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FERN MINE

DRILLING PROJECT

By

Ernest Oberbillig
2808 Ona Street
Boise, Idaho

For

T. R. Baugh
612 Main Street
Boise, Idaho

FERN MINE
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By
Ernest Oberbillig

General:

The Fern Quicksilver Mine was the scene of a World War I promotion which was based upon the Fern's prize-winning cinnabar specimens at the San Francisco Fair in 1917. The Fern claims were first located by Mr. E. H. Van Meter in 1917 and he erected a small retort plant near the upper tunnels and produced a few flasks, perhaps twenty-seven in all.

Mr. D. C. Livingston[1] reported the first complete description of this mercury district and which was in 1918 considered quite remote from civilization; access was by the old Thunder Mountain road and this route included many steep grades. (20% Trapper Creek grade)

Later in 1926, Messrs. F.C. Schrader and Clyde P. Ross reported work in progress at the Fern Mine.[2]

In 1928, a Mr. Smith, worked the Fern property, but with his limited finances not much development work was done and to keep in provisions and supplies he produced nine flasks from dump ore from the near by Vermilion claim. This production was made in the new Fern Quicksilver Retort Plant located near the lower workings of the Fern Mine. (Bucks Red Claim)

An interesting account of early Fern work was related to the writer by his father, the late J. J. Oberbillig, who was in the district in 1918. He stated that the Fern operators commenced firing the retort plant without an asbestos real seal around the charging doors and that quicksilver was condensing upon the trees, retort building and even Mr. George Brewer's mustache and hair were

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1. Livingston, D.C., Tungsten, Cinnabar, Manganese Molybdenum and Tin Deposits of Idaho, University of Idaho School of Mines, Vol. XIV, Bulletin No. 2., Moscow, Idaho. pp. 54-65.

2. Schrader, Frank C., and Clyde P. Ross, Antimony and Quicksilver Deposits in the Yellow Pine District, Idaho, U.S.G.S. Bulletin 780-D. pp. 156-163.

gray with the condensed mercury. Evidently one of the promotors of the project, Dr. Ustick, inhaled a large quantity of mercury vapor because that evening he tumbled over dead. Proof of this hap-hazard operation is evident because even today the ground over a large area near the charging end of the old retort plant pans exceedingly well. Perhaps they lost several flasks in this manner.

Location:

The Fern Mine is located in un-surveyed ground near the head of Fern Creek about ½ mile above the point where the Thunder Mountain road crosses Fern Creek. Last summer the United Mercury Mines Company opened a road along Fern Creek to a point near the south end of the Fern group of claims. The Fern Mine is about six miles from the camp of Stibnite, Idaho. This would place the Fern Mine 86 miles from Cascade, Idaho or 80 miles from McCall, Idaho --- either town being a rail head.

The Fern Mine is about one mile south of the Hermes Quicksilver Mine.

Claims:

The Fern mining property consists of six patented quartz claims; the total area being just under 100 acres.

The map in the back of this report shows the Fern claims. A list of the names of the claims follows:

1. Fern
2. Fern No. 2
3. Fern No. 4
4. Spruce Grove
5. Bucks Bed
6. Bucks Bed No. 1

The principal geologic features of the Fern property are given on the map included in the back of this report. The most interesting feature appears to be the Porphyry dike shown on the map. A similar dike is found at the adjoining Hermes Mine and is believed by many to be the mineralizer or the localizing influence.

Injection of the dike could have cracked and broke the lime beds to allow penetration of the mineral solutions.

It is understood that a drift was driven into this dike for several hundred feet from the lower tunnel shown on the map. This tunnel was opened late last fall, but no examination could be made until natural ventilation cleared the stale air.

The mercury ore outcrops and veins on the Fern are all confined to the Northwest trending lime belt which is about 700 feet wide.

The ore on exhibit at the San Francisco Fair and from which the production to date was made came from the upper tunnel shown on the map.

Some good ore is exposed now in this tunnel. Two stringers of cinnabar ore are exposed in open cuts just East about two hundred feet from the upper tunnel.

Also, just Northwest (across the dike) a 15 foot length of rich stringer is exposed.

Silicified outcrops carry cinnabar mineralization on the Southeast half of the Bucks Bed claim. This scattered mineralization, however, does not appear concentrated enough at any one point to warrant a drill hole.

Since the area in the proximity of the dike appears to be a more favorable locus for mineralization, it is recommended that drilling be done in that area as shown on the map. This drilling is proposed to be 250 - 300 feet deep and inclination of the holes should be 45° downward.

The project should be split into two stages; the first stage being the preparatory roads and drilling of seven of the thirteen holes shown on the map. After the samples of the seven holes have been examined and assayed, the results will determine if stage two should be completed. Stage two is drilling six more holes.

