MacLaren

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Memorandum

To: Chief, Office of Minerals Exploration

From: Harold Kirkemo, U. S. Geological Survey

Subject: On-site examination report
OME-6435 (Silver)
Ward W. French
Little Katie Lode Claim
Jefferson County, Montana

INTRODUCTION

The Little Katie patented lode claim was visited June 27, 1965, by the writer and Mr. Ward W. French, the Applicant. All workings on the claim which may have supported the proposed program were examined.

Mr. French had submitted an OME application for financial assistance in the amount of $90,000 to explore for silver.

LOCATION, ACCESSIBILITY, AND WORKINGS

The claim is on a ridge in sec. 1, T. 8 N., R. 4 W., and sec 6, T. 8 N., R. 3 W. on the south side of Lump Gulch in the Clancy district, Jefferson County, Montana. The property is 3.0 miles by road west of U. S. Highway 91 and the confluence of Lump Gulch and Prickly Pear creek. A steep unimproved road leads from Lump Gulch to a shaft near the south end of the claim. Workings consist of a vertical shaft +70 feet deep, the No. 2 adit 20 feet long, a discovery shaft now caved, and a shallow surface cut. (See Figure 1).

There is no record of production from the Little Katie lode. The Little Nell mine, one-half mile east of the Little Katie claim, produced more than 768,000 ounces of silver from argentiferous galena-sphalerite ore in a chalcedonic quartz gangue. The Free Coinage mine, about one-quarter mile northeast of the Little Katie claim, is credited with a production of at least 850,000 ounces of silver from a narrow vein of quartz.

GEOLOGY

Little Katie claim is underlain by Butte quartz monzonite and by a granite porphyry dike both of Upper Cretaceous or Paleocene age. The only structures on the property are a few fault seams with occasional stringers and lenses of quartz. (See Figure 1). Three fault seams in the vertical shaft occupy a zone 4 feet wide that trends N. 70°E. and dips 77°S. Narrow discontinuous stringers of quartz occur in the slightly altered quartz monzonite between the faults. A short partially filled stope or drift at 35 feet below the surface extends 10 to 15 feet northeast from the shaft along the mineralized faults. The shaft followed the fault zone downward at least to the present water level at a depth of 70 feet below the surface.

Three parallel fault seams were noted at the collar of the discovery shaft. The faults trend N. 65°E. and dip 62°- 70°S. A quartz vein 2 to 3 inches wide is present along the middle fault.

Narrow fault seams in a zone 7 inches wide strike due north and dip 77°E. on the west wall of No. 2 adit. The quartz monzonite between the fault seams is altered slightly.

A shallow surface cut exposed the contact between quartz monzonite and a porphyry dike. No mineralization was noted in these rocks.

No samples were taken during the examination because of the scarcity of mineralized rock. The Applicant had submitted assays of samples cut in the vertical shaft. One sample at 35 feet below the surface was across 3 feet and assayed 5.8 oz. silver and trace gold per ton. About 20 feet below the collar, a sample of vein material in a crevice several inches wide assayed 71.8 ounces silver and trace gold per ton. Some oxide stains were noted in the vein material where this sample was cut and no doubt the presence of silver in this quantity is due to secondary enrichment.

Dumps associated with caved shafts on the Muskegon claim about 1,200 feet to the west were examined. Pieces of white quartz six inches across with scattered galena and scattered iron oxide stains were noted. These shafts were reportedly several hundred feet deep and were abandoned long ago. Only a small amount of ore was produced. The position of the shaft timbers suggests that the geologic structure followed by the shaft trends N. 42°E. and dips 60°NW. The northeast extension of this trend would not cross the Little Katie claim.

APPLICANT'S PROPOSED PROGRAM

The Applicant had proposed a 275-foot crosscut from the west side of Little Katie claim to intersect the mineralized structure exposed in the vertical shaft, 1,187 feet of drift along the structure, 3,600 feet of core drilling from the drift to explore for parallel structures in the walls, a 100-foot crosscut in the north end of the claim, and 1,200 feet of additional core drilling.

