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02/02/87

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: TRAILS END

ALTERNATE NAMES:

CLORINDA SHAFT
TOBY SHAFT
ARIZONA-KLONDIKE
CIRCLE CROSS
GOLD RIDGE CLAIMS

YAVAPAI COUNTY MILS NUMBER: 1247

LOCATION: TOWNSHIP 11 N RANGE 2 W SECTION 1 QUARTER SW
LATITUDE: N 34DEG 19MIN 08SEC LONGITUDE: W 112DEG 25MIN 38SEC
TOPO MAP NAME: BATTLESHIP BUTTE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD
SILVER
COPPER

BIBLIOGRAPHY:

ADMMR TRAIL'S END MINE FILE
ADMMR ARIZONA KLONDIKE GROUP FILE
YAVAPAI MAGAZINE JULY 1918 P 16
LINDGRE, W. ORE DEPTS JEROME & BRADSHAW MTN
QUADS USGS BULL 782 1926 P 126



Department of the Interior

OFFICE OF HEARINGS AND APPEALS

INTERIOR BOARD OF LAND APPEALS

4015 WILSON BOULEVARD

ARLINGTON, VIRGINIA 22203

UNITED STATES

v.

W. C. DEAN AND MILDRED W. DEAN

IBLA 73-373

Decided December 21, 1973

Appeal from a decision by Administrative Law Judge Graydon E. Holt dismissing a contest to determine the validity of a millsite.

Affirmed. *Millsite found valid*

Mining Claims: MILL SITES; PRACTICE AND PROCEDURE - Contests - generally

Although a millsite may be declared invalid when its only use is in connection with a mining claim which is declared invalid, a millsite can be contested separately and declared invalid when evidence establishes it is not being used for mining or milling purposes, independent of the issue of the validity of the mining claim.

Mining Claims: MILL SITES

A millsite is used for mining or milling purposes if the use is a function or utility intimately associated with the removal, handling or treatment of the ore from the vein or lode. Some step in or directly connected with the process of mining or some feature of milling must be performed.

Mining Claims: PRACTICE AND PROCEDURE - Administrative Law Judge - Contests - generally - Hearings - burden of proof - evidence; MILL SITES

An Administrative Law Judge may properly dismiss a millsite contest if the Government makes an inadequate prima facie showing that the millsite is invalid either as a dependent or independent claim, and evidence shows use and occupation of the site for mining and milling purposes.

APPEARANCES: Demetrius J. Spurgeon, Esq., Office of the General Counsel, U.S. Department of Agriculture, Albuquerque, New Mexico, for the United States; and F. Mills, Esq., Twitty, Siewright, and Mills, Phoenix, Arizona, for appellee.

OPINION BY MRS. THOMPSON

The Forest Service, United States Department of Agriculture, appearing on behalf of the United States, has appealed from a decision by Administrative Law Judge Graydon E. Holt dated April 20, 1973, dismissing a contest to determine the validity of the Dean Millsite located in Sec. 20, T. 11 N., R. 2 W., Yavapai County, Arizona. This millsite is within the Prescott National Forest and was located on December 18, 1969, and amended June 8, 1970. It is associated with seven lode mining claims located within several miles of the millsite.

The Bureau of Land Management, at the request of the Forest Service, filed a contest complaint charging that:

- a. The Dean Millsite claim is not occupied by a mill or reduction works for ores.
- b. The millsite is not being used for purposes related to mining and milling.

The Judge, in dismissing the complaint, ruled that the contestant did not make a prima facie showing that all the lode claims associated with the millsite were invalid and failed to establish that the millsite is not being used for mining or milling purposes.

He succinctly summarized the facts in this case:

The Dean Millsite was located on December 18, 1969, and amended June 8, 1970 (Tr. 7). It is within the Prescott National Forest approximately 15 miles southeast of Kirkland Junction, Arizona. Previously, Mr. Dean had a mill site some distance away. After making preliminary improvements on the new site in 1971 he removed his improvements from the old site (Tr. 24). At the time of the hearing the present mill site contained a small mill with a primary jaw crusher, a secondary crusher, buck elevators, roll crusher, conveyors, a ball mill, shaker table, amalgamation drum, a retort, tables, a gold trap, and a sluice box (Tr. 25). There were also a number of improvements consisting of a trailer with a frame addition making a building 20 x 65 feet, a plywood shed 8 x 14 feet, a tool shed 16 x 40 feet, two water towers, and a rock house (Tr. 9) (Exhs. 5-A - 5-D). The

COMPLETE AND MAIL

STATE MINE INSPECTOR

TRAILS END (A) QUARRY ^{on}

STATE MINE INSPECTOR
1616 WEST ADAMS, SUITE 411
PHOENIX, ARIZONA 85007-2627

JAN 29 1990

FOR OFFICE USE ONLY
START-UP NUMBER 04303020
STATE NUMBER 141223
DEPUTY NUMBER HAMM
NEW _____ MOVE _____

NOTICE TO ARIZONA STATE MINE INSPECTOR

In compliance with the Arizona Revised Statute, we are submitting this written notice to the Arizona State Mine Inspector of our intent to start stop _____, move _____ an operation.

Please check the appropriate boxes: Contractor , Owner , Operator , Open Pit Mine ,
Underground Mine , Mill , Quarry , Aggregate Plant , Hot Plant , Batch Plant ,
Smelter , Leach Plant .

If this is a move, please show last location: _____

If you have not operated a previously in Arizona, please check here: _____ If you want the
Education and Training Division to assist with your mine safety training, please check here: _____

If this operation will use Cyanide for leaching, please check here: _____

COMPANY NAME: HIGH PLAINS DEVELOPMENT

DIVISION: MINING MILLING

MINE OR PLANT NAME: TRAILS END TELEPHONE: 602-427-6226

CHIEF OFFICER: WILLIAM R LEAKE

COMPANY ADDRESS: PO Box 906

CITY: YARNELL STATE: AZ ZIP CODE: 85362

MINE OR PLANT LOCATION: (Include county and nearest town, as well as directions
for locating property by vehicle: R I N T O W S 11-12-1

TYPE OF OPERATION: LOAD PRINCIPAL PRODUCT: AG AG

STARTING DATE: 1-23-90 CLOSING DATE: _____

PERSON COMPLETING NOTICE: WILLIAM LEAKE TITLE: PRESIDENT

**REPORT ON THE
TRAILS END PROPERTY
CROOKS CANYON AREA
YAVAPAI COUNTY, ARIZONA**

For

BRIDGEWEST DEVELOPMENT CORP.

And

UNISTAR TECHNOLOGIES CORP.

#1500 - 609 Granville Street

P.O. Box 10364, Exchange Tower

Vancouver, B.C. V7Y 1G5

With

**Recommended Program and
Estimated Costs**

by

M.P. Dickson, P. Eng.

Adtec Mining Consultants Incorporated

#811 - 543 Granville Street

Vancouver, B.C.

V6C 1X8

December 14, 1983

CERTIFIED TO BE A TRUE COPY

**A Commissioner for taking Affidavits
for British Columbia**

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Figure 2. Location & Roads

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Figure 4. Trails End Claim Group

Figure 5. Golden Ridge Claim Group

Figure 6. Longsection of Underground Workings with Assays

Figure 7. General Geology and X-Section

INTRODUCTION

The writer first became acquainted with the Trails End property of the Crooks Canyon area of Arizona in May of 1983 when asked to visit the property for an evaluation of underground workings and surface exposures. The visit on May 13, 1983 in the company of Mr. Frank Clark of Apache Junction, Arizona proved inconclusive as the shaft had not been dewatered to the first level.

Samples taken from the Toby Shaft and upper 15 feet of the main shaft were not encouraging. However, since old reports indicated that good gold values could not be found on surface and good values were reported from the lower workings, it was felt that additional examination was warranted.

*CORRECTIONS BY OWNER:
Neal & Eric Mischke
11/26/85*

NEAL & ERIC MISCHKE
~~Mr. Clark had the shaft~~ ^{SHAFT} pumped out and repaired for access by the owner. Mr. Neal Mischke and Mr. John Wilburn of Phoenix accompanied Mr. Clark to the property for sampling.

Mr. Wilburn's sampling resulted in good assay values being obtained for gold on the first level verifying old records.

The writer visited the property once again on August 21, 1983 accompanied by Mr. Mischke, F. Clark and J. Wilburn. Samples were taken from the first level workings and from the dump at the main shaft. A geological sketch and longsection were made at the time of the underground workings.

Assay results from the writer's sampling verified Mr. Wilburn's values.

A review of old records, information obtained from Arizona ^{DEPT. OF MINES & MINERAL RESOURCES.} ~~State University~~, and encouraging assay values satisfied the writer that the property warranted further exploration.

On December 13, 1983, the writer was approached by Mr. T.W. Neild, President of Bridgewest Development Corp. and Mr. J.M. Hatcher, President of Unistar Technologies Corp. as to the merits of the property. As a consequence, the principals of the above two companies requested that the author prepare a report on the property with a recommended program, if warranted, with estimated costs.

SUMMARY

The Trails End property of Yavapai Co., Arizona is accessible by vehicle from Prescott, Arizona by 34 miles of good highway with the final 6 miles being a narrow winding forestry access road.

Access, topography, climate, adequate water supply and good ground conditions auger well for an easy, year-round mining operation if economic reserves can be found.

A persistent fissure vein of quartz with an amphibolite dyke has been traced for some 3,500 feet of strike length on the property and potential for an additional 7,000 feet of strike length exists.

The vein exists in the Crooks Complex of the Bradshaw granite where similar veins on other properties have been persistent on strike and to depth.

Development consists of a 155 foot shaft with 228 feet of drifting on the first level (with some stoping) with an unknown amount of development on the lower levels. A number of old pits and shallow caved adits exist on the property - very little information is available on the latter.

Sampling by the author on the first level has returned assay values as high as 2.68 ozs. Au/Ton from quartz veins. Assay values obtained reflect overall assay returns reported in old records.

Because of the persistence of the structure, good gold values in one potential economic mineralized shoot and other favourable conditions the author recommends a three phase program of grid layout, geological mapping, rehabilitation of the old workings, sampling, rotary-percussion hole drilling, map making and metallurgical test-work. Phase II and Phase III are to be contingent on favourable results being obtained in Phase I and Phase II. A follow-up phase is suggested but no costs have been allotted for this phase of work.

The cost of the program is estimated to be:

| | |
|---------------|--------------------------|
| Phase I | \$ 47,797 |
| Phase II | 78,865 |
| Phase III | <u>96,069</u> |
| Total Program | <u>\$ 222,731 (Cda.)</u> |

LOCATION

The property is located in the Hassayampa Mining District some 20 miles south of Prescott, Yavapai Co., Arizona (Figure 1). Approximate geographic co-ordinates are $34^{\circ} 19' 30''$ north latitude and $112^{\circ} 25' 20''$ west longitude. Prescott has a population of approximately 20,000. Phoenix, the state capital, with a population of some one million people, lies 70 miles to the southeast (Figures 1 & 2).

ACCESS

Access to the property from Prescott is gained by following Highway No. 89 southwest for 22 miles to the junction of the Walnut Grove - Wagoner Road, thence for ¹⁰~~8~~ miles to the junction of road No. 94 (Crooks Canyon Road). Road No. 94 branches at the 6 mile point to Forestry Access No. 82 which leads to the property through 6 miles of winding narrow road (Figures 2 & 3).

PHYSIOGRAPHY AND CLIMATE

The property is located in the center of the Bradshaw Mountain Range which extends south from Prescott for some 50 miles. The workings are near the crest of a relatively flat, gently sloping ridge that runs down in to the Hassayampa River.

Elevations at the river are some 3,400 feet rising to 5,400 feet at the property giving an approximate relief of 2,000 feet to the southwest. To the northeast, however, the general terrain rises another 2,000 to 3,000 feet giving a total relief of 4,000 to 5,000 feet.

The climate is dry and very pleasant for the most part. Occasional snow comes and goes during the winter. The warmer 90°F temperatures of the summer months are held in check by frequent thunder storms.

Vegetation is bushy but open and relatively void of timber.

Fresh water springs in the vicinity have supplied enough water in the past for the smaller operations. However, water wells may be necessary for a larger operation.

Mr. Frank Clark, a local well-drilling contractor who has drilled many wells throughout the area informed the writer that obtaining adequate water in wells in the vicinity of the property could be assured.

PROPERTY

Bridgewest Development Corp. and Unistar Technologies Corp. control by agreement the following mineral claims:

- 1) Trails End Group (Figures 3 & 4)
 - a) Claim Nos. 1 - 12 inclusive

- 2) Golden Ridge Group (Figures 3 & 5)
 - b) Claim Nos. 1 - 9 inclusive

Although the writer has examined claim documents and some location markers with Mr. Neal Mischke the present owner, no responsibility for the legal status of the property has been accepted.

HISTORY

Placer gold was found as early as 1863 in the area on the Hassayampa and Lynx Creeks by a party of pioneers under the leadership of Joseph Walker. The discovery of additional placers on larger streams in the area led to the location of numerous gold and silver bearing veins on Bigbug, Lynx, and Hassayampa Creeks.

Prospecting and mining continued to be limited as the area remained a stronghold of the hostile Apache Indians for some time.

The Trails End property is said to have been worked by Geo. Pearce and Bros. in the early days. Their work was reported to have been confined to the White Oak claim but was suspended when sulphides were encountered.

In 1903 and 1904, John Henry Cross located 5 claims. The Yavapai Magazine, July 1918, P. 16 reports that Cross was responsible for the then existing workings which consisted of:

- a) 100 foot shaft.
- b) 70 foot drift to north from bottom of shaft.
- c) 100 foot drift to south from bottom of shaft.
- d) a 90 foot tunnel that intersected the vein (6 feet wide) just above the camp on a second ledge.

The magazine also reports that Cross paid for the above work from bullion extracted by using an arastra.

In 1917, the property was taken over by the Circle Cross Mining Co. who did some work but details are not available.

Mr. W.B. Blaylock acquired the property in 1920 and deepened the shaft to its present depth; did additional drifting; and did some work on the White Oak Claim. A water supply, camp buildings and a hoist installed by Blaylock at this time have since vanished.

Very little work was done on the property in later years, but it is reported that Mr. Blaylock held the claims for a number of years.

A Mr. W.C. Dean staked the property about 1965 with a one-half interest going to Mr. Clyde Walker on recording. Mr. Walker later sold his interest to two Smith brothers in the area. Mr. Neal Mischke, the present owner, acquired the property from the above owners in 1975.

Mr. Mischke dewatered the main shaft to the first level and the Toby Shaft. Any mining by Mr. Mischke has been small and confined to a surface cut some 2,000 feet east of the above workings.

GEOLOGY

The area in general is underlain by granitic rocks which have intruded pre-Cambrian Yavapai schists. Igneous rocks consist of medium grained granite, some diorite, large areas of apilite, and basic dikes which are now amphibolite schists. These rocks as a whole are known as the Bradshaw granite (Figure 7).

That portion of the Bradshaw granite in which the Trails End property lies is known as the Crooks Complex. Rock compositions are similar, but the complex differs in that it is marked by alternations of diorite, aplite, gabbro, schist and granite.

The complex is largely igneous and the trend of the bands is often transverse to the adjacent schists. It is reported that the contacts between the separate acid and basic bands are igneous in all cases and enclosed belts of schists are numerous.

Granitic intrusions and uplift to form the Bradshaw Mountains has caused fissuring and fracturing of the rocks which permitted the formation of structures such as the mineralized veins of the district.

The mineralized vein is a true fissure. In the area of the Clorinda and Toby Shafts the vein is from 4 to 8 feet in width with quartz sometimes on one wall, but more frequently on both walls, separated by 1 to 3 feet of amphibolite schist forming generally the central part of the vein.

The strike of the structure is N 65° E with a dip of 80° to the south. Some minor deviations from this occur in both strike and dip.

Mineralized vein material has been found on surface through exposures, trenches, pits and tunnels over a strike length of some 3,500 feet. The claim groups cover an additional potential strike length of some 4,000 feet to the northeast and approximately 3,000 feet to the southwest.

Reports on other mineralized structures from other workings in the Bradshaw Mountains indicate that most of these fissure veins are quite persistent along strike and depth. Ground conditions were found to be excellent by the author with the untimbered shaft still standing well and open drifts and stopes on the first level in excellent condition after these many years. This augurs well for little need of ground support if mineable deposits are found.

MINERALIZATION

Quartz and amphibolite schist constitute the greatest portion of the mineralized structure. Sulphide mineralization is mainly pyrite although it is generally low overall. Some chalcopyrite has been observed by the author and mention is made of it in old reports.

Pyrite in the quartz is mainly coarse grained. The author has observed some pyrite in the amphibolite schist and this appears to be all gradations from fine to coarse. The author has not observed any other types of sulphide and mention is not made of any in reports.

Sulphides have been leached from the upper 40 feet of the vein and to some extent to as far as the first level. The pyrite in the amphibolite does not appear to be leached appreciably.

This author has not observed any gold, but it is reported to be free and also associated with the sulphides.

MINEABLE RESERVES

Sufficient tonnages of economic reserves have not been outlined to date to warrant the placing of mineralized material in to ore reserves.

The purpose of recent rehabilitation work and visits by the author (and others) has been directed towards verifying information from old reports as to the extent of workings, geology and assay values.

Sampling and mapping on the first level with assay returns has verified records from past operations for these headings.

Chip samples taken on the first level returned assay values up to 2.68 ozs. Au/ton (Figure 6). The condition of the ladders and lack of the landings in the shaft has not permitted sampling of the walls. Old records indicating values as high as 1.83 ozs. Au/ton in the shaft can only be considered speculation until verified by additional work.

Silver values, when assayed, have been fairly low and recent work does not confirm the higher silver values reported from old records which had reported silver values up to 5.70 ozs./ton while the author's sampling resulted in values mainly below the 1.0 oz. Ag/ton except for a high of 3.70 ozs. Ag/ton.

After examining old records and the writer's own work, it now seems apparent that the higher silver values seem to be associated with the amphibolite schist.

Previous mining operations avoided mining and/or milling the schist as values were too low. It is obvious from the first level stoping they were drilling and blasting the schist first and leaving it underground and then slashing the quartz veins off of the hanging-wall and footwall. Old records report gold values of \$4/ton in the amphibolite which would translate roughly into 0.25 ounces of gold per ton at the then prevailing prices.

By way of comparison the author obtained assay values from the amphibolite of 0.10 and 0.16 ozs. Au/ton from 3.5 foot wide channel samples on the east and west walls of the Toby Shaft. These samples were taken 9 feet below the collar of the shaft. On his second visit the author collected a sizeable grab sample of slightly pyritized amphibolite pieces from all over the old dump face at the main shaft. The sample assayed 0.16 ozs. Au/ton. While sufficient samples have not been collected to give a good average value for the amphibolite, from the authors point of view it will likely carry values of 0.10 ozs. Au/ton or better in the mineralized zones.

Of particular interest is the fact that gold assay values are very low close to surface. Sampling by the author and Mr. John Wilburn, a geologist from Phoenix, confirm what the old records indicate, that gold is apparently leached from the quartz close to surface and until one gets below the zone of complete oxidation (likely 30 feet on the average) very little gold content can be found in the quartz. This may not apply to values in the amphibolite as it does not appear to have been affected by oxidation to any great extent. The above must be kept in mind while carrying out surface exploration.

CONCLUSIONS

Examination of the surface showings, underground workings to the first level with mapping and sampling confirms a persistent structure with quartz veins associated with an amphibolite schist (basic dyke) over a strike length of some 3,500 feet. It is believed that the structure could persist on both ends of the claim group giving an additional 7,000 feet of exploration potential.

The persistence of the Trails End vein along strike is in keeping with reports on veins of other properties in the area. Persistence along strike has been coincident with persistence to depth on other veins and although not conclusive augurs well for depth potential on the property.

Assay values obtained from sampling the quartz veins in the Toby Shaft and on the first level of the main workings have confirmed high grade values reported by previous operators.

Low gold assay values obtained on or near surface does not mean that better gold values will not be found below the zone of leaching.

A mineralized shoot of some 100 feet in strike length exists on the first level that could be mineable if additional shoots are found. Ground conditions seem to be excellent and standard shrinkage methods could be employed to mine the steeply dipping vein.

RECOMMENDATION

In view of the above conclusions, the author feels that the present ground held through agreement by Bridgewest Development Corp. and Unistar Technologies Corp. warrants the following recommended three phase program. Phase II and Phase III shall be contingent on obtaining favourable results in Phase I and Phase II respectively.

Phase I

- 1) Establish a control grid by flagging and picket where necessary over the entire property.

- 2) Detailed geological mapping with sampling should be carried out on surface after the above grid is established.
- 3) The above work is to establish vein location in areas of known outcrop for immediate drilling and in undisclosed areas for back-hoe trenching.
- 4) Bearing in mind that gold values are leached from the quartz in the upper 30 feet or more, then drilling must be carried out to explore the vein's potential at depth.

The author recommends rotary-percussion drilling with sample intervals every 5 feet and every one foot when approaching the vein. Two holes should be drilled below the lowest mine workings to examine the vein at depth.

Angle holes should be drilled where the vein has been located in 2) and 3) above aiming initially for the 60 to 100 foot horizon.

- 5) Trenching on surface with a backhoe is to be carried out to accurately locate the vein(s) where not established and for examination.
- 6) Further prospecting, mapping and sampling should be carried out on surface while the trenching and drill program is progressing.

Phase II

- 1) Angle drill the vein where located by backhoe trenching aiming once again for the 60 to 100 foot mark unless the drilling in Phase I indicates something different than evidenced in the underground workings.
- 2) Trench any targets located by general prospecting if warranted.

- 3) Fill-in angle hole drilling is to be done as warranted by results of the above outlined drilling.
- 4) Install new ladders with landings to the first level and install staging in the first level stoped areas to permit sampling.
- 5) Remove the material from the first level bulkhead and pump the lower section of the shaft after the bulkhead has been removed.
- 6) Install ladders and landings in the lower part of the shaft and open up any lower workings that exist.
- 7) Geologically map and systematically sample all underground workings.

Phase III

- 1) Systematically collect a representative bulk sample from the underground workings.
- 2) Have metallurgical test work performed on bulk sample submitted.
- 3) Have area flown and aerial photographs taken at suitable scale.
- 4) Evaluate results of data collected from underground sampling and mapping. Calculate grade and tonnage of mineable material in this block.
- 5) Have maps made from aerial photography work.
- 6) Do ore definition drilling where required.

Geology and engineering should be kept up to date so that by the time most of the above is complete, a decision should be available so that the next step in the program will be known.

If the results of the above work are favourable, then a x-cut and drift will be required, preferably at the same elevation as the lowest present underground workings, to test the results of drilling and to further evaluate the property's potential.

COST ESTIMATES

Phase I

| | |
|--|-------------------------|
| Grid layout - labor | \$ 1,800 |
| - supplies | 400 |
| Mapping - consulting fees and geological | 3,100 |
| - supplies | 600 |
| Backhoe trenching | |
| - rental | 1,700 |
| - supplies and transportation | 700 |
| Assaying | 708 |
| Drilling - 1,800 feet @ \$12.50 / ft | 22,500 |
| Accommodations | 700 |
| Transportation - vehicle & gas | 710 |
| - air fare | 600 |
| | <hr/> |
| | 33,518 |
| + 15% contingencies | 5,028 |
| | <hr/> |
| | \$ 38,546 (U.S.) |
| | |
| Total Canadian* | <u>\$ 47,797</u> |

* Exchange Rate: 1.24

Phase II

| | |
|-------------------------------------|-------------------------|
| Backhoe trenching: | |
| - rental | \$ 1,360 |
| - supplies and transportation | 300 |
| Drilling - 2,000 feet @ \$12.50/ft. | 25,000 |
| Mapping and sampling: | |
| - consulting and geologist | 3,900 |
| - supplies | 500 |
| Rehabilitation: | |
| - labor | 10,875 |
| - supplies | 8,000 |
| Assaying | 2,270 |
| Accommodation | 600 |
| Supplies (general) | 1,000 |
| Transportation - vehicle & gas | 900 |
| - air fare | <u>600</u> |
| | 55,305 |
| + 15% contingencies | <u>8,296</u> |
| Total | \$ 63,601 (U.S.) |
| Total Canadian* | <u><u>\$ 78,865</u></u> |

* Exchange Rate: 1.24

Phase III

| | |
|--------------------------------------|----------------------|
| Bulk sample collection & freight | \$ 2,200 |
| Metallurgical test work | 8,500 |
| Drilling - 3,000 ft @ \$12.50 per ft | 37,500 |
| Aerial photography | 2,500 |
| Map making | 2,600 |
| Geological and engineering fees | 6,500 |
| Assaying | 3,820 |
| Supplies | 2,500 |
| Transportation - vehicle & gas | <u>1,250</u> |
| | 67,370 |
| + 15% Contingencies | <u>10,105</u> |
| Total | 77,475 (U.S.) |
| Total Canadian * | <u><u>96,069</u></u> |
| Grand Total | \$ 179,622 (U.S.) |
| Total Canadian * | \$ 222,731 |

* Exchange Rate: 1.24

REFERENCES

- 1) Wilson, E.D. Cunningham, J.B., and Butler, G.M., Arizona Lode Gold Mines and Gold Mining, The Arizona Bureau of Mines, Bulletin 137, Revised 1967.
- 2) Ridland, G.C., Geological Report 74, Trails End Property, August 28, 1964.
- 3) Flagg, A.L., Report on the Arizona Klondyke Group, Oct. 2, 1926.
- 4) Weeks, F.B., Report on the Arizona Klondike Mine, Aug. 1, 1934.
- 5) Wilburn, J.D., Report on the Trails End Property, July 24, 1983.
- 6) USGS, Bradshaw Mountain Folio, Arizona G 1201 C 5U5, V. 126, 1905.

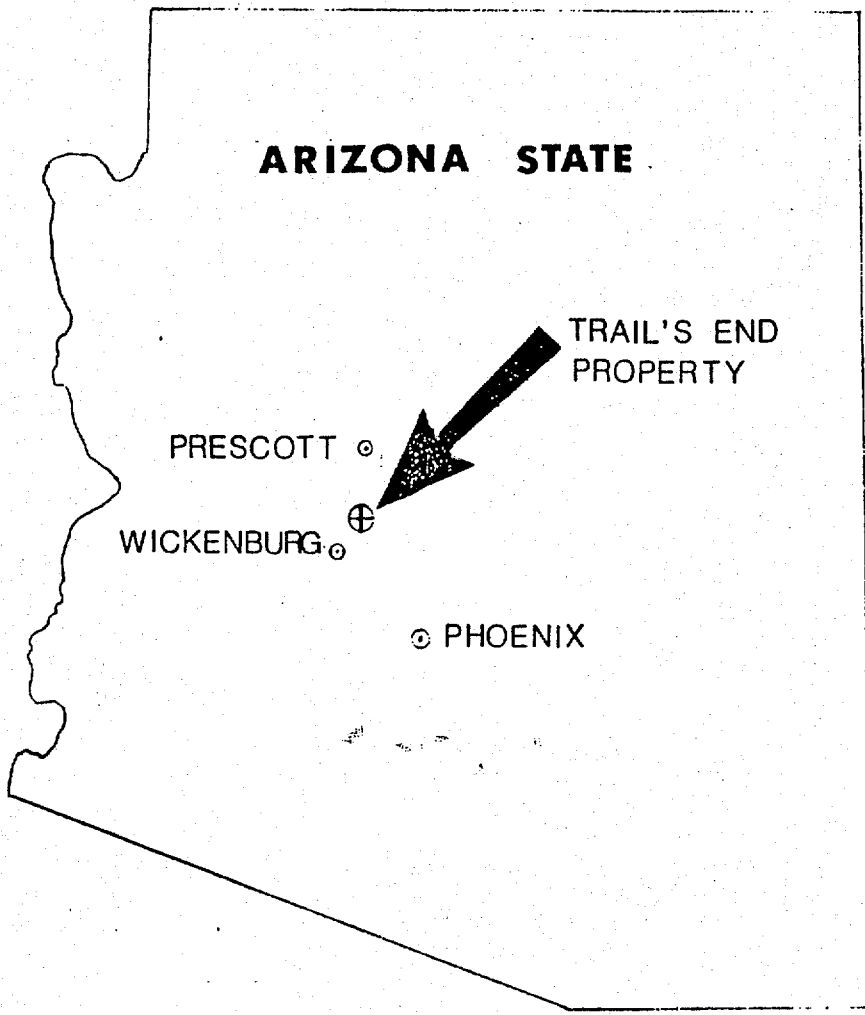
CERTIFICATE

I, Melvin Plenny Dickson of 2731 Mathers Avenue, in the City of Vancouver, in the Province of British Columbia, Canada hereby certify as follows:

1. I am a graduate of Mount Allison University, Sackville, New Brunswick and hold a Bachelor of Science Degree in Geology.
2. I am a Registered Professional Engineer of the Province of British Columbia Registration No. 11456.
3. I have actively practised my profession on a full-time basis in mineral exploration, mine development, production, management and consulting since graduation in 1965.
4. That the information contained in this report is based on published and unpublished reports on the property, augmented by visits to the property on May 12, 13 and 14, 1983, and August 21, 22 and 23, 1983.
5. I have no interest, direct or indirect, in the property or securities of Bridgewest Development Corp. or Unistar Technologies Corp., or their affiliates, nor do I expect to receive any.
6. Permission is hereby given to Bridgewest Development Corp. and Unistar Technologies Corp. to reproduce this report, or any part of it, for the purposes of a financial prospectus or to be used in a statement of material facts relating to the raising of funds for this project, provided, however, that no portion may be used out of context in such a manner as to convey a meaning differing materially from that set out in the whole.

