CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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PRINTED: 06/21/2001

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: FORSHODA

ALTERNATE NAMES:
CLAIMS MS 4414

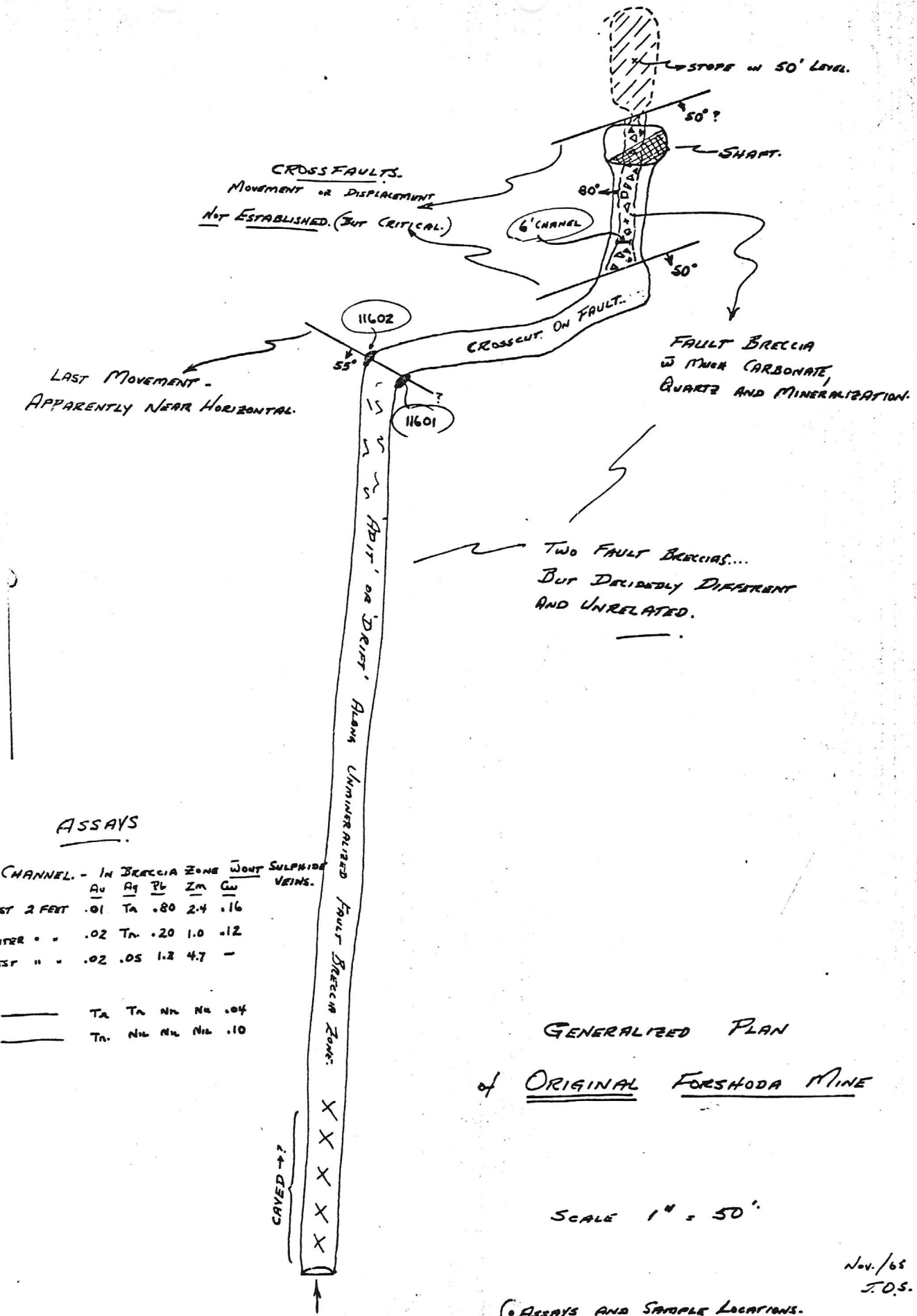
YAVAPAI COUNTY MILS NUMBER: 1075C

LOCATION: TOWNSHIP 12.5N RANGE 1 W SECTION 20 QUARTER NW
LATITUDE: N 34DEG 27MIN 25SEC LONGITUDE: W 112DEG 23MIN 30SEC
TOPO MAP NAME: GROOM CREEK - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
LEAD
ZINC
SILVER
GOLD
COPPER

BIBLIOGRAPHY:
ADMMR FORSHODA MINE FILE
CLAIMS EXTEND INTO SEC. 32 T13N-R1W



ASSAYS

6 - FOOT CHANNEL. - IN BRECCIA ZONE WONT SULPHIDE VEINS.