CONCLUSION

No part of the proposed exploration is warranted because of the sparse mineralization, insignificant wall rock alteration, and weak structures. This conclusion was discussed with the Applicant after the examination was finished.

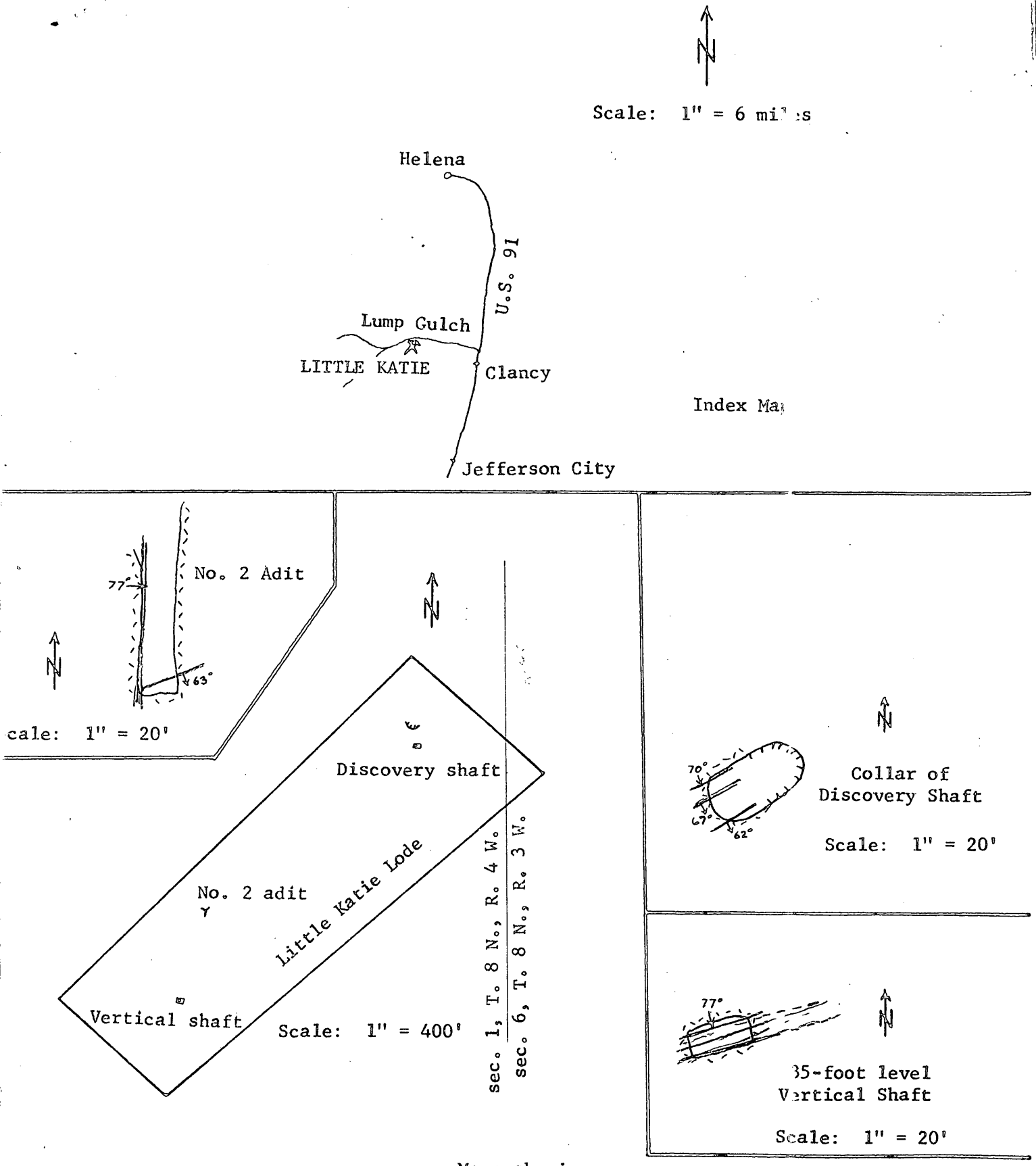
RECOMMENDATION

It is recommended that this application be denied.

