



## **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](mailto:inquiries@azgs.az.gov)

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: BIG SPAR MINE

ALTERNATE NAMES:  
BIG STAR

MARICOPA COUNTY MILS NUMBER: 235

LOCATION: TOWNSHIP 6 N RANGE 5 W SECTION 4 QUARTER NE  
LATITUDE: N 33DEG 53MIN 46SEC LONGITUDE: W 112DEG 47MIN 43SEC  
TOPO MAP NAME: VULTURE MOUNTAINS - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

FLUORINE FLUORSPAR  
CALCIUM CALCITE  
SILICON QUARTZ  
BARIUM WITHERITE

BIBLIOGRAPHY:

USGS VULTURE MTNS QUAD  
ADMMR BIG SPAR MINE FILE  
ELEVATORSKI E A ADMMR AZ FLUORSPAR RPT 197  
P 27  
ADMMR INDUSTRIAL MINERALS REPORT P 37  
ADMMR "U" FILE MARICOPA FL-7  
MEEVES H USBM RI 6828 P 58  
ADMMR WHITELOCK CORP. FILE  
MILL OPERATED ON THIS PROPERTY, CRUSHER,  
ELEVATOR, SHAKING SCREEN POWERED BY GAS  
ENGINE  
ADDITIONAL WORKINGS SEC 5 NE1/4, T6N-R5W  
AZBM BULL. 155, P. 21

BIG SPAR MINE

REFERENCES

MARICOPA COUNTY  
VULTURE DIST.  
T6N R5W Sec. 04

Maricopa County MILS Index #235

AKA: Big Star

AZ Fluorspar Rpt., 1971, p. 27

Industrial Mineral Rpt., p. 37

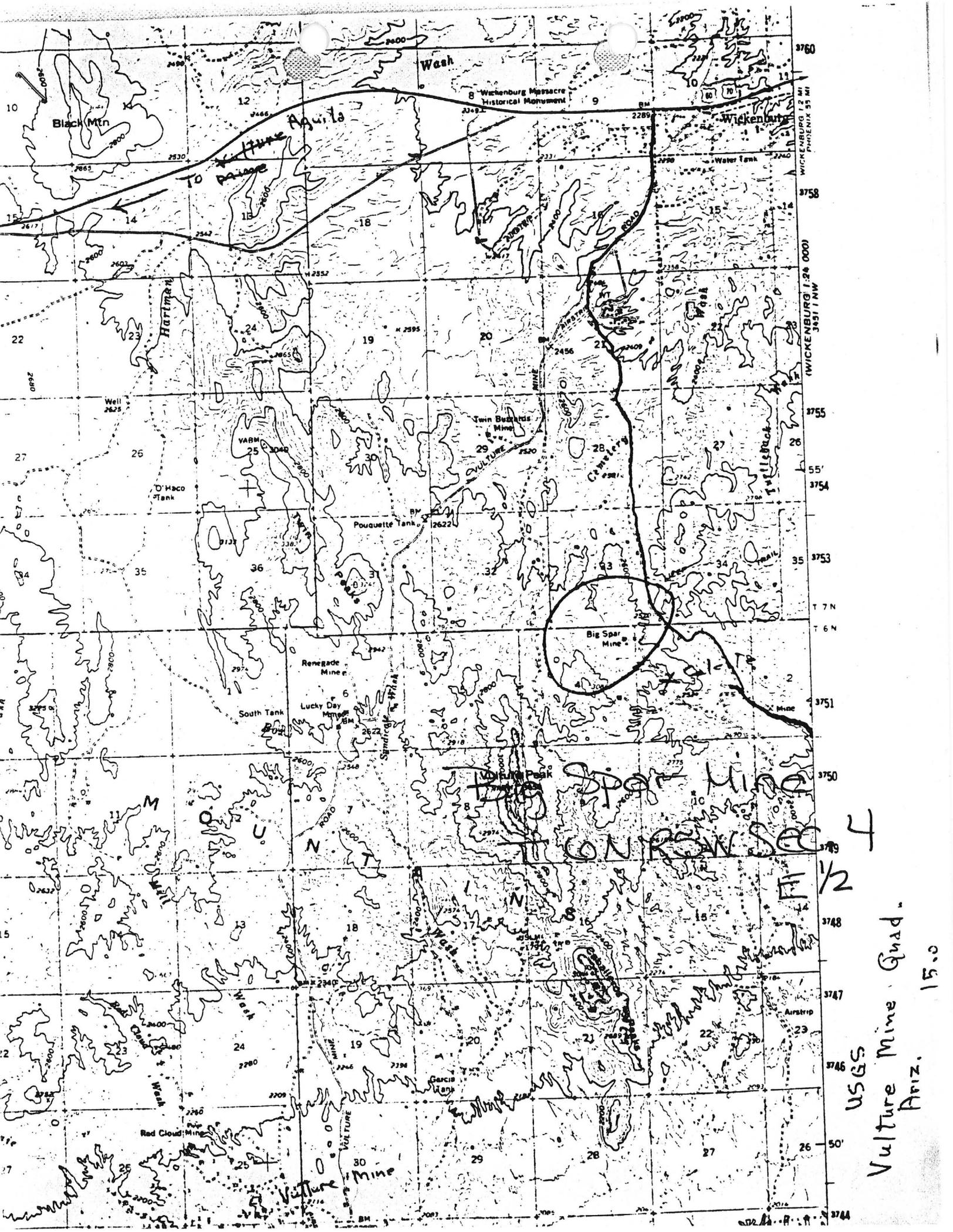
"U" File

RI 6828, p. 58

ABM Bull. 155, p. 21

Whitelock Corporation Spar Mill (file)

Vulture Mtns., AZ 15' Topo (included in file)



Wash

Wickenburg Massacre Historical Monument

Wickenburg

TO TUNNE PASSAGE

Black Mtn

Aguita

Twin Bushards Mine

Big Spar Mine

Renegade Mine

Lucky Day Mine

Red Cloud Mine

Vulture Mine

3760  
3758  
3755  
3754  
3753  
3751  
3750  
3748  
3747  
3746  
3744

4  
1/2

USGS  
Vulture Mine Quad.  
Ariz. 15.0

BIG SPAR MINE

MARICOPA COUNTY

Visited, with A. L. Flagg, the Big Spar property owned by Dave Campbell of Wickenburg (fluorspar and calcite). Mohave Mining and Milling is shipping 50 to 60 tpd of calcite for blending with their manganese mill product to grade it down to 25% Mn for sales to Kaiser.