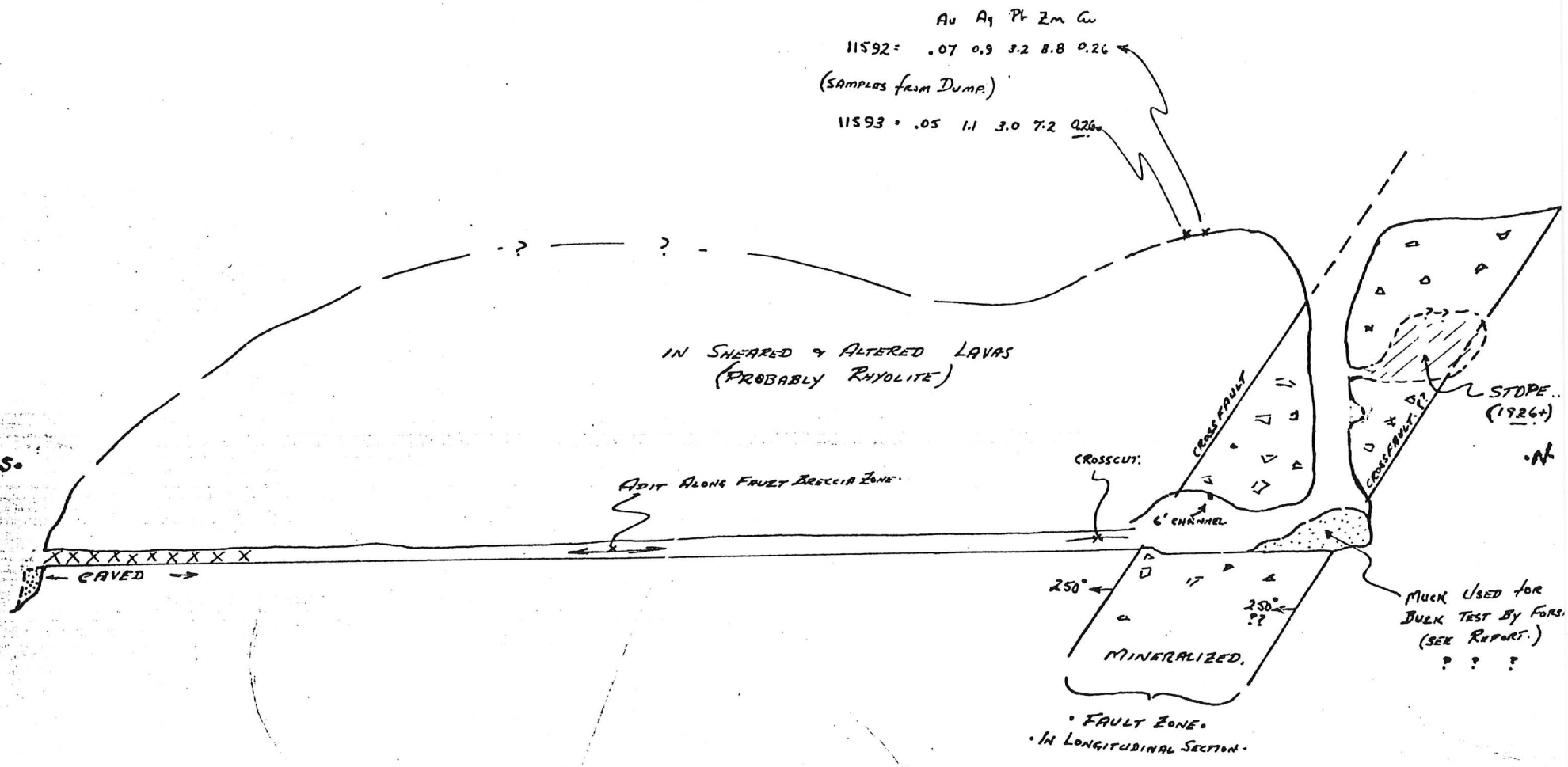
	Au	Ag	Pb	Zn	Cu
11603 - EAST 2 FEET	.01	Tr.	.80	2.4	.16
11604 - CENTER " "	.02	Tr.	.20	1.0	.12
11605 - WEST " "	.02	.05	1.2	4.7	—
11601 ———	Tr.	Tr.	Nil	Nil	.04
11602 ———	Tr.	Nil	Nil	Nil	.10

GENERALIZED PLAN of ORIGINAL FORSHODA MINE

SCALE 1" = 50'.

Nov./65
T.O.S.

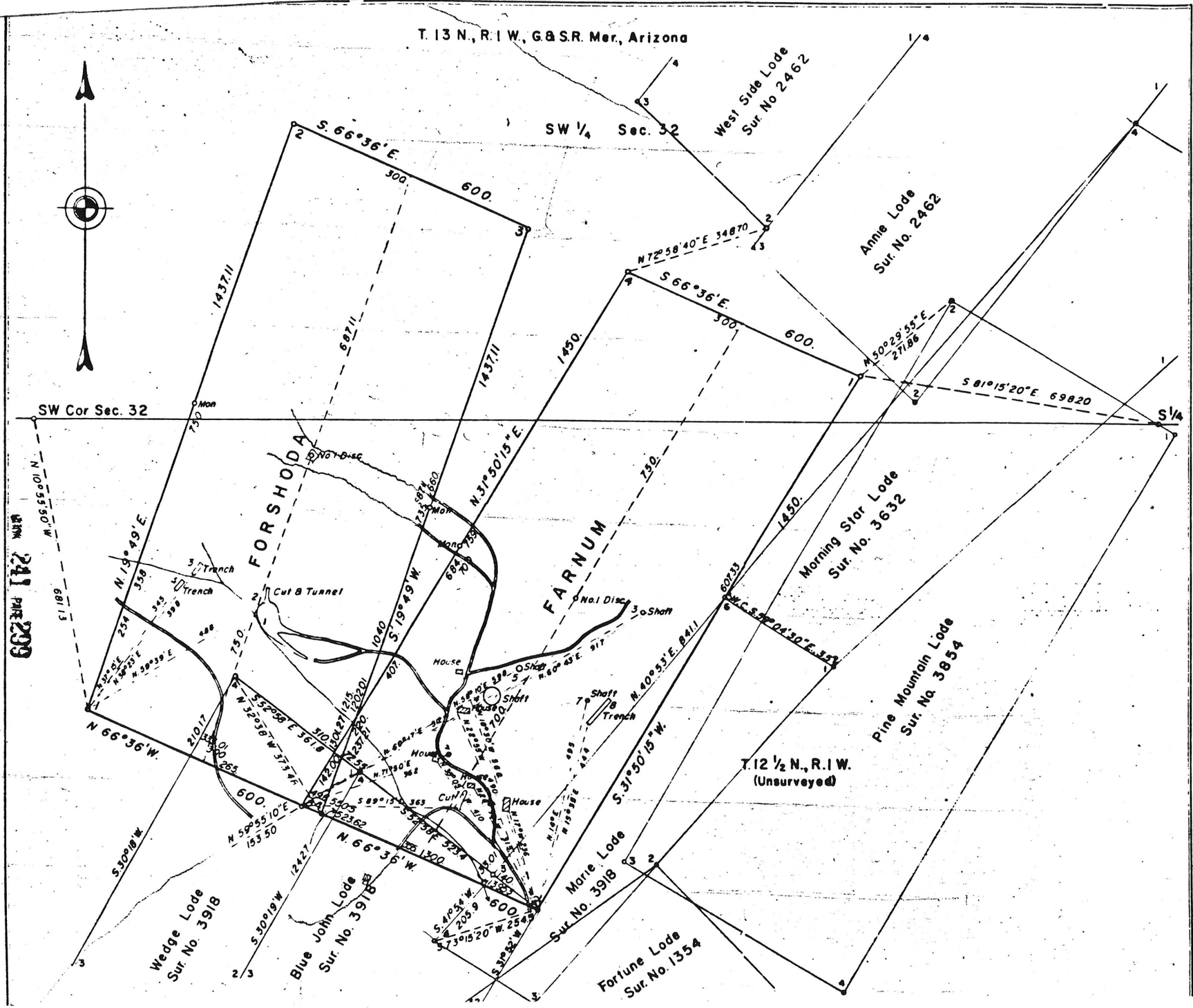
SHOWING. • ASSAYS AND SAMPLE LOCATIONS.
• PART of STRUCTURAL GEOLOGY AS INTERPRETED DURING VISIT.



