



## **CONTACT INFORMATION**

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ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: BLACK ROCK

ALTERNATE NAMES:  
DAVIS

GRAHAM COUNTY MILS NUMBER: 45

LOCATION: TOWNSHIP 4 S RANGE 19 E SECTION 18 QUARTER SE  
LATITUDE: N 33DEG 05MIN 04SEC LONGITUDE: W 110DEG 26MIN 34SEC  
TOPO MAP NAME: SAN CARLOS RESERVOIR - 15 MIN

CURRENT STATUS: DEVEL DEPOSIT

COMMODITY:  
MANGANESE

BIBLIOGRAPHY:  
ADMMR FILE  
USAEC PRE.IM. RECONN. REPORT 1958, P. 355  
ADOT HIGHWAY MAP GRAHAM CO. 1949, P. 2,  
(ADMMR FILES)  
FARNHAM, L.L. & OTHERS, MAGNANESE DEPSOITS  
OF EASTERN AZ., USBM IC 7990, 1961, P. 90

MB-52  
DEPARTMENT OF MINERAL RESOURCES  
STATE OF ARIZONA  
OWNERS MINE REPORT

Date August 22, 1940

1. Mine Black Rock Group
2. Mining District & County Stanley Butte Mining Dist. Graham County
3. Former name
4. Location Approximately 10 miles south of Coolidge Dam in Graham County, Arizona.
5. Owner L. K. Davis, Donald K. Davis and C. S. Brown
6. Address (Owner) Box 601, (All) Ajo, Arizona
7. Operator Not operated
8. Address (Operator)
9. President Not incorporated
10. Gen. Mgr. None
11. Mine Supt. None
12. Mill Supt. None
13. Principal Metals Manganese
14. Men Employed None
15. Production Rate None
16. Mill: Type & Cap. None
17. Power: Amt. & Type None
18. Operations: Present None at present, except yearly assessment work.
19. Operations Planned Planned operations would depend largely upon the extent of government participation in developing manganese deposits of this type and grade. Electrolytic process developed at Boulder City is indicated as logical program, or the ore could be handled with beneficiation by some method of separation of iron and manganese, the only problem being the excess of iron.
20. Number Claims, Title, etc. Four claims, by location and annual assessment work. Unpatented.
21. Description: Topography & Geography Elevation is not known. Would say approximately 3800. High point of property is approximately three hundred feet above the lowest point. Limestone hills, rather rough, but not excessively steep. Most of this ground lies on the east slope of lime hill; balance is in small dry wash and basin of same.
22. Mine Workings: Amt. & Condition One shaft, 200 ft approximately; 40° incline, no water, not timbered; Shaft in excellent shape. No headframes or ore bins. Other workings consist of one old tunnel approximately 20 ft., some caving at face; two open cuts, new; one trench approximately 4 ft x 4 ft x 20 ft, all in ore. One small shaft 10 ft. (new) bottom in ore. There is also an old vertical shaft approximately 150 ft., in the limestone just above the manganese which shows a small amount of silver ore on the dump. This shaft is caved and not available for examination. Apparently no manganese was encountered in this working.