---

Visited the office of the Mohave Mining and Milling office in Wickenburg. The company is shipping about 60% of its product to Kaiser Steel under a contract which specified a flat price for a concentrate of minimum grade of 25% Mn. Mohave finds it advantageous to grade down their normal concentrate by diluting with calcite which constituent is not considered undesirable at the Kaiser Steel plants. As noted above the calcite is coming from Campbell's Big Spar property now under lease to Mohave. The Mohave people believe the GSA manganese program will terminate about Sept. 15, possibly a few days earlier. TPL WR 5-11-59

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Went to the mill being constructed by Vance Thornburg about 5 miles NE of Wickenburg. Here 2 men were welding parts of the old manganese mill together for the new one during which there were 3 supervisors giving directions. Presently there are only two pieces of equipment installed. As yet there are no crushing, grinding or conveying equipment on the job nor is there any power machinery around. However Mr. Strauss, one of the supervisors said they would have the sink-float mill ready to receive fluorspar by the middle of Feb. He also said that the Big Spar fluorspar mine was being readied for mining. GW WR 1-24-74

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Fluorspar property called Big Star (Spar) held by J.D. Campbell of Wickenburg since 1/7/70. GW WR 11/26/74

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Went to Wickenburg to contact Mr. Campbell, owner of the Big Spar mine SW of Wickenburg, but he wasn't available. GW WR 4/24/75

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I accompanied Vic Kral and Bill Hirt to the Big Spar, Jumbo and Contact mines 6-8 miles SE of Wickenburg. Met Bill Hirt and Vic Kral at the Big Spar mine 7 miles SE of Wickenburg and discussed the current work. GW WR 4/28/75; 5/1/75

---

J.D. Campbell said the Good Luck, Lillie Bell, Big Spar and the Mammoth produced 12-15,000 tons from 1920 to 1946 (listed in descending order). He said the majority of the spar was sold to the Continental Ore Co. f.o.b., Wickenburg, some, however, was bought by Monolith Cement Co., Victorville, California. GW WR 12/23/75

---

Attached 11/5/81  
K mfw.

John J

MELVIN H. JONES  
Mining Geologist

MHJ  
1601 Sandhill Rd., #36  
Las Vegas, Nev. 89104  
15 December 1980

MEMORANDUM FOR THE RECORD.

✓ Big Spar mine (Fluorspar), Vulture Mountain, about 6 miles SW of Wickenburg, Az. 85358.

On December 6, 1980, the writer, accompanied by August Gangola, 612 Clarkway Dr., Las Vegas, Nev. 89106, and J David Campbell, Box 1297, Wickenburg, Az. 85358, visited the Big Spar Mine. It is about 6 miles SW of Wickenburg. Mr. Campbell owns the property (2 claims). At this property, the Fluorite is white in color.

According to Campbell, 25 carloads of Fluorite (CaF<sub>2</sub>) has been shipped from the property in the past. It runs 50%, or better in CaF<sub>2</sub>. At the mine site, there is a shaft about 100 ft. deep, on a vertical vein, about 3.5 ft. wide and runs for 3000 ft. (according to Campbell). The strike is about N. 40 deg. W. The country rock is apparently granitics, and rhyolite. The vein also carries some black calcite (CaCO<sub>3</sub>), plus Mn. In the past a gravity separation mill was at the mill site; but this equipment is long gone. There is also a parallel vein of CaF<sub>2</sub> nearby showing a width of about 2 ft.

Melvin H. Jones

MANAGEMENT

Big Spar Mine  
Vulture Mtns. 15' NE 1/4 Sec. 4, T. 6N, R. 5W.  
Maricopa County

reference: Arizona Dept. of Mineral Resources  
Big Spar Maricopa County (file)

present owner: J.D. Campbell of Wickenburg

history of the mine:

The mine was located in 1938 by E.R. Dickie, Cipriano Torres, and J.A. Campbell of Prescott, Az. According to a 1946 report the property had been sold. Apparently some ore was shipped in 1953 and then remained idle until about 1959 when Mohave Mining and Milling Company began shipping 50 to 60 tons per day of calcite for blending with their Mn mill product. The project ended in Sept. of 1959. Some repair work was done in 1974. J.D. Campbell obtained the property in 1970.

mineral: fluorspar

geology: The vein consists of high grade stringers of fluore and crystalline calcite occurring in a shear zone about 12' wide. Mineralization varies from 1 to 4 feet in the outcrop. The vein is nearly vertical and contains pyrolusite. The country rock is granite.

1-4-74

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine BIG STAR (Big Spar)

Date December 21, 1973

District Vulture

Engineer R. E. LEHNER

Subject: Mine visit

Location: NE1/4Sec 4, T6N R5W (about 10 miles southwest of Wickenburg via road)

Owner: Not known

Mineral: Fluorspar

Background: After visiting the mill site for the Whitelock Corporation about 5 miles north of Wickenburg and learning from Mr. Strauss that they planned to get their spar ore from the Vulture Mtns., I decided to visit the Big Star mine to see if there were any activity in that area. I talked to several people in the area and learned that there was no activity with fluorspar at present but there was some gold placer operations in the general vicinity. I did not pursue the gold mining activity at that time because of the lateness of the day.

I believe that the fluorspar properties on the east side of the Vulture Mountains should be visited to ascertain any activity. This access must be made from the Morrystown area.

Reference: ARIZONA FLUORSPAR (1971) - Dept. Mineral Resources bulletin.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

✓  
Mine Big Spar

Date March 22, 1958

District Vulture

Engineer Lee Hammons

Subject: Brief Examination  
✓

Owner: Isaac Campbell, Wickenburg, Arizona

Location: Approximately 4 miles SW of Wickenburg

Status: Idle

Development: 2 shafts about 150' apart and 2 prospect pits on the vein outcrop. One inclined shaft was about 15' deep, apparently filled in. No data was obtained on the main vertical shaft since the owner was ill and confined to bed at time of visit. A small mill on the property was completely deteriorated.

