind ore shoot" of the report should be investigated as two samples from it averaged \$20 per ton. Two other unexplored veins on this property farther northwest are worthy of later notice.

GOLD ROCK

This is on the extension of the northeast vein. There is a 190' shaft in poor condition and a little drifting. Some ore has been shipped and two samples by Ratliff averaged \$34.70 for 2 feet width. The vein is said to be from one to four feet wide and it can be best explored from the "85" tunnel levels as work advances from that mine.

MAGGIE VEIN

This may be the southwestern extension of the vein on the "85" and the Gold Rock. Three old shafts are now caved and inaccessible. Old maps show an ore shoot 125' long and the vein is said to be from one to four feet wide. Two samples from the edges of the old stope averaged \$40.10 for 12" width (Ratliff). The bottom of the stope coincides with the water level and it is probable that the ores become refractory at this point. This may account for the work being stopped. The property is well worth opening up later.

GOLDEN WONDER

These claims adjoin the Maggie, and the Golden vein may be the southwestern extension of the Maggie. The vein strikes N-60E and dips 40 northwest. The main workings are caved. A more recent shaft shows four feet of ore and two samples ran \$50 with good copper values. There is some high grade ore in the dump and the remainder is said to run \$8 which seems reasonable as much ore can be seen.

This vein should be opened up at once as the prospect of high grade as well as milling ore is very good.

EXCURSION MINE

This property is about four miles southwest of Payson. The vein strikes N-60-W and dips 60 northeast. It shows in outcrop up to four feet wide and 200' long. There is a caved shaft 165' deep with a 50' drift on the 75' level. Some ore has been shipped and the dump is said to run \$7 or \$8. This vein can be reopened very cheaply and give a quick available tonnage of milling ore.

LINCOLN MINE

This is one and a half miles northwest of Payson in a coarse red granite formation. The vein strikes N-60-E and dips 60 northwest. There is a 50' shaft, now caved and some sorted ore was treated which is said to have run \$60. The vein seems small, but is worth opening up later.

OTHER PROPERTIES

Several other properties were not visited, but are said to have good possibilities for development. All are in the same inaccessible condition as those seen. The Contact and the Crackerjack about two miles north of the Gowan are possibly the most important. Other properties in the immediate district are the America, McDonald's Liberty, Tony, Goldfield, Delaware and others.

With an operating mill a profitable custom business may be built up on ores from other properties in the district not included in the present project.

Respectfully submitted,

(Sgd) C. W. Botsford

Inspiration, Arizona,
August 14, 1925

Phoenix, Arizona.
February 2, 1933.

This is to certify that the above is a true copy of the original report as gotten out by C. W. Botsford, E. M., who was consulting engineer for the Inspiration Copper Company of Globe, Arizona at the time the report was made.

(Sgd) W. B. Twitchell

Subscribed and sworn to before me this 2nd day, Feb'y, 1933.

SEAL

(Sgd) N. A. Lytle
Notary Public.

My Commission expires, July 16, 1934.