Harold Kirkemo

Harold Kirkemo

HKirkemo/mm
cc: MacLaren (2)
USGS (SRO)
Kirkemo



Maps showing
Location, Claim Outline, and Geology
Little Katie Lode
Jefferson County, Montana

Figure 1

Description and narrative pertinent to application for exploration loan on listed property and for the following purposes.

Mineral Survey No. 4687 known as The Little Katie Lode, a patented "1894" mining claim located in the Lump Gulch Mining District, Jefferson County, Montana, Sec. 6 & Sec. 1, Township 8 N Range 3 W and 4 W, owned by Ward W. French, by a tax title Quitclaim Deed from Jefferson County, recorded Book 87 of Deeds Page 117; a Quitclaim Deed from Clifford L. MacNeal & Ruth MacNeil, his wife, prior owners of record, Book 89 of Deeds, Page 226; a Quitclaim Deed from H. M. Kleinschmidt, reserving a 3% mineral interest, recorded Book 89 of Deeds Page 228, Jefferson County, Montana.

It is three miles from Highway 91 west on the Lump Gulch Road, ½ mile up a gulch, south, a steep rough trail only traversable by a four-wheel drive vehicle. The first phase necessary to the project will be to improve this trail to the extent that heavy equipment can be brought in to the mining site. This will require two 18" culverts and approximately 900 yards of cut and fill, in cutting rock ledges, it will have to be blasted.

Attached maps outline remainder of proposed exploration other than the power line to be installed.

The claim rises on a sheer bluff. The crosscut mapped for entry to the ore body is at the lowest feasible point close enough to be practical as the gulch rises steeply above and veers away increasing the distance below. From the proposed portal as sketched 275' will juncture with the vein 125' below the shaft collar. The defined vein runs along the shoulder of the hill about evenly eastward 700 or 800 feet then drops the last few hundred feet towards the discovery shaft, probably fifty feet. This probably creates the water problem encountered. Water comes down the hill after a rain or thaw, follows the lead and floods the shaft almost to the collar. In the drier season, the level is easily brought down and controlled. The crosscut, however, will eliminate the water probelm to that level as well as give ventilation and make haulage way for the next phase of exploration, a lateral drift 1187' both ways from shaft #4, 196' to shaft #3, and 991' to shaft #1, thence crosscutting 100' directly toward dyke formation for a core drilling station. 192' of short crosscuts will be necessary for 8 core drilling stations to be set up to establish sample pattern proposed.

There are five cross fractures visible to the main lead, two drifted on, the others trenched to disclose one juncture, the lead at shaft #4, as well as the dyke. For this reason, it seems advisable to do the extensive core drilling, 100' in a cross pattern at seven sites and a fan-wise pattern 125' through the dyke formation at from 100' to 125' below the surface outcrop. The defined ore body of the main lead upward of this level estimates by known width to be 50,000 tons, grade and quality unknown, except for initial assays attached.

Extensive prospecting and research indicate that the exploration outlined will disclose many times that amount and locate additional bodies of ore indicated but as yet not located.

The area has a history of producing mines. The adjacent property, Free Coinage (Little Alma) 541 feet east produced from 1919 to 1949 1390 tons of ore yielding 68.611 ounces silver, 14 ounces gold, 673 pounds copper, 46.216 pounds lead and 7.514 pounds zinc--an identical quartz monzonite vein and typical structure to my prospect, figures from Govt. Bulletin 16, June 1960, Montana Bureau of Mines and Geology, Butte, Montana. The Little Nell, M.S. 4507, on the same side of the gulch southeasterly, produced from 1902 to 1956, recording 7064 tons ore, 129.214 oz. silver, 10 oz. gold, 4285 pounds copper, 75.606 pounds lead and 99.570 pounds zinc were recovered. The Liverpool, 1½ miles east, produced 1904 to 1951 570.078 oz. of silver, 82 oz. of gold and other metals from 11.743 tons ore. All information from Government Bulletin 16, available from Butte, Montana. The tonnage and statistics indicate only high grade ore was produced. The fact that the dumps were worked to account for the later years production substantiate this.