GENERALIZED LONGITUDINAL SECTION (PROJECTED)
of ORIGINAL FORSHODA MINE

= SCALE 1 INCH = 50 FEET. =

NOV. '65
T.O.S.



MINERAL SURVEY No. 4414 ARIZONA

CLAIM OF

JOSEPH H. MORGAN
AND
MARGARET I. LAPHAM

KNOWN AS THE

FARNUM AND FORSHODA LODES

SITUATE IN

Sec. 32, T. 13N., R.1W. & T. 12 1/2 N., R1W.(Unsur.)
YAVAPAI COUNTY
Walker Mining District
Lat. 34°27.3' N., Long. 112°23.7' W., at Cor. No.1, Forshoda Lode

0 100 200 400 600 800
Feet
Magnetic Declination, 14°30' East

Surveyed, Dec.1, 1956 to Jan 25, 1957
By R.L. Merritt, Mining Surveyor.

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Phoenix, Arizona August 1, 1957

I hereby certify that this plat of Mineral Survey No. 4414, Arizona, is strictly conformable to the field notes of said survey which have been examined and approved.

Everett H. Kimmell
Office Cadastral Engineer

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine FORSHODA (FARNHAM) MINE Date NOVEMBER 21, 1964

District WALKER DISTRICT YAVAPAI COUNTY Engineer E. G. WILLIAMS

Subject: Mine Visit and information from Bill Gullavar and Joseph Morgan.

LOCATION: N.½ NW ¼ Sec. 20, T12½N, R1W.
S.½ SW¼ Sec. 32, T13N, R1W. Drive Hwy 69 east from Prescott to Walker turn off about 5 miles, then south about 11 miles to Walker, then 3/4 miles west over very rough road to mine.

OWNER: Joseph Morgan, 310 W. Earll Drive, Phoenix, Arizona.

MINERALS: Lead, Silver, Zinc

Mine workings as seen on visit: A few small cuts and a tunnel about 350 feet.

Mine is optioned to the Forshoda Mining and Milling Co.
K. N. Richardson of Richardson Motors, Prescott, President, Bill Gullavar, Supt., Prescott, Arizona.

Called on Kelly Richardson, Forshoda Mine. Work on property consists of surface cleanup and timber repair work. Intends to clean out old drift. He was encouraged to apply for O.M.E. assistance.

FTJ WR 7/23/65

Visited with Kelly Richardson of Forshoda Mine, who is cleaning and timbering old drift.

FTJ WR 9/24/65

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine FORSHODA MINE

Date March 19, 1964

District WALKER DISTRICT

Engineer E. G. Williams

Subject: Mine Visit

At the time of the visit 2 men were repairing and cleaning out the tunnel, which is 250-300 feet long. Mr. Gullavar, Supt., said they expect to cut the vein in another 100-150feet. The Company is the Forshoda Mining and Milling Co., K. N. Richardson, of Richardson Motors, Prescott is President, Bill Gullavar, Supt.

Interviewed Mr. Richardson at Richardson Motors, learned the Forshoda Mine is shut down at least until Spring.

EGW WR Nov. 30, 1964

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*GENERAL REFERENCES

REFERENCE 1 F1 < U.S.G.S. G[illegible] 997

REFERENCE 2 F2 < ABGMT CLIPPINGS FILE DATA

REFERENCE 3 F3 < AZ DEPT MIN. RESOURCES FILE DATA

REFERENCE 4 F4 < USBM – ABGMT FILE DATA

U.S. CRIB-SITE FORM

RECORD IDENTIFICATION

*RECORD NUMBER S10 < > *RECORD TYPE S20 <X,1,M,> DEPOSIT NUMBER B40 < >

*REPORT DATE G1 <9,1,X,1,0,> YR. MO. *INFORMATION SOURCE S30 <1,2, > *FILE LINK IDENT. S50 < USBM 004 025 0738 >

*REPORTER(SUPERVISOR) G2 < LARABA, PETER (last, first, middle initial) (DEWITT, ED (last, first, middle initial))

*REPORTER AFFILIATION G5 < ABGMT > *SITE NAME A10 < FORSHODA MINE >

*SYNONYMS A11 < FARNHAM >

LOCATION

*MINING DISTRICT/AREA A30 < WALKER DISTRICT >

*COUNTY A60 < YAVAPAI > *STATE A50 <A,Z,> *COUNTRY A40 <U,S,>

*PHYSIOGRAPHIC PROV A63 <1,2,X,>

*DRAINAGE AREA A62 < X,> *LAND STATUS A64 <0,0,X, X,( )>

*QUADRANGLE NAME A90 < GROOM CREEK (1,9,7,4,) > *QUADRANGLE SCALE A100 <2,4,0,0,0,>

SECOND QUAD NAME A92 < ( )> SECOND QUAD SCALE A91 < >

*ELEVATION A107 <6,8,0,0,X,F,T,>

UTM

*NORTHING A120 <3,8,1,3,5,5,0,>

*EASTING A130 <3,7,1,9,2,0,>

*ZONE NUMBER A110 <+,1,2,>

*ACCURACY

ACCURATE (ACC) (circle)

ESTIMATED (EST) < >

GEODETIC

*LATITUDE A70 < - - N,>

*LONGITUDE A80 < - - W,>

CADASTRAL

*TOWNSHIP(S) A77 <1,2,5,N,:X, :X, :X, > *RANGE(S) A78 <0,0,1,W,:X, :X, :X, >

*SECTION(S) A79 <20 :X, :X, >

*SECTION FRACTION(S) A76 < NW OF NW >

*MERIDIAN(S) A81 < GILA AND SALT RIVER >

*POSITION FROM NEAREST PROMINENT LOCALITY A82 < 2.4 MILES SE OF GROOM CREEK, ARIZONA >

*LOCATION COMMENTS A83 < LOCATED 0.4 MILES NW OF PINE MTN MINE >

* ESSENTIAL INFORMATION

+ ESSENTIAL SOMETIMES OR HIGHLY RECOMMENDED

COMMODITY INFORMATION

*COMMODITIES PRESENT C10: AU, AG, ZN, PB, CU
*ORE MINERALS C30: UNKNOWN
COMMODITY SUBTYPES C41:
*GEN. ANALYTICAL DATA C42:
COM. INFO. COMMENTS C50:

* SIGNIFICANCE

	PRODUCER	NON-PRODUCER
MAJOR PRODUCTS	MAJOR: PB, ZN, AU	MAIN COMMODITIES PRESENT C11:
MINOR PRODUCTS	MINOR: AG, CU	MINOR COMMODITIES PRESENT C12:
POTENTIAL PRODUCTS	POTEN:	
OCCURRENCES	OCCUR:	OCCURRENCES OCCUR:

*PRODUCTION

PRODUCER	NON-PRODUCER
PRODUCTION YES (circle) PRODUCTION SIZE SML MED LGE (circle one)	PRODUCTION UNKD NO (circle one)

EXPLORATION OR DEVELOPMENT

*STATUS

PRODUCER	NON-PRODUCER
STATUS AND ACTIVITY A29: 4	STATUS AND ACTIVITY A29:

*DISCOVERER L20:
*YEAR OF DISCOVERY L10: ~1916 *NATURE OF DISCOVERY L30: S *YEAR OF FIRST PRODUCTION L40: 1949 *YEAR OF LAST PRODUCTION L45: 1954
*PRESENT/LAST OWNER A12: W. TONNEY J.H. MORGAN, M.I. LAPHAM (1956)
*PRESENT/LAST OPERATOR A13:
EXPL./DEV.COMMENTS L110: COMMENCHERO CLAIMS ADJOIN PROPERTY ON NORTH

DESCRIPTION OF DEPOSIT

*DEPOSIT TYPE(S) C40: VEIN, SHEAR ZONE
DEPOSIT FORM/SHAPE M10: TABULAR
*DEPTH TO TOP M20: *UNITS M21: *MAXIMUM LENGTH M40: 75 *UNITS M41: FT
*DEPTH TO BOTTOM M30: *UNITS M31: *MAXIMUM WIDTH M50: 75 *UNITS M51: FT
*DEPOSIT SIZE M15: (SMALL) M15: (MEDIUM) M15: (LARGE) (circle one) *MAXIMUM THICKNESS M60: 10 *UNITS M61: FT
*STRIKE M70: N 65 E *DIP M80: 50 SE
*DIRECTION OF PLUNGE M100: *PLUNGE M90:
*DEP. DESC. COMMENTS M110: 8-10 FT WIDE BRECCIA ZONE IN RHYOLITE DIKE CUTS FOLIATION AT SLIGHT ANGLE

DESCRIPTION OF WORKINGS

*Workings are: SURFACE M120 UNDERGROUND M130 BOTH M140 (circle one)
*DEPTH BELOW SURFACE M160: 100 *UNITS M161: FT *OVERALL LENGTH M190: 500 *UNITS M191: FT
*LENGTH OF WORKINGS M170: 450 *UNITS M171: FT *OVERALL WIDTH M200: 10 *UNITS M201: FT
*OVERALL AREA M210: 5000 *UNITS M211: SQ FT
DESC. OF WORK. COM. M230: 1 ADIT 350 FT LONG CONNECTS TO SMALL STOPED AREA. MOST OF ADIT CUTS UNMINERALIZED FAULT ZONE

GEOLOGY

*AGE OF HOST ROCK(S) K1: C.R.E.T.-P.A.L.E.O.U. K/AR DATES OF 70-70 MILLION YEARS
*HOST ROCK TYPE(S) K1A: GRANODIORITE, RHYOLITE
*AGE OF IGNEOUS ROCK(S) K2: C.R.E.T.-P.A.L.E.O.U. AS LIKE K1
*IGNEOUS ROCK TYPE(S) K2A: GRANODIORITE - RHYOLITE
*AGE OF MINERALIZATION K3: L.C.R.E.T.-TE.R.T.U.
*PERT. MINERALS (NOT ORE) K6: QUARTZ, PYRITE
*ORE CONTROL/LOCUS K5: FAULTING, SHEARING IGNEOUS ROCK
*MAJ. REG. TRENDS/STRUCT. N5: FOLIATION IN PRECAMBRIAN COUNTRY ROCKS TRENDS N10E TO N40E, DIPS 75 W
TECTONIC SETTING N15:
*SIGNIFICANT LOCAL STRUCT. N70: VEINS SOMETIMES PARALLEL REGIONAL FOLIATION
*SIGNIFICANT ALTERATION N75: MINOR
*PROCESS OF CONC./ENRICH. N80: OXIDATION AT NEAR SURFACE
*FORMATION AGE N30: U.
*FORMATION NAME N30A:
SECOND FM AGE N35: U.
SECOND FM NAME N35A:
IGNEOUS UNIT AGE N50: C.R.E.T.-P.A.L.E.O.U. AS LIKE K1
IGNEOUS UNIT NAME N50A: INFORMAL NAME = WALKER STOCK OR WALKER GRANODIORITE
SECOND IG. UNIT AGE N55: L.C.R.E.T.-TE.R.T.U.
SECOND IG. UNIT NAME N55A: RHYOLITE DIKES
GEOLOGY COMMENTS N90: DEPOSIT IS VEIN IN CRET-PALEO WALKER GRANODIORITE. RHYOLITE DIKES LOCALLY ABUNDANT NEAR VEINS

GENERAL COMMENTS

GENERAL COMMENTS G8N:

Intra-Company Correspondence

SHATTUCK DENN MINING CORPORATION

and

SUBSIDIARIES

Humboldt Office

Date February 14, 1966

TO: C. R. Sundeen

FROM: J. Olaf Sund

SUBJECT: "Commonchero Claims" 1-4
or Forshoda North Extension 3-6
℅ Mr. Bill Guillivar
Prescott, Arizona

TYPE: Gold and silver w/galena.

TERMS REQUESTED: Partners involved. Terms not discussed.

LOCATION:
These four unpatented claims are situated approximately 1800 feet directly east of Spruce Mountain. They "tie" onto the north end of the Forshoda claim group recently optioned by Shattuck Denn. Specifically they are located in section 31, T-13-N and r-1-W.

GEOLOGY:
The claims are underlain by a part of a broad band of schistose rocks that are mainly volcanics of rhyolite and andesitic types. The foliation is generally north and south and has very steep dips.

