Subject: AMADOR MINE
Mineral County, Montana
(DMA Docket No. 341)

By

E.A. Magill and Eric G. Erickson, U.S.B.M.
& Thor H. Kiilsgaard and Wayne A. Roberts, USGS.

RECOMMENDATIONS

The DMA ~~Field~~ Team finds it difficult to make recommendations on the Amador mine particularly ~~when~~ they were unable to examine the main workings of the mine and ~~when~~ they do not have any definate proposal from the applicant. However, on the strength of Billingsley's report the field team ~~is willing to~~ submits the following recommendations:

1. That the applicants negotiate a contract for the milling of their ore contingent on its amenability to selective flotation ~~with the owners of~~ the Little Pittsburg Mill, or another custom mill in the vicinity of Superior, Montana. (Such milling would be done at ~~(This is assuming that the Amador ore is amenable to selective flotation~~). It is also advised that a mill test be ~~run~~ made on the ~~mine~~ crude ore (by the Bureau of Mines) as soon as it ~~is~~ can be available from the dewatered winze.

2. If a suitable milling ~~rate and recovery~~ can be ~~made~~ obtained, then it is recommended that the applicants be granted a DMA exploration loan to dewater and rehabilitate the mine workings. In the absence of any definate proposal from the applicants it is recommended that a loan be made in an amount not to exceed $20,000.00.

3. It is recommended that a purchase contract and/or V loan be granted contingent ~~upon~~ the findings of the proposed exploration ~~loan.~~ The purchase contract should be for 2,000,000 pounds of copper, which is the approximate amount in the indicated and inferred ore bodies above the 700 level. A V loan should be for an amount to be determined after examination of the now flooded workings but not to exceed $50,000.00.

~~ROUGH DRAFT~~

APPLICANT

~~AMADOR MINE~~

Applicant - The Amador Mining Co. is a partnership consisting of James Charlton and Merle Christman, Missoula, Mont. Although this partnership will be ~~shortly is to be~~ incorporated soon, no stock will be issued.

LOCATION

Location - The company's mining claims are in the Lolo National Forest in secs. 34 and 35, T. 15 N., R. 26 W., Mineral County, Mont., about 12 miles south from Superior by the Clear Creek road.

PROPERTY AND OWNERSHIP

Property and ownership - Company holdings totaling 114 acres include the following patented mining claims:

Name	Patent number
Eureka	6881
Ethel	6882
Amador	6883
Forty nine	6884
Buckhorn	6885
Iron Cap	6886

These claims were acquired from Mineral County in 1950 by James Charlton through tax sale proceedings.

HISTORY AND PAST PRODUCTION

History and past production - The old Amador Mining and Development Co. was organized in 1900; the above-listed claims were patented in 1903. In 1904 the Amador Railway Co. was organized to build a 12-mile railroad from Superior to the mine. In the following 2 years the Amador Tranahithic Building Association, the Amador Hotel Co., and the Amador Smelting Co. were organized. All were subsidiaries of the parent company organized in~~to~~ a grandiose plan of mine exploitation. The railroad was completed. The grade of this road now is used for the county road bed. A stamp mill was erected at the mine and a smelter was constructed at Superior. According to Charlton and Christman, the mine last

was worked from 1900 to 1907. During this period, the mine was developed by a vertical winze 700 feet deep and by crosscuts and drifts on seven levels. According to heresay information gathered by the owners, the mine workings were flooded in 1907 when water from Cedar Creek broke ~~through~~ into a stope ~~a stope holed through into Cedar Creek~~. However, a private report prepared by Paul Billingsley in 1915 indicates that only the workings below the 400 level were flooded at that time.

The owners report that the mine produced 49 cars of copper concentrate prior to 1915 from ores ranging between 12 and 15 percent copper.

DESCRIPTION OF THE PROPOSAL

The field team does not have a specific proposal from the applicants in regard to the manner in which funds from a DMA loan would be expended. The overall plan of the applicants is to dewater the Amador mine workings and extract the ore that is discussed in Billingsley's report. To dewater the workings the applicants will need funds from an exploration loan and/or a purchase contract or V loan.

