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08/04/97

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: RAINBOW

ALTERNATE NAMES:

COCHISE COUNTY MILS NUMBER: 671

LOCATION: TOWNSHIP 17 S RANGE 23 E SECTION 9 QUARTER C  
LATITUDE: N 31DEG 58MIN 10SEC LONGITUDE: W 110DEG 00MIN 19SEC  
TOPO MAP NAME: KNOB HILL - 7.5 MIN

CURRENT STATUS: EXP PROSPECT

COMMODITY:

ZINC  
LEAD

BIBLIOGRAPHY:

USBM REPORT FILE NO 464.2/1518 BY G W VOELZEL  
ADMMR RAINBOW MINE FILE  
KREIDLER, TERRY J., "MINRAL-RESOURCE POTEN-  
TIAL OF THE DRAGOON MOUNTAIN RARE II  
FURTHER PLANNING AREA, COCHISE CO, AZ" U S  
BUR OF MINES MLA 35-82, 1981 ADMMR GEO FILE

RAINBOW MINE

COCHISE COUNTY

MG WR 4/2/82: Ruth M. Compton, P.O. Box 522, Pearce, Az 85625, has staked the Rainbow claims 1-20 in the Dragoon Mountains of Cochise County. This claim group is in the Jordan Canyon area (St. David 15<sup>1</sup> quad.) of Sec. 32 and 33, T 16S R23E and Sec. 4 & 5, T17S, R23E.

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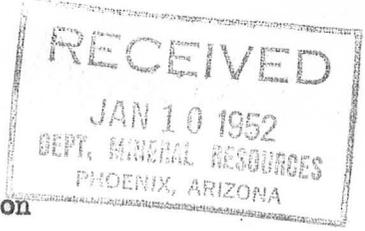
*New*

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

page 1.



Mine Rainbow Mine

Date Dec. 14, 1951.

District Dragoon Mining Dist., Cochise Co.

Engineer Axel L. Johnson

Subject: Reconnaissance Report

Location This property is located 4 miles south of Dragoon Station in the Dragoon mts. There is a good road for two miles toward the property. The next mile is poor road, and needs repairs. In addition one mile of ~~new~~ additional road must be built to reach the property.

Number of Claims One patented claim.

Owner Mrs. Flora Hubbard, 1201 St. Mary's Road, Tucson, Arizona.

Leasers Chester Higgins, Box 156, Benson, Ariz. ----- 1/2 interest.  
Peter Lehr, 13542 E. Cerritos Ave., Rte. #4, Anaheim, Calif. --- 1/2 interest.  
The property was leased last July. It is a 5 year lease with option to buy at \$25,000. Leasers are to pay 10% royalty on the net smelter returns, the royalty payments to apply on the purchase price, if the purchase option is exercised. Leasers have a one years moratorium in which to start operating the mine. After one year, a minimum of \$100 per month of work must be done, or a cash payment of \$100 must be made.

Metals Found Lead and Zinc ores in the form of sulphides.

Men Employed None. Mine is idle.

Production Rate No Production.

Milling Facilities None. The property needs a mill as the ore is low grade milling or

Geology and Mineralization Galena and sphalerite is found disseminated in a country rock of altered schist within 100 to 150 ft. of a large quartzite outcrop. The galena and sphalerite is found in small streaks and bunches distributed quite uniformly throughout the country rock. The rock also contains some pyrite, and a small amount of chalcopyrite.

Ore Values (1) Directly below the overburden on top of the schist formation, assays show---- 1% Lead-- 1% Zinc-- 0.05% Copper, from a shallow open cut.

(2) On a dump from the 80 ft. vertical shaft (inaccessible) on the property, assays show---- 5 % Lead-- 2 % Zinc-- 2 oz. Silver-- 0.05 % Copper.

(3) An old record of an assay at the bottom of the 80 ft. shaft (shaft now is unsafe for entry) shows ---- 4 % Lead--- 4 % Zinc.

Old Workings (1) One old open cut 50 ft. long and 1 to 6 ft. deep.

(2) One inclined prospect shaft, as shown on sketch.

(3) One vertical shaft-- 80 ft. deep.

(4) 20 feet of drifting from the 60 ft. level of this shaft.

All workings apparently were in ore (milling grade)

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Past Operations The Granby Lead and Zinc Co. had a lease with option to buy the property in 1912, and put down the shafts and made the drifts and open cut mentioned in the previous paragraph. (Also see sketch on page 3). They are reported to have cancelled the lease on account of encountering too much water to bail out with their ore bucket, and also because they lost contact with the owner of the property.

Proposed Plans The Leasers, Mr. Higgins and Mr. Lehr, wish to sell their lease on the Rainbow, or sub-lease same, as they do not have the capital necessary to develop same into a mine. A Government Exploration Loan was recommended to them, but they claim that they do not have the capital required to carry on the work under the terms of a Government Exploration Loan.