SHOWINGS:
A number of quartz veins and sheared zones occur at various places on the property. Shafts, tunnels, cuts and trenches etc. have exposed these features wherever they are mineralized. Most were sampled except where caved, with the following results:

Sample No.	Location	Description	Au	Ag	Cu	Pb
	(Cut and Tunnel)					
12045	#4 Claim NCE discovery	Mineralized Qtz.	.07	3.4	.20	6.1
12046	#4 Claim NCE Discovery	Mineralized Qtz.	.03	6.2	.12	0.6
12047	#4 " " "	" "	.04	4.7	.12	2.7
	(Shaft)					
12048	#4 Claim NCE discovery	" "	.06	3.9	.18	1.0
12049	#4 " " "	" "	.04	3.2	.14	1.5
	And					
12050	#1 Claim discovery x-cut	6" channel Qtz.	.18	.3	.03	.7
10180	#1 " " "	6" " Talc.	Tr	Tr	.04	Nil
10181	#1 " " "	6" " Talc.	Tr	Tr	.06	Nil
10182	#1 " " "	12" " breccia	Nil	Tr	.03	Nil
10183	#1 " " " at mid point	Grab-Qtz & talc with galena	1.40	2.8	.04	6.1

Intra-Company Correspondence

SHATTUCK DENN MINING CORPORATION
and
SUBSIDIARIES

Humboldt Office

Date August 25, 1966

TO: C. R. Sundeen

FROM: J. Olaf Sund

SUBJECT: FORSHODA CLAIM GROUP
ie: Richardson Option
(PROGRESS REPORT)

INTRODUCTION:

The Richardson property was optioned as a means of protection while detailed geological studies and structural interpretations were attempted with regard to a particular structural situation. That is to say, an 8 to 10 foot wide fault breccia zone in rhyolitic rocks that is characterized by much silicification and carbonatization has an unusual galena and sphalerite cement. The particular north and south oriented breccia zone is actually faulted-off on both the north and south ends by sharp cross faults with approximate east and west orientations. Slickensiding on the cross-faults indicate a nearly horizontal movement. Early mining had completely depleted this fault zone for all of its 65 to 75 foot length. The object of our investigation was to locate the offset parts of this mineralized fault breccia zone.

FORWARD:

Preliminary field studies have been completed on this property. This includes a geological study and an electromagnetic survey over the pertinent parts. A north and south surveyed base line was established for general control. East and west lines spaced 400 feet apart were flagged with stations located every 100 feet on the lines.

Geophysical readings were taken at each of these stations using a Crone J.E.M. unit in a horizontal loop configuration and with a 300 foot separation between the coils. Both high and low frequencies of 1800 cps and 480 cps were applied. The results of this survey are plotted on a 1 inch to 200 foot map with a profile scale of 1 inch equals 5 degrees.

Geological field studies were also tied into the above flagged lines for location control and are similarly plotted on a 1 inch to 200 foot map.

GEOLOGY:

The general area is underlain by a sequence of interbedded volcanic and sedimentary rocks. These units have a general north 30 degree east orientation with steep 70 to 80 degree west dips. Top determinations on graded sedimentary beds indicate a possible anticlinal structure that is slightly overturned to the east. Distinct drag folds indicate a probable 50 degree southwest plunge. A variety of intrusive rock units have nearly obliterated the above volcanic-sedimentary structural unit.

A fine-grained, darkish spherulitic rhyolite occurs at the base of the volcanic sequence or along the crest of the anticline. This in turn is flanked on both sides

by a similar rhyolite but instead is a porphyritic and cherty variety. Where the spherulites were ideal examples of ½ inch rounded structures with a radiating quartz and feldspar composition, the porphyritic variety carried ¼ to 1/8 inch tabular and euhedral white feldspar crystals.

Alternating argillaceous, greywacke and cherty sedimentary rocks conformably overlie the volcanic sequence and thus flank the rhyolitic flows on both the east and west sides of the anticline. Some sedimentary interbeds occur within the flows. Fine-grained, buff colored crystal tuff interbeds occur within the sedimentary units but are best displayed on the west flank of the anticline along the contact between the predominantly volcanic and sedimentary units.

A fine-grained, black diabasic-gabbro has intruded into the crest of the supposed anticlinal structure at the very north end of the claims. The west flank is enveloped by a massive fine-grained to medium-grained brownish granodiorite that grades into a diorite in places.

The east flank of the anticline and the entire south end is enveloped by a coarse-grained to medium-grained massive white hornblende granite. The granite is presumably part of the widespread Bradshaw granite batholith. A vast array of hornblende granite dikes have intruded all rock units of the area. These dikes are predominantly north 10 to 20 degrees east but actually have a random orientation.

GEOPHYSICS:

For the most part, the electromagnetic survey results were of limited success. This is perhaps not unexpected in view of the considerable intrusive masses in the immediate area. However, a few conductor zones at the south end of the volcanic zone were indicated. These are plotted on the accompanying map as A-A', B-B', C-C', D-D' and E-E'.

Each of these conductors may be considered separately and studied relative to the local geology and evaluated in terms of their conductivity analysis based on the ratio of maximum resultant dip angles from high and low frequencies.

A-A': a north south conductor some 700 feet long corresponds to isolated remnants or pendants of volcanic and sedimentary rocks in the hornblende granite. A frequency ratio of 0.6 suggests the probable cause to be disseminated sulphides which is reasonable in such environments.

B-B': a northeast trending conductor some 1200 feet long corresponds approximately to the contact between the volcanic rocks and the granite-granodiorite intrusive units. The same frequency ratio of 0.6 indicates the probable cause is due to disseminated sulphides in the volcanic rocks. Again this is quite conceivable in such a geological environment.

C-C': these two very short and isolated conductors were found each on one line only, hence they are probably only 200 to 300 feet long. The ratio of 0.4 indicates that there is probably only a local zone of disseminated sulphides at each place.

E-E': this too is another conductor of limited size but it corresponds with the fault breccia zone that has the sulphide mineral cement. The low frequency was not clear at this point but extrapolation suggests that the ratio would be in the order of 0.8 to 1.0. Thus this would be caused by nearly massive sulphides or fracture filling sulphides and would be in keeping with the actual structure involved.

D-D': this is by far the strongest conductor on the property. However it too is of limited length. It is intermeshed and adjacent to the E-E' conductor. The frequency ratio of 1.0 + is indicative of massive sulphides or at least a strong but short structural zone. It is probably very similar to E-E'.

INTERPRETATION:

1. All conductors A,B and C are due to disseminated sulphides in volcanic and sedimentary rocks immediately adjacent to intrusive rocks.

2. Conductors D and E are probably due to nearly massive sulphides in a brecciated fault structure that is of limited lateral extent.