TECHNICAL FEASIBILITY

Geologic Setting of the Deposit

The Amador mine was largely inaccessible to geological examination at the time of the recent DMA Field Team visit (March 20, 1951). The Southeast drift was open and a small crew was working in a stope near the portal. In addition, the tunnel adit was open, but all other workings were flooded. The ground surface was covered by about 3 feet of snow which precluded an examination of the outcrop.

Before visiting the Amador mine the field team visited the Anaconda Copper Mining Company office at Butte, Montana, and obtained from Mr. M.H. Gidel an abstract on a report of the Amador mine prepared by Mr. Paul Billingsley dated February, 1915.

Mr. Billingsley described the Amador deposit as occurring in a narrow fissure cutting steeply dipping calcareous and siliceous shales that are probably members of the Striped Peak or Newland formation. The fissure is well defined for a length of 700 feet, but beyond fingers out into indefinate stringers along bedding planes. The fissure has an average width of about 4 feet.

The vein filling is quartz, siderite, calcite, chalcopyrite, pyrite, and arsenopyrite. Billingsley states that the vein as a whole cannot profitably be mined but that it contains ore shoots where sulphides form up to 20 percent of the vein filling, and where replacement of the wall rock reaches 5, 6 and 8 feet in width.

The main ore shoot outcrops ~~at~~ in the bottom of ~~the gulch~~ Cedar Creek and rakes to the east. It appears to increase in strike length with depth, having a length of 110 feet on the 200 level, and 200 feet on the 400 level. Billingsley states that the 700 level was flooded at the time of his visit, but that he was informed that the ore shoot was longer in strike length on the 700 level than on the 400 level.

Little could be learned of the geology of the Amador mine from inspection of the Tunnel level and the Southeast drift. In the stope near the portal of the Southeast drift, the vein averages about 18 inches in width, and the ore is quite oxidized. The face of the stope is almost in the grass roots, and there is very little ore left for stoping along the strike of the vein. At the east end of the stope the vein turns to the southeast and pinches out along some small southeast-trending slips. There appears to be little possibility of minable ore being found by further exploration ~~on~~ in this drift.

Reserves

Billingsley points out tha no ore was blocked out in the mine workings, but, by allowing for the projected rake of the ore body, 8372 tons of ore can be calculated from the ore block shown in the accompanying longitudinal section. The ore in this reserve block averages 4.05 percent copper, and the vein in the reserve area averages 3.8 feet in width. To this tonnage Billingsley added a more questionable inferred block of 6633 tons that occur in areas contiguous to the ore shoot that is outlined in the longitudinal section This block of ore was estimated to average 4 percent copper.

Billingsley inferred 16,000 tons of 4 percent copper ore in the block of ground between the 700 level and the bottom of the reserve block that extends 52 feet below the 400 level.

In a further consideration of possible reserves, Billingsley estimated 12,000 tons on the mine dump of which 4000 to 5000 tons might be brought to mill grade by hand sorting. Much of the dump has since been removed by creek-flooding and the field team doubts whether this tonnage should be considered as a possible source of ore.

Some ore has been removed from the southeast drift since the date of Billingsley's visit, but none is known to have been removed from the main Amador workings. A recent carload shipment of 18 tons from the stope near the portal of the southeast drift averaged 8.66 percent copper, 0.02 oz. Au., and 1.10 ozs Ag, but there ~~is~~ are very little if any ore reserves left in this area. Any future tonnage worthy of consideration must come from the main Amador workings.

Mine workings

A pertinent point that concerns the present mine operators, and, one which weighs heavily on any consideration for a DMA loan, is whether or not

the Amador stopes ~~hole through into~~ are connected with the overlying Cedar Creek channel. If the mine is flooded by water from Cedar Creek then further consideration of the Amador mine application should be dropped inasmuch as the cost of rerouting the stream channel would be prohibitive. Local sources have stated that stope workings holed through into the creek in 1907 thus flooding the mine; however, if such is the case, Billingsley's examination would have been impossible. ~~Furthermore, if there has been no mining activity at the Amador since 1915 the holed-through condition likewise seems impossible.~~

At the time of the field team visit there was no indication of stope workings holing through into the creek. Moreover, the water level in the ~~shaft~~ winze, located 175 feet from the creek, was at least 10 feet higher than creek level. This fact cast doubt on any possible mine connection between the creek and the mine workings.