23. Geology & Mineralization. It occurs in limestone (Mart) what is believed to be an intrusive dike from granite formation lying west of the lime hill. Lime strata dips west approx. 40°. Small streak of copper-silver ore (carbonate) lies on top of manganese (approximately finger-width) very high grade in spots, believed to be objective in sinking shaft some thirty years ago.
24. Ore: Positive & Probable, Ore Dumps, Tailings Approximately 800 tons of ore in dumps. 9% manganese. Estimate by depth of ore developed and extent of outcrop visible that there is about 500,000 tons of ore in sight. Believe that by additional sinking in main shaft 3,000,000-5,000,000 tons may be developed.
- 24-A Vein Width, Length, Value, etc. Main body is 5½ to 6 ft. in width, outcrop is traced approx. 1500 feet. Average value of various working is approximately 11% manganese. Two assays which we believe are from average samples are as follows:
- |    |    |       |     |      |      |       |        |      |                |
|----|----|-------|-----|------|------|-------|--------|------|----------------|
| #1 | Fe | 36.8% | CaO | 9.5% | Mn   | 13%   |        |      |                |
| #2 | Fe | 36.5% | CaO | 5.5% | MnO2 | 28.6% | Insol. | 4.4% | Silver .46 oz. |
25. Mine, Mill Equipment & Flow Sheet None
26. Road Conditions, Route Dirt road approximately 7½ miles from highway 70. Passable all year, any type of passenger car. To reach property take highway 70 east from Globe to a point approx. 7 miles east of Coolidge Dam, at the first sign which reads "Hidden Haven Ranch" take right hand road. Keep all right hand junctions. Dump of main shaft is approx. 100 yds. from road, on the right, which looms black against light gray hill.
27. Water Supply No water on property, except during rainy spell in winter. Domestic water available at ranch approximately 2 miles east, or ranch approximately 1½ miles southwest. Believe mill water could be developed by drilling well.
28. Brief History Little history is known of this property. Original locator not known. We understand that a J. J. Kennedy operated property to some extent during last war, but are unable to state whether he shipped any manganese. Incline shaft is thought to be over thirty years old. Old perpendicular shaft is probably older. No production is known.
29. Special Problems, Reports Filed This property was examined and reported on by Mining Examiner, Strategic Minerals Division, Bureau of Mines in April 1940.....Technical difficulties are entirely a matter of separation of excess iron from manganese content.....This is not a problem if electrolytic process operations were employed. We have an opinion from Engineer in charge of the Electrometallurgical Experimental Laboratory at Boulder City that this ore can be readily processed by their new method.
30. Remarks We are at present experimenting with milling processes to beneficiate this ore similar to methods used in Cuba. If we are successful in this, electrolytic process would not be required to handle this ore, and plant investment would be relatively low. If electrolytic process is employed plant investment would be high, but probably lower than any other known manganese deposit of size, owing to fact of cheap power at Coolidge Dam, approx. 10 miles, (airline.
31. If property for sale: Price, terms and address to negotiate. Due to existing conditions, and possibilities of government assistance in production of manganese, we are in doubt about putting a sale price on this property, but would prefer to interest capital for financing plant and development on generous share basis. In other words if this grade of ore can be handled, its potential value is great, and a buyer probably would not be interested in our price. On the other hand, we would make an attractive proposition to capital.  
Signed..... L. K. Davis  
(for owners)
33. Use additional sheets if necessary.

