Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

June 24, 1964

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations
Washington, D. C.

From: T. M. Romslo, Acting Field Officer, Region III

Subject: Docket OMM 6351 (Gold)
Red Signs Lease
Red Signs, et al Claims
Boulder County, Colorado

Enclosed are the original and two copies of my examination report of the subject application dated June 1964.

I have recommended denial of the application, and Mr. Connors, who is on annual leave, concurs in this recommendation.

We realize that your office may consider the application from a less conservative viewpoint, and decide that participation in the proposed small project is warranted. We would readily accept such a decision.

Original signed by

T. M. Romslo

attachments

cc: Mineral Resources DFC
OMM 6351
Chron

UNITED STATES
DEPARTMENT OF THE INTERIOR
STEWART L. UDALL, SECRETARY

OFFICE OF MINERALS EXPLORATION

REGION III

OME-6351

RED STONE LEASE

Red Stone, et al Claims

BOULDER COUNTY, COLORADO

Gold

Examination Report

By

T. M. Rousle, Mining Engineer, Bureau of Mines

June 1964

OME-6351

RED SIGNE LEASE
Red Signe, et al Claims
Boulder County, Colorado

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OME-6351

RED SIGNE LEASE
Red Signe, et al Claims
Boulder County, Colorado

INTRODUCTION, SUMMARY, AND RECOMMENDATION

A partnership, composed of four partners and known as the Red Signe Lease, applied to the Office of Minerals Exploration for financial aid in exploration for high-grade gold ore on the Red Signe, et al Claims in Boulder County, Colorado. The Application was received and assigned Docket Number OME-6351, April 27, 1964. It was reviewed, additional information was requested and received from the Applicant, and then referred to Region III for a field examination and recommendations, May 12, 1964.

The property was examined by Mr. T. M. Rosslo, mining engineer, U.S.B.M., in the company of Mr. Harrison S. Cobb, a partner of the Red Signe Lease, May 25, 1964.

The Applicant's proposed exploration project includes rehabilitation of a small building to house a compressor and tool shop, rehabilitation of an adit, and the driving of an estimated total 271 feet of drifts and crosscuts and a 50-foot raise. The project would cost an estimated total $21,771.06.

The Red Signe claims were explored for gold and probably tungsten by pits, trenches, and an adit before 1898. There are no production records for this period, during which some gold and possibly tungsten

may have been produced from the main workings on the Red Signe vein. From 1898 to 1950, the Red Signe mine on the Red Signe vein has been developed and exploited for short periods by lessees, who produced a recorded total 1,311 ounces gold, 580 ounces silver and a few thousand units of tungsten trioxide. The gold and silver was produced from a total 617 tons of sorted and selectively-mined ore. Since 1950, lessees have done a small amount of exploratory work, but have produced no ore

In the mine area, the Red Signe vein appears to have varied in thickness from a few inches to six feet. It dips from 45 to 75 degrees south, and strikes about due east in the western portion of the mine. In the area of proposed exploration, the vein swings southeasterly and veinlets split off the vein. The veinlets follow easterly and northeasterly striking weak shears. The veinlets contain minor amounts of gold tellurides and considerable fine grained marcasite in quartz. No free gold, or tungsten that occurs mainly in the western portion of the mine as ferberite in quartz, were observed in the veinlets.

In the Red Signe mine and other mines in the Magnolia District, concentrations of gold occur as pockets and shoots in zones of openings in the vein that resulted from pre-mineral movement. In general, strong pre-mineral movements resulted in extensive open-vein zones and the larger gold deposits Conversely, weak pre-mineral movements resulted in small open-vein zones and small deposits. As a result of oxidation, gold in the sulfide-gold telluride veins is more abundant at and near the surface.

The Applicant's exploratory targets are high-grade gold zones at and near the junction of veinlets that branch from the main vein. The veinlets tightly fill shears that are very weak, and probably are not persistent. Under these conditions, the proposed exploration would not be expected to result in a significant gold discovery, because any concentrations of gold probably would be confined to zones of minor extent. Therefore, denial of the application is recommended.

LOCATION, TOPOGRAPHY, AND PHYSICAL FEATURES

The property comprising the applicant's rights is about 5 miles west of Boulder, Colorado, in Secs. 31 and 32, T. 1 N., R. 71 W., Sixth Principal Meridian, Boulder County, Colorado (fig. 1). Wilkerson[1/] locates the property in the northwest corner of the Magnolia Mining District, which lies in the eastern part of the Boulder Tungsten District.

Boulder, a town of some 40,000 population and the county seat of Boulder County, is about 30 miles northwest of Denver. To reach the property from Boulder, State Highway No. 119 is followed westward about eight miles to an ore bin and mine dump located a few tens of feet off the right side of the highway. A set of wood stairs near the ore bin goes up about 60 feet to a trestle that leads to the portal of the Red Signe mine.

1/ Wilkerson, Albert S. Geology and Ore Deposits of the Magnolia Mining District and Adjacent Area, Boulder County, Colorado. Colo. Sci. Soc. Proc., Vol. 14, No. 3, pp. 81-101, 1939.

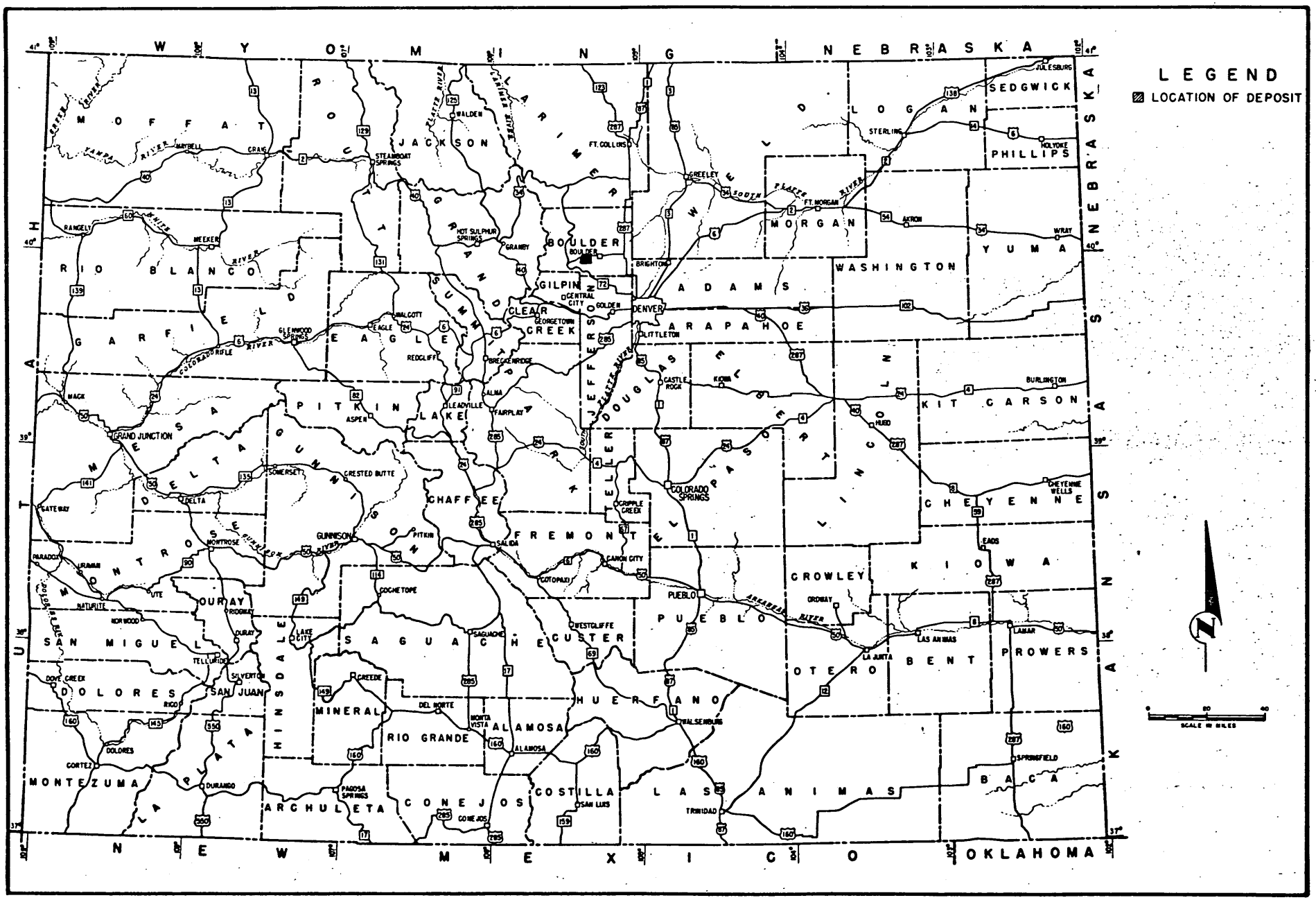

FIGURE 1.-Location Map, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colo. OME-6351 (Gold).

Ore shipments from the Red Signe mine could be made by truck either to the nearest railroad to Boulder or to a custom, gravity-type mill located near Sugarloaf, a settlement about four miles north of the mine.

The claims lie on the lower eastern flank of the Front Range, a dissected upland that rises gently westward from the foothills near Boulder to the steep and rugged slopes of the Continental Divide. The upland area ranges in altitude from about 7,500 feet in the eastern part to about 8,500 feet in the western part. It is characterized by rounded mountain tops and ridges that rise a few hundred feet above the level of broad valleys. Middle Boulder Creek, which crosses the applicant's property, occupies one of a series of roughly parallel, east-west trending canyons that are as much as 1,000 feet deep in places.

Water for mining purposes may be pumped from the flooded lower working of the mine or from Middle Boulder Creek. Timber for mine use occurs on the property.

HISTORY AND PRODUCTION

Regarding the Magnolia District, Vanderwilt[2/] says:

> "Gold telluride was found on the Magnolia Vein in 1875 and during the next two years nearly all of the productive veins in the district were discovered. The total value of the district's output is estimated to have amounted to between $2,000,000 and $3,000,000."

2/ Cited in footnote 1.

Unknown persons had located the Red Signe property and had explored it probably for gold and tungsten, by pits, trenches, and an adit before 1898. No production records for this period are known.

In 1898, George W. Teal and others acquired the property. They may have produced a little tungsten ore from the property before selling it in 1912 to the Levene Company. The company held the property inactive for a few months and then sold it to the Tungsten Metals Corporation. The corporation built a mill near the Red Signe mine, and worked the Red Signe mine and a few other nearby mines for tungsten ores mainly until probably 1915. Gravity-type concentration of the ores yielded tungsten concentrates and a little free gold.

The first recorded gold production from the Red Signe mine[3/] is for 1916, when the Red Signe Mining Company shipped 240 tons of dump ore. The ore, shipped direct to a smelter, yielded 367.37 ounces gold and 179 ounces silver. The property then was idle to 1921, when it was acquired by two of the present owners, George W. Teal and R. C. Barr. In 1921, a lessee shipped one ton of dump ore containing 0.90 ounce gold and 1.45 ounces silver per ton. Production in 1922 consisted of 215 tons of ore that contained 549.53 ounces gold and 243 ounces silver. It was produced by William Miles from a shaft that was sunk from the

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3/ U.S. Bureau of Mines records.

surface and broke into an old stope at a depth of 45 feet. Mr. Miles, reportedly was the first person to find high-grade gold in place on the property. In 1923, W. R. Weeks produced from an old stope 161 tons of ore that contained a total 163.39 ounces gold.

From 1924 to 1939, the mine was operated intermittently for short periods by lessees, who produced from dumps, drifts and stopes a total 425 tons of gold ore and several tons of tungsten ore. The gold ore yielded 229.86 ounces gold and 156.24 ounces silver, and the tungsten ore contained about 600 units WO_3. During 1939 and 1940, a lessee developed the mine below the lower tunnel and produced from stopes about 6 tons of tungsten ore containing 21.3 percent WO_3. In 1943 and in 1947 and 1948, tungsten ore was again produced from stopes below the lower tunnel. Both operations were carried out under RFC loans and yielded an estimated total 1,000 units WO_3. After 1948, the lower workings slowly filled with water, most of which probably came from a stoped zone underlying Middle Boulder Creek. Since 1950, the mine has been idle except for a small amount of exploratory work done by lessees.

The total known production from the Red Signe mine is approximately 617 tons of cobbed and selectively-mined ore containing 1,311 ounces gold and 580 ounces silver, and an unknown tonnage of tungsten ore that yielded a few thousand units WO_3. Present total value of the gold and

silver produced is about $46,600. Production records indicate that the gold ore and the tungsten-gold ore, contained 1.7 ounces gold and 0.8 ounce gold per ton, respectively.

EXTENT AND OWNERSHIP OF THE PROPERTY

The property comprising the applicant's rights consists of three patented lode mining claims, the Red Signe, Red Signe No. 2, and the Anglo Saxon (fig. 2).

The applicant, a partnership, holds the property by a lease agreement, dated November 26, 1963, with the owners, Mr. George H. Teal, Mrs. Annabel T. Barr and son, Mr. Robert E. Barr. The lease agreement is for a period of 5 years. Members of the partnership are:

Mr. H. Stanley Dempsey, managing partner, 1805 Marine, Boulder, Colorado

Mr. Jack Muir, partner, 6199 Wadsworth, Arvada, Colorado

Mr. Harrison Cobb, partner, 401 Pine, Boulder, Colorado

Mr. Howard E. Vickery, Sr., partner, 1035 8th Street, Boulder, Colorado

PRESENT STATUS

The property is inactive.