The Leasers have contacted the American Smelting and Refining Co., who told them to bring in a 50# sample to their office for a mill test. This was done on the day that I visited the property, but no returns from this test have been received to date.

General Remarks (1) The ore, thus far encountered, in the old workings, is definitely of milling grade, and would require the installation of a mill for treating same.

(2) The size and depth of the ore body is, as yet, unknown, on account of the workings being limited to a very small area and shallow depth. The ore body, if explored sufficiently, might prove to be quite extensive.

(3) The grade of the ore seems to improve somewhat with depth and closer proximity to the quartzite outcrop. It is possible that some direct shipping grade ore might be found next to the quartzite contact.

Recommendations The following things should be done to develop this property, either by private capital, or by means of a Government Exploration Loan:

(1) Repair one mile of road.

(2) Build one mile of new road.

(3) Explore the property by means of diamond drill holes to determine the extent, depth, and grade of the deposit. The first drill holes should be put down near the quartzite outcrop.

(4) Build a mill to treat the ore. The ore should be easy milling, as it is all sulphides.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

page 3.

Mine Rainbow Mine

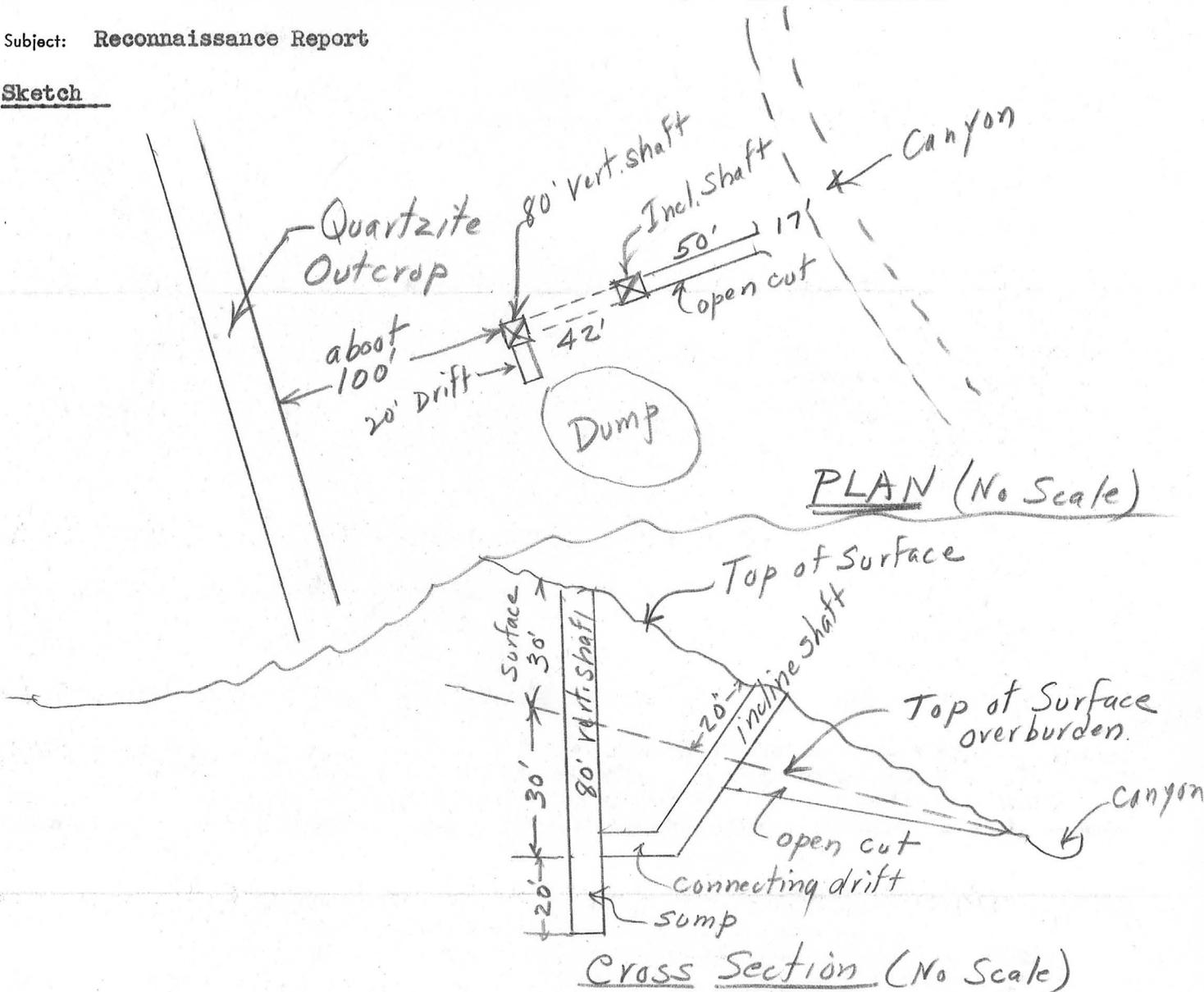
Date Dec. 14, 1951.