<u>The Exploration Project</u>:

(a) The minerals sought by this work are cinnabar or other mercury minerals.

(b) The work proposed will consist of the following:

Stage I

(1) Bulldozer work - roads and drill stations.
(2) Drilling seven drill holes, 1750 ft. total.
(Drill holes # 4, 5, 7, 9, 11, 12, & 13.)
(3) Assaying and Engineering reports.

Stage II (if warranted)

(1) Drilling 1500 ft. of hole in addition to the 1750 ft. of stage I, above.
(Drill holes # 1, 2, 3, 6, 8, & 10.)
(2) Assaying and Engineering reports.

(c) The work can start anytime after June 1st or 15 days after Contract is signed and stage I will be completed in 60 days. Stage II would require an additional 50 days.

(d) The applicant has had 15 years practical mining experience in the Pearl mining district.

Estimate of Costs:

Stage I

(1)	Bulldozer work - 15 days @ $64.00 - - - - -	$ 960.00
(2)	Camp setup - (Trailer house rent) - - - - -	500.00
(3)	Drilling 1750 ft. @ $5.00 Approx. - - - - -	8,750.00
(4)	Assaying 200 samples @ $3.00 - - - - - - -	600.00
(5)	Engineering Reports, surveys etc. - - - - -	500.00
	Total Costs Stage I	$11,310.00

Stage II

(1)	Drilling - 1500 ft. @ $5.00 Approx. - - - -	$7,500.00
(2)	Assaying - 150 samples @ $3.00 - - - - - -	450.00
(3)	Engineering Reports, surveys, etc. - - - -	400.00
	Total Costs Stage II	$8,350.00

Total Project, Stages I & II $19,660.00

(a) Independent Contracts:

The contracts for this project will be one for the bulldozer work on a daily basis and the second for the drilling.

(b) Labor for the Contracts:

The labor for the contracts will be supplied by the Contractors. The engineering work can be done by anyone of several mining engineers from Boise, Idaho.

(c) Operating Materials and Supplies:

None required which is not furnished by the Contractors.

(d) Operating Equipment:

All operating equipment provided by the Contractors.

(e) Rehabilitation or Repairs:

No rehabilitation or repairs needed.

(f) Buildings:

No new buildings needed.

(g) Miscellaneous Items:

With contracts no items under miscellaneous needed, except the assaying listed.

(h) Contingencies:

No reserve for contingencies needed.

Recommendations and Conclusions:

It is recommended the Fern Mine be explored with a two - stage drilling project at the following costs:

Stage I - - - - - - - - -	$11,310
Stage II- - - - - - - - -	8,350
TOTAL	$19,660

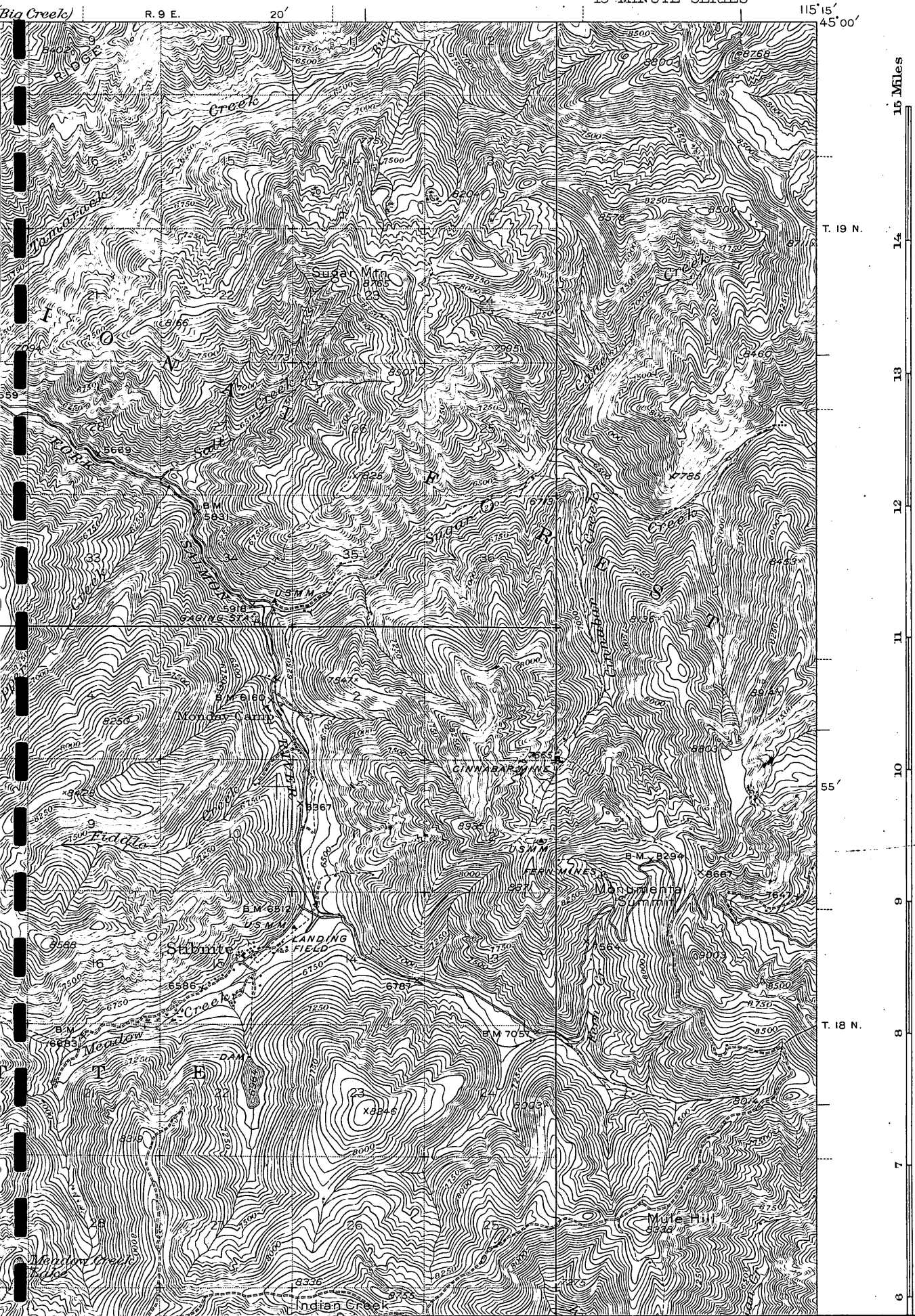
Decision to continue with stage II will depend upon favorable results from stage I.