The principal workings of the Red Signe mine consist of 2 adits, the 50-foot and 100-foot levels off of a 100-foot shaft sunk from the lower adit, and several raises and stopes (fig. 3). Water fills the

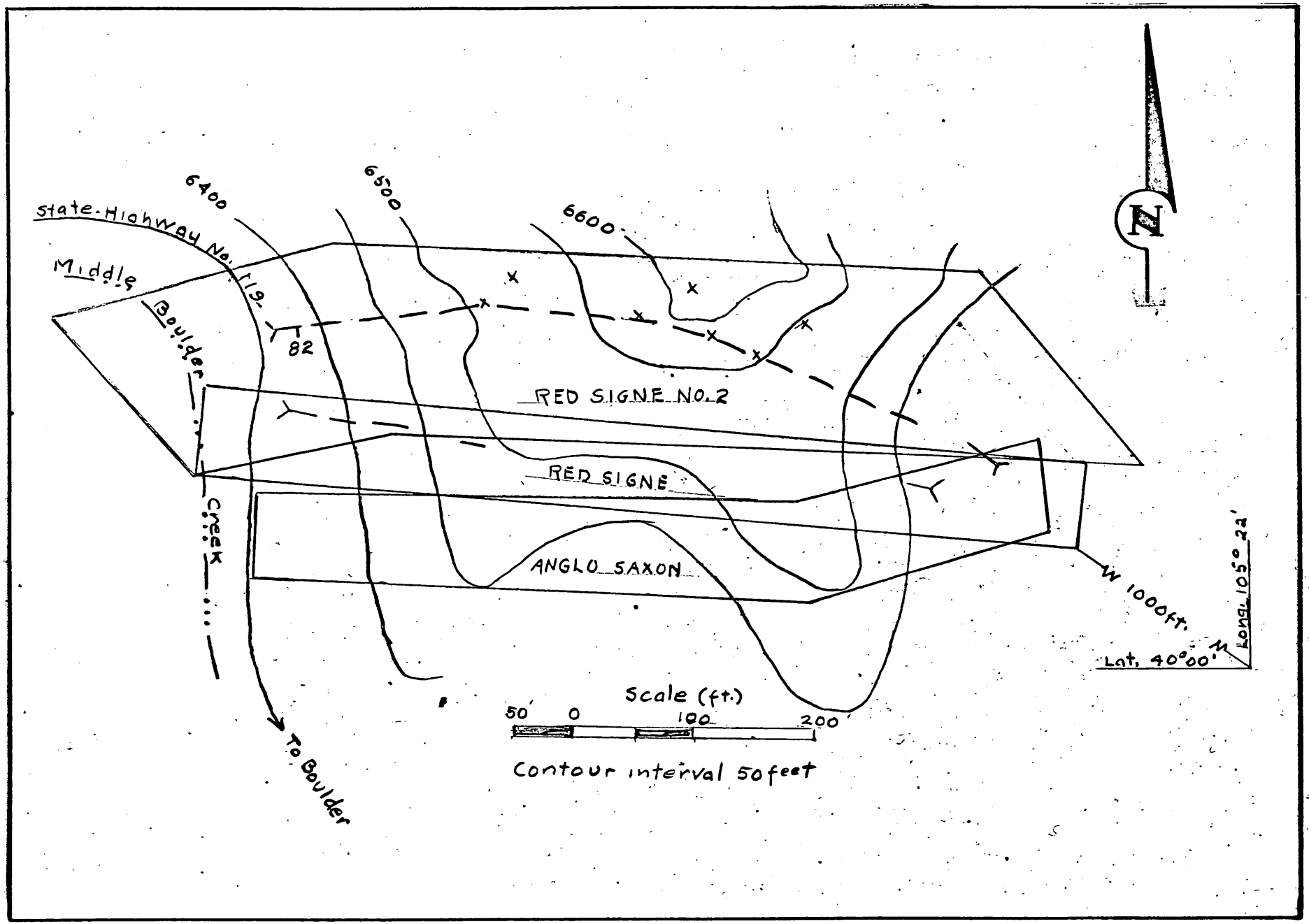
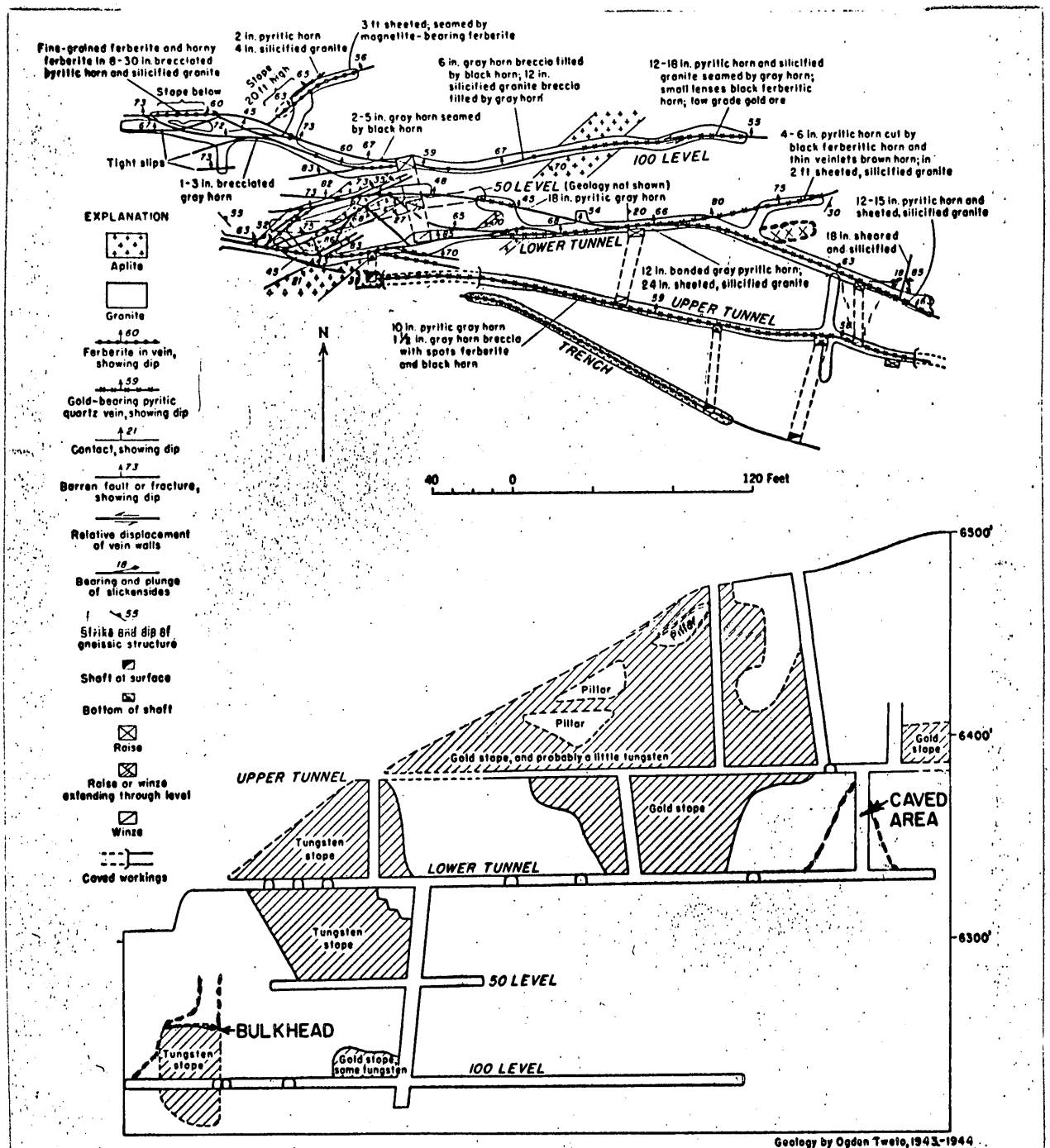


FIGURE 2.- Claim Map, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colo. OME-6351 (Gold).



U.S. GEOL. SURVEY PROF. PAPER 245

FIGURE 134.—Geologic plan of the Red Signe mine, Boulder County, Colo., and projection in plane in vein.

NOTE: Boundaries of new openings are dotted

FIGURE 3.-Geologic Map, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colo. OME-6351 (Gold).

mine to a few feet below the lower adit, the sole accessible working. Track with 8-pound rails, and a 1-1/2-inch airline is installed from near the ore bin to near the starting point of the proposed crosscut. The track from the ore bin to within about 80 feet from the starting point is in fair condition. In the 80-foot section, about 50 feet of track is covered by an estimated 200 tons of muck that has sloughed from the walls of an estimated 60-foot high by 8-foot wide open stope. Between the east end of the stope and the starting point, the track is covered with an estimated 15 tons of muck from drift advances. Rehabilitation of the 80-foot section would require removal of the muck and the installation of 40 to 50 feet of drift sets or cribbing.

Buildings on the property consist of an ore bin, and two wood-framed and metal-sheeted sheds. One of the sheds is near the adit. It is about 8 feet wide and 20 feet long, and is in a poor state of repair. It would not be used for the proposed work. The other shed is located at the foot of the mine dump. It is about 10- by 12-feet in size and in fair condition. It would be repaired to serve the project as housing for a compressor, tools, and change room.

Equipment on the property consists of a single 1-ton mine car. Other equipment owned by the applicant and stored elsewhere, consist of a 160 CFM compressor, a stoper, and a jackhammer with airleg.

GEOLOGY AND ORE DEPOSITS

Precambrian Boulder Creek granite gneiss covers all of the Magnolia mining district except for a strip of Paleozoic sediments along the extreme eastern part. The gneiss is gray to pink in color, and is composed essentially of medium-size grains of quartz, orthoclase feldspar, and biotite. It is intruded by numerous pegmatite and aplite dikes most of which are less than 15 feet wide and a few are more than 2,000 feet long. The sediments in the eastern part of the district consist of the Fountain sandstone formation of Pennsylvanian age.

The most conspicuous structural feature associated with the gneiss is a series of persistent and roughly parallel northwest-striking faults or "breccia dikes." These structures, which are locally termed "reefs," probably are Paleocene in age and pre-date northeasterly to easterly faults and fractures that contain tungsten and/or gold-bearing veins. The reefs are composed of minutely brecciated gneiss and are often seamed with quartz and hematite.

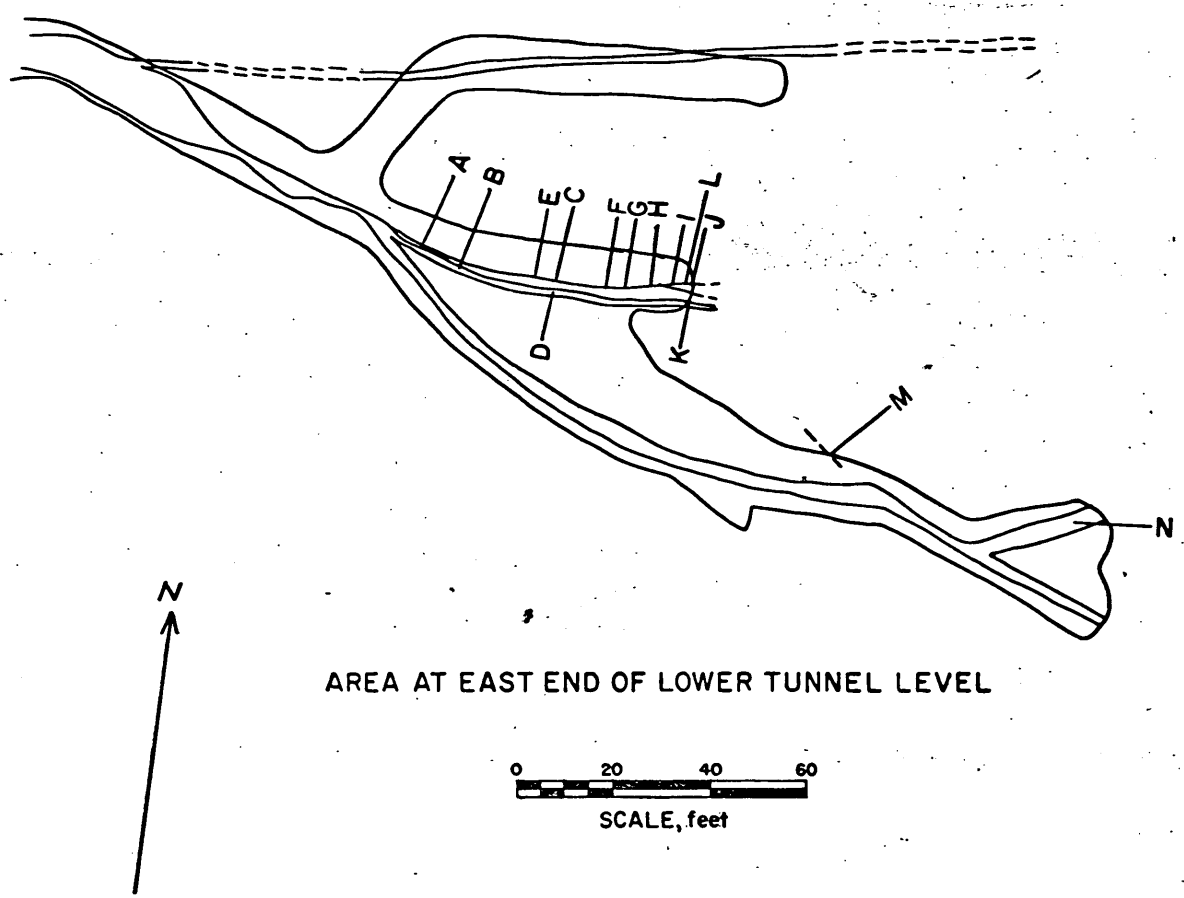
The Red Signe fault zone, that is explored by the Red Signe mine, extends almost due east from the Livingston Reef, the most westerly reef in the district. It is easily traced from the reef to the mine area, about 1,000 feet, and thence southeasterly for about 1-1/2 miles. At the mine, the fault zone is about 150 feet wide and is bounded on the north and south by roughly parallel veins, the Red Signe No. 2 and the Red Signe.