Geology: The vein, consisting of high grade stringers of fluorite and crystalline calcite, occurs in a shear zone approximately 12' wide. The mineralization varies from a foot to 4' wide in the outcrop. The vein is nearly vertical and contains a strong showing of pyrolusite. The country rock is a granite.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
FIELD ENGINEERS REPORT

Mine  BIG SPAR

Date April 20, 1955

District VULTURE DIST., MARICOPA COUNTY

Engineer Mark Gemmill

Subject:

Some ore was shipped in 1953 - but since it has been inactive.

# BIG SPINNING & MILLING COMPANY

PRODUCERS AND BUYERS OF FLUORSPAR AND MICA ORES

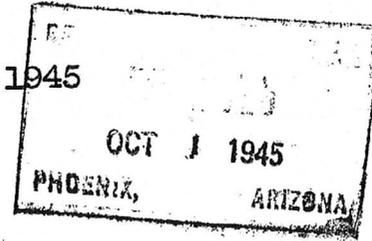
CUSTOM MILLING SOLICITED

J. A. CAMPBELL, SUPERINTENDENT

P. O. DRAWER 1

WICKENBURG, ARIZONA

Sept. 30th. 1945



Department of  
Mineral Resources  
State of Arizona.  
Mr, Chas, H. Dunning  
Director.

Dear Mr, Dunning:

In going over the report of June 30th, submitted to our Governor, I find several paragraphs that are completely out of line with the duties and findings of facts for its publication, therefore, I am only referring to the paragraphs affecting me, on my efforts and hard work, to bring some capital to develop my fluorspar properties.

On your report, immediately after the Appropriations for the maintenance of the department,, you state that the Department was created for the purpose of helping the Small Mine Owners of which I am one, What help ? by misstating, warping or twisting of facts and figures ? As I will show you, by referring to ; paragraph 3rd. on FLUORSPAR, Now Mr, Dunning, I do not care if you would call me a farmer, as I respect a farmer, as a good and reliable man or men, a lot better man than the STATE politicians and job seekers, with a good fat pay check every 15 days or every month as the case may be (excepting a very small percentage of our State politicians who are doing a very good job in their respective offices) Mr, Dunning, please keep on reading this letter, as copies of it are being sent to others that are interested in getting a copy of it. My brother and I, have some good farms, and are farming some very good ore, and have shipped about 25 to 30 carloads of about 60 tons. each since 1943 and now, I, myself alone, have associated myself with some other farmers and we are about ready to turn over our treating plant to treat about 50 tons. of crude ore per every 8 hours, the plant is situated right here in Wickenburg, and expect to start milling ore about the middle of October.

Now Mr, Dunning: Since when did we rely on climate conditions to get RFC Loans, I got a \$7,000. loan for my Fluorspar(farm) and spent it all as per agreement with the Government, Was it on account of climatic conditions ? or because I had the Fluorspar ore or mine, I think that you do not know what you was writing about when you made that report.

In regard to Access roads, I will just skip that, and forget it, as I built roads to all of my properties with my hard earned CASH. a some help from the County. Thanks to the Supervisors.

Yours very truly,

A handwritten signature in cursive script, appearing to read "J. A. Campbell".

Big Spar

October 1, 1945

Mr. J. A. Campbell  
P. O. Drawer 1  
Wickenburg, Arizona

Dear Mr. Campbell:

I regret that you have seen cause to be offended at, or have misunderstood, some statements in our annual report, but there has been no warping of "facts or figures".

This department knows of your commendable work on fluorspar in the Wickenburg district and your operation would seem a perfect example of the type of operation that is injured by the unbusinesslike methods of production in the Midwest and East. For it is still a fact that the price of fluorspar is held down by producers back there who have surface deposits on their farms and can work at it "off season" at little or no wages or profit. If these operators had to pay wages and assume other costs incident to most mines, you would be getting more for your fluorspar today.

In regard to the climate, this was intended largely for the benefit of California who has made frequent complaints that we have received more loans, although we are a much smaller state. Of course the real reason why we have received so many loans is because of the activity of this department - but we were too modest to put it in that way.

Yours very truly,

Chas. E. Dunning  
Director

CHD:LP

CC: Mr. H. F. Mills  
Mr. W. C. Humphrey  
Mr. Charles F. Willis

DEPARTMENT OF MINES & REVENUE

News Items

Date July 25, 39

Mine Big Spar

Location 10 miles S.W. Wickenburg

Owner F.A. Dickie & Assoc.

Address Wickenburg

Lease or Operating Co. Earl Rogers

Address Wickenburg

Pres. Fluorspar

Genl. Mgr. Hauled to

Mine Supt. Barnett Ranch

Mill Supt. & Ligated

Principal Metals

Men Employed Several Vain's

Production Rate in lava

Mill, Type & Capacity

Power, Amt. & Type

Signed

Barth

(Over)

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
MINE OWNER'S REPORT

Date

June 15 / 40

1. Mine *Big Spar*
2. Location *8 miles South of Wickenburg*
3. Mining District & County *Vulture Mng. Dist. Maricopa County*
4. Former name *none*
5. Owner *E. R. Dickie Cipriano TORRES and J. Campbell*
6. Address (Owner) *J. A. CAMPBELL 414 SO. MARINA ST. PRESCOTT, ARIZ.*
7. Operator *none*
8. Address (Operator) *none*
9. President, Owning Co. *none*
- 9A. President, Operating Co. *none*
10. Gen. Mgr. *none*
11. Mine Supt. *none*
12. Mill Supt. *none*
13. Men Employed *none*
14. Principal Minerals *FLUORSPAR*
15. Production Rate
16. Mill: Type & Cap.
17. Power: Amt. & Type
18. Operations: Present *18 foot shaft only & location work*
19. Operations: Planned *none*
20. Number Claims, Title, etc. *2 Claims running E to W Rolling hills at foot of mountain*
21. Description: Topography & Geography *Rolling hills at foot of Vulture peak, accessible by a good road up to the shaft.*
22. Mine Workings: Amt. & Condition *location work only, x 18 foot shaft on vein shown all the way down, shaft pitching South approx. 87° 80° from the vertical*

23. Geology & Mineralization The rock in place is mostly decomposed quartzite. The country does not seem to be broken up very bad, 500 yards from property, minus a large ledge of sand stone which will produce a lot of water if drilled to 200 feet deep. The vein is FLOURSPAR, assaying about an average of 55% with a large proportion of Calcite in the other 45%. How much has never been assayed for Calcite, only assaying notation at foot of Certificate.