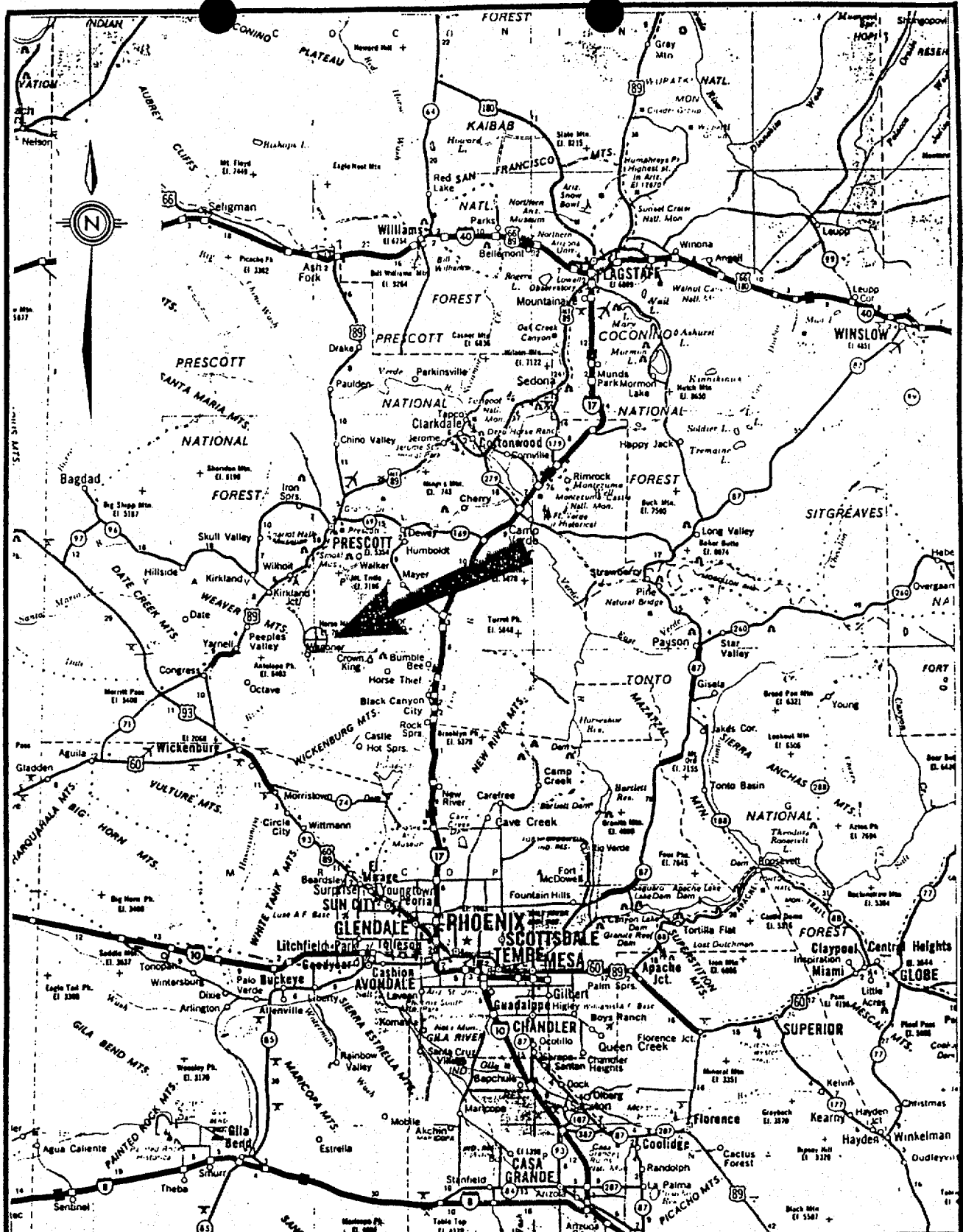
Dated at Vancouver, B.C., this 15th day of December, 1983.


M.P. Dickson, P. Eng.



| | | | |
|--------------------------|--------|------------------------------|-----------|
| CLIENT: | | BRIDGEWEST DEVELOPMENT CORP. | |
| | | UNISTAR TECHNOLOGIES CORP. | |
| PROPERTY: | | TRAIL'S END - ARIZONA | |
| PROPERTY LOCATION | | | |
| 50 | SCALE: | 0 miles | 50 |
| | | | |
| DATE: | | 8/83 | DRG. NO.: |
| DR: | | RPM | 1 |

ADTEC APPROVED:
 MINING CONSULTANTS INCORPORATED
 611-643 GRANVILLE ST., VANCOUVER, B.C., V2C 1K8

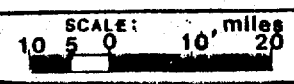


CLIENT: BRIDGEWEST DEVELOPMENT CORP.

UNISTAR TECHNOLOGIES CORP.

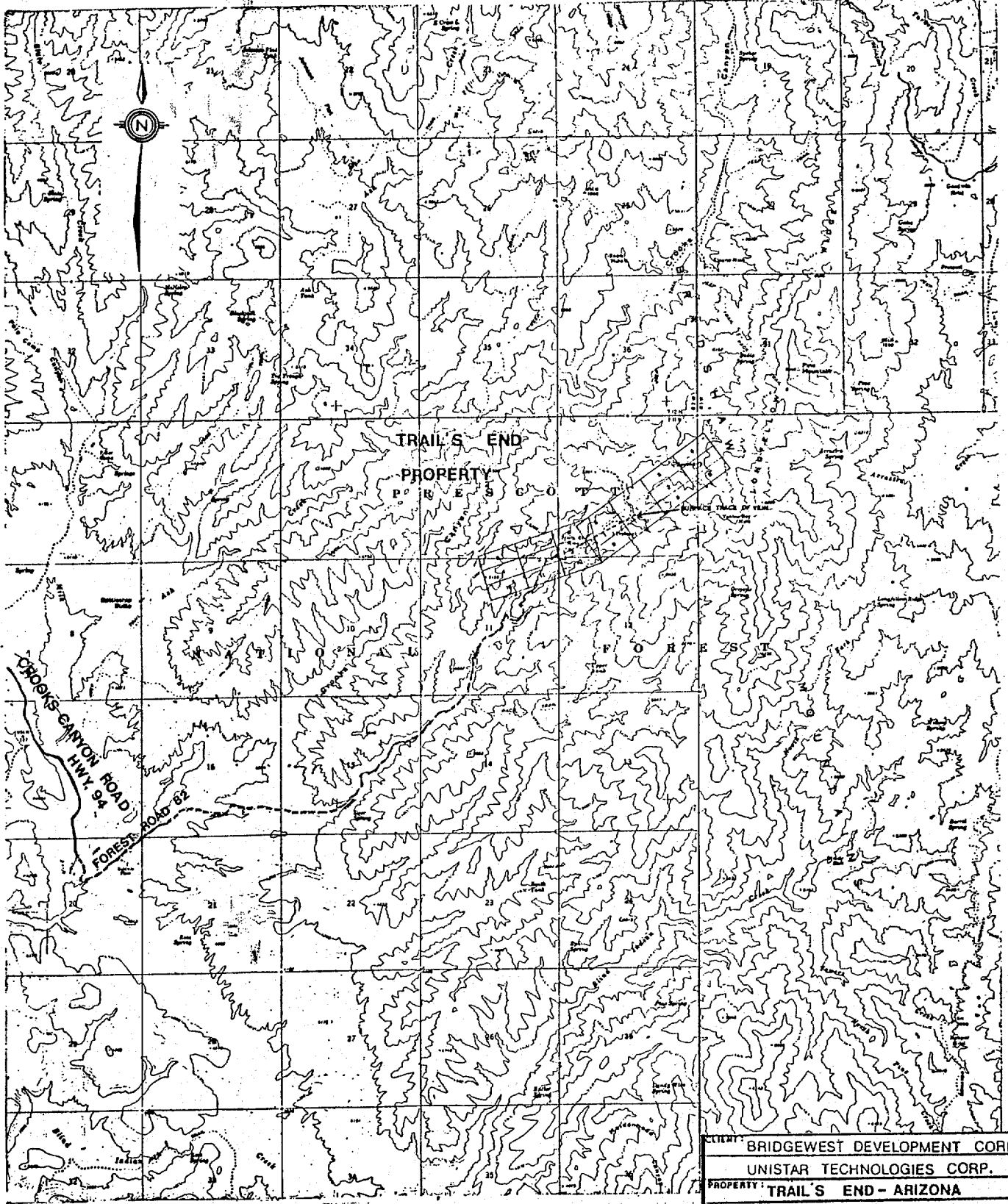
PROPERTY: TRAIL'S END - ARIZONA

PROPERTY LOCATION



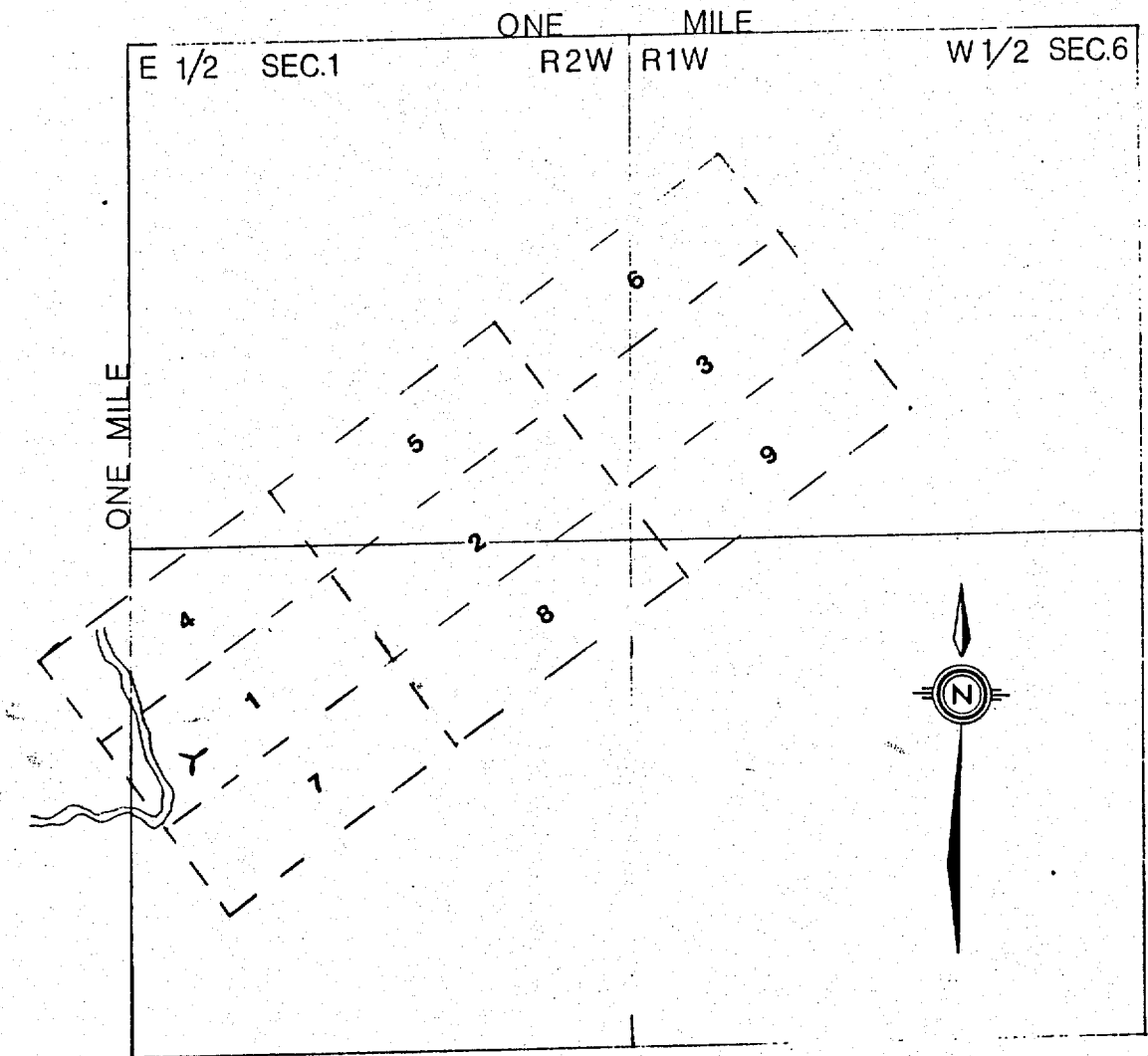
DATE: 8/83
DR: RPM
ORG. NO.: 2

APPROVED:
ADTEC MINING CONSULTANTS INCORPORATED
811-843 GRANVILLE ST, VANCOUVER, B.C., V6C 1A8



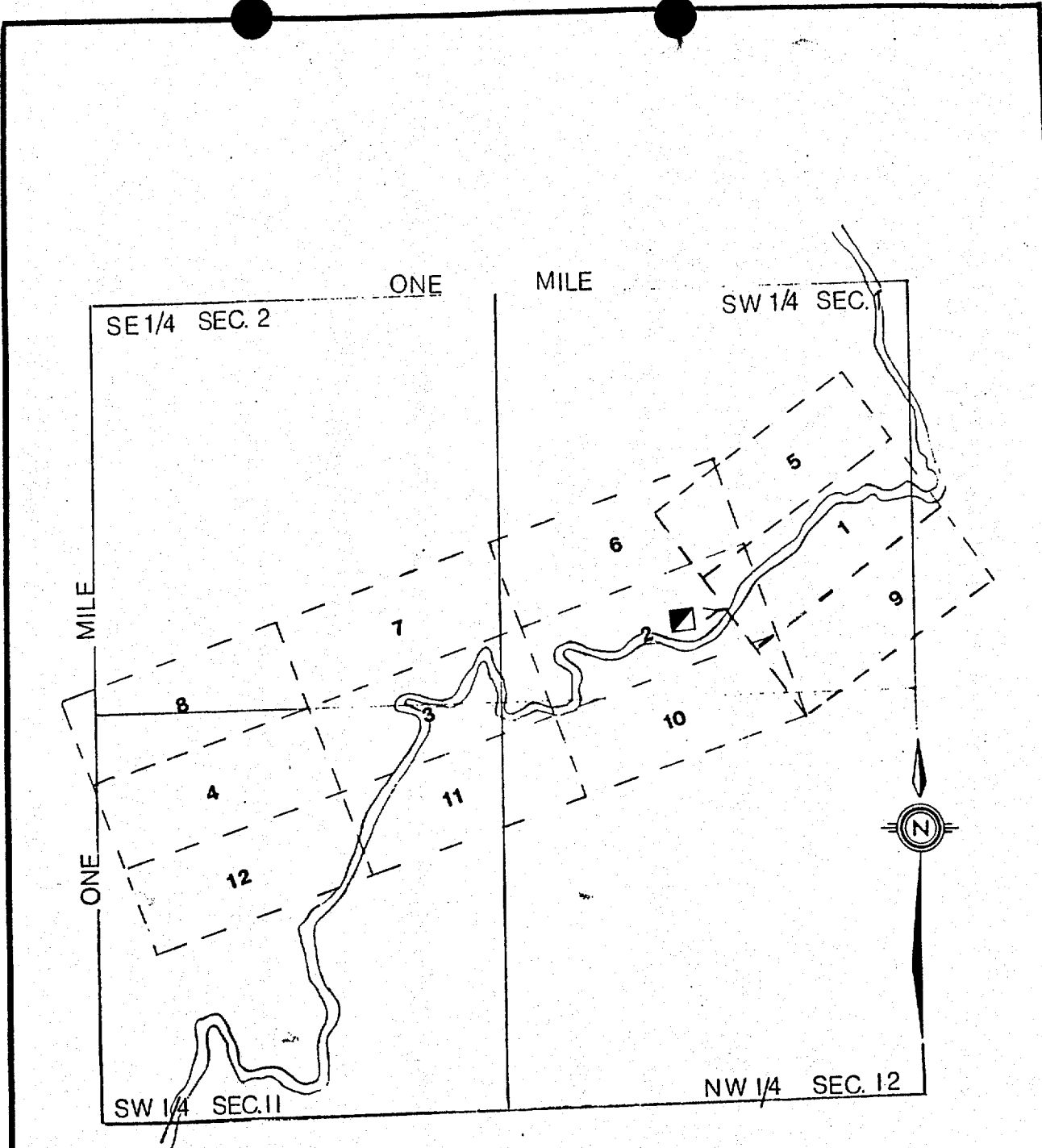
| | | |
|--|------------------------------|------------|
| CLIENT: | BRIDGEWEST DEVELOPMENT CORP. | |
| | UNISTAR TECHNOLOGIES CORP. | |
| PROPERTY: | TRAIL'S END - ARIZONA | |
| TOPO, ROAD, CLAIM, and VEIN MAP | | |
| 0 | SCALE: miles | DATE: 8/83 |
| | | DRG. NO. 1 |
| | | 3 |
| | | RPM |

APPROVED:
ADTEC MINING CONSULTANTS INCORPORATED
 811-833 GRANVILLE ST., VANCOUVER, B.C., V6C 1Z8



APPROVED:
ADTEC MINING CONSULTANTS INCORPORATED
 811-843 GRANVILLE ST., VANCOUVER, B.C., V6C 1R8

| | | |
|--------------------------------------|------------|-----------|
| CLIENT: BRIDGEWEST DEVELOPMENT CORP. | | |
| UNISTAR TECHNOLOGIES CORP. | | |
| PROPERTY: TRAIL'S END - ARIZONA | | |
| GOLDEN RIDGE CLAIM GROUP | | |
| SCALE: miles | DATE: 8/83 | ORG. NO.: |
| 0.125 0 0.25 | DR: RPM | 5 |



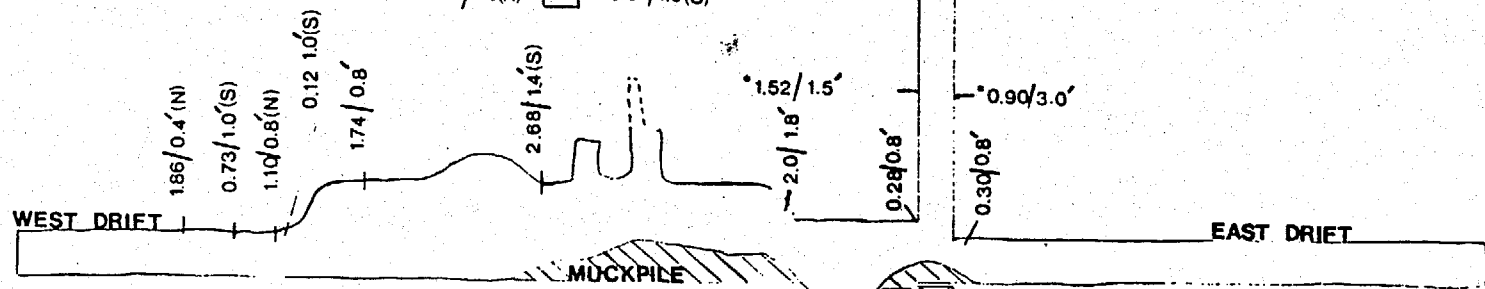
| | | |
|--------------------------------------|------------|-----------|
| CLIENT: BRIDGEWEST DEVELOPMENT CORP. | | |
| UNISTAR TECHNOLOGIES CORP. | | |
| PROPERTY: TRAIL'S END - ARIZONA | | |
| TRAIL'S END CLAIM GROUP | | |
| SCALE: miles | DATE: 8/83 | ORG. NO.: |
| 0.125 0 0.25 | DR: RPM | 4 |

ADTEC APPROVED:
 MINING CONSULTANTS INCORPORATED
 811-843 GRANVILLE ST, VANCOUVER, B.C., V6C 1K8

APPROXIMATE SURFACE

TOBY SHAFT

MAIN SHAFT

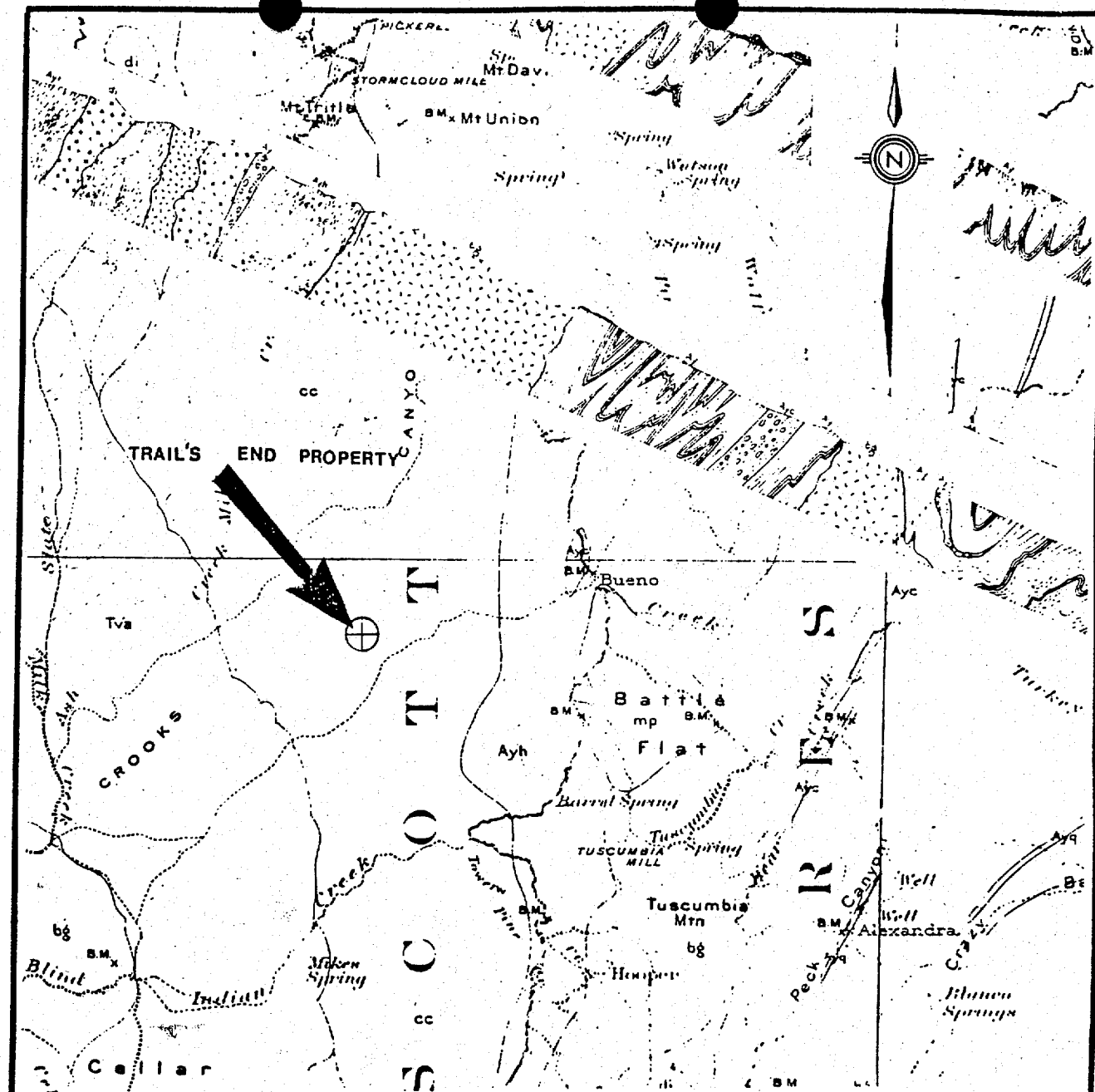


LEGEND

ALL ASSAYS: OZ. AU/TON/FT. WIDE
 N: NORTH VEIN S: SOUTH VEIN
 * : OLD SAMPLE

| | | |
|---|------------------------------|-----------|
| CLIENT: | BRIDGEWEST DEVELOPMENT CORP. | |
| | UNISTAR TECHNOLOGIES CORP. | |
| PROPERTY: | TRAIL'S END - ARIZONA | |
| LONG SECTION OF UNDERGROUND WORK LOOKING NORTH (AZ 343°) | | |
| SCALE: feet | DATE: 9/83 | ORG. NO.: |
| 10 5 0 10 20 30 | DR: RPM | 6 |

APPROVED:
 ADTEC MINING CONSULTANTS INCORPORATED
 811-643 GRANVILLE ST., VANCOUVER, B.C., V6C 1X8



FROM:
 U.S.G.S., Bradshaw Mountains Folio,
 Vol. 126, 1905

LEGEND:

- Bg- Bradshaw granite
- Ayh, Ayc- Schist (Yavapai formation)
- di- Diorite
- qd- Quartz diorite
- Tb- Basalt

| | | |
|--------------------------------------|------------|-----------|
| CLIENT: BRIDGEWEST DEVELOPMENT CORP. | | |
| UNISTAR TECHNOLOGIES CORP. | | |
| PROPERTY: TRAIL'S END - ARIZONA | | |
| GEOLOGY AND CROSS-SECTION | | |
| SCALE: | DATE: 9 83 | DRG. NO.: |
| 1:125,000 | DR: RPM | 7 |

APPROVED:
ADTEC MINING CONSULTANTS INCORPORATED
 611-743 GRANVILLE ST, VANCOUVER, B.C., V5C 1A8

INSTRUCTIONS TO OPERATORS. Items 1 through 6 and 12 constitute a Notice of Intention; items 1 through 12 constitute a Basic Operating Plan. Please complete in as much detail as possible and furnish to District Ranger's office. Additional sheets may be used if necessary.
NOTICE: To the extent authorized by law this information will be held confidential. As an agency of the Federal Government, the Forest Service is required to comply with the Freedom of Information Act.

NOTICE IS HEREBY given that the undersigned intends to conduct prospecting, mining, or milling operation, etc. on the lands described below, and in the manner indicated.

- Operator(s):
Name(s) Address(es) Telephone No(s).
Bridge west Development Corporation & Unistar Technologies Corp. 1500-609 Granville St Vancouver, B.C. P.O. Box 10364 Vancouver, B.C. 604-687-3442
- Area of Operation:
National Forest: V7Y1G5 State: Arizona Mining District: Hassayampa
Ranger District: Braddshaw County: Navapai T. 11N, R. 2W, Sec. 142, ~~141, 143~~
- Access:
The proposed route of access to the operation is (describe route from point of entry into National Forest, using road numbers when possible):
Trail No. 94 existing and #82 existing.

The following means of transport will be used (4-wheel drive vehicle) tractor, pickup, etc.):

(NOTE: Construction, reconstruction, or restoration of a road across National Forest System lands as a means of access to mining claims must be authorized separately by special-use permit.)