District Dragoon Mining Dist., Cochise Co.

Engineer Axel L. Johnson

Subject: Reconnaissance Report

Sketch



Axel L. Johnson, Field Engineer,  
Dept. of Mineral Resources,  
P. O. Box 390, Tucson, Arizona.

*Axel L. Johnson*

6/22/56

REPORT ON THE  
RAINBOW CLAIM,  
COCHISE COUNTY, ARIZONA.

INTRODUCTION:

The Rainbow Claim is a lead-zinc property in the Dragoon Mountains. It consists of a single patented claim which is surrounded by unclaimed land.

The only available report on the property is brief and was written by Walter Sim, who at one time leased the property.

A small amount of work was done several years ago and only a little information can now be gained from it.

Professor H. Krumlauf, of the University of Arizona, brought the claim to the attention of Mr. G. W. Irvin, former Eagle-Picher engineer, who in turn informed Mr. O.A. Rockwell of the prospect.

Professor Krumlauf has no part of the ownership of the claim but would apparently have some interest in developing the property.

LOCATION:

The Rainbow Claim is located approximately four miles south of Dragoon, Arizona in Sections 9 & 4, Township 17 South, Range 23 East, Cochise County, in the Dragoon Mountains. Dragoon is about 68 miles southeast of Tucson.

Only a small amount of mining has been centered in the vicinity of this property. However, the range of mountains does lead to producing areas and to areas that have been active in the past.

The claim itself is in a very inaccessible location. Approximately half of the distance from Dragoon is traveled over all-weather unsurfaced roads. Most of the remaining half is over trails through open range except for the last mile which is covered by foot along the bed of an arroyo.

CLAIM:

The Rainbow Claim is patented and on federal land. It is owned solely by Mrs. Flora Hubbard. However, Professor H. Krumlauf, of the University of Arizona, has some interest in promoting the claim.

As far as is known, the surrounding land is now unclaimed, but previously the Rainbow was part of an eight-claim group.

Mr. J. W. Chandler.  
PAGE # 2.  
SUBJECT: REPORT ON RAINBOW CLAIM.

POSSIBLE TRANSACTION:

According to Mr. Irvin, a very probable price for purchase of the claim would be \$50,000. However, outright purchase of the claim would not be necessary. For a small sum, the claim could be retained for exploration. If development seemed warranted, a cost of 10% of the smelter returns or \$100 a month would be in order.

These figures are not definite but only indications of what Mr. Irvin feels may be asked.

DEVELOPMENT:

Development on the claim consists of an inclined shaft, some trenching from an arroyo to the incline, a drift, and a vertical shaft. Production from these workings appears to be small.

The inclined shaft was started in what is apparently an altered limestone and from indications on the dump was continued to the bottom in this material. The shaft is twenty feet deep but it is not now accessible as the entrance is filled except for a small hole. Mr. Sim states that the incline and the 50-foot drift which presumably starts from the incline were both driven entirely in ore.

A sample taken from an ore pile near the entrance to the incline gives these results: 4.9% Pb, 2.0% Zn, 0.6 oz/T Ag, and tr Cu. This closely checks with assay given in Sim's report: 5.0% Pb, 2.0% Zn, 1½ oz Ag, and 7lbs. Cu per ton.

The trenching associated with the incline shows some altered limestone which is weakly mineralized. Fracturing in this limestone strikes approximately east-west. However, most of the trenching was done in alluvium and as it leads from the incline entrance to the arroyo served some purpose other than exploration.

The vertical shaft was started northwesterly and uphill (approximately 15 feet higher) from the incline. It is 65 feet deep although it is now open for only 30 feet. Near the bottom, it is supposed to be connected with the incline by a crosscut. Apparently this is the 50-foot drift to which Mr. Sim refers, although he makes no mention of such a connection.

Although the sides of the shaft show much fracturing, no major trend of fracturing or bedding can be seen. The portion of the shaft now open appears to be in the same material as the incline and waste rock on the dump would indicate that the shaft continued to the bottom in the same material. Mr. Sim refers to this as decomposed mineralized lime.

Mr. J. W. Chandler.  
PAGE # 3.  
SUBJECT: REPORT ON RAINBOW CLAIM.

Reportedly the shaft was stopped in ore and Mr. Sim states that the shaft came into ore, full width, within 16 feet of the bottom. An investigation of the perimeter of the dump gave signs of galena and pyrite mineralization but none could now be considered commercial ore.

No other workings were seen in the area and no drilling is known to have been done on the property.

