DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

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DMA Docket No. 3447

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DMEA 4223

EXTRA COPY OF FIELD TEAM REPORT FROM THIS APPLICATION IS WITH DOCKET DMEA 4223; FIELD TEAM REPORT FROM 4223 is SUPPLEMENTA TO FIELD TEAM REPORT OF 3447

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

RECEIVED
NOV - 7 1955

1605 Evans Avenue
Reno, Nevada

November 3, 1955

John J. Curzon,
Director
Exploration & Development
Climax Molybdenum Co.
Midland Savings Bldg.
Denver 2, Colo.

Re: DMEA-3447 (Copper-lead-zinc
Crown Point Claims
Madera County, California

Dear Mr. Curzon:

Supplementary to my letter of November 2, 1955 regarding above referenced property, I am enclosing 6 photostatic copies of Mrs. Plant's answers to items outlined in her application for aid form MF-103.

We hope these copies will be of help to you.

Very truly yours,

S. Ricker
Executive Officer
DMEA Field Team, Region II

Encl.

SRicker:gh
cc: Operating Committee, DMEA, Wash., D.C.
File

RECEIVED
NOV - 7 1955

1605 Evans Avenue
Reno, Nevada

November 2, 1955

John J. Curson,
Director Exploration & Development
Climax Molybdenum Company
Midland Savings Building
Denver 2, Colorado

Re: DMEA-3447 (Copper-lead-zinc)
Crown Point Claims
Madera County, California

Dear Mr. Curson:

Reference is made to your letter of October 28, 1955 requesting a copy of Mrs. Carol S. Plant's original application for a DMEA loan on above referenced property.

We only have one file copy of this application but are enclosing copies of the maps which accompanied the application. You will note on map that Mrs. Plant's proposal consisted of diamond drilling; mostly holes 250 feet deep at 45 degree inclination. Her estimated total drill footage was 18,000 feet at a contracted cost of $4.00 per foot or $72,000. In addition, she requested $23,900 for the following items:

Packing in and out drills and equipment	$ 2,000
Camp equipment	2,500
Groceries and supplies for 3 months	3,000
Engineering, supervision and assaying	8,000
Cook and helper, 3 months	1,800
General expense and incidentals	6,000
Workmans compensation	600
Total	$23,900

We would be pleased to have your engineer visit us at any convenient time so that he could study our files on this subject property and have our assistance in the preparation of your new application.

It would seem to me that the proposed work might be made in stages where continuation would depend on results of the preceding stages. I have, however, never been on the property.

I am in the meantime having some photostatic copies made of the pertinent points in Mrs. Plant's application in answer to the items outlined on the MF-103 forms. We will forward these to you in a few days. Enclosed is an extra set of the forms in case you require additional copies.

Very truly yours,

S. Ricker
Executive Officer
DMEA Field Team, Region II

Encl.

SRicker:gh

Operating Committee
DMEA

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

1605 Evans Avenue
Reno, Nevada

November 2, 1955

3447

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Climax Molybdenum Company
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S. Ricker
Executive Officer
DMEA Field Team, Region II

Encl.

SRicker:gh

BUREAU OF MINES
WASHINGTON, D. C.
Nov 4 8 22 AM '55

3447

Betty

1605 Evans Avenue
Reno, Nevada

November 2, 1955

John J. Curson,
Director Exploration & Development
Climax Molybdenum Company
Midland Savings Building
Denver 2, Colorado

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S. Ricker
Executive Officer
DMEA Field Team, Region II

Encl.

SRicker:gh

File Copy
Surname

J. Alt.
Kilsgaard
Hedges
Selfridge
FEJohnson

500

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

Mrs. Carol S. Plant
930 De Young Building
690 Market Street
San Francisco, California

JAN 13 1955

Re: Docket No. DMEA-3447 (Copper-Lead Zinc)
(Mrs.) Carol S. Plant
Crown Point Claims
Madera County, California

Dear Mrs. Plant:

Reference is made to your application for financial aid for a project to explore your Crown Point Claims in Madera County, California.

A careful review of your application, field reports we have received on your property, and other data available to us here in Washington indicates that Government participation in your proposed project is not warranted at this time. Although lead-zinc-copper mineralizations occur on the property, it is not sufficiently promising to indicate the probability of minable reserves being disclosed by the proposed work. Our attention has also been called to the fact that it does not appear that you are in a position to finance your share of a project that would adequately explore the property. Under the circumstances, we regret to advise that your application is denied. This denial, however, is made without prejudice to the merits of your property.

In the event that at some future time additional work is performed on the property, and you can furnish assurance that you have funds available to pay for your share of the work needed to properly explore the property, we will be pleased to give consideration to a new application.

Sincerely yours,
C. O. Mittendorf
Administrator

Rewritten JWAlt/FEJohnson (1/12/55)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. C. H. Johnson
Mr. Kilsgaard
Region III (2)
Chron.

R.C.G.

File Copy
Surname

J. Kel.
~~Kiilsgaard~~

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

Mrs. Carol S. Plant
930 De Young Building
690 Market Street
San Francisco, California

Re: Docket No. DME-3447 (Copper-Lead Zinc)
(Mrs.) Carol S. Plant
Crown Point Claims
Madera County, California

Dear Mrs. Plant:

Your application for aid for an exploration project and other reports available to us in Washington concerning your application have been reviewed.

Projects approved by the Defense Minerals Exploration Administration must, in its judgment, show definite promise of yielding materials of acceptable grade in quantities that will significantly improve the mineral supply position for the National Defense Program.

Careful study of all our information, although noting marginal ore on your property, indicates to us that the probability of disclosing minable ore reserves by your proposed program in not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

We wish to thank you for your interest in the Defense Minerals Program and for bringing your property to our attention.

Sincerely yours,

Administrator

JWAlt/er 1/7/55
Copy to: Docket
Admr. R. File
Op. Committee
Region III (2)
Base Metals
Mr. C. H. Johnson, USBM
Mr. Kiilsgaard, USGS
Chron.