The intent of the exploration I request assistance for is to outline ore bodies in quantity and tonnage preparatory to mining at a low cost operation whereby ore of mineral value as little as $15 to $18 a ton can be profitably processed. Ore of 2 to 3 oz. of silver content upgraded by veinlets and stringers up to 72 oz. per ton, (already sampled) plus other metals could make it possible.

A tunnel operation is practical at the site as the East Helena Smelter is ten miles from the claim on good road except for the last one-half mile. Source of supply of explosives and equipment necessary would be Helena, 14 miles on paved road. Assays, surveyors and labor are also available there.

For core drill bits and special type equipment, maintenance repair of drilling equipment, service of this type is available at Butte, 45 miles from the site. The School of Mines at Butte has a program for available geologists, both for practical work at the site, consultation and advisory at the School.

Timber and water for the operation are available at the site.

Installation of power line requires one-half mile of line construction in steep and rough terrain.

To keep administrative costs to a minimum as well as red tape, I would prefer a fixed unit costs contract applying only to essential exploratory progress, drift footage, advance, core drill footage, etc. In this interest, I'm willing to forego assistance for buildings, compressor room, dry, bit and lamp house and other necessary construction. Trailer housing will be provided for employees.

My application for an assistance loan proposes the following exploratory project:

Power line, estimated cost	$ 900
Access Road	1240
1754' of 5'x7' drift, at $30 per foot--includes sample assays, track, water ditch, pipes, ventilating fan and fan bag, timbering where necessary	52,620
3600' of 2" core drilling at $5 per foot (includes sample assays of sample pattern)	18,000
70' raise to shaft #4 sump @ $100 per foot	7,000
Two compartment, 4'x8', solid bricking timbering, assaying and station at crosscut and vein juncture.	
8' winze for sump at station, $100 per foot	800
Deepen and bench off existing trench on dyke to 20' removing 2000 yds of out crop at $1 per yard (includes sample pattern and assaying)	2,000
1200' of additional core drilling as present proposed pattern indicates and requires further outline.	6,000
The skeleton outlined on sketch will require expansion as ore bodies are located.	
Muck out and retimber existing drift on 50' level at Shaft #4. 100' @ $15 per foot for sample pattern and vein dimensions	1,500
	$90,060

With five to seven employees a minimum advance of 100 feet a month is estimated for the drifting, the additional work, raise and core drilling will keep pace as the area is opened for this work. The open work, power line, access road and exposure of dyke structure should be accomplished in ninety days from loan approval, as well as access to existing drift. The final phase of core drilling will follow completion of the drift. 18 months from date of approval should be sufficient.

The core drilling stations on map sketch are not designated as exact, because structure and indications may vary as drift advances, requiring improvision and changes to the best advantage.

It is obvious that some hundreds of tons of ore were produced from this mine by existing workings. However the smelter at Wickes burned in 1896 and records of mines in this vicinity were destroyed. Operations of mines in this district have a history of high grade operations. Records show ore ox-teamed to Ft. Benton and shipped to Wales for processing, hand drilling by single jack and sacking hand sorted ore was the practice.

The whole purpose of my exploration project is to prove and locate large ore bodies profitable with present day methods, reserves I'm confident will require many years to deplete. The deepest shaft in the vicinity, the Liverpool at 750' had ore assaying 1000 oz. silver per ton.

I have outlined this project to my best ability. I'm a practical miner of little education. For further information, please advise. Attached are pertinent data outlined by instructions. My financial statement indicates my ability to meet obligations required for my percentage of the investment. I am unable to finance the venture without assistance nor would I attempt it.