24. Ore: Positive & Probable, Ore Dumps, Tailings  
Flourspar vein traced for out 300 feet on surface, from 1 ft to 7 ft wide, with smaller parallel vein 25 ft from main vein.

24A. Dimensions and Value of Ore body  
Can not determine tonnage, only 18 ft shaft is sunk on vein, but vein shown is well ind.

25. Mine, Mill Equipment & Flow-Sheet  
1. Principal Minerals  
2. Production Rate  
3. Mill Type & Cap.

26. Road Conditions, Route  
Road is over decompose Granite Country, & open all year around, with not over 10% short hills, road graded up to 1/2 mile from property, for Road information see or call E. R. Dickie  
27. Water Supply  
Water can be obtained from Vulture mine, or see at Wickburg.

28. Brief History  
Developed by drilling to approx 200 feet on a Sand Stone ledge 500 yards away, at this depth an ample water supply for all purposes can be had.  
started in 1938  
no data on rain fall. Note: hard & cheap water at Wickburg for plant

29. Special Problems, Reports Filed  
only draw back is the treatment of ore, which would be approx 1/2 to 1 to get a marketable product

30. Remarks  
31. Description: Topography & Geography

31. If property for sale: Price, terms and address to negotiate.  
Property is for sale, Lease, bond & Lease or thought royalty per ton treated at mill, in other works, we can get together on a deal  
32. Signature J. A. Campbell Co. & Co.

DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
OWNERS MINE REPORT

MB-50

Date June 15, 1940

- 1. Mine **Big Spar**
- 2. Mining District & County **Vulture Mining District  
Maricopa County**
- 3. Former name
- 4. Location **8 miles South of  
Wickenburg**
- 5. Owner **E. R. Dickie, Cipriano Torres, and  
J. A. Campbell**
- 6. Address (Owner) **J. A. Campbell,  
414 So. Marina St., Prescott, Ariz**
- 7. Operator
- 8. Address (Operator)
- 9. President
- 10. Gen. Mgr.
- 11. Mine Supt.
- 12. Mill Supt.
- 13. Principal Metals **Fluospar**
- 14. Men Employed
- 15. Production Rate
- 16. Mill: Type & Cap.
- 17. Power: Amt. & Type
- 18. Operations: Present **18 foot shaft only and location work**

19. Operations Planned

20. Number Claims, Title, etc. **Two claims running E to W. Rolling hills at foot of mountain**

21. Description: Topography & Geography **Rolling hills at foot of Vulture Peak, accessible by a good road up to the shaft.**

22. Mine Workings: Amt. & Condition **Location work only and 18 foot shaft on 7 ft. vein showing all the way down, shaft pitching south approx. 80- from the vertical.**

23. Geology & Mineralization The rock in place is mostly decomposed granite; the country does not seem to be broken up very bad. Approx. 500 yards from property, runs a large dike of sand stone which will produce a lot of water if drilled to 200 feet deep.

The vein is Fluospar, assaying about an average of 55% with a large proportion of Calcite in the other 45%, how much, has never been assayed for calcite, only assayer's notation

24. Ore: Positive & Probable, Ore Dumps, Tailings (at foot of certificate.)  
Fluospar vein traced for about 300 feet on surface, from 1 ft. to 7 ft. wide, with smaller parallel vein about 25 ft. from main vein.

24-A Vein Width, Length, Value, etc. Cannot determine tonnage, as only 18 ft. shaft is sunk on vein, but vein shown is well defined.

25. Mine, Mill Equipment & Flow Sheet

26. Road Conditions, Route Road is over decompose Granite country, open all year round. With not over 10% short hills, road graded up to 1/2 mile from property. For road information see or call E. R. Dickie, Vulture mine, or see Isaac Campbell at Wickenburg.

27. Water Supply Water can be developed by drilling to approx. 200 feet on a sandstone ledge about 500 yards away, at this depth an ample water supply for all purposes can be had. No data on rain fall. (Note: Land and cheap water at Wickenburg for plant).

28. Brief History Located in 1938 by present owners. All virgin ground.

29. Special Problems, Reports Filed Only drawback is the treatment of ore, which would be approx. 1-1/2 to 1 concentration to get a marketable product.

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Property is for sale, lease, bond and lease or straight royalty per ton treated at mill, in other words, we can get together on a deal.

32. Signed /sd/ J. A. Campbell Co-owner.

33. Use additional sheets if necessary.

Mining Claims, and  
are held on Option by  
my client, who is ready  
to do business on a Royalty  
basis, with a given set  
purchase price, royalty to  
apply on Purchase price.

Have no Eugene's  
report, as the best way  
to determine all angles  
of a proposition like this,  
is for the interested party  
make a personal examination  
or through your Eugene.

Assays taken were  
from 1/4 of 1% to 16% at the a<sup>100%</sup>  
Shop of the 5 claim group.  
If interested drop me  
a line, and will arrange  
for a trip to mine. over

Prescott, Ariz 610140

Box MC-36 Dept of Mineral  
Resources,  
Capitol Bldg.  
Phoenix, Arizona.  
Gentlemen:

Your ad of Jay-Whit  
of Apr 29 1960 was  
overlooked some some  
unaccountable reason, but

if you are still looking  
for a Pimmar property  
it will pay you to  
investigate or inspect  
the Pimmar property  
over Copper Basin Road  
Prescott,

This property consists  
of 2 groups of 5 x 11

STATUS OF DORMANT MINES

MINE NAME: Arizona Fluorspar Mines Comprising of 7 Claims  
LOCATION: from 7 to 8 miles from Wickenburg, Ariz.  
OWNER AND/OR LEASEE: J.A. Campbell and Son Owners  
ADDRESS: Box 663 Wickenburg, Ariz.  
APPROXIMATE PRODUCTION (Year of 1945): About 12 -60 ton. Carloads

COPPER \_\_\_\_\_ Lbs. LEAD \_\_\_\_\_ Lbs.  
ZINC \_\_\_\_\_ Lbs. (OTHER) Fluorspar

CHECK THE CHIEF CAUSE OF YOUR DISCONTINUED PRODUCTION:

- (A) Easily available ore worked out. all high grade sorted by hand.
- (B) Increased costs, but have quantity similar to past grade of ore. plenty
- (C) Too close a margin to develop more ore. Labor costs too high
- (D) and price of Fluorspar too low.