- Type of Proposed Operation:
Describe the type of proposed surface disturbing activities, such as trenching, bulldozer exploration, drill road construction, tunnel site development, etc.
Trenching - backhoe
450 John Deere Dozer for drill pad sites with backhoe for trenching
All pad sites & trenches to be within 100 feet of existing trails. Trenching with backhoe & percussion drilling for assessment and preliminary exploration evaluation work.
- Map:
A map is attached which shows the general area of operation and the proposed route of access to it. (This map is required. A map scale of about 1 inch = 2 miles is adequate.)
- Period of Operation:
Period or periods during which operations, including road work, will take place. The work will be continuous intermittent, during the periods:
Road Work: Other Operations:
March 24th/1984 - April 4th/1984

EXHIBIT A

To Mischke-Gold Venture Lease and Option

The following unpatented mining claims situated in the Hassayampa Mining District, Yavapai County, Arizona, the location notices of which are recorded in the following Books and Pages of the Official Records of Yavapai County, Arizona.

| <u>Name of Claim</u> | <u>Book</u> | <u>Page</u> | <u>BLM Serial No.</u> |
|----------------------|-------------|-------------|-----------------------|
| Trails End #1 | 1517 | 745 | AMC 77096 |
| Trails End #2 | 1517 | 747 | AMC 77097 |
| Trails End #3 | 1517 | 749 | AMC 77098 |
| Trails End #4 | 1517 | 751 | AMC 77099 |
| Trails End #5 | 1517 | 753 | AMC 193509 |
| Trails End #6 | 1517 | 755 | AMC 193510 |
| Trails End #7 | 1517 | 757 | AMC 193511 |
| Trails End #8 | 1517 | 759 | AMC 193512 |
| Trails End #9 | 1517 | 761 | AMC 193513 |
| Trails End #10 | 1517 | 763 | AMC 193514 |
| Trails End #11 | 1517 | 765 | AMC 193515 |
| Trails End #12 | 1517 | 767 | AMC 193516 |
| | | | |
| Gold Ridge #1 | 1517 | 727 | AMC 77094 |
| Gold Ridge #2 | 1517 | 729 | AMC 77093 |
| Gold Ridge #3 | 1517 | 731 | AMC 193517 |
| Gold Ridge #4 | 1517 | 733 | AMC 77095 |
| Gold Ridge #5 | 1517 | 735 | AMC 193518 |
| Gold Ridge #6 | 1517 | 737 | AMC 193519 |
| Gold Ridge #7 | 1517 | 739 | AMC 193520 |
| Gold Ridge #8 | 1517 | 741 | AMC 193521 |
| Gold Ridge #9 | 1517 | 743 | AMC 193522 |



Arizona Department of Mines and Mineral Resources

1502 West Washington, Phoenix, AZ 85007 Phone (602) 255-3795
1-800-446-4259 in Arizona FAX (602) 255-3777 www.admmr.state.az.us

MINE: TRAILS END
COUNTY: YAVAPAI

DATE 12/17/85
ENGINEERS - KAP & NJN

| SAMPLE # | Au oz/ton | Ag oz/ton | Location and Description |
|-----------------|------------------|------------------|---|
| 28106 | | | face of Big Red adit, qtz vein with limonite boxwork sample width 4.6' |
| 28107 | | | Clarenda #1, 31' west of east rib of shaft, 2nd level, sample width 4.3', quartz vein |
| 28108 | | | Clarenda #2, 100' west of east rib of shaft, includes hw, fw, & qtz rib w/mafic horse, cuox stains, sample width 6.4' inc. 2.' of mafic horse |
| 28109 | | | Clarenda #3, rib of shaft, 130' west of east near west fault |

Post note: Samples were lost by the assayer. They were being run au gratis and during some rush orders they were inadvertently lost. NJN 3/86

(This Word document is a recreation of the original). NJN 8-21-2003



United States Department of the Interior

OFFICE OF HEARINGS AND APPEALS
 INTERIOR BOARD OF LAND APPEALS
 4015 WILSON BOULEVARD
 ARLINGTON, VIRGINIA 22203

UNITED STATES

v.

W. C. DEAN AND MILDRED W. DEAN

IBLA 73-373

Decided December 21, 1973

Appeal from a decision by Administrative Law Judge Graydon E. Holt dismissing a contest to determine the validity of a millsite.

Affirmed.

Mining Claims: MILL SITES; PRACTICE AND PROCEDURE - Contests - generally

Although a millsite may be declared invalid when its only use is in connection with a mining claim which is declared invalid, a millsite can be contested separately and declared invalid when evidence establishes it is not being used for mining or milling purposes, independent of the issue of the validity of the mining claim.

Mining Claims: MILL SITES

A millsite is used for mining or milling purposes if the use is a function or utility intimately associated with the removal, handling or treatment of the ore from the vein or lode. Some step in or directly connected with the process of mining or some feature of milling must be performed.

Mining Claims: PRACTICE AND PROCEDURE - Administrative Law Judge - Contests - generally - Hearings - burden of proof - evidence; MILL SITES

An Administrative Law Judge may properly dismiss a millsite contest if the Government makes an inadequate prima facie showing that the millsite is invalid either as a dependent or independent claim, and evidence shows use and occupation of the site for mining and milling purposes.

APPEARANCES: Deane F. Augustines, Esq., Office of the General Counsel, U.S. Department of Agriculture, Albuquerque, New Mexico, for the United States; John F. Mills, Esq., Twitty, Siewwright, and Mills, Phoenix, Arizona, for appellee.

OPINION BY MRS. THOMPSON

The Forest Service, United States Department of Agriculture, appearing on behalf of the United States, has appealed from a decision by Administrative Law Judge Graydon E. Holt dated April 20, 1973, dismissing a contest to determine the validity of the Dean Millsite located in Sec. 20, T. 11 N., R. 2 W., Yavapai County, Arizona. This millsite is within the Prescott National Forest and was located on December 18, 1969, and amended June 8, 1970. It is associated with seven lode mining claims located within several miles of the millsite.

The Bureau of Land Management, at the request of the Forest Service, filed a contest complaint charging that:

- a. The Dean Millsite claim is not occupied by a mill or reduction works for ores.
- b. The millsite is not being used for purposes related to mining and milling.

The Judge, in dismissing the complaint, ruled that the contestant did not make a prima facie showing that all the lode claims associated with the millsite were invalid and failed to establish that the millsite is not being used for mining or milling purposes.

He succinctly summarized the facts in this case:

The Dean Millsite was located on December 18, 1969, and amended June 8, 1970 (Tr. 7). It is within the Prescott National Forest approximately 15 miles southeast of Kirkland Junction, Arizona. Previously, Mr. Dean had a mill site some distance away. After making preliminary improvements on the new site in 1971 he removed his improvements from the old site (Tr. 24). At the time of the hearing the present mill site contained a small mill with a primary jaw crusher, a secondary crusher, buck elevators, roll crusher, conveyors, a ball mill, shaker table, amalgamation drum, a retort, tables, a gold trap, and a sluice box (Tr. 25). There were also a number of improvements consisting of a trailer with a frame addition making a building 20 x 65 feet, a plywood shed 8 x 14 feet, a tool shed 16 x 40 feet, two water towers, and a rock house (Tr. 9) (Exhs. 5-A - 5-D). The

photographs received in evidence amply verify the existence of these improvements (Exhs. 5, and A through G). In addition there are various mining tools and equipment on the site.

In addition, a small blacksmith shop is on the site, a dump truck is driven almost every day from the mining claims to the millsite and several persons besides the Deans are working on the mining and millsite claims. A small amount of ore has been processed through the mill.

The Forest Service contends that the Judge improperly required it to present a prima facie case of invalidity of contestee's associated mining claims as a prerequisite to invalidating the millsite. Whether such a showing is necessary depends on the other evidence in a millsite contest, and the status of the case. A millsite dependent on a lode claim may be maintained on nonmineral land not contiguous to a vein or lode if it is used or occupied for mining or milling purposes by the proprietor of such vein or lode. Act of May 10, 1872, 17 Stat. 96, as amended, 74 Stat. 7, 30 U.S.C. § 42(a) (1970). In order to receive a patent for a millsite dependent on an unpatented lode claim, the applicant for patent must show a discovery on the associated lode claim. United States v. Larsen, 9 IBLA 247, 274 (1973); United States v. Coston, A-30835 (February 23, 1968)^b If the mining claim has already been patented, he must show mining operations on the associated patented claim. United States v. Wedertz, 71 I.D. 368, 373 (1964).^c A dependent millsite may be contested, however, without contesting the validity of unpatented mining claims with which it is connected. Although a millsite may be declared invalid when its only use is in connection with a mining claim which is declared invalid, United States v. Mellos, 10 IBLA 261, 268 (1973)^d United States v. Coston, supra at 3, a millsite can be contested separately and declared invalid when evidence establishes it is not being used for mining and milling purposes independent of the issue of the validity of the mining claims. United States v. Polk, A-30859 at 3-4 (April 17, 1968).^e

Where the use or occupation is related to a lode claim, the showing must be of

* * * a function or utility intimately associated with the removal, handling or treatment of the ore from the vein or lode. Some step in or directly connected with the process of mining or some feature of milling must be performed.

Alaska Copper Co., 32 L.D. 128, 131 (1903) (emphasis in original).

a) GFS(MIN) 29(1973)

b) GFS(MIN) SO-16(1968)

c) GFS(MIN) SO-1(1965)

d) GFS(MIN) 48(1973)

e) GFS(MIN) SO-24(1968)¹⁴ IBLA 109

GFS(MIN) 8(1974)

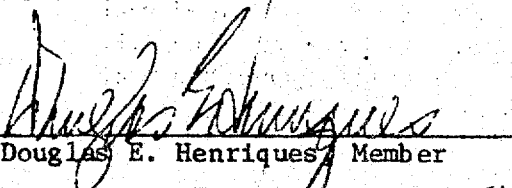
Here, among other uses, contestees showed that tools used in working the claims and ore are stored at the millsite, a stone house is used to board employees, a mill is on the land and has been used, and frequent trips are made between the millsite and the mining claims. The uses and improvements are typical of mining and milling operations. The millsite appears to be used for mining or milling purposes. E.g., United States v. Skidmore, 10 IBLA 322, 327 (1973)^f. The conclusion of whether the activity is actually mining or milling in connection with the lode claims cannot be determined, however, without determining the nature of the activity on the associated claims and their validity.

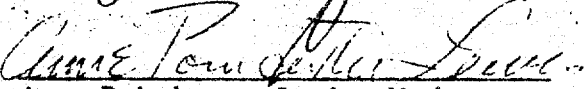
Where contestees present proof of use and occupancy of a millsite which appears related to mining or milling in connection with lode claims, then the issues raised are whether there are mining activities conducted on the associated claims and whether they are valid claims. This requires evidence in addition to proof of the activities on the millsite. The Government made no prima facie showing regarding five of the seven associated mining claims. The contestees presented general testimony of use of the site with the claims. We cannot conclude that the activity is not actually mining or milling in connection with the lode claims without further proof of their invalidity. Also, the presence of a mill, if operable and used as a quartz mill or reduction works, may be sufficient to maintain the site as an independent millsite under the last sentence of 30 U.S.C. § 42(a) (1970). In any event, based upon the evidentiary record before him, the Judge properly dismissed the Government's contest of this millsite, as there was an inadequate prima facie showing that the millsite was invalid either as a dependent or an independent claim.

Therefore, pursuant to the authority delegated to the Board of Land Appeals by the Secretary of the Interior, 43 CFR 4.1, the decision appealed from is affirmed.


Joan B. Thompson, Member

We concur:


Douglas E. Henriques, Member


Anne Poindexter Lewis, Member

Bill COTEE,

FOR YOUR FILE

Neal Mischke

ON TRAILS END MINE (A) AKA GOLD RIDGE

MINERAL LEASE AND OPTION

This Mineral Lease and Option, hereafter referred to as "Option", effective as of the 22nd day of April, 1983, is entered into by and between Neal A. Mischke and Phyllis M. Mischke, husband and wife, hereinafter referred to as "Lessor" and Gold Venture, a partnership, hereinafter referred to as "Lessee". AND NOW INCLUDES BRIDGEWEST INC. VANCOUVER B.C.

R E C I T A L S

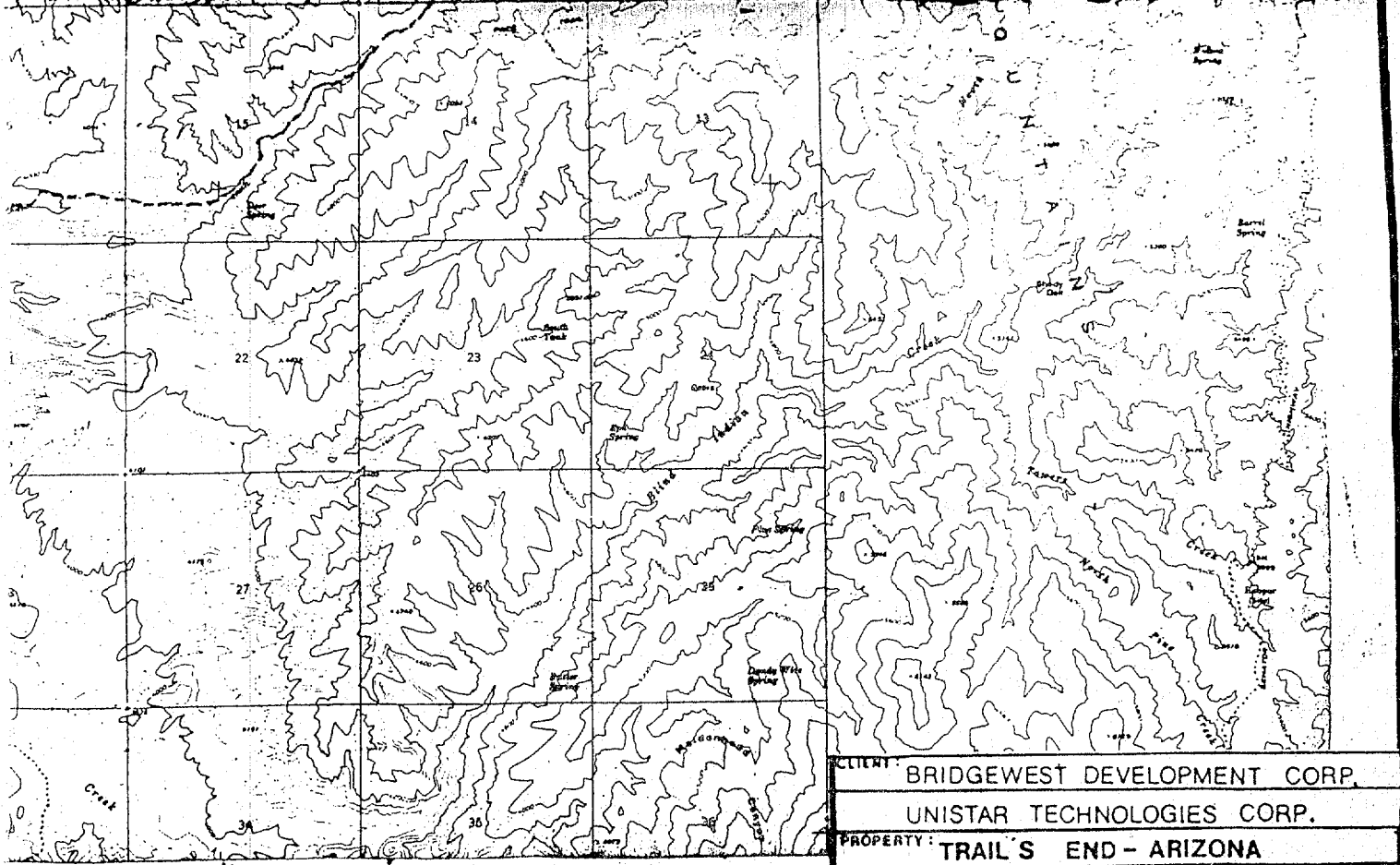
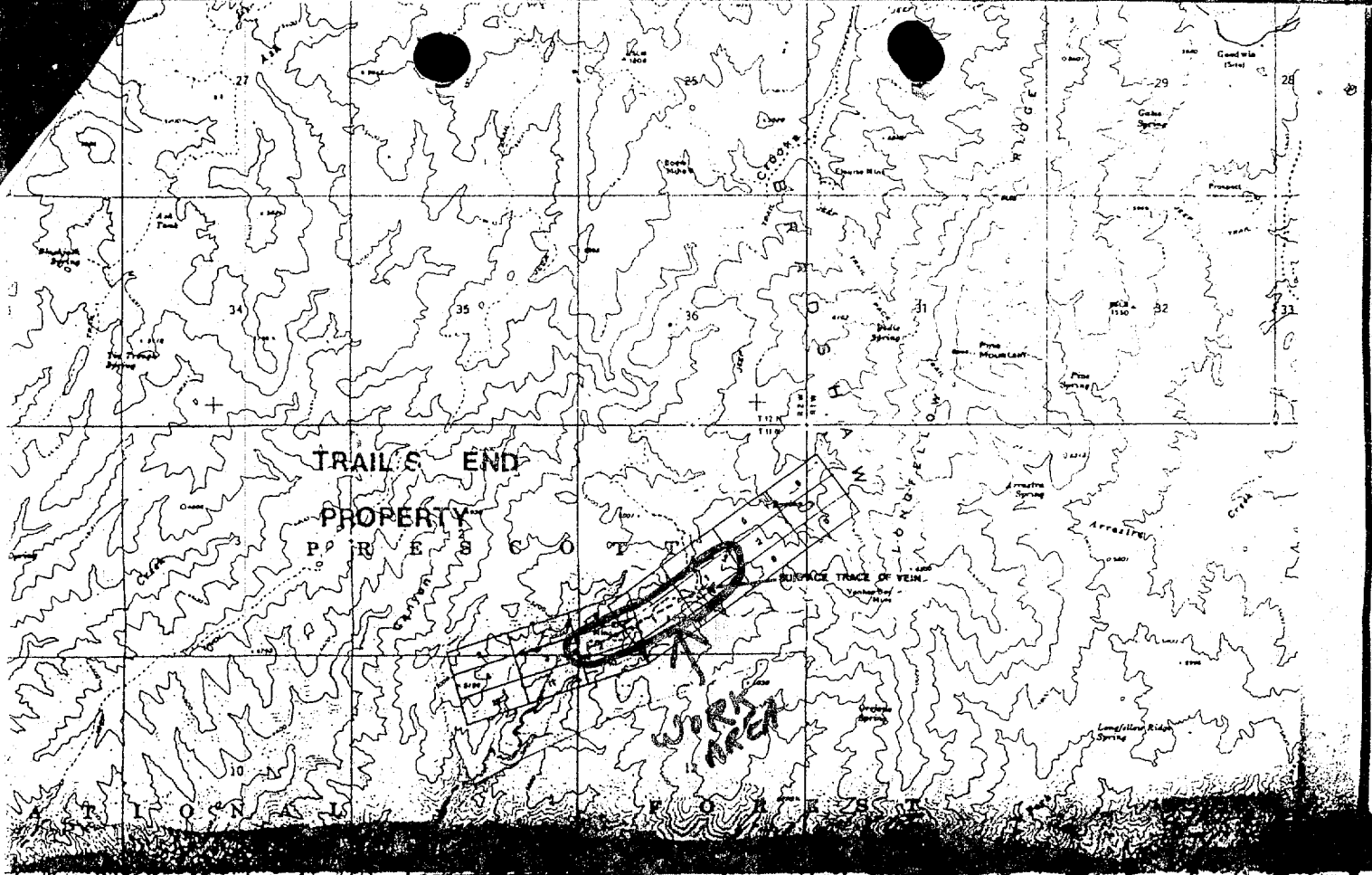
A. Lessor is the owner of certain unpatented mining claims in Yavapai County, Arizona, more particularly described in Exhibit A attached hereto and made a part hereof.

B. Lessor desires to grant unto Lessee and Lessee desires to acquire from Lessor a mineral lease and option to purchase said unpatented mining claims pursuant to which Lessee will have the sole and exclusive right to explore for, develop, extract, mine, process, market, sell or otherwise dispose of all minerals therefrom, as hereinafter provided.

A G R E E M E N T

NOW, THEREFORE, for and in consideration of the sum of \$500.00 in hand paid by Lessee to Lessor, and in consideration of the mutual covenants contained and pro-

Written by our attorney
William Bill Elving
Phoenix AZ.



| | |
|-----------|------------------------------|
| CLIENT: | BRIDGEWEST DEVELOPMENT CORP. |
| | UNISTAR TECHNOLOGIES CORP. |
| PROPERTY: | TRAIL'S END - ARIZONA |

TOPO, ROAD, CLAIM, and VEIN MAP

APPROVED:
ADTEC MINING CONSULTANTS INCORPORATED
 811-643 DRANVILLE ST., VANCOUVER, B.C., V6C 1R8

| | | |
|--------------------|------------|-----------|
| 0 SCALE: miles | DATE: 8/83 | ORG. NO.: |
| | DR: RPM | 3 |

Claims on which Operations will be Conducted:

| Claim Name | BLM Serial No. | Date of Location | (Lode) Placer Millsite (check) |
|-------------------------------|-----------------------------|------------------|-----------------------------------|
| Trail's End #2, #1 | Book 1577 P. 747 (77097) | Sept 1/68 | |
| " #1 | 77096 | " " | |
| Gold Ridge #1 | 193513 | Feb. 17/83 | |

3. Identification of Owners and Other Interested Parties:

Specify, under "status," whether owner, lessee, assignee, designee, etc:

| Name | Address | Telephone No. | Status |
|--------------|---|---------------|--------|
| Neal Misdke, | Star Route Box 59 Kirkland, AZ 86312 | 602 | |

Field Representative:

| Name | Address | Telephone No. |
|---------------------------------|--|---------------|
| Clark-Oliver Mining Co. Inc. | 419 S. 103 Pl. Apache Junction 85220 | 602-986-5681 |

3. Method of Proposed Operation:

Specify how the operations of Item 4 would be conducted:

Trenching of vein will be done by 450 Dozer- Backhoe to provide as little disturbance as possible - small dozer will be used to provide drill site pads for 6X6 Tired Drill Rig which requires very little in line of pad so disturbance will be negligible.

10. Environmental Protection Requirements:

Measures to be taken to minimize adverse environmental impacts and reclaim disturbed areas. (36 CFR 228.8):

Any trenches done to locate vein will be back filled, garbage to be cleaned up after job and good housekeeping procedures will be exercised. Disturbance shall be less than 1/4 Acre.

11. Map of Surface Disturbance:

A map is attached which shows the location and size of the areas of surface disturbance. (This map is required. A map scale of about 1"=1/2 mile is adequate.)

Wally Platt
Newmont Exploration Co.
200 West Desert Sky Road
Tuscon, AZ 85704

To: KEN

I have sent the enclosed
submittal letter to these
people. Thank you.
Neal

Mark C. Olm
Consulting Geologist
2240 West Kendra Place
Tuscon, AZ 85741

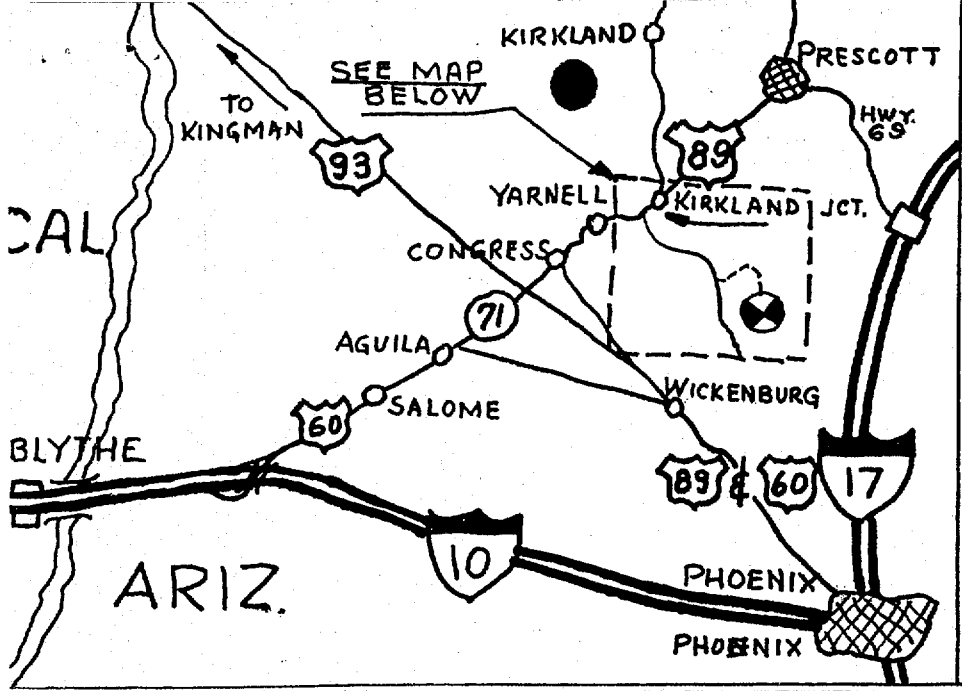
S.E. Theiss
Gold Extractions Corporation
3345 West Evans Drive
Phoenix, Az 85023

Marks O. Morrison
Investment Leasing
P.O. Box 3
Scottsbluff, Nebraska 69361

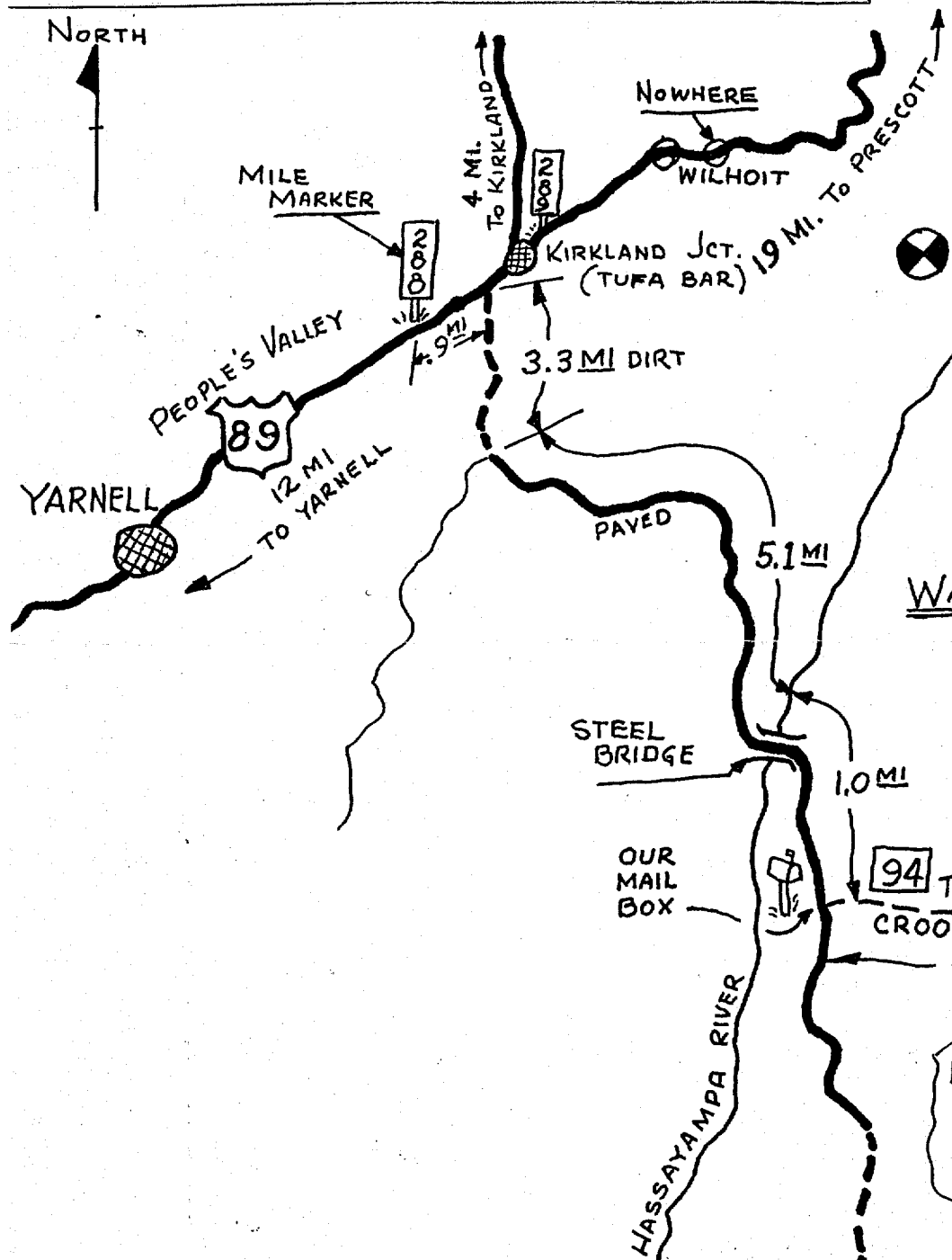
Duke Haltom
Cyclone Z Corporation #111
13951 North Scottsdale Road
Scottsdale, AZ 85260

Don Anderson
Consultant, Apex Energy Co.
407-0607 West Pender Street
Vancouver, BC, Canada, V6C 2T7


Don Jacobs
Gold River Exploration
P.O. Box 4106
Prescott, AZ 86302



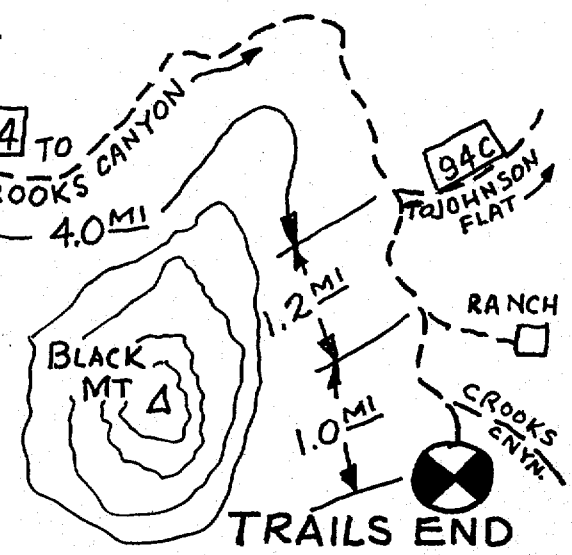
TRAILS END ENTERPRISES
 H.C. 68 BOX 901
 KIRKLAND ARIZONA 86332



PHONE: (602) 778-8456

 = TRAILS END MINE & MILL
 H.C. 68 BOX 901
 KIRKLAND, AZ. 86332
 NEAL MISCHKE - PROP.
 CB CHN. 21
 "BROKEN PICK"

WARNING:
 WATCH OUT FOR
 CATTLE ON ROADS





TRAILS END MINE & MILL



H.C. 68 BOX 901, KIRKLAND, AZ 86332
(602) 778-8456

15 February 1987

Ken A. Phillips
Mineral Building
State Fairgrounds
Phoenix, AZ 85007

Dear Ken,

The following is the submittal letter we have sent out. Thank you for your help.