File Copy
Surname
J. Geo.

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

January 7, 1955

Memorandum

To: The Administrator

From: Chief, Base Metals Division

Subject: Denial of Application Docket No. DMEA-3447, Mrs. Carol S. Plant, Crown Point Claims, Madera County, California, Copper-Lead-Zinc.

The cited application was submitted to this Division on August 16, 1954. On September 3, 1954, a request was made to the Executive Officer, Region III, for a field examination and report.

The Applicant proposes to diamond drill about 40 holes, approximately 50 feet apart, to explore for about 2,000 feet along the mineralized structure on the Crown Point and Crown Point No. 1 claims. The length of the holes would be about 400 to 600 feet each to explore at vertical depths of about 250 to 500 feet below the surface. The aggregate amount of diamond drilling proposed is 18,000 feet and the total estimated cost is $95,900.00.

An examination of the property was made by the Field Team September 20 to 24, 1954, and their report was received by this office on December 27, 1954.

We concur with the Field Team recommendation that this application be denied on the grounds that the deposit is low grade and the location is isolated.

Between 1928 and 1931 the Treadwell-Yukon Company explored the mineralized structure with 25 trenches. An examination of the property was made by D. W. Butner, USBM, in September 1954. His report recommended that no further investigation by the Bureau of Mines was warranted.

A weighted average of 21 samples by the Bureau of Mines from the most mineralized portions of these trenches follows: 7.43 foot width, 4.70% Zn, 0153% Cu, 0.42% Pb, and 1.64 oz. Ag per ton. There are a few samples which materially bring up the weighted average of the 21 samples. In general, the assays of the 21 samples are low grade copper and zinc.

Finally, the Applicant did not state when she submitted the application that she could not provide her share of the cost of the proposed work. The Field Team states that the Applicant is financially unable to participate in the proposed program unless outside capital is obtained.

We concur with the recommendations of the Field Team and the Commodity members of the USBM that this application be denied.

W. R. Griswold

W. R. Griswold

JWAlt/er 1/7/55

Copy to: Docket
Base Metals
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR 500
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

January 7, 1955

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We concur with the recommendations of the Field Team and the Commodity member of the USBM that this application be denied.

W. R. Griswold

W. R. Griswold

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN - 4 1955

January 3, 1955

Memorandum

To: W. R. Griswold, DMEA

From: C. H. Johnson, Branch of Base Metals

Subject: DMEA-3447 (Copper-Zinc) Carol S. Plant (Crown Point-Fortune claims), Minaret District, Madera County, California

I have reviewed the examination report by Warne and Rinehart, dated December 7, 1954, on the above-named application. The examiners recommend denial (and the Field Team concurs), stating that the ore would be too low-grade to mine profitably on a large scale, considering the difficulties of access, climate, and other local conditions. This appears to be well substantiated by the reported sampling data. The same conditions would make even a small-scale venture so expensive that any profit is unlikely from a commercial viewpoint, despite the appearance of a few samples of good grade and width. I concur in the recommendation.

In any event, Applicant's stated inability to furnish any funds for exploration might prohibit favorable consideration.

C. H. Johnson

C. H. Johnson

Copy to - T. H. Kiilsgaard - 5227
Minerals Division
C. H. Johnson
Files

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

December 31, 1954

Re: DMEA-3447
Carol S. Plant
(Crown Point Claims)
Madera Co., Calif.
$95,900 - Copper-Lead-Zinc

Memorandum

To: W. R. Griswold, Defense Minerals Exploration Administration

From: E. L. Newcomb, U. S. Geological Survey

Subject: Review of Field Team examination report

The applicant proposed an extensive diamond drilling program which would consist of about 40 holes with an aggregate total footage of 18,000 feet. The purpose of the drilling would be to explore at 50-foot intervals along 2,000 feet of mineralized structure on the Crown Point and Crown Point No. 1 claims to a vertical depth of 250 to 500 feet below the surface.

The Field Team has recommended that the application should be denied. In developing their case against Government assistance for the Crown Point claims the Field Team has stressed the low grade of the deposits and the fact that the possible reserves are noneconomic at the present time. Inasmuch as DMEA is interested in projects which will contribute to the development of the Nation's mineral resources, I believe the Field Team's attitude toward this property is at odds with the general aims of the DMEA program. This appears to be true in view of the fact that substantial reserves or resources are estimated by the Field Team to be present on the property. If a quantity of inferred reserves can be placed in an indicated category as a result of exploration and additional inferred reserves are also added to the total reserves by this work, then exploration would appear to be warranted even though the grade of the ore is marginal under present economic conditions.

During the field examination 21 samples were taken from 10 trenches distributed along a strike length of about 1450 feet. The weighted average of the samples was 0.53 percent copper, 4.7 percent zinc, 0.42 percent lead, and 1.64 oz./ton of silver over an average

width of 7.4 feet. On the basis of these sample results a preliminary reserve estimate was made by the Field Team. For Blocks A and B, they estimate total reserves, indicated and inferred, may be about 500,000 tons. Regardless of whether such an estimate is reasonable or not, it does indicate that more exploration may be warranted even though it is limited to testing the continuity at depth of the better mineralized parts of the entire structure.

Inasmuch as the applicant is unable to financially participate in an exploration project the application will have to be withdrawn or denied.

However, in the event the applicant is able to furnish her share of costs for a limited program at some future time, I believe further consideration of possible exploration for this property should be undertaken.