The Red Signe No. 2 vein, which has been explored by two short adits and several shallow pits, varies in width from a few inches to three feet and dips 72 to 82 degrees south (fig. 2). The Red Signe vein, which is developed by the Red Signe mine, varies in width from a few inches to six feet and dips 45 to 75 degrees north (fig. 3). The strike of the vein changes abruptly in the area of the proposed exploration. The main vein swings southeasterly on a strike that roughly parallels the segment of the vein mined at the surface. Where the strike changes on the lower adit, veinlets split off the main vein and follow easterly and northeasterly striking weak shears. The applicant's samples from veinlets varying from 1-inch to 18 inches thick contained from 0.02 ounce to 0.28 ounce gold per ton (fig. 4). Specimens of mineralized rock taken by the writer from location H and examined microscopically by a Bureau of Mines petrographer, contain minor amounts of gold telluride and considerable fine grained marcasite in quartz. Iron oxides and clay occur in the fractured and drusy portions of the quartz. No free gold, or tungsten that occurs as ferberite mainly in Western part of the mine, were observed.

PROPOSED EXPLORATION

Proposed Work

The applicant's proposed exploration would be done on the lower tunnel level (fig. 5). An estimated total 271 feet of 3- by 7-foot drifts and crosscuts would be driven, and timbered where necessary



LOCATION	OUNCES/TON GOLD	OUNCES/TON SILVER	WIDTH INCHES
A	0.32	0.10	1 1/2
B	0.19		1
C	0.22		2
D	0.08		8
E	0.20		1
F	0.36		2
G	0.13		1 1/2
H	0.16		2
I	0.04		3
J	0.10		6
K	0.02		8
L	0.06		4
M	0.18		6
N	0.28		18

FIGURE 4.-Assay Map, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colo. OME-6351 (Gold).

with an estimated maximum 50 lineal feet of drift sets, and the most favorable of any mineralized zones encountered by the drifts and cross-cuts would be explored by a 50-foot 4.5- by 7-foot raise. Preparatory work would include rehabilitation of a tool shop and compressor building, rehabilitation of a 40- to 50-foot section of the lower tunnel, and installation of equipment. Rehabilitation of the lower tunnel would include the removal of an estimated 90 cubic yards of muck and the installation of timber drift sets or cribbing.

Estimated Costs

The applicant's estimated costs of the proposed work are:

Rehabilitation of shop and compressor shed		
Supervision, 9 days at $26.00/day	$234.00	
Labor, 9 days at $20.00/day	180.00	
Material, principally lumber	400.00	
Total		$ 814.00
Removal of muck from adit		
90 cubic yards at $4.25/yd		382.50*
Drifting, 271 feet at $55.00/ft		14,905.00*
Raising, 50 feet at $45.00/ft		2,250.00*
Timbering, 60 feet at $8.00/ft		480.00*
Supervision		
Engineering		
7 8-hour field days at $12.50/hr	700.00	
7 8-hour office days at $6.25/hr	350.00	
Geology		
7 8-hour field days at $12.50/hr	700.00	
14 8-hour office days at $6.25/hr	700.00	
Total supervision		2,450.00
Miscellaneous		
Assays		
80 for gold at $2.00/ea and 20 for gold and silver at $3.50/ea	230.00	
Workman's Compensation	259.56	
Total miscellaneous		489.56
Estimated total cost of project		$21,771.06

* Lowest cost in bids submitted by three contractors

DISCUSSION OF THE APPLICANT'S PROPOSAL

Concentration of gold in the Magnolia District, according to Wilkerson,[4] "took place in and close to openings in the veins that were dependent upon structural factors -- such as junctions of fissures and irregularities of the fissures coupled with pre-mineral movement." Both these favorable geological conditions exist in the Red Signe mine. Irregularity of the fissure occurs in the formerly productive zone wherein the dip and strike of the fissure changes abruptly. And, junctions of fissures are the zones that the applicant proposes to explore, targets A, B, C, and D of figure 5.

It is the writer's opinion that the proposed project is a well-designed one, but that the proposed targets are considerably less attractive than indicated by the applicant. The applicant expects the ore bodies of the exploration targets will vary from 1 to 5 feet wide and 20 to 100 feet long, and extend vertically a few hundred feet. Gold content of the ore bodies would be expected to vary from 3 to 22 ounces per ton and average about 5 ounces a ton. Although ore bodies of similar extent and grade have been exploited in the district, available production records indicate the Red Signe ore bodies were much smaller and lower grade, about 2 ounces gold per ton. The size and grade of ore bodies in the district appears to be determined by the degree and extent that open spaces have been formed in the vein

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4/ Cited in footnote 1.

by pre-mineral movement. The larger and higher grade deposits, such as those described by the applicant, occur in the more extensive open-vein zones resulting from strong pre-mineral movement. In the areas of the exploration targets, the intersections of the weak and tight fissures would not be expected to result in the formation of other than small open-vein zones and deposits.

As a result of oxidation, gold in the sulfide-gold telluride veins is more abundant at and near the surface of the Red Signs mine and other mines in the district. Partial oxidation of the veins was noted in the lower tunnel, but no zone of supergene gold enrichment has been recognized in the district. On this basis, any high-grade ore zone in the area of the exploration targets probably would be confined to pockets in small shoots that would extend upward about 50 feet to the old stope on the upper adit level and downward possibly 50 to 100 feet to the zone of primary ore.

Mr. Cobb was informed during the field investigations that the applicant's revised suggested per foot cost of drifting, $54.31, is considered excessive. He told me several days later, the four partners had mutually agreed that drifting would be done for $35.00 to $40.00 per foot.

CONCLUSIONS AND RECOMMENDATIONS

It is concluded from the foregoing information that the applicant's proposed exploration cannot reasonably be expected to result in the discovery of a significant amount of gold ore. Therefore, denial of the Application is recommended.

Extra

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

June 24, 1964

Memorandum

To: George C. Selfridge, Chief
Division of Field Operations
Washington, D. C.

From: T. M. Remele, Acting Field Officer, Region III

Subject: Docket OKK 6351 (Gold)
Red Signs Lease
Red Signs, et al Claims
Boulder County, Colorado

Enclosed are the original and two copies of my examination report of the subject application dated June 1964.

I have recommended denial of the application, and Mr. Connors, who is on annual leave, concurs in this recommendation.

We realize that your office may consider the application from a less conservative viewpoint, and decide that participation in the proposed small project is warranted. We would readily accept such a decision.

Original signed by

T. M. Remele

attachments

cc: Mineral Resources BFC
OKK 6351
Chron

HMC
THR TMP

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

OME
DEPARTMENT OF THE INTERIOR
JUL 1964
REGION III
DENVER, COLORADO

Mr. H. Stanley Dempsey
Red Signe Lease
1805 Marine Street
Boulder, Colorado

JUN 30 1964

Re: OME-6351 (Gold)
Red Signe Lease
Red Signe, et al Claims
Boulder County, Colorado

Dear Mr. Dempsey:

Your application for financial assistance in exploring your property in Boulder County, Colorado, and other information available to us have been reviewed.

Careful study of all this information indicates that the probability of disclosing significant ore reserves on your property is not sufficiently promising to justify Government participation in the proposed exploration. We regret to advise you that, under these circumstances, your application for exploration assistance is denied.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

MMerrithew/mm
6/29/64
cc: Director's Reading File
Region III
Review Committee
Docket
Code 500

HARRISON S. COBB
401 PINE STREET
BOULDER, COLORADO

May 20, 1964

OME
DEPARTMENT OF THE INTERIOR
MAY 18 1964
REGION III
DENVER, COLORADO

Mr. Hugh M. Connors
Acting Field Officer, OME
Denver Federal Center
Denver, Colorado. 80225

Application OME-6351

Dear Mr. Connors:

I will be pleased to accompany Mr. Romslo on a field investigation of the Red Signe mine Monday, May 25.

I suggest that Mr. Romslo stop at my home, 401 Pine Street, upon his arrival in Boulder, and we will proceed from there.

Yours very truly,

Harrison S. Cobb.

Harrison S. Cobb.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

OME
DEPARTMENT OF THE INTERIOR
MAY 15 1964
REGION III
DENVER, COLORADO

MAY 12 1964

Memorandum

OME
DEPARTMENT OF THE INTERIOR
MAY 15 1964
REGION III
DENVER, COLORADO

To: Acting Field Officer, Region III

From: Chief, Division of Field Operations

Subject: OME-6351 (Gold)
Red Signe Lease
Red Signe, et al Claims
Boulder County, Colorado

The subject application is referred to Region III for review, a field examination if deemed advisable, and recommendations.

We are enclosing a letter of May 7 and material just received from the Applicant. The suggested drifting cost of $54.31 per foot is still way out of line.

George C. Selfridge

Enclosure

6100 Wadsworth
Arvada, Colorado
May 7, 1964

Mr. W. H. Griswold, Chief
Division of Minerals
Office of Mineral Exploration
Washington 25, D. C.

Re: Your letter April 29, 1964
OME 6351 (Gold)

Dear Mr. Griswold:

With reference to your letter of April 29, 1964 we hope the following will clarify the points you raised:

1) We have funds available to cover any necessary expenses not covered by personal services and equipment. We were aware that it would be necessary to operate approximately two months before any government reimbursement is received, and have planned accordingly.

2) All correspondence pertaining to this application should be directed to Mr. H. Stanley Dempsey, 1805 Marine, Boulder, Colorado.

3) We are unable to honestly provide you with letters to the banks as we were unaware of the necessity of such letters, and in all cases went to the banks and made personal requests of the bank officers. In each instance we explained the work to be done, the approximate cost, the amount of funds presently have available, and the mineral materials we have. In each instance the personal man listened intently, but said it would be impossible to make a loan of such magnitude for exploration, and because of our poor mortgageable holdings.

4) The three claims (Red Diamond, Red Diamond Number 2, and Anglo-Saxon) are certainly not the project. No request has been made for exclusion of any part of any of these claims. Applicants may be stated that the veins on these claims are geologically zoned and that areas of the mine west of the green line on Map A are chiefly valuable for Tungsten mineralization which is not of present interest to the applicants. The applicants intend to explore the eastern part of the mine where Gold areas have been mined in the past.

5) The three claims are patented, and their survey numbers are given in the description supplied in our application.

5) All significant mine workings are open and may be inspected by your engineer. The main adit level through which all work would be carried on was opened and rehabilitated by the applicants in January and February, 1964. Inaccessible areas, with the exception of the area marked on Map A as the bottom of the Niles' Shaft, are not significant to the project. The area below the old shaft is of only minor significance. Workings below the adit level, and which are flooded, are in the western part of the mine which is in Tungsten ore only.

6) Enclosed is a cost breakdown for drifting. You specify only drifting costs as out of line. Is that correct? It is believed that this drifting cost is accurate and truly reflects costs in the Boulder area.

Sincerely yours,

Jack B. Muir

Jack B. Muir
Managing Partner
Red Signe Lease

JBM:bam

Enclosures 2

1½

Two Day Cycle, Four Feet per Cycle

$56.00	Helper @ $3.50 per hour (same as local truck driver or equipment operator)
6.16	Labor taxes, Compensation, Insurance, Unemployment, Social Security
6[illegible].00	Supervisor @ $4.25 per hour
7.4[illegible]	Labor Taxes
5.[illegible]4	Gasoline - 1[illegible] gallons @ .33 ¢ per gallon
1.30	Oil, lube.
10.25	Bits, steel - Regrind, new bit, rethread steel, new steels
11.64	Dynamite - 3/4 case
.70	Caps - 20 @ 3 1/2 ¢ each
1.50	Fuse - 100' @ 1 1/2 ¢ per foot
.40	Spitter - 4' @ 10¢ per foot
.80	Rail — wt?
.75	Ties
.40	Bars, spikes, bolts
1.60	Air line - 4' @ 40 ¢ per foot 1½
1 31.00	Equipment rental
1.00	Ore dump - preperation and maintenance
2 [illegible].00	Preparation costs, prorated per day
$206.92	Per 2 day, 4 foot cycle
3 $103.46	For 1 day
$51.73	Per foot
2.58	5% contingency 3.
$54.31	Per foot cost

1. Rental or Depreciation Basis
5% per month

Compressor	$4600.00	G-D 160	2500
Drill	900.00	Jack Leg GD	750
Stoper	400.00		
Hoses	~~150.00~~		
Mine car	175.00 ok		
water pump	150.00 ok	air pump water from shaft	
water line	75.00		
Steel	100.00		
Small tools	200.00		
Total	$6800.00		

Sullivan 400.00

5% - $340.00
Days per month 22 ÷ 340 - $15.50 daily

2. Set up compressor:

2 men, 1 day	$58.82
Load and haul	20.00
1/2 day preparation	29.91
Oil change	2.50
Battery	15.00
	$126.23

Water pump and line:

2 men, 1 day	[illegible]
Hose	[illegible]
Air line repair	100.00
	[illegible]
	124.23
$305.35 ÷ [illegible]	$305.35

$2.00 per day or $1.00 per foot

3. Number of days for direct work

2 feet per day - 271 feet
136 days, drift
12 days, raise
148 days x 103.46 per day - $15,312.08 Total drifting cost

Region III

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

APR 20 1964

Mr. Jack B. Muir
Managing Partner
Red Signe Lease
6199 Wadsworth
Arvada, Colorado

Re: OME-6351 (Gold)
Red Signe Lease
Red Signe, et al Claims
Boulder County, Colorado

Dear Mr. Muir:

With further reference to your recent application submitted to us, there are various points which require clarification.

1. You state that you and your associates would provide your share of the project cost by personal services and by furnishing machinery. Our experience has shown that in most cases these items will not cover an Operator's 50 percent share of the costs. In addition, the Government does not advance funds for its share under a contract. An Operator pays all the first month's cost and then submits a voucher on forms furnished by the Government. After approval, the Operator is reimbursed for the Government's share of the costs. As it usually takes from two to three weeks to reimburse an Operator, it should have sufficient funds at hand to cover all costs for at least the first two months. Thereafter, normally, reimbursement is received by the Operator at monthly intervals. Therefore, please inform us how, in addition to supplying the items mentioned, you propose to finance your share of the exploration costs.

2. You make application in the name "Red Signe Lease" which you list as a partnership. You also list both yourself and Mr. H. Stanley Dempsey as managing partners. Please advise us whom we should contact in all matters pertaining to this application.

3. You provide us with letters from the banks but we should also have copies of your letters to the banks in which the loan was requested.