3. Geological evidence indicates that conductor D is the offset or crossfaulted extension of E to the north. A left hand movement is suggested.

4. No offset extension of conductor E to the south is apparent from our EM survey but this may have been destroyed by the nearby granite intrusive mass.

SUMMARY:

The objective of locating the offset parts of a mineralized fault breccia zone was satisfied. This is to say conductor D is very probably the extension of conductor E.

This particular fault zone is of short length and therefore cannot be expected to yield any large tonnage.

Directly east of conductor D, an old shaft is plotted on the map. This is actually a shaft and/or a tunnel that is directed westwards and under the conductor. There is probably some 8000 tons of rock on the mine dump but no evidence of any mineralized breccia. Assuming the breccia zone was removed during the mining and the dump is only waste rock then the offset extension of E must largely be mined out.

CONCLUSIONS:

1. Conductors E and D probably caused by short mineralized breccia zones.

2. Both breccia zones are probably nearly "mined out".

3. The only continued exploration work to even consider is diamond drilling under conductor D. However, in view of items 1 and 2 directly above, the chance of any significant success is doubtful.

4. The property should probably be returned to Richardson at the expiration of the option.

JOS/db

Intra-Company Correspondence

SHATTUCK DENN MINING CORPORATION

and

SUBSIDIARIES

Humboldt Office

Date November 8, 1965

TO: Mr. C. R. Sundeen

FROM: J. Olaf Sund

SUBJECT: ORIGINAL FORSHODA MINING PROPERTY
% Mr. Kelly Richardson
at Richardson Motors
Prescott, Arizona
Phone 445-3110

TYPE: Lead-zinc etc.

TERMS REQUESTED: Not discussed in detail beyond an indication that assistance is requested to bring old properties back into production.

LOCATION:

This is another mine in the Lynx Creek area near Walker "settlement" southeast of Spruce Mountain. More specifically, it is at T-12½N, R-2-W and approximately 600 feet east-southeast from the southeast corner of section 31.

HISTORY:

The details not known at this time, but it is believed to have been discovered in 1916 and the first serious work was carried out in 1925. It could not have lasted for too long thereafter judging by the amount of work completed. The present owners attempted to mill the ore in a gravity set-up but were naturally unsuccessful.

WORK DONE:

A shaft (or glory hole) has been sunk to the 100 foot level. It is some 25 feet square on the bottom and 35 feet square at the collar. A 50 foot stope at the 50 foot level has been completed and some 400 to 500 feet of lateral development was completed which includes drifts, crosscuts and a connected adit, all on 100 foot level.

GEOLOGY:

The local area is underlain by acid to intermediate lava flows, probably rhyolites +/or dacites that are sheared and generally altered. Within the lavas are fault breccia zones of varying degrees of development that strike approximately north and south and dip nearly vertical. These in turn are faulted-off by later movements or adjustments.

Specifically, an adit approximately 350 feet long was driven along a fault breccia zone in rhyolite. The zone is some 3 to 5 feet wide, strikes north 5 degrees east and dips nearly vertical. It has been little altered and is characterized by consistent one inch angular fragments with a thin layer of carbonates throughout. It is practically devoid of mineralization including pyrite. It is apparently terminated on the north by a sharp and clean cross fault that strikes north 60 degrees west and dips 55 degrees south. The cross fault is well marked by about one inch of hematite rich gouge etc. Slickensiding suggest that the last movement at least was horizontal. The relative direction of movement was not determined.

A second and older breccia zone that parallels the above is characterized by

siliceous fragments that range from ½ inch up to 14 inches diameter. These fragments are actually semi-rounded and are only occasionally angular. They are completely unsorted and non-oriented. They have been much altered such that there appears to be a variety of "pebble" or fragment types. In a hand specimen, this tectonic type fault breccia resembles sedimentary conglomerate.

The fragments are enclosed within a matrix of a very fine-grained siliceous and carbonaceous granular ground-mass that may in places be cherty. Disseminated throughout the siliceous matrix are various sulphide minerals that form the actual matrix itself. These sulphides include pyrite, sphalerite, chalcopyrite and galena etc.

The entire zone has a pale greyish colour in contrast to the dark enclosing flow rocks. It is some 10 to 15 feet wide, strikes north 5 degrees east and dips approximately 80 degrees to the west. It too is cut off by cross faults, that strike 70 degrees east and dip 50 degrees south, on both the north and south ends such that the entire zone at this point is only some 65 to 70 feet long on the horizontal.

The cross faults are not quite parallel but are similar in general appearance including the hematite rich gouge, slickensiding and their lack of mineralization etc.

GEOLOGICAL SUMMARY:

1. The wider and older breccia zone formed over extended period of time as fragments have lost sharp edges.

2. Zone mineralized during relative stability.

3. Second period of brecciation (simple movement).

4. Carbonate veining etc.

5. East and west (approximate) cross faults with horizonatl movement superimposed on earlier faulting.
   Note: Relative movements not known.

ECONOMIC:

The few samples collected from various parts of this old mine assayed as follows:

Sample No.	Location	Au	Ag	Pb	Zn	Cu
11601	At cross faults	Tr	Tr	Nil	Nil	.04
11602	and west breccia zone	Tr	Nil	Nil	Nil	.10
11603	Channel sample on	.01	Tr	.80	2.4	.16
11604	6' of main fault	.02	Tr	.20	1.0	.12
11605	breccia zone	.02	.05	1.3	4.7	--
	(note: ½" sulphide veins not included in samples)					
11592	Grab samples }	.07	0.9	3.2	8.8	.26
11593	from dump }	.05	1.1	3.0	7.2	.26

These results indicate a concentration of zinc and some lead as well as a little gold, silver and copper. An average of the dump (high) and zone (low) samples would probably indicate a truer metal content.

Richardson has made bulk metallurgical tests on the muck from the bottom of the shaft, which was slashed from the north face of the breccia zone. Copies of the "Flotation Test Log Sheets" are attached hereto.

Intra-Company Correspondence

SHATTUCK DENN MINING CORPORATION

and

SUBSIDIARIES

Humboldt Office

Date August 25, 1966

TO: C. R. Sundeen

FROM: J. Olaf Sund

SUBJECT: FORSHODA CLAIM GROUP
ie: Richardson Option
(PROGRESS REPORT)

INTRODUCTION:

The Richardson property was optioned as a means of protection while detailed geological studies and structural interpretations were attempted with regard to a particular structural situation. That is to say, an 8 to 10 foot wide fault breccia zone in rhyolitic rocks that is characterized by much silicification and carbonatization has an unusual galena and sphalerite cement. The particular north and south oriented breccia zone is actually faulted-off on both the north and south ends by sharp cross faults with approximate east and west orientations. Slickensiding on the cross-faults indicate a nearly horizontal movement. Early mining had completely depleted this fault zone for all of its 65 to 75 foot length. The object of our investigation was to locate the offset parts of this mineralized fault breccia zone.

