

CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the

James Doyle Sell Mining Collection

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EXPLORATION DEPARTMENT

JAMES D. SELL

November 8, 1994

Philip B. Evans Jerry Mull Trustee's-Bradshaw Ventures Trust 712 Dougherty Street Prescott, AZ 86301 ph. 602/778-4462

JMC-Silver Streak Mines Sec. 20-21, T12N, R1W Turkey Creek District Venezia-Starlight Mines Sec. 17, T12N, R1W and Sec. 12, T12N, R2W Mt. Union District Yavapai County, AZ

Dear Philip and Jerry:

I thank you for the recent tour of your silver and gold properties in the Bradshaw Mountains.

In reviewing the USGS Bulletin 782, pages 149-152, for the JMC-Silver Streak Mines area, it confirms the quartz masses being small lenticular bodies in the schist, while on pages 123-124, the Venezia-Starlight area, the veins are mainly in the diorite fringes of the granite bodies. Again the shear zones may be over five feet wide, however, as you pointed out, the ore portions in the shears are usually less than a quarter inch wide, and up to six inches wide, with often high-grade values.

The irregular nature of the ore zones and the apparent thinning with depth, makes them unattractive exploration targets for my group.

Thank you again for bringing the properties to ASARCO's attention.

Sincerely,

Tamos D Sell

cc: PGVikre

CC: JAMES McClallan



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Sincerely,

James D. Sell

cc: PGVikre

Cc: James McClellan



RECEIVED

|SEP 1 2 1994

**EXPLORATION DEPARTMENT** 

September 9, 1994

TO: J.D. Sell

**Tucson Office** 

JMC - Silver Streak Mines, AZ Venezia - Starlight Mines, AZ Property Submittals

Enclosed are correspondence and data regarding two properties in Arizona. I think I already sent you some correspondence concerning these properties. Please review the data to determine if a field review is warranted, and if so, put the properties on your field schedule for this winter. If there is no interest, please respond directly to Mr. James McClellan whose address is on the correspondence. Be sure to mention that you received the data through me so that there is no confusion on his part.

Thanks,

Peter G. Vikre

Petn Vihr

PGV:ks Enclosures



**Exploration Department** 

Great Basin Division

Peter G. Vikre Manager

August 19, 1994

Mr. James McClellan Route 3, Box 33 Beeville, Texas 78102

Dear Mr. McClellan:

Thank you for your letter regarding silver properties. I would very much like to examine the information package on these properties that you referred to. Please send it to me and I will let you know soon thereafter of our level of interest.

Yours truly,

Peter G. Vikre

PGV:ks

Peter G. Vikre ASARCO Inc. Gret Basin Exploration Div. 510 East Plumb Lane Reno, NV 89502

Dear Mr Vikre,

Enclosed is your letter dated August 19, 1994 requesting information packages on mining properties for sale.

Enclosed is two packages: 1.pkg on JMC-Silver Streak Mines 1 pkg on Venezia-Starlight mines

I am acting as a Finder/Broker for the sellers. You may contact them for any information you need or to discuss the purchasing etc. I would also appreciate it if you would mention my name as the contact you received the information from. If you drop me a note letting me know that you are in contact with the sellers and continuing discussions as to a possible transaction with them, will help me in my plans of contacting other investors for the mines.

This request may not be in line or proper way of doing business with your company, but if I knew what your basic requirements was in the way of minimum assay percentages and what types of minerals other than Gold or Silver your company would be interested in, It would help me evaluate any future properties I locate for sale. I then could send you some information about future properties.

The address of the company who owns the two properties above is:

BRADSHAW VENTURES TRUST, 712 Dougherty Street, Prescott, AZ 86301

Philip B. Evans- Trustee Jerry Mull- Trustee Phone: 1-602-778-4462

- 10/31/94

meet ag with him or wednesday Nov. 2.

Most Sincerely,

James A. McClellan

Rt.3 Box 33

Beeville, TX 78102-9707

## INVESTMENT OPPORTUNITIES AVAILABLE:

I am searching for investors for Silver mining properties that are located in Arizona. (Other opportunities will be added to this list as they become available.)

Our mines have approxmately \$45,000,000 (\$45 million) in Silver reserves. This is known reserves and we are asking, as our selling price, only 2% of the reserves. Bear in mind that we believe that there are much greater reserves that could be proven by core drilling and development. The known reserve and figure above is based on \$5.29/oz silver. There has been a lot of fluctuation in the silver market in recent weeks, and we believe that silver is finally getting ready to take off and now would be a very excellent time for an investor to get in on the ground floor of an incredible potential.

There are several existing shafts, drifts, and adits (dug by hand by the old timers) already on the properties and if these were developed fully, the potential values would virtually unlimited, in our judgment. In our geological report, the vein system and structures are well defined, obvious and easy to identify. Assays from sampling are excellent.

If interested, please request a package of information we have on these properties.

Sincerely, McClelland
O.M. Enterprises
Rt.3 Box 33
Beeville, TX 78102-9707

Note: Because of a hearing problem, I prefer to write and not be bothered by not being able to understand a telephone conversation.

- #2. I also have information on GOLD & SILVER properties that have known reserves of \$60,000,000 and belongs to the same company as above properties. I will include information on them at your request.
- #3. NEW LISTING: FOR SALE: 13-40 acre association claims in the Alaska Brooks Range. Unpatented, hard to get to, hard to mine: Good course Gold. Asking price is \$130,000. If interested, I will forward your address to the owner of these claims. Her husband died and she wants to move. This lady may be willing to stay on as manager for the buyer.

Note: I will work for your group or company <u>FREE</u>, and look for investment opportunities if you will inform me what your interests are. Are you interested in investments in the U.S.A. only or International as well?

BATTLESHIP BUTTE QUADRANGLE UNITED STATES ARIZONA-YAVAPAI CO. DEPARTMENT OF THE INTERIOR 7.5 MINUTE SERIES (TOPOGRAPHIC) GEOLOGICAL SURVEY.
374000m.E Battle FLat 7/2 Qual 342230" N. 576 SW/4 MT. UNION 15' QUADRANGLE 112°2:2'30" 360 000 FEET Streak Mires & 5225 **Æ**USLN Goodwin Gates Prospect Spring Prospect ountain Arrastra

# AFFIDAVIT OF PERFORMANCE OF ANNUAL WORK

Sta	te of Arizona	1							
Con	unty of <u>Yavapai</u>	ss ss							
1.	Lars A. Skotte	·							
Ξ,	934 Apache Drive	Name							
	Prescott	Address Arizona		86301					
	City	State		Zip					
	being duly sworn according to more than eighteen years of a correct according to the best of	ge and that all of the facts se	et forth in this affida	ne United States wit are true and					
2.	2. That they are personally acquainted with the mining claim namedSilver Stre								
	Property	situate in theT	urkey Creek	Mining District,					
	Yavapai	County, Arizona, the location	of which is recorded	in the office of					
	the County Recorder of that Co 16,20,21,22, location is posted in Section	unty in Book Attached Li	stpage Attached	List Notice of					
	location is posted in Section	7 Township 12N	, Range <u>lW</u>	, G&SRB&M.					
3.	That between the dates of	September 1, 1980 a	and <u>September</u>	1, 1981					
	at least <u>Forty-five t</u> dollars worth of work and implocation work.	housand rovements were done and perfe	ormed upon this clai	m not including					
4.	The work and improvements w	vere made by and at the expen	se ofJerome M	ining Corp.					
	purpose of complying with the l	aws of the United States pertai	ning to assessments	the mine for the or annual work.					
5.	Lars A. Skotte, Pete	r Holmes and Mark Bu:	nn	<del>*************************************</del>					
	were the names of the persons er	nployed by the owner who labo	red to do the work an	d improvements.					
6.	The work and improvements do	ne were <u>Geological ma</u>	apping and eva	luation.					
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			Signature						
Sub	scribed to and sworn before me,	a Notary Public, this	day of <u>Jec</u>						
19_	8/, by LARS	· A. SKOTI	E						
My	My Commission Expires	xpires July 25, 1882	S. We	eder					
<del></del>		29 FAGE 266	Notary Public						

# IRON KING ASSAY INC.

Page 1

18-Sep-8.

LAB JOB #:

MSC00113

Client name:

K. Fullenwinder

Billing address:

4801 Ranger Rd

Prescott Valley AZ 86314

No. Samples:

Date Received:

Submitted by:

9-7-8-85 K. Fullenwind

Phone number:

PAID

ANALYTICAL REPORT

Client ID MSC00113	Lab ID	Ag oz/ton		. •
JMC #1	09-09-101	11.99	 	off of 81 vein
Sil Strk #2	09-09-102	80.35	. <b>=</b>	affof "vein

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A DIVISION OF CLAUDE E. McLEAN & SON LABORATORIES, INC.

PHONE 254-6181

817 WEST MADISON ST.

P. O. BOX 1888

PHOENIX 8

For

T. L. Girton Post Office Box 2268 Prescott, Arizona

Date

May 17, 1965

Sample of

Ore

Received:

5-14-65

Submitted by: Same

# ASSAY CERTIFICATE

Gold figured at \$ 35.00

per ounce

Silver figured at \$

LAB. NO.	IDENTIFICATION	60	60LD		SILVER 1		PERCENTAGES	
		OZ.PER TN	VALUE	OZ. PER TON	VALUE	COPPER		
159498	#1A _	0.0:	\$0.35	0.80	\$1.03	4.90 %		
159499	#1B				,	4.85 %		
159500	#1C					4.90 %		
159501	<b>∌2</b>			452.80	\$584.11			
Proper	Ty Nearby-Parallel Vein V							

Respectfully submitted,

ARIZONA TESTING LABORATORIES

Claude EM Leans

# IRON KING ASSAY OFFICE ASSAY CERTIFICATE

BOX 247 — PHONE 632-7410 HUMBOLDT, ARIZONA 86329

Ken Fullenwider

DE 2343 Ranger Rd.

Prescott, Az. 86301

HARGES .\_\_\_



ASSAYER .

REF. NO.	DESCRIPTION	o≢ton Au	oz/ton Ag	Reporting Date	% Fe	% Ръ	<b>%</b>
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8-2		Hil	10.57	9-23-80		ļ	
-26	Sample 4/9/80		103.70	4-11-80		<del> </del>	
;- 3	Black Rock		757.26	9-228			
						<u> </u>	

PRELIMINARY ECONOMIC EVALUATION
OF THE
SILVER STREAK MINING PROPERTY
TURKEY CREEK MINING DISTRICT
YAVAPAI COUNTY, ARIZONA

GEO-PROCESSING, INC.

Micholas H. Carouso

Nicholas H. Carouso President

2106 Nolte Drive Prescott, AZ 86301

August 8, 1984

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# PRELIMINARY ECONOMIC EVALUATION OF THE SILVER STREAK MINING PROPERTY TURKEY CREEK MINING DISTRICT YAVAPAI COUNTY, ARIZONA

## INTRODUCTION

The Silver Streak mining property, which consists of thirty (30) unpatented lode mining claims, was visited on June 23, 1984 with Joe Ward, one of the owners of the property, to conduct a preliminary economic evaluation and on July 18, 1984 a comprehensive Very Low Frequency Electromagnetic geophysical survey was conducted to assist in developing a three-dimensional model of the vein systems.

The Silver Streak property is situated in the Central Bradshaw Mountains, approximately 10 miles west of Mayer, Arizona, within Sections 20, 21, 22, 28 and 29, Township 12 North, Range 1 West, G&SRBM.

Mineralization on the property consists of several parallel silver-lead veins. Host rock is a thick sequence of Precambrian Yavapai Schist.

Detailed mapping and geochemical soil sampling, conducted by a previous operator, resulted in the identification of four major silver-lead veins and several smaller subparallel veins. The operator, to further investigate the mineralization in the area (based on the preliminary geologic mapping and soil sampling work) proposed to drill approximately 2000 feet and also to dig trenches across the mineralized zones, however, due to other committments, this was never done. Information developed by that operator, pertaining to the geology, has been freely used in this report.

The Silver Streak mining property offers the potential of developing a economically feasible silver property.

# GENERAL GEOLOGY

The Silver Streak property is located in the northcentral Bradshaw Mountains of the Basin and Range Province. Host rocks for the mineralized veins are meta-volcanics and meta-sediments of the Spud Mountain Volcanics, the middle member of the Big Bug Group (Yavapai Series). The belt is approximately 3 miles wide, and extends from Interstate 93 to the south to just north of Mayer to the northeast, a distance of about 45 miles. In addition to the Silver Streak veins, this belt is also host to the McCabe and Iron King mines to the northeast.

The meta-volcanics are bounded on the east by the younger Precambrian Texas Gulf formation consisting of feldspathic sandstone, rhyolitic tuff, gray slate, limestones and conglomeratic beds. On the western boundary is the Crooks Canyon granodiorite, gabbroic and dioritic intrusives. Younger units include the Tertiary aged Hickey Formation, a series of olivine basalts, pebble to cobble sized conglomerates, and sandstones. Quaternary aged gravels made up of cobbles and boulders of local derivation are also present.

# STRUCTURE

FOLDING: Minor folding occurs in some of the tuffs and andesites. This may be due to primary features such as slumping and flowage structures. No large scale folds were mapped on the property. Anderson and Blacet (1972) mapped an overturned anticline through Pine Flat. This feature appears to have little or no effect on the Silver Streak Property.

FAULTING: No major faulting has been observed on the property. Minor faulting with offsets of several inches to several feet occur throughout the property. The largest fault offsets the Christmas Vein about 50 feet.

Shearing occurs in two directions at nearly right angles. One direction of shearing trends N45E, paralleling regional foliations and the vein systems. Both sets dip nearly vertically.

LITHOLOGIC UNITS: The property is wholly within the metavolcanic belt described above. The majority of the property falls within the upper unit of the Spud Mountain Volcanics, which grades eastward into the Lower unit. The central portion of the property is predominately tuffaceous, with minor dikes and andesite porphyry, aphanitic to porphyritic rhyolite, silty sediments, graywackes, and vesicular olivine basalts. This central zone contains the majority of the mineralized veins. The units become mafic (andesitic) to the west. A small pod of meta-gabbro cuts the tuff and the andesites. Eastward, the

tuffs grade into a band of biotite-chlorite-actinolite schist, intruded by quartz latite. This grades into the Spud Mountain Crystal Tuff, which has been intruded by a Tertiary-aged stock of latite porphyry.

A more detailed lithographic description of each unit follows:

TUFF: Tuffs make up approximately 65-75% of the property. In general, the tuffs strike N35E and dip 75-85 degrees NW.

In hand specimen, the tuffs are light to medium green and They range from fine to coarse grained, depending upon the original composition. Generally, finer grained units represent a mixture of tuffs and silty sediments, medium to medium coarse grained arkosic sediments and tuffs, and coarse grained represent lithic tuffs. Composition ranges from rhyolitic to andesitic. Rhyolitic tuffs are generally tan to light brown. Andesitic or lithic tuffs are medium to dark green containing angular fragments of andesite. The lithic tuff appears to be derived from a fragmental andesite that has been metamorphosed with the fragments being kneaded together by deformation and recrystallization. The tuffs contain, and are cut by veinlets of carbonate and quartz. Alteration is due to metamorphism and mineralization, and consists of varying degrees of silicification, seritization and argillation. Secondary pyrite resulting from metamorphism is also noted.

ANDESITE AND RELATED UNITS: Andesites and related units make up

25 to 30% of the property. They are found in three bands, two on the western side and one on the eastern side of the property. Small pods as well as intrusive dikes make up a small portion of the central section. Contacts with adjacent tuff units are sharp when the andesite is intrusive, to gradational when the andesite are flows. They are often intercalating with the tuffs and sediments. Due to the nature of the rock type, and at times intense metamorphism, it is difficult to determine the original nature of the rocks.

Andesites are tan to medium green on weathered surfaces and medium to dark green on fresh surfaces. They vary from aphanitic to porphyritic.

SCHIST: A 600 foot wide zone of biotite-actinolite schist occurs on the eastern portion of the property. The contact with the tuff to the west is gradational over several tens of feet in some places and sharp in others. The schist generally forms a sharp, and in places intercalating, contact with the crystal tuff to the east. This unit may have been a mixture of tuffs, shales and other silty sediments which have undergone a higher degree of metamorphism than its counterpart to the west.

GRANODIORITE: Two large lenses of granodiorite are located within the schists on the eastern portion of the property. The granodiorite appears to postdate the schist, as blocks and lenses of schist are incorporated into the intrusive. Small stringers of dacite and dacite porphyry are also found in the

schist and may represent chilled margins or "fingers" of the granodiorite intrusive.

RHYOLITE: Narrow sills and dikes of rhyolite and rhyolite porphyry are found throughout the property. They range from 1 to 7 feet in width, with strike lengths of up to several hundred feet. Several small pods of rhyolite porphyry are located at the far northeast corner of the property, just east of the JUNIPER SHAFT.

One sill of interest runs from Pine Creek to just north of the Goodwin-Mayer Road. It has incorporated several boulder sized breccia fragments. A sample of the breccia has been described petrographically as a possible vent breccia.

CRYSTAL TUFF: The Spud Mountain Crystal Tuff is exposed on the far eastern end of the property. It is in sharp contact with the schist to the west.

The tuff is tan to light brown in color. It contains crystals and crystal fragments of feldspar and up to 5-10% quartz "eyes". The matrix is highly foliated and consists of quartz, feldspar and chlorite.

AMPHIBOLITE: Amphibolite occurs as a small, rounded stock 400 feet northeast of the SILVER BULLET SHAFT. The rock is medium to dark green on fresh surfaces, weathering to a dark greenish brown. In hand specimen, it appears to be 100% hornblende. A rock chip sample from this stock ran 0.406 oz/ton in silver.

BASALT: Numerous, narrow dikes and sills of medium to dark

brown olivine basalt outcrops on the property. They are part of the Tertiary Hickey formation which caps several of the nearby mesas.

## **MINERALIZATION**

Silver mineralization on the Silver Streak Property is of the "typical" quartz/carbonate vein deposits found in several other districts in the Bradshaw Mountains. The ore minerals in order of abundance are: galena, sphalerite, pyrite, chalcopyrite and tetrahedrite. The gangue is predominately quartz (comb and vuggy) with carbonate (siderite and calcite).

Two distinct vein systems are present. One set strikes N15-25 degrees E and dips 75-80 degrees NW, cutting across the foliations. This set is the least mineralized of the two on the Silver Streak property. The other set strikes N30-40 degrees E and dips 70-80 degrees NW, roughly paralleling foliations in the area. The host rock for both vein systems is usually a tuff or sheared andesite.

Four "major" and several "minor" veins have been identified and are described from east to west as follow:

MURPHY VEIN-- can be traced intermittently on the surface for at least 2400 feet and varies in width from several inches to 6 feet. Development includes several small prospect pits and one shaft 10 feet deep.

CHRISTMAS VEIN--lies approximately 650 feet west of MURPHY VEIN. It is traceable 2000 feet along the strike and ranges in

width from 6 inches to 12 feet on the surface. Development includes a 20 foot long adit north of the ridge shaft and several small shafts and prospect pits along the vein. The vein is offset 50 feet by a fault 800 feet southwest of the CHRISTMAS SHAFT.

GOVERNOR VEIN--is 300 feet west of the CHRISTMAS VEIN. Traceable 1800 feet along the strike and ranges from several inches to 5 feet in width. Development includes a 60 foot GOVERNOR SHAFT, and a 15 foot shaft (650 feet northeast of the GOVERNOR SHAFT), two small adits 20 to 30 feet deep and several prospect pits.

JUNIPER VEIN--lies 200 to 300 feet west of the GOVERNOR VEIN and can be traced on the surface for 1200 feet. Unlike the other veins, the JUNIPER parallels foliation for 800 feet northeast of the shaft, then turns sharply north, which may be due to faulting. It ranges in width from several inches to 10 feet. It is developed by two shafts, the JUNIPER, which reaches a depth of 68 feet with 17 feet of drifting, and a smaller 30 foot inclined shaft to the northeast. A 30 foot adit is located just north of the smaller shaft.

Two smaller, parallel veins occur on the western portion of the property.

SILVER BULLET VEIN--was developed by a 40 foot shaft with 20 to 30 feet of drifts. Strike length is approximately 1200 feet with a width of approximately 2 feet.

GEE WIZ VEIN--lies approximately 350 feet east of the SILVER BULLET VEIN. It can be traced on the surface for 350 feet with a maximum width of 4 to 5 feet. Development includes two shafts, one, 50 foot deep and the other 60 foot deep.

UNDEVELOPED VEIN--lies between CHRISTMAS and MURPHY VEINS and is intermittently traceable 1800 feet along its strike length with a width of from 3 inches to 3 feet.

SILVER STREAK VEIN--lies along a shear zone southwest of the JUNIPER SHAFT.

# VERY LOW FREQUENCY ELECTROMAGNETIC GEOPHYSICAL SURVEY PRINCIPLE OF OPERATION

The U.S. Navy VLF-transmitting stations operating for communications with submarines at sea, have a vertical antenna system. The antenna current is thus vertical, creating a concentric horizontal magnetic field around them. When these magnetic fields meet conductive bodies in the ground, there will be secondary fields radiating from these bodies. The instrument used for this type of survey, the EM-16, is simply a sensitive receiver covering the frequency bands of the VLF-transmitting stations with means of measuring the vertical field components.

The receiver has two inputs, with two receiving coils built into the instrument. One coil has normally vertical axis and the other is horizontal.

The signal from one of the coils (vertical axis) is first minimized by tilting the instrument. The tilt-angle is

calibrated in percentage of electromagnetic response. The remaining signal in this coil is finally balanced out by a measured percentage of signal from the other coil (horizontal coil), after being shifted (electronically) by 90 degrees. This coil is normally parallel to the primary horizontal field, the mechanical tilt-angle is an accurate measure of the vertical real-component, and the compensation Pi/2-signal from the horizontal coil is a measure of the quadrature vertical signal. In other words, the vertical real-component (In-Phase reading) indicates the structure and the Quadrature indicates how conductive the structure is.

VLF ELECTROMAGNETIC GEOPHYSICAL SURVEY INTERPRETATION

Five (5) Very Low Frequency Electromagnetic Survey lines were run across the mineralized zones, to determine how strong the structures were and also how conductive.

LINE 1, was run across the southern end of the Silver Streak Vein. The In-Phase response, which gives an indication of how strong the structure is, indicates that the vein has a depth in excess of 150 feet, and the Quadrature, which indicates how conductive the structure is, gave a favorable conductive response. The most favorable portion of this line was to the northwest of the small shafts and possibly indicates that the Juniper, Governor and Christmas Veins extend farther south than previously expected. The area approximately 350 feet northwest of the Silver Streak Shafts would be a favorable drilling

target.

LINE 2, was run across both the Governor and Juniper Veins, with the origin (0+00) station 100 feet southeast of the Governor Shaft and line crossed the Juniper Vein just north of the Juniper Shaft. The In-Phase and Quadrature responses indicated that favorable multiple structures exist with moderately favorable conductivity. The Juniper Vein could possibly be the stronger vein.

LINE 3, this line was run across the GeeWhiz (Silver Streak No. 2) Vein, and gave an excellent In-Phase response along with a very favorable Quadrature response. This vein should be thoroughly evaluated and could be one of the best veins on the property.

LINE 4, was run across the Silver Bullet Shaft and gave favorable responses but of a low order of magnitude.

LINE 5, was run across the Beta Vein (?) and gave very favorable responses. This vein appears to be the southern extension of the Beta Vein which is also on the Beta Patented Lode Claim.

All the survey lines indicted favorable mineralized structures with the GeeWhiz (Silver Streak No. 2) bein the most favorable and the area northwest of the Silver Streak No. 1 shafts indicating a favorable potential drill target.