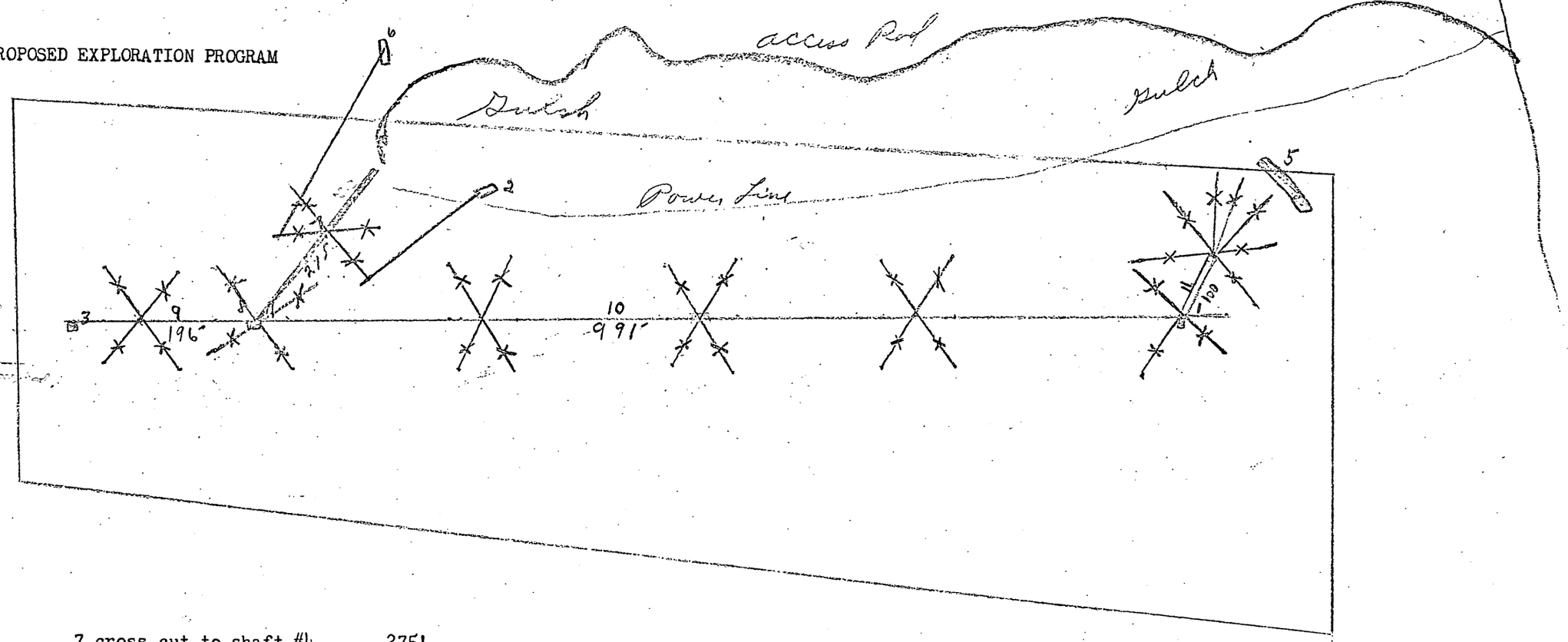
COPY OF

Mineral Survey No. 4687, Helena Land District
Field Notes of the Survey of the Mining Claim of Joseph P. Latsch et. al. Known as the Little Katie Lode, Lump Gulch (unorganized) Mining District, Jefferson County, Montana 6/1 Section, Township 8N/8N, Range 3W/4W. Surveyed under instructions dated July 9, 1895 by John H. Farmer, U. S. Deputy Mineral Surveyor. Claim located April 20, 1894. Survey commenced July 18, 1895. Survey completed July 19, 1895. Notice is hereby given that the undersigned Peter Latsch and Charles Latsch, who are citizens of the United States did on the 20th day of April A.D. 1894 discover a quartz lode or vein bearing gold, silver and other valuable metals with at least one well defined wall to be known as the Little Katie Quartz Lode Ming Claim, and did on said day, locate and claim by virtue of Chapter Six of Title XXXII of the Revised Statutes of the United States and the laws of Montana 1200 feet in a westerly direction and 300 feet in a easterly direction from the center of the discovery shaft (at which shaft this notice and statement is posted) and 300 feet on each side from the middle or center of said lode or vein at the surface comprising in all 1500 feet in length along said vein or lode and 600 feet in width. This lode is situated in Lump Gulch (unorganized) mining district, in the County of Jefferson and state of Montana about ½ mile south of Little Bufalo Gulch. The adjoining claims are the Little Almas Mining Claim on the East and the. _____ Mining Claim on _____. The exterior boundaries of this Location are distinctly marked by posts or monuments at each corner of the claim, so that its boundaries can be readily traced vis.... Beginning at discovery where notice is posted, thence running 300 feet in a easterly direction to south east corner post, thence 1500 feet in a westerly direction to south west corner post, thence 600 feet in a northerly direction to north west corner post, thence 1500 feet in a easterly direction to north east corner post thence 600 feet in a southerly direction to place of beginning.
PETER LATSCH, CHARLES LATSCH, LOCATORS AND CLAIMENTS
STATE OF MONTANA, COUNTY OF LEWIS & CLARK
Peter latsch being duly sworn says that he is of lawful age and one of the locators and claimants of the foregoing described quartz lode mining claim, that said location is made in good faitheand that the matters set forth in the foregoing notice by him subscribed are true, that a copy of the foregoing notice was posted upon said claim on the 20th day of April A.D. 1894. 27th of April A.D. 1894 Charles J. Geier, Notary Public in and for Lewis and Clark County, State of Montana. Filed for record May 15th, A.D. 1894 at 9 o'clock A.M. Eugene Picot, County Recorder.

I commenced this survey at Cor. No. 1 where I set a quartz ite stone 24x12x6 ins. 16 ins. deep marked 1-4687 for Cor. No. 1. raised a mound of earth alongside. The north east Loc. Cor. bears north 70°46' east. 101.6 feet. Cor No. 4 of Sur No 4487 bears N 56°09' E541.1 ft. The closing Section Corner between Sections 5 and 6 T8WR3W bears N79°42' E 5245.7 ft. FIRST COURSE N49°04 W. Disc. Shaft 6'x6' 60' deep timbered bears S50°W 175'. Cor. no. 2 where I set a granite stone 28x14x8 ins. 20 ins. deep marked 2-4687 for corner No. 2. raised a mound of stone alongside. The North west Loc. Cor. bears N46°0' E 1 ft.