E. L. Newcomb

E. L. Newcomb

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

Decem 31, 1954

Re: DMEA-3447
Carol S. Plant
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Madera Co., Calif.
$95,900 - Copper-Lead-Zinc

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During the field examination 21 samples were taken from 10 trenches distributed along a strike length of about 1450 feet. The weighted average of the samples was 0.53 percent copper, 4.7 percent zinc, 0.42 percent lead, and 1.64 oz./ton of silver over an average

width of 7.4 feet. On the basis of these sample results a preliminary reserve estimate was made by the Field Team. For Blocks A and B, they estimate total reserves, indicated and inferred, may be about 500,000 tons. Regardless of whether such an estimate is reasonable or not, it does indicate that more exploration may be warranted even though it is limited to testing the continuity at depth of the better mineralized parts of the entire structure.

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E. L. Newcomb

ELNewcomb:edf

Copy to: H. M. Meyers, 3623
O. M. Bishop, 3617
DMEA (3)
Director's reading, 4212
Branch reading, 4212

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

420 Custom House
555 Battery Street
San Francisco 11, Calif.

December 15, 1954

Memorandum

To: George C. Selfridge, Chairman, Operating Committee, DMEA
Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA-3447 (Copper-Lead-Zinc)
(Mrs.) Carol S. Plant
Crown Point Claims
Madera County, California

Reference is made to your letter dated September 3, 1954, referring the subject application to us for a field examination.

Attached are the original and three copies of a report entitled "DMEA-3447, Crown Point Claims, Madera County, California, (Copper, lead, and Zinc)," by John D. Warne, Mining Engineer, U. S. Bureau of Mines, and C. D. Rinehart, Geologist, U. S. Geological Survey, dated December 7, 1954.

The following abstract of the report as prepared by A. C. Johnson presents a fair picture of the property:

"The deposit is of the contact metamorphic type with the minerals sphalerite, chalcopyrite and galena occurring in mineralized zones aligned parallel to the bedding within the calcareous complex. The ore bodies occur as discontinuous lenticular pods in a belt 1,700 feet long and 10 to 150 feet wide which is exposed over a vertical topographic distance of 200 feet. Individual pods range in thickness from a few inches to 37 feet and are exposed over an average length of about 20 feet.

"Twenty-five trenches were excavated during 1928-1931 by the Treadwell-Yukon Co. During the DMEA examination, twenty-one horizontal channel samples were taken along the most mineralized portion of the trenches. These samples averaged 7.4 feet in length and their weighted average indicated 4.70 per cent zinc, 0.53 per cent copper, 0.42 per cent lead, and 1.64 ounces silver per ton.

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

"The preliminary ore reserve estimate of 84,500 tons of indicated ore and 338,000 tons of inferred ore in Block A, and 18,750 tons of indicated ore and 84,375 tons of inferred ore in Block B is assumed to have an average grade of 0.5 per cent copper, 5.0 per cent zinc, and 1.0 oz. silver per ton. This low grade of ore together with its isolated location would not make for an economic mining venture."

Both the examining engineer and geologist recommend a denial of the application for exploration aid and Roscoe Smith and I concur in that recommendation.

This deposit has possible resources of a million tons or more of 5 per cent zinc ore, and may be operable in time of national emergency, but surface exposures are too low grade at present prices to warrant additional work. There is no evidence from which to infer that the deposit will be higher grade at depth.

To bring the property into production a large capital outlay would be required in access road, treatment facilities, and underground development. Selective mining of parts of the deposit would affect mining costs. Shrinkage stopes may be feasible in mining some of the ore bodies, but in others, where the septum of wall rock between ore bodies is thin, waste filled stopes may be necessary to avoid dilution by the septum.

A diamond drill program consisting of a few widely spaced holes to test the deposit at depths of 200 to 500 feet might be justified but the information gained is likely only to confirm the geologist's inference of reserves at depth, and perhaps permit inferred ore to be reclassed as indicated ore. This confirmation is not likely to be of immediate value to the applicant in disposing of the property or inducing an operator to put it into production.

S. Ricker
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Roscoe Smith, USGS

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 20 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DOUGLAS McKAY, SECRETARY

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

DMEA-3447, Crown Point Claims

Madera County, California

(Copper, lead, and zinc)

John D. Warne, Mining Engineer
U. S. Bureau of Mines

C. D. Rinehart, Geologist
U. S. Geological Survey

December 7, 1954

Reviewed by
DMEA OPERATING COMMITTEE
12-27-54
(date)

Bureau of Mines
Lands Minerals Administration
RECEIVED
DEC 20 1954

EXAMINATION REPORT

Docket No.: DMEA-3447 (Copper, lead, and zinc),

Name and address of applicant: Mrs. Carol S. Plant
930 DeYoung Bldg.,
690 Market Street
San Francisco, California

Name and location of property: Crown Point Claims, (part of the Shadow Creek Mines property,) T. 3 S., R. 26 E., M.D.B.&M., Madera County, California

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

An examination of the Crown Point Claims was made September 20 to 24, 1954 by two engineers of the Bureau of Mines and a geologist of the Geological Survey. This examination was conducted pursuant to an application for exploration for copper, lead, and zinc by Mrs. Carol S. Plant on August 12, 1954. Mrs. Plant and Henry S. Thompson accompanied the field team to the property.

The Crown Point Claims are a part of the Shadow Creek Mines property formerly known as the Nidever group. They are located in an extremely rugged region in the northeastern part of Madera County, California, within the Minaret Mining District (fig. 1). Access to the property is difficult; and supplies must be packed in by mules over a trail for about 8 miles to the property. Exploration operations could be conducted during a period of only about four months out of the year.

The deposit was first discovered about 1901 and was held by various owners until 1937 when acquired by the applicant. No ore has been produced or shipped to date. Between 1928 and 1931 the Treadwell-Yukon Company explored the mineralized structure with 25 trenches (fig. 2). An examination of the property was made by D. W. Butner[1/] in September 1945; his report recommended that no further investigation by the Bureau of Mines was warranted.

A weighted average of 21 samples by the Bureau of Mines from the most mineralized portions of these trenches follows: 7.43 foot width, 4.70% Zn, 0.53% Cu, 0.42% Pb, and 1.64 oz. Ag per ton.