# ECONOMIC CONSIDERATIONS

With at least eight (8) known mineralized structures, such as, the Silver Streak No. 1, Juniper, Governor, Christmas, GeeWhiz (Silver Streak No. 2), Silver Bullet and Beta Vein systems, the property certainly justifies a well designed exploration effort. To determine if economic mineralization existed on the porperty, judgement grab samples were taken from old dump material near several shafts and all samples gave viable assay results. A grab sample taken from the old dump material on the Silver Streak No. 1 Vein area assayed 90.988 oz/ton silver, two (2) samples on the GeeWhiz (Silver Streak No. 2) dump grab samples assayed 24.876 oz/ton and 51 oz/ton silver, and the JMC No. 1 (Beta Vein) dump grab sample assayed 64.906 oz/ton silver.

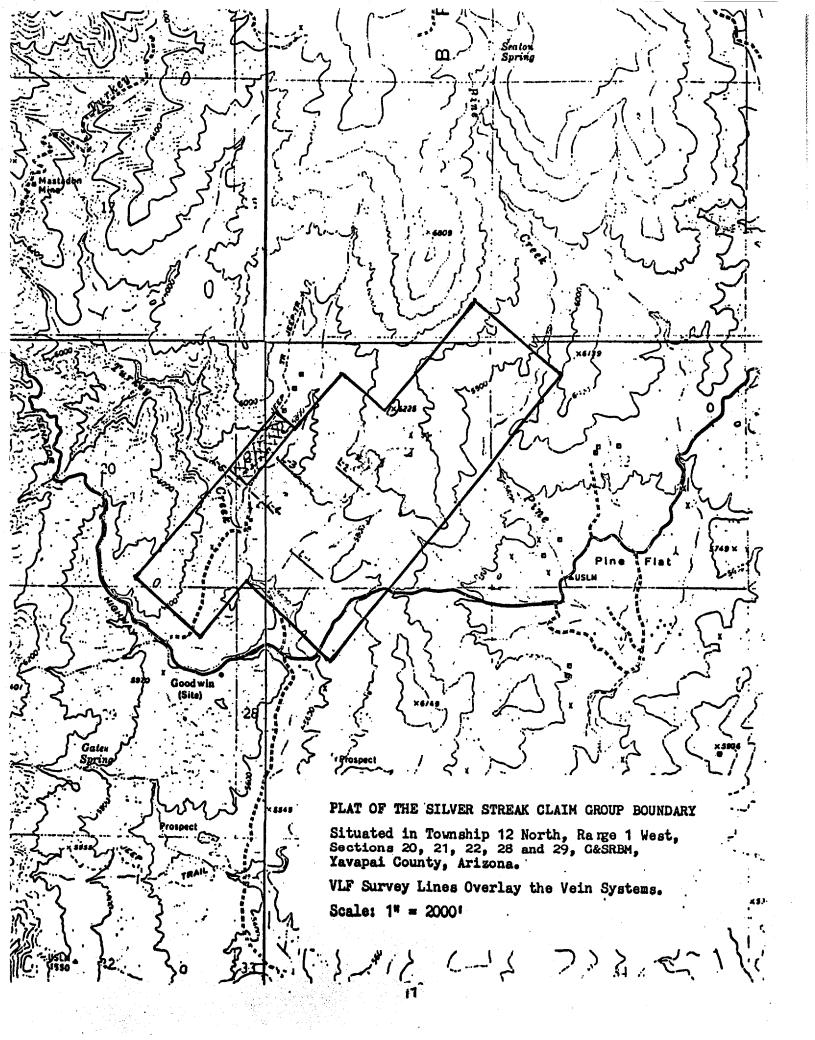
Even though strike lengths and widths of the veins are approximately known from surface observations, enough data is not available to definitely determine the gross dollar potential of the property. However, it would not be unrealistic to assume average strike lengths, widths and depth (from VLF EM survey data) to arrive at an estimated gross dollar value for the property. The arithmetic average of the eight (8) strike lengths of the veins is 1500 feet, and if we assume an average width of 2 feet along with an average depth of 150 feet we would have an average tonnage for each vein of 37,500 tons or 300,000 tons for the eight known veins. If we further assume that the

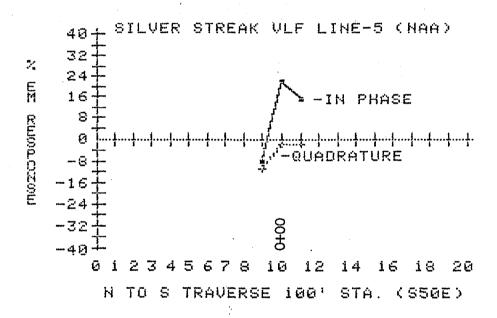
grade of silver ore will be 30 oz/ton silver and with the current spot price of silver at \$7.00 per troy ounce, the gross dollar potential of the property could be \$63,000,000. Even if we use a confidence factor of 50%, the gross dollar potential would be \$31,500,000 which is certainly worth consideration.

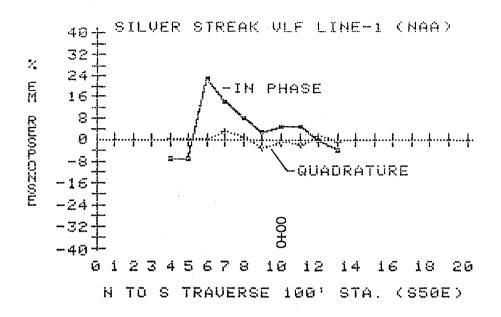
# APPENDIX

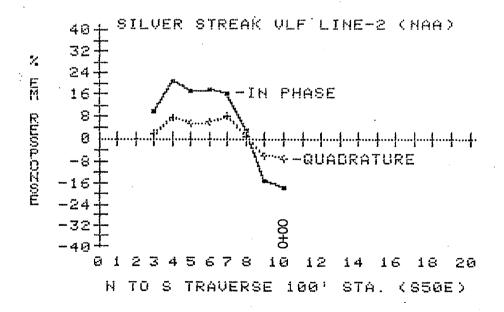
PLAT OF THE SILVER STREAK CLAIM GROUP BOUNDARY with VLF Survey Lines Overlay the Vein Systems

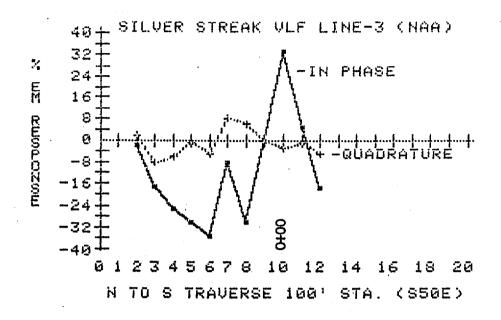
VERY LOW FREQUENCY ELECTROMAGNETIC GEOPHYSICAL SURVEY GRAPHS

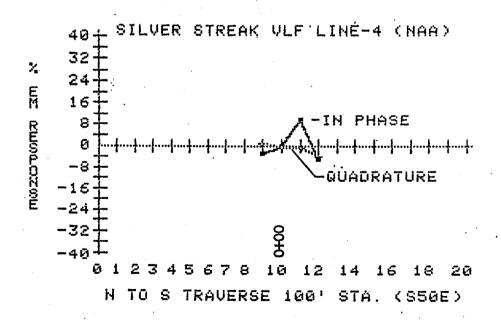


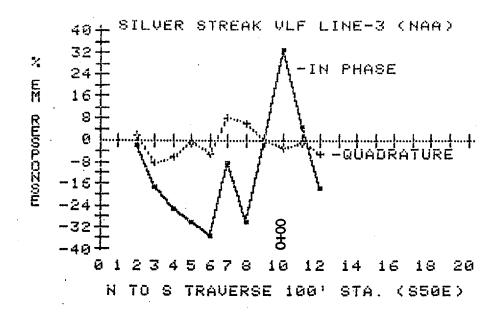


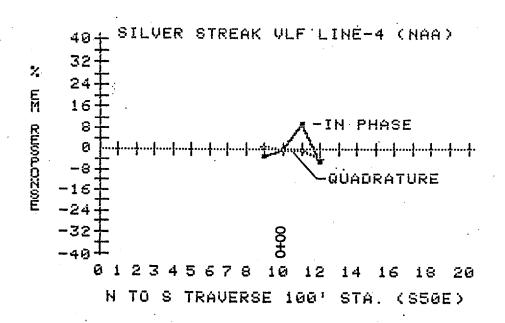


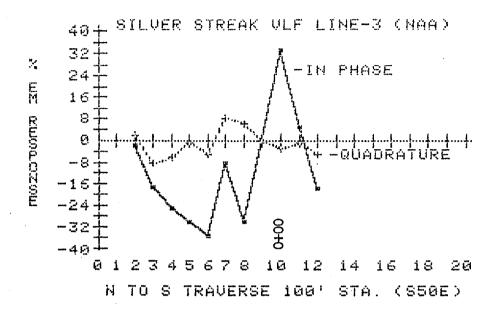


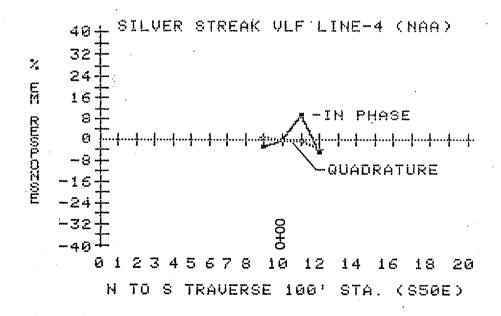


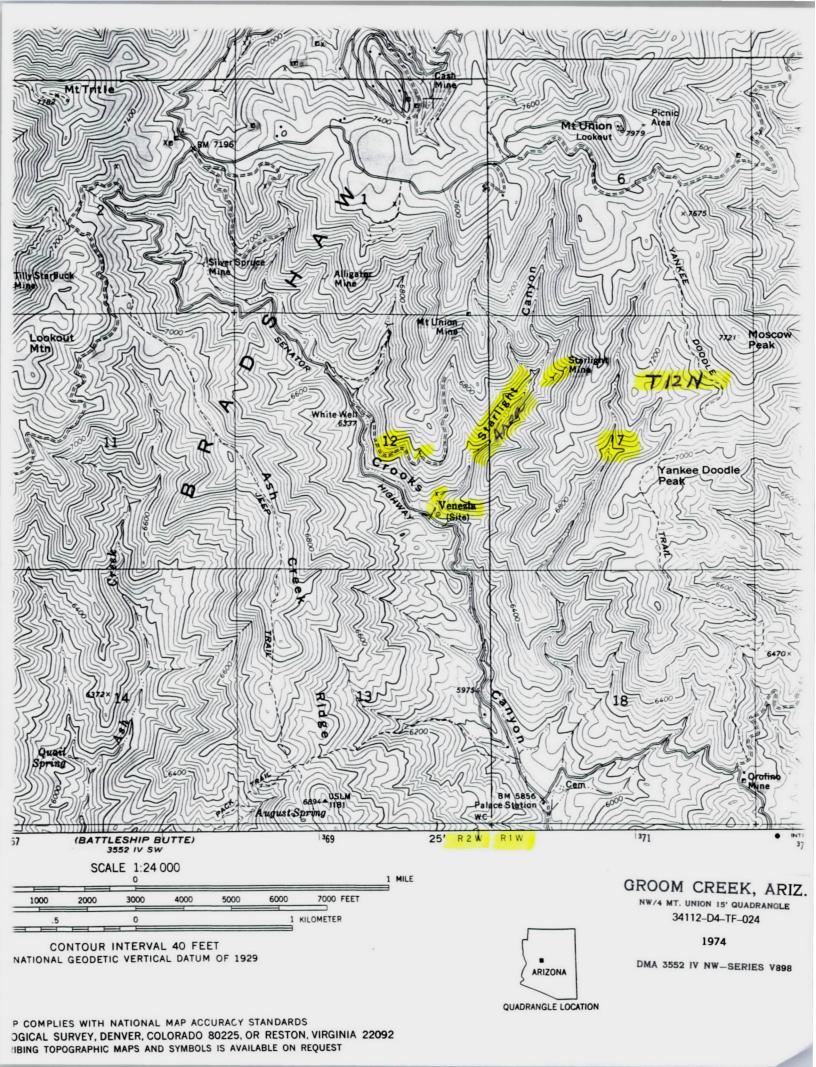


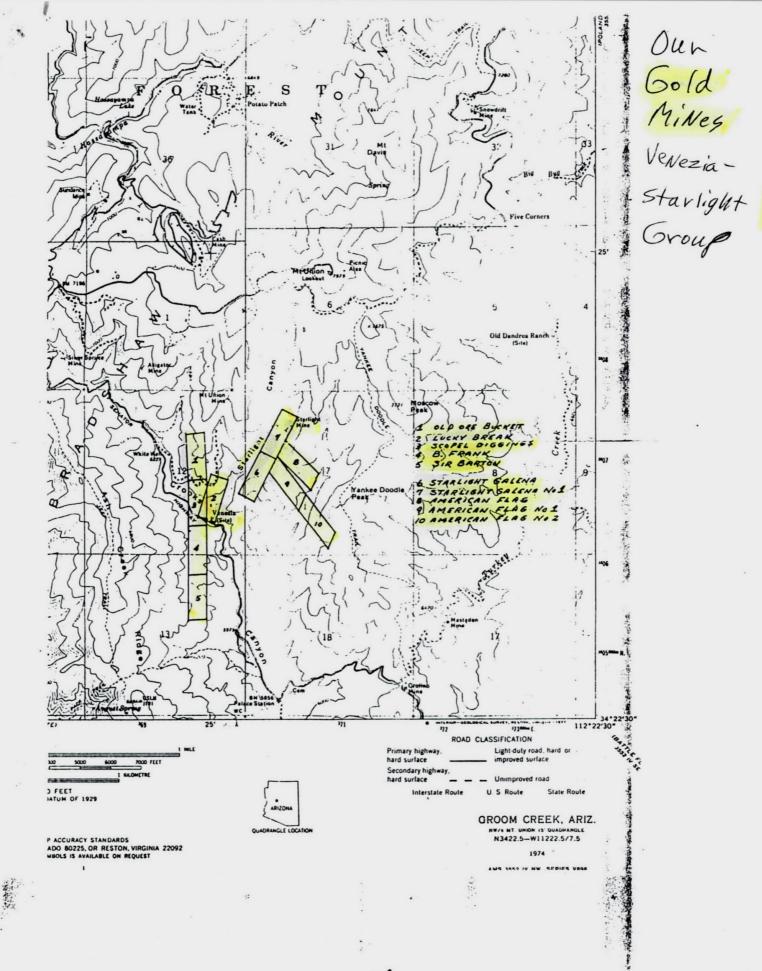


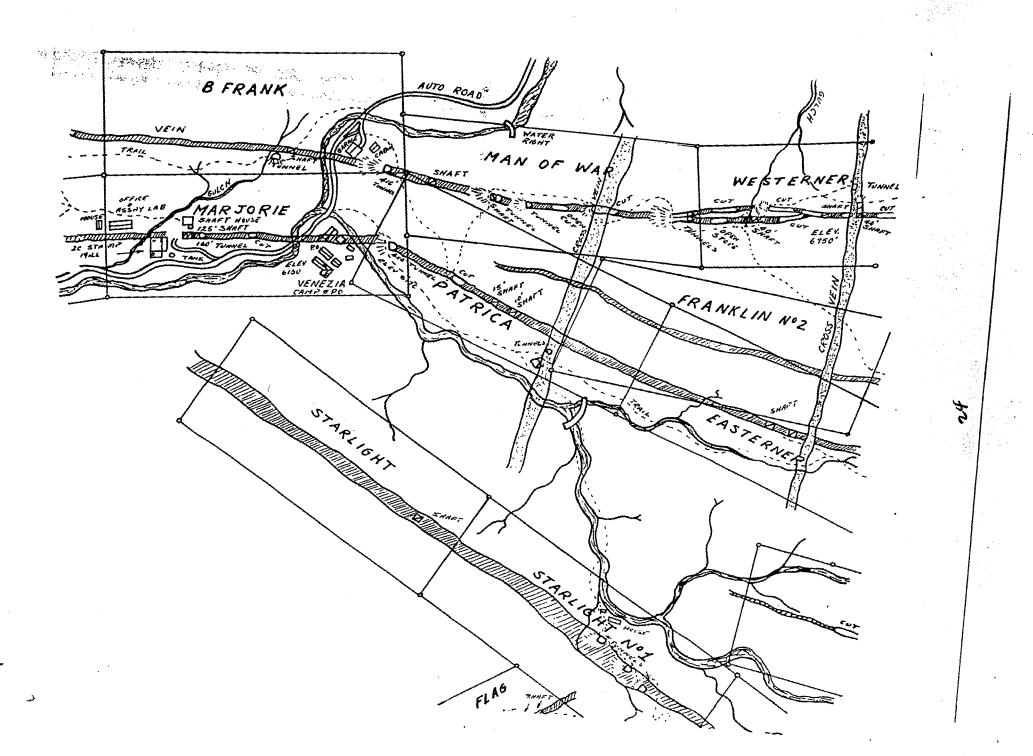


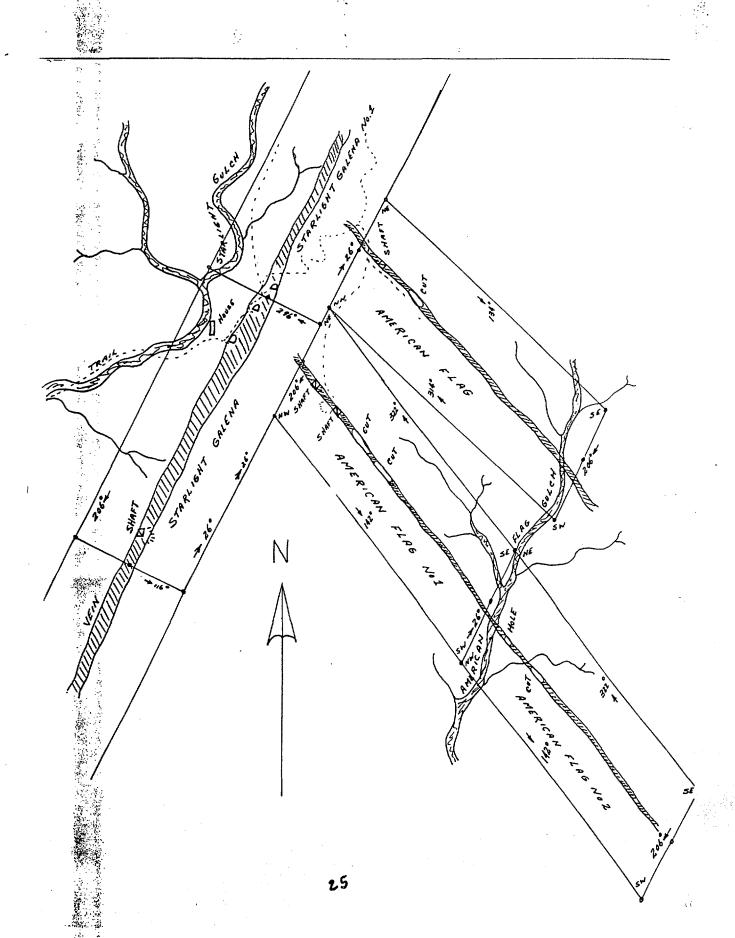




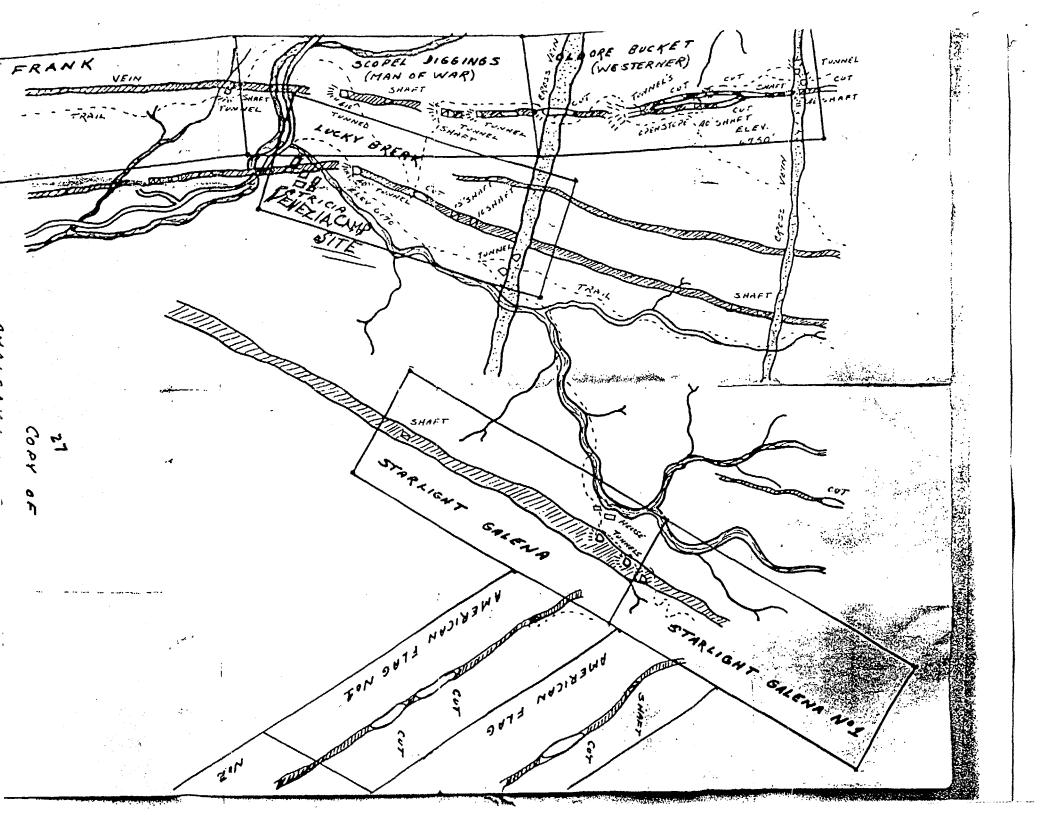


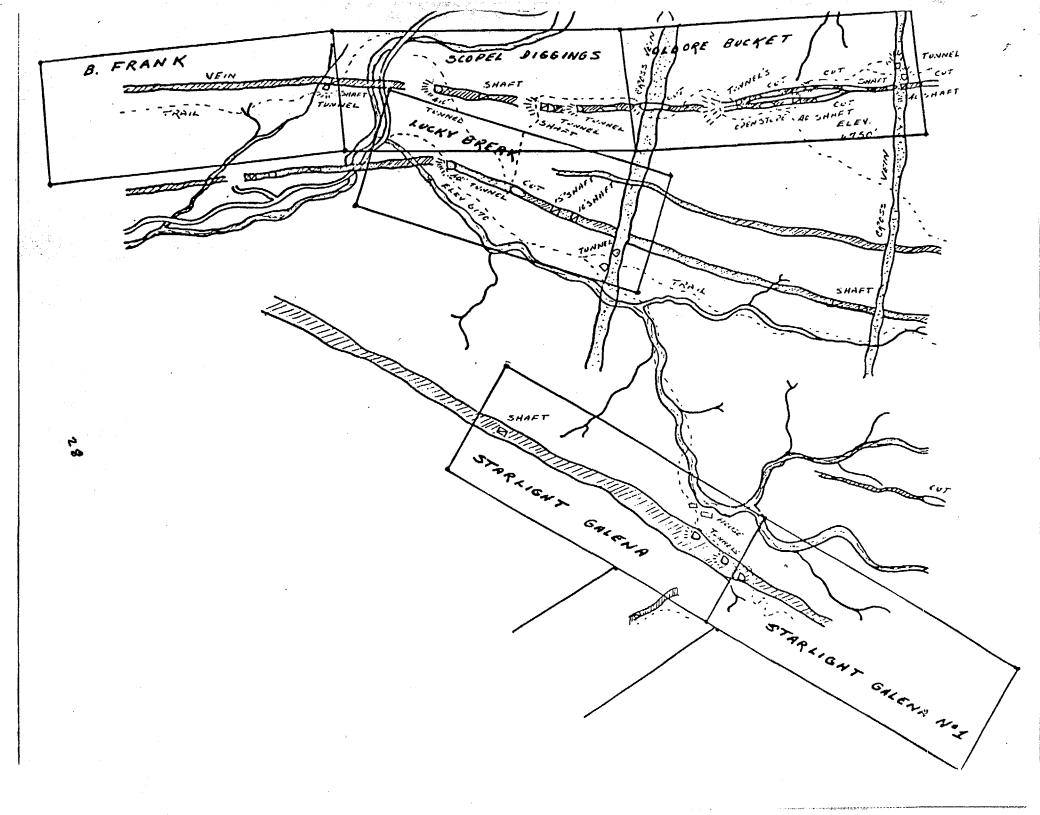


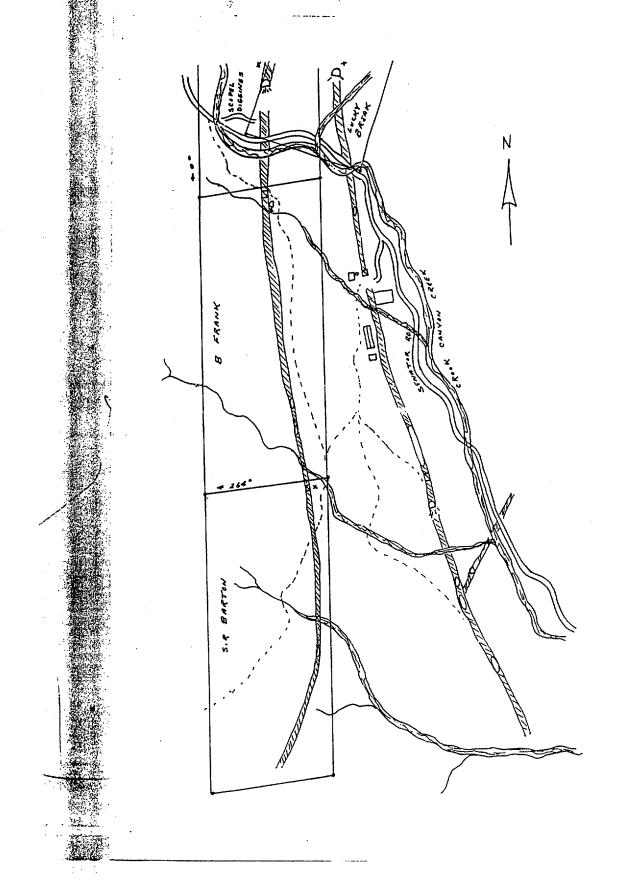




by certify that the within instrument was filed a 5 '80 -10 00 AM o'clock Book	1331 Official Recom		Carmack
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STONE MONUMEN	75		
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## rez to be Set Friday

listrice Court, vesterday, onvicted of forgery, was o serve three years in ial prison at Florence.