FORWARD:

Preliminary field studies have been completed on this property. This includes a geological study and an electromagnetic survey over the pertinent parts. A north and south surveyed base line was established for general control. East and west lines spaced 400 feet apart were flagged with stations located every 100 feet on the lines.

Geophysical readings were taken at each of these stations using a Crone J.E.M. unit in a horizontal loop configuration and with a 300 foot separation between the coils. Both high and low frequencies of 1800 cps and 480 cps were applied. The results of this survey are plotted on a 1 inch to 200 foot map with a profile scale of 1 inch equals 5 degrees.

Geological field studies were also tied into the above flagged lines for location control and are similarly plotted on a 1 inch to 200 foot map.

GEOLOGY:

The general area is underlain by a sequence of interbedded volcanic and sedimentary rocks. These units have a general north 30 degree east orientation with steep 70 to 80 degree west dips. Top determinations on graded sedimentary beds indicate a possible anticlinal structure that is slightly overturned to the east. Distinct drag folds indicate a probable 50 degree southwest plunge. A variety of intrusive rock units have nearly obliterated the above volcanic-sedimentary structural unit.

A fine-grained, darkish spherulitic rhyolite occurs at the base of the volcanic sequence or along the crest of the anticline. This in turn is flanked on both sides

by a similar rhyolite but instead is a porphyritic and cherty variety. Where the spherulites were ideal examples of ½ inch rounded structures with a radiating quartz and feldspar composition, the porphyritic variety carried ¼ to 1/8 inch tabular and euhedral white feldspar crystals.

Alternating argillaceous, greywacke and cherty sedimentary rocks conformably overlie the volcanic sequence and thus flank the rhyolitic flows on both the east and west sides of the anticline. Some sedimentary interbeds occur within the flows. Fine-grained, buff colored crystal tuff interbeds occur within the sedimentary units but are best displayed on the west flank of the anticline along the contact between the predominantly volcanic and sedimentary units.

A fine-grained, black diabasic-gabbro has intruded into the crest of the supposed anticlinal structure at the very north end of the claims. The west flank is enveloped by a massive fine-grained to medium-grained brownish granodiorite that grades into a diorite in places.

The east flank of the anticline and the entire south end is enveloped by a coarse-grained to medium-grained massive white hornblende granite. The granite is presumably part of the widespread Bradshaw granite batholith. A vast array of hornblende granite dikes have intruded all rock units of the area. These dikes are predominantly north 10 to 20 degrees east but actually have a random orientation.

GEOPHYSICS:

For the most part, the electromagnetic survey results were of limited success. This is perhaps not unexpected in view of the considerable intrusive masses in the immediate area. However, a few conductor zones at the south end of the volcanic zone were indicated. These are plotted on the accompanying map as A-A', B-B', C-C', D-D' and E-E'.

Each of these conductors may be considered separately and studied relative to the local geology and evaluated in terms of their conductivity analysis based on the ratio of maximum resultant dip angles from high and low frequencies.

A-A': a north south conductor some 700 feet long corresponds to isolated remnants or pendants of volcanic and sedimentary rocks in the hornblende granite. A frequency ratio of 0.6 suggests the probable cause to be disseminated sulphides which is reasonable in such environments.

B-B': a northeast trending conductor some 1200 feet long corresponds approximately to the contact between the volcanic rocks and the granite-granodiorite intrusive units. The same frequency ratio of 0.6 indicates the probable cause is due to disseminated sulphides in the volcanic rocks. Again this is quite conceivable in such a geological environment.

C-C': these two very short and isolated conductors were found each on one line only, hence they are probably only 200 to 300 feet long. The ratio of 0.4 indicates that there is probably only a local zone of disseminated sulphides at each place.

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Humboldt Office

Date November 8, 1965

TO: Mr. C. R. Sundeen

FROM: J. Olaf Sund

SUBJECT: ORIGINAL FORSHODA MINING PROPE
% Mr. Kelly Richardson
at Richardson Motors
Prescott, Arizona
Phone 445-3110

TYPE: Lead-zinc etc.

TERMS REQUESTED: Not discussed in detail beyond an indication that assistance is requested to bring old properties back into production.

LOCATION:
This is another mine in the Lynx Creek area near Walker "settlement" southeast of Spruce Mountain. More specifically, it is at T-12½N, R-2-W and approximately 600 feet east-southeast from the southeast corner of section 31.

HISTORY:
The details not known at this time, but it is believed to have been discovered in 1916 and the first serious work was carried out in 1925. It could not have lasted for too long thereafter judging by the amount of work completed. The present owners attempted to mill the ore in a gravity set-up but were naturally unsuccessf

WORK DONE:
A shaft (or glory hole) has been sunk to the 100 foot level. It is some 25 feet square on the bottom and 35 feet square at the collar. A 50 foot stope at the 50 foot level has been completed and some 400 to 500 feet of lateral development was completed which includes drifts, crosscuts and a connected adit, all on 100 foot level.

GEOLOGY:
The local area is underlain by acid to intermediate lava flows, probably rhyolite +/or dacites that are sheared and generally altered. Within the lavas are fault breccia zones of varying degrees of development that strike approximately north and south and dip nearly vertical. These in turn are faulted-off by later moveme or adjustments.

Specifically, an adit approximately 350 feet long was driven along a fault brecci zone in rhyolite. The zone is some 3 to 5 feet wide, strikes north 5 degrees eas and dips nearly vertical. It has been little altered and is characterized by consistent one inch angular fragments with a thin layer of carbonates throughout. It is practically devoid of mineralization including pyrite. It is apparently terminated on the north by a sharp and clean cross fault that strikes north 60 degrees west and dips 55 degrees south. The cross fault is well marked by about one inch of hematite rich gouge etc. Slickensiding suggest that the last movemer at least was horizontal. The relative direction of movement was not determined.