The applicant has had only a small amount of previous mining experience; and she is financially unable to participate in the proposed program unless outside capital is obtained. The deposit is too low in grade; and its location is too isolated to allow profitable present day mining.

Participation by the government in an exploration program is not recommended.

LOCATION AND PHYSICAL FEATURES

The property is situated in a rugged region just west of the main crest of the Sierra Nevada mountains. It lies immediately east of the Minarets at altitudes of 9000 to 11000 feet above sea level. The camp site is on Shadow Creek about one mile west of Shadow Lake

1/ Mining Engineer, Bureau of Mines.

(Devils Post Pile, California Quadrangle).

The Crown Point Claims are located in an unsurveyed area of the extreme northeastern part of Madera County, California, probably in T. 3 S., R. 26 E., M.D.B.&M. They are in the Minaret Mining District within the Sierra National Forest. (Fig. 1)

ACCESSIBILITY

Access to the property is from the east side of the Sierra Nevada Range. Motor transportation may be used for part of the trip by traveling 26 miles south from Leevining, California on U.S. Highway No. 395; and turning off on the Mammoth Lakes road which leads 15 miles over ~~Mammoth Pass~~ Minaret Summit and down to Agnew Meadows on the Middle Fork of the San Joaquin River. From this point the remaining distance of about 8 miles to the claims is accomplished by trail. Horse and mule transportation is available at the packer's station at Agnew Meadows. The property is usually accessible for only about four months of the year, from June 15 to about October 15.

COMPETENCY OF APPLICANT

The application states that: "The applicant has had several years of mining experience and has spent parts of each summer at the Shadow Creek mines, and has visited all the showings on the property and nearby claims."

During the examination the applicant (Mrs. Carol S. Plant) stated that she was financially unable to furnish her share of the costs of the proposed project, but she would attempt to induce one of the larger mining companies to help finance and perform the exploration work if Government aid is secured.

APPLICANT'S PROPERTY RIGHTS

The proposed exploration work is planned on six unpatented lode claims: Crown Point Mine, Crown Point Mine Nos. 1 and 2, Fortuna Mine, and Fortuna Mine Nos. 1 and 2, owned by Carol S. Plant and recorded in Book 127, pages 380 to 384 and 1379 at the Madera County, California courthouse.

Two additional claims would be used as sites in connection with the proposed diamond drilling project: Crown Point Annex, Book 615, page 222 and Rinaldo No. 1 Mine, Book 615, page 224. These claims were acquired from Mr. Henry S. Thompson on October 1, 1954.

DESCRIPTION OF PROPERTY

Surface facilities consist of a well equipped cabin, 16x22 feet in size, with additional tents and beds for cooking and housing purposes. This cabin is located on Shadow Creek at about 1500 feet lower in elevation and one mile distant by trail from the proposed exploration site.

The existing development consists of 25 trenches which explore the mineralized structures for about 1500 feet along the surface

on the Crown Point and Crown Point No. 1 claims. These trenches average about 125 feet in length, about 5 feet in depth, and they are spaced from about 50 to 100 feet apart to explore the mineralized zone. They were clean and in good condition for sampling at the time of this examination. Several shallow shafts and short adits were also excavated in the mineralized area for exploration purposes. Two holes were diamond drilled (~~as~~ one shown in fig. 2) in ~~1927~~ 1926 to determine the mineralization at depth, however, no records pertaining to these holes are now available from the applicant. No underground development or evidence of actual mining operations exist on the property.

GEOLOGY

The deposit is in a calcareous member of a thick sequence of metamorphosed volcanic rocks which strike northwest, are nearly vertical, and are exposed over a width of more than 9 miles. Although granitic rock of the Sierra Nevada batholith probably intrudes the metamorphic rocks at depth, none is exposed on the property nor in the immediate vicinity. The rocks and the ore body have been glacially scoured and weathering products are negligible.

The calcareous host rock is 300-500 feet thick and consists of a complex of tactite, calc-hornfels, siliceous hornfels, marble, and lesser amounts of meta-tuff. The beds strike N 30°-40° W and are vertical or dip steeply. The calcareous complex has resulted from the contact metamorphism of interbedded limestone, siltstone, and dacitic (?) tuff. The

rocks are fine-grained with the exception of tactite which is generally medium-grained and locally coarse-grained. Small isoclinal folds within the complex were recognized in several places but the regional bedding attitude persists over a strike length of several thousand feet. No major faults and only a few minor faults cut the rocks in the map area.

The metavolcanic rock on both sides of the calcareous complex is dominantly dacitic (?) tuff which is medium-gray, fine-grained, and generally massive, although crude banding was detected locally. The contacts with the calcareous complex are gradational and small lenses of tuff were found at several places in the complex.

ORE DEPOSITS

The deposit is of the contact metamorphic type and the ore minerals--sphalerite, chalcopyrite, and galena--are associated with the typical contact metamorphic minerals: epidote, hedenbergite (?), garnet, actinolite(?), calcite, and quartz. The granitic contact, however, is not exposed on the property and is probably several thousand feet beneath the surface.

The mineralized zones are aligned parallel to bedding within the calcareous complex. The metallic minerals are almost exclusively associated with medium- to coarse-grained tactite. The contacts between the tactite and other rocks of the complex are typically gradational both parallel and perpendicular to the strike. In the south part of the map

area the rocks are largely covered between trenches and continuity of the mineralized zones can only be inferred. In the northern part of the area, however, the rocks are better exposed and in several places the mineralized zones pinch out along strike suggesting that in this area, at least some of the ore occurs as discontinuous lenticular pods. Barren rock is exposed below ore in a few trenches indicating that the ore bodies are locally discontinuous vertically as well as laterally. These pods of ore comprise a belt 1,700 feet long and 10 to 150 feet wide which is exposed over a vertical topographic distance of 200 feet. The individual pods range in thickness from a few inches to 37 feet and are exposed over an average length of about 20 feet, with the exception of the extreme north and south ends of the property where mineralized zones are continuously exposed for 225 and 100 feet, respectively. Although several holes were diamond-drilled on the property in 1926, no logs or assays are available. While drilling was in progress, however, Mr. A. W. Stickney, a mining engineer, visited the property and reports that the drill hole shown on Figure 2 intersected about 30 feet of 5 percent zinc ore at about 100 feet below the surface. No other information bearing on the depth extent of the ore body is known. The calcareous host rock crops out in Shadow Creek 1000 feet below and a half mile southeast of the map area, but is barren.