After examining the property, the field team advised the mine operators to pump the ~~shaft~~ winze down at least 50 feet, which would place the water level in the ~~shaft~~ winze well below the creek level, and then measure the rate at which the water level climbed in the ~~shaft~~ winze.

On April 9, the Amador mine operators informed the field team by telephone that a small air compressor pump had lowered the water level in the ~~shaft~~ winze 50 feet in 36 hours of pumping. At 50 feet the pump was pulled and in the following 10 hours the ~~shaft~~ winze filled to 43 feet. Inasmuch as the ~~shaft~~ winze measures reoughly 8' by 12', and increase of the water level by 7 feet indicates that the ~~shaft~~ winze filled roughly at a rate of 500 gallons per hour. Such an annual inflow of water more or less rules out the possibility of any mine connection between the mine workings and the creek.

Mining Method

Inasmuch as the mine workings could not be examined no mining methods are suggested at this time. No unusual difficulties are anticipated in mining an ore body of this type.

Milling Method

The tenor of the ore is insufficient to support a profitable direct shipping operation. The owners intend to mill the Amador ore at the Little Pittsburg mill, on a custom basis. This concentrator is about 5 miles west of Superior, Montana, on U. S. Highway 10 and about 17 miles from the mine.

The Little Pittsburg mill, built in 1945, is a 100-ton concentrator employing selective flotation. Ore from the Nancy Lee mine has been treated intermittently at this plant, making separate lead and zinc concentrates. The mill operators expect to treat the Amador ore without difficulty. However, no confirming mill tests have been made.

The Little Pittsburg mill is owned by E. G. Smith, P. O. Box 687, Wallace, Idaho. Rates quoted to the Amador operators are $1.55 per ton for the truck haul from mine to mill and a milling rate of $2.75 per ton.

Rate of Production

At the time of the examination the owners were working 3 men in an attempt to mine a carload of direct shipping ore. This operation, carried on in the Southeast drift, resulted in a shipment containing 8.66 percent copper. It is doubtful if more than two or three cars of direct shipping-grade ore remain in these workings. Further, it is doubtful that the remaining ore in the southeast drift can be profitably mined because of its low grade and narrow assay widths (6 inches to 2 feet).

Future production from the mine will stem from the currently flooded workings off the winze. The owners anticipate being able to mine from 50 to 100 tons per day from the winze workings. This output is feasible if information supplied by Billingsley is correct.

Time Schedule

The pumping test recently completed by the Amador operators indicates only a small inflow of water in the upper workings. Consequently, a major unwatering campaign for these levels is not anticipated. It appears that the winze and dependent workings may be unwatered within 3 months.

On the basis of Billingsley's descriptions of vein structure and extent of development, it is believed that an output of 50 tons per day may be attained within 3 months after the workings are unwatered. Output possibly may be expanded to 100 tons per day within an additional 4-month period.

Marketing facilities

The Anaconda Copper Mining Co.'s smelter at Anaconda, Montana, will accept copper ore or concentrates for treatment. Anaconda is about 175 miles from Superior by the Chicago, Milwaukee, and St. Paul Railroad.

EQUIPMENT AND FACILITIES

The only equipment owned by the present Amador operators is a 1-1/2-ton Ford dump truck, a 3/4-ton Dodge 4--wheel drive personnel carrier, and miscellaneous hand tools. On the property is a four-room cabin which will provide living quarters for eight men. As it would be possible for the crews to drive to the mine from Superior, additional housing facilities at the mine would not be required. A quantity of scrap lumber can be obtained from the remains of the old mill building.

They have on a rental basis ($210 per month) a 160-cubic foot Worthington portable compressor, hose, and a jackhammer.

The timber supply on the property is adequate for an extended mining operation.