4. You list three claims (Red Signe, Red Signe No. 2, and Anglo Saxon) as being pertinent to the project but then you request that certain areas be excluded. Please give us a map or accurate sketch showing such areas and state your reasons for requesting exclusion. We assume that the three claims are patented. Is this correct?

5. By your own account, very little of the property workings are open and in shape for an engineer's examination. We never enter into projects of this sort blindly. You should at least get the more significant workings open and safe for inspection.

6. The drifting costs indicated by the bids you have received are completely out of line. Please let us have a realistic cost estimate accompanied by a cost breakdown as outlined under Item 7 on the back of the application form (copy enclosed). This should be made with a reasonable degree of detail.

We shall hold your application in abeyance until we hear further from you.

Sincerely yours,

W. R. Griswold
mm

W. R. Griswold, Chief
Division of Minerals

Enclosure

WRGriswold/mm
4/29/64
cc: Director's Reading File
Region III
Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
WASHINGTON 25, D. C.

MAY 12 1964

OME
DEPARTMENT OF THE INTERIOR
MAY 13 1964
REGION III
DENVER, COLORADO

Mr. H. Stanley Dempsey
Red Signe Lease
1805 Marine Street
Boulder, Colorado

Re: OME-6351 (Gold)
Red Signe Lease
Red Signe, et al Claims
Boulder County, Colorado

Dear Mr. Dempsey:

The application for assistance in exploring the subject property has been reviewed by the Division of Minerals of the Office of Minerals Exploration and referred to Mr. H. M. Connors, Acting Field Officer, Office of Minerals Exploration, Region III, Building 20, Federal Center, Denver, Colorado, 80225.

The Regional Office will notify you in case additional information concerning the application is needed.

Sincerely yours,

(signed) FRANK E. JOHNSON

Acting Director

MMerrithew/mm
5/11/64
cc: Director's Reading File
Region III
Docket

April 27, 1964

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Subject: OME-6351

Gentlemen:

Your application for exploration assistance, dated April 16, 1964 submitted to our office at Washington, D. C. has been assigned Docket Number OME - 6351.

Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Allen S. Dakan, Chief
Division of Administrative
Management

Copy to Region III with
copy of application

MME Form 140
July 1962

Budget Bureau No. 42-R1368
Approval expires Dec. 31, 1963

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 27 1964
DATE INITIALS CODE

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

Pursuant to Public Law 85-701 (72 Stat. 700; 30 U.S.C. 641)

NAME OF APPLICANT *(Full legal name and mailing address as they should appear on contract if one is executed.)*

RED SIGNE LEASE
1805 MARINE STREET
BOULDER, COLORADO

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6351

DATE RECEIVED: 4-27-64

REGION: III

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL ☐
- CORPORATION ☐
- PARTNERSHIP ☑
- OTHER *(Specify)* ☐

STATE IN WHICH FIRM IS ORGANIZED: COLORADO

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
JACK MUIR	6199 WADSWORTH ARVADA, COLORADO	MANAGING PARTNER
HOWARD E. VICKERY, SR.	1035 8th STREET BOULDER, COLORADO	PARTNER
HARRISON S. COBB	401 PINE, BOULDER, COLORADO	PARTNER
H. STANLEY DEMPSEY	1805 MARINE, BOULDER, COLORADO	MANAGING PARTNER

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: GOLD

ESTIMATED COST OF PROJECT: $ 21,771.06

PROPERTY NAME	LOCATION COUNTY	STATE
RED SIGNE MINE	BOULDER COUNTY	COLORADO

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior, Washington 25, D. C., or with the nearest OME Field Office.*

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief, and that he would not ordinarily undertake the proposed exploration under current conditions and circumstances at his sole expense.

4-16-64
DATED

Jack B. Muir
BY *(Signature)*

TITLE

A wilfully false statement or certification to any Department or Agency of the United States Government is a criminal offense. U. S. Code, Title 18, Sec. 1001.

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include true copies of correspondence which show: (1) date of loan request, (2) amount and terms requested, (3) proposed use of loan funds, and (4) the replies from credit sources. If the loan was offered under terms which you consider unreasonable, state why you consider them so.

(b) List names and addresses of affiliated, parent, or controlling companies or organizations and state extent and nature of their interest.

(c) State how you propose to furnish your share of the cost of the exploration work.

2. Applicant's Rights in Land:

(a) State your interest in the land and mineral rights, whether owner, lessee, purchaser under contract, or other. If you are not the owner, submit one true copy of the lease, contract, or other document (with address of owner) under which you control the property. Describe all liens, mortgages, or other encumbrances on the land and state book and page number and official place where recorded.

(b) State the legal description (section, township, and range; metes and bounds; patent number of claims) of the land upon which you wish to explore and all adjacent land which you own or control. Describe any part of the land or workings which should not be subject to Government royalty and liens. If the land consists of unpatented claims, state book and page number for each recorded location notice, including amended locations, and official place where recorded. State all the names by which you know the property.

(c) For all land or mineral rights encumbered or not owned, submit five copies of Lien and Subordination Agreements on MME Form 52. If the agreements cannot be obtained, state reasons and provide copies of letters of refusal.

3. Physical Description:

(a) Describe in detail and illustrate with maps or sketches all mining or exploration operations which you know have been or are being conducted upon the land. Include existing mine workings and all production facilities.

(b) State your interest, if any, in operations described in (a).

(c) State, if you know, the past and current production, supporting your statement with copies of settlement sheets, mine records, or published data if available.

(d) Describe known ore reserves, giving quantities and grades and sampling methods used. Support your statement with copies of assay certificates and assay maps if available.

(e) Describe by narrative and maps or sketches the geologic features of the property, including ore minerals, geologic formations if known, and type of deposit (vein, bedded, etc.).

(f) State your reasons for expecting to find ore, and if you have sampled the area you propose to explore, show where the samples were taken, describe sampling methods used, and provide copies of assay certificates.

(g) Send with your application at least *two* copies of all geologic or engineering reports, assay maps, or technologic information which you have, indicating whether you require their return.

4. Accessibility of Property:

(a) To aid the OME representative who may examine the property, state name and address of person who will meet him; give directions for reaching the property; and describe accessibility of property and of any mine workings.

(b) Name the shipping and supply points and state the distances to the property.

5. Exploration Work:

(a) Describe fully the proposed exploration work giving individual footages and sizes of openings *for each item of work.* Use narrative, maps, plans, and sections as necessary. Show location of the proposed work as related to geologic features such as veins, ore-bearing beds, contacts of rock formations, etc. Show also the relation of the proposed work to any existing mine workings and to *land boundaries* or to the closest identifiable corner.

(b) If an access road must be built, show the proposed location on the property map and state the length, type and construction methods proposed.

(c) If an OME contract is executed, state how soon thereafter work would be started and finished. State your anticipated average daily or monthly rate of progress for each type of work.

6. Experience:

State your operating experience and background to conduct this exploration work and also that of the person who will supervise the work.

7. Estimate of Costs:

Furnish detailed estimates of the necessary costs *for each item of the work proposed in 5(a)* under the headings listed below with a total for each heading and the estimated total cost of the work. Costs for any work to be performed by an independent contractor should be listed separately under category (a) below. Costs for any work that is not to be performed by an independent contractor should be listed under categories (b) through (g).

(a) Independent contracts. State the total cost of any proposed independent contract for all or any part of the work, and the number of units and the unit cost for each type of work, such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, or per cubic yard of material moved. Cost estimates should be supported by bids from three contractors if possible. (*Note*—If none of the work is to be contracted, write "none" after this item.)

(b) Personal services. The cost of supervision, engineering and geological services, outside consultants, and labor should be itemized by numbers and classes of employees; rates of wages, salaries or fees; and periods of employment. State whether these services are available.

(c) Operating materials and supplies. List items of material and supplies giving quantity and cost of each. Include under this heading power, water, and fuel, and units of equipment and tools costing less than $50 each.

(d) Operating equipment. List items of equipment and tools costing $50 or more per unit. Give specifications and indicate how each item is to be acquired—i.e., rented, purchased or provided by the applicant. If rented or purchased, state the estimated rental or purchase price. If furnished by the applicant, state condition and present fair market value.

(e) Initial rehabilitation and repairs. Describe the type and the cost of *initial* rehabilitation or repair of existing buildings, fixtures, installations (exclusive of mine workings), and movable operating equipment now owned by the applicant which will be used in the exploration work.

(f) New buildings, fixtures, installations. Describe each building, fixed improvement, and installation to be purchased, constructed, or installed for the exploration work, stating specifications and cost including labor, materials, and supervision.

(g) Miscellaneous. Describe the type and estimate the cost of repairs and maintenance of the operating equipment listed in 7(d). Do not repeat initial repairs listed in 7(e). Show also the costs of analytical work, accounting, workmen's compensation and employees' liability insurance, payroll taxes, and other required costs that do not fall within the previous categories. [*Note*—The Government will not contribute to costs incurred before the date of the contract, or to costs of or incident to: (1) acquiring, using, or possessing land and any existing improvements, facilities, buildings, installations, and appurtenances, or the depreciation and depletion thereof; (2) general overhead, corporate management, interest and taxes (other than payroll and sales taxes); (3) insurance (other than employees' liability insurance); and (4) damages to persons or property (other than authorized repair to or replacement of equipment or other property used in the work).]

INT.-DUP. SEC., WASH., D.C.11879

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 1(a)

Mr. Jack Muir, a managing partner of the Red Signe Lease made application to the First National Bank of Arvada, Colorado and to the Bank of Denver for a loan on the Red Signe Mine. The amount requested was $20,000.00. It was requested for the purpose of carrying on an exploration project at the Red Signe Mine. Replies rejecting the loan application were received by Mr. Muir. Copies of these replies are marked "Item 1(a)"and are attached hereto.

Item 1 (b)

Not applicable.

Item 1(c)

Applicant proposes to furnish it's share of the cost of the exploration by providing personal services and machinery. Applicant can provide supervisory, engineering, geological, and labor services. Applicant will also supply machinery required for the project.

OMB LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 2(b)

Description of Red Signe, Red Signe No. 2, and Anglo Saxon Lodes.

Red Signe Lode

Lot No. 12538, embracing a portion of sections thirty-one and thirty-two in township one north of range seventy-one west, Sixth Principal Meridian, in the Sugar Loaf Mining District, in the County of Boulder and State of Colorado, in the District of lands subject to sale at Denver, and bounded, described and platted as follows, with magnetic variation thirteen degrees east.

Beginning at Corner No. 1, a granite stone 30 x 10 x 5 inches, chiseled 1-12538, from which the southwest corner of section thirty-two in township one north of range seventy-one west Sixth Principal Meridian bears South one degree and forty-nine minutes east one thousand and ninety-two and three tenths feet distant, corner No. 2 of survey No. 12357 the Anglo Saxon lode claim, bears south sixty-four degrees and forty-seven minutes east sixty-nine and two-tenths feet distant, and a pine tree eight inches in diameter blazed and marked B T 1-12538 bears south fifty-eight degrees and thirty minutes west fifty-five feet distant.

Thence, first course, north ten degrees and thirty-four minutes east seventy-five feet to a point from which the face of discovery adit bears south seventy-nine degrees and twenty six minutes east two hundred and seventy-three feet distant; one hundred and fifty feet to Corner No.2,

Thence, second course, south seventy-nine degrees and twenty-six minutes east one thousand four hundred and four tenths feet to corner No. 3,

Thence, third course, south ten degrees and thirty-four minutes west one hundred and fifty feet to corner No. 4,

Thence, fourth course, north seventy-nine degrees and twenty-six minutes west one thousand four hundred and four tenths feet to Corner No. 1, the place of beginning; said lot no. 12538 extending one thousand four hundred and four tenths feet in length along said Red Signe vein or lode, and containing four acres and eight hundred and twenty-two thousandths of an acre of land, more or less.

Red Signe No. 2 Lode

Survey No. 19746, embracing a portion of Sections thirty-one and thirty-two in Township one north of Range seventy-one west of the Sixth Principal Meridian, in the Magnolia Mining District, Boulder County, Colorado, and bounded, described, and platted as follows: Beginning at corner No. 1, a gneiss stone 12 x 8 x 2 inches above ground, marked M.S. No. 2-1-19746, 1-12538 and M. C. 1-17721, identical with corner No. 1 of Survey No. 12538, the Red Signe lode claim and witness corner to corner No. 1 of Survey No. 17721, the Carnival lode claim; from which the southwest corner of Section thirty-two in Township one north of Range seventy-one west of the Sixth Principal Meridian bears south one degree twenty-five minutes thirty seconds east one thousand ninety-one and eight-tenths feet distant;

Item 2(b) (cont.)