#### AREAL GEOLOGY:

The Dragoon Mountains were formed by thrust faults from the southwest according to James Gilluly, United States Geological Survey, and D. J. Cederstrom. This deformation was followed by high-angle faults which dip steeply to the southwest and trend northwest. Granitic intrusions accompanied this faulting.

Cederstrom feels that an even later series of faults trends northeast and displaces the earlier structures.

Stratigraphically the area consists of a Pre-Cambrian schist, green porphyritic granite, Bolsa quartzite (Middle Cambrian), Abrigo Limestone (Upper Cambrian), Martin limestone (Devonian), Escabrosa limestone (Mississippian), Naco limestone (Pennsylvanian), Snyder Hill limestone (Permian, undifferentiated sediments (Lower Cretaceous), Stronghold granite (Post-Cretaceous intrusive, and volcanics (Tertiary or Cretaceous). The stratigraphic section has, of course, been greatly rearranged by the faulting.

From observations on the inspection trip, the mountain on which the Rainbow Claim is located apparently consists of an underlying granite, a limestone formation, and a quartzite which continues up to form the crests of the peak. These beds dip to the northwest at about 20 degrees.

Observations on the claim itself indicate faulting within these formations, but no general trend could be detected.

#### LOCAL GEOLOGY:

The workings are located on a hillside about 30 feet vertically above the bed of an arroyo. Although there is little to see, an attempt was made to map the immediate area. This was impossible to do accurately because the compass, for no visible reason, was deflected approximately 90 degrees. No iron, other than slight staining and in the form of pyrite, can be seen on the dumps.

Five feet north of the vertical shaft, a nearly east-west fault zone is visible. The fault is nearly vertical and separates the limestone in which the workings are found from a quartzite which

Mr. J. W. Chandler.  
PAGE # 4.  
SUBJECT: REPORT ON RAINBOW CLAIM.

continued up to form the crests of the mountains. Only a 20-foot section of the fault zone is visible, the rest being covered by alluvium.

Approximately 200-300 feet westerly from the workings, in the bed of the arroyo, another fault zone is visible. This fault is in quartzite but strikes approximately the same and roughly aligns with the one at the workings. The intervening distance between the two fault exposures is covered with alluvium.

The fault zone itself is about a foot wide and shows no mineralization at the quartzite outcrop and only a small amount above the mine workings. No mineralization can be seen in the quartzite at either exposure.

The limestone visible in the workings shows a considerable amount of alteration and fracturing. Due to alluvial cover, however, no limestone more than 50 feet from the fault zone was visible in the area of the workings.

Mr. Sim states in his report that: "The ore makes in a lime and quartzite dike which drops out 50 feet west of the shaft and is about 600 feet wide. The lime extends east 500 feet. The ore makes along the dike. The ore width has not been determined but could be 200 to 300 feet wide. The general trend of the lime is north and south about 700 feet." Previous to this passage, he states that the orebody is at least 70 feet wide.

#### CONCLUSIONS:

This property does offer some interesting possibilities. With due consideration for the very limited amount of information, the geological conditions appear to be favorable for ore deposition.

With this limited information, it would seem that the fault zone was the means of access for the mineralizing solutions. Any ore deposits would be expected as replacement bodies in the limestone with some deposition in the fault zone itself.

However, the extent of the fault through the limestone is unknown and this could have a great bearing on the size of the mineralized area.

The fact that the compass was deflected for more than 100 feet from the workings may be of importance.

The claim, however, is in a rather inaccessible area and no roads lead to the property. The fact that little work has been done on the property, and that several years ago, is again not too encouraging.

Mr. J. W. Chandler.  
PAGE # 5.  
SUBJECT: REPORT ON RAINBOW CLAIM.

Although this claim does exhibit favorable geologic conditions for ore deposition, it would seem that any exploratory program here would be a chance adventure.

However, if any consideration is shown this property, I feel that the immediate area should be geologically mapped thoroughly to locate the best sites for drilling. And any drilling could probably best be done with diamond drill machines due to the inaccessibility of the claim and the lack of favorable drill sites for larger equipment.

Respectfully submitted.

WEA/tp.