Perez, convicted of the Peliciano Cancon, near metion, on August 14th, t into court to receive His attorneys tion for arrest of judysupon sentence was sus-1 Friday morning, when

brought into court for g, owing to the absence vitnesses. Krasnovitch is Grauville Pain at Humsvocation.

vers, alleged forger and m justice, is at last in of the law, and will arternoon from Louisiana, of Sheriff Smith. Meyand through a strenuous he law since arrested, at in thut state, early in escriting to habeas cornging in several friends legal process of extradi---

nith reached Abbeyville, th, and has remained on ng this alleged criminal

# IS NINE-OUNCE GOLD PIONEER HOME ORE IS CUT IN

## Satisfaction Claim Of Group

tion in the neighborhood of his ceremony. many years none of the customary a very few relocations being made.

In appreciation of that gold belt of Arizona still living. coming juto prominence during the his execution will be le- year, hundreds of locations were made assault with a deadly ed. On many of these mines some very rich strikes in free gold ores jury was impanelled, and have been made, which is corrobring was continued until orated by the receipts at his mill,

In speaking of the Venezia interexts, he states that a general syshave jufficted knife tem of exploitation is under way. On the Satisfauction claim at a depth w months ago, without of fifty feet in one of the shafts nine nunce gold ore was cut a few days ago, which is one of the greatest discoveries yet made on the system, and which is creating considerable discussion in that district, and exciting other claim owners.

On the Helen, located at another point on the group, a big body of \$14 gold ore was developed at a depth of twelve feet, and the product is being milled.

Mr. Tomlinson also states that the mill is running, the water problem having been solved to permit of continuous operation. An abundance of ore in in the bins, and he unticipates a prosperous year, not alone for his interests, but for others as well, in that field,

Just from the press-Sharlot M. Hall's volume of verse, "Caetus and Pine," at Brisley's, \$1.50. A vivid portrayal of Arizona.

Stove wood in quantities, from \$1 up. Cord wood \$6.25. Phone 267.00

"KRYPTOES."

The fluent spectacle

# IS READY FOR

## or Execution Of Rich Find is Made In Major Doran to Accept It For Board Of Control Today

Superintundent E. L. Tomlinson of Yesterday afternoon the last will the Venezia Gold Mines company, in in the Pioneer Home was driven, and Crook Canyon, while in the city yes, today, on behalf of the Territory, terday, stated that he is agreeably it will be accepted by Major Doran, surprised at the general mining situs, the superintendent. There will be no

camp, and for the fist time in A few citizens of the city will be taken to the manuion on the hill to many years none of the customary taken to the mansion on the hill to jumping of claims took place, only inspect the building which will be the habitation of the sturdy pioneers

The furniture has arrived and is now being put together in the wareduring the past few months, and the house of the Bashford-Burmister Co. snovitch, indicted on the usual assessment work was perform Later in the week it will be taken to the building.

> The elegant fixtures donated by Gua Heyman, will be set in the room designated, today, having reached the Home several days ago.

> The first testing of the heating apparatus was made Tuesday morning and showed a uniform temperature in all the rooms of 72 degrees. It was accepted.

> It is expected that the Home will be opened before the 1st of February, or an soon as the Board of Control convenes to pass upon the applications on hand. The institution can accommodate forty people. The list has already reached several times this number, which will be culled to the most desirable, owing to the limited accommodations.

#### WHO IS YOUR CLEANER?

tion of the various ingredients com- sache and got up in the mermic. mouly used on the different kinds it clinging to me. There was of clothe If not, how can you ex- a weakness across my lossepect first class workf. Try the made it difficult for me to see. French Electric, 127 South Cortex I often became very dixxy. street. Phone, Black 139,

#### MONDAY CLUB MEETING.

An important meeting of the Mon- a year ago I procured a secday Club will be held next Monday, Doan's Kidney Pills and the to arrange for the coming Federa- two boxes disposed of the a tion. A large attendance is desired and all fault with kidneys. by the president, Mrs. Meek. ••

ANNUAL MEETING NOTICE.

# ALWAYS BUY THE GENTLE AND

SCLD BY ALL LEADIN ONE SIZE ONLY. 50 A BOET

CONTINUES IN BUSINESS

Grauville Fain, who disperse: his cattle interests on the Truck range, in the eastern parthe county, yesterday, to A. C erson, states that the firm of a er & Fain is maintained, and be continue to be identified with industry.

Cross the Street to Brisley's--- :

## In a Bad Way

Many a Prescott Reader Will Grateful for This Information

When your back gives out; Becomes lume weak or aching When urinary troubles set ... Your kidney are "in a bed -Doan's Kidney Pills will cure Here is good evidence to pro Mrs. J. Hurst, 501 Washingto. Phoenix, Ariz., says: "I am constant, dull ache in the senmy back for a long time and it was not very severe, it wa ficient to make me feel min Can he tell you the chemical ne. I often went to bed with a base ney secretions saused me munoyance and I was botheres swelling in my limbs, in fawhole system was run down. say too much in praise of Kidney Plila."

For sale by all dealers

occusiveness. One story is that velt has not been senquered by Insurgents. Another group is y positive he he has slearly by his acts that he is veering d the radicals.

sevelt was just folling a tree the interviewers called, I great exercise.

evelt agreed today to speak to Illwankee Press Club on ale a lour, which has , and also at the Knights of me gathering at Peorle, Ill., on r let, and on "Uncle Reday at Atlanta, Ga., which it eved will be October 17th. evelt laughed at the report of it operation. He first heard of 1 LaPolletta

Not Called by Toddy. og back to the L'Inflette conlentimos es Page Piva)

lated Prom INGTON, D. C., June 27,-Sheridan, veteras American impire and ruler of the diaof professional service, tow York game, teld Umpire had shouted "Batter out" ust time.

shortly after. He said he in his resignation to Ban the American League prosi-Chicago. He told Egan he o go to his home in San where as has a large unprinted Armenias and the printed

## UNLAW

## Is the Best nacted

political machine. o Oregon law, the citiir Senator and the legisorally bound to approve lities. choice, irrespective of

## PIONEER PROPERTY IS AGAIN TO BE ACT

## Venezia Camp Will Once More Be The Scene of Liveliness

Want is believed to be the begin-less ing of one of the heaviest gold precors of the future in this county, tichat in evidence at the present Gold Mines, which is to resume oper ations immediately. Announcement of approximately 500 tons is avail-of the nurpose of the company was authoritatively made yesterday, and time, and which will be increased from the activity prevailing and the to a very heave flow with the bemethod that is outlined in the development of the property, it is practically an assured success.

This syndicate has purchased and has dismantled the 20-stamp Mescal mill, on the Hamayampa river, and on this property that run to as high

.With the installing of this plant, sampling estimate made. the Venezia people have also ordered a complete hoisting plant and other mechanical utilities and inaugurated an extensive system of mine r thirty years, the longest development. This machinery is bean hour before the Wash. is also employed in greding for the bered to a depth of 77 feet, to permit of further sinking, the intention being to deach a depth of at least 500 feet. At another point on the lode a tunnel runs for a distance of 400 feet, and this also will be extended to a point 900 feet in, until under, giving a virtical depth of over 500 feet on toe vein.

This shaft is located about 500 feet south from the tunnel, which will give some idea of the vast range of ground that will be exploited, and which also will give some idea of the immensity of the undertaking his son, E. L. Tomlinson, who is on that carries the splendid mineral pos- the ground as the maunger of the zibilities in evidence.

The Venezia property is located ln an admirable position for the noteworthy determinations that are to begin. The Mount Union and The Sabbath day, this year, fairly Crook veins converge on their ground, naugurated the rainy reason for this and with the five claims owned and section, and although no rain fell which are continuous, the immense in this section, heavy storms, now area that is included all the more ever, took place in the eastern part By Associated Pre-

the indisjutable fact that it helds reported the beginning of the sum tory, past and present. The conthe key to the mineral situation in mer rains on Sunday, from which senans of opinion is that when the

Venezia ares also gave returns of ever \$40,000 is gold, and from which output can be judged the researces of the property when modtime at the camp of the Venezia and such as are under bendway at ers appliances are placed upon it. she present time. An ore supply ginning of the deep mine development that is to follow and which is under headway at many points at the present time, in a preliminary, way. Ore bodies are in existence it is being taken to Crook Canyon as \$126 in free gold, while an average grade of \$25 ore is the general

The revival of this old pioneer belt has dreated a great amount of interest from the fact that when the old Creok was operated in the earlier development. This machinery is be- days, its yield created very much ing placed in position, and a force interest in that field, in fact, there was considerable excitement from mill. The old shaft is being retime the surface workings. The Venezia mines were purchased about ten yours age by the present governor of Arisons, R. E. Sloan, and J. B. Tomlinson, or immediately after the mill was burned down that was located on the property.

Pittsburg capitalists are financing the apex of the mountain is passed the company, and they propose to go ahead on the carrying out of an extensive plan of development. In the work outlined, J. B. Tomlinson will be the consulting mine engineer. He is prominently known in the Southwest as to his capabilities in this profession, and will be assisted by

work under headway.

### SUMDAY SHOWERS.

makes the enterprise a very desirable of the county. One traveling from none in: its favorable mining possibil- the north to the south was in evities.

Linked to the Venezia property is of the cloudburst nature. Flagstaff around and gossip about ring his the last ted in the mining fraternity. This Mountains south and visited

---- lur tau better in the Italian's eandition.

At the hospital tonight it was reported that his name is on the "dangerous" list, with only a slight chance for recevery,

Robert Taft is muca broken up. He spent much of the afternoon at the hospital. He refused to go out in an auto again today. The President is expected here on

Wednesday morning. Taft, Jr., Not to Mame.

BEVERLY, Mani, June or -Robt. A. Taft, son of the President. while driving in an auto with two college friends, ran over a street laborer, whose skull was fractured. The laberer's condition is serious, tie These who saw the affoir say it was \$15 purely socidental

Provident Distremed. WASHINGTON, D. C., June 27 .-President Taft was distressed when to

CHICAGO, Ill., June 27 .- Eighty hours, with no sign of a verdiet, is body the story of the jury considering the of De Browne bribery case, at midnight found Judge McSurely went home at 9 tunnel o'clock, but reiterated that he will roveal not interfere until Friday, when, if bad b the jury is hopelessly divided no will neid, discharge them.

If he finds only two or three balking he will send them back for further deliberation.

Unadvertised things are sold-some times. Journal-Miser want ads will it port cell it quickly.

## Believed By Fans Tha . Will Be Final

its field and this is generally admit- place they followed the Mogolion fight Monday eads, with it closes him said

SHIP BOVINGS

of them pulled the badger other held the dog, while of their fellow countrymen ut with the crowd in excitrment and amazement. The of the light was anything ng to the Chinks, and yese of them swore backwards ther of miles as a prelude . "me no like badger tight, e no good-dog very hetner dam bad."

sound box of candy will be the person suggesting the for a new milk chocolate le by the Owl Drug & Can-See advertisement on last

been paid.

Each claimant prays for the allow-ance of \$6.75 money alleged to have been paid for the recording of notices and claims of the lien,

Note Case.

J. H. Cordes commenced action yesel terday for the collection of a note, alleging the amount due to be \$3220. The note was dated July 13, 1909, for \$3000 at eight per cent interest, and signed by F. E. Andrews, W. A. Cline, G. S. Merritt, J. B. Kohl and Harold H. Harter, The first three named are made defendants. The attorney for plaintiff is Judge H. T. Andrews.

Case Dismissed.

A tax suit against the United Gold.

A tax suit against the United Gold and Silver Mining Company was dismissed on motion of the county attorney, at the cost of the defendant

# BIG OPERATIONS

J. B. TOMLINSON RETURNS FROM COLORADO AGAIN TAKE CHARGE OF OLD GOLD PRODUCER

Arriving from Boulder, Colo., on Wednesday afternoon, J. B. Totulinson, one of the best known mining operators in the southwest, made the important announcement that the Venezia mines in Crook canyon were to resume immediately...

In fact, he stated, it is this mission that brings him back, as well are there other large exploration matters to receive attention. The initial undertaking, however, will be centered to the Venezia property, and the plans call not only for a permanent camp, but for a system of development to be performed that is extensive. Ample finances, he states, are available from the splendid showing made in recent mine work, as well as many test runs made by a special process introduced to solve the method of treatment of complex ores. Under the new arrangement E. I., Tomlinson, his son, will be in charge of the Venezia

## Two Licenses To Wed Are Issued

Cupid yesterday culminated his wiles on a quartette, the following marriage licenses being issued as a result by the clerk of the Superior

Charles E. Rudd and Mrs. Edna B.

Cruise, of Camp Verde, Musidonia Navarro and Miss An-tonia Guerra. The mother of the bride-to-be in this case made allidavit to the fact her daughter was of mar-!

## LILY MILK

"A Fairy Sunbeam in Every Can"

N OTHING can equal the sanitary conditions resulting from their living Nature's way. Up to their knees in green alfalfa-out-doors winter or summer; only being taken inside for milking. LILY EVAPORATED MILK brings into your home the glorious and perpetual sunshine of Southern Arlzona; brings with it the ozone of the wonderful air of this salubrious clime.

Statistics have proven their "health bill" is the best. Then, why shouldn't their milk be best? And, LILY MILK is the pure, sweet product of these cows. Get the Lily Milkman in your home today.

12 Lily Milk can labels will bring you our new COOK BOOK

Pacific Creamery Co.

Tempe

Arizona



## MUNSON OPTICAL COMPANY

Phoenix, Arizona

DR. H. W. KROTZER, Traveling Representative.

WE MAKE GLASSES THAT FIT!

GET PRICES AT

## SECOND HAND STORE them write us for price

before buying your Stoves and Furniture. Men's Shoes and Clothing.

Still buying second-hand house- AND FEED hold goods.

308 W. Gurley. Phone Black 238:

POULTRYM

ASK FOR

ARI-ZONA Chick Fee ARI-ZONA Developin ARI-ZONA Scratch F ARI-ZONA Laying M

If your dealer does no-

Made and Guaranteed

## PHOENIX S

Phoenix, Arizona

Ask for 1915 Seed Cata

FEET OF LICENSED MOTION PICTURES VAUDEVILLE EVERY NIGHT

New Vaudeville every Tuesday and Saturday-New Pictures of Monday, Tuesday, Thursday, Saturday and Sunday,

-TWO SHOWS NIGHTLY

AUSTICETUSE IS AND OF CHAINE, CITIESTORY OF CHAIN

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## Licenses to Wed Secured by Four

at the court house yesterday, making a total of 660 since May 1, 1913, or lalmost 200 a year,

Charles E. Hu, hes, of Jerome, ob-tained a license to wed Mrs. Bertha Jacques, late Saturday afternoon. He was married by Judge Smith Sunday

Monty omery yesterday. Both are is being placed in condition for start-from lecome and the license was sent ing the large development campaign

through the mail.

John Polak obtained a license to Mr. Tomlinson writes that he will arrive in Prescott to direct explora-

## RUEUMATISM AFTER HIS DAY'S OUTING

de III Hunting Trip On a Wet Day Yavapai Granite Brings Painful Results.

to of Philadelphia, went gunning, It was an in- a dismal rainy day, and long exposure business circles of Los Angeles, and to cold and wet brought on a severe member of a monument manufacture attack of rheumatism. He was confined to his home.

friend recommended Sloan's Liniment, citing his own case as evi- fore returning will make close obserdence of its effectiveness. Mullen which the quality of this material, bought a bottle and applied it to his aching limbs. Soon improvement was: business

perience I have never been without so favorably impressed that he may Sloan's Liniment in the medicine come here to reside at an early date, chest." You will find it southes he construction of the new court houses, sprains, toothache and relieves lame back, neuralgia, in fact all external pains. At all diuggists, 25c.

as the old Hassayamper fell down on the same line of goods, and is grinning under his misfortune when his age should have warned him off the track in monkeying with an old weapon," he jocosely informed friends. The two situations of extremes in age Jintervening in each case of an accident so closely allied, both being under the same medical care, is considfered as one of the most exceptional jincidents in character of mishaps ever taking place in this city. Mr. Ritter, however, is ready to return home, but Burt Tucker remains under treatment to save his hand, if possible,

## **VENEZIA** MINES SHAPE UP FOR BIG WORK

Four marriage licenses were issued OLD CAMP IN CROOK CANYON TO BE IN FULL BLAST BEFORE THE FIRST OF NOVEMBER.

Under instructions from J. B. Tom-Francis Teiber took out a license to linson, at Golconda, Nev., the shaping wed Miss Dora Cooper yesterday, up of the affairs of the Venezia Mines Teiber is in the employ of the Santa Company, which has holdings in Te in Prescott. A license to wed Miss Stella Eliza- preparatory to resuming operations both Rice was issued to Boyd I on or before November I, the camp

dents of Jerome and the license was tion, and a force of about 20 miners sent them by mail. will be placed at work. During the will be placed at work. During the past month the camp has been placed in first-class condition, and the 20stamp mill is ready to drop stamps. It lis stated flotation will form the method of reduction, this process having been tried out and proven successful. The shipping to the camp of supplies for the Winter begins in a few days.

## Is Attaining Fame

ing tirm, is a recent arrival to investigate granite conditions here, and bevations of the quality of this material, which abounds in quantities represented as inexhaustible. Mr Lowe, in noticed and he was able to return to having the states he comes to Prescott to 33 inspect the stone, and so far as his Mr. Mullen writes: "Since that ex- observations are to be considered, is

Final Report Heard,

The final report on the estate of who i Mrs. Fannie Brown was heard in the husbar Superior court yesterday and the es-



GEIN' a few se. Big League tin two years helps tob

This Natura Way to Brin

OU can pro

## TUNGSTEN ORES CONSTRUCTING GIVES REAL SURPRISE

Just Past is Most Excellent ·

The U.S. Geological Survey

The production in the United States in 1909 of tunguten concentrates reckoxed at 90 per cent of tungstic trioxide, was 1,958 short tone, valued at \$746,130, according to figures compiled by P. L. Hess, of the United States Geological survey, from 'returns received from producers. These figures represent the exact production for the first eleven months of the pear, plus the estimated production in December. Of this amount Boulder county, Colorado, produced 1,401 tons, valued at \$550,280.

Largest Production Recorded. In 1906 the total production was 671 short tone, valued at \$229,955, and there was therefore an increase in 1909 of 1,287 tons in output and of \$516,175 in value, or about 200 per cent. Although it is difficult to make exact comparisons of production for different years owing to the fact that before 1906 no effort was made to estimate the ores at & common degree of concentration, yet the tonnage of 1909 was the largest vet recorded and the value of the product was exceeded only by that of worked under lease by J. B. Tomila-1907, which was \$890,048.

The average price per unit for the whole amount produced in the United States in 1909 was \$6.50. In the early part of 1907 the price was \$14, but it dropped to \$9, and later to \$5, and was still lower for most of 1908.

Prices

# ANTIFRS CAFE

Believing that the people of Prestaurant on metropolitan lines, the combinations in gold values in this

# MILL ON BIG **PROPERTY**

Showing for the Year Prominent Parties Are Interested in Large Claims

Figures Are Based On Good Showing is One Of Best in Entire County

> Yesterday the important announcement was made by E. L. Tomlinson, superintendent of the Venezia mine, in Crook Canyon, that it had been decided by the owners of that property, Governor R. E. Sloan and J. B. Tomlineon, to erect a modern tenstamp mill immediately.

> Supporting the placing of a plant on the property, Mr. Tomlinson also stated that the tonnage of ore in sight and available would reach least \$100,000, and there was question whatever but what the enterprise was an assurred success from the moment the stamps started to drop. For several months the mine has been under a practical method of development, and while but little publicity has attended the work, the results accomplished at all points have been more than satisfactory. In a few days the placing of a large force of miners will begin, and the property operated on a permanent and steady masis.

Many years ago the Venezia wat son, and thoroughly exploited. mill that was erected on the property was destroyed by fire, and this proved a serious handicap to further working of it. Later the purchase was made, and since that time considerable capital has been expended by Mesers. Bloan and Tomlinson, showing the existence of one of the best free gold mines in this field. The Venezia ground is the first south extension of the famous Crook mine, that made history in the pioneer days 34 of free gold mining in Crook Canyon, which is Itself is a significant inducement for the beginning of renewed operations and the placing of a new plant to treat its product. It is also situated on the finure of the Mount Union claims, and the three minet are combined under the one ownercott will appreciate a high class res- ship, giving one of the best mineral



were reached and increased expense mining men, and those necessarily followed, it was decided illar with the Sterling to cease work and await a change encouragingly of the in conditions all round of a more favorable creation. These have arrived, and it is his purpose to grasp the in the earlier days of opportunity at once.

The Sterling in years gone. extensively exploited, and from eleven cars shipped out of the county to Colorado markets the values

ran from \$700 to \$1,100 a car. The ores carry gold, silver and copper, and this product was taken from practically the surface. Considerable work is shown on the property, but not to any extent in depth. From the 100 foot level the deepest shaft is but 400 feet, and at this point, when important determinations were about to be solved, the property was closed down, and has remained so until the present time. Mr. Taft says that in resmuing work he will get to a point where the water level is tapped, and from that prise. Both will go to point is confident in making note- few days, after making worthy exploitations and proving the for the resuming of op mine is a marited one. In this principle he is supported by all practical

handle the project.