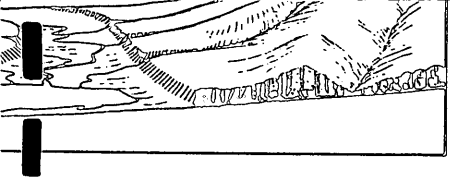
The project, as shown on the accompanying map, will explore the most favorable part of the Fern claims and the chances to uncover good-grade mercury ore are very good.

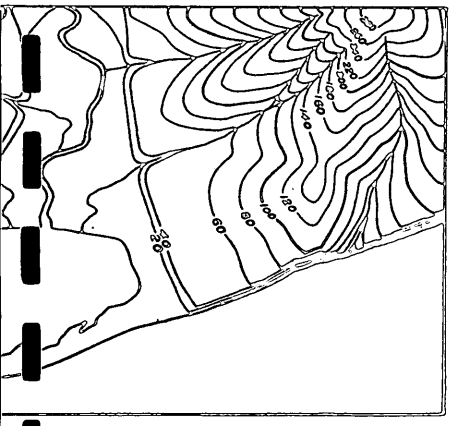
REGISTERED PROFESSIONAL ENGINEER 840 STATE OF IDAHO ERNEST OBERBILLIG

ERNEST OBERBILLIG
Licensed Mining Engineer.

IDAHO
(VALLEY COUNTY)
YELLOW PINE QUADRANGLE
15-MINUTE SERIES







iv r valley that lies between two
the sea, with a bay that is partly
a On each side of the valley is
streams have cut narrow gullies.
r nded summit and gently slop-

pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

November 1937.