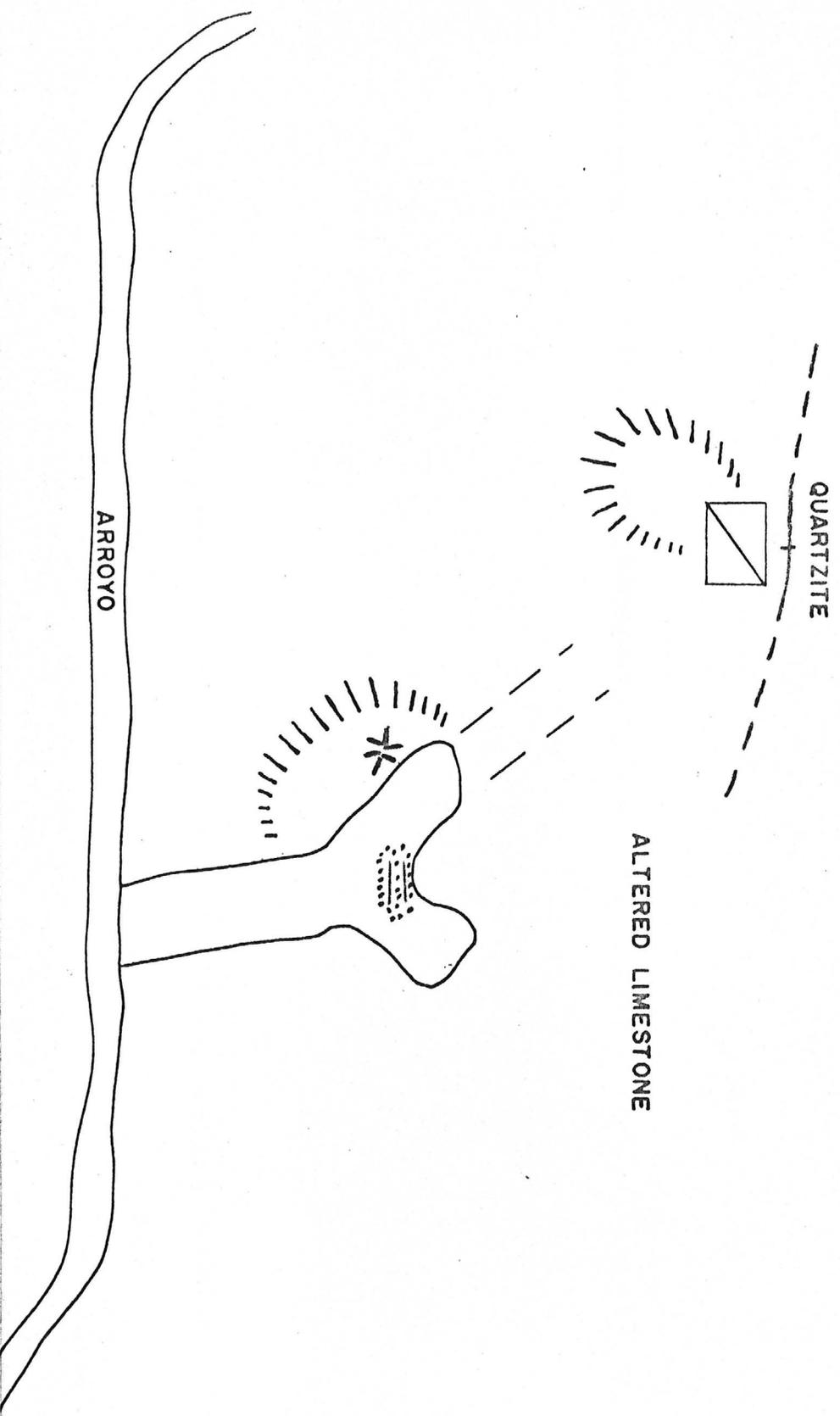
William E. Arndt.

RAINBOW CLAIM WORKINGS

SCALE 1" = 20'

6-22-56

WEA



INTRA-COMPANY



CORRESPONDENCE

OFFICE **Tucson, Arizona.**DATE **July 11th., 1956.**

TO **Mr. J. W. Chandler,**  
FROM **William E. Arndt.**  
SUBJECT **Rainbow Claim Report.**

Dear Mr. Chandler:

Mr. G. W. Irvin and I inspected the Rainbow Claim in the Dragon Mountains on June 22, 1956. Only a little information was available and little was to be seen on the property because the old workings are inaccessible. It was possible to make only a rough sketch map because the compass was deflected approximately 90 degrees.

Yours very truly,

WEA/tp.

William E. Arndt.

Enclr.

cc: Mr. O.A. Rockwell  
Mr. J.P. Lyden

A handwritten signature in dark ink, appearing to read 'W. E. Arndt', written over the typed name.

**REPORT ON THE  
RAINBOW CLAIM,  
COCHISE COUNTY, ARIZONA.**

**INTRODUCTION:**

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The only available report on the property is brief and was written by Walter Sim, who at one time leased the property.