It enjoys an excelle Blg Bug, the Sterling as one of the most at in that field. The rai within one-half mile while to the Humboldt less than ten miles.

This is but one of time mines that feels effort of the resumption bolds smelter, that hav enter the active colun under the old method : strangled in either treor transportation facili

Accompanying Mr. cott is F. C. Roberts City, prominent in fi of the Empire State. come interested in the

Journal-Miner-High

## For Evening Ho The Ravo L

Some of the aweetest hours of passed under the gentle, kindly lig ning lamp.

If it be the Rayo Lamp, the lig an added charm-makes reading an There are no aching eyes after to

ing under the rays of the Rayo Las The Rayo Lamp diffuses a stead It is the least trying of any artificia of brass throughout—nickel pla central draught burner.

The Rayo is a low-priced lamp, h get a better lamp at any price.

## COUNTY ROAD TO TWENTY STAMPS LAST RESPECTS ASH FORK IS PROJECTED

Route is Inspected By Fifty Ton Cyanide Plant James J. M'Cluskey To Supervisors Smith And Stewart

## Highway Will Connect Main Ore Shoot Tapped Funeral to be Held From Proscott and Grand Canyon

in order to ascertain the probable In order to ascertain the probable Twenty stamps are dropping at the ost of constructing and repairing the Venezia gold mines in Crook Canyon, James J. McCluskey, who died in the V. Stewart, F. W. Foster, of the 'clock and the Junction route was unbers of the party received a treated also. rdial welcome the feat being looked tory of the town.

terday was the outcome of the for mouths to come.

t was heralded by the receipt of high values in gold only.

rnon, H. A. Cheverton,"

# DROPPING AT

To be Installed At Mill

At Hundred Foot Level

ils point the road digresses and Frisco company's reduction service, that section. The only known living aves the Seligman route, passing he says it is perfect, and saves a relatives of the decessed are Mrs. cer the mess to Ash Fork. The greater percentage of values than any Mary McCullough, a sister, residing ip was made in less than six hours, id for the first time an auto was for filtering the slimes will also be John McCuskey, of Tonopan, Nev. ken over that section of the coun-attached to the cyanide addition to neither of whom can be present at y. On arriving at Ash Fork, the the mill, and concentrates will be the funeral.

It the Patterson ranch, Mr. Patter, several months for reduction. The feen a resident of this county for was taken abourd and served as big main about has been reached by several years. His death has caused st. Chester Dickerson, merchant the 10th-fuot shaft, and drifting is general expressions of regret and Ash Fork and the Prescott Auto going on. This exploration estabb placed this new road project be- lishes the best are bodies on the a the board of supervisors several Venezia location, and assures a pers ago and the trip of observation manent base for successful operation As the drift rescutations. Definite action will goes on the shaft will be continued tune planes for \$2.50. Leave orders tuken in a few days on the project to depth, and levels enablished every it is believed the building of the 100 feet. The melyledned vein showe will be authorized, ing a width of six feet, with a pay he arrival of the party at Ash streak of nearly four feet, carries

Mr. Tomlionon will return to tue Ash Fork, April 6-Journal-Miner, camp today, and will make immediate rott: Arrived in good shape at arrangements for installing the eyan-Roads in good condition, ide treatment. Mine work will be stomach or sour stomach. Those red) Barney Smith, Frank Foster, pushed as fast as passible, and the troubles are almost INSTANTLY re-. Stewart, D. M. Clark, Don Sig. mill will continue to run Indefinitely, lieved and appendicitia available for many months.

FOR POPULAR

Be Laid to Rest In M'Cabe

## Catholic Church Today

roudway between Chino Valley and and results are satisfactory, was the Mercy hospital Wednesday morning, Asil Fork, on the line of the new statement inade yesterday by Supernter-county road to the Grand Canon, a delegation of officials and busitess men of the city were taken over the statement is devoted to crushing ores in the Catholic church this morning
to the city were taken over the statement of the crushing ores in the Catholic church this morning
to the catholic church this morning t yesterday by D. M. Clark in his from the Champion mine, near by, at 8:45 o'clock, after which the reutomobile. The party was composed while the remainder is working on mains will be taken to McCabe for f Supervisors B. H. Smith and J. the company's output. Mr. Tomlinson has recently return in the cemetery of the Western Fed-'rescott Auto Club, and H. A. Chever- ed from an inspection of the Frisco eration of Miners, of which organiza-on of the Prescott National Bank. Mines and Power Company's cyanide tion deceased was a member. The he start was made at about 7:30 works near Kingman, and finding the Order of Red Men will also officiate method satisfactory, will immediately with the miners, and there will no uversed until Big Chino Valley was begin the installing of a 50-ton plant doubt be a very large attendance, uched, at the Patterson ranch. At at his camp, In speaking of the Mr. McCluskey being very popular in

Mr. McCluskey was a native of Speaking of mine development under Ireland, and came to the United on us rather a novel event in the way, he is enthusiastic over ore States when a very young man. He bodies and says he has a supply for followed mining in the west, and had

### PIANO TUNING.

From now until May lat, I will at Linn's Jewelty Store. PROF. LINDEN, Otis Bldg.

## TELLS CAUSE OF APPENDICITIES

The Brisley Drug Company states that much appendicitis in Prescott is caused by constipution, gas on the an abundant supply pof water being against by taking a SINGLE DOSE of simple buckthorn bark, glycarine, etc., as compounded in Adia

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egular trict. 🐬 concess. M. M. Wantland locates two mines, Stime Castle Creek district. didney . W. F. Jones locates two mines, Eutheir rekn district. .. J .R. Thompson locates three mines. ricton Verde district. Doan's Decree of Superior court in estate pain of Jennie Jackson, decrased, distribget ker uting Lot 24, Block 13 and Lots 16, od for 18, Block 7, Prescott, War Eagle, k kid First North Extension War Eagle and 26300 feet of Second North Extension Don't War Eagle mines, Pine Grove disy-get trict, to Lester Jackson. that Bernard S. Bayle locates Robert lilburn Emmet No. 2 mine, Black Hills dis-引 trict.

# DSON per Six=

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25.00

rome or Prescott

ann and Dicus

that have been a second as a second

for Yavapai County

New York Curb.	•
	Ask.
C. V. Extension\$38.87 1/2	\$39,129
Green Monster 5,00	5.125
Jerome-Verde 4. 1.684	1.75
Dundee-Arizonz 250	2,625
Calumet & Jerome 2434	2,50
Victor Extension : 2.00	2.129
Pittsburg-Jerome 1.434	2.06
Arkansas & Arizona	1,00
Rig Ledge 7.621/2	7.87 /
Hull Copper	.75
Local Stocks.	
	.25
Achtite IIII	.45
Verde Apex	,,,,
Jerome-Portland 1.25	1.00
Big Pine	1.00
Oatman Stocks	
Tom Reed 214	2.15
Rice lim L.IZ	1.19
Gilt Edge	; ,053
Jerome-Oatman	.C:5
Jerome-Oatman	.14
Carter	•
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## Venezia Mines Are Again in Operation

The announcement made some works ago by J. D. Tomlinson, of Golconda, Nev., that the Venezia Mining Company would resume during November, has been fulfilled, and the famously known Crook canyon gold mines are now active with a small force as a beginning of what soon will be a largely operated property.

Mr. Tomlinson will arrive in Pescott today to take charge and remain here undefinitely. During a former visit he outlined plans for resumption and his son who arrived from the camp yesterday stated the first move had been made in mine work as well were surface conditions being placed is shape for the new era. Under the 1-w arrangement of Venezia affairs sufficient funds are subscribed by which an active camp is assured tor months ahead, the plans outlined calling for deep amining at points selected by an engineer.

in the contests for the Vanderbilt and Grand Prize trophics. "Howdy" Wilcox will be teammate of "Happy" Johnny in the Grand Prize. Wilcox will drive a Peugeot in the Grand Prize although he is not entered in the Vanderbilt.

Dario Resta, the invincible pilot who has shown his heels to the field in speedway events during the last season arrived last week and immediately paid a visit to the course. He stated that in his opinion a record of nearly 90 miles an hour would be set up by the speed kings in the big contests.

The cars which will be driven by Aitken, Wilcox and Rests will be better equipped in one respect than any of the other entries. The Pengeots to be driven by this trio will be equipped with front wheel brakes having originally been built for the French Grand Prix.

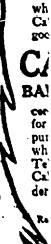
Never in the history of racing in Southern California has there been such interest in any events as is being evinced in the Santa Monica races. It is estimated that nearly 150,000 people will witness the two contests. Grandstand reservations have been made for nearly 2,000 seats and the remainder have been placed on sale at the Automobile Club of Southern California.

The Vanderbilt Cup race will start at noon Thursday. November 16th and the International Grand I'rize race will start at 11 a. m. on Saturday. November 18th. Both races should be over by 4 or 5 o'clock in the afternoon.

## WILL MOVE OFFICES

The farm house, being constructed by the Hassayampa Farms Company on its model farm near Jerone Junction, is almost completed and ready for occupancy. Upon its completion the company's offices will be removed from Prescott to the farm house.

Home of good things to set. Birch Bros. cule.







Lidde Advisor

## JUNINDE

Just Past is Most Excellent

igures Are Based On Good Showing is One Of The U.S. Geological Survey

The production is the United States 1909 of tungsten concentrates reckted at 90 per cent of tangetic triide, was 1,958 short tone, valued \$746,130, according to figures comled by P. L. Heen, of the United ates Geological survey, from 'rerns received from producers. These pures represent the exact producin for the first eleven months of e pear, plus the estimated producon in December. Of this amount onlder county, Colorado, produced 101 tons, valued at \$550,280.

Largest Production Becorded, In 1908 the total production was short tone, valued at \$229,955, id there was therefore an increase 1909 of 1,287 tess in output and \$516,175 in value, or about 200 cent. Although it is difficult make exact comparisons of proiction for different years owing to e fact that before 1906 no effort ir made to estimate the ores at & mmon degree of concentration, yet a tonnage of 1900 was the largest it recorded and the value of the proict was exceeded only by that of 07, which was \$800,048.

The average price per unit for the hole amount produced in the United iates in 1909 was \$6.50. In the trly part of 1907 the price was \$16, it it dropped to \$9, and later to , and was still lower for most of

# INTLERS CAFE

Believing that the people of Presitt will appreciate a high class resturant on metropolitan lines, the anagement of the Antiers Cafe, on brth Cortez street, will on February, establish a modern grill where te service will be exclusively a la ırta.

An expert chef from Los Angeles 18 been ongaged and arrangements ave been completed to obtain regur supplies of fish, lobsters, oysters, iclifish, squabs and much other deliticles as the local and coast markets Yord in season. A specialty will . L. made of every cuts of steaks

## LUCTULI

howing for the Year Prominent Parties Are Interested in Large Claims

> Best in Entire County

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Do not apply violest snuffs, sprays, douches— Lite, amart and burn the infamed mucous brano. Remove the cause—the catarin i which cannot lite when Kondon's Cataribal ju-been applied to the raw, affected surfaces. So heals, provenie abnormal discharges—ourse, Kundon's (La analtary tubes) brings instant from every cataribal emploation—Hay Asthma, Cataribal Herdache, Bore Throat, ages, Homanoh Trouble, etc. It has cured mi It will supe you. Write today for free sam

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and procure a 25c or 50c tube for con-handy use at home or in pocket; a speed a sneed and safe dure. \$40.00 dr. 400 it and recommend it because i and ontains no harmid dra your dealer hasn't it, write for

Kondon Mig.; Compan Minnespells, Minn.

necessarily followed, it was decided illar with the Sterling ground to come work and await a change encouragingly of the purpor in conditions all round of a more favorable creation. These have arrived, and it is his purpose to grasp the opportunity at once.

The Sterling in years gone exploited, and from extensively eleven cars shipped out of the county to Colorado markets the values ran from \$700 to \$1,100 a car.

The ores carry gold, silver and copper, and this product was taken from practically the surface. Considerable work is shown on the property, but not to any extent in depth. From the 100 foot level the despect shaft is but 400 feet, and at this point, when important determinations were about to be solved, the property was closed down, and has remained so until the present time. Mr. Taft says that in resmuing work he will get to a point where the water level is tapped, and from that point is confident in making noteworthy exploitations and proving the for the resuming of operations. mine is a merited one. In this prinsiple he is supported by all practical

were reached and increased expense mining men, and those who are handle the project.

It enjoys an excellent name in the earlier days of mining o Big Bug, the Sterling was rec as one of the most attraceive : in that field. The railroads ru within one-half mile of the while to the Humboldt amelter less than ten miles.

This is but one of the many time mines that feels the stimu effect of the resumption of the boldt smelter, that have or soor enter the active column, but w under the old method prevailing strangled in either treatment of or transportation facilities.

Accompanying Mr. Taft to cott is F. G. Roberts of Now City, prominent in financial c of the Empire State, who will come interested in the Sterling prise. Both will go to the mine few days, after making arrange.

Journal-Miner-High class job

## For Evening Hour The Rayo Lam

Some of the sweetest hours of home-life

passed under the gentle, kindly light of the ning lama If it be the Rayo Lamp, the light contrib

an added charm-makes reading and sewing e There are no aching eyes after reading or a

ing under the rays of the Rayo Lamp.

The Rayo Lamp diffuses a steady white li It is the least trying of any artificial light. & of brass throughout-nickel plated-impre central draught burner.

The Rayo is a low-priced lamp, but you ca: get a better lamp at any price.

Once a Rayo user, always one ery Dealer Everywhere. If Not at Yours, Writs Descriptive Circular to the Meacut Agenty of th

STANDARD OIL COMPAN

## GASOLINE. ELECTRIC

C., June 27 .game, told Umpere outed "Batter out"

after. He said he resignation to Han erican League presi-He told Egan he his home in Sea ne has a large un-

oni machine. on law, the cititor and the legis bound to approve irrespective of

JOVINER.

i is preparing to

JETUNITE Gold Misses, which is to resume operations immediately. / Anaoancement of the justines of the tempersy was authoritatively made yesterday, and from the activity prevailing and the method that is outlined in the development of the property, it is practically an assured success.

This syndicate has purchased and has dismantled the 20-stamp Mescal mill, on the liamsyampa river, and it is being taken to Crook Canyon and placed in position.

With the installing of this plant, the Venezia people have also ordered a complete hoisting plant and other mechanical utilities and inaugurated an extensive system of mine development. This machinery is being placed in position, and a force is also employed in grading for the mill. The old shaft is being retim- the surface workings. The Venezia bered to a depth of 77 feet, to permit of further sinking, the intention being to deach a depth of at least 500 feet. At another point on the son, or immediately after the mill lode a tunnel runs for a distance of 400 feet, and this also will be extended to a point 900 foot in, until over 500 feet on the yein.

south from the tunnel, which will give scar, idea of the vest range of ground that will be exploited, and which also will give some idea of that carries the spleadid mineral posalbilities in evidence.

the Best The Venezia property is located in an admirable position for the noteworthy determinations that are te begin. The Mount Union and which are continuous, the immense in this section, heavy storms, howeres that is included all the more

the key to the mineral situation in mer rains on Sunday, from which its field and this is generally admit place they followed the Mogollon ted in the mining fraternity. This Mountains south and visited the regard is also based on the condi-country about twenty miles east of tions that, have heretofore prevailed, Mayer, when the course was changed that occurred in the earlier days of St to the range industry was incaldriven to Del primitive mining, when the old Gear sulable and the cattlemen are deeral Crook had to its credit a yield cidedly elated, that reached to ever half a million Determinations, made by. arastr<sub>a</sub>

venocing and such as are wader bendway at she present time. An ore supply of approximately 500 tons is available for treatment at the present time, and which will be increased to a very heavy flow with the beginning of the deep mine development that is to follow and which is under headway at many points at the present time, in a preliminary, way. Ore bodies are in existence on this property that run to as high as \$126 in free gold, while an average grade of \$25 ore is the general sampling estimate made.

The revival of this old pioneer belt has dreated a great amount of interest from the fact that when the old Creek was operated in the earlier days, its yield created very much interest in that fold, in fact, there was considerable excitement from mines were purcassed about ten years ago by the present governor of Arimona, R. E. Sloan, and J. B. Tomlinwas burned down that was located on the property.

Pittsburg capitalists are financing the spex of the mountain is passed the company, and they propose to go under, giving a virtical depth of ahead on the carrying out of an ex-This shaft is located about 500 feet work outlined, J. B. Tomlinson will tensive plan of development. In the be the consulting mine engineer. He is prominently known in the Southwest as to his capabilities in this profession, and will be assisted by the immensity of the undertaking his son, E. L. Tomlinson, who is on the ground as the manager of the work under headway.

### SUMDAY SHOWERS

Grook veins converge on their ground, naugurated the rainy reason for this and with the five claims owned and section, and although no rain fell The Sabbath day, this year, fairly ever, took place in the centern part By Associa makes the enterprise a very desirable of the county. One traveling from RENO, Nev., June 27.—A stifling one in; its favorable mining possibilitie acrim to the south way in virtue of day made is impossible for the ties.

Linked to the Venezia property is of the cloudbarst nature. Flagstaff the indisputable fact that it holds reported the beginning of the sumof 350 head of and which are incontrovertibly in northern Maricopa county and "This Williamson proven through the fabulous yield traveled to the westward. The bone of all.

Miner liner will get you another one.

# AND STILL NO

CHICAGO, Ill., June 27.-Eighty hours, with no sign of a verdlet, is body of the story of the jury considering the of Deer Browne bribery case, at midnight, found t Judge EcSurely went home at 9 tunnel. o'clock, but reiterated that he will revealed not interfere until Friday, whou, if had been the jury is hopelessly divided no will fivid, andischarge them,

If he finds only two or three balkther deliberation.

Unadvertised things are sold-sometimes. Journal-Miner want ads will of portion sell it quickly.

GOLD

## FOR FIGH'

## Believed By Fans That Will Be Final B

throngs here to do more than alt tie. He c around and gossip about ring his the last to tory, past and present. The con that he wil sensus of opinion is that when the fight Monday ends, with it closes ring history in the United States, and with it also ring history of the

"This ends it all" is the bellet rumored tha

"Jeffries boxed eleven rounds, message. which were very fast, with Corbett, Choynaki, Berger and Armstrong, but founded, as he west through the page so early suce the G that nobody was present Johnson did eight listing rounds expected hor

ring, save bim aupple. Promoter ried tonight Chicago new ped. " " Get

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not interfere

ig Easy

housewife to economically. uit puddings ikies, crullers, m, tasty and dy-made food oes not comke-day helpa 773-FEET

who njam at the Elksi in their big comedy Abduction of Bianca best of reputations big success on the est few weeks where the leading theatres. direct from Los Anmet with a continue-

tures cam, be recomg three of the best intion must be made in 'particular that 'of traphy of recurrent subject of recurrent interest us yet to he advancer in the pplication of metic will interest a Tree beliff at des a story founded of o Civil War and is well. It is a pieenjoyed by all. durztb.

7's big farce com-It is called

Measures Sixteen Feet Is Favorably Impressed Fifteen And Samples \$7,50

In Gold

Mill is Being Operated Sees United Verde Mine Principal One Shift Giving

Good Results and the Enterprises and from the first than the second from the s

. lay of capital on that property, remill is again at work on a twelve by walking to any point desired and now enterprises being under head-way, with others to he started in the next few months.

A new/departure in pictures, Micro Cinemajography. See it for yourself at the Eike' theatre tonight.

Everything in the market is to be had at Birch Bree. Restaurent and

With Resources Of

Country

And Fossil Circle

Operations by the Venira Gold Min Lord Fairful, of Bagland who left Federal court Operations by the Venira Gold Min. Lord Pairrey, or rengiand two local Prescett yesterding Company in Grook Canyon and yesterday, for New York, City, after Prescett yesterd examplifying the window of the out. exemplifying the wisdom of the out three days at the works of the Ariany or capital on that property, recent development on the south drift on the 100 foot level being the most expressed himself favorably over the or, Hadd. Althon, satisfactory of any work performed gigantic clorerical undertaking, and Brinkmeyer, D. M. in recent months. At this point a in admiration not the general ladus Ray Bill, H. W. few days ago a vein of ore meastrial conditions of the country. He ing, L. B. Larime wring sixteen feet across and sampling \$7.50 in. gold to the top was cut reviving considerable interest in but was one instruction as well. Sanford, James Sea cut reviving considerable interest in but was one instruction as well. ling \$7.50 in gold to the top was beneficial and fource of reference, Sanford, James Sea cut reviving considerable interest in but way unexpendent instruction as well of Prescott; Geo. The immensus works of the United John M. Nellis, of Prescott, Geo. pleration is also going on, and it is Verde, with its vest production, the shoot that within a few weks the heavy agricularly resourced of the H. Lyons of Jerom will be tapped, when it is expected of the waters of the Fossil Creek be considered in fit similar conditions will be determined enterprise appealed to him as never of wh as in the other workings. In order before and its haves Axizona highly diana, to receive a higher percentage of clated. During his visit to the Fost values than what has heretofore been all Crock enterprise; Lord Fairfax attends returned from the milling percent a discarded his mula for the constant that returned from the milling process a discarded his mule for the greater tant, J. C. Purest. small syanide testing plant was in portion of the Montain climb, and Charles Overlock, wi stalled some time ago, which is giv. walked on foot. He wanted to bee uty, Don. M. Will ing satisfaction, and it is probable the country and his conception of deputies, H. V. And this method of gold extraction will the task in observing practical con. of Tucson and B. An distance in a state of the country and his conception of Tucson and B. An distance in a state of the country and the country and the conception of the country and the conception of the country and the country are considered to the country and the country and the country are considered to the country and the country are considered to the country are considered to the country and the country are considered to the country So introduced in a short time. The ditions in harnessing the water was nix. hear shift, and superintendent E. L. which an animal was incapable of attendance, among w Tomlineon while in the city yester doing. For fifteen miles he follow. Indians from the nor day stated that the purpose is to ed the trail and after his day's. It is said the dell' ran continuously. He also says that work was over seemed to not feel grand jury will be aside from his interests, the district the fatigue that ordinarily prevails forenoon, and the tri shows jumistakable findications of among the accustomed mountaineer, be called on Thursday being a heavy gold predacer, several His agility and physical recourses new enterprises being under head were a surprise to all; and when he left" the camp his feats were commented upon by all. "Lord Pairfax, It is learned, is of

American birth. His beredity was not known at the time, and until tune planes for \$2.50. twelve years had elapsed after he at Linn's Jewelry Store was born in Virginia, was his true station in life revealed. Since that time he has resided continuously in England, and through the lineage of

Selling Re

attending the court

The latest Novels

PIANO TOL From now until M. PROP. LINDEN

or Judge Chester Thomas, snugly ensconced among the tall pines of West Prescott, to Mr. Logan, an enterprising young man of business a U

O Mrs. Canaris has paid \$1,000 for the Miner office lot. We puid about \$25 for the same piece of property in 1866.

Mrs. Bowen has purchased the Delaney brick house in East Prescott and Mr. and Mrs. Reese M. Ling will July 1 occupy it. ₹O.

The final transfer of the Gray property, on the corner of Gurley and Granite streets, was made by deed yesterday to Dan O'Boyle, the consideration being \$1,600. The premises will be occupied by Chas. Martin and family.

Mrs. Canaria is building a 20-foo addition to the Pacific saloon building, which Patrick Barrett will use for a billiard room. Sept 9. 91

Brown Bros., of Prescott, have purchased from F. G. Fisher, of Phœnix, lots fronting 100 feet just north of Gardner's brick store, paying therefor \$1,800. They are now having their office moved to the north lot and will erect next to Gardner's store an iron steel roofed building 70x22 feet, where they will run a machine shop and a milling and mining machinery mercantile establishment. The Courier is glad to see these enterprising gentlemen "taking hold" with so large and strong a grip and will say that they are most deserging of success. Thus is our town going shead by the efforts of our own citizens without the aid of outside capital and this is the kind of growth that rarely July 24, 92 wilts.