~~In the last War, we did not even get the premium.~~

If you have ore ready to mine please give your estimate of the amount of metal (name each metal) that you could produce in one year (after allowing 60 days to get started) if there were premiums above present market prices. Name amount with a low premium, and amount at a high premium; such as:

Copper at 22½¢ plus 5¢ premium..... 1,000,000 Lbs.  
Copper at 22½¢ plus 10¢ premium..... 1,500,000 Lbs.

Have about 12,000 tons. available to mine and mill, but have no milling facilities.

If you do not have ore ready to mine please discuss the following:

- (A) Do you think a reasonable development program would produce a justified tonnage of commercial ore at above mine?

~~Have plenty of 50% to 55% percent ore ready to mine if we had the treating plant to treat, and bring up to 85% Fluorspar  $CaF_2$  we have a partially installed plant.~~

- (B) With a premium price (guaranteed for one year) could you carry out such a development program yourself? What premium? We only get \$15. for our Fluorspar, and we ship to Chicago, Ill. So we would be satisfied with market value, and a small premium

we can keep up producing on small scale, with plant to treat the ore, we can produce one carload per week with a 25 ton. to 35 tons. Capacity.

- (C) If you could not do this yourself, would a quick drilling program by some government agency (at government expense) be sufficient?

~~This kind of Ore can not be developed by Diamond drilling or Churned drill, it takes actual mining.~~

- (D) Or would you prefer a loan plan similar to the arrangements during World War II? I got a \$7,000.00 loan (RFC) and developed mine to a certain extent.

How about a combination plan in two stages such as follows?

Stage 1: Government engineers review project and, if a little drilling appears to be justified and a preliminary key to the situation, such drilling program to be agreed upon by owner and government engineer, paid for by the government, but let by contract. Not accepted, as it will be money thrown away and my time lost.

Stage 2: If results of drilling (or without drilling) justify underground development and/or production equipment, same to be obtainable via a mortgage loan on property.

Please discuss the above: ~~The only thing we need, is a 25 to 30 ton sink-Float process, and some tables to concentrate some of the amenable ore to table.~~

*I spent about \$27,000.00 since 1943 including all money received for Ore shipments.*

SUGGESTIONS:

~~Will accept a Sink-Float plant of about \$15000.00 installed then we can go ahead with mining operations.~~

~~A Flootation plant is too expensive to start with, possible some time later it will justifies the expence involved.~~

DATE

*August 10<sup>th</sup> 1950*

SIGNATURE

*J. Campbell*

**DEPARTMENT OF MINERAL RESOURCES**  
**State of Arizona**  
**MINE OWNER'S REPORT**

Date July 1<sup>st</sup> 1946

1. Mine: Big Spar *This property was sold some time ago*
2. Location: Sec.                      Twp.                      Range                      Nearest Town
- Distance                      Direction                      Road Condition
3. Mining District & County: John Campbell of Wickenburg
4. Former Name of Mine: can give you information as to
5. Owner: the present status
- Address:
6. Operator:

NAME OF MINE: **BIG SPAR** (Good Luck Spar)      COUNTY: **MARICOPA**  
 DISTRICT: **VULTURE**  
 METALS: **Caf2**

OPERATOR AND ADDRESS:		MINE STATUS	
DATE:		DATE:	
5/1/44	J. S. Campbell, 414 S. Marino St., Prescott or Drawer 1, Wickenburg	5/1/44	Not shipping
8/5/43	4 men working	5/46	Idle
1/44	not shipping		
2/44	shipping		

Placer                     

10. Geology & Mineralization:                     

6-21-42

Campbell, J. A. ~~414 S. Main St.~~  
 Prescott, Arizona P.O. Drawer 1  
 Wickenburg ('50)

See Misc. "C" File

- Re: "Notice of Intention to hold mining claims without assessment work"
- See MB-50 - BIG SPAR MINE,  
 Re - Owners Mine Report      6-15-40
- See MC-43 - CINNABAR MINE, Yavapai Co.  
 Re - Owners Mine Report      6-15-40
- See BIG SPAR - re annual report      10-1-45

Greenway Albert

THE BIG SPAR MINES  
WICKENBURG, MARICOPA COUNTY, ARIZONA

By  
J. M. HILL, Geologist

July, 1945.

THE BIG SPAR MINES  
WICKENBURG, MARICOPA COUNTY, ARIZONA

LOCATION AND ACCESSIBILITY

The Big Spar Mine and other fluorite producing properties south of Wickenburg, Maricopa County, Arizona, are all located in a narrow zone 1 mile wide (north to south), by 5 miles long (see Map #1). They are in the west end of the low Vulture Mountains, quite close to Hassayampa River. The Big Spar Mine, the most westerly, is in Sec. 4, T. 6 N., R. 5 W., but extends NW into Sec. 33, T. 7 N., R. 5 W. Most of the deposits lie about  $4\frac{1}{2}$  miles east of the Big Spar in the northwestern part of T. 6 N., R. 4 W. (See Map #2).

The Big Spar Mine is most easily accessible from Wickenburg, being 7 miles from the railroad station. Highway 80 is taken west about a mile, where the Vulture road turns off to the southwest. This graveled, maintained road is followed about  $2\frac{1}{2}$  miles to a graded road turning south, which has a sign, "Big Spar and Jumbo Mines". The last  $3\frac{1}{2}$  miles of road, up a wash and over a low divide, are crooked but could be easily straightened and the distance shortened.

A "mine access" road was graded by the Government from Morristown, 12 miles south of Wickenburg on the railroad, to the mines in the eastern part of the district. The mines here are from 8 to 10 miles from rail.

A fairly good but winding desert road in a wash connects the two parts of the district, and is used a good deal, by all the mines, as the only crushing plant is located at the Big Spar Mine ("1 Map #2) at the west end of the district.