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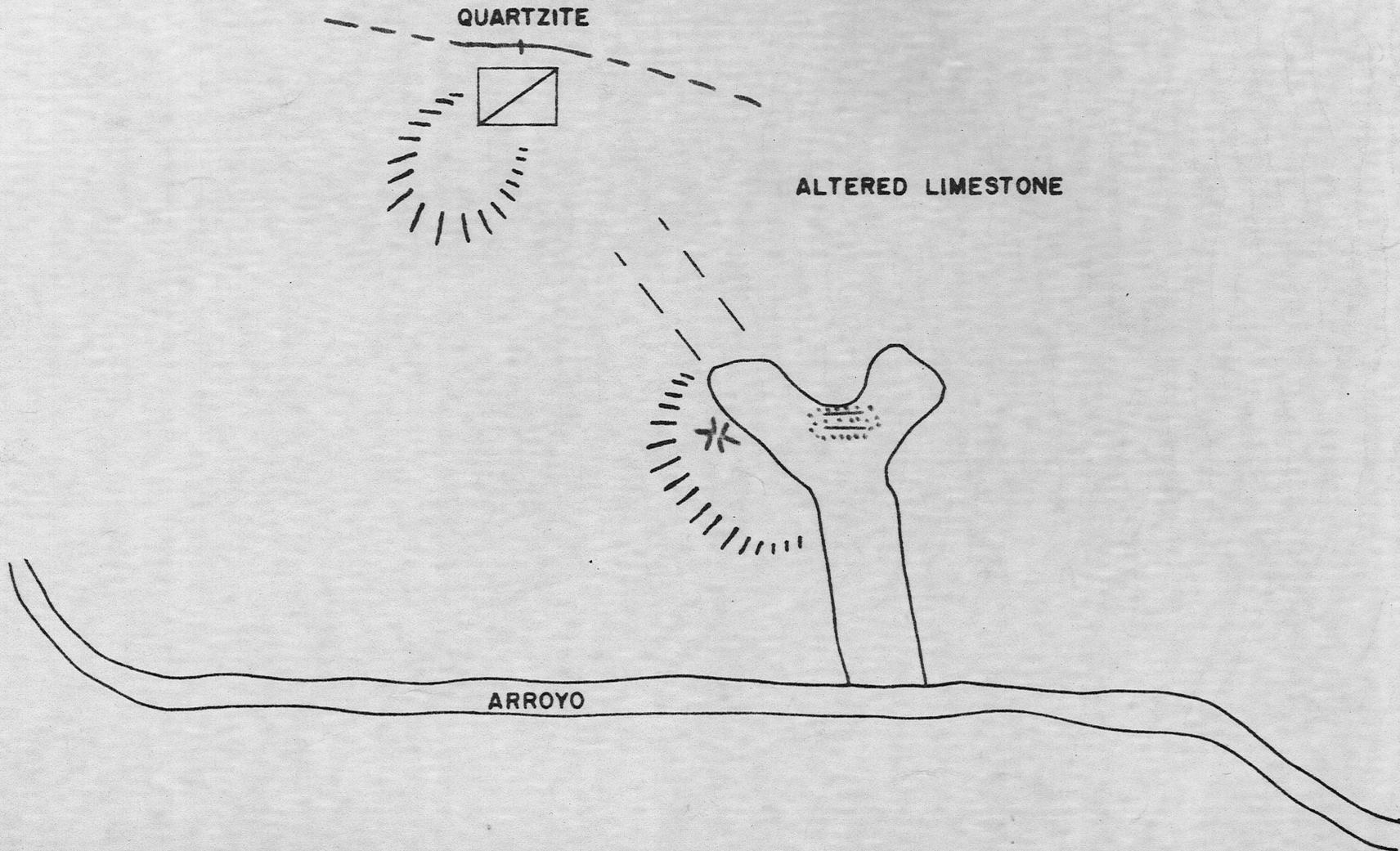
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DEPARTMENT OF MINERAL RESOURCES

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page 1.

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Date Dec. 14, 1951.

District Dragoon Mining Dist., Cochise Co.

Engineer Axel L. Johnson

Subject: Reconnaissance Report

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Number of Claims One patented claim.

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Leasers Chester Higgins, Box 156, Benson, Ariz. ----- 1/2 interest.  
Peter Lehr, 13542 E. Cerritos Ave., Rte. #4, Anaheim, Calif. --- 1/2 interest.  
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(2) On a dump from the 80 ft. vertical shaft (inaccessible) on the property, assays show----- 5 % Lead-- 2 % Zinc-- 2 oz. Silver-- 0.05 % Copper.  
(3) An old record of an assay at the bottom of the 80 ft. shaft (shaft now is unsafe for entry) shows ----- 4 % Lead--- 4 % Zinc.

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Subject: Reconnaissance Report.

Past Operations The Granby Lead and Zinc Co. had a lease with option to buy the property in 1912, and put down the shafts and made the drifts and open cut mentioned in the previous paragraph. (Also see sketch on page 3). They are reported to have cancelled the lease on account of encountering too much water to bail out with their ore bucket, and also because they lost contact with the owner of the property.

Proposed Plans The Leasers, Mr. Higgins and Mr. Lehr, wish to sell their lease on the Rainbow, or sub-lease same, as they do not have the capital necessary to develop same into a mine. A Government Exploration Loan was recommended to them, but they claim that they do not have the capital required to carry on the work under the terms of a Government Exploration Loan.