We (that is my wife and I, and our son) are the owners of 21 unpatented mining claims, the **TRAILS END GROUP**, located in Sections 6 & 1, Township 11N, Ranges 1 & 2W, G.S.R.B. & M., Yavapai County, Arizona. These claims cover a potential gold deposit whose surface extent is greater than 400 feet by 10,500 feet.

During a recent visit to the Arizona Department of Mineral Resources, I acquired your company's name and address as a firm that may be interested in receiving a submittal of my precious metal target.

In 1983, Bridgewest Development Corp. and Unistar Technologies Corp. purchased the mineral claims for \$2,000,000, on an industry standard percentage of gross arrangement. After spending about \$50,000 on the enclosed engineering report, and test drilling, they ran into a "Cash Flow Problem" when gold dipped below \$400 per oz. They reluctantly had to abandon this, and all their other properties, when they were forced out of business.

The enclosed Mining Report was prepared before the test drilling samples could be analyzed by M.P. Dickson, P.Eng. Mr. Dickson assures me the raw data is still in his possession, and we are negotiating with him to release it to us, as specified in our Mineral Lease & Option with Bridgewest.

The property has not been on the market since that lease was terminated, and by the Spring of 1985 we had completed a new ladderway down to the first drift of the Clarinda Shaft. It is now supplied with fresh air, electricity, compressed air and water. It is ready for inspection and sampling at any time.

Mr. Ken Phillips and Mr. Nyal Niemuth, Engineers with the Arizona Department of Mineral Resources, visited the property in December of 1985. They took numerous samples, measurements and notes. Unfortunately the samples for assay were misplaced, but the rest of their report should be available sometime in the future. Numerous other reports and data are on file at the Arizona Department of Mineral Resources offices.

At the present time, We are continuing to drive a drift into the side of a hill located about about 1/2 mile northeast of the Clarinda Shaft. The ore vein is 5 feet across, running about .16 oz. Au/ton and increasing as we go further in from the surface.

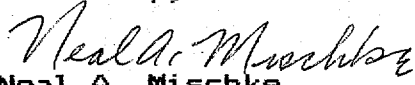
At this time we are offering to include the *TRAILS END MILL SITE* in a "cash out" type of sale. The mill site is located 6 miles west of the mine and includes: a 2-BR house, a large trailer house (with built-on's), a 24 ton/day quartz reduction mill with concentrators, 2 large workshops, several diesel and gasoline generators, dump truck, crane truck, D-8 Cat tractor, air compressor with rotary drills and bits, deep well water system, including 10,000 gallon storage tanks, 8,000 gallon underground fuel storage and dispensers, road grader, Bobcat loader, 800 gallons of propane storage, chickens, and a reliable free watchman with guard dog. In fact, everything needed to make it into a "turn-key" type of mining operation. All it needs is some manpower to start producing small quantities of ore and dore in a few days, not months from now.

The purchase price, lease terms, etc. are negotiable. However, if the mill site is wanted in addition to the mining claims, it should be included in a whole package, including the mill site and the mining claims.

We live at the mill and would be happy to show you the property at your convenience. Please feel free to contact us with any questions or to discuss the property further. We are on a Prescott area direct dial mobile phone, and during regular business hours there may be lots of traffic on our single frequency, so, keep trying. There is an automatic 3 min. cut-off on this phone system, and then we will have to call you back.

We have made a video tape of our operation, on VHS format, and have drawn up a proposed **MINERAL LEASE & OPTION** on the mining claims, for your consideration. We would be happy to send you either or both of these items at your further request.

Sincerely,


Neal A. Mischke

At the present time, we are unable to provide a more detailed description of the proposed project. The project is being developed in a location which is not yet defined. It is expected that the project will be completed by the end of the year.

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We are unable to provide a more detailed description of the proposed project. The project is being developed in a location which is not yet defined. It is expected that the project will be completed by the end of the year.

Sincerely,

John W. Smith

RECEIVED
FEB 20 1987
DEPT. OF MINES &
MINERAL RESOURCES

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Mineral Building, Fairgrounds

Phoenix, Arizona

- 1. Information from: W.C. Dean
- Address: Star Route Box 59 Kirkland
- 2. Mine: Gold Ridge group 3. No. of Claims - Patented _____
(Blaylock - Blalock - Unpatented 7 (6 long
Klondike ~~14~~ claims)
- 4. Location: NE of Kirkland
- 5. Sec. 3E20 Tp T11N Range R2W 6. Mining District: Kirkland (?)
- 7. Owner: W.C. Dean
- 8. Address: same
- 9. Operating Co.: same
- 10. Address: _____
- 11. President: _____ 12. Gen. Mgr.: _____
- 13. Principal Metals: Au 14. No. Employed: 23
- 15. Mill, Type & Capacity: Ball Mill 17PH gravity
- 16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
- 17. New Work Planned: going to move mill about a mile to
obtain a better water supply.
- 18. Misc. Notes: _____

Date: 12-16-69

(Signature) F.T. Johnson (Field Engineer)

MINE - TRAILS END
COUNTY - YAVAPAI

DATE 12/17/85
ENGINEERS - KAP & NJN

| SAMPLE # | Au oz/ton | Ag oz/ton | LOCATION & DESCRIPTION |
|----------|-----------|-----------|---|
| 28106 | | | face of Big Red adit, qtz vein with limonite boxwork sample width 4.6' |
| 28107 | | | Clarenda #1, 31' west of east rib of shaft, 2nd level, sample width 4.3', quartz vein |
| 28108 | | | Clarenda #2, 100' west of east rib of shaft, includes hw, fw, & qtz rib w/mafic horse, cuox stains, sample width 6.4' inc. 2.' of mafic horse |
| 28109 | | | Clarenda #3, 130' west of east rib of shaft, near west fault |

Postnote

Samples were lost by the assayer. They were being run au gratis and during some rush orders they were inadvertantly lost. NJN 3/86

Greetings to you all from the Trails End Mine in the Hassayampa Valley, Arizona. Yes, the Mischkes have done it again — In November last year, 1976 that is, we bought this Gold Mine and a real, live, working Quartz reduction mill in a corner of the Prescott National Forest about 37 miles from the beautiful, little old city of Prescott, Arizona. When we told Mark what we were going to do he sounded so eager to do something like that, we just said "Come along," so Neal and Mark moved in immediately. Eric and I stayed in Encinitas to complete the sale of our "Castle," finish out the school year and PACK.

Dean, who is in the Navy, came home in June after a 1 year tour of duty in Iceland. On the 26th of June he married the lovely girl he fell in love with when they were 15 years old. Her name is Leesa. They are now living in Jacksonville, Fla., where he is stationed.

In July, Eric and I moved to Prescott and rented a house, where we'll be living for the 2 more years he has of high school.

All 3 of my gold miners are attending college classes here in Prescott, taking courses like mining, geology and welding. So, we're back and forth between here and the mill like yo-yo's. Neal even took a course this year in blasting.

We discovered quite recently, that when Neal's Dad was a young man he came out west and settled for 2 years in Prescott. His job was hauling dynamite by mule to the gold mines in the area. Possibly even the one we now own. He always talked of returning but didn't have the opportunity. Mark looks very much like pictures taken of Pop when he was a young man, so maybe he's with us in spirit.

Neal and I have done a lot of traveling this year. Made a quick trip to see Dean and Leesa in Fla. Have been to New Mexico a couple of times, back to So. Calif. many times, Las Vegas and Northern Calif. and just got back from Mexico.

We love it here in Arizona and are excited about our new adventure. If you are ever in our area, we sure do hope you'll come for a visit. We've put down our phone number so you can call just to make sure we're not out on the road again.

Have a Happy Christmas and a Wonderful New Year!

Love from us all,

Neal - "Broken Pick"

Phyllis - "Silver Lady"

Mark - "Polish Sausage"

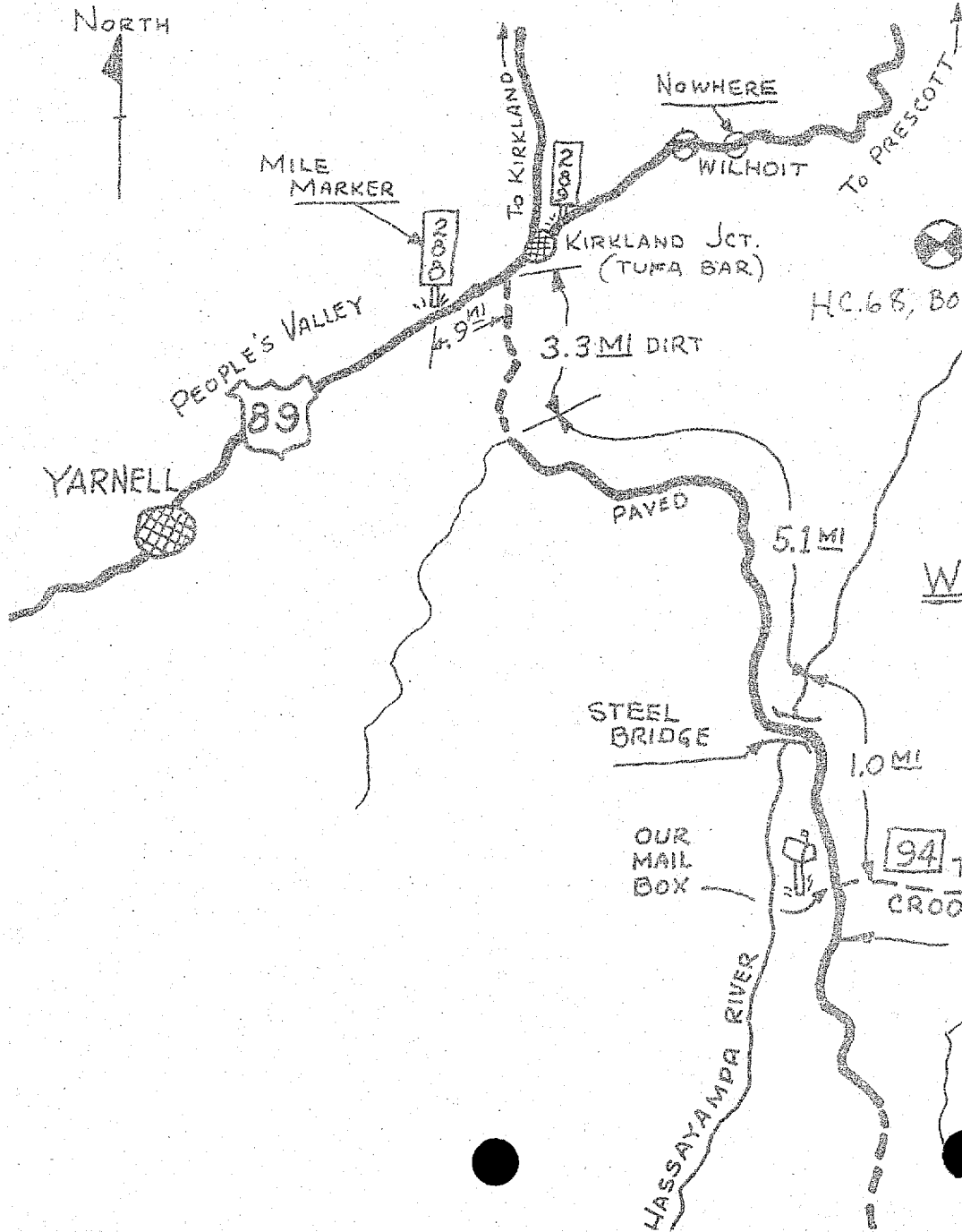
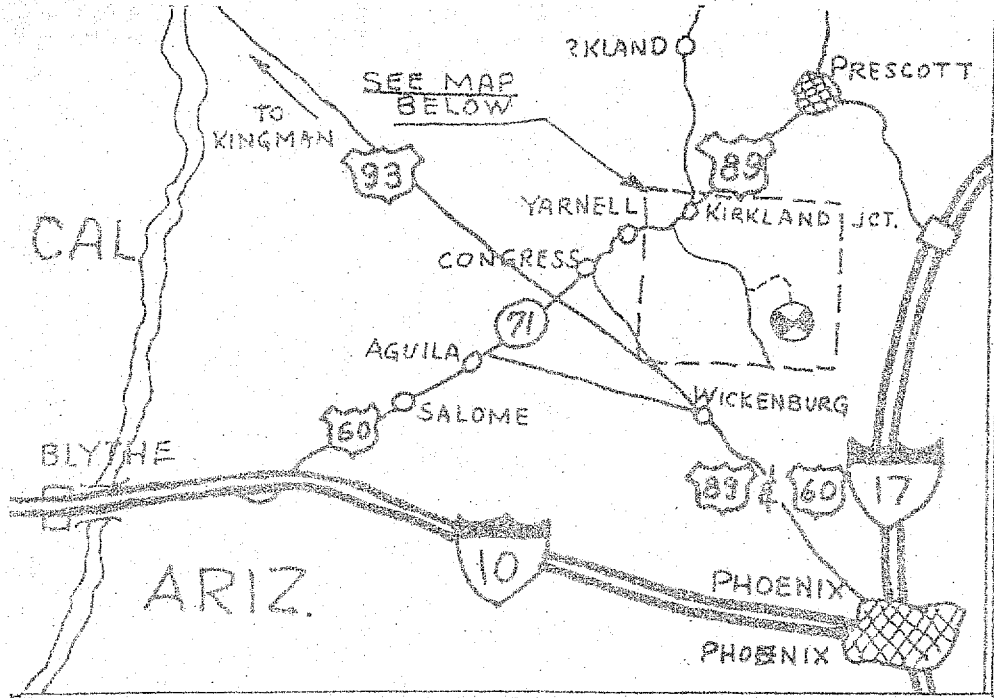
Eric - "Roadrider"

Mill Address:

~~P.O. Box 59 Star Route~~
Kirkland, Ariz. 86332

~~425 Webb Pl.~~
~~Prescott, Ariz. 86301~~
~~(602) 445-3241~~

TRAILS END ENTERPRISES
 P.O. BOX 59, STAR ROUTE
 KIRKLAND, ARIZONA 86332

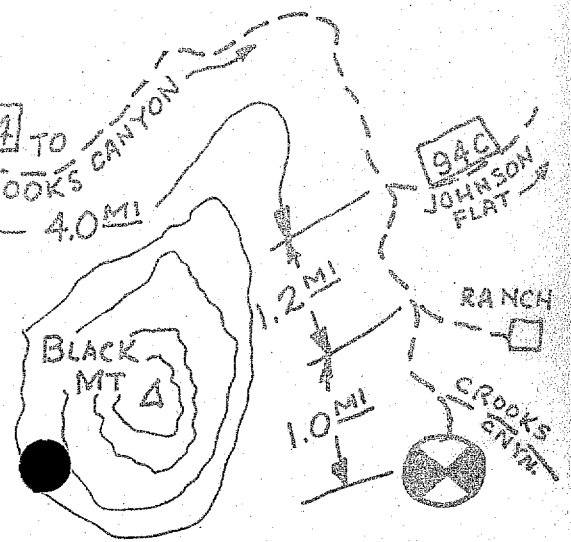


PRESCOTT ADDRESS:
 425 WEBB PL.
 (602) 445-3241

= TRAILS END MINE & MILL
 P.O. BOX 59, STAR ROUTE
 KIRKLAND, AZ. 86332

NEAL MISCHKE - PROP.
 CB CHN. 21
 "BROKEN PICK"

WARNING:
 WATCH OUT FOR
 CATTLE ON ROADS





TRAILS END MINE & MILL



1254 NANCY DRIVE, PRESCOTT, AZ 86301
(520) 771-0969

24 December 1997

Bill Miller
102 East Loma Linda Drive
Tempe AZ 85282-35224

Dear Mr. Miller,

Thank you for your call yesterday inquiring about the Trails End Mine & Mill again. Enclosed is the additional information I promised you in my letter of the 29th of November, from Mexico, which you may be receiving soon? Mabe? Mabe? As you know!

We are the owners of 19 unpatented lode mining claims, the TRAILS END & GOLD RIDGE GROUPS, Township 11N, Sections 1, 2, 11 & 12 of Range 2 W, & Section 6 of Range 1 W, G.S.R.B. & M., Yavapai County, Arizona. These claims are located at an elevation of 6,000 feet, on the west slope of the Bradshaw Mountains, 10 air miles due south of Prescott (45 miles by road) and cover a potential gold vein whose surface length is in excess 10,500'. The mine is noted on the Mount Union Quadrangle Chart.

The property was purchased by us in 1976 and we have continued the development of the holdings, obtained 100% clear titles and researched it's past history. After satisfying ourselves of the existence of substantial quantities of commercial grade ores, we offered it for lease, with a purchase option, in 1982.

In 1983, Bridgewest Development Corp. and Unistar Technologies Corp. purchased the mineral claims for \$2,000,000, on an industry standard "Percentage of Gross" lease contract, with an "Option to Purchase". After spending about \$50,000 on an engineering report, they ran into a "Cash Flow Problem" with their other properties, when gold dipped below \$400 per oz. They reluctantly had to abandon this, and all their other projects, when they were forced out of business. Some samples obtained by their engineer were as high as 2.68 oz. au. per ton of quartz ore.

Mr. Ken Phillips and Mr. Nyal Niemuth, Engineers with the Arizona Department of Mineral Resources, visited the property in December of 1985. They took samples, measurements and notes, and said they were favorably impressed. Numerous other reports and data are on file at the Arizona Department of Mineral Resources office in Phoenix, AZ, going back to 1907.

During the next several years we sold the property on the same type of lease purchase contract, twice more, for \$1,000,000 each time. Again, after a year or so of paying the monthly lease, the purchasers reluctantly returned the property to us when they couldn't put together a big enough promotional deal with potential investors. We have, until the last 3 or 4 years, continued to mine and process gold on a small scale and to improve the property. By the Spring of 1994 we had completed a new all steel ladderway down to the first 70' drift, of the Clarinda Shaft, which is 140' deep and installed an air driven mucking system. This shaft now has a diesel operated hydraulic winch with a new steel headframe.

Recent studies, by a local engineer, suggest several parallel veins on the property. The dips of the various veins seem to indicate they meet underground, which he thinks will be a high value area. Also, recently a minerologist in Congress, AZ, has made some tests of concentrates from our mill and thinks there may be another 2 to 4 oz. AU/ ton locked up in some arsenopyrites. He feels this "extra" gold can be recovered with a pre-roasting and floatation process.

The mill site is located 6 miles west of the mine, at 4,200' elevation, on a County maintained well graded dirt road, 6 miles east of the paved road and our mail box. It includes a 2-BR. stone house, a large trailer house, a complete 24 to 30 ton/day quartz reduction mill with concentrators, 2 large workshops, several diesel and gasoline generators to create all our own electricity (3 phase), dump truck, crane truck, 2 D-8 CAT tractors with spare parts, air compressor with rotary drills and bits, deep well water system that includes 20,000 gallons of storage, 400 gallon diesel fuel storage tank with dispensers, pull type road grader, Bobcat loader, and 800 gallons of propane storage. A small diesel tractor with Gannon and a large trailer mounted arc welder are for your use (on loan from my son) and these two items may be purchased or returned to him when he needs them. In fact, everything needed to make it into a "turn-key" type of mining operation. All it needs is some manpower to start producing small quantities of very high grade doré in a few weeks, not months or years from now. This would allow some cash flow, while further exploration and development of the property continues.

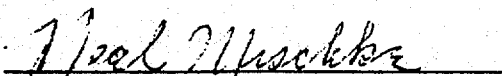
We have a currently valid Operating Plan with the Forestry Dept. The plan includes a \$23,307 reclamation bond, but no problems about the usual environmental difficulties, and will be expandable, if you bring in more equipment. The bond amount we have posted is not included in the price of the property, but it can be covered in many ways that allow you to continue collecting interest, such as putting cash, CDs, Money Market accounts, or Letters of Credit, etc., in a federally insured bank, in lieu of depositing cash with the Forestry.

In answer to the usual question about reasonably possible reserves; there are thousands of tons of ore ready to be blasted out, hauled to the mill and processed. With 10,000 feet of vein to go, and plenty of hard work, there should be enough to last several life times, on a small scale operation. By separating the quartz from the shist before milling, the quartz should average 1 oz./Au./ton, and 3 to 4 good workers should be able to mine, haul, mill, smelt and send off a minimum of 15 to 30 oz./au. doré to the refiners in a week or less, on a medium scale operation. The number of workers available, how hard they or you are willing to work, and how much time they or you are willing to put in, are the only factors involved in the net proceeds to be gained by mining this property. A much larger operation and a lot more bucks would bring in much more gold.

Old age and health problems are forcing us to sacrifice the property for the price of \$300,000. If after you have viewed and tested the property, we will be happy to consider any reasonable offer as to a possible terms, preferably a cash-out. I'm a retired Los Angeles City Fire Department Engineer, a retired Air force Colonel, pushing 76, and we just can't hold out any longer for another \$1,000,000 offer. We have enough money to live well on, if we can clear up our debts with our equity in the mine, and want to play full time the few remaining years of our lives.

If you desire further information, or to discuss the property further, please contact us again and we will be happy to talk about any ideas you may have. We have plenty of space for trailer, motor home or camper parking, with hook-ups, and you are welcome to come up at any time and stay as long as you like. There are plenty of motel rooms in Yarnell (25 miles) or Prescott (45 miles).

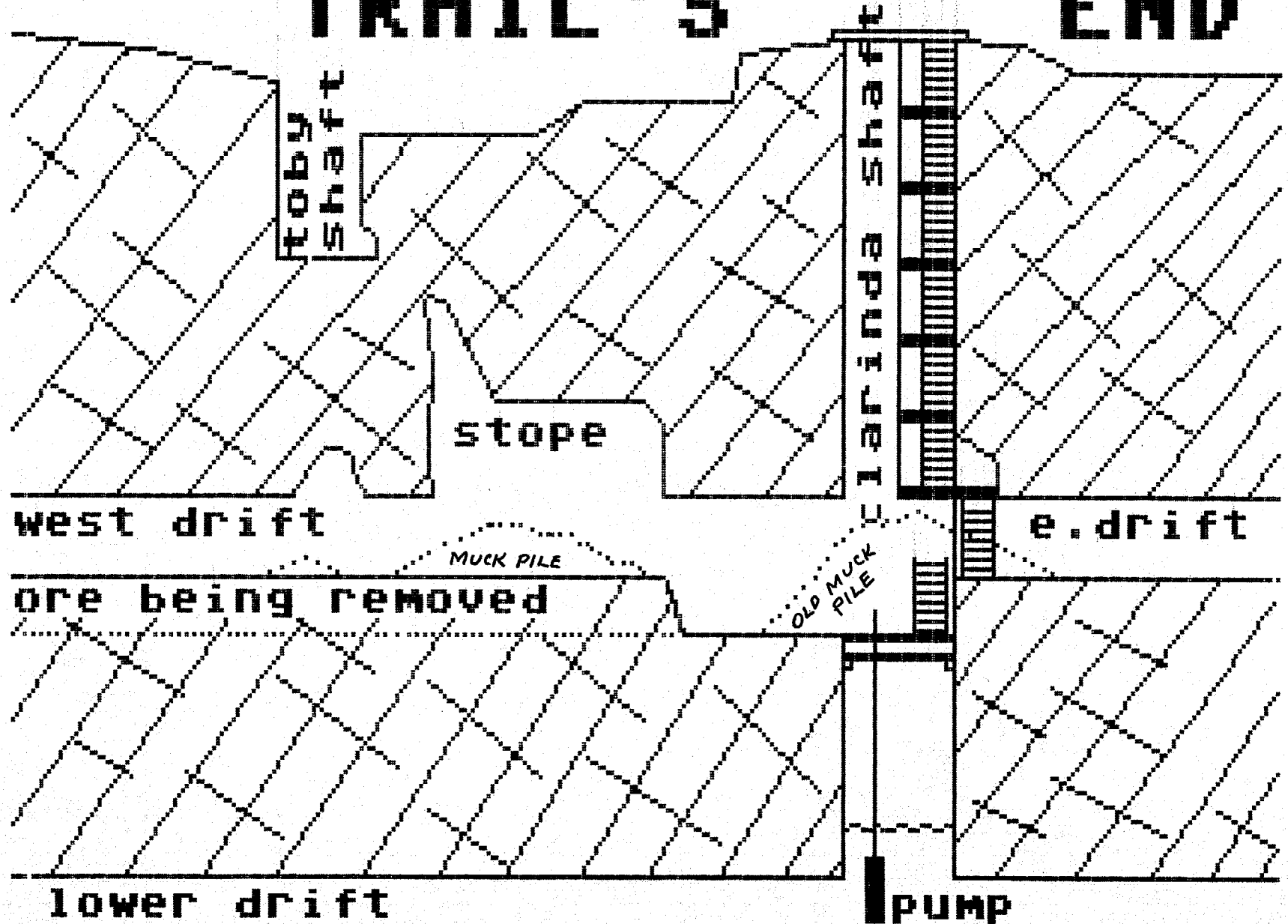
Sincerely,

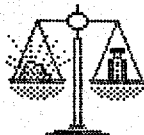


Neal Mischke, owner

TRAIL'S

END





TRAIL'S END MINE & MILL



H.C.68 BOX 901 - KIRKLAND, AZ 86332
(602) 778-8456

26 November 1985

Ken A. Phillips
Arizona Dept. of Mines & Mineral Resources
Mineral Bldg., Fairgrounds
Phoenix, AZ 85007

RECEIVED

DEC 03 1985

DEPT. OF MINES &
MINERAL RESOURCES

Dear Ken,

My son and I are members of the Congress Council of the Arizona Prospectors & Small Mine Operators Association, and have met you several times in Congress and Prescott. We think we are finally ready to request a visit to our property at your earliest convenience.

In 1983 we contracted the sale of our mining claims with Bridgewest Development Corp., a Canadian outfit. When gold went below \$400 per oz., they suddenly had a cash flow problem and reluctantly canceled their obligations to us. Actually we were relieved to get the property back, and have no further plans to offer it for sale.

The earlier reports on our mine by A.L. Flagg (in 1926), F.B. Weeks (in 1934), and G.C. Ridland (in 1964), which we had obtained from your files, were very encouraging. As we all know though, in this business, it doesn't pay to believe anything that can't be double checked by yourself personally. When Bridgewest folded, they were kind enough to send us a very extensive report by M.P. Dickson. We are enclosing a copy of this report for you to include in your files on the Trail's End.