Annie Morton yesterday purchased from John Lawler for \$2,250 that certain frame dwelling on Granite street, recently purchased from N. Ellis by Lawler & Avers. This property lies

mines and lithographic quarries in this vicinity and will probably devote his attention to these interests. He leaves the saloon business with the record of a gentleman and good citi-

James Howey has taken charge of the old Radczewsky blacksmith shop, on Granite street, where all parties needing his services can find Thim. Mr. Howev is a first class all round blacksmith and horse shoer, and gives good satisfaction.

W. H. Yanker, the well-known mining millionaire of Colorado, together with S. S. Kenedy, his become heavily interested in the Veneyia group of mines, near Prescott, Ariz., and will erect a mill there at once. There are now 67.703 tons of ore averaging from \$10 to \$150 per ton, in sight .- Ores end Me:als. The [The above is the old Crook mine.]

Sale of Valuable Property of the Zora Morgan Estate.

In pursuance of an order of sale made by the probate court, in the matter of the estate of Zora Morgan, deceased, the undersigned, administrator, will sell at public auction the following real estate. to wit:

Lot 20 and North & of Lot 22, in Block 10, with improvements thereon, known as the

MORGAN VILLA. Situated on Marina Street, Nob Hill.

Also, Lots 7, 9, 11, 15, 17, 19, 21 and 23, Block 23, facing on Pleasant Avenue, Capitol Hill.

Said sale will be made on 95 SATURDAY, FEBRUARY 23,

At 2 p. m., at the north door of the - Court House, Prescott.

Terms of sale—cash—10 per cent. of purchase money payable at fall of the hammer. Balance upon confirmation by the court.

J. L. FISHER, Administrator Estate Zora Morgan. shop. Mr. Scopel will immediately start the erection of a frame business house on the south lot and in the spring will build a brick business house on the north lot, on the cirner just across the street from J. L. Fisher's store. Purchase price was \$2.750. a bargain for Mr. Scopel. Towny

A. J. Herndon and R. N. Fredericks yesterday purchased the following property on Montezuma street: One-half interest in the lots and buildings occupied by Mesers. Averyt and Calles, and bought outright the Tough hose house, Hunter's barber shop, Brisley's fruit store buildings and lets occupied. The property was purchased from Mrs. Maggie. Thompson and the price paid was \$3,000. Very much of a bargain for the purchasers. Jan 31 90=

W. C. Norton, of Phonix, will erect a building on a leased lot in Presect, and deal in Salt river valley products. 3W4.95

Jim Bones, one of the pioneer business men of Prescott, has closed his store and retired. The place be opened again by a gentleman who has recently arrived in town. is now undergoing repairs and will

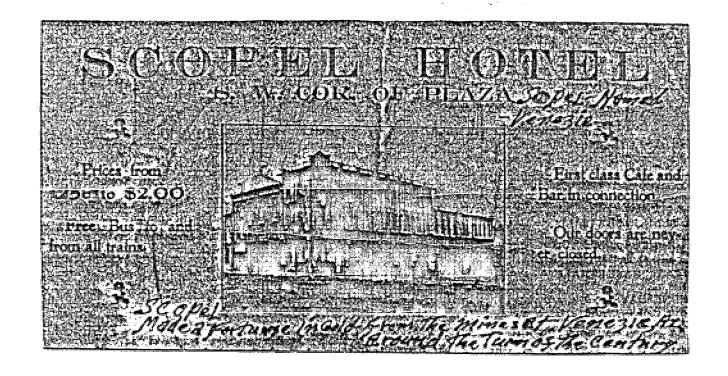
The sale of property belonging to the Zora Morgan estate took place this afternoon at 2 o'clock, J. L. Fisher conducting the sale. The residence on Marina street sold for \$1825, Murray McInernay being the purchaser. The various lots belonging to the estate sold from \$67 to \$73 apiece.

E. B. Gage has purchased for \$4,500 the Head residence property on Nob 44.25. 1895 Hill.

The foundation has been laid. the framework is in course of erection on W, C. Norton & Co.'s building on north Cortes at est. Men 19 The lit le bullfrogs in the little

NOV.
1894

The
Miner
Prescott



Mr. Scopel Made his fortune
on the Scopel Diggings claim,
AKA "Man OF WAR", and built
the infamous Scopel Hotel
(it caught fire-burned half of Prescott)

- Very old geological RE Ta. N. T Geological Ref Westerner is Old Org profit Metigated present value of equipment . . . . . PRINTUM WESTERNER. B5,000 ELSTEROTES . 6,000 5,000 AMERICAN PLAG. MINTRAL SPRINGS \*20,000 F Total tengible essets .... PETERATED VALUE OF PROBLECT ORE EASTERN ER\_IDE TON STARLIGHT AMERICAN FLAG WINDRAL SPRINGS estinated ageston a service was a service PROPERTY OF THE PARTY. Is order to facilitate the mining of large ore toolisporate op the are value at deep level polite, shough unlimited are takents should result and he restered early evallable for braping, to provide draining and lasure shoup treasportation to at 1, a dasp lared porting humal hanbeen placed, which starts at a point level with erusher floor of still to be driven in the Westerner Vein Collowing along its pourse to north and-line of the property. As now storted and drived into the shead, the first 1,000 feet should enter a large erg shoot depth under outerop of 525 feet. The next 1,000 feet an te a depth of more than 600 feet, and should hold to this depth for mately 2,500 feet, after which, when driven to the north end-like of more than 1,800 feet should be attained a lalasmot be doubted and emildently expected that 75% of the ground driven through will be or well profitable grade for milling. It fargraphs points along its course underground, cross sute to other and parallel vains which have known ore bodies could be made, meaning: that once this project is subsecutily servied through it is not ware to essume that a daily suitput of at least 550 tons would result and ous for an indefinite period. A+ today's #400/02 for gold 000. 000. 000.00 vc and

50 A #18/0Z

## IRON KING ASSAY OFFICE

## **ASSAY CERTIFICATE**

BOX 247 — PHONE 632-7410 HUMBOLDT, ARIZONA 86329



ASSAY MADE FOR

KENNETH CARMACK 2432 E Ocotillo Road Phoenix, Ariz. 85016

		T	Dec.	5, 197	9	<del></del>
ef no. DESCRIPTION	oz/ton Au	oz/ton Ag ,		% Fe	% РЬ	% Zn
10-1-9 10/1/79 "C" TUNNEL	Tr	Nil				
11-7-15 STARLIGHT #1 UPPER TUNNEL	.160	12.82	:		31.15	16.6
11-7-16 STARLIGHT#2 LOWER TUNNELY	.020	0.08			0.35	0.39
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CHARGES \$36.25 paid

ASSAYER \_\_\_\_

### ORE SETTLEMENT

## SHATTUCK DENN MINING CORPORATION Iron King Branch MILL HUMBOI DT ARIZONA

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## STATE OF ARIZONA FIELD ENGINEERS REPORT

Mine Westerner

District Senator (Crook Canyon)

Subject: Sampling for B Loan

Dec 2nd, 1942

Engineer

A. C. Nebeker

Mrs Tomlinson's application for a development loan has been held up for more data assay sheet and map seems to be what is wanted, so I arranged to go out with Mrs Tomlinson and Mr Johnson, a man who has been taking care of the work at the mine, and see if I could take enough samples to make a assay map.

I examined the Patricia tunnel closely, both Mr Johnson and I broke the walls and the vein matter for spots to sample. We found 200 feet in, a 3 to 4 inch streak of galena on the foot wall side, from which I took a sample and gave it to are Tomlinson, so she could run it if she wished, or hold it to show. This streak of galena followed the wall for about ten feet. This is highgrade ore what there is of it.

The Patricia tunnel was started on a break, which if followed in for approximately 800 feet would come under the old stopes which is reported to have produced a great deal of pay ore. This tunnel will cut under the old stopes about 700 feet which would give a large block of cheap stoping ground, and make an easy out let for the ore and bring the ore close to the road.

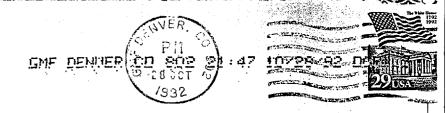
After finishing with the tunnel, I followed the vein and workings up the hillfor several hundered feet, as much as 1000 feet, I found almost a contineous cut along the vein were ores have been taken out. Along this vein three shafts were sunk. All workings are badly caved and filled in so it was impossible to take anysamples.

The ores apparently were silicious gold ores, and all in the oxidized zone, but one finds the sulphide of iron, lead and zinc in the small seam found in the tunnel

I think or have the opinion, if the owners can get the tunnel driven shead along the vein matter for 300 to 400 feet more, some ore shootes will be found, and judgeing from what can be seem on the surface these shootes maybe 100 to 200 feet long.

Tebeke

RETURN IN 10 DAYS TO THE COLORADO ASSAYING CO. P. O. DRAWER 298 DENVER, COLORADO 80201



OUR MOTTO: - WHAT THERE IS IN IT, NO MORE NO LESS.

EDMUND E. PHILLIPS, Vice-Pres.-Gen. Mgr.

M. E. PHILLIPS, Secretary

## THE COLORADO ASSAYING COMPANY (INCORPORATED)

## **ASSAYERS AND CHEMISTS**

2244 BROADWAY

303 - 294-0218

DENVER, COLORADO 80201

REPORT ON DETERMINATIONS MADE FOR -

JERRY MULL & PHIL EVANS P. O. BOX 713 PRESCOTT, AZ 86302

Value per Ton SAMPLE MARKS METALS PER CENT Dollars Cents Gold Silver 8.8 Copper Lead Zinc

THE COLORADO ASSAYING COMPANY

PER OUNCE GOLD AT\_ PER UNIT LEAD AT.

PER OUNCE SILVER AT\_ PER UNIT COPPER AT\_

By Carl L. Brewer

## DEPARTMENT OF THE INTERIOR Hubert Work Secretary

U. S. GEOLOGICAL SURVEY #
George Otis Smith, Director

Bulletin 782

# ORE DEPOSITS OF THE JEROME AND BRADSHAW MOUNTAINS QUADRANGLES, ARIZONA

BY

WALDEMAR LINDGREN

V. C. HEIKES



75

WASHINGTON
GOVERNMENT PRINTING OFFICE

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not be doubted that these veins are of pre-Cambrian age, for the absence of any kind of mineralization in the near-by Paleozoic strata is striking. They strike in an easterly direction and generally dip south or southeast at angles of 40° to 60°. The width reaches 10 feet, and the ore occurs in lenticular masses. Most of the veins carry argentiferous tetrahedrite or tennantite, some of it containing 100 ounces of silver to the ton. The quartz is coarse and massive; there is always some siderite or ankerite and sulphides like arsenopyrite, pyrite, zinc blende, galena, and bornite, in places rudely banded but nowhere crustified.

In the Yaeger mine there are also some calcite, hematite, chlorite, and epidote, though the epidote may not be directly connected with the mineralization. The country rock may be granite, granite porphyry, diorite, or greenstone schist. Close to the vein the Shea mine at least shows marked sericitization. Possibly this mineralization had some genetic connection with the diorite intrusions. At any rate it was later than the granite and pre-Paleozoic.

The Yaeger mine, in the western foothills of the Black Hills, is easily the most prominent. The deposit contained an extensive shoot of high-grade bornite ore, with some secondary chalcocite and oxidized copper minerals, and it is said to have yielded about \$1,000,000 in copper, \$50,000 in gold, and \$77,000 in silver, which is more than can be credited to any other pre-Cambrian deposit outside of the pyritic replacement group represented by the United Verde, United Verde Extension, Blue Bell, and others.

In the Bradshaw Mountains quadrangle there are some veins probably also of pre-Cambrian age that differ markedly from the ordinary type. Like the examples from the Black Hills above mentioned they carry silver, though not invariably copper. The most prominent examples of this class are the veins in the Blue Dick, Mark Twain, and Buzzard mines, in the Hassayampa district (p. 117). It is indeed not certain that these veins are of pre-Cambrian age, though the massive quartz, which under the microscope proves to be greatly crushed and deformed, points strongly to such a conclusion. The veins strike north and dip east and are contained in a dull greenstone. They carry quartz with much arsenopyrite, minor amounts of other simple sulphides, and locally also tetrahedrite rich in silver. The oxidized ore was very rich, and the Blue Dick deposit has produced ore to a value of at least \$200,000. The Dunkirk deposit, close by (p. 119), may belong to the same group; the Jersey Lily, some distance toward the west, is a pre-Cambrian gold-quartz deposit.

Among the pre-Cambrian deposits should also be classed the massive siderite, pyrite, magnetite, and chalcopyrite ore that occurs on

the Fairview claim, on the trail from Crown King to the Peck district. A similar ore was observed at the Blue Bird mine, on the old road between the two districts. I believe that these siderite ores form lenticular masses in the schist. Little is known regarding the extent of the deposits.

#### LATER GOLD AND SILVER VEINS

#### GENERAL FEATURES

Besides the certainly pre-Cambrian quartz veins and pyritic replacement deposits there are in this region a great number of other quartz veins that carry chiefly gold or chiefly silver or considerable quantities of both metals. They are widely scattered in the Bradshaw Mountains quadrangle but absent from the Jerome quadrangle, except for some small veins in schist on the road from Prescott to Walker. In the Bradshaw Mountains oxadrangle they are absent from the eastern half, but in the western part they begin near the southern boundary, in the Tiptop, Humbug, and Copperopolis districts, and continue after a short interval northward through the Crown King, Turkey Creek; Bigbug, Walker, Groom Creek, and Hassayampa districts nearly to the north boundary line. The veins in the Hassayampa district continue beyond the western boundary. and across Hassayampa River into the Congress quadrangle, ending on the north at Copper Basin. Probably they will also be found in the central part of the Congress quadrangle, about the Congress and Octave mines.

The deposits are typical fissure veins, usually straight and narrow, with well-defined walls. The strike is usually north, northeast, northwest; the veins, with few exceptions, have a steep dip. The gangue is as a rule mainly quartz of milky color and drusy structure that in places grades into well-defined comb structure. Ankerite is present in most of the veins, and barite is often found in the silver veins. Fluorite is found in three places, albite in one, adularia in one. High-temperature minerals are absent, except for magnetite and specularite, which are developed, apparently abnormally, in the Senator group in the Hassavampa district. The sulphides occur in no great volume and comprise arsenopyrite, pyrite, sphalerite, chalcopyrite, galena, commonly tetrahedrite, and less commonly ruby silver; in the Tiptop district wolframite occurs as the earliest mineral. Sericitization and carbonatization of the country rock is the rule. The base metals are of little value except as by-products. Free gold is present in the oxidized zone, together with native silver, argentite, and occasionally ruby silver, with more or less of the chloride or bromide of silver. In the primary ore free gold is probably everywhere present, but more commonly in intimate and micro-

scopic intergrowth with the sulphides than as visible particles, so that of late years the cyanide process has usually been employed in the treatment. The galena carries included grains of argentite.

It is impossible to deny that all these veins are very closely related in origin, irrespective of their varying contents in gold or silver. Their structure and mineral composition point clearly to their being a product of the intermediate zone, though in one or two places there may be indications of higher temperature and though a few of the deposits approach in character those formed near the surface.

In the main they certainly bear the characteristics of deposits of the mesothermal (intermediate) zone,<sup>21</sup> formed by thermal solutions ascending toward the surface. Their characteristics differ markedly from those of the veins that have been determined as having a genetic connection with the Bradshaw granite. The latter were formed long before the great pre-Cambrian erosion and the development of the pre-Cambrian peneplain. There is no direct evidence of the age of the later veins, for in the region where they abound there are no Paleozoic rocks.

Three groups of these veins—those in the Groom Creek, Walker, and Crown King areas—are very clearly related areally to the small granodiorite intrusions described above, as has already been pointed out by Jaggar and Palache. However, there are many districts far distant from these areas in which this vein type is developed as characteristically. The veins are found in granodiorite, in granite, for in Yavapai schist of any type.

A few of the veins follow basic lamprophyric dikes-for example. the Mount Union and Crooks veins but this is evidently exceptional. The one rock that is universally present is rhyolite porphyry (p. 22), in dikes that range from a few feet to 200 feet in thickness. These dikes accompany the mineralized rock in all districts and traverse the whole western part of the quadrangle, beginning near Copperopolis and continuing northward, some short, some traceable for miles with a general northerly or northeasterly trend. It has already been explained that these dikes were in all probability intruded after the development of the pre-Cambrian peneplain, which is not likely to have been more than 500 or 1,000 feet above the present highest points in the quadrangle. If we add a scant 2,000 feet for the Paleozoic cover it is fair to conclude that these veins were formed under 3,000 or 4,000 feet of rocks, at most. The dikes described are surely earlier than the late Tertiary volcanic rocks in the region, and they are here regarded as probably late Mesozoic or early Tertiary. What part the granodiorite has played in the later mineralization

may be left undecided. This rock also is here regarded as Mesozoic or early Tertiary but of a decidedly earlier epoch than the rhyolite porphyries, which cut the rocks of every other type except the Tertiary lava.

This remarkable system of dikes, without the presence of larger intrusive masses of the same type, stands unique, at least in my experience, in its clearly manifested genetic connection with an important system of veins. Almost all the dikes are strongly sericitized, and many of them are impregnated with pyrite and a little calcite or dolomite.

Jaggar and Palache estimated the total production of the deposits in the Bradshaw Mountains quadrangle to the end of 1901 to be \$9,500,000, and almost the whole of this sum was derived from the later quavtz veins. At that time the pyritic replacement deposits had not been worked extensively, and a scant million dollars is a liberal estimate for the pre-Cambrian deposits in this quadrangle. I think that the estimate referred to is too moderate and that the actual figures are almost twice as large as the amount indicated.

The silver veins, the gold veins, and those containing both gold and silver are not separated in distinct areas. There seem to be all kinds of transitions between them, and it looks as if they were simply phases of one mineralization.

#### SILVER VEINS

The silver veins are widely scattered. They occur in the Hassayampa; Bigbug, Peck, Black Canyon, Turkey Creek; Tiger, Pine Grove, and Tiptop districts.

The silver veins may be divided into those containing mainly ankerite or allied carbonates and barite as gangue, with more or less quartz, and those containing mainly quartz gangue. In both classes the oxidized zone has yielded most of the ore.

#### VEINS WITH BARITE

The veins of the first class are poor in pyrite but contain galena, sphalerite, and tetrahedrite. The structure is crustified with many vugs, but the minerals are fairly coarse in texture. Ankerite or siderite usually appears next to the walls and the sulphides in the center. The galena contains inclusions of argentite and the tetrahedrite is everywhere argentiferous. Ruby silver (pyrargyrite) occurs more rarely and is in many places probably supergene. The most common supergene and enriching minerals are argentite, cerargyrite, bromyrite, and native silver, besides oxidized copper and lead minerals. In most of the deposits the rich oxidized one has been mined and work was suspended when it reached the

<sup>&</sup>quot;Lindgren, Waldemar, A suggestion for the terminology of certain mineral deposits: Ecy 'cology, vol. 17, pp. 202-204, 1922.

or, at a short distance below this level, the primary sulphides. However, from the Arizona National and the Black Canyon veins much sulphide ore, perhaps enriched to some degree, has been shipped. The rich oxidized ores have been amalgamated or cyanided; the sulphide ore is shipped crude or concentrated. Much of the oxidized ore carried \$50 to \$100 to the ton. The primary ores are much poorer.

Among the notable mines on deposits of this type are the Silver Belt, Arizona National, and adjacent properties in the Bigbug district (p. 128); the Peck and Swastika, in the Peck district (pp. 161–162); the N. C. 4, in the Hassayampa district (p. 117); and the Tuscumbia, in the Bradshaw district (p. 176). Dikes of rhyolite porphyry occur in all the districts. They are abundant near the N. C. 4 and Peck mines.

#### VEINS MAINLY WITH QUARTZ GANGUE

The silver-quartz veins are narrow, with comb structure or drusy quartz and in places some ankeritic carbonates. They contain more pyrite than the barite veins, also a little chalcopyrite, rarely tetrahedrite. Here and there a comb of quartz crystals coats the walls.

Among these veins may be mentioned that worked in the Tiger mine (p. 172), in the district of the same name. It is contained in granodiorite. Here the quartz attains a width of several feet and it is less drusy than elsewhere. The sulphides are sparse and comprise pyrite, sphalerite, galena, and tetrahedrite. The oxidized ore was very rich, much of it containing \$100 to the ton. Deeper and poorer ore, said to have yielded 0.07 ounce of gold and 22 ounces of silver to the ton, was mined in 1910. In depth the ore appears to be of decidedly lower grade.

East of the Tiger is the Gray Eagle lode, which in its southern part contains much gold, but its northerly extension carries more silver. Oxidized ores enriched by horn silver and argentite were shipped in 1922. One lot of 2 tons contained \$2 in gold and 454 ounces of silver to the ton and 15 per cent of lead (p. 175).

The Tiptop vein (p. 180) is another old-time producer of somewhat unusual type. It is at most 6 feet wide. The quartz shows coarse comb structure near the walls but is finer grained in some parts, and the druses are coated with chalcedony. The scanty ore minerals consist of wolframite (earliest and along the walls), arsenopyrite, pyrite, sphalerite, bornite, and galena, formed in the order given. Here too the oxidized ore was very rich, and work was stopped at the 800-foot level.

There remain to be mentioned the flat veins of the Black Canyon direct, not far from Turkey Creek station. These narrow veins dip

schist. The Thunderbolt and the Howard Silver are the principal producers (p. 158). The War Eagle, Bueno, Goodwin, and Morgan veins, in the Turkey Creek district, are of the same or similar type.

Rhyolite porphyry dikes occur near the Morgan mine and at the Tiptop mine.

#### GOLD AND GOLD-SILVER VEINS

#### PROPORTION OF GOLD TO SILVER

By far the greater number of veins in the Bradshaw Mountains quadrangle are gold-silver deposits. The relative amount of each metal may vary in the same vein. The gold quartz veins properly so called are few in number. The Senator group, the Walker veins, and some of the veins of the Crown King (Pine Grove district) may be counted in this class, and even here the "free" gold, recoverable by amalgamation, probably averages only one-third of the total gold value. The Mudhole mine, in the Walker district, for instance, yielded concentrates which averaged, it is said, \$70 in gold and 5 ounces in silver to the ton and some lead. The Crown King mine, in the Pine Grove district, has ore reported to average \$10 in gold and 4 ounces of silver to the ton, though some of it was much richer in gold. The McCabe ore (Bigbug district) carried about 1 ounce of gold and 10 ounces of silver to the ton.

By weight silver always greatly exceeds the gold in the ore; by value either gold or silver may predominate. Copper, lead, and zinc have been recovered as by-products in the concentrates from many mines.

It has already been pointed out that the gold in the silver veins may vary considerably along a single vein. In the same way the mineralization may vary, silver being succeeded by gold. For instance, the gold veins of the Humbug district appear to have had essentially the same origin as the silver veins of the adjacent Tiptop district.

#### ASSOCIATED ROCKS

The veins appear in the Yavapai schist and more rarely in the Bradshaw granite. In the Walker and Pine Grove districts they occur in granodiorite, and these veins appear to contain more gold than others. Dikes of rhyolite porphyry are found in almost all the districts. They are abundant in the Hassayampa district, especially about the Senator. Tillie Starbuck, Venezia, and Mount Union mines. They are likewise abundant in the lower Walker district, in the Bigbug district in the western part of the Pine Grove district, in the northern part of the Black Canyon district, and in the Tiptop, Humbug, and Castle Creek districts. Some of the veins follow the porphyry, as in the Mudhole and Starlight mines, but to only

consistent connection is that the dikes occur in the same vicinity as the veins. The dikes and the veins have in the main the same strike—that is, north-northeast.