The Leasers have contacted the American Smelting and Refining Co., who told them to bring in a 50# sample to their office for a mill test. This was done on the day that I visited the property, but no returns from this test have been received to date.

General Remarks (1) The ore, thus far encountered, in the old workings, is definitely of milling grade, and would require the installation of a mill for treating same.  
(2) The size and depth of the ore body is, as yet, unknown, on account of the workings being limited to a very small area and shallow depth. The ore body, if explored sufficiently, might prove to be quite extensive.  
(3) The grade of the ore seems to improve somewhat with depth and closer proximity to the quartzite outcrop. It is possible that some direct shipping grade ore might be found next to the quartzite contact.

Recommendations The following things should be done to develop this property, either by private capital, or by means of a Government Exploration Loan:

- (1) Repair one mile of road.
- (2) Build one mile of new road.
- (3) Explore the property by means of diamond drill holes to determine the extent, depth, and grade of the deposit. The first drill holes should be put down near the quartzite outcrop.
- (4) Build a mill to treat the ore. The ore should be easy milling, as it is all sulphides.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

page 3.

Mine Rainbow Mine

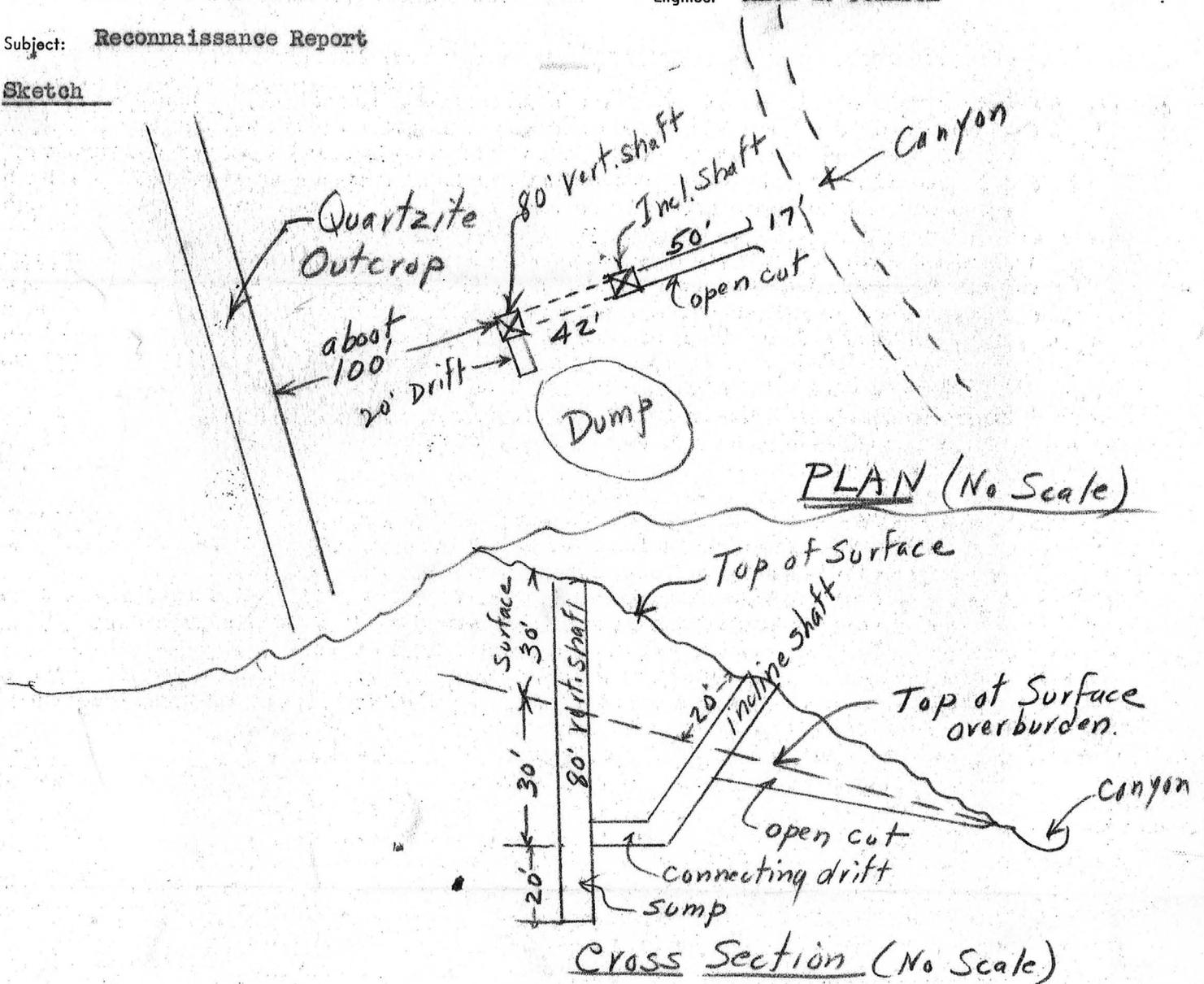
Date Dec. 14, 1951.