Thence, first course, north thirty-four degrees twenty-one minutes west one hundred one and seventy-two-hundrdths feet intersect line 4-1 of Survey No. 13168, the Dove lode claim, at south fifty-two degrees thirty-eight minutes west eighty and ninety-five-hundredths feetfrom corner No. 4; one hundred sixty-six and forty-five-hundredths feet to a point from which discovery cut bears north eighty-one degrees twenty one minutes east three hundred forty-two and three-tenths feet distant; two hundred fifty-one and ninety-two-hundredths feet intersect line 2-3 of said Survey No. 13168, also line 1-2 of Survey No. 19212, the Victor mill site claim, at south fifty-two degrees thirty-eight minutes west eighty and sixty-five-hundredths feet from corners Nos. 3 and 2, respectively; two hundred seventy-six and forty-three-hundredths feet intersect line 1-2, the east end line, of Survey No. 19723 A., the Ferberite lode claim; three hundred thirty-two and nine-tenths feet to corner No. 2, a granite stone 24 x 8 x 6 inches, marked R. S. No. 2-2-19746;

Thence, second course, north eighty-one degrees twenty-one minutes east twenty-seven and fifty-nine hundredths feet intersect said line 1-2 of Survey No. 19723 A.; one hundred three and fifty-three-hundredths feet intersect line 2-3 of said Survey No. 19212 at north twelve degrees thirty-one minutes west thirty-four and three-tenths feet from corner No. 2; four hundred thirty-six and one-tenth feet to corner No. 3, a granite stone 25 x 8 x 6 inches, marked R. S. No 2-3-19746, with mound of earth;

Thence, third course, south eighty-two degrees fifteen minutes east one thousand forty-three and seventy-eight-hundredths feet to corner No. 4, a cross X at corner point and R. S. No. 2-4-19746 marked on a bedded rock 15 x 12 x 8 inches above ground;

Thence, fourth course, south thirty-four degrees twenty-one minutes east two hundred thirty-one and thirty-eight-hundredths feet intersect line 3-4 of Survey No. 18669, the Bessie lode claim, at north thirty-one degrees eighteen minutes east seventy-one and twenty-five-hundredths feet from corner No. 4; four hundred four and nineteen-hundredths feet intersect line 4-1 of Said Survey No. 18669 at South fifty-eight degrees forty-two minutes east one hundred fifty-seven and forty-four-hundredths feet from corner No.4; four hundred four and three-tenths feet to corner No. 5, a cross X at corner point and R. S. No. 2-5-19746 marked on a rock in place;

Thence, fifth course, north eighty-two degrees fifteen minutes west one hundred four and thirty-six-hundredths feet intersect line 3-4 of said Survey No. 12538 at south ten degrees thirty-four minutes west ten and eighty-five hudredths feet from corner No. 3; and from corner No. 3 corner No. 2 bears north seventy-nine degrees twenty-six minutes west one thousand four hundred anf four-tenths feet distant; anf from corner No. 2 corner No. 1 bears south ten degrees thirty-four minutes west one hundred fifty feet distant; one hundred fifty-four and two-tenths feet intersect line 4-5 of Survey No. 12357, the Anglo Saxon lode claim at south twenty-six minutes east thirty-four and eleven-hundredths feet from corner No. 4; two hundred sixty-two and forty-five-hundredths feet intersect line 3-4 of said Survey No. 12357 at south seventy-nine degrees forty minutes west one hundred eight and seventy-six-hundredths feet from corner No. 4; one thousand two hundred seventy-one and sixty-two-hundredths feet to corner No. 6, a granite stone 27 x 8 x 6 inches, marked R. S. No. 2-6-19746, with mound of earth;

Thence, sixth course, south eighty-one degrees twenty-one minutes west two hundred forty-eight and five-tenths feet to corner No. 1, the place of beginning; expressly excepting and excluding

Item 2(b) (cont.)

from these presents all that portion of the ground, hereinbefore described, embraced in said mining claims, or Surveys Nos. 12357, 12538, 13168, 18669, 19212, and 19723 A., and also all that portion of the Red Signe No. 2 vein or lode, and of all veins, lodes, and ledges, throughout their entire depth, the tops or apexes of which lie inside of such excluded ground; Survey No. 19746 extending one thousand five hundred feet in length along said Red Signe No. 2 vein or lode; the premises, herein granted, containing eight and fourteen-hundredths acres.

Anglo Saxon Lode

Lot No. 12357 embracing a portion of section thirty-two, in township one north seventy-one west, Sixth Principal Meridian in the Sugar Leaf Mining District, in the County of Boulder and State of Colorado, in the District of Lands subject to sale at Denver and bounded, described and platted as follows, with magnetic variation as hereinafter stated,

Beginning at corner No. 1, a post four inches square marked 1/12357, in mound of stones, from which the southwest corner of section thirty-two, in township one north of range seventy-one west, Sixth Principal meridian bears south one degree and forty-six minutes west nine hundred and twelve and sixty-eight hundredths feet distant, and a pine four inches in diameter blazed and marked B.T.1/12357 bears north eighty-eight degrees west twenty and three tenths feet distant.

Thence, first course, magnetic variation thirteen degrees and forty-five minutes east, north one hundred and fifty feet to corner No. 2.

Thence, second course, magnetic variation thirteen degrees and forty-five minutes east, south eighty-two degrees east three hundred and ninety and eighty-two hundredths feet intersect line 4-1 of survey No. 12538, the Red Signe Lode claim; eight hundred and sixty-eight and five tenths feet to corner No. 3.

Thence, third course, magnetic variation thirteen degrees and fifty minutes east, north eighty degrees east three hundred and sixty-six and seven hundredths feet intersect line 2-3 of said survey No. 12538; four hundred and twenty-nine feet to corner No. 4,

Thence, fourth course, magnetic variation thirteen degrees and fifty minutes east, south twenty-two and forty-nine hundredths feet intersect line 2-3 of said survey No. 12538; seventy-five feet to a point from which discovery shaft bears south eighty degrees west three hundred and ninety-seven and five tenths feet distant; one hundred and fifty feet to corner No. 5.

Thence, fifth course, magnetic variation thirteen degrees and fifty minutes east, south eighty degrees west seventy and fifteen hundredths feet intersect line 4-1 of said survey No. 12538; four hundred and twenty-nine feet to corner Nol 6.

Thence, sixth course, magnetic variation thirteen degrees and thirty five minutes east, north eighty-two degrees west eight hundred and sixty-eight and five tenths feet to corner No. 1, the place of beginning.

EXPRESSLY EXCEPTING AND EXCLUDING from these presents all that portion of the ground hereinbefore described embraded in said mining claim or survey No. 12538 and also all that portion of said Anglo Saxon vein or lode and of all veins, lodes and ledges throughout their entire depths, the tops or ppexes of which lie inside of such excluded ground; said lot No. 12357 extending one thousand two hundred and ninety-seven and five tenths feet in length along said Anglo Saxon vein or lode, the ~~ground~~ granted premises in said lot containing three acres and three hundred and seventy-eight thousandths of an acre of land more or less.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 2(c)

Five copies of Lien and Subordination Agreement on Form "MME Form 52", signed by the owners of the Red Signe Mine, are included with this application and are marked "Item 2(c)."

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 3 (a)

Map "A" represents applicants primary source of knowledge concerning mining and exploration operations which have been conducted upon the Red Signe property. Applicants second source of such knowledge is the recollection of Howard Vickery concerning operations carried on by him upon the Red Signe during the early 1920's.

Map "A" contains a plan map of the workings and a sectional view of the same. The portion of the mine lying west of the green line designated T-T' was worked primarily for tungsten. These tungsten operations were carried out on 4 working levels during World War II. According to George Teal, owner of the mine, some gold was recovered when this tungsten ore was milled by gravity methods. Applicant's interest in the Red Signe involves that part of the mine lying east of the green line marked T-T'. It is in this part of the mine that gold values rather than tungsten exists.

Map "A" indicates the extent of the surface and underground workings in the gold section of the mine. Note that certain changes have been made on the plan and section to make them conform with new work or to indicate that certain workings were proposed at the time the map was made but have not been completed.

The following is the narrative of gold operations conducted on the Red Signe in the past:

> In or about 1920, William Niles found high-grade gold float on the side of Boulder Canyon on ground which became the Red Signe property. Following this float, Niles discovered the outcrop of the Red Signe vein. He sank a small shaft at this point and shipped gold ore from this shaft as well as from trenches on the vein. Records kept by Howard Vickery show production of over $15,000 in gold and silver from this shaft during the period April 8 to October 11, 1922. This is at the $35 per ounce price for gold. This shaft was reported to have produced a total of about $45,000. The shaft is designated "Niles Shaft" on Map "A" and is colored yellow.

Quote to

The Niles operation terminated late in 1922. It is said that it ended because the shaft had become tooo deep for the hand methods being used. After tungsten had been discovered on the Red Signe, another mine operator drove a drift, along the vein in search of tungsten. This drift followed along the vein below Nile's operations, and, in fact, broke into the lowest parts of these workings. Thorough prospecting was done for tungsten, including a certain amount of underhanding on the vein below the drift. As no tungsten was evident, all material was put in the dump. This drift is shown on Map "A" and is colored red. The underhand is colored yellow.

Sometime after termination of the tungsten exploration Howard Vickery sampled the dump, found surprisingly good gold values, and shipped the dump material. This dump ore averaged over three ounces of gold per ton. He realized several thousand dollars from this sale. During this time Vickery learned that the ore had come from the drift and underhand below the Niles workings. Vickery was, however, prevented from reopening this underhand because the area above had caved and covered it. It remains so covered today.

Vickery next prospected the adit level, indicated by green on Map"A", at points below the Niles working and the underhand. The adit level had been opened for tungsten production and ended near a point just under the underhand. This prospecting led him to discover a split from the main vein which seemed to be in the right location to be a continuation of the structure above. This split is designated as "A" on Map "B" (Geology Map).

On the strength of Vickery's story the applicant opened up this split by drifting twenty feet on the left fork of the split. When the values failed to improve in this distance the applicant determined that a complete mapping of the vein system should be undertaken.

The mapping done on the adit level indicated that a junction of two veins at the eastern most point of the adit level, designated "B" on Map "B", is actually the downard extension of the high-grade area mined in the underhand and on the surface projection of the junction up the dip of the veins indicates that this is the same structure. The dashed line J-J' on the plan and the section, Map "A", indicates the trace of this junction as it would appear between the two levels.

here

Production facilities include minimum mining equipment; ore car, track, air pressure line, 160 cfm air compressor, jackhammer mounted on airleg, one stoper, steel and bits, mining tools, and a small ore bin near the portal. Two small buildings on the property could serve as shop and compressor house if repaired.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 3 (b)

Applicant completed twenty feet of drifting along the left fork of the vein at point "A" on Map "B".

All other operations were completed before the applicant became interested in the property.

Item 3 (c)

Copies of the only gold production records available to applicant are attached to this application.

Item 3 (d)

No gold ore reserves are known to exist. Tungsten reserves are reported to exist west of the green line $T-T^1$ on Map "A", below the water level.

Red Sign Lease
1805 Marine
Boulder, Colorado

OME Loan Application

Item 3(c)

The following production record was provided by Howard Vickery.*

State of ore shipped from the Red Signe Mine from April 8th to October 11th, 1922. Copied from the original settlement sheets; this ore all came from sinking a shaft 45 feet deep.

Date	Net Weight	Gold Ozs. per ton	Silver Ozs. per ton	Gross Value per tom	Total Value
1922					
Apr. 8	9880	5.84	3.55	11332	510.40
15	80	71.46	17.15	119700	49.06
18	11800	2.48	1.50	4806	221.60
May 2	13000	5.03	2.75	9770	566.80
13	13000	3.00	2.50	7410	413.40
13	170	150.35	36.00	273850	231.88
23	1740	2.72	1.00	5215	36.23
23	3600	17.32	5.60	33887	582.06
23	164	128.00	21.05	232280	189.60
31	2960	2.72	1.50	5263	62.35
31	500	38.98	10.80	71120	175.17
June 14	2400	16.53	4.80	31711	367.93
14	20100	2.94	1.30	5662	463.50
14	4460	1.88	1.20	3638	60.43
20	1000	3.27	3.20	6140	25.85
20	6900	4.68	1.60	8995	274.10
20	19600	0.88	0.45	1672	95.25
24	13600	3.84	1.60	7400	431.80
30	19900	3.07	1.30	5909	483.47
July 8	3640	1.98	1.10	3819	51.90
8	11260	2.53	1.05	4859	214.44
14	86	19.35	6.80	35400	14.77
15	15760	2.10	0.90	3990	236.40
20	3360	3.92	1.30	7524	106.82
29	9900	4.36	1.80	8369	362.29
Aug 12	8200	8.29	2.55	15943	610.61
24	7960	6.28	1.95	12073	438.71
30	8880	5.56	1.90	10696	428.28
Sept 8	7760	3.15	0.90	5985	191.47
15	18500	1.64	0.60	3116	212.10
15	116	48.35	13.15	88200	50.54
19	5700	1.44	0.80	2736	55.17
23	28000	1.36	0.60	2584	216.00
25	48118	0.44	0.00	880	115.48
Oct 7	3520	1.50	0.70	2848	36.04
11	31360	0.95	0.85	1805	204.62
				TOTAL	$8786.52

These values are at the old price for gold of $20.00 per ounce. At the present price this total would be $15,376.41.

$$\$8786.52 \times \frac{35}{20} = \$15,376.41$$

* NOTE: This record covers only one season of the Niles operation. Total gold production from the Red Signe is estimated to be $45,000. The mine has also produced tungsten.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 3 (e)

The Red Signe Mine contains a number of steeply dipping quartz veins in a gneissic quartz monzonite, locally called Boulder Creek granite. Pegmatite and aplite dikes frequently occur throughout this granite.

The Red Signe vein is known to outcrop over a length of more than 1,600 feet. It strikes approximately due east with variations throughout its length, and dips 40 to 70 degrees north. It varies from a few inches to 6 feet in width. Wall rock has been moderately altered, the Boulder Creek granite being argillized and chloritized. Map "B" shows a portion of the Red Signe vein on the adit level. In the area shown on Map "B" this vein has changed in strike and several smaller veins have apparently split off from it, continuing eastward along the same course as the main vein followed further west. These smaller veins and the main vein itself are made up of quartz with marcasite or pyrite. The chief ore minerals are free gold and a gold telluride, probably sylvanite. Tungsten minerals have not been identified in this section of the vein. It is believed that this vein follows a reverse fault, the hanging wall having moved upward and eastward in relation to the footwall.

The Red Signe No. 2 vein is roughly parallel to and outcrops north of the Red Signe vein. It, however, dips 72 to 82 degrees to the south. It may be followed on the surface for the length of the claim. Width at the surface varies from a few inches to about three feet. Only surface trenching and pitting has been done on this vein. Since it is parallel to the Red Signe vein, and since the two veins dip toward one another it is believed that they will intersect at a depth of approximately 70 to 100 feet below the adit level.

The Cross vein strikes approximately north 55-60 degrees east and dips 87° SE. At the point where it intersects the Red Signe vein it is about six inches wide but it widens to 18 inches within 10 feet. The vein is made up of quartz, marcasite or pyrite, and sylvanite. A sample across the 18 inch width assayed 0.28 ounces of gold per ton. It is believed that the Cross vein is not merely a split off of the main Red Signe vein, but rather that it continues to the northeast. Projected northward along the strike as it now appears on the adit level the Cross vein should intersect the small veins that split off the main Red Signe vein as well as the Red Signe No. 2 vein. See Map "C" for the relations of the Cross vein, Red Signe vein and its split off veins, and the Red Signe No. 2 vein.