SECOND COURSE S46°01 W. Intersect the east end line of the Hilma Lode unsurveyed, set a granite stone 24x10x6 ins 15 ins deep marked P.I.-4687. The S.E. Loc. Cor of the Hilma Lode unsurveyed bears S7°13W 427 ft. Mouth of Tunnel No. 2 6x4.5 ft 20 ft. long bears S43°59E 75 ft. Course of tunnel S16°30W. Intersect the south side line of the Hilma Lode unsurveyed where I set a granite stone 20x12x8 ins 15 ins deep marked P.I.-4687. The S.E. Loc. Cor. of the Hilma Lode unsurveyed bears N76°41E 524.6'ft. Corner No. 3 where I set a granite stone 30x18x16 ins 20 ins deep marked 3-4687 for Cor. No. 3. raised a mound of earth alongside. The S.W. Loc. Cor bears S46°01 W. 1 ft. THIRD COURSE. S49°04 E. Cor. No. 4 where I set a granite stone 26x14x8 ins.15 ins. deep marked 4-4687 for Cor. No. 4, raised a mound of stone alongside. The S.E. Loc. Cor. bears S49°4E 96.9 ft. FOURTH COURSE N 50°E. The easterly side of Shaft No. 3 6x6 ft, 50 ft deep, timbered and the westerly side of air shaft No. 4 3x6 ft 50 ft. timbered bears N40°W 196 ft. Corner No. 1 and place of beginning. Magnetic variation of all courses 20°42 East. NOTE. All mounds raised at corners are 4½ ft base 2½ ft high. No reference objects available. Connection Line. To connect this survey with the public surveys from Cor. No. 1 I ran as follows N58°30E 458.45 ft thence N76°30E 4200 ft. thence S67°40E 742 ft. to the Closing corner between Sec. 5 and 6 T.8N.R.3W. from which by calculation the said closing section cor. bears N79°42E 5245.7 ft. from Cor. No. 1. AREA. Total area of Survey 14.39 acres. Area in Conflict with Hilma Lode Uns. 3.40 acres. Net area claimed 11.99 acres. Conflicting Claims. The only known conflicting claim is the Hilma Lode uns., claimant unknown which conflicts on the west. ADJOINING CLAIMS. The only known adjoining claim is the Found Sheep Lode uns. Gock Bros. claimants which adjoins on the East. LOCATION. The Little Katie Lode was located April 20th 1894. It is situated in Sec. 1 T8NR4W and Sec. 6 T8NR3W and is designated as Survey No. 4687. INSTRUMENTS USED. Kuebler and Scelhorst transit in good adjustment. The courses were deflected from the true meridian as determined by an observation on Polaris. Distances were measured with a steel tape. Report on mine and improvements. In the execution of this survey, I set the corners in so as to include less than 1500 ft along the vein and to make the end lines parallel. The discovery shaft and the general course of the vein which is S50°W and N50°E as far as traced are within 300 feet of either side line. This is a vein of quartz in placer bearing gold, silver and other metals. It is situated between granite walls and dips nearly vertical. I hereby certify that the value of the labor and improvements placed upon this lode claim by the applicants and their grantors is not less than Five hundred (500) dollars and that said improvements consist of Discovery Shaft 6x6 ft 60 ft deep timb. $720.00 Tunnel No. 2 4½x6 ft 20 ft long $200.00. Shaft No. 3 6x6 ft 50 ft deep timb. $500.00. Air Shaft No. 4 3x6 ft 50 ft deep timb. $250.00. TOTAL VALUE $1670.00 as appears by the affidavid of two disinterested witnesses. John H. Farmer