In the event the mine is put into operation, all equipment, excepting the above-mentioned, would have to be acquired.

LABOR SUPPLY

Manpower (20 to 30 men) could be obtained locally for the proposed operation. Wage scales would have to be established in competition with other nearby mining districts. Therefore, the base wage would have to be over $12 per shift

POWER

Electric power is not available at the mine. The original company built a hydroelectric plant above the mine on Cedar Creek in 1900. This, however, has long since been dismantled. Consequently, gas or Diesel equipment would be necessary for present operations.

TRANSPORTATION

The mine is 12 miles from Superior, Montana by dirt road with an additional 5 miles over paved highway from Superior to the Little Pittsburg mill. From the mill to Anaconda is approximately 175 miles by the Milwaukee Railroad. Missoula, Montana, is 60 miles over paved highway from Superior.

Although the mine currently can be reached by road, it is considered advisable to relocate the last mile. This could be easily accomplished by following the old railroad grade. The road formerly followed this grade before a section was washed out.

COMPETENCE OF APPLICANT

~~Competence of applicant~~

The applicants are not technically trained men but are young experienced miners. They appear to be ~~very~~ hard workers ~~and~~ eager to make a success of of the mine. The applicants own the mine and are not promoting it as a stock enterprise, but are interested in making ~~the property~~ a successful operation through their own efforts. If their application for a DMA loan is granted ~~successful~~ they plan to obtain a competent engineer to direct the work.

DISCUSSION OF PROPOSAL

~~Discussion of the Proposal~~

The success of the operation hinges upon the dewatering of the mine workings and upon establishing suitable milling arrangements. The recent pumping test is strong evidence that there is no breakthrough from the creek into the mine workings. Judging from the rise of the water level in the winze following the pumping no serious dewatering ~~pumping~~ problems are anticipated. The ~~whole~~ proposal is, of course, contingent upon the milling agreement which must be made prior to the granting of an exploration loan.

AMADOR MINING CO.
OFFICE
1712 HOWELL STREET
MISSOULA, MONTANA
PHONE 9-2226 OR 2967

April 9, 1951

Mr. Thor Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMA
Field Team, Region II
So. 157 Howard Street
Spokane 8, Washington

Dear Mr. Kiilsgaard,

Am writing in regards to pumping of the 700 foot shaft at the Amador Mine.

We commenced pumping at 12:00 o'clock noon on Saturday, April 7th, and reached a depth of 50' 4" at 10:00 o'clock P. M. Sunday, April 8th at which time we pulled the pump. We measured again the next morning at 8:00 o'clock A. M., a lapse of 10 hours and we had a water rise to 43' 6", a rise of approximately 7 feet. We used a 150 G.P.M. sump pump and a 160 Cu. Ft. compressor. The compressor was not quite adequate for full capacity from the pump as we could not gian more than 75 to 80 lbs. air pressure.

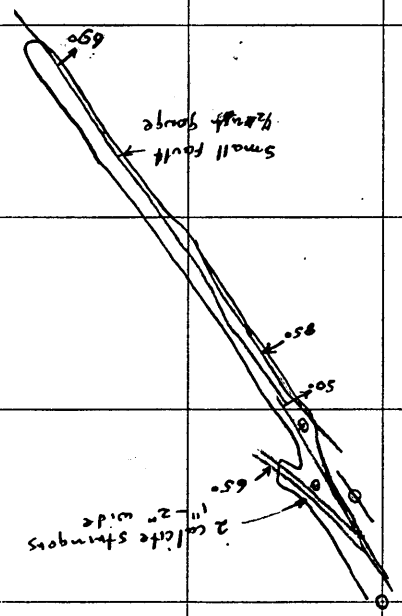
The shaft is in very good condition except the collar set and two sets down which are in a rotted condition, but all sets below the third set are in very good condition and show no signs of rot; even the ladders appear sound. The sets are five feet apart and the shaft measures 8' by 10'.

Also enclosed are two copies of the smelter returns on the car of ore we were in the process of loading while you were visiting the mine. Hoping this is all the information needed, I am

Very truly yours,

Merrill Christman

Merrill Christman
Amador Mining Co.