RD SYMBOLS

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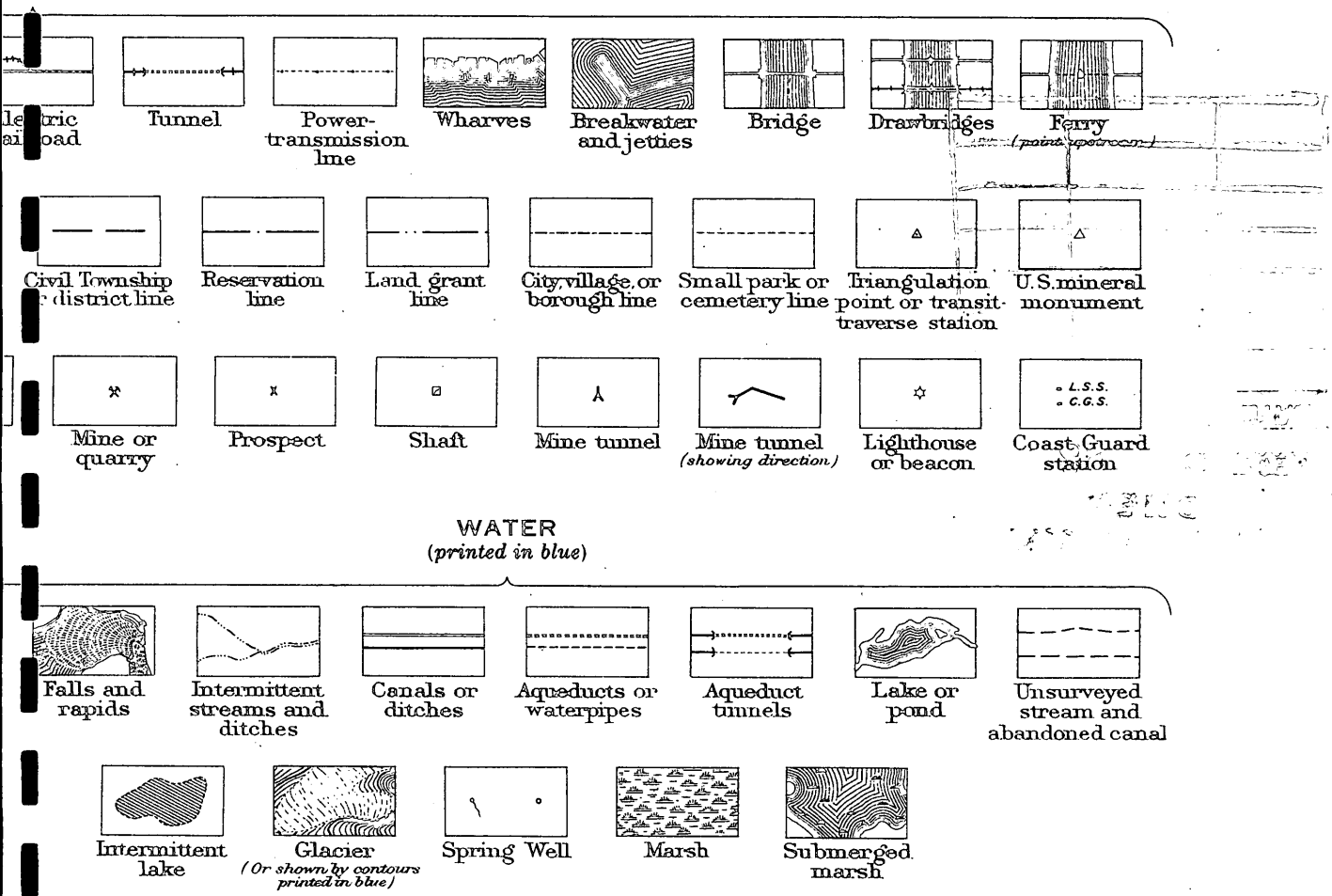
ed in black)



OODS
, inted in green)

JENSEN-GRAVES COMPANY
210 NO. 8TH ST. BOISE, IDAHO

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DATE | INITIALS | CODE

ORE OCCURENCES AND GEOLOGY of the FERN CINNABAR GROUP, VALLEY COUNTY, IDAHO

by

James C. Brassfield, Geologist
and
General Manager, Holly Minerals Corporation

The cinnabar ore on the Fern group occurs in impure dolomitic limestone and is embedded in an andesite dike. The dolomitic lime is 400 to 700 feet in thickness, striking northwest and with a dip northeast. Northeast and southwest are thick beds of barren quartzite. The dolomite beds extend continuously for about 2400 feet and are an offset of the Hermes orebody.

All orebearing rock to date has been developed by dozer cuts and old mine workings. The ore is not continous for the entire length but is in oreshoots of varying size; the largest orebodies observed were imbedded in the andesite dike. Also noted is that the orebearing part of the dolomite bed is cut by a strong fracture zone that strikes north 30 degrees west and at an acute angle with the bed and parallel with the long axis of the andesite dike. The strong cross fractures and faults run more nearly north than south.

The igneous dike which occurs along the fault zone appears to be pure material and is probably related to the highly altered kaolinized igneous rock that is found beneath the orebody on the 7500 foot level on the Hermes ore body. These intrusions may be related to a deep seated magma which provided the warm mineralized solutions that deposited the mercury minerals either by replacing the limestone or by filling cavities along the fractures.