#### MINERALIZATION

The general type of mineralization has already been indicated. Drusy structure or comb structure of milky quartz with later carbonates is the general rule. After the first quartz deposition the sulphides followed in order—arsenopyrite (oldest), pyrite, chalcopyrite, sphalerite, galena, and tetrahedrite. The gold is usually associated with the two oldest sulphides, the silver with the two youngest. The gold is rarely in visible form. Druses in the center of the veins may be filled by ankerite or similar carbonates. The silver is contained chemically bound in the tetrahedrite and in part also in the galena; inclusions of argentite are always found in richer galena.

The structure of the vein is usually banded, but does not have the delicate concentric banding of the epithermal deposits (formed near the surface).

The alteration of the country rock tended to develop sericite and carbonates but rarely extended far from the vein.

#### DISTRIBUTION

The veins appear in the northwest corner of the Bradshaw Mountains quadrangle and continue outside of it in the Copper Basin district and west of Hassayampa River, coming to an end in the Thumb Butte district, a few miles west of Prescott. At Copper Basin there is a special type of copper mineralization connected with granite porphyry, and the smaller veins are mostly silver veins (p. 27).

Beginning at the northwest, the Groom Creek district, south of Prescott, is the first district of importance in the Bradshaw Mountains quadrangle. Here the narrow quartz veins carry gold and silver but little native gold. The strike is north-northeast, parallel to porphyry dikes. The country rock is Yavapai schist between two areas of granodiorite. Next south is the Walker district, in which narrow veins containing principally gold occur in granodiorite and strike northeast. These veins are continued farther southwest by the Senator-Cash-Storm Cloud vein system, on the upper Hassayampa, which is remarkable for carrying magnetite and specularite and which is also rich in gold.

South of the Senator group near Venezia post office are two prominent veins, the Crook and the Mount Union both gold-silver veins intimately connected with rhyolite porphyry dikes. They have a therly strike.

The next important vein system extends from the Silver Belt and McCabe mines southwestward toward Providence and Poland. The transition of silver veins to gold veins is well illustrated here. Many porphyry dikes run parallel to the veins.

Markedly different from this system are the Henrietta veins, with a northerly strike, which carry much chalcopyrite in the quartz and small amounts of gold and silver.

The veins in the Turkey Creek and Bradshaw districts strike more nearly north but are mainly silver veins.

The next noteworthy vein system is that extending from the Peck mine through the Pine Grove and Tiger districts (Crown King) for 10 miles southward. It is the most persistent vein system of the quadrangle and is followed with equal persistence by parallel dikes of rhyolite porphyry. The system begins at the north as silver veins, but gold increases southward to the Wildflower, Del Pasco, and Crown King vein complexes. In the southern part, in the Tiger and Gray Eagle systems, silver reappears in large amounts. Close to the last-named veins the porphyry dikes are apparently not present, as the main dike system courses a mile or two westward. The quartz veins are typical and strike north-northeast in the northern part of the district and nearly north in the southern part. The dip is here, as elsewhere, generally west or west-northwest at steep angles.

A series of smaller veins appear in the northern part of the Black Canyon district, southeast of Turkey Creek station. These veins are very flat, and many show marked comb structure. They contain silver only in the south, in Black Canyon, but change to gold-silver veins farther north, in the Silver Cord and the veins of the "gold belt." Porphyry dikes are present.

There remain to be mentioned the gold quartz veins in the Humbug district, just west of Tiptop, where silver prevails. Porphyry dikes are abundant, but there is no granodiorite.

On the whole there are three or four distinct vein systems with a north-northeast to northeast direction; there are also some veins that trend north. The dip is generally toward the west or westnorthwest. Only in the Walker-Senator system do steep eastward dips appear.

#### ORE CLUOTS

The shoots of oxidized ore, which have been mined extensively, give little information as to the attitude of the primary shoots, for they are likely to extend in a horizontal direction over wider spaces than those occupied by the unaltered ores. Such information as is available indicates that the pitch of the shoots is ally to the north or porthant at angles of shout the factor of the shoots.

e Nez e;N5 adjoining schist contains a notable amount of nearly colorless tourmaline.

The Empire vein, close by, strikes N. 20° W. It is developed by a shaft sunk to water level, at a depth of 300 feet. A considerable amount of ore from the oxidized zone has been milled; the ore becomes pyritic in depth. At the surface the vein crops out in quartzitic schist and diorite. It has not been worked since 1910. A 10stamp mill with plates and concentrators is on the property. The ore contains about equal values of gold and silver.

The Midnight Test vein, which near the surface carried a small shoot of rich silver ore, is situated high up near the Groom Creek-Walker divide. It is a 2-foot vein in schist and has been opened to the 400-foot level. The production is reported to be \$100,000.

### : HASSAYAMPA DISTRICT #

In the highest and wildest part of the Bradshaw Mountains lies a the Hassayampa district. It is a region of heavily forested ridges and long slopes covered with dense brush. The deeply incised canyons of the headwaters of Hassayampa River and its tributaries, Slate Creek and Crooks Canyon drain it to the southwest. From the spruce-clad heights of Mount Union and Mount Tritle, nearly 8,000 feet above sea level; the district reaches down to the river of the wonderful water, 47 3,500 feet lower. From the summits the view extends far westward across the desert valleys to the great blue dome of Harquahala Mountain, in the far distance. The district occus pies the northwest corner of the Bradshaw Mountains quadrangle and borders on the northeast the Groom Creek and Walker districts On the southeast it is adjoined by the Turkey Creek district.

The area includes many mines of considerable production, mostly in silver and gold.

The Bradshaw granite of Mount Union forms a broad dikelike mass extending northeastward between two areas of Yavapai schist. In the extreme northwest corner of the Bradshaw Mountains quadrangle the same pre-Cambrian granite appears again and continues northward to Prescott. The belt of Yavapai schist between these two granite areas contains most of the mines, though some are also found in the easterly granite area south of Mount Union.

The Yavapai includes sericitic, chloritic, and amphibolitic schists, but the amphibolitic type predominates. The schists are intruded by several smaller masses of diorite or gabbro and also, in the Groom Creek basin, by a larger mass of granodiorite (quartz diorite, according to Jaggar and Palache). The strike of the schists is northnortheast, the dip steep. Granite and schist are intruded by a series

of light-colored dikes of rhyolite porphyry, which stand in closest relation to the ore deposits. The strike of these dikes ranges from north to northeast. Few of them are wider than 100 feet.

The ore deposits are almost exclusively fissure veins and carry gold and silver, generally both, though some yield only gold and some only silver.

The pre-Cambrian gold veins are represented by the Ruth and Jersey Lily mines and by several deposits in the lower part of Crooks Canyon. Probably the Blue Dick, Mark Twain, Buzzard, and Dunkirk belong to the same category. Another group of mines, some of which have had a large production, center about the northern slopes of Mount Tritle and Mount Union. They are on gold-silver veins that are closely connected with the rhyolite porphyry dikes, and the Senator is the best known among them. These veins are much vounger than the pre-Cambrian deposits and probably are of Tertiary age. Similar to these are the long veins on the south slopes. of Mount Union; extending down to Venezia. Some of these deposits indicate a formation at higher temperature; others recall the features of veins formed near the surface and carry mostly rich silver minerals.

During the last 10 years there have been from 10 to 15 producing properties each year. Placer deposits have been worked along Hassayampa River.

Gold, silver, copper, lead, and zinc produced in the Hassayampa and Groom, Creek districts, 1904-1924

[Compiled by V. C. Helkes, U. S. Geological Survey]

Year	Ore treated or shipped (tons)	Gold	Silver (fine ounces)	Copper (pounds)	Lead (pounds)	Zinc (pounds)	Total Value
1904 1905 1906 1907 1908 1909 1909 1910 1911 1912 1913 1914 1914 1915 1916 1917 1918 1918 1919 1920 1921 1921 1922	5.122 5.556 5.470 5.570 5.570 5.570 1.657 1.371 1.371 1.379 1.994 2.994 2.916 339	\$101, 135 36, 486 21, 910 25, 363 6, 534 7, 059 8, 718 19, 583 22, 016 13, 433 16, 483 20, 012 12, 369 10, 094 15, 072 3, 025 5, 151 2, 717 678 1, 165 2, 937	20, 436 14, 818 3, 435 16, 890 2, 092 1, 593 3, 143 14, 916 18, 352 15, 337 26, 297 13, 873 17, 196 5, 589 12, 112 1, 095 1, 989 1, 594 1, 017	60, 269 10, 000 254, 934 4, 453 585 392 1, 330 68, 519 80, 173 36, 717 100, 314 76, 662 12, 786 10, 494 1, 412 11, 915	58, 775 787 33, 206 14, 723 45, 609 157, 509 169, 938 49, 527 51, 112 163, 780 125, 964 14, 474	38, 252 292, 705 117, 227	67, 188 27, 376 90, 612 7, 470 9, 642 10, 276 25, 646 69, 759 48, 023 32, 575 53, 840 74, 564 9, 875 9, 875 21, 703

#### BIG PINE MINE

The Big Pine mine, 6 miles south of Prescott, on the Hass visible from Groom Creek, has four tunnels between altheres of

le who drinks of the waters of the Hassayampa will never leave Arizona and will again be able to tell the truth."-Old saying.

ruch body of free gold ore was found in this mine at a depth of 200 feet from the surface.

The ore seen on the dumps in 1922 contains predominating quartz with some calcite and more or less pyrite, sphalerite, and chalcopyrite. Some of the sphalerite is coated with covellite. On the main ore dump was noted banded ore of magnetite and pyrite like that in parts of the Senator mine.

Although the underground workings could not be visited, it seems clear that there are here two different kinds of veins, one of which contains magnetite, specularite, and adularia, in addition to pyrite, chalcopyrite, sphalerite, and galena, the place of the iron oxides in the succession being between pyrite and chalcopyrite. Figure 7

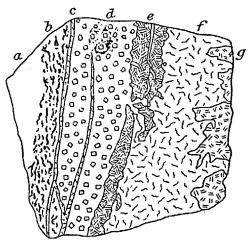


FIGURE 7.—Section of ore from Cash mine. a, Altered schist; b, magnetite with quarts and calcite; c, quartz veinlet; d, pyrite crystals disseminated, with quartz and calcite; c, massive pyrite; f, quartz with plates of specularite and some magnetite; g, chalcopyrite. Enlarged 2 diameters

shows in twice the natural scale the relation between the ore minerals. It appears that the deposition began with magnetite, quartz, and calcite, after which pyrite with quartz and calcite was deposited in small crystals and crystal aggregates. Then followed specularite in long laths in quartz; parts of the laths and masses of specularite consist of magnetite, suggesting that all of the specularite had passed through an earlier magnetite stage. Chalcopyrite is distinctly the last mineral. (See pl. 14, A.) Ore of a second type carries apparently only chalcopyrite, galena, and sphalerite.

#### STORM CLOUD MINE

The Storm Cloud mine is east of the Cash, in a gulch on the hwestern slope of Mount Union, at an altitude of about 7,200 The main tunnel with the one hodies is about three-quarters of

a mile from the main road above the Cash mine. The shaft is 200 feet above the tunnel. The property appears to belong to the Betty O'Neal Mining Co., which also controls the Cash mine. The deposit could not be examined—in fact, it has not been worked since 1910. A considerable amount of gold-silver shipping ore (profitable limit, \$30 a ton) has been produced, and it is said there is also a vein containing free-milling gold. This ore was freighted to Walker and thence to the Humboldt smelter.

The country rock is amphibolitic schist, though the granite contact should be close by toward the east. The ore contains pyrite, specularite, chalcopyrite, galena, and sphalerite in a quartz gangue,

## MINES NEAR CHICAGO MILL

Above the Senator mill, on the old road that led over to Walker, are several prospects that have not been worked for many years. Among them are the Pickerell mine, which had a shaft 800 feet deep, and a 200-foot shaft near the site of the Chicago mill. No definite information concerning these properties could be obtained.

### STARLIGHT GROUP

In the vicinity of Venezia, in Crooks Canyon, are a number of veins, including the Venezia, Crook, Starlight, and Mount Union, some of which are well-known producers, though idle at the present time.

The strike of the veins is generally north or slightly east of north. The three claims of the Starlight group lie about half a mile east of Venezia, at an altitude of about 6,600 feet. They were formerly owned by an English company, but are now the property of Tomlinson & Son. The developments consist of three short tunnels with a vertical interval of 200 feet. In the upper tunnel the vein strikes N. 30° E. and dips 60° W.

The upper tunnel runs along the vein for 300 feet. The vein is 4 or 5 feet wide and carries several 6-inch streaks of heavy galena and zinc blende. These solid streaks are said to yield high assays in gold and silver. Some ore has been packed up to the Mount Union mill for treatment. There is said to be a shoot 270 feet in length along the tunnel.

The gangue is quartz filling with an indication of comb structure. In part the vein has been reopened and brecciated. Other gangue minerals are ankerite and fine-grained fluorite. Pyrite with coarse-grained black sphalerite and more or less galena make up the are minerals. A dike of rhyolite porphyry of normal appearance st

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in some places along the vein. Some of the breccia is cemented by galena and sphalerite.

The lower tunnel, 300 feet long, is inaccessible, but near the portal shows granite in the footwall and a rhyolite porphyry dike on the hanging wall side. It has not yet reached the ore shoot.

On the summit of the ridge east of Venezia, I am informed, there is a molybdenite-quartz vein, evidently of pre-Cambrian age but probably not of economic importance.

#### CROOK VEIN

The Crook is one of the strongest and most continuous fissure veins in the Hassayampa district. It has been worked with much success in the upper levels since the early days of the district. It crops out on the Crook claim, at an altitude of about 7,000 feet, in the upper part of Crooks Canyon east of the wagon road to Venezia. It is continued southward in the Harrison and is here 300 feet west of the Mount Union vein. The same vein is said to crop out at this Venezia mill and is here only 80 feet west of the Mount Union vein (Starlight group).

The country rock is mainly the Bradshaw granite, which here is decidedly gneissoid. The vein strikes N. 10° W. and dips 75° W. It has been worked along the outcrop, mainly by arrastres, for a distance of 4,700 feet, according to Mr. J. B. Tomlinson. In the main shoot of the Crook claim it has in places been worked to a vertical depth of 220 feet. The workings are thus mainly in the upper oxidized zone; attempts to work the lower levels have not been generally successful. The vein follows a persistent 15-foot dike of darkgreen rock, which lies on the hanging wall. The sulphide ore carries much galena and zinc blende and is generally like that of the Statlight veins (p. 123).

The last company that attempted the working of this vein was the Pan American Mining Co., whose operations ceased in 1902. The Crook Tunnel, at an altitude of about 6,700 feet, crosscuts the vein 160 feet below the outcrop, and drifts extend both ways. Since 1902 much work has been done on a small scale by lessees. The total production is estimated at \$250,000.

Along the outcrop there is much oxidation, which probably nowhere reaches to a greater depth than 200 feet. The vein is said to be locally enriched by crossing fissures. There were no opportunities for examining the deeper workings. Ore from a 100-foot shaft near the main tunnel proved to contain quartz veins 4 to 6 inches wide, with slender quartz crystals along the walls and a later filling of pyr'', galena, and sphalerite, in part altered to chalcocite. These

country rock here is a quartzose schist, only partly sericitized, omposed of quartz and feldspar, perhaps a schistose phase of the granite.

Just below Venezia is Tomlinson's 20-stamp mill, erected to treat ore from the Crook vein. The vein has here crossed the canyon and has been developed by a 200-foot shaft. Apparently the enterprise aid not prove successful.

About half a mile below Venezia, in granite, the vein has been opened by a short tunnel on the west side just above creek level. The vein is here about 2 feet wide and was worked in 1922 under lease from Mr. Tomlinson. Very rich ore was encountered, consisting of quartz and sulphides, and several tons was sacked ready for shipment. A dike of rhyolite porphyry crops out in the creek bed below the tunnel.

There are several prospects in Crooks Canyon above Venezia in which the oxidized ore pans free gold.

### MOUNT UNION MINE

From the divide a road turns off to the east which circles around the south base of Mount Union and ultimately reaches Poland Creek. The road crosses over into the Bradshaw granite, and many dikes of rhyolite porphyry appear along it as far as the Mount Union mine, which lies in a gulch 200 feet below this road. It is a quarter of a mile southwest of the summit of Mount Union, at an altitude of 7,400 feet, being thus the highest mine in the whole region. Several pre-Cambrian quartz-tourmaline veins also cut the granite. The yein, which is supposed to be an extension of the Starlight vein at Venezia, in Crooks Canyon, is developed by a shaft 800 feet deep and a lower tunnel. It has been closed for many years but was productive in 1906, yielding a lead concentrate with gold and silver. There is a small Huntington mill, which was run for a short time. The production was not large, though some statements assign a production of \$200,000 to the mine. The gold is said to have been difficult to amalgamate, and the ore is reported to be of low grade. The vein does not show well on the surface. The ore on the dump contains pyrite, sphalerite, and galena in quartz, in part well crystallized in long prisms, which project into the sulphides. There is also a dark-green pyritic rock on the dump which may have come from a dike following the vein. Close by a typical rhyolite porphyry dike crops out. It is reported that there were two veins in the property, one of them from 6 to 10 feet wide.

East of the Mount Union there are no evidences of mineralization until Poland Creek is reached.



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## ROCK to RICHES

The Story of American Mining
... Past, Present and Future ...
as reflected in the colorful
History of Mining in Arizona,
The Nation's Greatest Bonanza

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production since that time, Total production on record since commence of propert about 2,000 tons. There 1910 is about \$5,500,000, most of it made by Swansea Lease, Inc.

Saturated 1 mi. E of the old Peck mine, about 5 miles north of Crown King, The Swastika is mentioned in Raymond's report of 1877, and in the mint report of 1883. It was a rich silver producer under various ownerships and lessees. Raymond mentions the cost of packing the ore the 35 miles to Prescott at \$50 per ton: but in 1900 the mine became more accessible when the Prescott-Crown

The ore was considered exhausted in 1885, but, after being reopened in 1910 by F. W. Woods, the mine produced an additional 600,000 ounces of silver by 1915. It was again considered worked out; but again it was reopened and

In 1936 a mill was built by the Sterling Gold Mining Co. (see Richinbar Mine), but the ore proved difficult to treat by milling. Production was intermittent up to 1952, with a total for this period of another 150,000 ounces. Grand total production from the Swastika appears to have been about \$1,000,000. The Swastika has the reputation of never having disappointed an intrepid operator or lessee. It was owned in 1959 by Holmardix Mining Corp., care of Dick Telluride

Situated parallel to and adjoining the Tom Reed at Oatman. The Telluride ein is comparatively small, but it contained a shoot of exceptionally rich gold ne between the 300 and 500 levels. The grade of the ore changed rather abruptly t the 500 level, and mining below that was not profitable.

The Telluride is credited with a production of \$200,000 in gold between 922 and 1925, with a small additional production in the '30s, It was owned hree R

Situated 4.5 mi. S of Patagonia, Discovered in 1897, the Three R mine id been optioned, developed to some extent, and relinquished several times by 111. Among those who tried unsuccessfully to find sufficient profitable ore ere W. R. Green of Cananea fame, the Lewisohns, and Calumet & Arizona

In 1911, under the development of R. R. Richardson, one of the owners, body of high-grade copper ore was discovered and developed. Previously the had to be packed down the steep mountain on burros, but this new discovery tified the building of a road and driving of a deep extraction tunnel.

In 1912 the mine was optioned to N. L. Amster, who continued development shipped more than \$1,000,000 worth of ore up to 1914. Average grade was copper. This high-grade ore was the result of secondary enrichment and refore was limited in its vertical dimension. Schrader says the ore was ved from the leaching of large masses of adjacent and overlying porphyry, eroded away, which contained a little disseminated copper. Therefore no hary ore of importance was found.

After its most productive period the mine changed hands several times. ong subsequent owners were Patagonia Superior Copper Co. (a subsidiary of ma Copper Co., Three R. Mining Syndicate, and Three R Mines Co., Inc. fuction is recorded as \$2,500,000 up to 1930. Since that time there has been mittent production totaling approximately 5,000 tons, or an additional ,000 Owner in 1959 was Duane Byrd, of Nogales.

Situated 5 mi. SW of Crown King, the Tiger was discovered circa 1870 s mentioned glowingly as a silver producer in early histories. Most of its production was under the principal ownership of F. E. Harrington (see n King and Ora Belle) and later of F. M. Murphy and his estate. Between and 1934 the Tiger produced \$700,000 worth of silver, \$50,000 worth of

In 1948 the Tiger was acquired by Golden Crown Mining Co., Si Silverman, manager, and they mined and hauled to their mill at Crown King approximately 2,500 tons containing an average silver value of about \$25 per ton. They ceased operations in April, 1949. Owner in 1959 was Golden Crown Estates,

Tip Top See Little Helvetia

Pima Co.

Tip Top Described in text.

Yavapai Co.

Tombstone Described in text,

Cochise Co.

Tom Reed Described in text.

Mohave Co.

Total Wreck

Situated 7 mi. S of Pantano, a station on the Southern Pacific, This silverlead mine was discovered in 1879 by a cowboy named John Dilden; but little could be done with the ore until the coming of the railroad in 1881. The mine was then acquired by the Empire Mining and Development Co., which installed a 70-ton mill and operated for a year and a half on rich surface ore. Production during this period is estimated at \$500,000, a large proportion of which must have been profit. After this flush production, the mine was sold for taxes and purchased by Vail and Gates of Tucson.

The mine was idle until 1907, when C. T. Roberts discovered some new orehodies and gleaned several thousand tons from the old workings. In 1909 the mine was leased to E. P. Drew, of Tucson, who produced intermittently for

In 1917 some lead molybdate was found in the mine and small shipments were made. There has been only small and spasmodic production in late years. Total production from the Total Wreck is probably about \$750,000. The mine in 1959 was owned by the Vail estate, Tucson.

Tout See Central Copper.

Cochise Co.

Towne

Mohave Co.

Situated 1.5 mi. S of Chloride, out in the valley, a short distance W of the Cerbat Range. Reported to have been the first property located in the Chloride district, it was discovered in 1871 and located as the "Porter and Black Smoke." Profitable production was started immediately, and the mine received favorable comment in the Wheeler Survey Report of 1872.

It is a narrow vein mine, with high-grade values in gold and silver. Schrader's report of 1909 states that the mine was then developed to a depth of 230 feet by several shafts and drifts, and that it had a considerable flow of water. Schrader goes on to say: "The production during the first decade of the mine's existence, which is reported to be considerable, was not learned. The production from 1882 to 1906 was about \$1,000,000 and was derived mostly from the 70-

Apparently there has been no recent production. The Towne was owned in 1959 by Fred and Sally Neilson, of Kingman.

Trapshooter Riley Group

Yavapai Co.

This group includes the Mt. Union, Venezia, Crook and Starlight mines. It is situated on the S side of Mt. Union and extends S down Crook Canyon. It is about 20 miles S of Prescott. Mt. Union is the highest point in Yavapai County, approximately 8,000 ft.

Some of these mines, especially the Crook (named for General Crook, famous Indian fighter, not for later operators) during the late 1800s attained substantial gold production. The veins are small and irregular but contain high grade lenses of gold, silver and lead. In 1932 "Trapshooter" Riley combined these various properties into a promotion deal, but authorities accused him of not shooting straight when it came to mine promoting, and he found himself in

Years before that (circa 1906) another promoter named Greenwood had had the ambitious idea of running a railroad from Prescott to Mt. Union. He promoted the plan and made a start at the Prescott end. For many years the

382

383

streetear system in Prescott was known as the Prescott and Mt. Union RR. However, it never got closer to Mt. Union than the main street in Prescott, and not much was done at the mine.

ABM Bul. No. 140 gives the production of these four mines up to 1934as follows: Crook, mostly gold, \$250,000; Mt. Union, mostly gold, \$150,000; Venezia, \$100,000; Starlight, \$100,000. Unrecorded early-day production might doublesthe, above: There has been little production since the early '30s. The Mt. Union mine is often spoken of by old timers very favorably and they declare it never had a proper chance. The Mt. Union was reopened to some extent in 1952 by California interests, but apparently it was a superficial effort.