There is said to be an old road, probably in need of repair, down the wash eastward from the Chilco (#9 Map #2), which would hit the railroad somewhere in Sec. 33, T. 7 N., R. 4 W., near the gravel plant on the west side of Hassayampa River about midway between Wickenburg and Morristown.

#### GENERAL GEOLOGY

The geologic map of Arizona, published in 1925, shows the Vulture Mountains as granite along the north side and precambrian schists in the foothill area to the south. The whole crest of the range is mapped as covered with tertiary volcanics. As a matter of fact, most of the low hills east of Vulture Peak is precambrian schist with many dikes of rhyolite, andesite and diabase. A few small remnants of the tertiary flow rocks cap the higher summits, notably Wickenburg Mountain.

The schists strike nearly east and in general dip south at steep angles. There are a large number of eastward trending fault zones along which there has been considerable brecciation. A few NNW trending breaks were also seen, but are not so numerous as the east trending breaks.

#### FLUORSPAR MINERALIZATION

Fluorite occurs as replacement of fault breccia and as veins of nearly pure mineral up to 3 feet in width. The veins are most often seen in close proximity to rhyolite dikes or small lenses and dikes of medium grained alkali pegmatite. The pure fluorite veins average about 15 inches wide. There is considerable calcite and ankerite in some of the lower grade (45% to 50%) veins where they are wide (4' - 9'), and a little barite was noted. Silica as quartz was not seen but some of the ore in the wider veins con-

tains unreplaced wall rock which raises the silica content above marketable limits. There are nonsulphide minerals present in any of the veins so far developed. This means that the cleaning of the material can be a relatively simple jigging operation if only metallurgical spar is to be produced.

The veins make along a closely spaced system of nearly E-W faults, most of which dip steeply both north and south. A few faults with dips as low as  $30^{\circ}$  were seen. The walls of these faults are polished and slickensides indicate normal movement along them. There is usually from 1" to 4" of gouge on the walls, so it is possible to break clean ore. In some places the high grade pure fluorite portion of the vein is separated from the lower grade mill ore by a break.

#### DEVELOPMENT

These veins have been exploited for only two years, by local people with small capital. The work is largely open cut or shallow shafts on lenses of high grade ore that could be marketed after crushing and required no separation of calcite or silica. The majority of the shafts are from 20 to 35' deep. The deepest working is on the Big Spar Mine, (#1 Map #2), where an incline was sunk 105 feet with about 75 feet of drifting at the 100 foot level. At the Good Luck (#3, Map #2), there is a 60 foot shaft, and at the Mammoth is a 50' shaft.

#### CLAIMS AND OWNERS

Claim ownership is rather uncertain as there are from 2 to 4 partners involved in several of the mines. All the ground is held by location. There are no patented claims in the district. The list below is the best data as to ownership available in mid

July, 1945. As will be seen, the Campbell Brothers are the principal owners and are the moving spirits as well as largest producers in the district.

Map No.	Name of Claims	Number	Owners
1	Big Spar	2	J.A.Campbell 2/3 Wm. Daniel 1/3
2	West End	1	Ike Camobell
3	Good Luck	1	Ike Campbell
4	Queen Spar	1	Ike Campbell (leased to Wm. Daniel
5	Jumbo	1	Yell (leased to Ike Campbell
6	Nickel	4	A.W.Nickel, J.A.Campbell and Brinkerhoff
7	C & N	2	Contreras & Nickel
8	Palo Verde	2	Bud Lodsman
9	Chilco	1	Brinkerhoff also has lease from State on 32
10	Mammoth	2	J. A. Campbell & Brinkerhoff
11	Contact	5	J. A. Campbell

#### DESCRIPTION OF INDIVIDUAL MINES

#1 Big Spar Mine consists of 2 locations trending northwest. The principal work near the camp is in Sec. 4 T5N, R5W. The original shipments were made from an open cut on a 4' to 7' vein that strikes N40W and dips SW at 75 to 80°. The footwall is a polished fault plane. Above this is 12" to 24" of nearly pure gray and blue fluorite. West of that streak is from 3' to 4' of mixed ankerite-fluorite with a little barite. The cut is 50' long with a 20' face in ore. A little underhand stoping was done. This break can be traced NW for 900 feet by outcrop and a little work has been done, presumably on the same vein at that place.

A 105' shaft was sunk near the mouth of the open cut with

\$7000 obtained as an RFC loan. There is good ore for 20' below the collar, but below that depth little or no fluorite was encountered in the fault breccia. At the 100' level there is a 35' drift to the NW which shows a little better mineralization at the face. The 25' drift to the SE is barren. A 15' crosscut SW from this face is in schist but cuts into a diabase dike. About 40 feet of crosscut to the east has been run to intersect a vein known on the surface 60' east of the main vein.

Beside the two veins already mentioned there is a strong, well mineralized cropping opened by 2 shallow holes between the camp and mine. This vein trends E and dips S. A few tons of high grade has been taken from the shallow workings.

The only mill in the district is located at the Big Spar. It consists of a large crusher, elevator, and shaking screen, all powered by gasoline engine. A small compressor is housed in the mill building. While the building is rough, the mill seems adequate for the simple crushing required for metallurgical grade ore.

Good Luck (#3 Map #2), claim, located in Sec. 7, T6N, R4W, at the junction of Morristown "Access Road" and the road to Big Spar. The vein strikes N70°W and dips S at 45°. There are two inclined shafts 35' and 40' deep, and 75' apart, located on a lense of ore that was 5' thick near the surface and is 18" wide at the bottom of the shafts. The fluorite is high grade but there are small lenses of reddish rock, probably rhyolite, included in the vein. The vein lies in schist with an excellent hanging wall. A narrow feldspar pegmatite lies about 4' above the vein.

About 600' east of the work described above, a shaft, said to be 60' deep, has been sunk on the same vein. It is well

timbered. Material on the dump shows a mixed calcite-fluorite-rock fragment ore that would require milling. There are 2 small hoists and 1 compressor at the shallow shafts.

West End (#2 Map #2) (Sec. 12 T6N, R5W).

The West End claims are in part on the same vein as the Good Luck, 500' to the west of that there are a large number of shallow open cuts where the vein lay directly on the surface without overburden. There are also some abandoned shallow shafts on a nearly vertical ENE trending vein. There is no equipment.

Jumbo(#5 map #2), located in Sec. 1, T6N, R5W.