Both the ore and enclosing dolomitic rock is intensely altered, usually to a soft, claylike material. This is not a true clay as the silica content is usually from 80% to 85%. Both ore and dolomite are shattered by criss-cross faults and fractures. The increasing amount of poryphery towards the bottom of the ore suggests that the small extent of ore down the dip may be due primarily to a larger, more extensive body at depth. The cinnabar is irregularly distributed in the ore

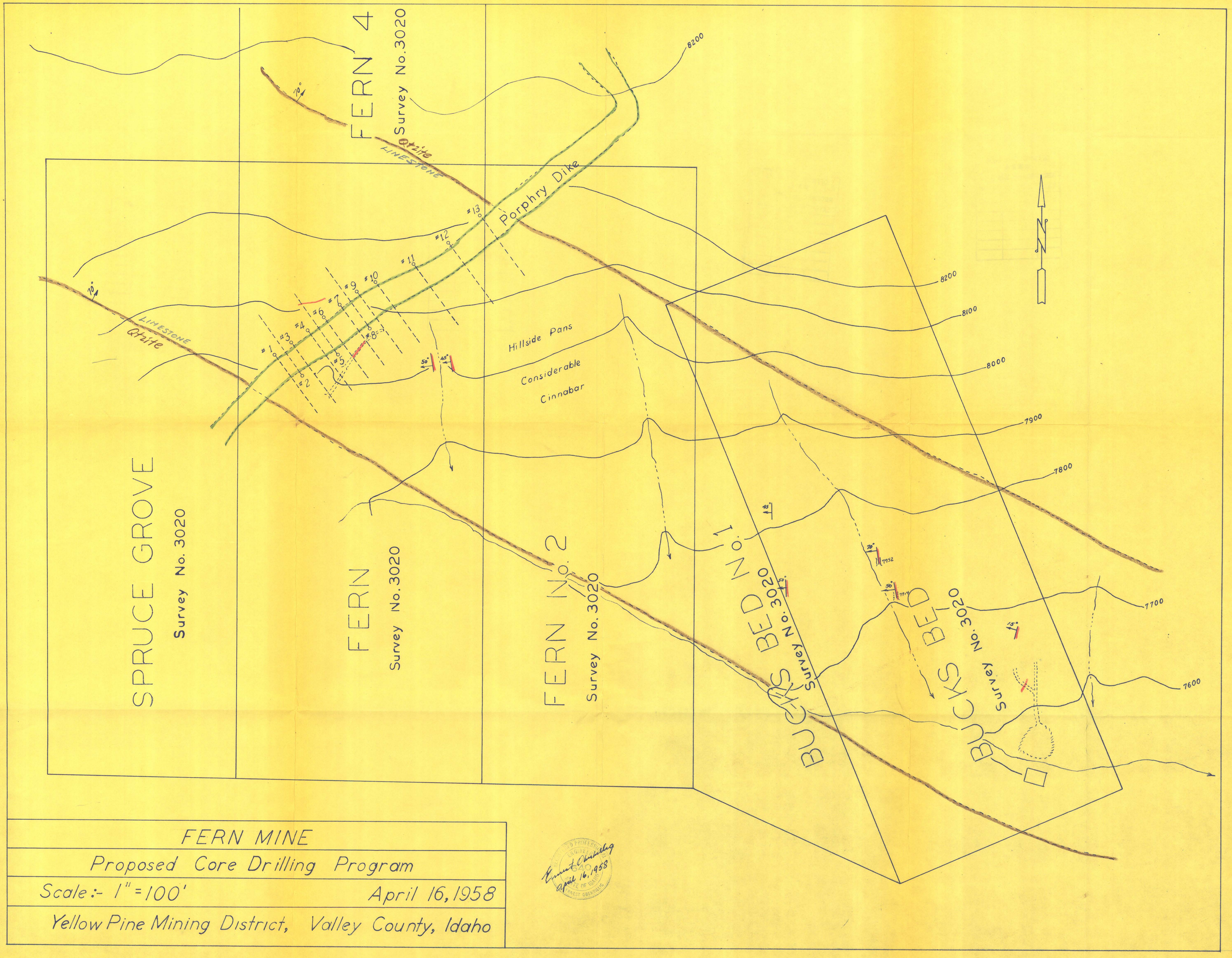
Reviewed by
DMEA OPERATING COMMITTEE
6-2-58
(date)

in strength, branches and [illegible] [illegible] in the [illegible] along the [illegible] strike for a half mile [illegible] to [illegible] [illegible].

To sum [illegible] and [illegible] the [illegible] [illegible] is an offset of the Hunter property and [illegible] [illegible] [illegible] proves successful due to the [illegible] of ore that has been proven in the Hunter [illegible] now being mined by Holly Corporation.