ORE RESERVES

The ore zone is divided into two blocks (fig. 2) for reserve calculations: (A) includes ore southeast of and including trench 14; (B) includes ore northwest of and including trench 11. The total weighted average grade of the U. S. Bureau of Mines samples over an average width of 7.4 feet is: 4.7 percent zinc, 0.53 percent copper, and 1.14 ounces/ton silver; lead content is less than 0.5 percent and is not considered. The average metal content of these samples compares favorably with assay data submitted with the application, although correlation of assays from specific trenches is generally only fair. The average grade of both reserve blocks is estimated to be 5.0 percent zinc, 0.5 percent copper, and 1.0 ounce/ton of silver. In calculating tonnage a factor of 10 cubic feet per ton was used.

Block A

Block A is assumed to have a strike length of 650 feet although actual exposures of ore along this length, owing to detritus cover, amount to about 40 percent of the total length. Individual ore beds in the block range in thickness from 2 to 28 feet, are separated by 6 to 25 feet of barren material, and are distributed across a stratigraphic interval of as much as 82 feet. The average aggregate thickness of the ore beds exposed in the block is 20 feet which is obtained by adding together the widths of all ore beds (5 feet or more thick) exposed in each trench and

taking the average of these aggregate widths for all trenches. In calculating tonnage, therefore, the thickness assumed is 20 feet.

In longitudinal section the block is triangular in shape with the base coincident with the surface and the apex 325 feet below the surface--a distance equal to 1/2 the length of the block. The reserve thus calculated amounts to 84,500 tons of indicated ore which occurs in pods ranging in volume from about 500 tons to 6000 tons each. This reserve totals about 40 percent of the volume of the block in which it occurs. An additional 338,000 tons of ore can be inferred by considering the block as a rectangular solid extending in depth a distance equal to 1/2 the length and continuously mineralized throughout.

Block B

Block B is assumed to have a strike length of 500 feet although actual exposures of ore along this length amount to about 40 percent of the total length, partly because of detritus cover and partly because some individual ore shoots pinch out along strike. Individual ore beds in the block range in thickness from 2 to 35 feet, are separated by 3 to 40 feet of barren material, and are distributed across a stratigraphic interval of as much as 150 feet. The average aggregate thickness of the ore beds is 15 feet, obtained by following the same procedure as used in block A.

In longitudinal section the block is triangular in shape with the base coincident with the surface and the apex 250 feet below the surface--

a distance equal to 1/2 the length of the block. Although the proportion of ore exposed is the same as in block A (40 percent), the individual ore bodies appear to be only about half as continuous, and therefore, 20 percent of block B is considered as indicated ore which totals 18,750 tons. The ore occurs in irregular pods ranging in volume from 50 to 5000 tons each. An additional 84,375 tons of ore can be inferred by considering the block as a continuous rectangular solid extending in depth a distance equal to 1/2 the length, and assuming that 50 percent of the block is minable ore.

SAMPLING

Twenty one horizontal channel samples were taken along the most mineralized portions of trenches on the Crown Point and Crown Point No. 1 claims (fig. 2). Two additional samples were taken from the Fortuna No. 2 claim outside the proposed exploration area.

The samples averaged 7.4 feet in length and they were taken from the most mineralized portions of the trenches. The width of mineralization sampled in the trenches averaged from 8 feet to 28 feet. Weighted averages of analysis applicable to the 7.4 foot average sample length were: 4.70 percent zinc, 0.53 percent copper, 0.42 percent lead, and 1.64 ounces of silver per ton.

There is no record of production or ore shipments from this property.

Sample data and analysis by the Bureau of Mines Hydrometallurgical and Ore Dressing Branch follows:

Sample No.	Trench No.	Footage 1/	%, Pb	%, Zn	%, Cu	Oz Au/T	Oz Ag/T
1	10	7.0	2.5	9.6	1.83	0.005	11.20
2	10	5.5	0.4	1.8	1.43	Trace	2.60
3	6	6.0	0.3	4.1	0.18	Trace	1.45
4	6	5.0	0.3	7.3	0.03	Trace	1.35
5	13	9.5	0.4	9.3	0.03	Trace	1.10
6	14	7.0	0.3	2.3	5.85	Trace	5.75
7	14	9.0	0.3	7.5	0.16	Trace	2.95
8	14	8.0	0.3	7.4	0.05	Trace	1.30
9	17	13.0	0.3	2.8	0.15	Trace	0.25
10	19	14.0	0.3	3.4	0.31	Trace	0.60
11	19	14.0	0.3	2.5	0.05	Trace	0.30
12	20	4.0	0.3	5.5	0.04	Trace	0.80
13	20	6.0	0.3	3.4	0.21	Trace	0.45
14	20	5.0	0.4	7.6	0.23	Trace	0.50
15	20	5.0	0.3	1.6	0.03	Trace	0.40
16	21	8.0	0.3	5.9	0.03	Trace	0.90
17	22	5.0	0.3	5.4	0.02	Trace	1.75
18	22	10.0	0.3	2.2	0.57	Trace	1.35
19	Shaft	4.5	0.3	5.4	0.35	Trace	0.50
20	24	6.0	0.3	4.2	0.05	Trace	0.20
21	24	4.5	0.3	2.4	0.07	Trace	0.20
22	2/	20.0	3.1	1.6	0.04	Trace	1.80
23	2/	2.0	2.4	3.7	0.03	Trace	1.50

1/ Footages listed are adjacent interval samples.
2/ Samples numbers 22 and 23 taken from open cuts on Fortuna No. 2 claim south of Shadow Creek outside of proposed exploration area.