Ore shoots along the Red Signe vein have ranged from 40 to 240 feet along the strike.

It should be noted that the Red Signe vein is zoned horizontally. The western sections of the Red Signe vein contain tungsten mineralization, chiefly ferberite and scheelite. The eastern portion of the vein contains mostly quartz with local gold telluride values, but no ferberite.

Ore shoots in the Red Signe vein have been of high grade with values reported to run from 3-22 ounces of gold per ton with an average in the 5 ounce range. Other gold telluride ore shoots in the nearby Sugar Loaf and Gold Hill districts contained ore of similar grade. Thus, although ore bodies may be only 30 to 100 feet along the strike and a few hundred feet in their vertical dimension, and 1 to 5 feet wide, the high grade of these ore bodies makes them very attractive exploration targets.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 3 (f)

Applicant expects to find ore in the area of the proposed exploration for the following reasons:

Target "A"

The intersection of the main Red Signe vein and the Cross vein at point "B" on Maps "B" and "C" is believed to be the downward extension of the intersection which contained productive gold ore in the Niles shaft and in the underhand seen on Map "A". Refer to Item 3 (a) for discussion of early operations. Projection of this intersection up-dip places the intersection in the underhand. Sampling shows that some gold mineralization occurs at this intersection on the adit level. A sample at point "B" on Maps "B" and "C", across 18 inches, assayed 0.28 ounces of gold per ton. Since structural control has been so important in other Boulder County gold mines of similar geology, and since it apparently controlled formation of an orebody on the upper levels, it is believed that ore will be found in connection with this intersection on the adit level. Ore mineralization often occurs a few feet from an intersection so it is believed that to thoroughly explore target "A", the intersection, drifting must be carried along both the main vein andthe Cross vein for at least 20 feetf rom the intersection.

Targets "B" and "C"

If the Cross vein maintains the projected strike it will intersect two veins at Target "B" and on at Target "C". There is, of course, a chance that the Cross vein will be cut off by one of these veins. It is believed, however, that the Cross vein will cut across these veins, or that, if they do cut off the Cross vein, it will only be offset a short distance. Displacement would be small and the Cross vein would continue as far as the Red Signe No. 2 vein. These intersections present favorable structural conditions for ore deposition. The three veins that would be intersected, and the Cross vein itself are all known to contain some gold mineralization. See assay map, Map "D". Favorable structural conditions may create ore bodies of sufficient size and grade to be classed as ore.

Target "D"

The projected intersection of the Cross vein with the Red Signe No. 2 vein presents very favorable structural conditions for ore deposition. The Red Signe No. 2 vein appears on the surface as a strong vein, as wide as the Red Signe vein itself. It seems reasonable to infer that it will continue in depth to at least the same level as the Red Signe vein. An intersection between this large vein and the mineralized Cross vein is an appealing exploration target.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 3(g)

No geological or engineering reports are known to exist. Attached hereto is an assay map marked Map "D" and Item 3(g). Return is not required.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 4 (a)

1. Harrison Cobb
401 Pine St.
Boulder, Colorado

Stanley Dempsey
1805 Marine
Boulder, Colorado

Either will be available to meet the OME representative.

2. To reach the Red Signe drive west from Boulder, Colorado on Colorado Highway No. 119, approximately 8 miles, going past the small cabin area at Silver Spruce or El Vado in Boulder Canyon. The mine is on the East side of the road (right as you go up the canyon). The ore bin and dump abut the highway. A set of stairs goes up to the trestle on the portal level.

3. The adit level is open and accessible except for the area on Map "A" marked as caved at both ends. This area, around the winze, is caved at both ends. A small crosscut from the main drift provides access to the collar of the winze but the back is not in good condition in the area. All levels below the adit level are filled with water. The level 50' above the adit level is accessible by a raise from the adit level. This 50' level is caved for most of its length but the area east of the raise is accessible by crawling around caves and on top of caved stope fill. Most of the area above this level was stoped, some of it to grass roots, so one can get back to the east end of the drift but little of the the drift itself remains. This area of the 50' drift is considered to be less than completely safe with access hazardous.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 4 (b)

Shipping Points

Boulder, Colorado is the logical shipping point for the Red Signe Mine. It is 8 miles distant. Ore shipments might, however, be made directly to a custom mill located near Sugarloaf, Colorado, about 4 miles from the mine. Ore can be loaded directly into trucks from the Red Signe ore bin which is located on a paved state highway.

Supply Points

Boulder, Colorado, is a major trading center. It is 8 miles from the mine. Denver is 35 miles away.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 5 (a)

Applicant proposes to explore Targets "A" thru "D" shown on Map "C" by means of a drift on the Cross vein. This drift is to start at point B on Maps "A" and "C" and follow the Cross vein for a distance of 227 feet to the projected intersection of the Cross vein with the Red Signe No. 2 vein at Target "D". The drift would measure 5 feet by 7 feet in cross section. Maps "A" and "C" show the course of this drift.

Applicant proposes to explore the intersection that is presently exposed at point B on Maps "A" and "C" by extending the drift along the main Red Signe vein for 20 feet. This will also be 5 feet by 7 feet in cross section.

Applicant also proposes to complete 8 feet of drifting on each of the veins intersected at Targets "B", "C", and "D" in order to thoroughly explore each intersection. Total footage for this drifting (8 x 7) is 24 feet.

Applicant proposes to explore the most favorable ore body encountered by a 50 foot raise. This raise would be 4.5 feet by 7 feet in cross section.

It is anticipated that the drifting will require little timbering. The intersections at Targets B, C, and D, however may be zones of weakness. Therefore applicant proposes to include an estimate of 20 feet of timbering at each intersection for a total of 60 feet of drift timbering.

In order to prepare the Red Signe Mine for the proposed exploration work the applicant further proposes to: (1) remove caved material partially blocking the adit level near point "B" on Map "A". This consists of approximately 2400 cubic feet of muck. See Map "C" also. (2) Crib or rock bolt an area of bad ground at point shown on Map "C". (3) Rehabilitate the shop building at the portal of the adit level. (4) Rehabilitate the compressor house near the portal of the adit level.

Summary

Applicant proposes:

271 feet of 5x7 drifting
60 feet of drift timbering
50 feet of raising
Removal of 2400 cu. ft. cave-in — occupied in est.
Rehabilitation of shop and compressor house

227
20
24

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 5 (b)

Not applicable.

Item 5 (c)

If an OME contract is executed, work would be started within two weeks. It is anticipated that rehabilitation of the shop and compressor buildings, cleaning up the cave-in, timbering at point shown on Map "C", and equipment set-up time would require two to three weeks. Drifting would be accomplished at the rate of 50 to 100 feet per month with completion of all drifting estimated to be within three to six months. Raising would be advanced at the rate of 30 to 50 feet per month with completion within 1 to 2 months. Total time required for the project should be within limits of 5 to 9 months.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 6

All partners of the Red Signe Lease have had practical mining experience.

Mr. Vickery has conducted mining operations upon the Red Signe and other properties in Boulder County since about 1917.

Mr. Jack Muir, who will carry out the work to be done in this exploration project, had a varied background of mining experience. His experience includes work at the Idarado Mining Company mine at Telluride, Colorado. He worked for the Climax Molybdenum Company at Climax, Colorado forapproximately one and one-half years as a muck hand, miner, and engineering aide. He next worked at the Roberts Tunnel in Dillon, Colorado on the concrete gang and later as a concrete inspector. He worked for a year as a night operator in the Gunnison Mining Company uranium mill in Gunnison, Colorado. He is a graduate of Western State College at Gunnison.

Mr. Stanley Dempsey, who will provide geological and some supervising services, is a geologist with a degree from the University of Colorado. His experience includes lease operations in gold and uranium, open pit and underground. He worked for approximately one and one-half years as an Industrial Engineer in the Climax Mine of the Climax Molybdenum Company at Climax, Colorado. He has conducted mine examinations throughout the western United States and Central America on a consulting basis. He will complete work for an LLB degree in June, 1964 and will be able to furnish legal services to the partnership thereafter. Dempsey is President of the Boulder County Mining Association a member of the Board of Directors of the Colorado Mining Association.

Harrison S. Cobb has operated mining properties in Boulder County, Colorado since the early 1930's. He was Superintendent of the Fairfax Mine at Gold Hill, Colorado (Gold Hill Development Ltd.) from 1934 to 1937. He operated the Ingram mine from 1938 to 1942 with gold production of $200,000. He operated the Ohio in 1945, producing $50,000 in tungsten. He was a partner in Cobb and Weldon whose operations from 1951 to 1956 totaled $250,000 and repaid an R.F.C. loan. Mr. Cobb is a past president of the Boulder County and Colorado Mining Associations. He has served as a member of the Colorado Mineral Resources Board. He is presently a Director of the Colorado Mining Association. Mr. Cobb is author of "Tungsten Mines of Colorado," published by the State of Colorado, Metal Mining Fund Board in 1960.

OME LOAN APPLICATION

Red Signe Lease
1805 Marine Street
Boulder, Colorado

Item 7

Applicant has invited bids by mining contractors on the clean-up, drifting, timbering, and raising proposed herein. Copies of these bids are attached herein. The applicant proposes to do this work at the cost submitted by the low bidder. The costs are set out in Item 7(a).

Total costs of the project, as set out in Items 7(a) through (g) are summarized on a sheet attached hereto.

Item 7(a)

Clean-up 90 cu.~~ft.~~ yds @$4.25/cu.ft	$ 382.50
Drifting 271 ft @ $55.00/ft	14,905.00
Timbering 60 ft @ $8.00/ft	480.00
Raising 50 ft @ $45.00/ft	2,250.00
TOTAL	$18,017.50

Item 7(b)

Supervision and labor for the clean-up, drifting, raising, and timbering operation is included in the per foot or per cubic foot costs itemized in Item 7(a). These figures do not include, however, engineering and geological services or labor and supervision for rehabilitation work on the shop and compressor buildings.

Engineering Services. It is estimated that engineering services such as control of the course and grade of drifting and raising, design of methods, and surveying and mapping will require no more than one day per month at the mine and one office day per month. At the rate of $12.50 per hour for field time and ½ of this, or $6.25 per hour, for office time, this totals $150.00 per month. Using the median figure of 7 months for time required for the project the total cost for engineering services is estimated to be $1050.00.

7 field days x 8hrs/day x $12.50/hr = $700.00

7 office days x 8hrs/day x $6.25/hr = $350.00
TOTAL $1050.00

Mr. Harrison Cobb, a partner, is an experienced engineer and can undertake this work. He has provided these services to many miner operators on a consulting basis. See Item 6.

Geological Services. Sampling, geological mapping, and analysis are estimated to require at least one field day and two office days per month. Usual rates for such services in the Boulder area are $12.50 per hour for field work and $6.25 per hour for office work. Total cost, using 7 months as project time, of geological services, is estimated to be $1400.00.

7 field days x 8hrs/day x $12.50/hr = $700.00

14 office days x 8hrs/day x $6.25/hr = $700.00
TOTAL $1400.00

Mr. Stanley Dempsey, a partner, is a graduate geologist and is capable of providing these services. See Item 6.

Items 7(c) & (d)

These costs are included in the per foot or per cubic foot costs given in Item 7(a).

Item 7(e)

The old shop and compressor buildings require extensive repairs to make them usable. It is believed that rehabilitation will be less costly than replacement.

Supervision for Building Rehabilitation. Supervisor will work as well as supervise. It is estimated that the shop building will require 5 days, and the compressor house 4 days to rehabilitate with two men working. Total cost of supervision, at $3.25 per hour, is estimated to be $234.00.

9days x 8hrs/day x $3.25/hr = $234.00

Labor for Building Rehabilitation. One laborer will be required to help the working supervisor. Total cost of labor for 9 days, at $2.50 per hour, is estimated to be $180.00.

Materials. The shop building requires some reframing where rock from dumps above have broken in one wall. This rock must be cleaned up and a retaining wall built to protect the wall of the building. Some sheathing must be replaced as well as windows and roofing. A new door must be installed. The building must be made secure since proximity to the state highway invites vandals and thieves. It is estimated that materials will cost $250.00 for this building.

The compressor house rear wall must also be repaired where it has been damaged by rocks rolling down from above. This must be cleaned up, repaired, and a retaining wall installed. The door must be reframed to get the compressor in and a new door and new windows installed. Materials is estimated to cost $150.00.

Supervision	$234.00
Labor	180.00
Material - shop	250.00
-compressor house	150.00
TOTAL	$814.00

Item 7(f)

New fixtures to be installed are included in the per foot or per cubic foot costs estimated in Item 7(a).

Item 7(g)

Repair and maintenance costs are included in the costs estimated in Item 7(a).

Analytical work consisting of 80 assays for gold and 20 assays for gold and silver is estimated to cost $230. The drift and raise will be sampled every four feet for a total of 80 assays. The other 20 assays will be used in areas of favorable mineralization. Silver will be checked in 20 assays so that possible silver mineralization, which is commonly associated with gold tellurides, will not be overlooked.

80 assays @ $2.00/assay =	$160.00
20 assays (gold and silver) @ $350 =	70.00
	$230.00

Workmen's Compensation cost is estimated to be based on a premium rate of $4.12 per $100 of payroll. Coverage of 3 partners at the nominal payroll figure allowed of $300 per month per partner, will cost $37.08 per month, or, for 7 months, a total of $259.56.

3 partners x $37.08/month x 7 months = $259.56

The fourth partner's compensation costs are included in the Item 7(a) cost figure since he will be the working supervisor for this work.

Item 7(g) costs total $489.56.