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

Date August 22, 1940

1. Mine Black Rock group
2. Location Approximately 10 miles south of Coolidge Dam, in Graham County, Ariz.
3. Mining District & County Stanley Butte Mining District, Graham County
4. Former name
5. Owner L. K. Davis, Donald K. Davis and C. S. Brown
6. Address (Owner) All, Ajo, Arizona
7. Operator Not operated
8. Address (Operator)
9. President, Owning Co. Not incorporated
- 9A. President, Operating Co.
10. Gen. Mgr. None
11. Mine Supt. None
12. Mill Supt. None
13. Men Employed None
14. Principal Minerals Manganese
15. Production Rate None
16. Mill: Type & Cap. None
17. Power: Amt. & Type None
18. Operations: Present None at present, except yearly assessment work.
19. Operations: Planned Planned operations would depend largely upon the extent of government participation in developing manganese deposits of this type and grade. Electrolytic process developed at Boulder City is indicated as logical program, or the ore could be handled with beneficiation by some method of separation of iron and manganese, the only problem being the excess of iron.
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3. **Geology & Mineralization** Ore occurs in limestone (Martin) in what is believed to be an intrusive dyke from granite formation lying west of the lime hill. Lime strata dips west approx. 40°. Small streak of copper-silver ore (carbonate) lies on top of manganese (approximately finger-width) very high grade in spots, believed to be objective in sinking shaft some thirty years ago.
4. **Ore: Positive & Probable, Ore Dumps, Tailings** Approximately 800 tons of ore in dumps. 9% manganese. Estimate by depth of ore developed and extent of outcrop visible that there is about 500,000 tons of ore in sight. Believe that by additional sinking in main shaft 3,000,000 5,000,000 tons may be developed.
- 4A. **Dimensions and Value of Ore body** Main body is 5½ to 6' in width, outcrop is traced approx. 1500 feet. Average value of various working is approximately 11% manganese.  
Two assays which we believe are from average samples are as follows:
- |    |          |          |                        |             |                |
|----|----------|----------|------------------------|-------------|----------------|
| #1 | Fe 36.8% | CaO 9.5% | Mn 13%                 |             |                |
| #2 | Fe 36.5% | CaO 5.5% | MnO <sub>2</sub> 28.6% | Insol. 4.4% | Silver .46 oz. |
5. **Mine, Mill Equipment & Flow-Sheet** None
6. **Road Conditions, Route** Dirt road approximately 7½ miles from Highway 70. Passable all year. any type of passenger car. To reach property take Highway 70 east from Globe to a point approx. 7 miles east of Coolidge Dam, at the first sign which reads "Hidden Haven Ranch" take right hand road. Keep all right hand junctions. Dump of main shaft is approx. 100 yds. from road, on the right, which looms black against light grey hill.
7. **Water Supply** No water on property, except during rainy spell in winter. Domestic water available at ranch approx. 2 miles east, or ranch approx. 1½ southwest. Believe mill water could be developed by drilling well.
8. **Brief History** Little history is known of this property. Original locator not known. We understand that a J. J. Kennedy operated property to some extent during last war, but are unable to state whether he shipped any manganese. <sup>Incline</sup> Shaft is thought to be over thirty years old. Old perpendicular shaft is probably older. No production is known.
9. **Special Problems, Reports Filed** This property was examined and reported on by Mining Examiner, Strategic Minerals Division, Bureau of Mines in April 1940....  
Technical difficulties are entirely a matter of separation of excess iron from manganese content... This is not a problem if electrolytic process operations were employed. We have an opinion from Engineer in charge of the Electrometallurgical Experimental Laboratory at Boulder City that this ore can be readily processed by their new method.
10. **Remarks**  
We are at present experimenting with milling processes to beneficiate this ore similar to methods used in Cuba. If we are successful in this, electrolytic process would not be required to handle this ore, and plant investment would be relatively low. If electrolytic process is employed plant investment would be high, but probably lower than any other known manganese deposit of size, owing to fact of cheap power at Coolidge Dam, approx. 10 miles, airline.
11. **If property for sale: Price, terms and address to negotiate.**  
Due to existing conditions, and possibilities of government assistance in production of manganese, we are in doubt about putting a sale price on this property, but would prefer to interest capital for financing plant and development on generous share basis. In other words, if this grade of ore can be handled, its potential value is great, and a buyer probably would not be interested in our price. On the other hand, we would make an attractive proposition to capital for a deal on plant development.
12. **Signature**  
  
T. K. Davis
13. **Use additional sheets if necessary.**

## A General Description of the Black Rock Group of Mining Claims

In Stanley Butte Mining District, Graham County, Arizona

L. K. Davis, C. S. Brown and Donald Davis, owners

The Black Rock Group consists of four unpatented claims situated about one and one half miles north of the old Copper Reef mine, seven miles south of San Carlos Lake, on the Hawk Canyon road.

These claims were located by the present owners in 1939 for the possible development of the large deposit of manganese ore found there. The area is mostly limestone formation, with grey granite to the west and red granite to the north of this group. Porphyry dikes extending from S. E. to N. W. are seen exposed in some places. A large quartz dike disappears just before it reaches the east side line of the east claim.

The manganese ore occurs in a 6' to 8' vein in the limestone, outcropping from a point about midway of No. 1 claim running south and west with the conformation of the lime hill, across one corner of Claim No. 2, thence westerly across the width of Claim No. 5. Of the many samples taken at various openings on the vein this ore averages about 11% manganese, 34% iron, 5.5% lime and very little silica and practically no phosphorus.