PAST OPERATION

The deposit was first discovered and located about 1901 by D. C. Nidever and was held by various owners until 1937 when the applicant acquired the property. About 1927 two holes were diamond drilled by Myron Folsom, however logs of these holes are not available. The 25

trenches were excavated by Treadwell-Yukon Company between 1928 and 1931. Reports on the property were made by Oscar Hershey in 1920 and by Homer D. Irwin of the California Division of Mines in 1934 (California Journal of Mines and Geology, vol. 30, No. 1, Jan. 1934). B. M. Snyder sampled the trenches during 1930 or 1931 for the Treadwell-Yukon Company. Edward Wisser and J. W. Harman prepared a geologic map of the mineralized area in September 1949 which was included with this application.

MANPOWER, SUPPLIES, ETC.

No known source of labor for the short summer season is known. There is some timber along the lower creeks, though much of the area is above timber line, and bare, glacier scarred rocks forms the canyon walls. Water is available from many small lakes and streams draining eastward into the Middle Fork of the San Joaquin River. The outlet of Shadow Lake drops steeply to the river, 600 feet below, where hydroelectric power could be developed. Supplies must now be transported by mule pack trains for the last 8 miles to the mine.

APPLICANT'S PROPOSAL

The applicant proposes to diamond drill about 40 holes, approximately 50 feet apart to explore for about 2,000 feet along the mineralized structure on the Crown Point and Crown Point No. 1 claims. The length of the holes would be about 400 to 600 feet each to explore at verti-

cal depths of 250 to 500 feet below the surface. The aggregate amount of diamond drilling proposed is 18,000 feet.

The total cost to complete the work as estimated by the applicant is summarized as follows:

Contract diamond drilling, 18,000 feet @ $4.00/ft.	$72,000.00
Labor and supervision - estimated - cost for 3 months	
Engineering and supervision	5,000.00
Cook and helper	1,800.00
Materials and supplies -	
Groceries and supplies packed in weekly - 3 months @ $1,000/mo.	3,000.00
Camp equipment, tents, etc. including packing	2,500.00
Initial rehabilitation -	
Packing in two complete diamond drills and accessory operating equipment	2,000.00
Miscellaneous -	
Assaying	3,000.00
Payroll taxes and insurance - 3 months	600.00
General expense (not described)	1,400.00
Contingencies -	
About 5% of above estimated costs	4,600.00
Total estimated cost	$95,900.00

The mineralized zone extends for about 2,000 feet along the Crown Point claims, but 18,000 feet of diamond drilling is considered too extensive. The possibility of exploring the property with less dia-

mond drilling, perhaps in several stages, was considered and discussed with the applicant during the examination.

The applicant received an estimate of $4.00 per foot from a diamond drilling contractor to drill a total of 18,000 feet. But, if less drilling were actually done, this estimated cost is considered too low. A total estimated cost of $5.33 per foot of drilling applicable to the entire cost of the proposed program is considered too low.

OTHER INFORMATION

A report covering a previous examination by D. W. Butner of the Bureau of Mines dated December 1945 states that the average result of 96 samples taken from the trenches in the zinc section was as follows:

Zinc	5.52 percent
Lead	0.67 "
Copper	0.59 "
Silver.....	2.25 ounces per ton

The report states that core drilling done in 1945 disclosed negative results.

The applicant stated that she was unable to supply any information pertaining to previous drilling on the property. A report by Edward Wisser and J. W. Harman, who prepared a geologic map of the deposit in 1949, was not available. According to the applicant, this data is held by the Climax Molybdenum Corporation, who have recently made an examination of the property.