Analytical work	$230.00
Workmen's Compensation	259.56
TOTAL	$489.56

ITEM 7 - SUMMARY OF COSTS

Cleanup	$ 382.50
Drifting	14,905.00
Timbering	480.00
Raising	2,250.00
Engineering	1,050.00
Geology	1,400.00
Building Repair	814.00
Analytical Work	230.00
Workmen's Compensation	259.56
Total	$21,771.06

21,450
21,180

ROOT & SIMPSON, Inc.
METALLURGICAL CHEMISTS AND ASSAYERS
DENVER 1, COLORADO

TEL. SHERRY 4-3228 P. O. BOX 3069

SPECIMEN ASSAY

ASSAYED FOR	MARKS
Jack Muir	Rock

GOLD OZS. PER TON	SILVER OZS. PER TON	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	IRON PER CENT	MANG PER CENT	PER CENT	PER CENT
0.36	Wednesday's sample							
0.13	Out of the back							
0.16	Todays sample							

DATE 2/22/64 CHARGES $ 7.50
Paid

Root & Simpson, Inc

ROOT & SIMPSON, Inc.
METALLURGICAL CHEMISTS AND ASSAYERS
DENVER 1, COLORADO

TEL. 244-3223 P. O. BOX 3069

SPECIMEN ASSAY

ASSAYED FOR	MARKS
Jack Muir	Rock

GOLD OZS. PER TON	SILVER OZS. PER TON	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	IRON PER CENT	MANG PER CENT	PER CENT	PER CENT
0.04	Back							
0.1	Face							
0.02	Flat							

DATE 3/3/64 CHARGES $ 7.50
Paid

Root & Simpson, Inc

Gold at $35 ____ per ounce
Silver at ____ per ounce
Lead at ____ per pound
Copper at ____ per lb.
Zinc at ____ per lb.

Charges
Credit $ 8.00

By

The Henry E. Wood Assaying Co.

THE HENRY E. WOOD ASSAYING COMPANY
Certificate of Assay
DENVER, COLORADO, 80202
TELEPHONE 534-4816

We hereby certify that the sample marked for ____ Feb. 5, 1964 10 AM

Red Sign Lease

	GOLD OZS.	SILVER OZS.	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	IRON PER CENT	INSOL. PER CENT	SULPHUR PER CENT
Main Vein The Feeder Th Dump	0.22 0.08 0.20							

HARRISON S. COBB
401 PINE STREET
BOULDER, COLORADO

June 8, 1964

Items in regard to history of RED SIGNE mine, as noted by George H. Teal:

George W. Teal owned 4/6 of the Red Signe from 1898 to 1912. No record of production from 1898 to 1912; however, main tunnel was driven before this period.

Leveno and Co., New York City, purchased the property, then sold it to Tungsten Metals Corp., which built the mill on the Star Millsite a few hundred yards up Boulder Creek from the mine. This company operatied the Red Signe, the Ferberite lode across the creek, and the Dorothy and Katie mines in Millionaire Gulch. This company recovered free gold from the tungsten concentration process.

George W. Teal and R. C. Barr purchased the property about 1919 or 1920. Barr then shipped about 150 tons of dump material to the Golden Cycle mill, which ran from .9 oz Au, to 11. ounces.

Subsequent to this, Wm. Niles discovered the surface float previously mentioned, traced it to the outcrop, and mined it until he broke into the previous workings. Niles' shipments are listed between April 8, 1922, and October 11, 1922.

From 1922 to 1940, there were lessees on the property at various times. Records of these were destroyed by water damage due to a broken basement water pipe.

In 1940, 12,412# of crude ore assaying 21.3% WO_3 was sold by W. R. Weeks.

Frank Cleveland operated from 1943, under an RFC loan, which was paid off.

The second loan from RFC was in 1947. George H. Teal operated in 1947 and 1948. See enclosed list of sales.

A small amount of work was done after 1950 by lessees, but no production is recorded.

Red Signe Mine George H. Teal RFC Account 1947 & 1948

Ore & Concentrates Purchased By David Taylor Co. 17 E 42nd St New York C

Lot No.	Crude Lbs.	Gross Wt. Concentrates	% WO_3	Lbs. WO_3	Units WO_3	Price Per Unit	Total
1	Not available						
2	142,000 - -	8527#	40.90%	3480.6	174.03	$16.50	$2871.50
2	66,000	2585#	38.75%	1001.9	50.8	18.00	901.44
3	86,000	2208#	38.05	836.7	40.8	20.78	848.51
4 A	[redacted]#	855#	32.30	274.9	13.74	19.52	268.20
B	6420#	5714#	7.65	437.12	21.85	5.10	111.44
C	5665#	5609#	7.15	401.04	20.05	9.00	153.38
5 A	5675	4994	5.70	284.65	14.23	8.00	113.84
5 B	5665	5653	6.95%	392.88	19.64	8.00	157.12
6		1852	42.60%	788.95	39.46	$22.20	876.01
9/12/48 5		1095	41.30	452.23	22.61	21.36	482.95
7		1654	42.78	707.6	35.38	22.20	785.43
7 A		1782	11.63	207.24	10.36	9.00	93.24
1/3/48 8		1123	25.80	289.73	14.48	18.00	260.82
8 crude		1478	18.31	270.25	13.51	10.00	135.11
2/24/48 9		3430	38.20	1310.26	65.51	20.00	1310.20
9 A		4224	8.27	349.3	17.46	6.00	104.76

Norman Cobb

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

May 18, 1964

Mr. Harrison Cobb
401 Pine St.
Boulder, Colorado

Subject: Application OME-6351 (Gold)
Red Signe Lease
Red Signe, et al, Claims
Boulder County, Colorado

Dear Mr. Cobb:

This is to advise you that the field investigations concerned with the captioned application have been scheduled for May 25, 1964, and will be made by Mr. T. M. Romslo, examining engineer.

Mr. Romslo plans to arrive in Boulder about 9:00 a.m. Monday May 25, and depart shortly thereafter for the mine in the company of either you or Mr. Dempsey.

Please advise this office by return mail if this arrangement is satisfactory. If the answer is yes, designate the meeting place in Boulder.

Very truly yours,

Hugh M. Connors
Acting Field Officer, OME
Region III

cc: WO
file OME-6351
Chron
S. Dempsey

Item 7(a)

Boulder excavating company

BOULDER, COLORADO

RADIO DISPATCHED EQUIPMENT

PHONE HI 2-1748 P. O. BOX 337

Boulder Excavating Company
PO Box 337
Boulder, Colorado

Mr. H. Stanley Dempsey
Red Signe Lease
1805 Marine
Boulder, Colo.

Dear Sir:
In reference to the proposed development work on the Red Signe Mine, We are pleased to submit the following bid:

271 feet of 5'x7' drift on vein, carried on grade of one-half of one per cent, @ $57.00 per ft.	$15,447.00
Removal of 90 cubic yards of caved material, @ 4.25 per cubic yard	382.50
60 feet of drift timbering, if required, consisting of posts, caps, and lagging, @8.00	480.00
50 feet of expleratory raise, @ 45.00 per foot	2,250.00
Total	$18,559.50

Very truly yours,

Charles S. Pastore

27 90
24 30

Item 7(a)

April 15, 1964
Box 402
Nederland, Colo.

Red Signe Mine lease
c/o H. Stanley Dempsey
1805 Marine
Boulder, Colorado

Gentlemen:

I would like to bid on the development work which you contemplate for the Red Signe mine. Prices bid for the items you have outlined are:

Muck and tram 90 cubic yards of cave-in	$420.00
Drive 271 feet of drift, 5x7, ½% grade, @ $55	14905.00
Timber 60 feet of drift, if necessary, @ $8.00	480.00
Raise 50 feet, @ $47.50	2375.00
Total	$18180.00

Yours very truly,

Michael B. Smith

Item 7(a)

QUAD CONSTRUCTION INC.

TUNNELING
SHAFT SINKING

5770 McINTYRE STREET
ROUTE 1, BOX 668A
GOLDEN, COLORADO

MINING
PLANT INSTALLATION

April 15, 1964

Mr. Stanley Dempsey
1805 Marine St.
Boulder, Colorado

Dear Mr. Dempsey:

We propose to do the following work at your Red Sign Mine above Boulder. We shall furnish all labor, supervision, equipment and materials and do the work to your satisfaction for the following prices:

1. Clean up 25 ft. long cave in present adit $450.00
2. Drive 190 ft. of 5' x 7' drift @ $85 per ft. $16,150.00
3. Furnish & install any timber sets required in drift at $400 per 1000 bd. ft.
4. Drive 50 ft. of 4' x 7' two compartment raise at $65 per ft. $3,250.00

Thank you for asking us to bid on this work. We hope we may be of service to you.

Very truly yours,

Fred S. Haley

Fred S. Haley

FSH:K

Item 3(g)

ESTABLISHED 1878

GAYLE F. FARNHAM

Certificate of Assay

THE HENRY E. WOOD ASSAYING COMPANY

TELEPHONE 534-4816 DENVER, COLORADO, 80204 3441 W. COLFAX AVE.

Jan 10, 1964

We hereby certify that the samples assayed for Jack Muir gave the following results per ton of 2000 lbs.

MARKED	GOLD OZS.	SILVER OZS.	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	IRON PER CENT	INSOL. PER CENT	SULPHUR PER CENT	PER CENT	VALUE
Red Sign	0.32	0.10								

Gold at $_____ per ounce
Silver at _____ per ounce
Lead at _____ per lb.
Copper at _____ per lb.
Zinc at _____ per lb.

Charges $ 3.50

The Henry E. Wood Assaying Co.

By [illegible]

ESTABLISHED 1878

GAYLE F. FARNHAM

Certificate of Assay

THE HENRY E. WOOD ASSAYING COMPANY

TELEPHONE 534-4816 DENVER, COLORADO, 80204 3441 W. COLFAX AVE.

Jan. 21, 1964

We hereby certify that the samples assayed for Jack Muir gave the following results per ton of 2000 lbs.

MARKED	GOLD OZS.	SILVER OZS.	WET LEAD PER CENT	COPPER PER CENT	ZINC PER CENT	IRON PER CENT	INSOL. PER CENT	SULPHUR PER CENT	PER CENT	VALUE
Red Sign	0.19									

Gold at $_____ per ounce
Silver at _____ per ounce
Lead at _____ per lb.
Copper at _____ per lb.
Zinc at _____ per lb.

Charges $ 2.00

The Henry E. Wood Assaying Co.

By [illegible]