Development work on these claims consists of an incline shaft approximately 200 ft. in depth on the ore on Claim No. 1, several small cuts on the same vein; a 10 ft. hole on Claim No. 2; a 30 ft. tunnel, a 10 ft. hole and a 20 ft. hole on Claim No. 5, all of which are in manganese ore. In addition to this work on the manganese, there has been considerable development work on lead-silver ores which was entirely separate from the work on the manganese. On claim No. 5 there is a 150 ft. shaft and a 40 ft. shaft on lead-silver ores. On Claim No. 1 there is a 30 ft. shaft, a 20 ft. shaft, a 100 ft. shaft and several smaller workings on lead-silver ores. All of this work on lead-silver ores is very old, probably done during the period of 1900-1906. The big shaft on the manganese was also sunk during this period, developing a very high grade stringer of silver ore which laid on top of the manganese vein. A small amount of work was done in this shaft during 1917-1918 in an effort to develop the manganese. Estimating by the depth of this ore developed in the shaft and by the length on the vein observed, it is believed that there is at least 500,000 tons of this manganese ore available. Further development would probably increase this tonnage to several million tons.

In 1940 the writer accompanied an examining engineer of the Strategic Minerals Division, U. S. Bureau of Mines, over this property. In the summer of 1941 a party of engineers from the Strategic Division visited the property and obtained a two ton sample which they took to the Salt Lake station for conducting metallurgical tests to determine the best method of beneficiating this ore. To date these tests have not been finished. Since there are no other penalizing materials in the ore, it is believed that the only problem in these tests is to find an inexpensive process of separating the manganese from the iron.

This manganese ore could be cheaply mined. The vein dips to the west at about a forty degree angle. The vein is not frozen, either to hanging or foot wall. The lime walls make excellent support and no timber has been necessary in the shaft.

There is no water on the property. A fairly good spring which might be developed lies just across a hill about one-quarter mile to the east. There is also a good supply of water at the Sanders Ranch  $1\frac{1}{2}$  miles northeast, on the road. Very cheap power could be obtained at Coolidge Dam, about 10 miles north by direct line.

The road from Highway 70 is in fairly good condition and could be improved for heavy trucking without any new surveys. There is only one grade going out, a short climb out of Squaw Creek canyon.

The lead-silver ores on this property have only recently been examined. Due to their age and present condition the two deep shafts, which are perpendicular, have not been examined. The 40 ft. shaft on Claim No. 5 has not been examined for the same reason. However, on a recent trip to this property -- June 1942 -- the writer traced the outcrop of a lead vein from a ten foot hole on the southeast end of Claim No. 1 diagonally across this claim to the northeast corner of Claim No. 3. Samples were taken at several points, including the 30 ft. shaft, which assayed all the way from 6% lead and 1.3 oz. silver to 38% lead and 22 oz. silver. In the old 30 ft. shaft the lead vein, about 18 in. wide, pitched into the lime hill and was not followed farther. It is believed that several carloads of a good grade of ore might be shipped from this vein without too much expensive development work.

The owners of this property primarily interested in any deal that will develop the manganese. It is also felt that the showing of lead-silver ore should warrant further development.