The Mt. Union mineral rights were held in 1959 by L. Frank Wilson and Judge W. E. Patterson of Prescott. Title to the others was registered in the

name of Roma Tomlinson and Melvin Decker of Phoenix.

Trench-Flux Described in text.

Santa Cruz Co.

Twin Buttes (See Bush-Baxter; Midland)

Pima Co.

Situated at Twin Buttes, 20 mi. S of Tucson. The group includes the Senator Morgan, Copper Glance, Copper Queen, and Copper King claims or mines. The mines were discovered and located in the 1870s and worked in a small way for the copper up to 1900. In 1903 Twin Buttes Mining and Smelting Co. developed the mines deeper and in 1906 built a railroad to connect with the Southern Pacific Tucson-Nogales branch at Sahuarita.

In 1912 Pioneer Smelting Co. built a custom smelter at Sahuarita, but apparently it was not very successful, for it only operated about a year. In 1912 Bush-Baxter leased the Senator Morgan, and, as Glance Mining Co., also op-

erated the Copper Glance.

Circa 1954 Banner Mining Co. acquired the Twin Buttes Group. As of late 1958 the Banner Co. was operating other mines in the general vicinity, but not the original Twin Buttes group.

Total production from the Twin Buttes group is estimated to be \$4,250,000, mostly all in copper, including the Bush-Baxter and Midland operations.

Гуго

Mohave Co.

Situated in the Union Pass area of the River Range, W of Kingman. Schrader states that the mine was located and relocated several times previous to 1902, when the first concerted work was done. During 1915-16 the Tyro shaft was sunk to a depth of 500 feet, and some drifting was done, mostly on the 200-level. The surface outcrop showed a rather large deposit of low-grade gold ore but too low-grade to pay. Thus there was very little production until the price of gold was increased in 1934. In that year, W. E. Whalley and C. F. Weeks built a road to the mine and mined surface ore, which was shipped to the Gold Standard mill.

Starting in 1937, the Gold Standard Mines Corp. took over the operation and, through 1942, shipped some 282,000 tons of gold ore to their own mill, 6.1 miles to the west. This ore was mined in open-pit manner, and apparently the average value was about 54,00 per ton. Due to the government's gold mine closing order, both the mine and the mill ceased operations in April, 1943, and of course the general rise in operating costs, in face of a static price for gold, has precluded the reopening of this good gold producer.

Total production from the Tyro has been about \$1,500,000. It is presently (1959) owned by the I. M. George estate, Kingman.

Union (Union-Jessie)

Yavapai Co.

The Union gold mine is situated 1.75 mi, SW of McCabe. Because it was at times combined in ownership and operation with the adjoining Jessie (q.v.), it is sometimes known as the Union-Jessie. It is, however, a separate entity, and so far as possible will be treated separately here.

The Union was long owned and operated by John S. Jones, who also owned and operated the Jessie. By itself it has a recorded production of \$150,000, mostly gold, up to 1934. While it was often operated in conjunction with the Jessie, and there is confusion regarding their respective productions, the Jessie was by far the richer mine and greater producer.

The Union is developed by a 200-ft, tunnel which follows a dyke carrying

an ore vein on each wall. There is also a 200

In 1922 Union Consolidated Mines Co. the Union, but not the Jessie. No substantial In 1930 a renewal of operations was attempte of Southwest Mines Development Co. They gold ore, mostly gleaned from the dumps.

The Union was not paterted as such, a was unavailable.

United Eastern Described in text.

United Verde Described in text.

United Verde Extension Described in text.

Van Dyke

A large group of copper claims situate Miami, Developed by a 1700-ft, shaft with and 1550-foot levels, Drill holes are said the 1700-ft, level.

During the period from 1929 to 1931 34,000 tons, valued at \$1,200,000, to the shigh-grade oxidized ore, which often occu surface. Between 1943 and 1945 inclusive tons, but grade or value of the ore is 1 would add an additional \$200,000 to the

Circa 1950 a combination of large of area quite extensively. Detailed results vaction was taken on the group as a who Dyke family.

Vekol

Situated on the Papago Indian Reserv An old silver mine with recorded produ a little copper, between 1882 and 1916 depth of 300 feet, but silver values decli production. The Vekol was owned in 195

Venezia See Trapshooter Riley Group:

Verde Central Described in Jerome text

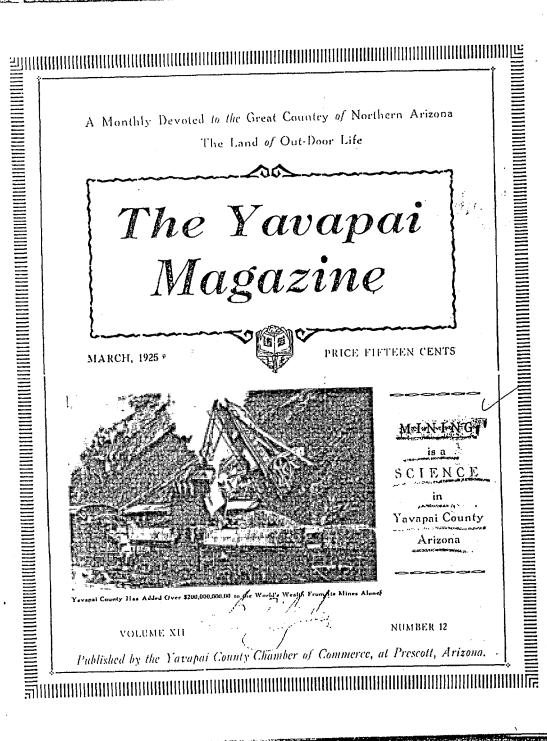
Vivian

Situated a short distance S of Oath Cone, a prominent landmark in the vic by Ben Paddock and purchased in 190. Ewing, who in turn sold it to the Vivia rich in gold, but values did not "go dow

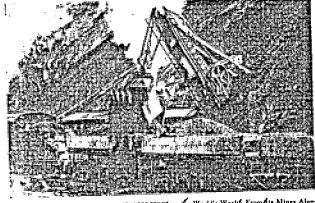
Production during these times was was not very great. In the early part c with a population circa 150. A RR spi at Needles, Cal., about 14 miles to the

During the Oatman boom in the made by promoters to reopen the Vi until after the price of gold was raiset was built by the Vivian Mining Co Vivian Mine were milled. This plant and it milled ore from many mines in tions ceased, an additional 12,000 tor the total production from the Vivian day production, is approximately 27,5 of \$250,000. Owner in 1959 was Jan

Vulture Described in text.







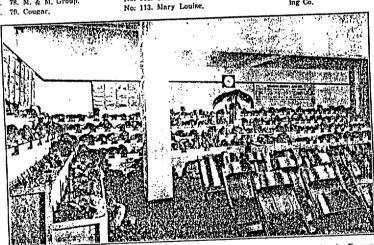
# YAVAPAI COUNTY---"A Treasure Vault Undeveloped".

Following Is a List of the Names of the Mines, Properties and Prospects That Are Being Developed in Yavapai County. Capital Will Do Well to Investigate This Mining Wonderland.

		No.
-2.4	Core	
No.	1. Wm. Lee.	No.
No.	2. Grey Engle, Tiger G. M. Company.	No.
No.	3. Champion.	Si
No.	1. Cash, Commercial Min-	No.
•	ing fu.	No.
Nu.	5. Dividend, E. W. Wells.	No.
No.	6. Little Johnnie, 11. Binu-	No.
	velt, 7 Caden Fleere, Johnson,	No.
No.	<ol> <li>Golden Fleece, Johnson, Brown &amp; Hackinson.</li> </ol>	
	a a ti Rimonali.	No.
No. No.	9, Crown King, F. M. Mur-	No.
1444.	phy (Estate).	No.
No.	10, Constellation, Constella-	No.
	tion Mining Co.	
No.	11. Gold Dragon.	No.
No.	12. Black Diamond, Black	No.
	Diamond Mining Co.	No.
No.	13. Henrietta, Big Ledge	No.
	Copper Co. 14. Lincoln, Liberty Metals	
No.	Company.	No No
Nσ.	15. Independence. Richards	No
1417-	Bros.	No
No.	16. Bannie, Bannie Mining	— No
2101	Company	Ne
No.	17. Revenue, S. G. Johnson.	No
No.	18. Dixie, Midnight.	
No.	19. Wickenburg Mine.	No
Na.	20. Morning Star Mine.	No
No.	~2(FUMoir Mine.	
No.	99. Little Jessie.	
No.		
No.		
No.	25. Pocahontas.	
No.	26. Gladiator.	
No.	27. Turkey Gobbler.	
No.		
No.		
No.	21 Blue Jav	
No. No.		
No.	(3). Fortune.	
No		
	Company.	
No		
N <sub>1</sub>		
No No		
No No		
χ. Σ.	I Pho	r-
	wine.	
No	. 41. American Fings	
, se	o. 42. Harlan Group.	
1.		
N		
N.	o. 15, Wild Plower.	Æ.