The Jumbo vein strikes N70°W and dips south at 75° with excellent hanging and foot walls. It is developed by open cuts over a length of 600' and varies from 3' to 11' wide. At the west end of the workings there is a 40' deep inclined shaft with good head-frame but no hoist. The ore at the bottom of the shaft is 18" to 24" wide. A high grade streak of ore 10" to 24" wide was mined in the cuts along the hanging wall but most of the vein will require milling to remove rock and calcite.

Mammoth (#10 Map #2) Mine in Sec. 5, T6N, R4W, is the most eastern of the district. The principal vein strikes N70°E and dips S at 75°. At the collar of the shaft the vein is 3' to 10' wide of nearly pure white, blue crystalline fluorite that is reported to carry less than 1% SiO<sub>2</sub>. The shaft is 40' deep with a good head frame but no equipment. About 30' north of the main vein there are several shallow workings on a vertical vein of pure fluorite 10" to 12" wide. The country rock is schist on the footwall and altered granite or rhyolite on the hanging wall.

Chilco (#9 Map #2) Mine, a few hundred feet NW of the Mammoth, is on a flat vein. The high grade fluor spar is quite red and is from 10" to 24" thick, some of the flat stopes are as much as 3' high.

#### PAST PRODUCTION

The first shipment made from the district was on December 2, 1943, and up to July 2, 1945, a total of 672 tons had been produced. All these shipments are combined ore from several places. None of the present owners are equipped to really mine and there is only the <sup>one</sup> ore crushing plant. The ore has been sold to a New York Mineral Broker and has carried from 69.1% to as high as 82.5% CaF<sub>2</sub>. The ore is sold on contract called for over 65% CaF<sub>2</sub> and not more than 2% SiO<sub>2</sub>. This means that all ore is hand sorted and considerable mill ore has been rejected.

#### POSSIBILITIES

It is my belief that by proper handling all the properties in the district can be brought under one management, and possibly ownership. However, for a start to this combination, it would seem that most of the owners would work their own mines or lease them, provided there was an adequate mill to handle ore on a custom basis.

J. A. Campbell has already started to put together such a scheme. He has leased a small mill site (120' on the RR spur) at Wickenburg and has arranged for water and tailings disposal. He owns most of the necessary materials for the building and is now buying crusher, jigs, screen and elevators to put in a mill that will probably do fair work but will have the high losses usual in such an operation.

My opinion is to let Campbell go ahead with his mill, try to work in with him to option as much of the potential ground as possible and then go in for a real prospecting and development program. If the results of a diamond drilling or exploration campaign warranted, I have no doubt that a site for an adequate mill to include flotation could be acquired along the Hassayampa River and Santa Fe tracks in Sec. 32, T7N, R4W.

I estimate that it may take half a year to get owners lined up, and that the cost of acquiring title to mines might run into

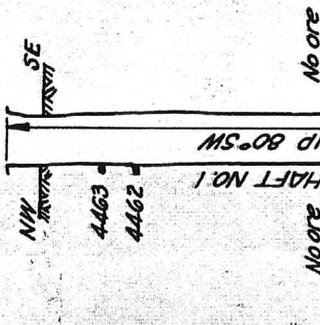
\$500 - \$1000 per claim, say . . . . .	\$30,000
Prospecting and development, very rough estimate . . . . .	<u>25,000</u>
Making a total of . . . . .	\$55,000.

For the immediate future I believe it will be possible to produce each week

1 car hand sorted ore	50 tons
300 tons mill ore -finished product	<u>200 tons</u>
	250 tons
Selling price on cars \$19.00	\$4750 gross
Cost mining, hauling and milling @ \$10.00	<u>2000</u>
	\$2750 net

In my opinion there is an excellent chance of developing a large number of veins in the district from which a substantial production of metallurgical cerassic and acid grade spar could be produced.

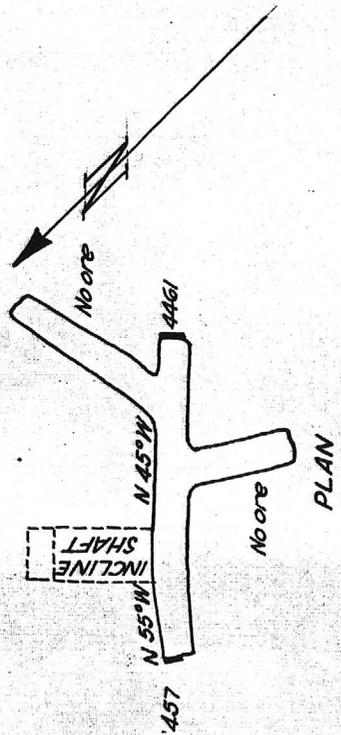
Respectfully submitted:  
*J. M. Hill*  
Geologist



NO.	WIDTH	%CaF <sub>2</sub>	%SiO <sub>2</sub>
4457	3.4'	13.86	59.08
4461	4.1'	6.09	74.12
4462	6.0'	33.32	33.62
4463	4.8'	33.32	35.18

No ore

LONGITUDINAL SECTION

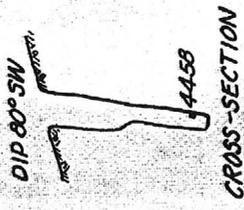
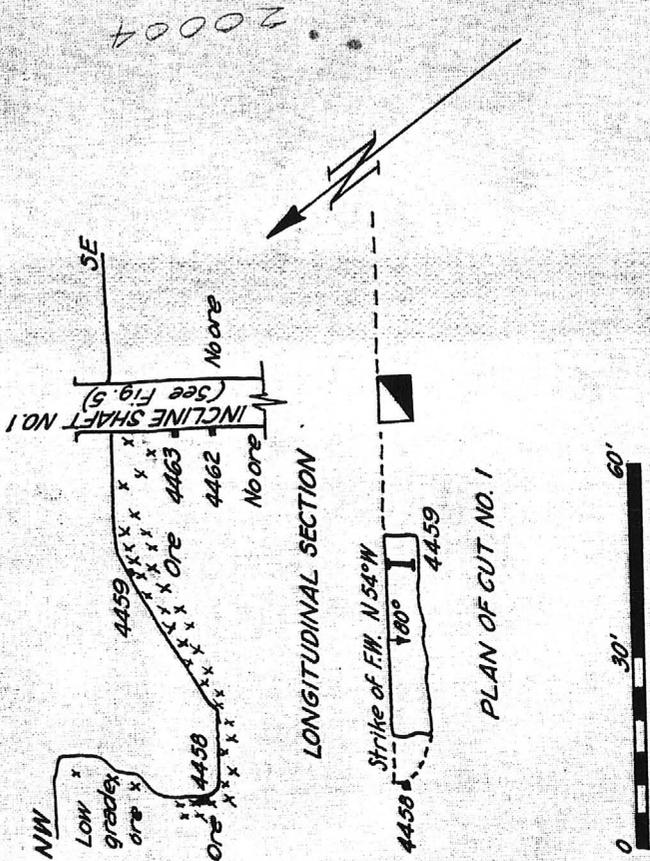