District Dragoon Mining Dist., Cochise Co.

Engineer Axel L. Johnson

Subject: Reconnaissance Report

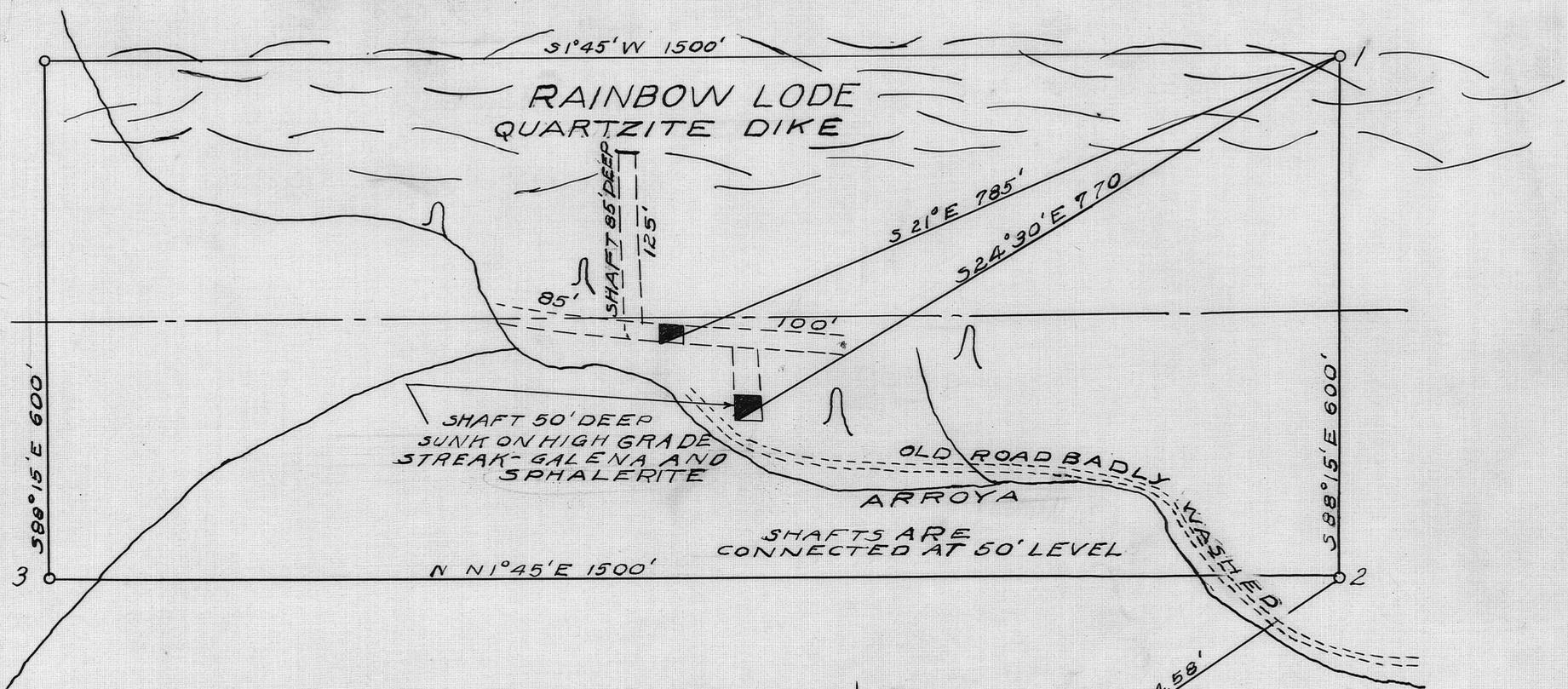
Sketch



Axel L. Johnson, Field Engineer,  
Dept. of Mineral Resources,  
P. O. Box 390, Tucson, Arizona.

*Axel L. Johnson*

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3

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SECTION 9

SECTION 4

T17S R23E

4 CORNER

U.S. DEPARTMENT OF THE INTERIOR  
 BUREAU OF MINES  
 SKETCH OF RAINBOW MINE

DRAGOON MINING DISTRICT  
 CHOCHISE COUNTY, ARIZ.  
 SURVEYED MARCH 16, 18, 1926  
 BY T. N. STEVENS  
 U.S. MINERAL SURVEYOR  
 MINERAL SURVEY NO. 9006  
 ENGINEER G. W. VOELZEL

SCALE 1"=200'

Fig. 11.

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