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S.E. Drift
Amador Mine
Scale 1" = 50'
Sheet 2

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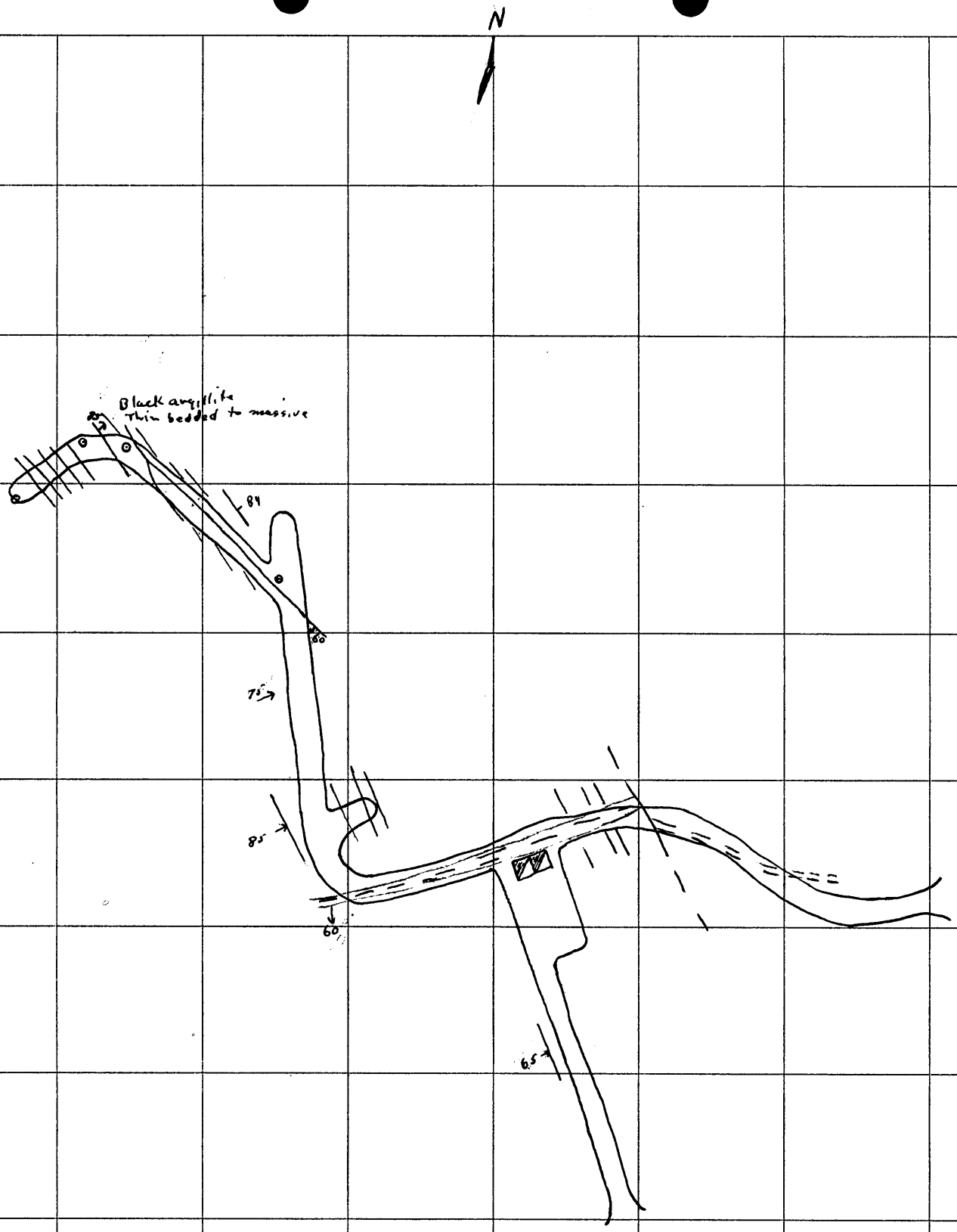
REG. U.S. PAT. OFF.