We have followed Mr. Dickson's advice and have dewatered the Clarinda Shaft down below the first drift. We have built an enclosed ladderway, with landings every 10 feet, installed new fresh air and compressed air lines, a new concrete cap with doors, and lighting and power. Enclosed also you will find a computer readout of the present situation. We need advice on whether we are proceeding in the proper way, and would appreciate any help you can give us. What does not show in the report is the fact that we have an honest 1 ton per hour mill setup, and have been processing and smelting to a dore button, which we send to Engelhard.

It looks now as if we will be gone from the 5th of December to about the 13th. If and when you can come we have a spare bedroom, if you need to stay overnight, and we will dine you royally. Our mobilphone is so far away from Prescott that the reception can get shakey at times, so please keep trying, or just write us a note with the date you choose.

Sincerly yours,

Neal A. Mischke
Neal A. Mischke



4

ADTEC

**Mining Consultants
Incorporated**

December 4, 1985

Mr. Neal A. Mischke
Trail's End Mine & Mill
H.C. 68 Box 901
Kirland, AZ 86332
U.S.A.

Dear Neal,

Nice to hear from you after almost 1½ years from leaving the property.

Am sending along a copy of Page 9 of the report as you requested. Am returning your cheque as Adtec & myself were certainly well treated by you people and welcome the opportunity to return this small favor.

Unfortunately, we did not locate what Bridgewest needed to carry on with the project. I never did plot up all details or make a final map as it was not requested of me. However, we continue to hold the information, should the occasion arise when the information is needed.

I believe the approach you people are taking is the correct one at this time and congratulate you on your work to date, and wish you luck on your future endeavors.

If I am ever close to your area, I will drop in and say hello.

Best regards,



Plen Dickson

TRAILS END MINE

YAVAPAI COUNTY

KAP WR 12/20/85: In the company of Nyal Niemuth a visit was made to the Trails End Mine and Mill (file), Yavapai County. The mill was toured and a list of equipment made. The gravity mill is capable of treating about one ton per hour. The Trails End Mine is located about 6 miles from the mill. Both current work and some past underground workings were visited. The Clarendon shaft and drifts were mapped and 4 samples were taken from the underground workings. A separate report with maps and sample data has been assembled for the file.

Date Printed: 12/24/92

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

VERBAL INFORMATION SUMMARY

Information from: Neal Mischke

Company: Trail's End Enterprises

Address: P.O. Box 59, Star Route,

City, State ZIP: Kirkland, AZ 85332

Phone: 602-778-8456

MINE: Trail's End Mine and Mill

ADMMR Mine File: Trail's End Mine

County: Yavapai

AzMILS Number: 1247

SUMMARY

Neal Mischke called asking for suggestions on how to deal with the Forest Service who is trying to run them off their millsite or pay a sizable reclamation bond. Considering the extenuation circumstances that have prevented his operation in the last few years and the elapse of the appeal time on the Forest Service's plan of operations, it was suggested he contact an attorney familiar with negotiating operating plans with the Forest Service.

Ken A. Phillips, Chief Engineer Date: December 14, 1992

•Intra~Company Correspondence

SHATTUCK DENN MINING CORPORATION

and

SUBSIDIARIES

Humboldt Office
Date - April 29, 1966

TO: C. R. Sundeen

SUBJECT: TRAILS END PROPERTY

FROM: J. Olaf Sund

% G.C. Ridland, Geological Engineer
Phoenix, Arizona

TYPE: Gold

TERMS REQUESTED: Not Disclosed

LOCATION:

This prospect is 16 miles due south from Prescott and is approximately 24 miles by road. Specifically it is located in section 1, township 11 north and range 2 west.

CLAIMS

There are nine unpatented claims in the group called Trails End 1 to 3, Klondike and Klondike 1 to 4, and the Golden Dome.

GEOLOGY:

The claims are underlain by the greyish, fine-grained, massive Bradshaw granite. Moderate shearing occurs on the property along which two quartz veins have intruded. These veins are some 6 inches to 1 foot wide, dip steeply south and strike north 50 degrees east. The quartz is white, glassy and barren of any significant sulphide mineralization. A moderate limonite stain occurs in the few quartz fractures.

Amphibolitic schist rocks are mixed with the granite in the dump and presumably represent a metamorphosed lava inclusion in the granite.

MINING:

Two shafts 60 feet apart on the quartz veins are 155 and 20 feet deep. Three hundred feet of drifting is claimed but the quantity of the dumps do not bear this out.

SAMPLES

The quartz veins and quartz from the selected pile of "ore" were sampled and assayed as follows:

| <u>Sample No.</u> | <u>Description</u> | <u>Au</u> | <u>Ag</u> |
|-------------------|--------------------|-----------|-----------|
| 12313 | Altered granite | Nil | Nil |
| 12314 | Quartz, with rust | .02 | Nil |
| 3.2315 | Quartz | .03 | Nil |
| 12316 | Quartz | Tr | Nil |
| 12317 | Quartz ore w/rust | Nil | Nil |
| 12318 | Quartz ore w/rust | Nil | Nil |

| | | | |
|-------|-----------------------------|------|-----|
| 12319 | Quartz | .34 | Nil |
| 12320 | Quartz | .023 | Nil |
| 12321 | Altered Granite | .03 | Nil |
| 12322 | Amphibolite schist w/pyrite | Nil | Nil |

CONCLUSIONS

The lack of consistent values and the obvious inconsistency of the veins would rate this as a poor prospect. Nothing should be done with this property.

JOS/db

Mildred and W. C. Dean working Trails End mine (formerly Gold Ridge Claims) in Sec. 1, T11N, R3W (Formerly held by Grace Randall et al) Fairly high grade Au in quartz.
FTJ WR 5-22-70

Active Mine List May 1970 - 3 men - W. C. & Mildred Dean, Goodwin

A small gold mine started operations NE of Kirkland Jct, Trails End Mine by Mildred and W.C. Dean. This was formerly the Gold Ridge Claims, in Sec. 1, T11N, R3W.
FTJ QR 6-30-70

Active Mine List Oct. 1970 - 3 men

3-26-75 Jim Butler leasing this property. H

Information from Mel Jones, 9/24/75 - New cement collar around shaft at mine.

CJH WR 12/12/80: George E. Travis, P.E. Consultant, 125 E. Whipple Place, Prescott Ariz, 86301, phone 778-4568, was a visitor in the office. Interested in the following mines in Yavapai County: Trails End, Indian Girl, Transcendent, and DeSoto. Pulled mine files.

NJN WR 1/28/83: Neal "Art" Mischke, Trails End Enterprises, P.O. Box 59, Star Route, Kirkland, AZ. 85332, Mobile phone 778-8456, visited. He reported cleaning out the Trails End Mine, Yavapai County, shaft to the first level and is also drifting on the vein to the northeast of the shaft. The vein is 4-5 feet wide with a horse of schist often present. Grade of the vein material is about 1/2 oz Au/ton plus some silver. The material is processed at a mill about 5 miles to the southwest where it is run thru a gravity mill, amalgamated and then retorted in a furnace. Mr. Mischke reported he would like to sell the property and is currently showing it to an unidentified Canadian group.

V

NJN WR 12/20/85: Visited trails End Mine (f) and mill, Yavapai County with Ken Phillips at the request of owner Neil Mischke (c). Samples were taken, when assayed their description and the results will be placed in the file.

SHATTUCK DENN MINING CORPORATION
and
SUBSIDIARIES

Humboldt Office

Date April 29, 1966

TO: C. R. Sundeen

SUBJECT: TRAILS END PROPERTY
% G.C. Ridland, Geological
Engineer
Phoenix, Arizona

FROM: C. Olaf Sund

RE: Gold

INFORMATION REQUESTED: Not Disclosed

LOCATION:

This prospect is some 16 miles due south from Prescott and is approximately 24 miles by road. Specifically it is located in Section 1, township 11 north and range 2 west.

CLAIMS:

There are nine unpatented claims in the group called Trails End 1 to 3, Klondike and Klondike 1 to 4, and the Golden Dome.

DESCRIPTION:

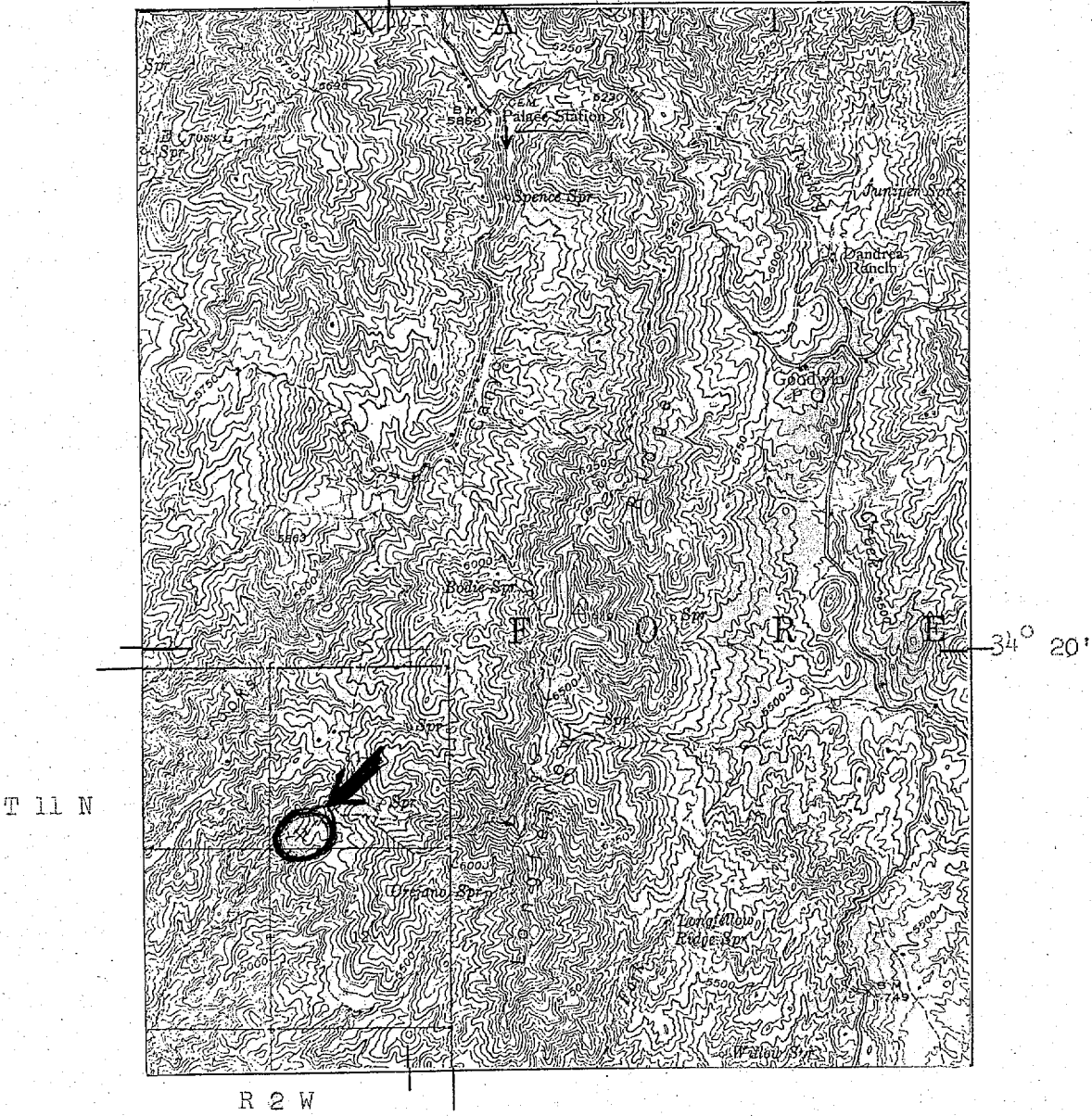
The claims are underlain by the greyish, fine-grained, massive Bradshaw granite. Moderate shearing occurs on the property along which two quartz veins have intruded. These veins are some 6 inches to 1 foot wide, dip steeply south and strike north 50 degrees east. The quartz is white, glassy and barren of any significant sulphide mineralization. A moderate limonite stain occurs in the few quartz fractures.

Amphibolitic schist rocks are mixed with the granite in the dump and presumably represent a metamorphosed lava inclusion in the granite.

MINING:

Two shafts 30 feet apart on the quartz veins are 155 and 20 feet deep. Three hundred feet of drifting is claimed but the quantity of the dumps do not bear this out.

112° 25'



LOCATION AND ACCESS TO THE TRAILS END PROPERTY

Scale 1 : 62,500

SAMPLING:

The quartz veins and quartz from the selected pile of "ore" were sampled and assayed as follows:

| <u>Sample No.</u> | <u>Description</u> | <u>Au</u> | <u>Ag</u> |
|-------------------|-----------------------------|-----------|-----------|
| 12313 | Altered granite | Nil | Nil |
| 12314 | Quartz with rust | .02 | Nil |
| 12315 | Quartz | .03 | Nil |
| 12316 | Quartz | Tr | Nil |
| 12317 | Quartz ore w/rust | Nil | Nil |
| 12318 | Quartz ore w/rust | Nil | Nil |
| 12319 | Quartz | .34 | Nil |
| 12320 | Quartz | .03 | Nil |
| 12321 | Altered Granite | .03 | Nil |
| 12322 | Amphibolite schist w/pyrite | Nil | Nil |

CONCLUSIONS:

The lack of consistent values and the obvious inconsistency of the veins would rate this as a poor prospect. Nothing should be done with this property.

MINING PROPERTY FOR SALE
R E S U M E

RECEIVED

OCT 11 1968

DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA

The following is a general discription of the Gold Ridge Mining Claims and related information.

The Gold Ridge Mining Claim is located in Yavapai County in the Hassayampa Mining district along the Southwest exposure of the Bradshaw Mountains about 2 miles east from Crook Canyon. This claim is comprised of 7 claims, each being 600 ft. wide and 1500 ft. in length. Six claims are adjoined end to end along the strike of the vein, one being a side claim. The vein has been exposed by numerous shallow shafts, cross trenches, stripping by bulldozer and by one shaft 150 ft. in depth. The vein is from 4 to 8 ft. wide, the gangue being quartz and a chlorinda schist with the chlorinda schist decreasing with depth. The country rock is a highly metamorphised schist. The vein strike runs from southwest to northeast with an average dip of 80° to the easterly. It is a strong fissure type, being fairly straight along the strike. Assays at the surface along the vein have shown values in gold from \$5.00 to \$135.00 per ton. The ore is of a free milling type and is not complex.

...An ore hauling road has been built to and along the strike of the vein

...At present there is a 10-ton pilot mill and a mill site 5 miles below the mine at the mouth of Crook Canyon and a county graded road to this site

...Public Service power lines are about 4 miles south of the present mill site

Adjacent to the present mill site is 67 acres of patented land with a first water right to Crook Canyon. Issued in 1860, this water right covers mining, milling, manufacturing and irrigation. The mine, mill and the patented land can all be purchased as a package deal. If an exploratory option is desired, it will be negotiated to the satisfaction of all concerned.

This property will be shown by appointment at your convenience and will be sold on a first-come basis.

Please address all correspondence to:

Mr. W. C. Dean
6420 West Van Buren 6B
Phoenix, Arizona

or call after 5:00 p.m.

936-1519
Phoenix, Arizona

ARIZONA DEPARTMENT OF MINERALS RESOURCES
Mineral Building, Fairgrounds
Phoenix, Arizona

1. Information from: W. C. Dean
- Address: Star Route Box 59 Kirkland
2. Mine: Gold Ridge group 3. No. of Claims - Patented _____
(Blaylock - Blalock - Unpatented 7 (6 long
Klondike ~~1st~~ claims)
4. Location: NE of Kirkland
5. Sec. 3630 Tp. T11N Range R2W 6. Mining District Kirkland (?)
7. Owner: W. C. Dean
8. Address: same
9. Operating Co.: same
10. Address: _____
11. President: _____ 12. Gen. Mgr.: _____
13. Principal Metals: Au 14. No. Employed: 2-3
15. Mill, Type & Capacity: Ball Mill 1TPH gravity
16. Present Operations: (a) Down (b) Assessment work (c) Exploration
(d) Production (e) Rate _____ tpd.
17. New Work Planned: going to move mill about a mile to
obtain a better water supply.
18. Miscl. Notes: _____

Date: 12-16-69 _____
(Signature) F. T. Johnson (Field Engineer)

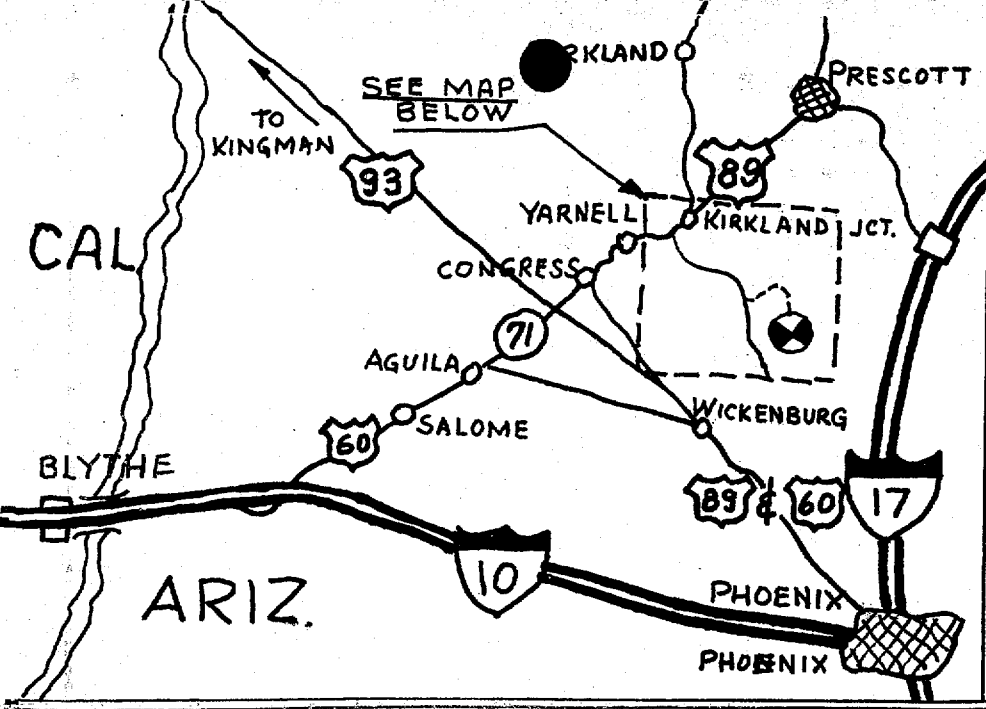
MINE - TRAILS END
COUNTY - YAVAPAI

DATE 12/17/85
ENGINEERS - KAP & NJN

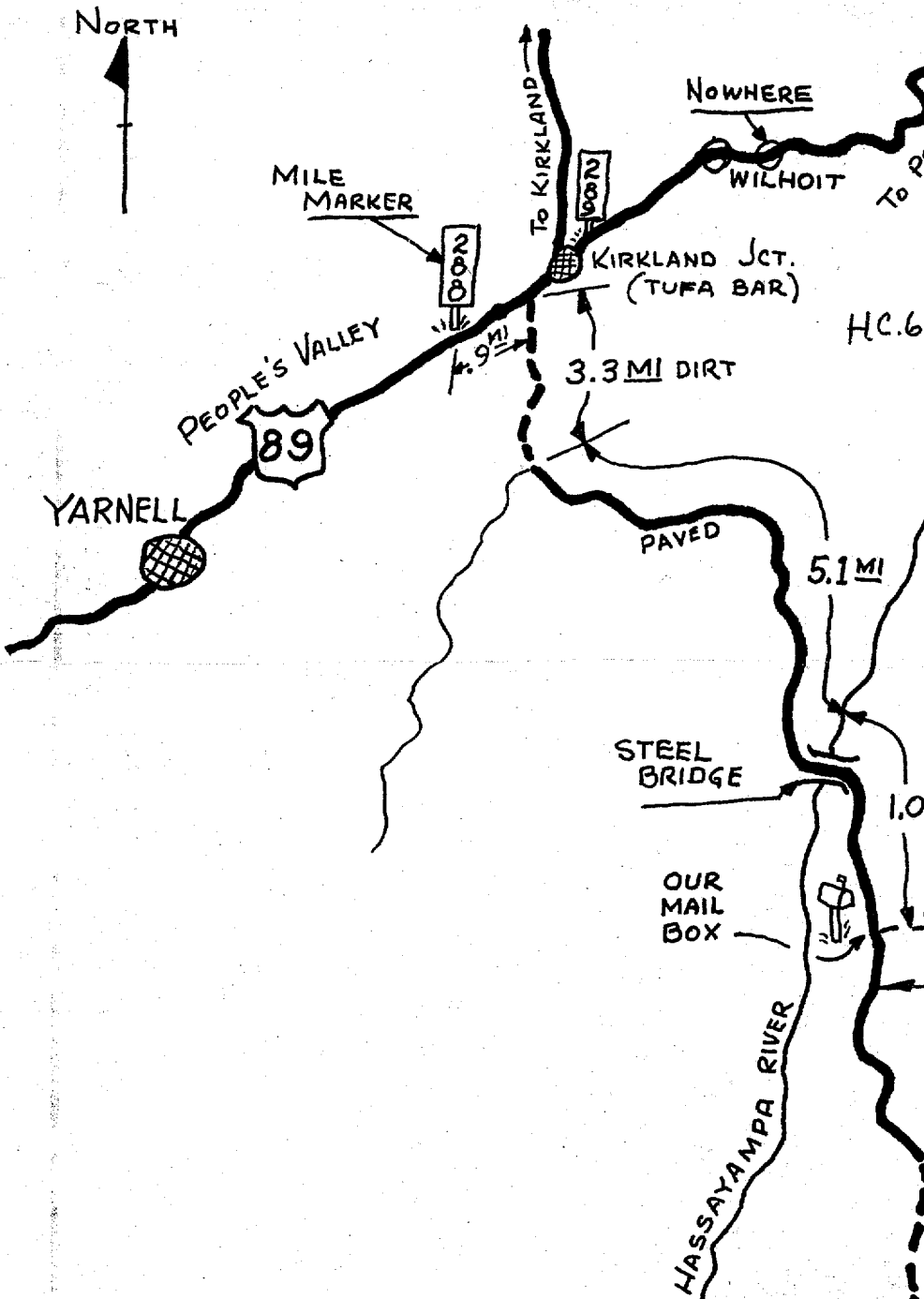
| SAMPLE # | Au oz/ton | Ag oz/ton | LOCATION & DESCRIPTION |
|----------|-----------|-----------|---|
| 28106 | | | face of Big Red adit, qtz vein with limonite boxwork sample width 4.6' |
| 28107 | | | Clarenda #1, 31' west of east rib of shaft, 2nd level, sample width 4.3', quartz vein |
| 28108 | | | Clarenda #2, 100' west of east rib of shaft, includes hw, fw, & qtz rib w/mafic horse, cuox stains, sample width 6.4' inc. 2.' of mafic horse |
| 28109 | | | Clarenda #3, 130' west of east rib of shaft, near west fault |

Postnote

Samples were lost by the assayer. They were being run au gratis and during some rush orders they were inadvertantly lost. NJN 3/86



TRAILS END ENTERPRISES
~~P.O. BOX 50, STAR ROUTE~~
 KIRKLAND, ARIZONA 86332

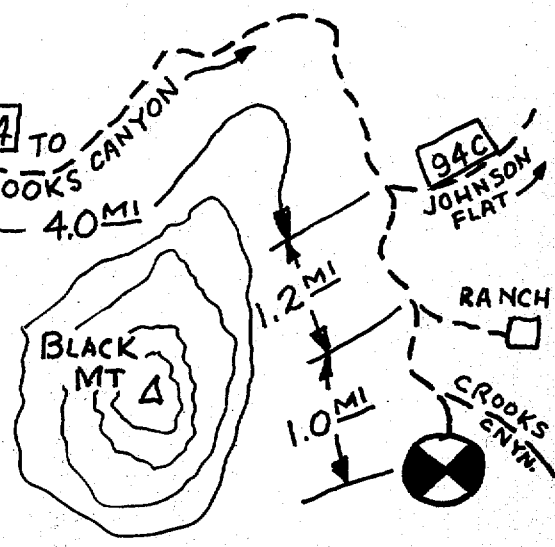


~~PRESCOTT ADDRESS:~~
~~425 WEBB PL.~~
~~(602) 445-3241~~

⊗ = TRAILS END MINE & MILL
~~P.O. BOX 50, STAR ROUTE~~
 H.C. 68, BOX 901
 KIRKLAND, AZ. 86332

NEAL MISCHKE - PROP.
 CB CHN. 21
 "BROKEN PICK"

WARNING:
 WATCH OUT FOR
 CATTLE ON ROADS



Greetings to you all from the Trails End Mine in the Hassayampa Valley, Arizona. Yes, the Mischkes have done it again — In November last year, 1976 that is, we bought this Gold Mine and a real, live, working Quartz reduction mill in a corner of the Prescott National Forest about 37 miles from the beautiful, little old city of Prescott, Arizona. When we told Mark what we were going to do he sounded so eager to do something like that, we just said "Come along," so Neal and Mark moved in immediately. Eric and I stayed in Encinitas to complete the sale of our "Castle," finish out the school year and PACK.

Dean, who is in the Navy, came home in June after a 1 year tour of duty in Iceland. On the 26th of June he married the lovely girl he fell in love with when they were 15 years old. Her name is Leesa. They are now living in Jacksonville, Fla., where he is stationed.

In July, Eric and I moved to Prescott and rented a house, where we'll be living for the 2 more years he has of high school.

All 3 of my gold miners are attending college classes here in Prescott, taking courses like mining, geology and welding. So we're back and forth between here and the mill like yo-yo's. Neal even took a course this year in blasting.

We discovered quite recently, that when Neal's Dad was a young man he came out west and settled for 2 years in Prescott. His job was hauling dynamite by mule to the gold mines in the area. Possibly even the one we now own. He always talked of returning but didn't have the opportunity. Mark looks very much like pictures taken of Pop when he was a young man, so maybe he's with us in spirit.

Neal and I have done a lot of traveling this year. Made a quick trip to see Dean and Leesa in Fla. Have been to New Mexico a couple of times, back to So Calif. many times, Las Vegas and Northern Calif. and just got back from Mexico.

We love it here in Arizona and are excited about our new adventure. If you are ever in our area, we sure do hope you'll come for a visit. We've put down our phone number so you can call just to make sure we're not out on the road again.

Have a Happy Christmas and a Wonderful New Year!