James C. Fredrickson, Geologist and [illegible]
Manager, Holly Minerals Corporation

Boise, Idaho
May 19, 19[illegible]



FERN MINE

Proposed Core Drilling Program

Scale :- 1" = 100' April 16, 1958

Yellow Pine Mining District, Valley County, Idaho

REGISTERED PROFESSIONAL ENGINEER 6240 STATE OF IDAHO ERNEST OBERBILLIG

Ernest Oberbillig
April 16, 1958

Prepared for DMEA
Application Report

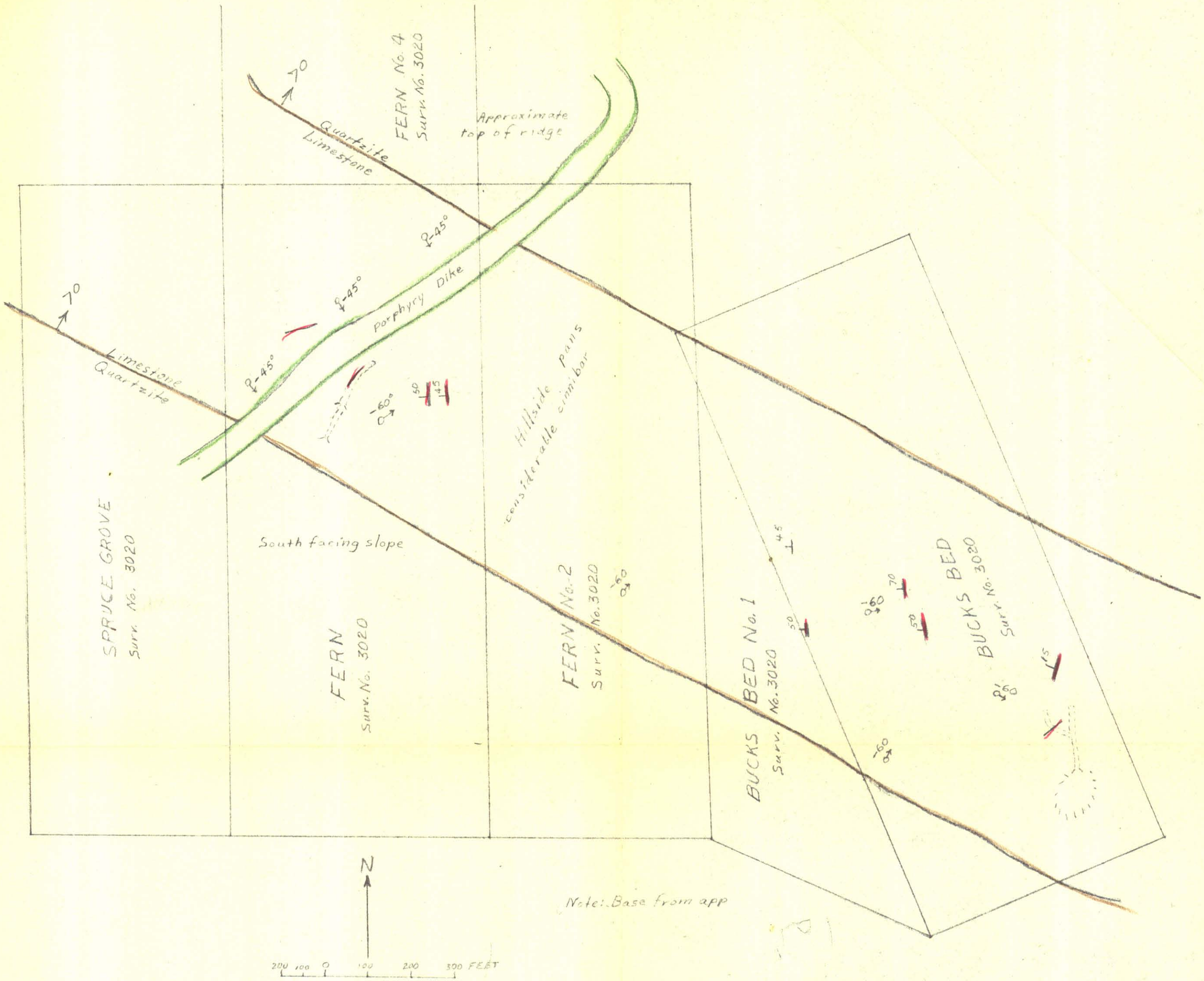


Plate I. Geologic Map of the Fern group showing proposed drill hole locations, T.A. Baugh, Valley County, Idaho
May 23, 1958