U. S. Dep. Minerals Surveyor

PROPOSED EXPLORATION PROGRAM

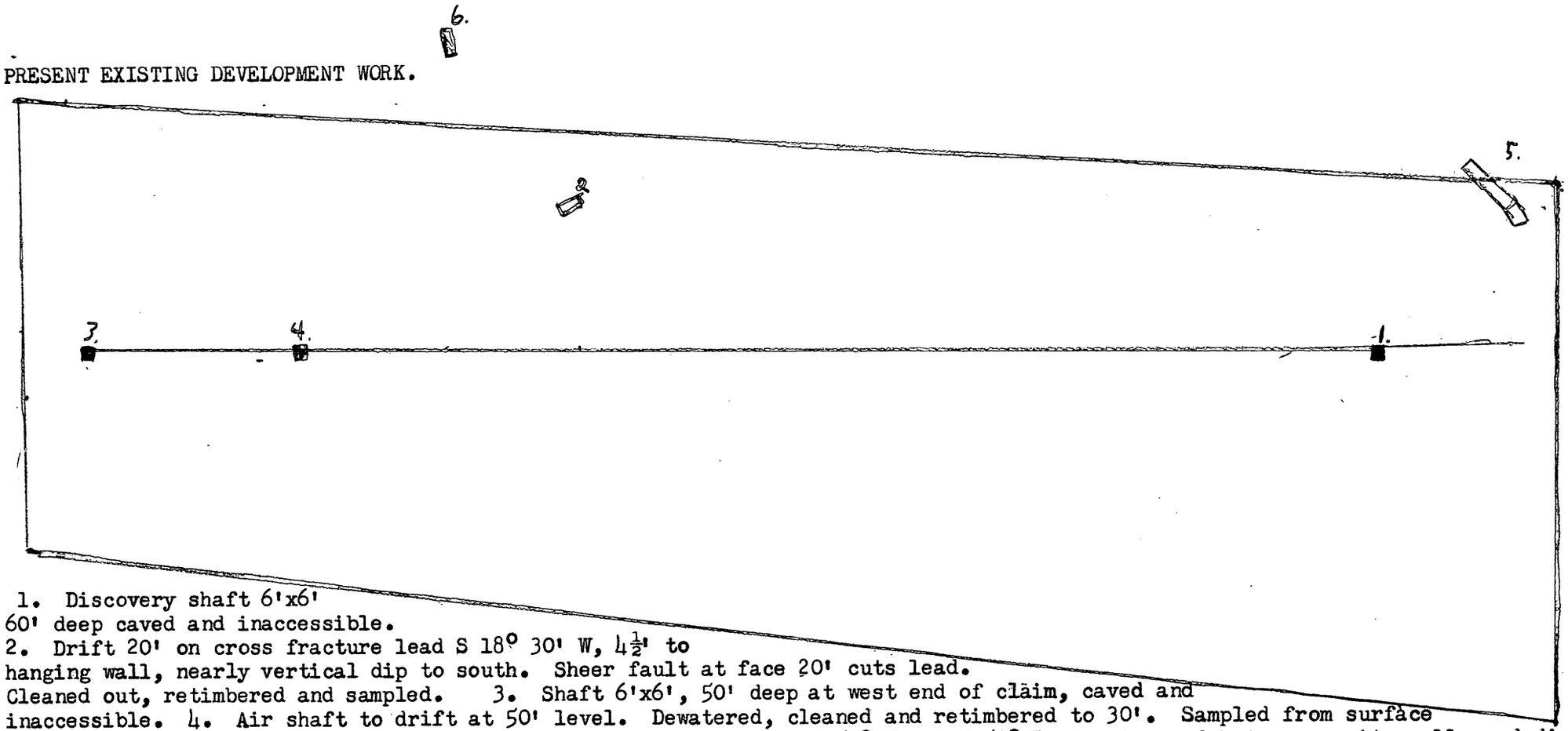


7 cross cut to shaft #4	275'
8 raise to shaft sump	75'
9 lateral to shaft #3	196'
10 lateral to shaft #1	991'
11 crosscut to dyke area	100'
12 (x) core drilling overall	3600'

Lines from #6 to #2 indicate possible continuation of fractures.

(1) Information as to dimensions and depth of workings 1 and 3 has been taken from Surveyor's notes at time claim was patented. Information on 2, 4 and 5 is a factual record of two years work prospecting progress, easily verified by an inspection. No 6. designates prior work on a phase of explanatory outline I wish to complete in my own area.

PRESENT EXISTING DEVELOPMENT WORK.



1. Discovery shaft 6'x6' 60' deep caved and inaccessible. 2. Drift 20' on cross fracture lead S 18° 30' W, 4½' to hanging wall, nearly vertical dip to south. Sheer fault at face 20' cuts lead. Cleaned out, retimbered and sampled. 3. Shaft 6'x6', 50' deep at west end of claim, caved and inaccessible. 