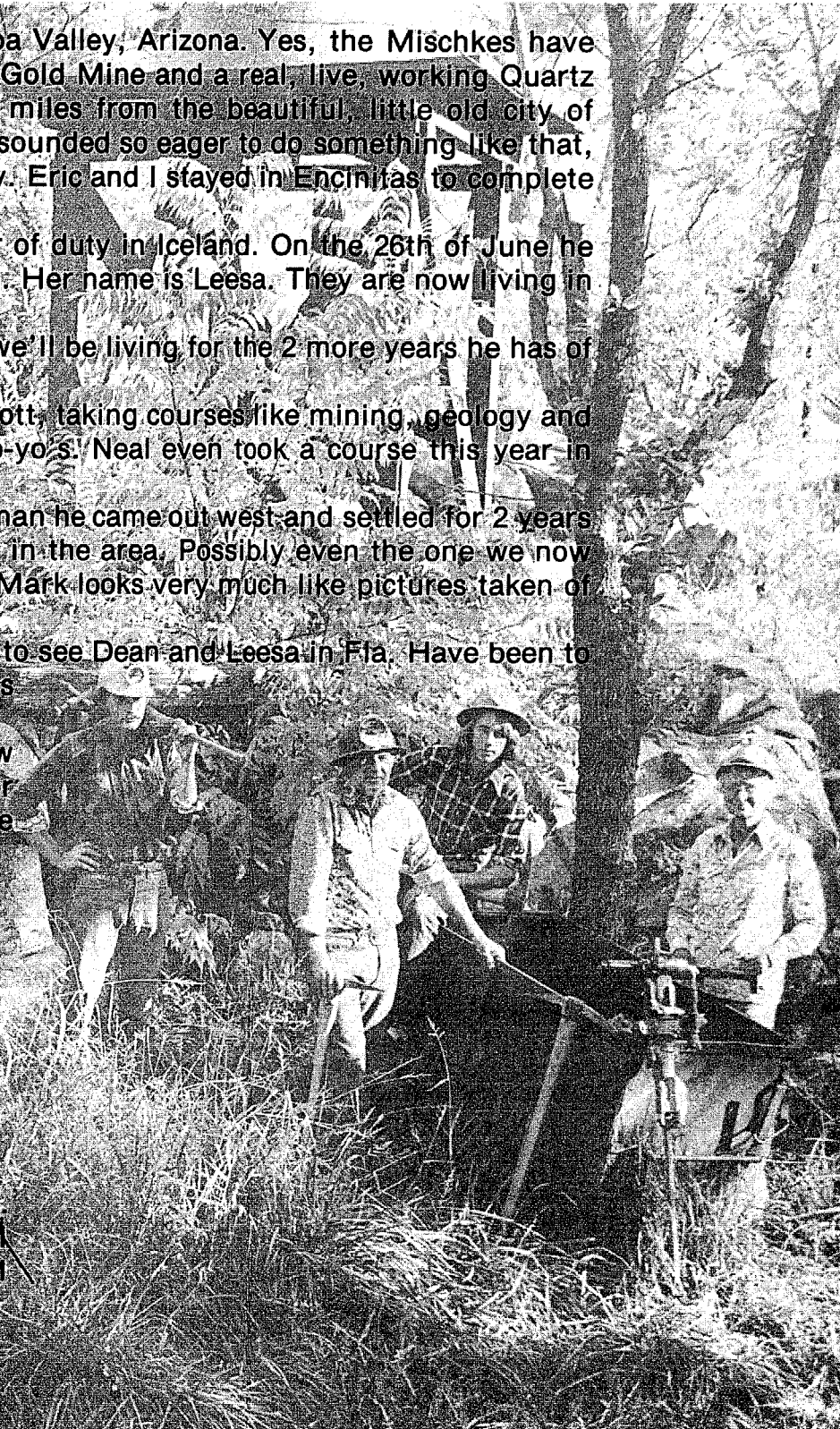
Love from us all

Neal - "Broken Pick"
Phyllis - "Silver Lady"
Mark - "Polish Sausage"
Eric - "Roadrider"

Mill Address:

~~P.O. Box 50 Star Route~~
Kirkland, Ariz. 86332

~~425 Webb Pl.
Prescott, Ariz. 86301
(602) 445-3241~~



Mildred and W. C. Dean working Trails End mine (formerly Gold Ridge Claims) in Sec. 1, T11N, R3W (Formerly held by Grace Randall et al) Fairly high grade Au in quartz.
FTJ WR 5-22-70

Active Mine List May 1970 - 3 men - W. C. & Mildred Dean, Goodwin

A small gold mine started operations NE of Kirkland Jct, Trails End Mine by Mildred and W.C. Dean. This was formerly the Gold Ridge Claims, in Sec. 1, T11N, R3W.
FTJ QR 6-30-70

Active Mine List Oct. 1970 - 3 men

3-26-75 Jim Butler leasing this property. H

Information from Mel Jones, 9/21²/75 - New cement collar around shaft at mine.

CJH WR 12/12/80: George E. Travis, P.E. Consultant, 125 E. Whipple Place, Prescott Ariz, 86301, phone 778-4568, was a visitor in the office. Interested in the following mines in Yavapai County: Trails End, Indian Girl, Transcendent, and DeSoto. Pulled mine files.

NJN WR 1/28/83: Neal "Art" Mischke, Trails End Enterprises, P.O. Box 59, Star Route, Kirkland, AZ. 85332, Mobile phone 778-8456, visited. He reported cleaning out the Trails End Mine, Yavapai County, shaft to the first level and is also drifting on the vein to the northeast of the shaft. The vein is 4-5 feet wide with a horse of schist often present. Grade of the vein material is about $\frac{1}{2}$ oz Au/ton plus some silver. The material is processed at a mill about 5 miles to the southwest where it is run thru a gravity mill, amalgamated and then retorted in a furnace. Mr. Mischke reported he would like to sell the property and is currently showing it to an unidentified Canadian group.

v

NJN WR 12/20/85: Visited trails End Mine (f) and mill, Yavapai County with Ken Phillips at the request of owner Neil Mischke (c). Samples were taken, when assayed their description and the results will be placed in the file.

SHATTUCK DENN MINING CORPORATION
and
SUBSIDIARIES

Humboldt Office

Date..... April 29, 1966

TO: C. R. Sundeen
FROM: J. Olaf Sund

SUBJECT: TRAILS END PROPERTY
% G.C. Ridland, Geological
Engineer
Phoenix, Arizona

TYPE: Gold

TERMS REQUESTED: Not Disclosed

LOCATION:

This prospect is some 16 miles due south from Prescott and is approximately 24 miles by road. Specifically it is located in section 1, township 11 north and range 2 west.

CLAIMS:

There are nine unpatented claims in the group called Trails End 1 to 3, Klondike and Klondike 1 to 4, and the Golden Dome.

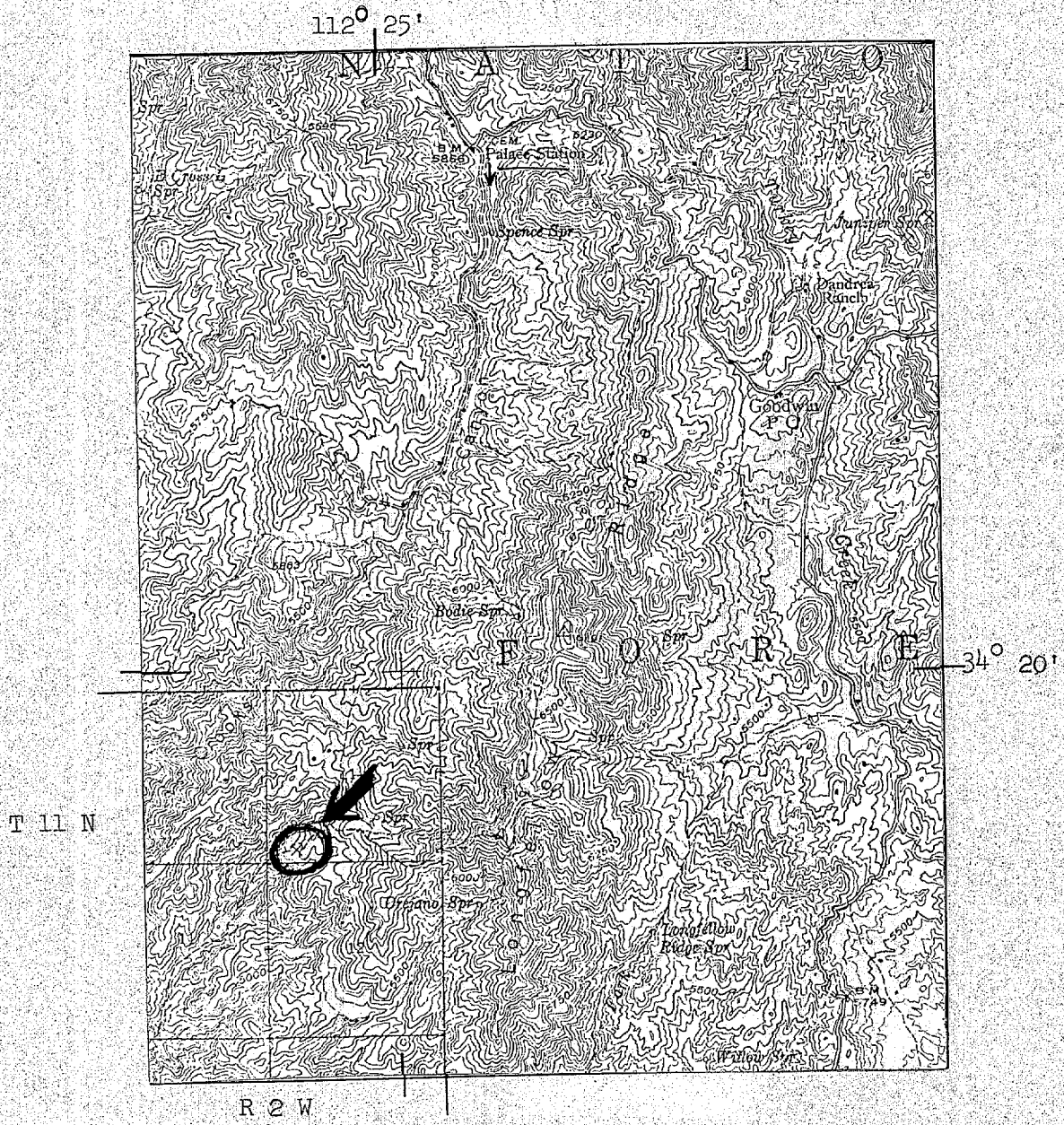
GEOLOGY:

The claims are underlain by the greyish, fine-grained, massive Bradshaw granite. Moderate shearing occurs on the property along which two quartz veins have intruded. These veins are some 6 inches to 1 foot wide, dip steeply south and strike north 50 degrees east. The quartz is white, glassy and barren of any significant sulphide mineralization. A moderate limonite stain occurs in the few quartz fractures.

Amphibolitic schist rocks are mixed with the granite in the dump and presumably represent a metamorphosed lava inclusion in the granite.

MINING:

Two shafts 60 feet apart on the quartz veins are 155 and 20 feet deep. Three hundred feet of drifting is claimed but the quantity of the dumps do not bear this out.



LOCATION AND ACCESS TO THE TRAILS END PROPERTY

Scale 1 : 62,500

SAMPLING:

The quartz veins and quartz from the selected pile of "ore" were sampled and assayed as follows:

| <u>Sample No.</u> | <u>Description</u> | <u>Au</u> | <u>Ag</u> |
|-------------------|-----------------------------|-----------|-----------|
| 12313 | Altered granite | Nil | Nil |
| 12314 | Quartz with rust | .02 | Nil |
| 12315 | Quartz | .03 | Nil |
| 12316 | Quartz | Tr | Nil |
| 12317 | Quartz ore w/rust | Nil | Nil |
| 12318 | Quartz ore w/rust | Nil | Nil |
| 12319 | Quartz | .34 | Nil |
| 12320 | Quartz | .03 | Nil |
| 12321 | Altered Granite | .03 | Nil |
| 12322 | Amphibolite schist w/pyrite | Nil | Nil |

CONCLUSIONS:

The lack of consistent values and the obvious inconsistency of the veins would rate this as a poor prospect. Nothing should be done with this property.

ARIZONA KLONDYKE GROUP

REFERENCES

YAVAPAI COUNTY
HASSAYAMPA DIST.
T11N R2W Sec. 1

Yavapai County MILS Index #1247

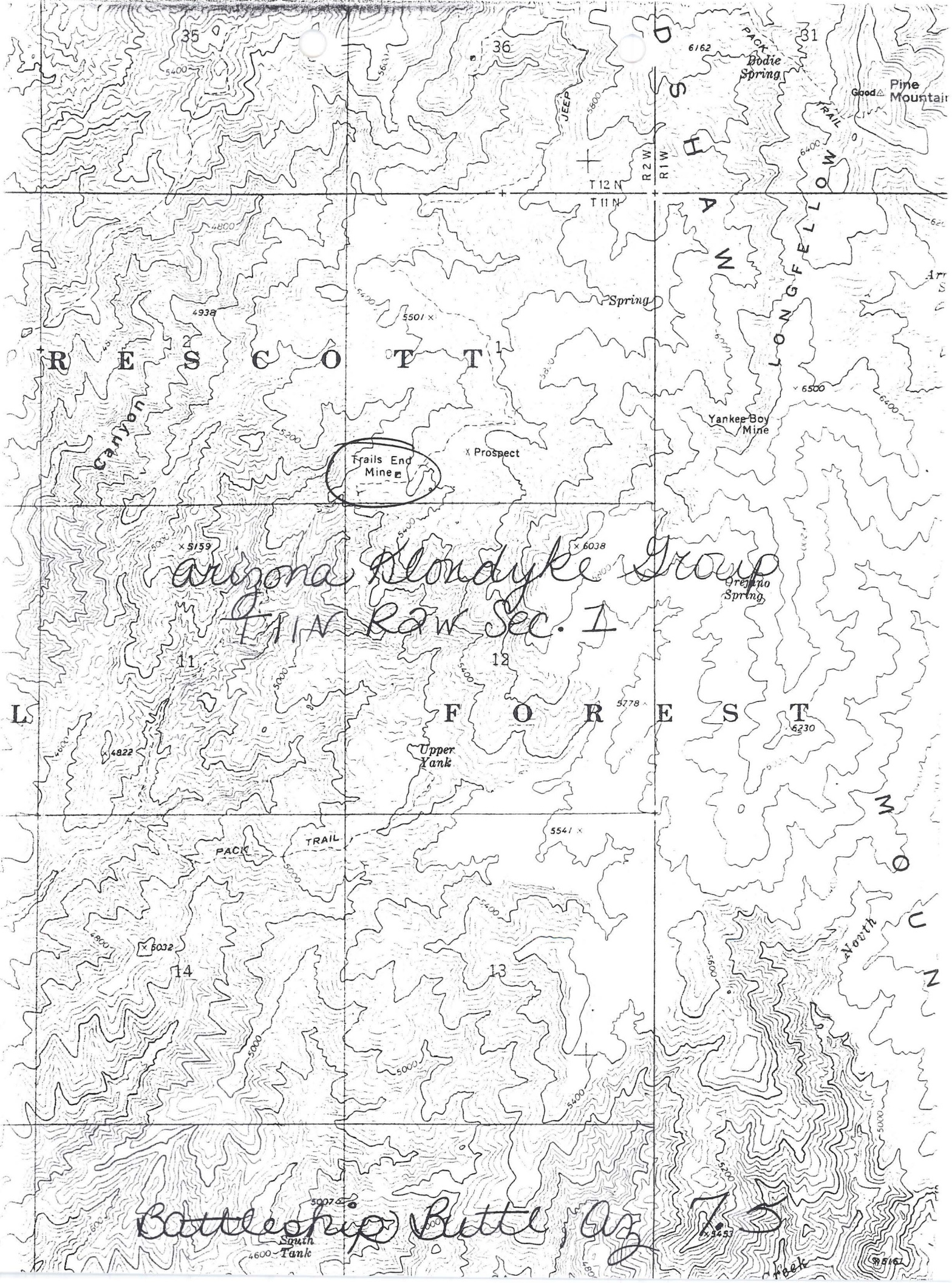
AKA: Clorinda Shaft, Toby Shaft, Trails End, Circle Cross, Gold Ridge Claims

Yavapai Magazine July 1918, p. 16

USGS Bull. 782, p. 126

Trail's End Mine (file) Yavapai Co.

Battleship Butte, AZ 7.5' Topo (included in file)



ARIZONA BLONDYKE GROUP
T11N R2W Sec. 1

Frais End Mine

Upper Tank

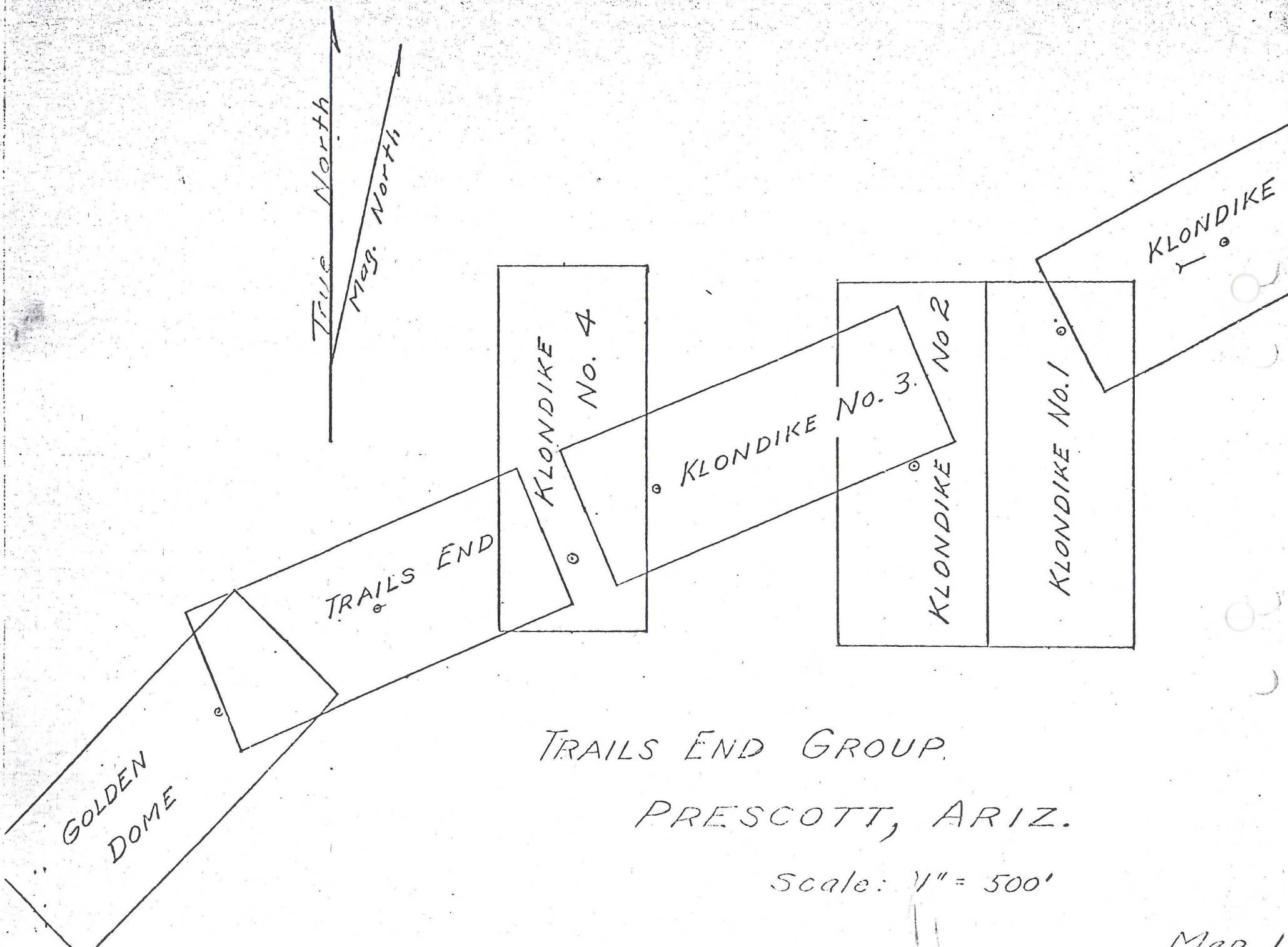
Yankee Boy Mine

Oregon Spring

Bodie Spring

Pine Mountain

BattleShip Butte AZ 7.5

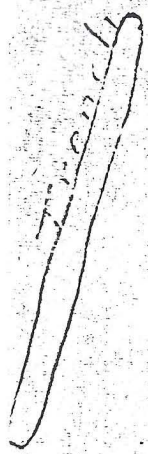


TRAILS END GROUP.

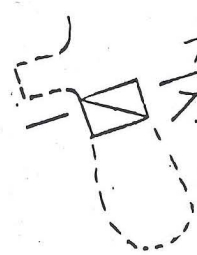
PRESCOTT, ARIZ.

Scale: 1" = 500'

Clorinda Shaft

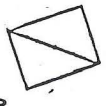


Strike of

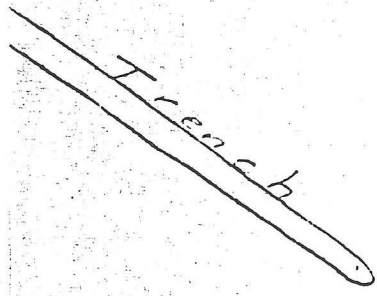


TOBY Shaft

Trails End vein 80°



Road



Trench



Road

Part of Surface

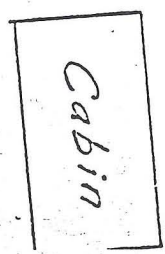
TRAILS END CLAIM

Prescott, Ariz.

S.W. 1/4, Sec. 1, T. 11 N., R. 2 W.

North

Scale: 1" = 20'



Cabin

MAP 2

USGS Bull. 782 p. 126

Trails End Mine (file)



EYESTOPPER — The Chesterfield Realty building, 119 N. Montezuma, owned by Larry Chantler, reflects the past and present history of Prescott. The building is made of native stone and high-grade mining specimens, collected by Chantler from all over the state. Included among the stones and specimens are gold, silver, lead, copper, manganese, molybdenum, titanium, iron, nickel, cobalt, aluminum, beryllium, sulphur, diatomaceous earth, borax, gallium, germanium, gypsum, mica, silica, pumice, perlite, uranium, tungsten, zinc, fergusonite, thanenillite, samarskite, petrified wood,

fluorspar; many types of native stones with variations of pink quartz, stalactites, stalagmites, limestone, sea shells, pyrites, purple bottles; and other minerals and rare earths too numerous to mention.

Old-timers, reminiscing upon their past experiences, pride themselves with their ability to remember the names of the different minerals...and many have offered to assay the building, according to Chantler.

for wish it.

I notice in this month's ^(Aug) pay out; two advs. that this property should fit nicely.

As you have the address of these people would appreciate it if you would call their attention to this property. As I do not seem to have any success in getting replies from Blind advs.

Yours truly
✓ W. B. Raylock
Goodwin Pt.
Groom Creek
Arizona.

Sept 3rd 1940.

The Department of
Mineral Resources 9-1940
Capital Bldg
Phoenix Arizona.

Dear Sirs

I am enclosing reports and information sheet regarding my Gadd property which I wish to list with you for sale, or to secure Capital to work same.

I am open to any reasonable working proposition, with reliable people. I estimate that it will take \$35,000.00 to place the property on production, fully equipped, \$50,000.00 would be better in case of unforeseen emergency.

If there is any further information required or wanted I will try to

Report on the [✓]Arizona Klondike Mine

by

F. B. WEEKS

Mining Engineer and Geologist

Los Angeles, Calif.

[Faint handwritten signature or initials]

August 1st, 1954.

I N D E X

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| 6. | Adjoining and nearby properties ----- | 1 |
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(In the original report different type was used and the matter all double spaced, therefore, this index does not correspond to the pages in this copy, made in 1945 by A.L.Flagg.)

General Statement.

The Arizona Klondike property comprises 15 unpatented claims situated 25 miles south of Prescott, Yavapai Co., Arizona. The Clorinda vein extends 7500 feet through the property as shown by numerous natural exposures, surface cuts and shallow shafts, and the Clorinda shaft 155 feet in depth with 300 feet of drifting, mostly on the 100 level. This vein is from 4 to 7 feet wide, the vein material being about $\frac{1}{3}$ amphibolite schist and $\frac{2}{3}$ quartz. The schist carries from \$4 to \$5 in gold, and the quartz \$15 to \$40, or an average of \$25 per ton. The ore shoot on and above the 100 level contains 5000 tons of ore of a gross value of \$125,000 and will net \$100,000, after deducting the mining and milling charges. This ore shoot is 130 feet long by 100 feet in depth and 5 feet in width.

It is proposed to expend \$25,000 in sinking the Clorinda shaft 150 feet deeper and drifting on this ore shoot which it is expected will put in sight 17,000 tons of ore above the 300 level that will warrant the creation of a 50 ton a day mill at a cost of \$40,000. At the same time development of other ore showings will proceed as well as further drifting on the Clorinda vein. When the mill is in operation the mine will be self supporting and also yield a satisfactory profit over a considerable number of years.

There is considerable evidence to indicate that other ore shoots will be found on the Clorinda vein as well as other veins on the property. Other mines in the district are down to 1000 to 3000 feet, and it is reasonable to expect the veins on this property will continue to equal depths.

1.

1. Name: Arizona Klondike Mine.
2. Location: 25 miles south of Prescott, Arizona.
3. Claims and area: 15 lode claims, approximately 300 acres.
4. Ownership and title: W.B. Blaylock, West Los Angeles, California, owner. Possessory right by location and proofs of annual labor recorded in proper forms.
5. History: The property in the beginning consisted of 5 mining claims to which have been added 10 other claims as ore discoveries were made on each of them and development by surface cuts and shallow shafts on the outcrops of the veins. This has been done by the present owner during the past 14 years. Later a shaft was sunk 155 feet on the Clorinda vein with levels at 50, 100, and 150 feet in depth, developing an ore shoot on the 100 foot level, 130 feet in length by 100 feet in depth and 4 to 7 feet in width.
6. Adjoining and nearby properties: The Bradshaw mountains is an irregular mountain range extending south of Prescott for 40 to 50 miles. The principal gold mines are the Crown King, Senator, Congress, McCabe now milling 200 tons per day, Davis now milling 100 tons per day, and many other smaller mines and prospects. The eastern portion of the range contains several copper properties the ores from which were smelted for many years at the Humbolt smelter.

7. Facilities:

a. Transportation: By auto and truck highways, macadamized for the most part, connecting with Prescott on the north and Wickenburg and Phoenix on the south, all on the ~~Atoch~~ Topeka and Santa Fe R.R. To operate this mine efficiently it will be necessary to build about 2 miles of road at a cost of \$3000.

b. Power: There is no electric power line nearby. Operation will be by Diesel engine, either direct or generating electricity on the property.

c. Water: Water in the 155 foot shaft rises to the 100 foot level, and with the deeper and lateral development proposed will develop an ample water supply. This has been proven to be the case in all the deep mines of the district. Ample water supply can be obtained from the streams for 8 months of the year. There are also springs with a pipe line to the camp giving a domestic supply of water.

d. Timber: There is no timber on the property. The native timber of this section does not last long underground, and most of the mining timber is shipped in from Oregon. Less than the average amount of timber is required for mining purposes since the veins are perpendicular, or nearly so, and the walls are firm and require a minimum amount of support.

e. Labor conditions: This has been a mining section for many years, and there has always been an ample supply of miners. Cattle raising is the only other industry.

f. Climate: The elevation of the property is 5000 to 6000 feet above sea level. This makes an ideal climate for all the year mining operations. There are, of course, snow storms but on this property the slope is to the south and west, and snow quickly disappears.

8. Topography: The property lies along the slope of a fork of Crooks creek which empties into the Hassayampa river. It has a length of 7500 feet, extending from 4500 to 6000 feet above sea level, or about an average 20% grade. This is a mountainous country, but the slopes are not steep and offer no obstruction to mining operations.

9. Geology: The geological history of the region and this mining property begins with the intrusion of igneous magmas into older rocks of pre-Cambrian age, known as the Yavapai schist, pushing them aside or absorbing and including portions of the schist within the mass. The rocks resulting from the cooling and consolidation of this magma are medium grained granite, some diorite, large areas of aplite, and basic dikes that are now amphibolite schists. These rocks as a whole are known as Bradshaw granite, and represent the normal processes of separation of an igneous magma into acid and basic constituents according to their chemical affinities under the varying conditions of temperature and pressure as cooling, crystallization and consolidation proceeded.

Coincident with the uplift of the Bradshaw mountains these rocks were fissured and fractured affording channels for the escape of the ore solutions and gasses which was the final phase of the magmatic intrusion, and resulting in the formation of the present day ore bearing veins of the district.

As an example of the consolidation of a similar igneous magma comparison is made with the Butte, Montana area where the igneous magma consolidated into granite, aplite and basic dikes. The Butte copper ore bodies were found in the center of the intrusion with gold and silver veins on its borders. In the Bradshaw area copper deposits were found in the center of the uplift with gold and silver veins on its border, as on this mining property. Perhaps a better comparison is made with certain portions of the Mother Lode district in Califor-

Bullion to Mint
 6 tons concentrates @ \$170
 Tails \$4 per ton

\$ 741.54
 1020.00
 240.00
 \$ 2001.54

indicating the average value of the ore mined and milled was \$33.36.

15. Sampling. Sampling was confined to the ore shoot developed on the 100 ft level of the Clorinda shaft. It was impossible to sample the roof of the stope shown on the mine section herewith as there was not sufficient timbers on hand to make the necessary staging. The ore that came out of this stope is described in the preceding paragraph on Production. However, a satisfactory sampling of the remainder of the ore shoot was made as shown on the mine section. Samples were cut with a moil and hammer across the vein and caught on canvass on the floor and averaged about 5 pounds per foot of sample. The coarse pieces were broken on canvas and all thoroughly mixed and the samples cut down to about 10 pounds each. The results checked satisfactorily with samples previously taken by the owner.