PLAN



FIG. 5 - BIG SPAR MINE

20004



NO.	WIDTH	%CaF <sub>2</sub>	%SiO <sub>2</sub>
4458	1.8'	42.28	34.46
4459	5.3'	51.48	18.07
4462	6.0'	33.32	33.62
4463	4.8'	33.32	35.18

FIG. 6 - BIG SPAR MINE

20004

R5W

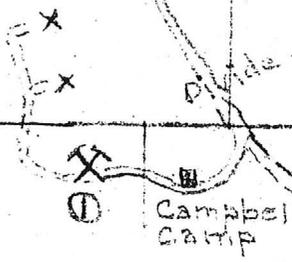
28  
To Wickenburg  
7 miles from  
Camp\*

Tank □

33

34

36



①  
Campbell  
Camp

4

3

2

X ①

**BIG SPAR MINES**  
Wickenburg, Maricopa County,  
Arizona.

- |                       |                       |
|-----------------------|-----------------------|
| 1. Big Spar.          | 9. Chilco.            |
| 2. West End.          | 10. Mammoth.          |
| 3. Good Luck.         | 11. Contact.          |
| 4. Queen.             | X Prospect            |
| 5. Jumbo.             | X Shippers            |
| 6. Nickel.            | == Graded Road        |
| 7. Conteras + Nickel. | - - - Fair Truck Road |
| 8. Palo Verde.        | J.M. Hill 7/17/45     |

Well  
○

12

Print on Sheet 11

B---

MAP 2

R 4 W

30

29

28

T 7 N

31

32

34

Phoenix Branch  
Hassayampa River  
A.T. & S.F.

6

X 6 X

X

7

9

X 10

6

5

4

3

T 6 N

3

7

8

9

10

Access Road to Morrissetown

B

T7N, R5W  
SECTION 33

SECTION 3

SECTION 4

T6N, R5W

548°W  
138'

Sta. 1

510°W  
279'

Sta. 2

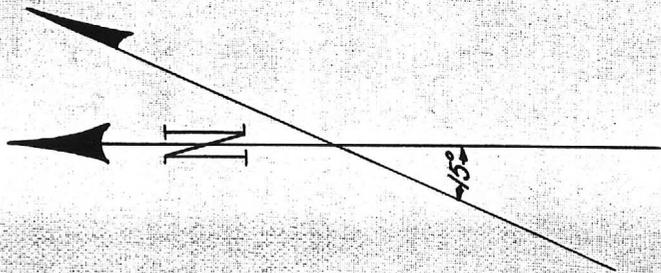
524°W  
319'

PIT #4  
O Noore

2600

2590

2580



TRACHYTE  
GRANITE

0652  
PIT #2  
O Noore

Sta. 3

PIT #3  
O No ore

CRUSHING PLANT

PIT #1  
O Noore

INCLINE  
SHAFT No. 1

4458  
4459  
4463  
4462  
4457

4461

2610  
2620  
2630  
2640

CUT #2  
O No ore

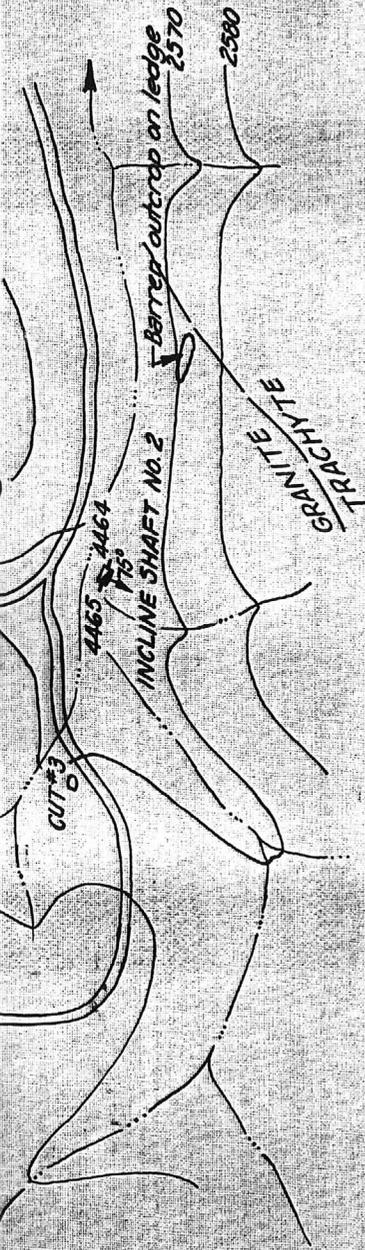
4460

TRACHYTE  
GRANITE

2600

4458  
4459  
4463  
4462  
4457

Sta. 28



Notes:  
 Stadia survey.  
 Sta. 3 to Sta. 68, N 76° 15' W - 303 FT.  
 Geologic contacts are approx.  
 Elev. Incline shaft No. 1 assumed 2600

NO.	WIDTH	% Fe <sub>2</sub>	% SiO <sub>2</sub>
4457	3.4'	13.86	59.08
4458	1.8'	42.28	34.46
4459	5.3'	51.48	18.07
4460	2.0'	30.54	3.09
4461	4.1'	6.09	74.12
4462	6.0'	33.32	33.62
4463	4.8'	33.32	35.18
4464	4.9'	42.42	17.24
4465	3.3'	16.66	29.80



FIG. 2 - BIG SPAR MINE  
 20004