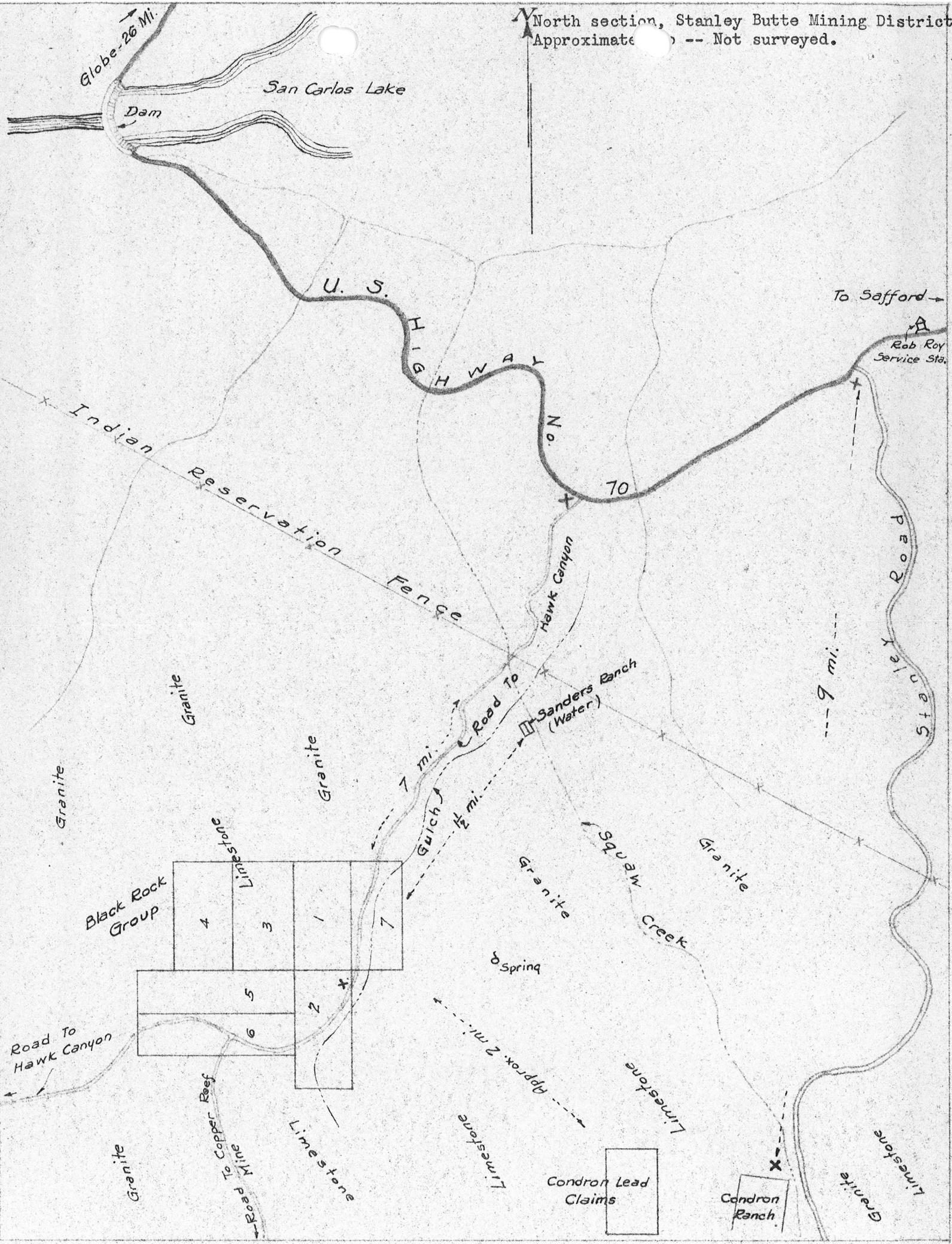
( Signed )

L. K. Davis

Address:

Box 575,  
Ajo, Arizona

North section, Stanley Butte Mining District  
Approximate --- Not surveyed.



Globe-26 Mi.

San Carlos Lake

Dam

U. S. HIGHWAY NO. 70

To Safford →

Rob Roy Service Sta.

Indian Reservation Fence

Hawk Canyon

Road To Sanders Ranch (Water)