16. Ore Reserves.

Positive - 5000 tons averaging \$25, above the 100 foot level,
 Probable - 3000 tons averaging \$25, between the 100 and 150 level.
 Possible - 6000 tons for each 100 feet in depth below the 150 level.

The proposed plan of sinking the shaft another 150 feet below the bottom of the shaft and drifting on the shoot should put in sight to that level 17,000 tons of ore that should net \$20 per ton or a net profit of \$340,000, less \$40,000 for a 50 ton a day mill, or a net above cost of mining, mill and milling of \$300,000. The Clorinda vein has large possibilities with greater depths has been shown at the Crown King, Senator, McCabe, Davis and other mines of the district. Surface showing both east and west of the present shoot indicate another ore shoot will be developed by drifting on the vein, probably on the 300 level when that depth is reached.

17. Cost of future development and equipment.

| | |
|--|-----------|
| Repair and sinking Clorinda shaft 150 feet | \$ 5000. |
| 300 feet of drifting on 300 level | 4000. |
| Buildings | 1000. |
| Road | 3000. |
| New water pipe line | 1000. |
| Compressor and engine | 2000. |
| Air drills and other mining equipment | 2000. |
| Development of other surface showings | 7000. |
| | \$ 25000. |

18. Conclusions and recommendations.

Reviewing all the evidence at hand as to the character of the veins, the ore occurrences and values shown, the recovery that can be made and the probability that other ore shoots of similar size and value will be found by further work, I am of the opinion that \$25000 expended in further development work will put in sight sufficient ore to warrant the erection of a mill and thereafter the mine will be self supporting and in addition yield a satisfactory return in profit over a long period of years. I recommend the purchase of the property and its further development as set forth herein.

Los Angeles, Cal. August 1, 1934 (Signed) F.B. Weeks, Mining Engineer and Geologist.

nia where large gold ore bodies are found in amphibolite schist intrusive into the Calaveras schist; a notable example being the mines at Angels Camp. One the Arizona Klondike property, the Bodie mine, and others nearby, the ore bodies occur, for the most part, in amphibolite schists associated with the intrusive granite. These geological conditions are well known in other mining districts of the west where detailed studies of ore and rock formations have been made during the progress of extensive mining operations, and are considered favorable for the occurrence of profitable gold mines.

10. Ore occurrence. The gold veins on this property, and generally throughout the district, are the usual type of fissure veins, with some gouge materials on the walls, affording a clean separation of ore from the country rock. The Clorinda vein the principal development of which is on the Clorinda vein, can be traced by surface cuts, shallow shafts and natural exposures on the surface through 5 claims, a distance of 7500 feet. It strikes northeast-southwest and dips about 80 degrees to the southeast. It varies in width from 4 to 7 feet and probably averages 5 feet in width. Where it has been opened it contains about 3 to 4 feet of quartz, sometimes on one wall, but more frequently on both walls, separated by 1 to 3 feet of amphibolite schist forming generally the central part of the vein. This is the general appearance of the vein in the Clorinda shaft and workings.

The ore minerals in both quartz and amphibolite schist are free gold and sulphides, pyrite and occasionally a little chalcopyrite. The quartz ore varies from \$15 to \$40, and the amphibolite ore averages \$4 to \$5. Shallow shafts and other surface openings on the Clorinda vein, and on the other veins on the property as well, indicate a similar ore occurrence and other ore shoots of like value should be found with deeper and lateral development.

11. Equipment. There is a 15 horsepower gasoline engine and hoist at the Clorinda shaft which is adequate for mining operations to a depth of 300 feet. There is also a pump that will handle the present flow of water, but with increase of flow as the shaft is sunk deeper a pump of greater capacity will be required. There are two buckets, a mine car, a few small tools and a blacksmith outfit.

12. Development. The Clorinda shaft is 155 feet deep on a pitch of 80 degrees, and 300 feet of drifting as shown on the section herewith. There is a 30 foot shaft on the White Oak claim and a 120 foot tunnel that lacks 20 feet to 30 feet of cutting the vein shown in the shaft which exposes a 5 foot quartz vein that is said to assay \$21. The tunnel is in an amphibolite schist with some quartz, both containing sulphides, that the owner states assay \$5 to \$10. There are other shallow shafts and open cuts on the Clorinda, Albuquerque, Namsco No 1, 7 and 8 and Klondike No. 10 that are insufficient to form any conclusive opinion as to the possibilities at these points.

13. Methods and Costs. Mining by shrinkage is indicated, as the walls are strong and the full width of the vein will be mined and milled. Milling will be done by standard methods of crushing, amalgamation, and concentration by flotation, and cyaniding of the concentrates and reduction of bullion on the property for shipment to the Mint. Mining and milling will cost about \$5 per ton of ore.

14. Production. The owner at one time had a small Gibson mill and stoped the ore shown on the mine section herewith. The mill capacity was too small, about 4 tons in 24 hours at best, recovery unsatisfactory and further milling was abandoned. He reports 60 tons milled that gave the following return:

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date September 3, 1940

1. Mine ~~The~~ Arizona Klondyke Mine
2. Mining District & County Hassayampa Dist.,
Yavapai County
3. Former name Circle Cross Mine.
4. Location 23 miles southeast of Prescott,
Ariz. on Senator highway to Palace Station.
Take road to right down Crooks Canyon.
5. Owner Witt B. Blaylock ✓
6. Address (Owner) 10805 Ashton Ave., West
Los Angeles, Calif. (permanent address)
7. Operator Witt B. Blaylock (not in operation)
8. ~~Address (Operator)~~ Groom Creek, Ariz.,
Goodwin Route (general res. and business
address)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Gold (about 98%) Silver (about 2 oz)
Copper (traces)
14. Men Employed None at present
15. Production Rate Not producing
16. Mill: Type & Cap. None
17. Power: Amt. & Type Gas hoist, pump
18. Operations: Present Not producing. Property maintained in state of repair through
assessment work. All workings in good shape.
19. Operations Planned See map of works in report.
*works in
report*
20. Number Claims, Title, etc. 16 unpatented claims, title clear. Recorded at the Recorder's
office, Yavapai County, Arizona
21. Description: Topography & Geography Main workings are about 5800 feet elevation. The property
lies along the upper slope of a fork of Crooks Creek for 7500 feet. This creek
empties into the Hassayampa River. Rugged country, no timber, no interference from
snow because on southwest side of mountain range
22. Mine Workings: Amt. & Condition Main shaft down 155 feet on the Clarinda claim. Drifts on
the 100 foot level. South 144 feet, north 91 feet. Tunnel on the White Oak Claim
about 170 feet. Other shallow shafts and open cuts showing up the vein. Water in
shaft up to hundred foot level.

23. Geology & Mineralization. Local formation is what is known as Bradshaw granite, some diorite, large areas of aplite and basic dikes that are now amphibolite schists. Type of deposit is mainly igneous and the vein is a true fissure vein with gangue materials on the walls, affording a clear separation of the ore from the country rock. The main vein is traceable and located for 7500 feet in length and the average width is 5 feet. Values occur as free gold and sulphides.
24. Ore: Positive & Probable, Ore Dumps, Tailings Positive ore 5000 tons; probable ore between the 100 and 150 foot level 3000 tons. Below the 150 foot level, possible ore about 6000 tons for every 100 feet. (60 tons were milled; removed from the 100 foot level. Mint returns on this ore showed an average of \$13.25 per ton, free gold; concentrates ran from \$70 to \$428 per ton. Mill heads averaged from \$10 to \$15 per ton.
- 24-A Vein Width, Length, Value, etc. Ore body exposed for 170 feet in length average width 5 feet by 100 feet in depth. Estimated value \$125,000.
25. Mine, Mill Equipment & Flow Sheet Gas hoist and pump.
26. Road Conditions, Route Senator Highway out of Prescott to within about three miles of property. County engineer estimates cost of building and repairing road not to exceed \$1000. Proposed road south of property to connect Walnut Grove with White Spar would be open year around.
27. Water Supply Ample water supply for domestic purposes furnished by spring about one-half mile from main workings. Shaft will produce mill water. Also water in creek one mile away.
28. Brief History This property was at one time worked by Geo. Pearce and Bros. who are said to have taken out some very rich ore but with the coming of sulphides it was abandoned. Their work was confined to what is now known as White Oak claim. In 1903 or 1904 J. H. Cross located 5 claims and ran an arastra. In 1917 the claims were taken over by the Circle Cross Mining Co. In 1920 the property was obtained by its present owner, who increased the shaft to its present depth, ran drifts north and south on the 100 foot level.
29. Special Problems, Reports Filed (present depth, ran drifts north and south on the 100 foot level)
Lack of road chief (did some work in tunnel on White Oak claim, developed the difficulty. Have reports (spring to a good supply of domestic water. Put on all improvements consisting of camp buildings, hoist, etc.)
by A. L. Flagg, F. B. Weeks, Francis H. Clark and Glenville Collins. Those of A. L. Flagg and F. B. Weeks are included in report.
30. Remarks The ore treatment will be simple, no complex ores, at present, plating and concentration. Probably more sulphides will come in at depth, also copper. About \$35,000 should put this property on steady production. I will be glad to work out a transaction with one who has capital to operate or will sell on bond and lease.
31. If property for sale: Price, terms and address to negotiate. The property is for sale for \$100,000 on bond and lease. Terms \$1500 cash, upon approval of property, balance 10% royalty with a guaranteed monthly royalty of at least \$200 after the first six months. Address
W. B. Blaylock, Goodwin Route,
Groom Creek, Arizona.
32. Signed.....W. B. Blaylock.....
Mail--Goodwin Route
33. Use additional sheets if necessary. Groom Creek, Arizona.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

MA-36

Date September 3, 1940

1. Mine Arizona Klondyke Mine
2. Mining District & County Hassayampa Dist.,
Yavapai County
3. Former name Circle Cross Mine
4. Location 23 miles southeast of Prescott,
Ariz. on Senator Highway to Palace
Station. Take road to right down
Crooks Canyon.
5. Owner Witt B. Blaylock
6. Address (Owner) 10805 Ashton Ave., West
Los Angeles, Calif. (permanent address)
7. Operator Witt B. Blaylock (not in operation)
8. Address (Operator) Groom Creek, Ariz.,
Goodwin Rte. (general res. & business
address)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals GOLD (about 98%), Silver (about
2 oz.), copper (traces)
14. Men Employed None at present
15. Production Rate Not producing
16. Mill: Type & Cap. None
17. Power: Amt. & Type Gas hoist, pump
18. Operations: Present Not producing. Property maintained in state of repair through
assessment work. All workings in good shape.
19. Operations Planned See map of works in report.
20. Number Claims, Title, etc. 16 unpatented claims, title clear. Recorded at the Recorder's
office, Yavapai County, Arizona.
21. Description: Topography & Geography Main workings are about 5,800 feet elevation. The
property lies along the upper slope of a fork of Crooks Creek for 7500 feet. This
creek empties into the Hassayampa River. Rugged country, no timber, no inter-
ference from snow because on southwest side of mountain range.
22. Mine Workings: Amt. & Condition Main shaft down 155 feet on the Clarinda claim. Drifts
on the 100-foot level. South 144 feet, north 91 feet. Tunnel on the White Oak
Claim about 170 feet. Other shallow shafts and open cuts showing up the vein.
Water in shaft up to hundred foot level.

(over)

23. **Geology & Mineralization** General formation is what is known as Bradshaw granite, some diorite, large areas of aplite and basic dikes that are now amphibolite schists. Type of deposit is mainly igneous and the vein is a true fissure vein with gouge materials on the walls, affording a clear separation of the ore from the country rock. The main vein is 5 feet. Values occur as free gold and sulphides.
24. **Ore: Positive & Probable, Ore Dumps, Tailings** Positive ore 5,000 tons; probable ore between the 100 and 150 foot level, 3,000 tons. Below the 150 foot level, possible ore about 6,000 tons for every 100 feet. (60 tons were milled; removed from the 100 foot level. Mint returns on this ore showed an average of \$13.25 per ton, free gold; concentrates ran from \$70 to \$428 per ton. Mill heads averaged from \$10 to \$15 per ton.
- 24-A **Vein Width, Length, Value, etc.** Ore body exposed for 170 feet in length average width 5 feet by 100 feet in depth. Estimated value \$125,000.
25. **Mine, Mill Equipment & Flow Sheet** Gas hoist and pump.
26. **Road Conditions, Route** Senator Highway out of Prescott to within about 3 miles of property. County engineer estimates cost of building and repairing road not to exceed \$1,000. Proposed road south of property to connect Walnut Grove with White Spar would be open year around.
27. **Water Supply** Ample water supply for domestic purposes furnished by spring about one-half mile from main workings. Shaft will produce mill water. Also water in creek one mile away.
28. **Brief History** This property was at one time worked by Geo. Pearce and Bros. who are said to have taken out some very rich ore but with the coming of sulphides it was abandoned. Their work was confined to what is now known as White Oak claim. In 1903 or 1904 J. E. Cross located 5 claims and ran an arastra. In 1917 the claims were taken over by the Circle Cross Mining Co. In 1920 the property was obtained by its present owner, who increased the shaft to its
29. **Special Problems, Reports Filed** (present depth, ran drifts north and south on the Lack of road chief difficulty. Have (100 ft. level, did some work in tunnel on White reports by A. L. Flagg, F. B. Weeks, (Oak claim, developed the spring to a good supply of Francis H. Clark & Glenville Collins. (domestic water. Put on all improvements consisting Those of A. L. Flagg & F. B. Weeks are (of camp buildings, hoist, etc. included in report.
30. **Remarks** The ore treatment will be simple, no complex ores, at present, plating and concentrating. Probably more sulphides will come in at depth, also copper. About \$35,000 should put this property on steady production. I will be glad to work out a transaction with one who has capital to operate or will sell on bond and lease.
31. **If property for sale: Price, terms and address to negotiate.** The property is for sale for \$100,000 on bond and lease. Terms \$1500 cash, upon approval of property, balance 10% royalty with a guaranteed monthly royalty of at least \$200 after the first six months.

32. Signed..... W. B. Blaylock
 Goodwin Route
 Groom Creek, Arizona

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date September 3, 1940

1. Mine ~~The~~ Arizona Klondyke Mine
2. Mining District & County Hassayampa Dist.,
Yavapai County
3. Former name Circle Cross Mine.
4. Location 23 miles southeast of Prescott,
Ariz. on Senator highway to Palace Station
Take road to right down Crooks Canyon.
5. Owner Witt B. Blaylock ✓
6. Address (Owner) 10805 Ashton Ave., West
Los Angeles, Calif. (permanent address)
7. Operator Witt B. Blaylock (not in operation)
8. ~~Address (Operator)~~ Groom Creek, Ariz.,
Goodwin Route (general res. and business
address)
9. President
10. Gen. Mgr.
11. Mine Supt.
12. Mill Supt.
13. Principal Metals Gold (about 98%) Silver (about 2 oz)
Copper (traces)
14. Men Employed None at present
15. Production Rate Not producing
16. Mill: Type & Cap. None
17. Power: Amt. & Type Gas hoist, pump
18. Operations: Present Not producing. Property maintained in state of repair through
assessment work. All workings in good shape.

ARIZONA MINE

19. Operations Planned See map of

AU, AS

*works in
report*

Yavapai

13 - 4

T 12 N, R 2 W

W. T. Blaylock, Groom Creek

'40

20. Number Claims, Title, etc. 16 unpatented claims, title clear. Recorded at the Recorder's
office, Yavapai County, Arizona

21. Description: Topography & Geography Main workings are about 5800 feet elevation. The property
lies along the upper slope of a fork of Crooks Creek for 7500 feet. This creek
empties into the Hassayampa River. Rugged country, no timber, no interference from
snow because on southwest side of mountain range

22. Mine Workings: Amt. & Condition Main shaft down 155 feet on the Clarinda claim. Drifts on
the 100 foot level. South 144 feet, north 91 feet. Tunnel on the White Oak Claim
about 170 feet. Other shallow shafts and open cuts showing up the vein. Water in
shaft up to hundred foot level.

BOARD OF GOVERNORS:
CHARLES F. WILLIS, PHOENIX
CHAIRMAN
DR. N. H. MORRISON, PHOENIX
VICE-CHAIRMAN
SHELTON G. DOWELL, DOUGLAS
J. HUBERT SMITH, KINGMAN
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DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
CAPITOL BUILDING
PHOENIX, ARIZONA

J. S. COUPAL, PHOENIX
DIRECTOR

W. J. GRAHAM, PHOENIX
ASSISTANT TO THE DIRECTOR
AND SECRETARY TO THE
BOARD OF GOVERNORS

FIELD OFFICES AT
GLOBE - KINGMAN
PRESCOTT - TUCSON



23 JULY 1941

REPLY TO

Received of the DEPARTMENT OF MINERAL RESOURCES,
copy of REPORT ON ARIZONA KLONDYKE GROUP by A. L. Flagg,
Consulting Engineer, Phoenix, Arizona, October 2, 1926,
which was sent ~~to us~~ for record in files.

W B Blaylock

1. The Arizona Klondyke Mine

9-3-40

2. Twenty three miles south-east of Prescott, Arizona on Senator Highway, to Palace Station, take road to right down Crooks Canyon.
3. Hassayampa Mining district, Yavapai County.
4. ✓ Circle Cross Mine
5. Witt B. Blaylock
6. 10805 Ashton Ave, West Los Angeles, California. (Permanent address)
Groom Creek, Arizona, Goodwin Route. (General residence and Business address)
7. Witt B. Blaylock (not in operation)
8. See above
9. —
- 9a. —
10. —
11. —
12. —
13. No men employed at present.
14. Gold, (about 98%) silver (about 2oz), Copper (traces)
15. Not producing
16. No mill
17. Gas hoist, pump.
18. Not producing; property maintained in state of repair through assessment work. All workings in good shape.
19. See map of works in Report.
20. Sixteen unpatented claims, title clear. Recorded at the Recorder's office, Yavapai County, Arizona.

W. B. Blaylock

21. Main workings about 5800 feet elev. The property lies along the upper slope of a fork of Crooks Creek for 7500 feet. This creek empties into the Hassayampa River. Rugged country, no timber, no interference from snow because on south-west side of mountain range.
22. Main shaft down 155 feet on the Clarinda claim; drifts on the 100 foot level; south 144 feet, north 91 feet. Tunnel on the White Lake claim about 170 feet. Other shallow shafts and open cuts showing up the vein. Water in shaft up to hundred foot level.
23. General formation is what is known as Bradshaw granite, some diorite, large areas of aplite and basic dikes that are now amphibolite schists. Type of deposit is mainly igneous and the vein is a true fissure vein with gangue materials on the walls, affording a clean separation of the ore from the country rock. The main vein is traceable and located for 7500 feet in length and the average width is 5 feet. Values occur as free gold and sulphides.
24. Positive ore 5000 tons; probable ore between the 100 and 150 foot level 3000 tons. Below the 150 foot level, possible ore about 6000 tons for every 100 feet. (60 tons were milled; removed from the 100 foot level. Mint returns on this ore showed an average of \$13.25 per ton, free gold; concentrates ran from \$70.00 to \$428.00 per ton. Mill heads averaged from \$10.00 to \$15.00 per ton.
- 24a. Ore body exposed for 170 feet in length, average width 5 feet by 100 feet in depth. Estimated value \$125,000.00.
25. Gas hoist and pump.

W. B. Blaylock 2

26. Senator Higgin, out of Prescott, to 700' in about three miles of property. County engineer estimates cost of building and repairing road not to exceed \$1000.00. Proposed road south of property to connect Walnut Grove with White Spar would be open year around.
27. Ample water supply for domestic purposes furnished by Spring about $\frac{1}{2}$ mile from main workings. Shaft will produce mill water. Also water in Creek 1 mile away.
28. This property was at one time worked by Geo. Pearce and Bros., who are said to have taken out some very rich ore, but with the coming of sulphides it was abandoned. Their work was confined to what is now known as White Oak Claim. In 1903 or '04 J. H. Cross located 5 claims and ran an arastra. In 1917 the claims were taken over by the Circle Cross Mining Co. In 1920 they property was obtained by its present owner, who increased the shaft to its present depth, ran drifts north and south on the 100 foot level, did some work in tunnel on White Oak Claim, developed the Spring to a good supply of domestic water. Put on all improvements consisting of Camp buildings, hoist etc.
29. Lack of road chief difficulty. Have reports by A. L. Flagg, J. B. Weeks Francis H. Clark and Glenville Collins. Those of A. L. Flagg and J. B. Weeks are included in Report.
30. The ore treatment will be simple, no complex ores, at present, plating and concentrating. Probably more sulphides will come in at depth, also copper. About \$35,000 should put this property on steady production. I will be glad to work out a transaction with one who has capital to operate or will sell on bond and lease.

31. The property is to be sold for \$100,000.00. Bond and lease.
Terms \$1500 cash, upon approval of property, balance
10% royalty with a guaranteed monthly royalty of, at least,
\$200 after the first six months.

Address, W. B. Blaylock, Goodwin Route, Groom Creek, Arizona.

32. Signatures.

W. B. Blaylock
Mail here → Goodwin Rt -
Groom Creek
Arizona.

Sept 3rd 1940.

Home address
10805 ~~Las Angeles~~ Lashton Ave
Las Angeles
Calif.

ARIZONA KLONDYKE GROUP

YAVAPAI COUNTY

Mr. Lawrence C. Chantler, 119 N. Montezuma, Prescott, says he is $\frac{1}{2}$ owner of this property. For the past four years they have been keeping up assessment work and improving the property. Mr. Clyde Walker of Salome owns $\frac{1}{2}$ interest and Mrs. Grace K. Randall of Phoenix, is half-owner. Mrs. Randall has recently moved in Phoenix, 54 Mountain Shadows, Scottsdale, Arizona. Phone 945-1627
LP 6-12-64

Glen Walker and partner mining and milling Klondyke Group SE of Kirkland Jct. near Lazy S Ranch. FTJ WR 6-19-70

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine [✓] Arizona Klondike

Date Mar. 31, 1952

District Hassayampa

Engineer Mark Gemmill

Subject: Present Status

This property belongs to Mr. Witt B. Blaylock, Prescott, Arizona who wants to lease or sell.

It has been inactive for a number of years. I visited it about 2 years ago. There is a small shoot of gold ore showing on the 100' level, of good grade from one to two ounces gold. This would have been taken long ago but that the last four miles into the property is by trail. It would probably cost from 2500 to \$5000. to build a road into the property. There may be enough ore in the shoot mentioned to pay for a road.

It can be classed as a fair prospect.

Geological Report 74
Phoenix, Arizona
August 28, 1964

TRAILS END PROPERTY
Prescott, Arizona

Location

The Trails End Group of 9 lode mining claims is located 16 miles south of Prescott, Yavapai County, Arizona. It lies in the SW 1/4 of Section 1, T. 11 N., R. 2 W.

Access

Access is gained by jeep or pickup truck by driving south from Prescott for 7 miles on an oiled highway, then 11 miles towards Goodwin on a good, gravel road maintained by the county, and a final 5 miles over a private, jeep road that dead-ends at the workings and cabins on the Trails End claim.

Property

The following claims comprise the Trails End Group (Map 1):

| <u>Name of Lode Claim</u> | <u>Recorded</u> | |
|---------------------------|-----------------|-------------|
| | <u>Docket</u> | <u>Page</u> |
| Trails End | 186 | 561 |
| Trails End No. 2 | 191 | 213 |
| Trails End No. 3 | 191 | 212 |
| Golden Dome | 212 | 266 |
| Klondike | 212 | 267 |
| Klondike No. 1 | 212 | 268 |
| Klondike No. 2 | 212 | 269 |
| Klondike No. 3 | 212 | 270 |
| Klondike No. 4 | 212 | 271 |

G. CARMAN RIDLAND
Geological Engineer

The main workings are located in the center of the Trails End Claim. The Clorinda shaft is reported to be 155 feet deep with 300 feet of drifts running out from the shaft. (The collar of the shaft is in poor repair.)

The Toby shaft contained water a few feet below the collar, but is reported to be 18 to 20 feet deep. On the northwest side of the collar a drift has been started on the vein and is 6 feet. Two surface trenches approximately 3 feet deep have been dug at approximately 45° to the strike of the Trails End vein; one is 45 feet long and the other 55 feet long. Two old cabins, in fair condition, are located 170 feet south of the two shafts. The intervening area and the area 400 feet to the west of the cabins, has been stripped of vegetation by a bulldozer.

Discovery pits have been sunk at the Discovery monuments of all claims and, on the Klondike claim two hundred feet southwest of the Discovery Monument, a tunnel has been driven into the hillside a distance of about 70 feet.

Topography

The property is located in the center of the Bradshaw Range of Mountains extending south from Prescott for 50 miles. It is near the crest of a relatively flat, gently sloping ridge that runs down into the Hassayampa river. The elevation at the main workings is 5,400 feet above sea level and the river below is approximately 3,400 feet, thus giving a relief of approximately 2,000 feet to the southwest. To the northeast, however, the general terrain rises another 2,000 to 3,000 feet giving a total relief of 4,000 to 5,000 feet. The climate is pleasant for the most part. Occasional snow comes and goes during the winter and warm, 90° temperatures in the summer months are held in check by frequent thunder storms. The vegetation is bushy but void of timber. Fresh water springs in the vicinity can supply all water requirements for mine, mill and camp.

Geology

Only one type of rock formation was observed on the Trails End property. It grades from a gray, medium-grained gneiss to a fine-grained graywacke with sedimentary characteristics. It is intricately folded but appears to have a regional strike of N. 70° E. and varying steep dips. It is cut by faults and shear zones and the Trails End vein fills one of the shear zones. It is believed to belong to the Yavapai formation of pre-Cambrian age.

The Deposits

At the collars of the Clorinda and Toby shafts, 60 feet apart (see Map 2), a shear zone is exposed cutting a fine to medium-grained gray gneiss. In the tunnel beside the Toby shaft and across the collar of the shaft, the zone is 8 feet wide composed of two mineralized quartz zones, varying from one to two feet wide, separated by 3 to 5 feet of dark-colored, amphibolite schist. The vein material is a rusty, bluish and white quartz. The dump on the south side of the Toby shaft is almost entirely quartz; the dump on the northeast side contains very little quartz. Hence, quartz apparently was sorted from the muck of this shaft. A grab sample, No. 12622, taken from the quartz-rich dump, assayed 0.61 oz./t. gold and 0.15 oz./t. silver.

A pile of quartz, apparently sorted from the material removed from the Clorinda Shaft was also sampled (No. 12621). It assayed 0.36 oz./t. gold and 0.40 oz./t. silver.

The vein is not exposed continuously on the surface in either direction from the shaft area, but quartz float was followed in the soil continuously for 250 feet to the northeast. Several trenches dislodged quartz fragments along the projected strike to the southwest. At a distance of 300 feet southwest of the Toby shaft, a grab sample, No. 12624, was taken of the quartz exposed by a surface trench after some colors were obtained from grinding and panning the material. It assayed 0.01 oz./ton gold and a trace of silver.

G. CARMAN RIDLAND
Geological Engineer

The pit at the Discovery Monument of the Golden Dome claim, 800 feet from the Toby shaft, exposes mineralized quartz stringers on each side of an altered andesite dike. This could be an extension of the Trails End vein.

Pits at the Discovery Monuments of Klondike No. 3, No. 1, and Klondike all show quartz associated with a shear zone striking in a general N. 70° E. direction and dipping steeply. A grab sample, No. 815641, was taken of the dump of the pit at the Discovery Monument of the Klondike claim. It assayed 0.07 oz./t. gold. The distance between the two extreme monuments, Golden Dome and Klondike, is approximately 4,500 feet. The Trails End vein system, therefore might be said to have an indicated length of 4,500 feet. Where exposed, the width of the shear zone is at least 8 feet.

A grab sample, No. 12623, was taken of the small tailings dump lying to the north of the Toby and Clorinda shafts and assayed 0.16 oz./t. gold and 0.14 oz./t. silver. Apparently a small mill was installed to treat ore from the Clorinda shaft. Also, the remains of an arrestra lies near the Clorinda shaft.

Conclusions

The reader should not be confused by the assays given in this report. They were taken only to test the quartz vein material to see if it is gold-bearing. The writer regards this property as an attractive gold prospect and recommends further geological study to be followed by repairing and extending the Clorinda shaft workings and/or a program of diamond drilling.

Reported



R E P O R T
ON
✓ ARIZONA KLONDIKE GROUP

BY

A. L. Flegg
Consulting Engineer
Phoenix, Arizona

October 2, 1926

Property of:
✓ W. B. Blaylock
Groom Creek, Arizona
Goodwin Route.