Prepared for DMEA
Application Report

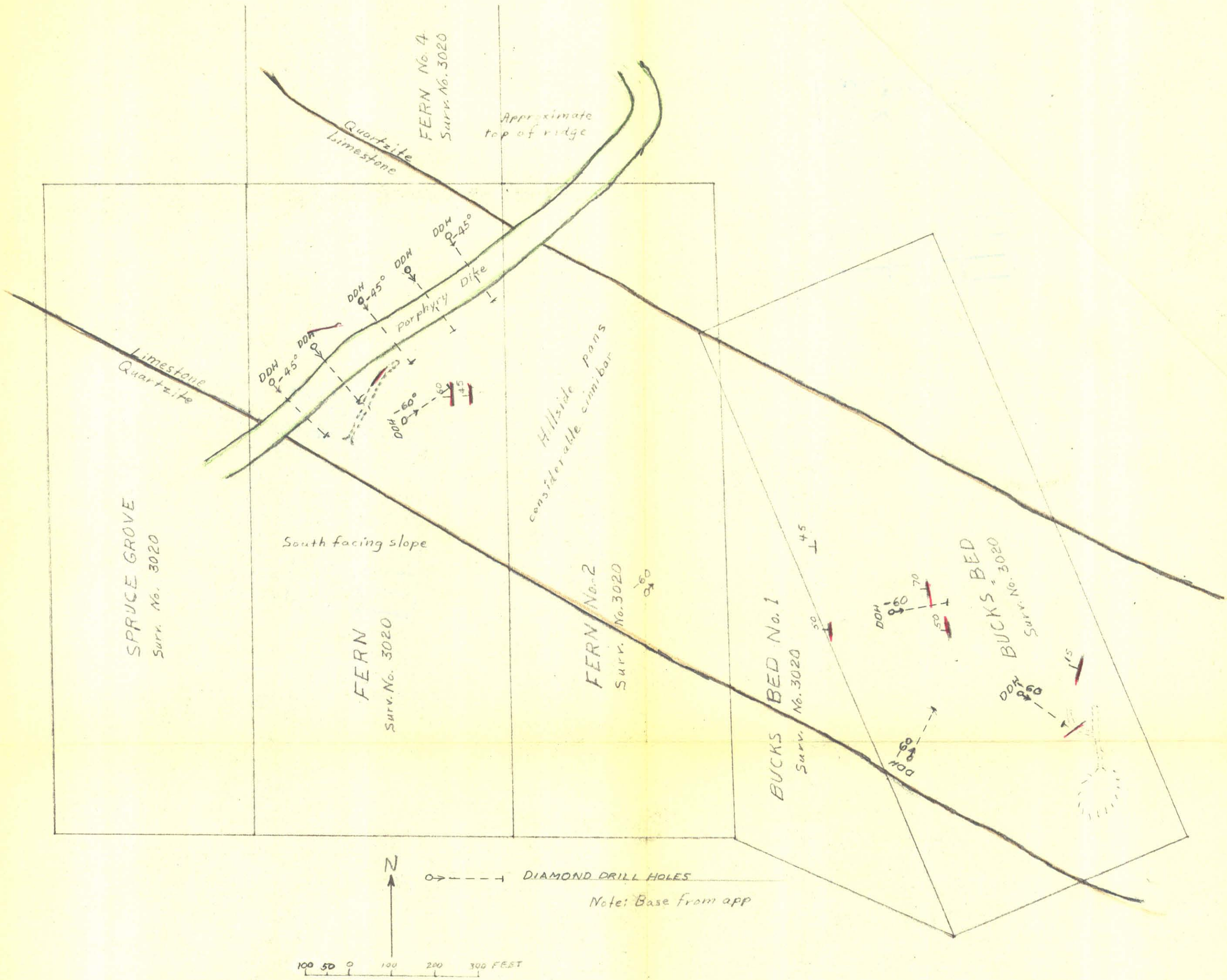
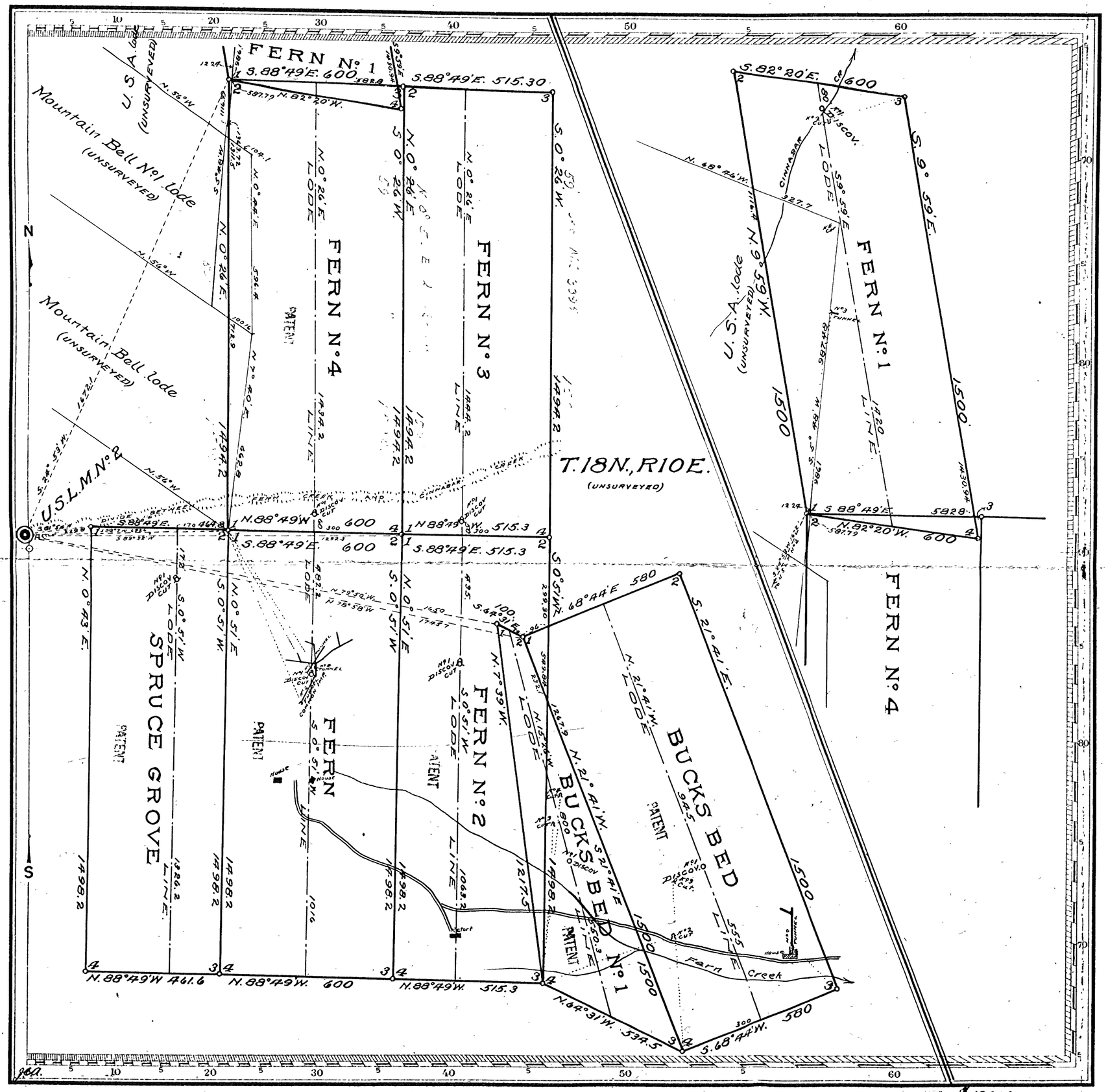