9 mi.---

Peolets Road

Granite

Granite

Granite

Granite

Granite

Black Rock Group

Limestone

4

3

1

7

5

2

Road To Hawk Canyon

Spring

Approx. 2 mi.---

Squaw Creek

Granite

Road To Copper Reef

Limestone

Limestone

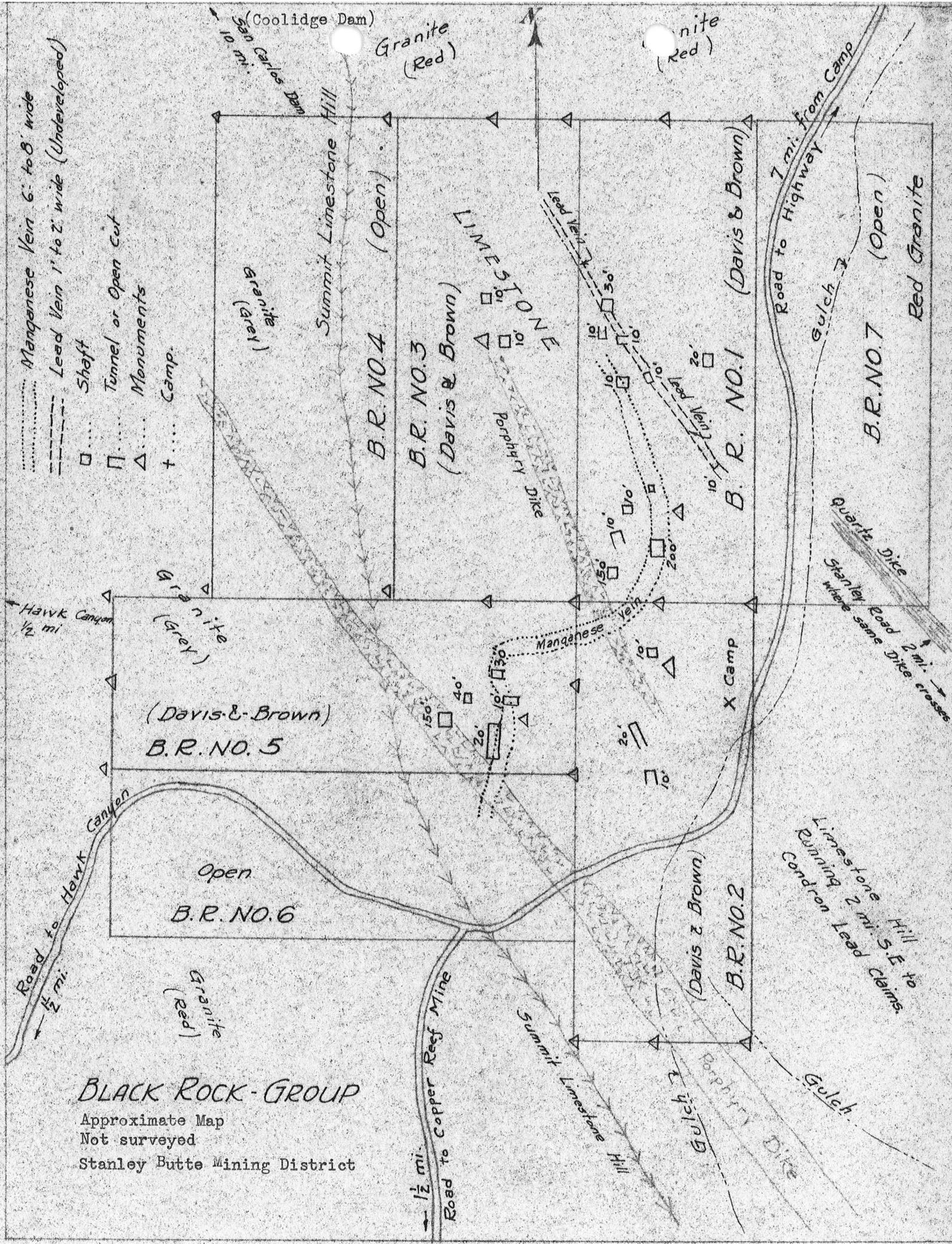
Condron Lead Claims

Condron Ranch

Limestone

Granite

- ..... Manganese Vein 6' to 8' wide
- Lead Vein 1' to 2' wide (Undeveloped)
- Shaft
- ▭ Tunnel or Open Cut
- △ Monuments
- + Camp



**BLACK ROCK-GROUP**

Approximate Map  
 Not surveyed  
 Stanley Butte Mining District