R E P O R T

ON

✓
ARIZONA KLONDYKE GROUP

The Arizona Klondyke group, consisting of 12 unpatented claims, is located in the Walnut Grove Mining District, Yavapai County, Arizona.

The property lies a little east of south from Prescott, the County Seat, about 25 miles by auto road. The Senator road, over Mount Union and through Venezia, comes nearest to the property. This road ends at the Bodie Camp, about three miles by trail from the Klondyke Camp. The only logical, as well as the least expensive, road to build is the one to the south, to connect with the Walnut Grove road. This road could be built for about \$5000, and would be passable at all times of the year, besides, giving an easier outlet to the south and the railroad at Kirkland.

There is a good spring on the property from which the water is piped to the camp by gravity. The flow is more than sufficient for all domestic needs. Some additional water can be had from the mine. The present flow will no doubt be increased on sinking the shaft.

The equipment consists of two good houses and a screen house, a blacksmith shop, all equipped, a 10 H. P. hoist with 500 feet of cable and two good buckets, three storage tanks for water, a mine car and miscellaneous tools.

✓
The principal development is on the Clarinda Claim. It consists of a shaft 165 feet deep, from which various levels have been run. At a depth of 45 feet, a short drift of about 10 feet was driven north. At the 100 foot level, drifts were driven north 90 feet and south 144 feet. On the fourth level, or at 150 feet, a drift has been started and run 29 feet to the south. A tunnel, nearly 200 feet in length, on the White Oak Claim, is the next largest development on the property. Other lesser workings are distributed over the property, but are not important at this time.

The country rock is what has been described by the United States Geological Survey as the Crooks Complex, a combination of many types of rock, mostly igneous, and closely associated with the great intrusive mass known as the Bradshaw granite. The most conspicuous member of this series, in fact the only one of importance on this group of claims, is the gneissic granite with laminations trending north and south with a very steep dip, usually to the east. Other members of the series, both basic and acidic, are found, but not in abundance. They occur principally as dikes.

The Clarinda vein is a fissure which probably filled first by amphibolite. Later, it was re-opened and an acid porphyry dike injected which occurs frequently on both sides of the amphibolite. The quartz veins, carrying the principal valuable minerals, are probably nearly contemporaneous with, and undoubtedly closely associated with the porphyry dikes. The walls of the Clarinda vein are unusually well marked, smooth and firm, and very regular. The fissure may confidently be expected to persist to great depth.

Cross fractures occur but are not numerous. They partake of the nature of quartz filled fractures of varying widths and strikes. It is not improbable that some of these cross fractures will carry minerals of some importance. One prominent cross fracture now appears in the face of the south drift on the 100 foot level. There are no pronounced faults.

Mineralogically, the ores are very simple. The principal metal is gold. Silver occurs in small amounts. The gold is evidently primary in the sulphides, the free gold being the result of oxidation of the sulphides. In the present workings, the values appear to be distributed in a regular manner. At the present depths, unaltered sulphides are more frequent on the footwall, while free gold predominates on the hanging wall.

The width of the vein where the ore shoots have been opened up is not less than 5 feet. The maximum width is nearly 6 feet. Sampling indicated values distributed over the entire width, though naturally tending to concentrate in the quartz. Not infrequently values extend into one or both walls. Frequently the porphyry dike material carries enough gold to become pay ore. The granite walls are intensely silicified in some places, indicating that the mineralizing solutions were very active.

The amount of ore now developed is not great, probably not to exceed 5000 tons, which should average about \$20.00 per ton. With the present ore reserve it is not advisable to consider constructing a plant of large capacity. In the first place, ore to run a large plant for a long enough period to amortize the investment is not developed. In the second place, no one can confidently say just what sort of milling equipment will be needed for ores to be opened at depth.

The property is of sufficient merit to justify the expenditure of from \$50,000 to \$100,000 for additional development. The present limited development indicates great possibilities, not for a spectacular high grade mine, but for a steady production of a moderate tonnage of a uniform grade of ore, which may be expected to continue over a long period. In the long run, mines of this type are the most profitable.

A development program embodying the following essential features is recommended:

The first work should be to construct the necessary road to connect with the Walnut Grove road. This might cost as much as \$5000, but even if it cost double that sum, its immediate construction is more than justified by the showing on the property.

As soon as the road can be completed, a compressor of sufficient size should be installed. For the time being, development should be confined to the Clarinda shaft. This should be sunk at least an additional 250 feet, with the stations cut at regular intervals. Before beginning to sink, a few irregularities in the present shaft should be corrected.

On the 100 foot level, the only work recommended is drifting to the north to cut the indicated ore shoot about 200 feet distant. It might be well to cut through the cross fracture now showing in the face of the south drift. The more extensive, initial development should be at greater depths.

The first development from the shaft might well start at the 250 foot level, drifting both ways on the vein to such limits as may be indicated by the results obtained. By the time 500 feet of drifting has been done on the 250 foot level, drifting should be commenced on the next, or 350 foot level.

The geological conditions are not complicated, yet it is very important that they should be understood. To map the surface geology is very simple, providing there is an accurate claim map to be used as a base.

Tests on the ores naturally should be made at such time as it is evident that there will be no radical changes in the nature of the ore. In all probability, while drifting is in progress on the 350 foot level, enough data will be available to determine whether or not it is time to carry on such tests.

Prospecting in other areas will also be quite in order when the surface geology is worked out, and some information as to the nature and occurrence of the principal ore bodies has been determined from the work in the Clarinda shaft.

The general conditions disclosed by the limited development work, together with the record of production, which, though small, is significant, stamp the property as one of real merit, fully justifying further expenditure for roads, equipment and development.

Respectfully submitted,

A.L. Flagg (Signature)

Consulting engineer.

October 2d, 1926
Phoenix, Arizona.

Report on the Arizona Klondike Mine,

by

F. B. Weeks

Mining Engineer and Geologist

Los Angeles, Calif.

General Statement.

The Arizona Klondike property comprises 15 unpatented lode mining claims situated 25 mile south of Prescott, Yavapai Co., Arizona. The Clorinda vein extends 7500 feet through the property as shown by numerous natural exposures, surface cuts and shallow shafts, and the Clorinda shaft 155 feet in depth with 300 feet of drifting, mostly on the 100 level. This vein is from 4 to 7 feet wide, the vein material being about $\frac{1}{3}$ amphibolite schist and $\frac{2}{3}$ quartz. The schist carries from \$4. to \$5. in gold, and the quartz \$15. to \$40., or an average of \$25. per ton. The ore shoot on and above the 100 level contains 5000 tons of ore of a gross value of \$125,000. and will net \$100,000. after deducting mining and milling charges. This ore shoot is 130 feet long by 100 feet in depth and 5 feet in width.

It is proposed to expend \$25,000. in sinking the Clorinda shaft 150 feet deeper and drifting on this ore shoot which it is expected will put in sight 17,000 tons of ore above the 300 level that will warrant the erection of a 50 ton a day mill at a cost of \$40,000. At the same time development of other ore showings will proceed as well as further drifting on the Clorinda vein. When the mill is in operation the mine will be self supporting and also yield a satisfactory profit over a considerable number of years.

There is considerable evidence to indicate that other ore shoots will be found on the Clorinda vein as well as other veins on the property. Other mines in the district are down to 1000 to 3000 feet, and it is reasonable to expect the veins on this property will continue to equal depths.

1. Name. Arizona Klondike mine.
2. Location. 23 miles south of Prescott, Arizona. *The nearest R.R. station*
3. Claims and area. 15 lode claims, approximately 300 acres.
4. Ownership and title. Blaylock, West Los Angeles, California, owner. Possessory right by location and proofs of annual labor recorded in proper form.
5. History. This property in the beginning consisted of 5 mining locations to which has been added 10 other claims as ore discoveries were made on each of them and development by surface cuts and shallow shafts on the outcrops of the veins. This has been done by the present owner during the past 14 years. Later a shaft was sunk 155 feet on the Clorinda vein with levels at 30, 100 and 150 feet in depth, developing an ore shoot on the 100 foot level, 130 feet in length by 100 feet in depth and 4 to 7 feet in width.
6. Adjoining and nearby properties. The Bradshaw mountains is an irregular mountain range extending south of Prescott for 40 to 50 miles. The principal gold mines are the Crown King, Senator, Congress, McCabe now milling 200 tons per day, Davis now milling 100 tons per day, and many other smaller mines and prospects. The eastern portion of the range contains several copper properties the ores from which were smelted for many years at the Humboldt smelter.
7. Facilities.
 - a. Transportation. By auto and truck highways, macadamized for the most part, connecting with Prescott on the north and Wickenburg and Phoenix on the south, all on the Atchison Topeka and Santa Fe R. R. To operate this mine efficiently it will be necessary to build about 2 miles of road at a cost of \$ 3000.

b. Power. There is no electric power line nearby. Operation

will be by Diesel engine, either direct or generating electricity on the property.

c. Water. Water in the 155 foot shaft rises to the 100 foot level, and with the deeper and lateral development proposed will develop an ~~ample~~ water supply. This has proven to be the case in all the deep mines of the district. Ample water supply can be obtained from the streams for 8 months of the year. There are also springs with a pipe line to the camp giving a domestic water supply.

d. Timber. There is no timber on the property. The native timber of this section does not last long underground, and most of the mining timber is shipped in from Oregon. Less than the average amount of timber is required for mining purposes since the veins are perpendicular, or nearly so, and the walls are firm and require a minimum amount of support.

e. Labor conditions. This has been a mining section for many years, and there has always been an ample supply of miners. Cattle raising is the only other industry.

f. Climate. The elevation of the property is 5000 to 6000 feet above sea level. This makes an ideal climate for all the year mining operations. There are, of course, snow storms but on this property the slope is to the south and west, and the snow quickly disappears.

8. Topography. The property lies along the slope of a fork of

(West) Crook Canyon (E X B)
Crooks creek which empties into the Hassayampa river. It
has a length of ⁴⁵⁰⁰(7500) feet, extending from ⁵⁵⁰⁰4500 to ⁶¹⁰⁰6000 feet
above sea level, or about an average 20% grade. This is a

mountainous country but the slopes are not steep and offer no obstruction to mining operations.

9. Geology. The geological history of the region and of this mining property begins with the intrusion of an igneous magma into older rocks of pre-Cambrian age, known as the Yavapai schists, pushing them aside or absorbing or including portions of the schists within the mass. The rocks resulting from the cooling and consolidation of this magma are medium grained granite, some diorite, large areas of aplite, and basic dikes that are now amphibolite schists. These rocks as a whole are known as Bradshaw granite, and represent the normal processes of separation of an igneous magma into basic and acidic constituents according to their chemical affinities under the varying conditions of temperature and pressure as cooling, crystallization and consolidation proceeded.

Coincident with the uplift of the Bradshaw mountains these rocks were fissured and fractured affording channels for the escape of the ore solutions and gases which was the final phase of the magmatic intrusion, and resulting in the formation of the present day ore bearing veins of the district.

As an example of the consolidation of a similar igneous magma comparison is made with the Butte, Montana, area where the igneous magma consolidated into granite, aplite and basic dikes. The Butte copper ore bodies were found in the center of the intrusion with gold and silver veins around its borders. In the Bradshaw area copper deposits were found in the center of the uplift with gold and some silver veins on its border, as on this mining property. Perhaps a better comparison is made with certain portions of the Mother Lode district in.

California where large gold ore bodies are found in amphibolite schist intrusive into the Calaveras schists; a notable example being the mines at Angels Camp. On the Arizona Klondike property, the Bodie mine, and others nearby, the ore bodies occur, for the most part, in amphibolite schists associated with the intrusive granite. These geological conditions are well known in other mining districts of the West where detailed studies of ore and rock formations have been made during the progress of extensive mining operations, and are considered favorable for the occurrence of profitable gold mines.

10. Ore occurrence. The gold veins on this property, and generally throughout the district, are the usual type of fissure veins. with some gouge materials on the walls, affording a clean separation of ore from the country rock. The Clorinda vein, the principal development of which is on the Clorinda claim, can be traced by surface cuts, shallow shafts and natural exposures on the surface through ³ 5 claims, a distance of ⁴⁵⁰⁰ 7500 feet. It strikes Northeast -southwest and dips about 80 degrees to the southeast. It varies in width from 4- to 7 feet and probably averages 5 feet in width. Where it has been opened it contains about ^{3½} 3 to ⁸ 4 feet of quartz, sometimes on one wall, but more frequently on both walls, separated by 1 to 3 feet of amphibolite schist forming generally the central part of the vein. This is the general appearance of the vein ~~in~~ on the Clorinda shaft and workings.

The ore minerals in both quartz and amphibolite schist are free gold and sulphides, pyrite and occasionally a little chalcoppyrite. The quartz ore varies from \$15. to \$40. and the amphibolite ore averages \$4. to \$5. Shallow shafts and

other surface openings on the Clorinda vein, and on the other veins on the property as well, indicate a similar ore occurrence and other ore shoots of like value should be found with deeper and lateral development.

11. Equipment. There is a 15 horse power gasoline engine and hoist at the Clorinda shaft which is adequate for mining operations to a depth of 300 feet. There is also a pump that will handle the present flow of water, but with increase of flow as the shaft is sunk deeper a pump of greater capacity will be required. There are two buckets, a mine car, a few small tools and a blacksmith outfit.
12. Development . The Clorinda shaft is 155 feet deep on a pitch of 80 degrees, and ³⁰⁰ 300 feet of drifting as shown on the section herewith. There is a 30 foot shaft on the White Oak claim and a 120 foot tunnel that lacks 20 to 30 feet of cutting the vein shown in the shaft which exposes a 5 foot quartz vein that is said to assay \$21. The tunnel is an amphibolite schist with some quartz, both containing sulphides, that the owner states assays \$5. to \$10. There are other shallow shafts and open cuts on the Clorinda, Albuquerque, ^{Namsco} ~~Mansco~~-No. 1, 7 and 8 and Klondike No. 10 that are insufficient to form any conclusive opinion as to the possibilities at these points.
13. Methods and costs. Mining by shrinkage is indicated, as the walls are strong and the full width of the vein will be mined and milled. Milling will be done by standard methods of crushing, amalgamation, and concentration or flotation, and cyaniding of the concentrates and reduction to bullion on the property for shipment to the Mint. Mining and milling

will cost about \$5. per ton of ore.

14. Production. The owner at one time had a small Gibson mill and stoped the ore shown on the mine section herewith. The mill capacity was too small, about 4 tons in 24 hours at best, recovery unsatisfactory and further milling was abandoned. He reports 60 tons milled that gave the following return:

| | | |
|--|----|-----------------|
| Bullion to Mint- - - - - | \$ | 741.54 |
| 6 tons of concentrate @ \$170. = - - - - - | | 1020.00 |
| Tails \$4. per ton - - - - - | | <u>- 240.00</u> |
| | \$ | 2001.54 |

indicating the average value of the ore mined and milled was \$33.36.

15. Sampling. Sampling was confined to the ore shoot developed on the 100 foot level of the Clorinda shaft. It was impossible to sample the roof of the stope shown on the mine section herewith as there was not sufficient timbers on hand to make the necessary stageing. The ore that came out of his stope is described in the preceding paragraph on Production. However a fairly satisfactory sampling of the remainder of the ore shoot was made as shown on the mine section. Samples were cut with moil and hammer across the vein and caught on canvas on the floor and averaged about 5 pounds per foot of sample. The coarse pieces were broken on the canvas and all thoroughly mixed and the samples cut down to about 10 lbs. each. The results checked satisfactorily with samples previously taken by the owner.

16. ~~***Reserves.~~ Ore Reserves.

- Positive - 5000 tons averaging \$25. above the 100 ft. level.
- Probable - 3000 tons averaging \$25. between the 100 and 150 level.
- Possible - 6000 tons for each 100 feet in depth below the

150 level. The proposed plan of sinking the shaft another 150 feet below the bottom of the shaft and drifting on the shoot should put in sight to that level 17,000 tons of ore that should net \$20 per ton or a net profit of \$340,000, less \$40,000 for a 50 ton a day mill, or a net above cost of mining mill and milling of \$300,000. The Clorinda vein has large possibilities with greater depth as has been shown at the Crown King, Senator, McCabe, Davis and other mines of the district. Surface showing both east and west of the present shoot indicate other ore shoots will be developed by drifting on the vein, probably on the 300 level when that depth is reached.

17. Cost of future development and equipment.

| | |
|---|-------------------|
| Repair and sinking Clorinda shaft 150 feet - - - - | \$ 5000. |
| 300 feet of drifting on 300 level - - - - - | 4000. |
| Buildings - - - - - | 1000. |
| Road - - - - - | 3000. |
| New water pipe line - - - - - | 1000. |
| Compressor and engine - - - - - | 2000. |
| Air drills and other mining equipment - - - - - | 2000. |
| For development of other surface showings - - - - - | 7000. |
| | <u>\$ 25,000.</u> |

18. Conclusions and recommendations. Reviewing all the evidence at hand as to the character of the veins, the ore occurrence and values shown, the recovery that can be made and the probability that other ore shoots of similar size and value will be found by further work, I am of the opinion that \$25,000. expended in further development work will put in sight sufficient ore to warrant the erection of a mill and

Arizona Klondyke Assays, mill data etc.

Glarinda Shaft;

| | Oz Au | Oz Ag. |
|--|-------|--------|
| 1 At 18-ft from collar; across 14" in hangingwall side | 1.83 | tr |
| 2 At 18-ft below collar; across 14" in footwall side | .52 | tr |
| 3 At 38-ft from collar; across 36 inches of quartz | .90 | tr |
| 4 At 58-ft from collar; 18 in on hangingwall side | 1.52 | .10 |
| 5 At 78-ft from collar; across 18 in on hangingwall | .36 | .10 |
| 6 At 78-ft from collar; 21 in of diabase | .02 | tr |
| 7 At 78-ft from collar; 9 in on footwall | .30 | tr |
| 8 At 98-ft from collar; across 54 inces | .02 | tr |
| 9 Wall rock | .04 | .20 |
| 10 Wall rock | .04 | .20 |

90-ft level, south drift., at 5-ft intervals

| | | |
|----|------|------|
| 1 | .60 | 1.18 |
| 2 | .50 | 1.15 |
| 3 | .55 | 1.45 |
| 4 | .50 | 5.70 |
| 5 | .80 | 1.60 |
| 6 | .90 | 2.50 |
| 7 | .40 | 1.10 |
| 8 | .20 | 1.00 |
| 9 | 1.20 | 1.10 |
| 10 | 1.20 | 2.00 |
| 11 | 2.60 | 1.00 |
| 12 | tr | .60 |
| 13 | 1.30 | 1.50 |
| 14 | 3.10 | 2.10 |
| 15 | 1.10 | 3.90 |

100-ft level, south drift

| | | |
|---|------|------|
| 1 at shaft; 26" quartz, 6" granite, 8" quartz | .18 | 3.89 |
| 2 at shaft 50" quartz, 8" amphibolite, 24" amphibolite | .08 | 1.56 |
| 3 20 ft from shaft; 12" qtz, 2" gouge, 12" qtz, 2" gouge, 24" qtz | .12 | 3.26 |
| 4 40 ft from shaft; 2" gouge 3" qtz, 6" qtz 8" amphibolite, 12" qtz | 1.66 | 5.02 |
| 5 60 ft from shaft; 7" qtz, gouge, 18" qtz | .16 | 3.29 |
| 6 60 ft from shaft; 42" amphibolite | .13 | 3.13 |
| 7 80 ft from shaft 7" qtz, 27" amphibolite, 24" qtz | .80 | 2.95 |
| 8 100 ft from shaft; 12" qtz, 10" qtz, 30" qtz and silicified granite | .24 | 2.88 |
| 9 100 ft from shaft; 6" amphibolite gouge 22" amphibolite | .12 | 2.54 |
| 10 100 ft from shaft; 3" on sulphides | 2.06 | 3.30 |
| 11 120 ft from shaft; 24" qtz 18" amphibolite, 10" gouge | .19 | 2.13 |
| 12 137 ft from shaft; 39" amphibolite 30" qtz | .12 | 3.19 |
| 13 144 ft from shaft; altered granite in breast | .11 | 3.18 |

100-ft level, north drift.

| | | |
|--|------|-------|
| 14 27 ft from shaft; 20" quartz | .14 | 2.13 |
| 15 27-ft from shaft; granite and amphibolite bands 44" | .13 | 3.17 |
| 16 27 ft from shaft; silicified granite walls | .07 | 2.43 |
| 17 13 ft from shaft; silicified granite | .23 | 2.23 |
| 18 15 ft from shaft 12" amphibolite | .18 | 3.24 |
| 19 40 ft from shaft 14" qtz | .12 | 1.111 |
| 20 42-ft in shaft from collar; 4-ft qtz | 1.30 | 3.01 |
| 21 Composite of shaft above 90-ft level | .56 | 2.64 |
| 22 Concentrates 3/15/24 | 1.30 | 3.10 |
| 23 Cut 400-ft SW of shaft, 30" qtz | .40 | 1.96 |
| 24 Dump at 40-ft shaft, White Oak claim | .14 | 2.42 |

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Arizona Klondyke

REPORT

on

10-1926

Report ON ARIZONA KLONDYKE GROUP. 24

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10-926

The Arizona Klondyke group, also known as the Circle Cross group, consisting of five contiguous, unpatented mining claims, is located in the Walnut Grove mining district, Yavapai county, Arizona. The five claims are the White Oak, Clarinda, Klondyke, Claude and Laura.

The property lies a little east of south from Prescott, the county seat, about 15 miles in an air line. The Senator road, over Mount Union and through Venaria comes nearest to the property. This road ends at the Sodie Camp, about three miles by trail from the Klondyke camp. A wagon road has been marked out for a part of the distance from the sodie to the Klondyke camp but never has been completed. The only logical as well as the least expensive road to build is the one to the south to connect with the Walnut Grove road at a point about one mile east of the White Spar highway. This road could be built for \$5000 and would be passable at all times of the year, besides giving an easier and much quicker outlet to the south it would be in every way superior to any roads entering from the north.

There is a good spring on the property from which the water is piped to the camp by gravity. The flow is more than sufficient for all domestic needs. Some additional water can be had from the mine. The present mine flow will probably be augmented somewhat on sinking.

The equipment consists of two good houses and a screen house, a blacksmith shop all equipped, a 40 HP hoist with 500 feet of cable and two good buckets, three storage tanks for water of a combined capacity of about 10,000 gal., a mine car and miscellaneous tools. There is a small mill on the property consisting of a crusher, a 10 ton Gibson mill, amalgamation plates, and a concentrating table all driven by a 12 HP Fairbanks Morse motor.

The principal development is on the Clarinda claim. It consists of a shaft 165 feet deep, from which various levels have been run. At a depth of 45 feet a short drift of about ten feet was driven northeast. At 90 feet a drift was run northeast 91 feet. At 100 feet drifts were driven northeast 90 feet and southwest 144 feet. On the fourth level, or at 150 feet, a drift has been started to the southwest and run 29 feet. Another was started to the northeast and has been driven 10 feet. A tunnel on the White Oaks claim, nearly 100 feet in length, is the next largest development on the property. Other lesser workings are distributed over the property but are not important at this time.

The country rock is what has been described by the United States Geological Survey as the Crook Complex, a combination of many types of rocks, mostly igneous, and closely associated with the great intrusive mass known as the Bradshaw granite. The most conspicuous member of this series, in fact the only one of any importance on this group of claims, is a gneissic granite with laminations trending north and south with a very steep dip, usually to the east. Other members of the series, both basic and acidic, are found but are not abundant. They occur principally as dikes.

The Clarinda vein is a fissure which was probably filled first by amphibolite. Later it was reopened and an acid porphyry dike injected which occurs frequently on both sides of the amphibolite. The quartz veins, carrying the principal valuable minerals are probably nearly contemporaneous with and undoubtedly closely associated with the porphyry dikes. The walls of the Clarinda fissure are unusually well marked, smooth and firm, and very regular. The fissure may confidently be expected to persist to great depth.

Other fractures occur but are not numerous. They partake of the nature

that some of these cross fractures will carry minerals of some importance. One prominent cross fracture now appears in the face of the southwest drift on the 100 foot level. There are no pronounced faults.

✓ Mineralogically the ores are very simple. The principal metal is gold. Silver occurs in small amounts. The gold is evidently primary in the sulphides, the free gold being the result of oxidation of the sulphides. In the present workings the values appear to be distributed in a regular manner. At the present depths unaltered sulphides are more frequent on the foot-wall while free gold predominates on the hanging-wall. No lead, zinc or copper of any consequence were noted in the ores from the Clarinda shaft.

The width of the vein where ore shoots have been opened up is not less than four feet. The maximum width is nearly six feet. Sampling indicates values distributed over the entire width though naturally tending to concentrate in the quartz. Not infrequently values extend into one or both walls. Frequently the porphyry dike material carries enough gold to become pay ore. The granite walls are intensely silicified in some places, indicating that the mineralizing solutions were very active.

The increasing proportion of sulphides as depth is attained indicates that in all probability the zone of free milling ore does not extend much below the present deepest workings. In all probability two hundred feet deeper there will be nothing but concentrating ore.

The amount of ore now developed is not great, probably not to exceed 5000 tons which should average about \$20.00 per ton. For a plant the size of the one on the ground this is quite a reserve, nearly two years run. However, it will hardly be advisable to try to operate this plant. In the first place it is so small that in order to be profitable the ores in the mine must be mined selectively in order to maintain a high grade. This in itself is not a good feature for it represents quite a considerable economic waste. The ores left when selective mining is followed would contain enough value to yield a good profit if handled on a larger scale. At best the recovery in the present plant will be low and in all probability the ultimate loss would reach if not exceed 50% of the total value in the ore.

With the present reserves it is not advisable to consider constructing a plant of larger capacity. In the first place the ore to run a larger plant for a period long enough to amortize the investment is not developed. In the second place no one can confidently say just what sort of milling equipment will be needed for the ores to be opened at depth.

The property is of sufficient merit to justify the expenditure of from \$50,000 to \$100,000 for additional development. The present limited development indicates great possibilities, not for a spectacular high-grade mine, but for a steady production of a moderate tonnage of a uniform grade ore which may be expected to continue over a long period. In the long run mines of this type are the most profitable.

A development program embodying the following essential features is recommended:

The first work should be to construct the necessary road to connect with the Walnut Grove road. This might cost as much as \$5000 but even if it cost double that sum its immediate construction is more than justified by the showing on the property.

As soon as the road can be completed a compressor of sufficient size should be installed. In the selection of this machine due consideration should be given to the program proposed and possible expansion.

For the time being development should be confined to the Clarinda shaft. This should be sunk at least an additional two hundred feet, with the stations set at regular intervals. Before beginning to sink a few rather awkward irregularities in the present shaft should be corrected.

On the 100 foot level the only work recommended is drifting to the northeast to cut the indicated ore shoot about two hundred feet distant. It

might be well also to cut through the cross fracture now showing in the face of the southwest drift. The more extensive initial development should be at greater depths.

The first development from the new shaft might well start at the 250 foot level. Drifting both ways on the vein to such limits as may be indicated by the results obtained. Raises not only assist in the ventilation but also facilitate stopping operations and are valuable as additional exposures of the vein for purposes of calculation.

By the time 500 feet of drifting has been done on the 250 foot level drifting should be commenced on the next or 350 level.

The geological conditions are not complicated yet it is very important that they be thoroughly understood. To map the surface geology is very simple providing there is an accurate claim map to use as a base. To correlate the surface conditions with those underground is also an easy matter. A thorough understanding of the governing geological conditions is a long step towards the successful operation of any mining property. It is recommended that you consult with a competent mining geologist at least every ninety days during the development period. The cost of such services will more than be repaid by the results obtained.

Tests on the ores naturally should be made at such time as it is evident that there will be no radical changes in the nature of the ore. In all probability while drifting is in progress on the 250-ft level enough data will be available to determine whether or not it is time to carry on such tests.

Prospecting in other areas will also be quite in order when the surface geology is worked out and some information as to the nature and occurrence of the principal ore bodies has been determined from the work in the Clarinda shaft. Such work can be undertaken then more intelligently and with less risk.

The general conditions disclosed by the limited development work, together with the record of production, which though small is significant, stamp the property as one of real merit, fully justifying further expenditure for roads, equipment and development.

Phoenix, Arizona,
October 2nd, 1906.

Respectfully submitted,

Consulting Engineer.