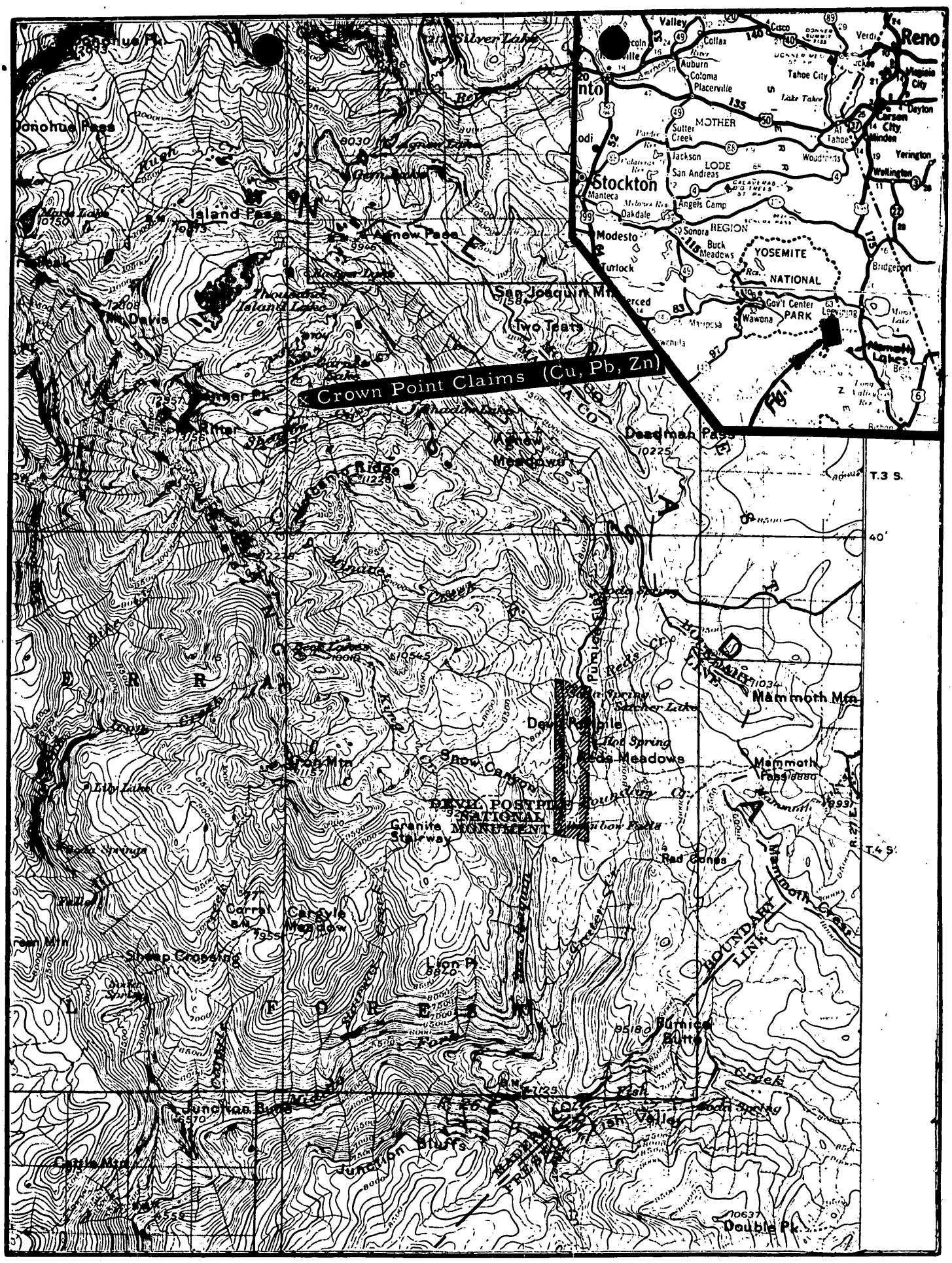

FIG. 1 LOCATION MAP

File Copy
Surname

J. Ack
Griswold
Selfridge
JHPlumson

500

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

SEP 3 1954

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
420 Custom House
555 Battery Street
San Francisco 11, California

Re: Docket No. DMEA-3447 (Copper-Lead-Zinc)
(Mrs.) Carol D. Plant
Crown Point Claims
Madera County, California

Dear Mr. Miller:

A review of the cited application, of which you have a copy, indicates that an examination of the property is necessary. As the applicant had submitted one set of maps, we had additional sets made which are enclosed and should be attached to the application. Will you please have such an examination made and submit your report and recommendations to us.

In the event that the application is considered favorably by you, the applicant should be requested to submit a map showing the location of her claims.

Enclosed are copies of memoranda from the commodity members, R. D. Trace, USGS, dated August 20, 1954, and C. H. Johnson, USBM, dated August 19, 1954, giving their recommendations and comments regarding the application.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GHS)

Enclosures 4

APPROVED:

J. H. Hedges
Member, Bureau of Mines (GHS)

Thor H. Kiilsgaard
Member, Geological Survey (GHS)

JWAlt:er 9/1/54
Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Gildersleeve
Mr. C. H. Johnson (USBM)
Chron.

RGG.

File Copy
Surname

J. Alt.
Griswold
Kulsgaard
Hedges
Selfridge
H. Johnson

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

500

SEP 3 1954

Mrs. Carol S. Plant
930 De Young Building
690 Market Street
San Francisco, California

Re: Docket No. DMEA-347 (Copper-Lead-Zinc)
(Mrs.) Carol S. Plant
Crown Point Claims
Madera County, California

Dear Mrs. Plant:

Your application for Government assistance to explore your property has been reviewed by the Base Metals Division of the Defense Minerals Exploration Administration, and has been referred for a field examination to:

Mr. H. C. Miller, Executive Officer
DMEA Field Team, Region III
420 Custom House
555 Battery Street
San Francisco 11, California

The Regional Office will contact you at an early date as to when the examination is to be made. Any assistance that you may give the members of the Field Team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

JWAlt/er 9/1/54

Copy to: Docket
Admr R. File Region III (2)
Op. Committee
Base Metals
Mr. Gildersleeve
Mr. Bishop
Mr. C. H. Johnson
Chron.

R.C.G.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

August 20, 1954

Memorandum

REVIEW OF APPLICATION DMEA-3447 (copper-lead-zinc)

To: W. R. Griswold, Defense Minerals Exploration Administration
From: R. D. Trace, U. S. Geological Survey
Applicant's name and address: Mrs. Carol S. Plant, 930 De Young Bldg., 690 Market Street, San Francisco, California
Name of property: Crown Point claims (Nidever Group)
Location of property: Madera County, California
Summary of applicant's proposal: Diamond drill 40 holes.
Sources of information on applicant's property:
Erwin, H. D., Geology and Mineral Resources of Northeastern Madera County, Calif., Calif. Jour. Mines and Geol., Vol. 30, No. 1, 1934.
Comments: Other than the reference cited above, we have no information on the property.

The principal ore mineral is sphalerite, with subordinate quantities of argentiferous galena and chalcopyrite. "The ore occurs as irregular masses, lentils, veinlets, and disseminations in a highly altered limestone which is interbedded with meta-volcanic rocks." The limestone beds strike NW and dip nearly vertical. The mineralized area shown on the applicant's map is about 2,000 feet long and is as much as 150 feet wide. According to the applicant, the average width sampled is 19.9 feet, averaging 5.90 percent Zn, 0.57 percent Pb, 0.68 percent Cu, and 2.37 oz. Ag.

In the past, the at least seeming discontinuity and lenticularity of the deposits may have discouraged any prospective operator. If this is so, then the proposed drilling project may prove only that the deposits continue downward, and are still very discontinuous. Closer-spaced trenching in a selected area, supplemented possibly by close-spaced drilling at varying depths, might indicate whether the deposits are minable. The results obtained therefrom, could be used in interpreting less close-spaced exploration on the rest of the property. Also any geologic controls of the ore within the limestone might be detected by detailed exploration.