4. Air shaft to drift at 50' level. Dewatered, cleaned and retimbered to 30'. Sampled from surface to 30'. Drift inaccessible. General course of the vein which is S 50° W and N 50° E, is situated between graite walls and dips nearly vertical. The vein is a quartz formation 42" to 88" wide at this shaft. Samples primarily silver 2.8 oz. per ton 5' below shaft collar, 26.2 oz. per ton 20' below shaft collar cross sectional, wall to wall. At this depth a 7" veinlet stringer samples 71.8 oz. per ton, upgrading adjacent formation to the 26 oz. figure for the cross section. Vein is 58" here and carries trace of gold, 12% lead, showing of copper, zinc and molybdemum. Ground water level appears to be 24' to 30' at this shaft, with 70 year old timber preserved and sound below this. An accurate sample pattern has not been established below 25'. Drift at 50' level inaccessible. 5. A one hundred foot trench bulldozed 5' and 6' deep, exposes and outlines a dyke formation approximately 70' across sampling silver and gold. At right angles to the defined vein approximately 175' at claim's edge at Corner No. 2, the terrain is steep and the dyke is much lower than the vein outcrop. Survey to establish actual distance. 6. A caved and inaccessible drift on a cross fracture below edge of claim, outcrop and structure indicates possible juncture with main vein.