Tunnel level
Amador Mine
Scale 1" = 50'

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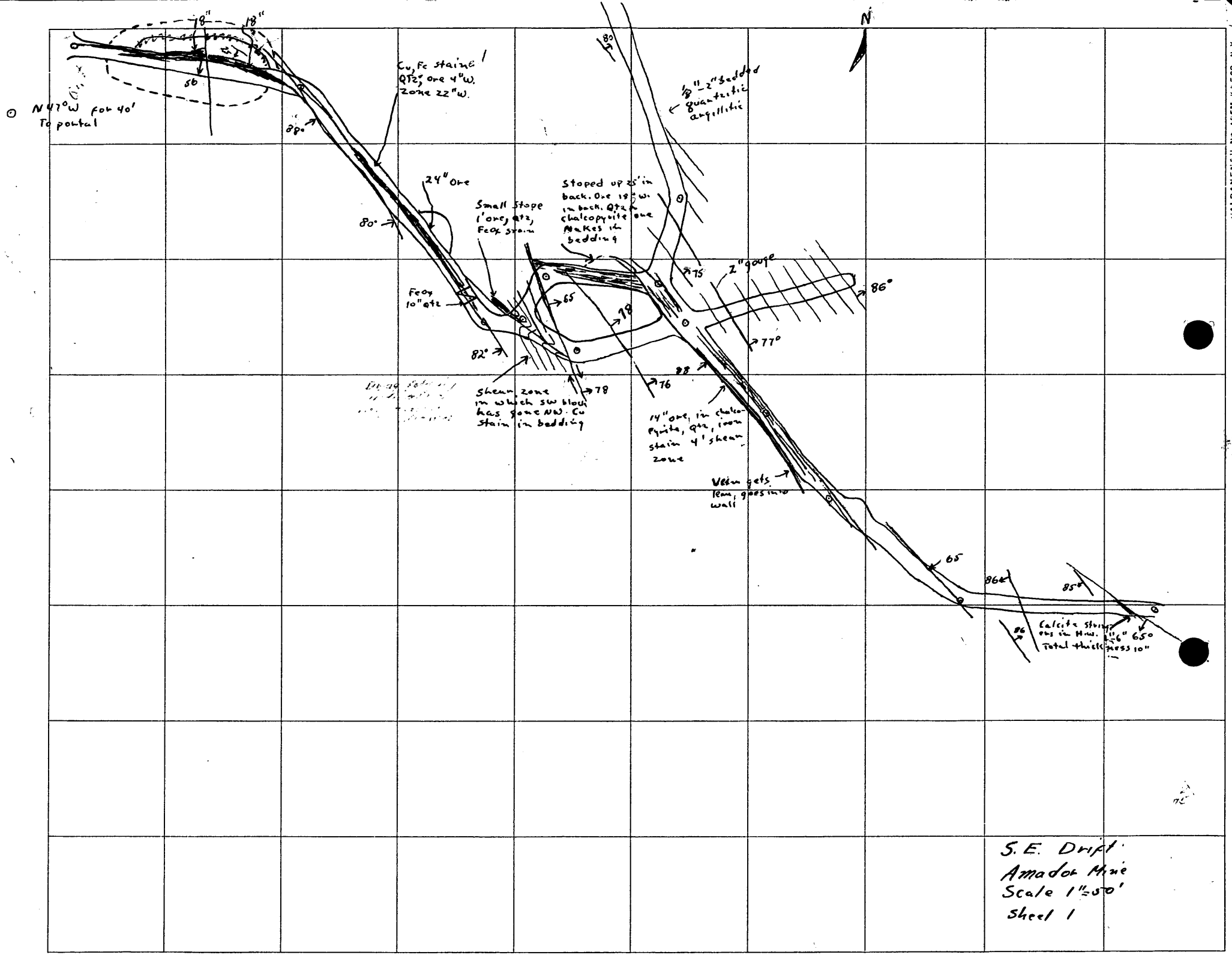

S.E. Drift
Amador Mine
Scale 1" = 50'
Sheet 1

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