Plate I. Geologic Map of the Fern group
showing proposed drillhole locations,
T.A. Baugh, Valley County, Idaho
May 23, 1958



Amount deposited $120.00
Cost of office work 46.38
Amount to be refunded 73.62

Claim Located see field notes 19

Mineral Survey No. 3020

LOT No. —

Boise Land District.

PLAT

OF THE CLAIM OF

Fern Quicksilver Mining Company
KNOWN AS THE
FERN, FERN No 1, FERN No 2, FERN No 3, FERN No 4, SPRUCE GROVE, BUCKS BED AND BUCKS BED No 1 lodes.

IN Yellow Pine MINING DISTRICT,
Valley COUNTY, Idaho

Containing an Area of Acres.

Scale of 300 Feet to the inch.

Variation 21° 30' E.

SURVEYED August 28-31 1923 BY
Gordon C. Smith,
U.S. ~~Deputy~~ Mineral Surveyor;

The Original Field Notes of the Survey of the Mining Claim of Fern Quicksilver Mining Company known as the

FERN GROUP

comprising the above named claims.

from which this plat has been made under my direction, have been examined and approved, and are on file in this Office, and I hereby certify that they furnish such an accurate description of said Mining Claim as will, if incorporated into a patent, serve fully to identify the premises, and that such reference is made therein to natural objects or permanent monuments as will perpetuate and fix the locus thereof.

I further certify that Five Hundred Dollars worth of labor has been expended or improvements made upon, said Mining Claim or for the benefit of each location of by claimant or its grantors and that said improvements consist of 5 tunnels and 9 cuts

that the location of said improvements is correctly shown upon this plat, and that no portion of said labor or improvements has been included in the estimate of expenditures upon any other claim.

And I further certify that this is a correct plat of said Mining Claim made in conformity with said original field notes of the survey thereof, and the same is hereby approved.

U.S. Surveyor General's Office.
Boise, Idaho
October 22, 1923

Virgil W. Stamms
U.S. Surveyor General for
Idaho

PATENT No 988370
Covers Fern
Fern No 2
Fern No 4
Spruce Grove
Bucks Bed
Bucks Bed No 1

Fern No 1 and
Fern No 3
Not Patented