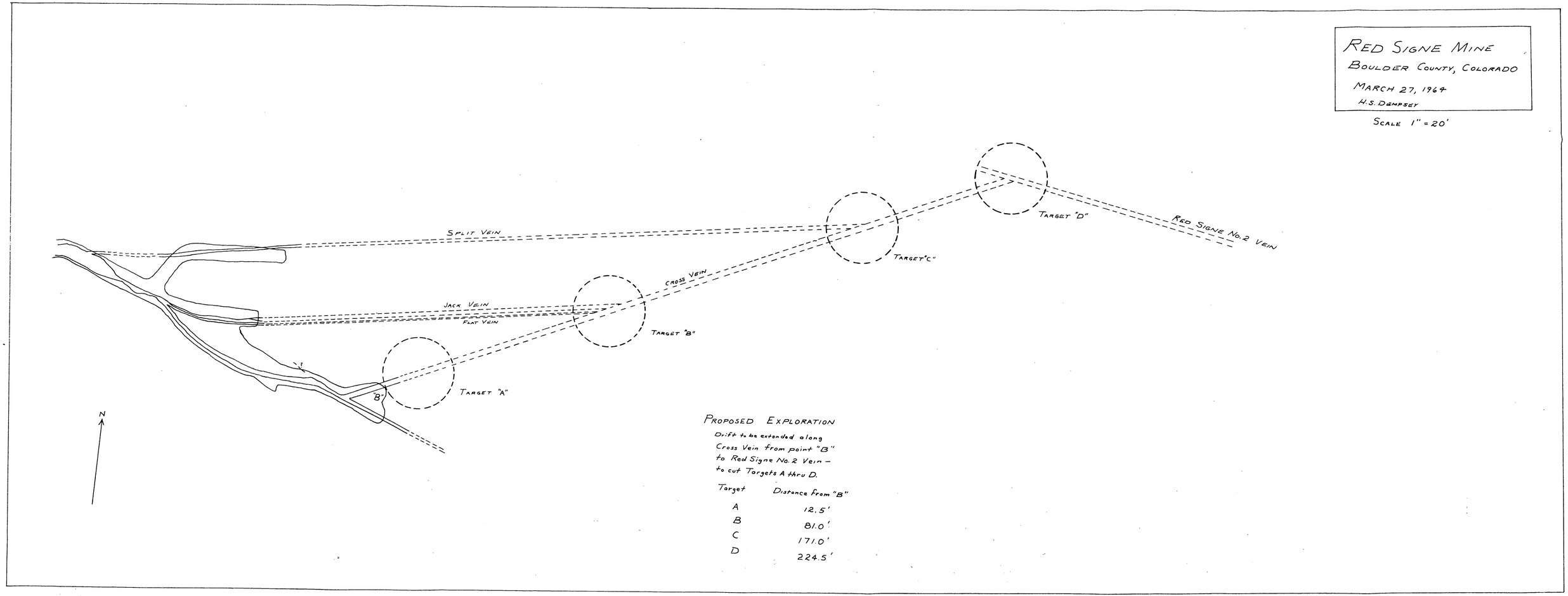


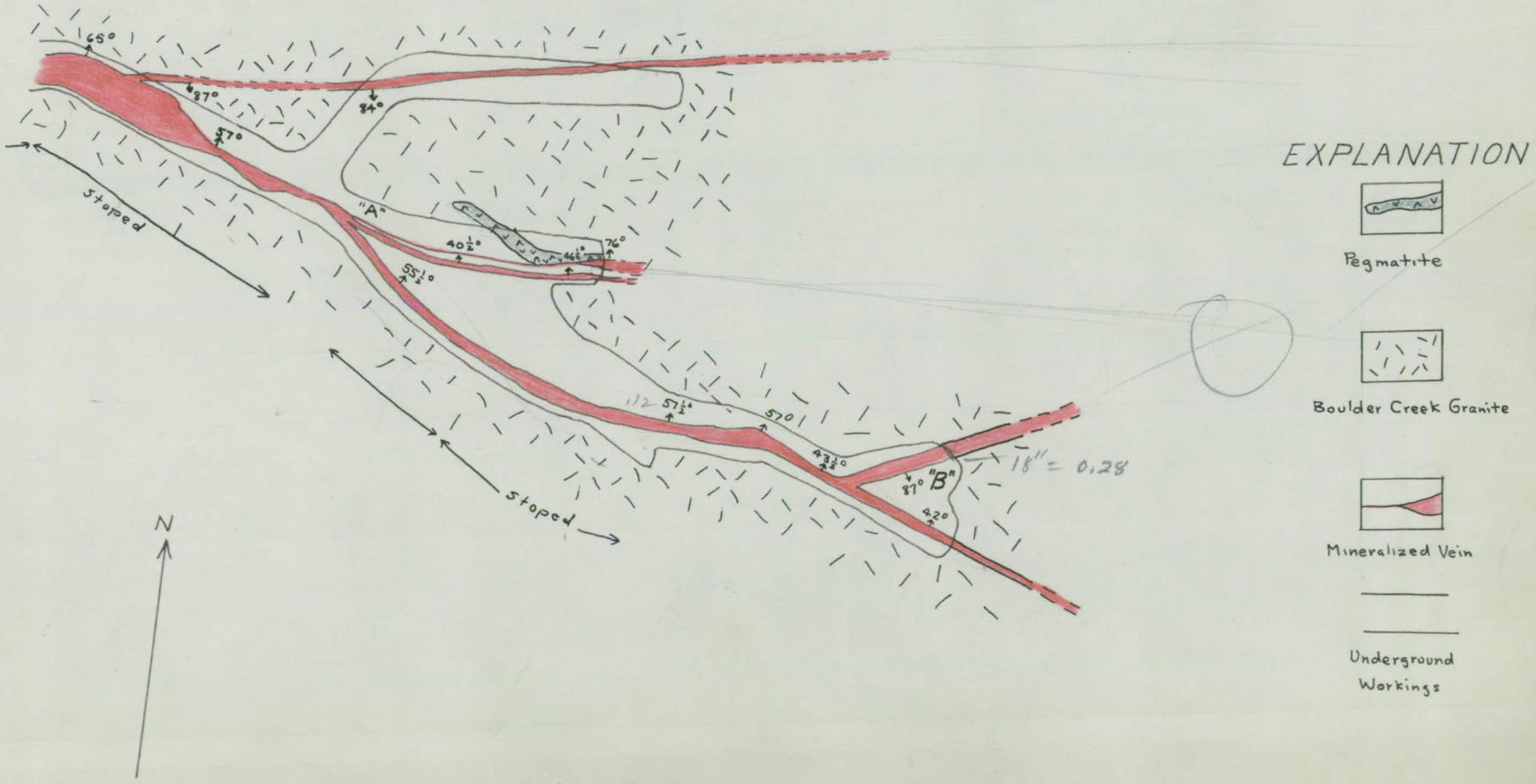
FIGURE 5.- Proposed Exploration, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colo. OME-6351 (Gold)

RED SIGNE MINE
BOULDER COUNTY, COLORADO
MARCH 27, 1964
H. S. DEMPSEY

Items 3(a), 3(b), 3(e), 3(f)

MAP "B"

GEOLOGY

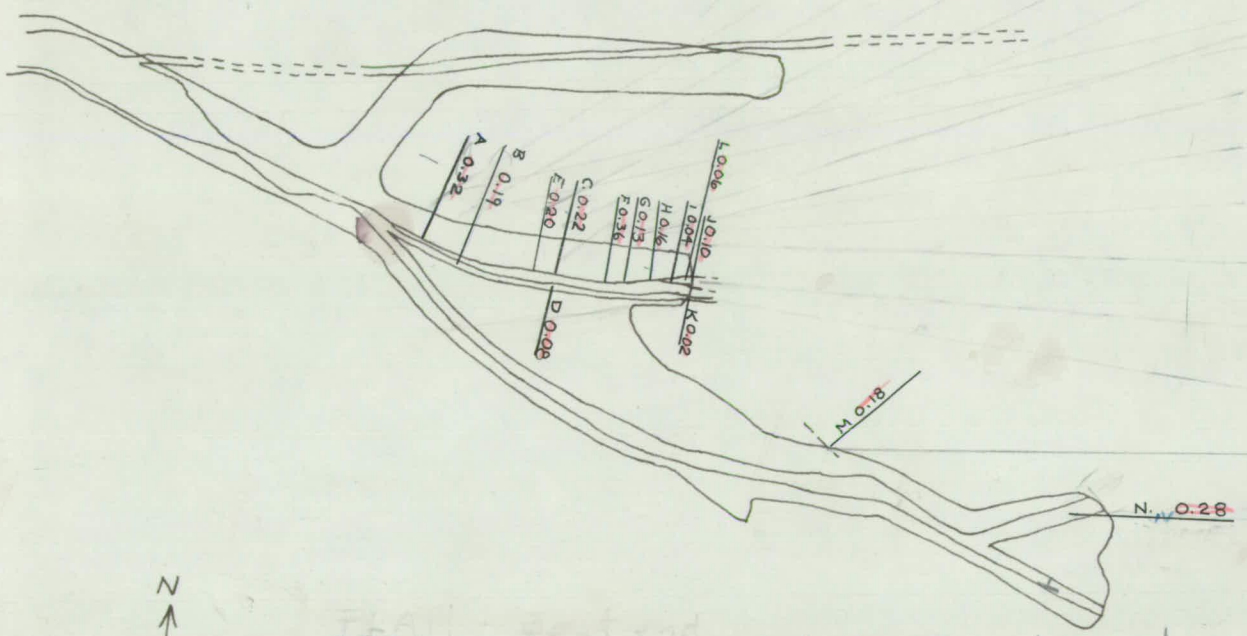


RED SIGNE MINE
BOULDER COUNTY, COLORADO
MARCH 27, 1964
H. S. DEMPSEY
Scale 1 in. to 40 ft.

Item 3(g)

Assay MAP

MAP "D"



N

AREA AT EAST END OF lower Tunnel Level

Location	~~Au (oz.)~~ Ounces/Ton gold	~~Ag (oz.)~~ Silver	~~Width~~ WIDTH INCHES
A	0.32	0.10	1½"
B	0.19		1"
C	0.22		2"
D	0.08		8"
E	0.20		1"
F	0.36		2"
G	0.13		1½"
H	0.16		2"
I	0.04		3"
J	0.10		6"
K	0.02		8"
L	0.06		4"
M	0.18		6"
N	0.28		18"

Fig. 4 Assay Map, Red Signe Lease, Red Signe, et al Claims, Boulder County, Colorado OME-6351 (Gold)

~~NOTE: Samples are all chip or channel samples cut across the vein.~~

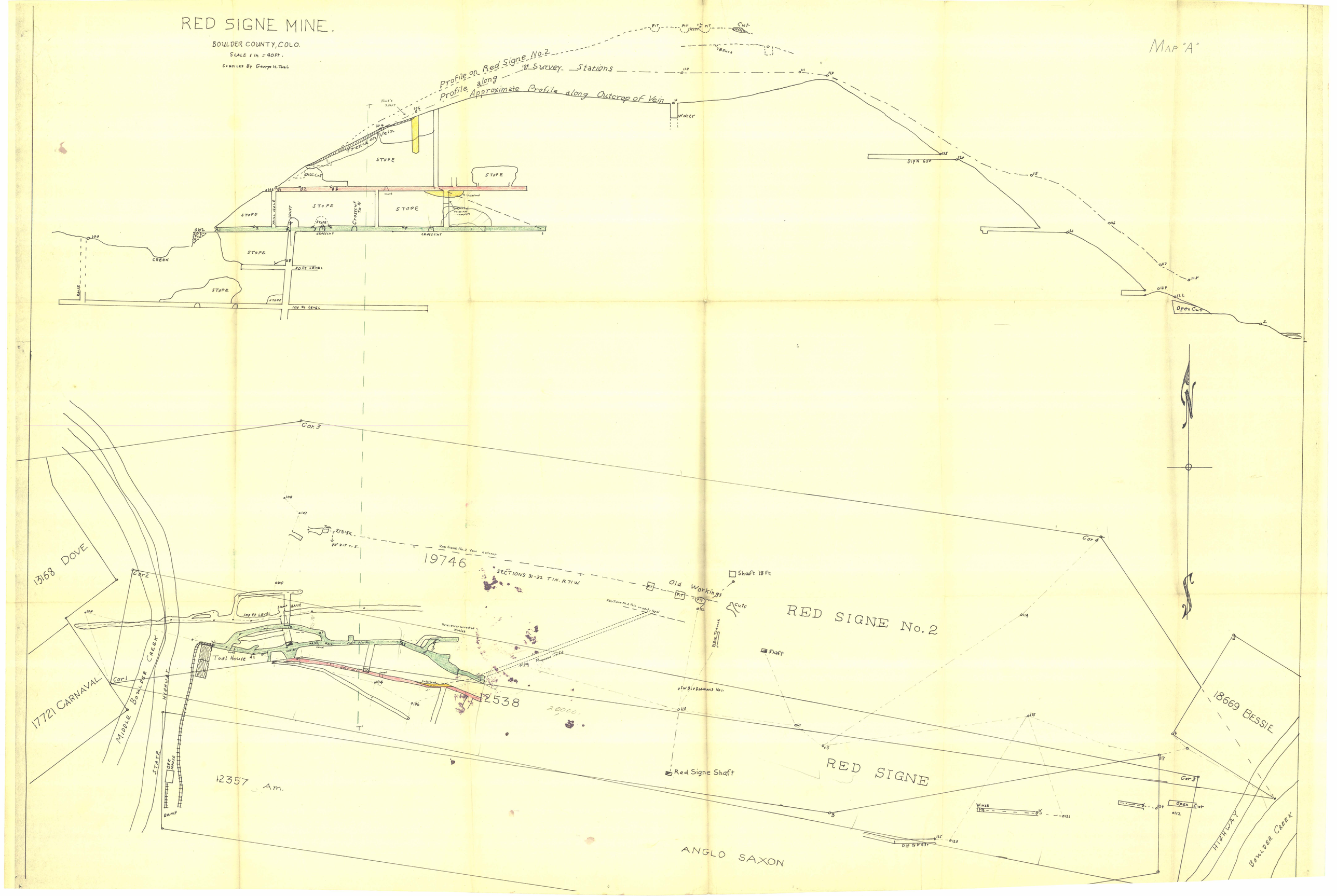
RED SIGNE MINE.

BOULDER COUNTY, COLO.

SCALE 1 In. = 40 Ft.

COMPILED BY GEORGE H. TOOL

MAP "A"



MAP "C"

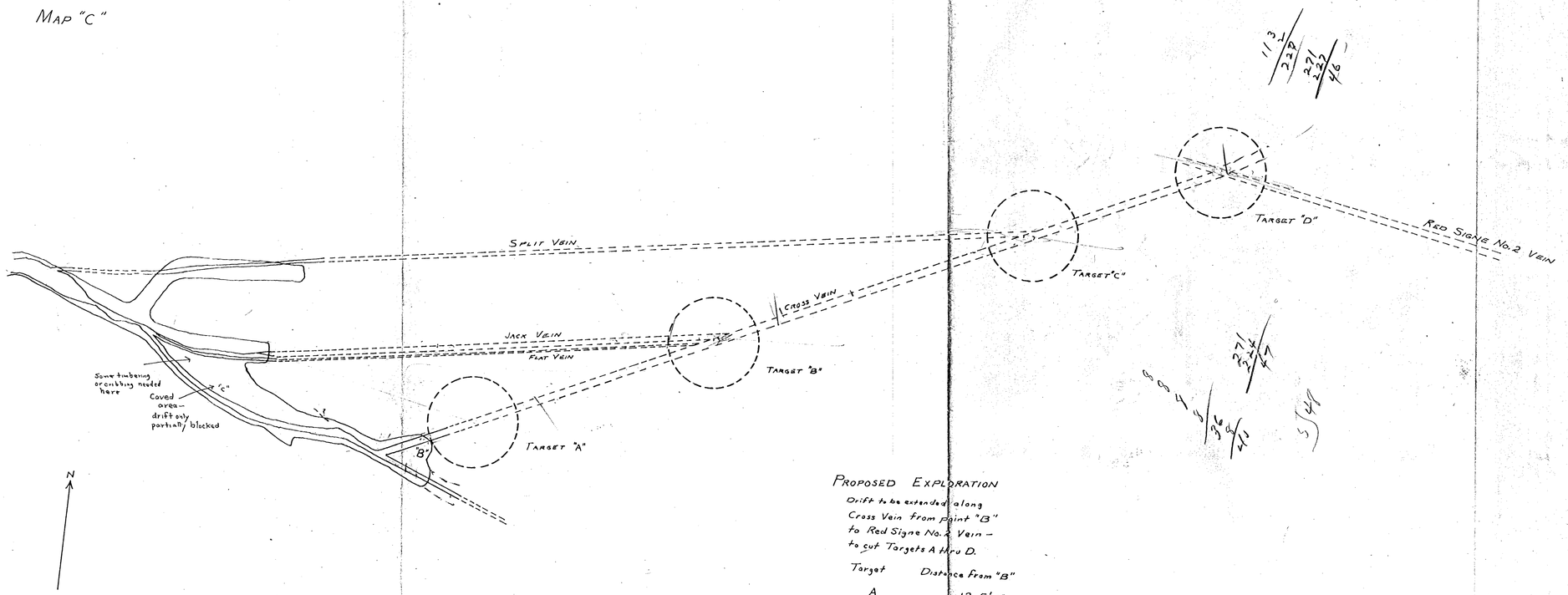
RED SIGNE MINE

BOULDER COUNTY, COLORADO

MARCH 27, 1964

H.S. DEMPSEY

scale 1" = 20'



PROPOSED EXPLORATION

Drift to be extended along Cross Vein from point "B" to Red Signe No. 2 Vein – to cut Targets A thru D.

Target	Distance from "B"
A	12.5'
B	81.0'
C	171.0'
D	224.5'