No. 46, Shurenough, Anderson & Hill. No. 47, Baltimore, B. Slinkard & P. Grant,

```
No. 114. G. W. Rend.
No. 115. Arizona Silver Co.
                                                               No. 80. Victor Carlson Mine.
No. 81. Red Cross.
No. 82. Ginger.
  18. Arizona Victory, Mark
          Bradley.
                                                                                                                                             Copper Ore:
No. 120. Ophir.
 49. Transcendent Mining Co.
50. Grand Londer, Kelley &
Warren (formerly Ford).
                                                                            83. Hue Jacket.
                                                                                                                                             No. 121. Shannon Copper Co.
                                                                  No. 84, Toltee Group.
                                                                                                                                             No. 123. Capper Chief.
No. 123. Little Giant.
                                                                            85. L. J. Rinchart Mine.
86. Silver Plume.
liver-Lend Ore:*
  67. Poculontus,
                                                                                                                                             No. 124. Big Reef.
No. 125. Blue Bell.
                                                                            87. Monte Cristo .
RR. M. Roland Minc.
  58, Freidherg.
                                                                                                                                             No. 126. Inue Ben.
No. 126. Ione Pine Group.
No. 127. United Verde.
No. 128. United Verde Extension.
No. 129. Christimas.
No. 130. United Arizona Copper
  59. Sheldon,
  50, Snemon.
60, John McMaster Mine.
61, Arizona National Mining
                                                                            89. Raleigh.
90. Lawrence Group.
                                                                   No.
                                                                            90. Lawrence Group.
91. Mary Louise.
92. Snoazer.
93. Transure Vault.
14. Silver Prince Mining Co.
95. Dend Shot.
  Company,
62. Shea Copper Co.
63. Lacky Strike,
64. Bodies
65. Silver Queen,
                                                                   No.
                                                                                                                                              No. 130. United Arizona Cope
Company,
No. 131. Big Bug Copper Co.
No. 132. Black Warrior Group,
No. 133. Homestend,
No. 134. A. P. Dahler Mine.
                                                                    No. 96, Dend Shot.
No. 96, Silver Queen.
No. 97, R. & W. Group.
No. 98, Poverty.
No. 99, Spacfell Mine.
No. 100, Morrison & Burns
   66. Goodwine Silver Mining
            Company.
                                                                                                                                               No. 134. A. F. Danier Mines.
No. 135. Copper Mountain.
No. 136. Shannon Mining Co.
No. 137. Valley View.
No. 138. Iowa.
No. 139. Minor.
No. 130. Copper Still & Regr.
   67. Blue John.
68. Ruby Silver Co.
   69. Marguerite,
70. Silver Belt (Same as No.
                                                                   No. 101. J. H. Bachelor Mine.
No. 102. Cross Group.
           1151.
                                                                    No. 102, Cross Group,
No. 103, Martin Anderson Mine,
No. 104, Little Gem.
No. 105, Tiger,
No. 106, N. Eat, Swastika,
                                                                                                                                                No. 140. Copper Still & Bear.
     71, Spring Green.
                                                                                                                                               No. 140. Copper Still & Beer.
No. 141. Lucy & Daugherty Mine.
No. 142. Abe Lincoln.
No. 143. Antelope.
No. 144. Little Egypt.
    72. Swastika.
73. Big Muddie.
     74. Mistake.
                                                                      No. 107. l'oland.
     75, Eldorado.
                                                                     No. 108, Hidden Treasure,
No. 109, Morgan Mining Co.
     76. Breslin.
77. Great Southern Mining
                                                                                                                                                 No. 145. Arizona Corporation Min-
                                                                                                                                                                  ing Co.
                                                                      No. 111. Savoy.
No. 112. Southern Cross.
                                                                                                                                                 No. 146. Arizona Corporation Min-
      78. M. & M. Group.
                                                                                                                                                                  ing Co.
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Ore Specimens from Yavapai County mines and prospects listed above on display in Yavapa County Chamber of Commerce, ground floor of the courthouse. Exhibit made possible through co operation of Yavapai County Board of Supervisors.

(Said to be the best and most comprehensive mining exhibit in the Southwest)

No. 117, Verde Central,

No. 149 Burbara.

No. 150. Southern Cross

No. 151. Butternut. No. 152. Starlight 9 No. 102. Startight.

No. 153. Canyon Copper Co.

No. 154. Jerome Daisy.

No. 155. Blue Jay.

No. 156. Cupper Prinze.

No. 157. Southern Cross.

No. 158, Cross Groun. No. 159, Copper Age.

No. 160, Arizona, Hinghamton, No. 161, Jerume Verde,

No. 162. Springfield.

No. 163, Kay Copper Co.

No. 164. Martin Schuber.

No. 165, Iron Cap, E. Haney. No. 166, Blue Bildson, Mrs. Chap. Kennedy.

No. 167. Gold Medal, E. C. Hill & R. E. Culver. Also Rudio

Pyrite, No. 168, Arizona Bagdad Copper

Company, No. 192. Verde Jerome,

Arsenic Ore:

No. 169, A. J. Eberwine, No. 170, A. J. Eberwine,

Molybdenum Ore: No. 173. J. J. Jackson.

Zinc (fre: No. 175, Arizona Hillside Div. Co.

No. 176, Combination Group, Maganese Ore:

No. 180. Burmister & Bunker.

No. 181. J. L. Ulik. No. 182, John G. Allen.

Sodium Sulphate (Thenardite): No. 185, Western Chemical Works.

No. 187, Col. Baker, Copper Basin District.

Ceanium: No. 188. Julian Cornwol.

Gypsom:

189, Joe Larson, Jerome.

Linestone: No. 191, Puntenney Lime Co.

#### HIGHWAY FUNDS

Senate Post Office Committee has favorably reported to Senate legislation which passed House in legislation which passed thouse in June and which carries authoriza-tions for expenditure of Federal funds amounting to \$75,000,000 for fanta amounting the Franciscon vor-fiscal year commencing next July and same amount for following year to be used for Federal nid highway projects. These sams could be apportioned to states six months prior to each fiscal year. Bill contains amendment to exist-tive tracitions concerning multiing provisions concerning public land states under which non-tux-able Indian lands, individual and tribal, would be included with publie lands in determining increased share of Federal government aid in states where such lands exceed 5% of total area.

## All Districts of Yavapai County Show Activity-The Mining Cycle Is Here

BARBARA MOUNTAIN MINING COMPANY

The writer visited the property of this new company on March 10. This Burbara group has made history quite fast, of late. Shortly after the incorporation of the Barbara Mountain Company, Mr. H. W. Bullock brought it to the nttention of the United Eastern Mining Company, which has so successfully operated at Oatman. The United Eastern Company has the money and its management has the experience which brings success.

After no less than six of the techatter m less than six of the tech-nical force of this company had ex-amined the Barbara property a bargain was made whereby the United Eastern has provided money for its extensive develop-ment, with Mr. Walter Smith, formerly superintendent of the mines at Oatman, in charge.

He is putting things across. Work started February 21st. tess than two weeks about half a mile of wagon road was built to the ponit where a three-compart-ment shaft will be sunk. On the day of our visit, a gong of work-men had about completed the grading for the shaft, and it was stated that the big hole would be started in two or three days. The collar of this shaft is some 350 feet lower than the apex of the vein, which outcrops at the top of a very steep hill. The vein dips at about the same angle as the hill. The shaft will be vertical, and from it the veins and the mineralized zone which they traverse, will be cut and developed by cross-cuts.

This mineralized belt or zone is This mineranzen out of the by no means a new discovery. It is not claimed to be a "rich strike" of the kind which cause a stampede by would-be jumpers. It is so big that the old-time prospectur simply could not miss it. Even the Indians, long before the day of the prospector, used the green and blue rocks to build their forts on the top of the mountain. But the blue and green rocks were not attractive to the, white man who first found them. He recognized them as copper carbonate ores probably borned the rock for gold, found a little of the yellow metal but not enough to yield

—and passed along. That was fifty years ago. The Indians have gone; the engles which once perched upon the old fartifications built of ore have been affrighted by the roar of giant powder; the railroad has come to within three miles. And since the first prospector stuck pick in what is now Purbura ground, the once worthless copper ores of Arizona have yielded more to the upbuilding of the Copper State than any one other factor

At the top of the hill is an opencut which exposes the ore for a width of fully twenty feet. The cut, it is breast, exposes a cupper impregnated dike of quartz-por-phyry of great width, the total width of the inheralized belt be-ing about 300 feet. On the dump of the open cut one finds chunks of "rock" showing four distinct kinds of copper ore-glance, red oxide and the blue and green carbountes. The glance and red oxide are of course very rich in copper, and the whole mass or ore carries gold to an extent that will, when tens of thousands of tous are ned with, add very greatly to the total value of the output,

Upon Barbara ground this minernlized dike with its accompanying veins is about 3000 feet in length. But "there are others," for to the south of the Barbara and ones the same belt is a group of seventeen claims owned by Wn O'Brien and J. R. Robertson, while to the north are the Minor, Copper Age, King Pin, Copper Mountain, Warren Davis, Marshall Stoddard and McGarvey groups. All of these, and many more, are in what is locally called the Yavapai schist The mineral content of the veins is not confined to conper: pay ores of gold and silver are also

At time of writing this article, At time of writing this article, the United Eastern Company was really not fixed to put on a hig force because comp buildings were lacking. This condition is being rapidly remedied.

found in this area.

High-Grading at the Minor

Just neross a deep gulch and to the north of and adjoining the Barbara a force of men are sinking a new shaft on the Minor ground, while others are engaged

in taking out high-grade ore from the old workings. In the matter of new development, as well as putting ore upon the dump, they are getting most satisfactory re-A carload of ore running 30 to 40 per cent copper bears witness to the richness of the vein now being worked. This vein, however, is merely incidental, in that it forms only a part of the same wide mineralized zone which passes through the O'Brien & Robertson, the Burbara and other groups of claims.

### Amulet Will Work

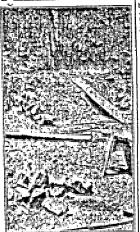
This is another of the old-time rich silver veins. It is east of Prescott about eight miles. It is east of Prescott about eight miles. It is a part of the bargain made by the owner, J. M. W. Moore, with California men that operation of the property shall begin by April Ist. The writer can remember when Mr. Moore and his partner, Frank Doggett, were taking "hot stuff" from the Amulet. In quantity it amounted to a right snug little fortune. The quality of the ore had to be good enough to pay its way to Pueblo smelter-and it did so, and yielded a handsome profit beside. The Amulet is one of a score or more of rich mines in this county which in early days were mined to what is now considered superficial depth. It is no uncommon thing for our silver mines to carry 20 to 40 per cent lend us a by-product, which means an added \$40 to \$80 per ton in these days when lead brings ten cents a

#### Anderson Claims Are Working

Six miles west of Prescott (go right over the top of Thumb Butte, if you like to climb) you will find a small force of men working on the Anderson group of claims-sinking a shaft. It is 150 feet deep, is equipped with a hoist having a capacity of 300 feet. object in sinking the shaft is to see how deep the rich silver stresk goes, and to explore at depth the big quartz vein also. The latter is large, and carries good values in gold.

Cottonwood flas Organized

And about five miles south of Prescott, or even less as the crow



Dump of Fign Grade Copper on the Trendwell Claim of the Senator

connect with the shaft, which is now down 360 feet. When the connection is made, the shaft will have a depth of 500 feet.
More more will then be put on and mining will be pushed vigorously.

of 500 feet.

More mon will then be put on and mining will be pushed vigorously.

28.—Casis Mine—belongs to the Y.

19. Mining Co., of which Sonator N.

11. Getchell is manager. There is a 750-foot sint, with considerable lateral development. The property is equipped with a 10-stamp mill, five Williey tables and a Monoli slimer. The ore carries gold and sliver values, with some copper and lead. It has been dide for some time.

29.—Storm Cloud—has been develuped by numerous shafts, varying from 20 feet to 200 feet, and several tunnels and drifts, some of which have acquired considerable depth. The principal voin carries its values in gold and sliver, with some copper and lead. It has been develuped by numerous shafts, varying from 20 feet to 200 feet, and several tunnels and drifts, some of which have acquired considerable depth. The gold and sliver, with some copper and lead. The pay stronk varies in width from 5 inches to 4 feet, and is of good militug grade ore, Atthough the work done is only on the surface, a production of over 3150,000 is reported.

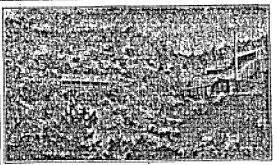
31.—Treadwell (Senator Group)—is being worked under lease by Jim Wills and Fred Gronlend. They have smuk a shaft of about 50 feet in a lodge of high grade copper ore und large airendy shipped a carload, and will continue shipping the ore produced by four main tunnels at intervals of 10 feet. The tunnels are 150 feet, 100 feet, 170 feet and 200 feet long. The chief values are in copper and gold, with some aliver and lead sulphides. It is equipped with a 40-ton Nisson mill, three Wilfley tables, a 100-ton ore bin, a 10,000 gallon water lank and necessary camp houses, etc. In 1917 it was taken over under lease or gare up the property. It is reported that they notice a considerable less. The property has been idelence.

bought about 13 years ago by Major A. J. Pickerell, who at once began a systematic campaign of development. Dr. Allan Gardner of Los Angeles later became a partner in the venture. In 1916, when the Tillie Starbuck Company was incorporated, there we're approximately 30,000 tons of commercial milling ore blocked out that will average better than 410 per ion. The values are in silver, with some gold. During the past two years a crosscut tunnel, Tunnel No. 4, has been driven 125 foct below Tunnel No. 3, At 700 foot the No. 4 tunnel penetrates the Tillie Starbuck ledge. A drift to the south was mnde, which at 250 feet encountered the same ore body expused in the upper level. This drift has been conlined 125 feet and is all in conmercial ore. The No. 3 tunnel, which is in 3000 feet, has exposed a number of good ore bodies. This tunnel has a dopth at its breast of about 500 foet.

At present the equipment consists of a ventilating plant blacksmith shop and necessary camp buildings. The company plane to install an adequate reduction plant in the future.

Lookout Copper Co.—controls four mines: the Lookout group of a claims, the Bodie group of 13 claims and the Mark Twain group. A leaser, Joe Casparl, is working on the Davie group. The other groups are idle. Control of ticse properties lies with the F. M. Murphy estate, of which A. W. Edwards of Frescott is manager. The New York Office of the company is at claims. The ore carries gold, silver and conner. It is about 18 miles from and conner. It is about 18 miles from

wards of Prescott is manager. In sund of the shaft will have a depth 500 feet. More men will then be put on and more than the put of the more than the put of the more than the more than



VENEZIA MILL SHOWING ADMINISTRATION BUILDING

many years and the shaft is full of water. It belongs to the Lookout Copper Co.

Alark Twain Group—includes 3 claims and is 18 miles south of Prescott by the Jersey Lily road. The createries gold, silver and lead. The property adjoins the Biles Dick on the west. The Hino Dick or bodies on timus through the Mark Toment work, although leasers taken out considerable high grade ors. Owners, although leasers Gold Mines—compaided by the company of the company has attempted to raise price of 2 claims, situated price the head of Crook Canyon, 18.8 miles south of Prescott on the main morth to south or Prescot on the main morth to south or Prescot on the main morth to south or Prescot on the main morth to south or Prescott on the Main and the "Mit. Union" or "Blate" vein morth of the Prescott on th

the voin for several thousand feet in length.
Deeper openings in the vein down to a depth of 120 feet shows ore of a sulphide character averaging in gold values \$22 per ton. A small proportion for of smolling grade. It all, when treated hy concentration, returns a high procentage of concentrates which run from \$60 to \$113 per ton, with good lead values as well.

The Mt. Union or Blair vein shows an average width of \$ feet for a distance of more than 3000 feet. While the ore is not continuous for the full distance, like the Crook-Venezia vdin, it carries awells and wide lenses, at reasonably regular intervals and is capable of supplying almost unlimited tonnage for a mill of large capacity. The grade on an average is about \$1.50 per ton, though where it forms a solid from yrite it frequently carries as high as 3 ounces gold per ton and furns a very desirable smelling class of ore.

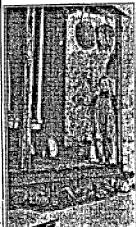
Mainly the whole body as mined

farms a very desirable smelling class of ore.

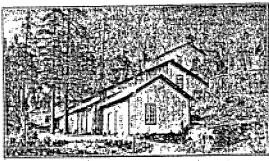
Mainly the whole body as mined from the stopes in the main shaft on the Venezia property afford a ton of concentrates to 10,0 f raw ore. These concentrates range in value from \$20 to \$40 per ton, invariably returning I if ounces of gold when treated in large quantities. They form a product which may be readily treated by sliming and cyanidation.

A small plant was installed in the Venezia milt, which was operated successfully for a period of one year. It

RNEZia



Joe Tomplinson Jo Managor of the



MILL ON THE CASH MINE

Ore Dump at Portal of Lower Tunnel on Promoter Mine

360,300 was taken from this shoot alone.

Uver 250 feet of the south drift was in barren rock. Then a pay streak warying from it to 11 mines in a 4-foot vein was encountered. This chute was over 125 feet long and assays carried from 331 to \$75 per ton. Farther along in the drift, lead-zine one was encountered that assayed \$23 per ton.

The Crook vein continues through the Blind Tom claim, which adjoins the Alligator on the north. A 40-foot shaft produced \$30 ore, which was millied. Numerous shafts and a 50-foot tunnel on the other claims established a lond-zine vein carrying gold and silver with assay values ranging from \$16 to 128.

It is reported that values in axcess of \$180,000 have hoen taken from these claims.

tered that was stoped to the surface. The values in gold, silver and lead. A li is reported that some of this ore carried \$100 of gold to the ton and that \$100,000 was taken from this shoot a library that the surface of the surface Intersected a 7-foot vein of lead and zinc ore at a dopth of 125 feet. About 450 tons of ore from this property was 450 tons of ore from this property was concentrated at the Mt. Union and the Venetia mills. The property was bought for \$10,000 antly in 1914 by an English syndicate that were planning a mediter at Prescott. The great war made it impossible to carry out their plans and the property has laid idle. John E. Russell, Protecti, is attorney for the company.

siderable ore reserve before stoping

Is commenced.

4-1-trouncter Group—consists of 4-1-trouncter Group—consists of 4-1-trouncter Group—consists of 5 taleas. Its camp is three miles south of the postoffice at Vanezia. The main workings of the mine are three-fourths of a mile off the road. There is an 86-foot tunnet and a 285-foot tunnel. Both are on the vein. The later gives a depth of 96 feet, At a distance of 100 feet from the portal of the tunnel, a 40-foot shaft was sunk. At this point the shaft began to make water so the management drifted in on the vein for 90 feet. The drift is in ore its entire length. At 175 feet from the portal of the lower tunnel, a raise has been started. It is now up 10 feet. All these workings are in ore. The

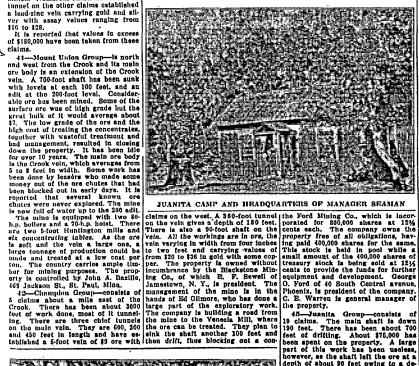
has been started. It is now up 10 feet.

All these workings are in ore. The voin varies from 2 feet to 4 feet in width and carries an average of \$20 to the ton although there are many streeks of extremely high grade ore. Some of the assays run into the hundreds of dollars. The values are in gold, silver and copper. In some places the copper content reaches 5 per cent.—this means 100 pounds of copper to the ton. It is a strong vein and the order can be mined to remarkably good advantage and at low cost.

Machinery has heen received and work will be pushed without delay in the matter of completing the upraise in the tunnel for the main working shaft.

There are already 700 tons of ore

short. There are already 700 tons of ore on the dumps and engineers figure that there is another 4000 tons blocked out. This ore will amalgamate 37 per cent of the areay values. The balance roses into the concentrates.



the property.

45—Juanita. Group—consists of 19 claims. The main shaft is down 190 feet. There has been about 700 feet of drifting. About \$75,000 has been spent on the property. A large part of this work has been useless, however, as the shaft left the ore at a depth of about 90 feet owing to a deflection in the dip of the vein. At 119 feet a cross cut tunnel was started toward the vein. It is now to 25 feet and has encountered a 10-foot ledge of quarts. The vain proper is thought to be about 25 feet further west. About 200 tons of ore recovered in the development work was milled, it assayd from \$10 to \$12 per ton. The values are in gold, silver and copper.

Only \$4 per ton was free gold and

Only \$4 per ton was free gold and amalgamated. The remaining values went into the concentrates.

went into the concentrates.
The first 45 feet of the present shaft is vertical. The management now proposes to continue the vertical shaft till it penetrates the voin at depth—which should be about 200 feet, when the dip of the vefn will be followed and levels established.

On the Bonnie Bell vein there is 202-foot tunnel, A tunnel is in 3 (Continued on Page 16). la s

# The Ford Gold & Silver Mines Company

You sho' mak's me tired," said the darky to his wusser half when she had him down, and I say to you Mushheads the same thing:

Wilson now puts a 26c price on copper.

The Lord puts dollar for dollar on gold.

Foreign demand places silver igh in price. And we have a developed property with these three productions,—not in paying quanti-ties, but FABULOUS quantities.

Bay, do you know that Arizona law makes a man misropresenting a mine liable to the pen?

Do you think, you ignoramus, that I wish to get behind the bars for selling you a handfull of stock on which I don't make a nickle?

All I'm doing is trying to raise the paltry small sum to place that mill, that my stock bought at 1214c per share-and paid for-will bring me realization.

Out of that 500 tons on dump we an select 100 tons tomorrow that will mill from \$50 to \$100 per ton.

In the drift, every pound horns free gold. Copper and sliver now would almost pay expenses and depth shows them coming fast.

. Four thousand tons of ore in sight. Ledge shows up both ways from shaft, several hundred feet.

Heavy timber on ground; mining ater; the oldest, richest gold mine in Arizons, within gunshot ("Senstor"—Phelps Dodge & Co.), and a fine road within three-fourths mile of property, with mill site heside the road in Crook Canon.

You never heard of such a cha to make quick money.

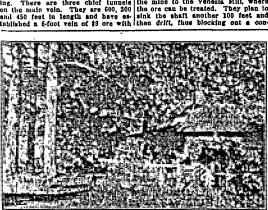
One hundred thousand shares, out of the 800,000 incorporation, will e sold at 124c-that's all.

I expect value then, from \$1 to \$5 per share.

No offices .-- no officer salaries. and no waste of money while I am President. There is only one possibility of failure which you can surmise: Theft. They might steal the product but they cannot steal the mine. Write me and enclose check for 100 or more shares. I refer you to the National Bank of Arisona.

### The Ford Gold & Silver 64 Mines Co. QEO. O. FORD, President,

Phoenix, Ariz. P. B .-- The Arizona Corporation Commission requires this clause inseried: They do not recommend the stocks, bonds, or other securitlest-offered for sale by this or any



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# News of the Mines

Note:—Items in this department are gathered from various sources and and the management of the Magazine has an means of gauging their salue. Reports from sources that insure correctness are found in the "Mine Progress" department on page 9.

Note:—liens in this department are gathered from survivas sources and and the unanegement of the Migazine has na means of gauging their faine. Reports from sources that leaver correctness are found in the "Mind Progress" department on page 9.

Arisona Copper Queen, east of Mayer, P. J. White, a principula of the Airsona Copper Queen, east of Mayer, reported development as progressing satisfactority. Large ore bodies are exposed, and it is quite probable early shipping will begin.

Verde Rquaw (Acrome)—Ore of sufficient promise was encountered to the Verde Squaw to warrant placing miners to work at once sinking the winsse in a greater depth. The bottom is now scarcely more than fifty feel from the surface. The ore is a quarts schial, carrying black and yrilow copper sulphilides and some glance. No work had been done in the Boulder winzo for monits until last week. While the engine which drives the compressor at the mouth of the Bartor tunnel was temporarily out of commission the force hotsial that water out of the winza and mincked out the bottom. The Barter tunnel is being adanneed rapidly divided the compressor in the mouth of the Bartor tunnel was temporarily out of commission the force hotsial that water out of the winza and mincked out the bottom. The Barter tunnel is being adanneed rapidly divided the compressor in the Builder winzo for monits until last week. White the engine which aftives the compressor in the mouth of the Bartor tunnel was temporarily out of commission the force hotsial that water out of the winza and mincked out the bottom. The Barter tunnel is being adanneed rapidly divided the compression of the property in the Casile Creek District, have installed their new machinery. They were the shift unwatered and work has been reasonable to the property of the Cilinary of the distinct has been reasonable to the property of the Cilinary of the distinct has been reasonable to the property of the Cilinary of the distinct has been given by the property in the Copper IIII (Copper Basin a coultrel to

connea to run a cross-cut from the end of the tunnel to find out just how wide the ledge is.
Cubrits Verile (Salome)—It is reported that the Cobrits Verde has been satisfactorily Sanarced and has made proparations to begin active operations with two shifts of minera. The properties of the company are riduated in the Cottonwood l'ass section of the Elisworth mining district, and its almost immediately north of the town of Salome. The Cobrits shaft is down 225 feet. At that point the ledge, a true schist formation, is 25 feet wide and averages around four per cent copper. It is understood that the Cobrits Verde company expects to sink the shaft two or three hundred feet deeper as rapidly as possible.

pocie to sink the shall two of three hundred feet deeper as rapidly as possible.

Emporia Gold Group (Groom Creek)—Proliminary work on the Emporia group of mines in the Groom Creek section with a small force, introductory to operations on an extensive scale in a lew weeks, was recently hegun by Frank G. Mueller, the mining engineer who a few days ago took over the Yellow Jacket group. The building of a road to connect the two groups, which will be worked jointly under the direction of Mr. Mueller, is the work now under way, to be followed soon by the erection of houses for the accommodation of miners, it being the intention to employ 35 or 40 when operations are in full binst. After the Emporia is unwatered and the shalt retimbered, development will proceed with all haste and machinery for the roduction of ore instalted.

Jerome Wenden (Wenden)—Local officers and directors in the Jerome Wenden Copper Company report an

important strike at the proporty of that corporation, in the Harqua Haia mountains south of Wenden. The strike was made in a winse on the Mare claim, at a depth of \$2 feet. Four feet of chalcopyrite averaging 11.6 per cent copper and from one three ounces of silver to the ton has

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Rooms IS-16, Bastiford Bidg.,

Prescott, Arizona.

RICHARD LAMSON Attorney-at-Law.

Pythian Building Prescott, Arizona

Alpheus H. Favour Attorney-at-Law

Pythian Bldg.

### Le Koy Anderson

ATTOINEY-AT-LAW

Prescott State Bank Building

DANIEL E. PARKS

DANIEL E. PARKS
Counsellor-st-Law
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Yavapai Magazine, Prescott, Arizona

ITT

TO CAME OUT TIME AND DEFINING COMPANY

AMERICAN SMELTING AND REFINING COMPANY TUCSON ARIZONA

W. L. K.

May 8, 1974

MAY 10 1974

FILE MEMORANDUM

Pine Flat (Yavapai County) 35,20.46

CM East Johnson Camp (Cochise County) 3,0.0

Superior Oil Data

During the recent luncheon on the Copper Resources of the World Map, I chatted with Ben Dickerson of Superior Oil.

He stated that they drilled some 40 holes in the Pine Flat area and have some 20 million tons of 0.45% copper. They own several patented claims plus the unpatented claims. COMINCO has a 24% interest in the area. Ben states that they are interested in peddling the area to an interested party. He also feels that they have drilled out all the extension possibilities except in depth; no statement as to what their drilling depth had been. Very little chalcocite.

Ben also mentioned that at <u>East Johnson Camp</u> they were taking 8" diameter core hole samples for metallurgical work. He stated they had 50 million tons of 0.65% copper. The several cross-sections shown by Ted Eyde in several AIME Preprints suggest highly tilted blocks of mineralization with strong fault and lithological control.

He also stated that he knew of a deposit which has been drilled for the past several years that contains 350 million tons of 0.45% copper which was not on the World Copper Map. He would only suggest it was located between central Mexico and the Highland Valley area of Canada.

James D. Sell

JDS:1b

grad quess

## AMERICAN SMELTING AND REFINING COMPANY Tucson Arizona

November 8, 1966

TO: J. H. COURTRIGHT

FROM: J. E. KINNISON

PINE FLAT
TURKEY CREEK MINING DISTRICT
PORPHYRY COPPER PROSPECT
YAVAPAI COUNTY, ARIZONA

I obtained the following new information on the subject heading from David Lowell, Consulting Geologist from Tucson, November 2, 1966.

As you may recall, Pine Flat is a small but typical porphyry copper altered zone located 8 miles west of Mayer. The leached capping is moderately to strongly sericitized, and contains principally limonite after pyrite with a small amount of "live" limonite. David Beck first noted and then mapped the altered zone about 1-1/2 years ago. I spent one day in the field with Beck, and concurred with his mapping and analysis of the prospective potential. In his memorandum to you (6/8/65) Mr. Beck concluded "... Pine Flat is too small and probably of too low-grade to be of interest."

Mr. Lowell had supervised exploration of Pine Flat two or three years ago, and he furnished me with data on the air rotary holes found by Mr. Beck. I don't know if Lowell was a consultant only, or whether he was a participating interest. He stated that the copper values obtained from the drill cuttings assayed .19% Cu as chalcopyrite. This was the average for each individual drill hole—an unusual situation. The presence of molybdenum was not mentioned in our conversation. Chalcocite is reportedly present in trace amounts only beneath the leached capping, and did not add significantly to the assays. Lowell is no longer associated with the property.

Lowell also stated that COMINCO is drilling on the south part of the altered zone and that they have "several" drill rigs operating. Reliable rumor suggests that COMINCO has developed a small tonnage of sub-marginal grade. Mr. Lowell surmises that they don't want to drop the property at this time, but also realize that they do not have an orebody.

I suppose the helicopter reconnaissance crew have seen these drills and have noted their approximate location.

### COMMENTS

Mr. Beck's conclusions regarding the prospective value of Pine Flat are now verified. In his memorandum he stated that he could be sure that sulfides were contained in only one pile of the discarded cuttings. A sample of these cuttings assayed .14% Cu and .024% Mo.

్ర 19**66** 

As I recall the drill cuttings found near the drill sites appeared to have been tossed to the edge of the drill site. They were not layed out in an orderly fashion. It was not at all clear whether these were split rejects or merely portions of the hole which had not been samples. Possibly they represented a cleaning-out of the hole which had caved in.

The leached capping appeared to be derived mostly from pyrite, and that copper sulfides were minor. That these holes, as reported by Lowell, did contain as much as .19% Cu in the form of chalcopyrite; and that alteration in porphyry of a typical quartz-sericite type with 5% total sulfide leads to the following conclusion:

Conditions in this area were 1) never favorable for the formation of chalcocite in any quantity, or 2) that the more common history during the Mid-Tertiary in the southwest prevailed and formed chalcocite during the time—during the most recent mountain up—life these secondary chalcocite zones have been eroded and/or leached. The second assumption above seems to me the most likely, and the high ridges should naturally receive the closest attention in exploration. Unfortunately, Mr. Beck has observed that the altered porphyry intrusives in the Bradshaw Mountains tend to form topographically low areas.

JEK:pjc

cc: WESaegart

# AMERICAN SMELTING AND REFINING COMPANY Tucson Arizona

June 8, 1965

TO: J. H. COURTRIGHT

FROM: D. B. BECK

PINE FLAT TURKEY CREEK MINING DISTRICT BRADSHAW MOUNTAINS YAVAPAI COUNTY, ARIZONA

Pine Flat is a small porphyry copper deposit surrounded by unaltered schist which contains small quantities of disseminated pyrite. The flat consists of a western zone of generally unaltered diorite porphyry with disseminated pyrite plus minor amounts of other sulfides; and an eastern zone of altered porphyry with disseminated limonite after pyrite and some "live limonite." Reconnaissance mapping along with some geochemical sampling indicates that Pine Flat is too small and probably of too low grade to be of interest. John Kinnison visited the alteration zone with me one afternoon and agrees with the above conclusion.

Pine Flat is reached by taking a fair dirt road west out of Mayer (located on State Highway 69 between Prescott and the Black Canyon Highway) for approximately eight miles. A Mr. C. C. Woodburn of 1421 Woodland Avenue, Des Moines, lowa owns most of the ground in Pine Flat.

The altered and/or mineralized rock occupies a pine-covered basin surrounded by ridges of schist striking in a north-northeast direction. The basin is composed of altered porphyry, at least two rhyolite porphyry dikes, granodiorite, diorite porphyry and alluvial fill. Some small brecciated areas, which might be pipes, are located west and northwest of Pine Creek which runs south through the basin (see attachment). The flat can be divided into two zones: (1) a west and northwest zone which consists of the brecciated areas along with fresh and weakly altered diorite porphyry and fresh granodiorite porphyry, and (2) a central and eastern zone which consists of moderate to well altered porphyry and rhyolite porphyry.

The west zone generally consists of fresh diorite porphyry and granodiorite porphyry which contains pyrite, chalcopyrite and minor amounts of disseminated molybdenite in seams and spots, especially near Pine Creek. About 500' north of the road to Mayer on the west bank of Pine Creek is a shaft about 25' deep in diorite. Selected samples collected from a nearby dump ran 0.4% to 2.35% Cu and 0.015% to 0.675% Mo. Some galena was also noted. Two rock samples a short distance from the shaft assayed 0.3% Cu and 0.01% Mo. The brecciated zones are cemented with limonite

after pyrite, and some "live limonite." One sample from a brecciation zone near the road assayed 0.02% Cu and 0.006% Mo.

The central portion of the flat contains two hills trending north with an areal extent of 500' by 1500' and generally surrounded by alluvium. These hills consist of a well altered (sericite-clay) leached porphyry which once contained up to 5% sulfides (visual estimate). Much limonite after pyrite boxwork and lesser amounts of "live limonite" occur along with a few bright yellow spots which may be moly ocher. Within this zone were found three old air rotary holes with their cutting piles still visible. These cuttings were assayed for copper, molybdenum and silver, with the following results from Jacobs in Tucson:

Rotary Hole No.	<u>Cu</u>	<u>Mo</u>	Aq
1	0.09%	0.011%	0.3 oz.
2	0.14%	0.024%	0.3 oz.
3	0.02%	0.007%	0.1 oz.

Only in hole No. 2 was I sure that primary sulfides had been reached.

Another small hill located on the eastern edge of the basin consists of a moderately altered (sericite-clay) rhyolite(?) porphyry. This rock also contains disseminated cavities of limonite after pyrite with some "live limonite."

The basin, which measures about 3000' by 3000', is topographically surrounded by Yavapai schist which contains some pyrite, but no chalcopyrite. The schist seems to be altered in some areas, but is probably due to the original introduction of pyrite during Pre-Cambrian metamorphism and is not related to the Laramide(?) intrusives present in the basin. One-half mile north of Pine Flat is the older Cumber-land Mine located on a gold quartz vein in schist. The shaft is said to have been 350' deep and although much pyrite and some galena and chalcopyrite was found on the dump, no disseminated material was noted.

The following table summarizes the results from 32 rock chip samples taken in the Pine Flat area. Sample locations are shown on the attachment with the results given in parts per million.

	<u>u</u>	PIO
Fresh Schist (average of 10 samples)	<del>13</del> 5	2
Altered Schist (average of 3 samples)	800	5
Altered Rhyolite(?) (average of 2 samples)	200	20
Fresh Diorite & Granodiorite		40
(average of 6 samples)		
Altered Porphyry (average of 11 samples)	525	40

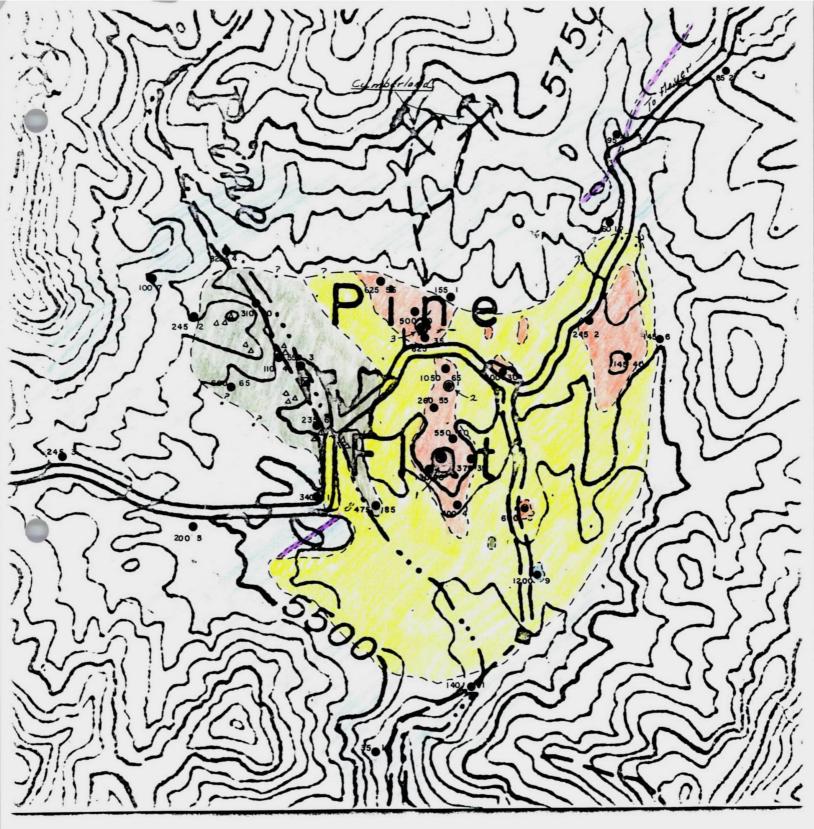
Although the altered porphyry runs higher than the other rocks in the geochemical determinations, it was felt that due to the size

June 3, 1965

DAVID B. BECK

DBB/jak

cc: JEKinnison



### EXPLANATION

Alluvium

Rhyolite Porphyry Dikes

Altered Porphyry (Includes Granodiorite, Rhyolite and Quartz Porphyry)

Generally Unaltered Diorite Porphyry (Includes some Brecciation and Granodiorite)

Yavapai Schist

Air Rotary Hole

GEOLOGIC AND GEOCHEMICAL MAP PINE CREEK FLAT

Turkey Creek Mining District YAVAPAI COUNTY, ARIZONA

Scale I"=800'Approx. Rock Chip Sample Location

100 25 Cu. P.P.M. Mo.P.P.M.

D. BECK

JUNE 65