A second and older breccia zone that parallels the above is characterized by

siliceous fragments that range from ½ inch up to 14 inches diameter. These fragments are actually semi-rounded and are only occasionally angular. They are completely unsorted and non-oriented. They have been much altered such that there appears to be a variety of "pebble" or fragment types. In a hand specimen, this tectonic type fault breccia resembles sedimentary conglomerate.

The fragments are enclosed within a matrix of a very fine-grained siliceous and carbonaceous granular ground-mass that may in places be cherty. Disseminated throughout the siliceous matrix are various sulphide minerals that form the actual matrix itself. These sulphides include pyrite, sphalerite, chalcopyrite and galena etc.

The entire zone has a pale greyish colour in contrast to the dark enclosing flow rocks. It is some 10 to 15 feet wide, strikes north 5 degrees east and dips approximately 80 degrees to the west. It too is cut off by cross faults, that strike 70 degrees east and dip 50 degrees south, on both the north and south ends such that the entire zone at this point is only some 65 to 70 feet long on the horizontal.

The cross faults are not quite parallel but are similar in general appearance including the hematite rich gouge, slickensiding and their lack of mineralization e

GEOLOGICAL SUMMARY:

1. The wider and older breccia zone formed over extended period of time as fragments have lost sharp edges.

2. Zone mineralized during relative stability.

3. Second period of brecciation (simple movement).

4. Carbonate veining etc.

5. East and west (approximate) cross faults with horizonatl movement superimposed on earlier faulting.
   Note: Relative movements not known.

ECONOMIC:

The few samples collected from various parts of this old mine assayed as follows:

Sample No.	Location	Au	Ag	Pb	Zn	Cu
11601	At cross faults	Tr	Tr	Nil	Nil	.04
11602	and west breccia zone	Tr	Nil	Nil	Nil	.10
11603	Channel sample on	.01	Tr	.80	2.4	.16
11604	6' of main fault	.02	Tr	.20	1.0	.12
11605	breccia zone	.02	.05	1.3	4.7	--
	(note: ½" sulphide veins not included in samples)					
11592	Grab samples }	.07	0.9	3.2	8.8	.26
11593	from dump }	.05	1.1	3.0	7.2	.26

These results indicate a concentration of zinc and some lead as well as a little gold, silver and copper. An average of the dump (high) and zone (low) samples would probably indicate a truer metal content.

Richardson has made bulk metallurgical tests on the muck from the bottom of the shaft, which was slashed from the north face of the breccia zone. Copies of the "Flotation Test Log Sheets" are attached hereto.

GOF-3861 REV. 12/54 & 8-57

FLOTATION TEST LOG SHEET

TABLE NO. 1

TEST NO. 2 Andress

CONDITIONS AND REAGENTS

POINT OF ADDITION	CONDITIONS			REAGENTS POUNDS PER TON									
	TIME MINS	% SOLIDS	PH	Soda Ash	NaCN	ZnSO4	404	F-71	CaO	CuSO4	238		
Ball Mill	12	60		2.5	0.2	1.2	.05						
Pb Rougher	6	22	7.0					.03					
Zn Cond.	8		10.4						2.0	0.9	.03		
Zn Rougher	4												
Zn Cleaner	2½												

REMARKS

404 designates AERO Promoter 404
F-71 " AEROFROTH 71 Frother
238 " AEROFLOAT 238 Promoter

METALLURGICAL RESULTS

PRODUCT	WEIGHT		ASSAYS					% DISTRIBUTION				
	%	gms	Copper % Cu	Lead % Pb	Zinc % Zn	Silver Oz. Ag	Gold Oz. Au	Cu	Pb	Zn	Ag	Au
Calc. Head	100.00		0.20	4.79	5.28	1.99	.050		100.0	100.0	100.0	100.0
Lead Pb Ro. Concn	7.74		1.60	56.8	11.0	21.4	.50	60.0	91.7	16.1	83.4	78.0
Zinc Zn Cl. Concn	6.92			1.1	53.9	2.6	.05		1.7	70.6	9.0	6.0
Zn Cl. Tail	1.36			2.25	18.9	5.01	.01		0.6	4.9	3.5	--
Ro. Tail	83.98			0.34	0.52	0.10	.01		6.0	8.4	4.1	16.0
Calc. Zn Ro. Concn	8.28			1.33	48.2	3.02	.036		2.3	75.5	12.5	6.0
Assay Head			0.13 0.21	4.8 4.6	5.3 5.4	2.2 2.8	.06 0.05					
RATIO OF CONCENTRATION			Avg. 0.20	4.7	5.4	2.5	.055					

REMARKS Screen analysis of Rougher Tail--12-minute grind:

0.2% +48, 0.8% +65, 6.0% +100, 9.6% +150, 16.0% +200, 67.4% -200 mesh

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FLOTATION TEST LOG SHEET

Andress

TABLE NO. 2 | TEST NO. 3

CONDITIONS AND REAGENTS

POINT OF ADDITION	CONDITIONS			REAGENTS POUNDS PER TON								
	TIME MINS	% SOLIDS	PH	Soda Ash	NaCN	ZnSO4	404	F-71	CaO	CuSO4	238	
Ball Mill	12	60		4.0	0.2	1.2	.05					
Rougher	6	22	7.4					.03				
Scav.	8		10.2						2.0	0.9	.04	
Zn Roughter	4											
Zn Cleaner	2½							.03				

REMARKS

METALLURGICAL RESULTS

PRODUCT	WEIGHT		ASSAYS					% DISTRIBUTION				
	%	~~mgs~~	Copper % Cu	Lead % Pb	Zinc % Zn	Silver Oz. Ag	Gold Oz. Au	Cu	Pb	Zn	Ag	Au
Calc. Head	100.00		0.20	4.58	5.32	1.87	.046		100.0	100.0	100.0	100.0
Pb Ro. Concr	7.07		1.70	57.3	10.7	21.3	.46	60.0	88.5	14.3	80.8	71.8
Zn Cl. Concr	7.28			1.2	53.4	2.9	.07		2.0	73.2	11.2	10.9
Zn Cl. Tail	1.42			3.05	12.9	4.88	.01		0.9	3.4	3.7	--
Ro. Tail	84.23			0.48	0.58	0.10	.01		8.6	9.1	4.3	17.3
Calc. Zn Ro Concr.	8.70			1.49	46.8	3.22	.057		2.9	76.6	14.9	10.9
Assay Head			0.18 0.21	4.8 4.6	5.3 5.4	2.2 2.8	0.06 0.05					
		Avg.	0.20	4.7	5.4	2.5	0.055					

RATIO OF CONCENTRATION

REMARKS