On page 69 of his report, Erwin says: "The ore in the limestone appears to be localized in and near fracture zones of faults which cut across the bedding." I find no indication of such faults on the Wisser-Harman geologic map. Obviously, geologic mapping of at least some of the trenches might be helpful.

In examining the assays of samples taken in the trenches, I see that the results according to Treadwell-Yukon and by Snyder vary somewhat. For example, Trench 13 is shown as follows:

	T-Y			Snyder	
3 feet	Nil Pb	5.6 Zn	5 feet	.0 Pb	8.82 Zn
13 "	Tr. Pb	6.0 Zn	2.5 "	6.52 Pb	0.6 Zn

RECOMMENDATION: Refer to Field Team.

Bob Trace

R. D. Trace

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

August 20, 1954

Memorandum

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To: W. R. Griswold, Defense Minerals Exploration Administration
From: R. D. Trace, U. S. Geological Survey
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13 "	Tr. Pb	6.0 Zn	2.5 "	6.52 Pb	0.6 Zn

RECOMMENDATION: Refer to Field Team.

R. D. Trace

RDTrace:hlm
G-8/20/54

Copy to: Director's reading, 4212
Branch reading, 4212
DMEA (3)
Docket file
C. H. Johnson, 3621

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

August 19, 1954

Memorandum

To: W. R. Griswold, DMEA

From: C. H. Johnson, Bureau of Mines

Subject: DMEA-3447 (Copper) Carol S. Plant (Crownpoint-Fortuna Claims) Madera, California

I have reviewed the above-named application and believe that it presents ample justification for referral to the Field Team.

A Bureau of Mines engineer, D. W. Butner, made an examination of this property in December 1945 (according to our records). His opinion was that the mineralization was too sporadic and the locality too inaccessible to justify further attention by the Bureau of Mines, although he suggested that detailed geologic mapping might disclose areas in which further exploration would be justified. The results of the Treadwell-Yukon trenching and ~~assembling~~ sampling evidently were not available to him.

The only suggestion I have for the Field Team is that it is almost certain that Wisser and Harman would have made a report on the property at the same time they did the geologic mapping and sampling in 1949. If such a report is in existence it should be made available to the DMEA in connection with this application.

The application and maps have been returned to your office separately.

C. H. Johnson
C. H. Johnson

Copy to - Mr. Newcomb, USGS
Minerals Division
C. H. Johnson
Files

August 16, 1954
Subject: DMEA-3447
Re: Exploration Assistance
Crown Point Claims

Mrs. Carol S. Plant
930 De Young Bldg.
690 Market St.
San Francisco, Calif.

Dear Mrs. Plant:

The receipt of your application dated August 12, 1954 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3447 and referred to the Base Metals Division.

Kindly refer to in any future correspondence relating to your application.

Sincerely yours,

August 12, 1954

Mr. C. O. Mittendorf, Administrator
Defense Minerals Exploration Administration
United States Department of Interior
Washington 25, D. C.

Dear Mr. Mittendorf:

Herewith we enclose for copies of an application for government assistance to explore and drill the Crown Point claims described in the attached papers. This property has an important surface showing of base metals that may develop into a substantial producer of the metals.

Two copies of the application have maps included, and the other two do not.

Please note that examination by your San Francisco Field Team should be made in September or early October as the climate is uncertain after that time. The writer will accompany your engineer and provide accommodations while he is at the mine.

Yours truly,

Carol S. Plant

Carol S. Plant

Room 1016 Story Bldg.
610 S. Broadway
Los Angeles 14, California

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3447
Metal or Mineral Copper-Lead-Zinc
Date Received
Estimated Cost
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: (Mrs.) Carol S. Plant,
930 De Young Bldg., 690 Market St., San Francisco, Calif.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

See attached papers for answers to all questions.

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as cont[illegible] veins, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or other indirect costs, or work performed or costs incurred before the date of the contract, should be included in estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☑ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

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.

Dated August 12, 1954

Gordon S. Plants
(Applicant)

By .....

.....

.....

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Carol S. Plant
930 DeYoung Bldg.,
690 Market Street
San Francisco, Calif.

3. (a) The six claims of the group on which exploration is planned are all unpatented and described as follows:
Located in T. 3 S., R. 26 E., M.D.B.& M. in Mt. Lyell Quadrangle. (U.S.G.S.) unsurveyed section.

Crown Point Mine, located and recorded 9/5, 1939, Book 127, page 1379, Madera County Records.
Crown Point Mine No. 1, same date, recorded Book 127, p 380

Crown Point Mine No. 2, same date, recorded Book 127, p 381

Fortuna Mine, located and recorded 9/5, 1939, recorded Book 127, page 382

Fortuna Mine No. 1, same date, recorded Book 127, p 383

Fortuna Mine No. 2, same date, recorded Book 127, p 384

All locations in the name of applicant, Carol S. Plant.

The property is located in the Minaret Mining District, in the extreme northeastern part of Madera County, Calif., a few miles distant from the upper head waters of the Middle Fork of San Joaquin River. It is in a rugged section just west of the main crest of the high Sierra Nevada mountains. It lies within the Sierra National Forest, and was at one time included in Yosemite National Park from which it was separated in 1905. Elevations range from 8130 ft. below Shadow Creek Falls, on the Middle Fork of San Joaquin River to 10,500 ft. at the Garnet Lake Divide.

(b) The property has been known as the Nidever group, and later as Shadow Creek Mines.

(c) Applicant is owner of the six unpatented claims of the group.

(e) There are no liens or encumbrances, and the assessment work for 1954 has just been completed.

No. 4 PHYSICAL DESCRIPTION

(a) No recent mining operations have been carried out on the property except that trenches have been cleaned out and sampled and assessment work has been done. Roads and trails have had some work done on them and the existing mine workings and open-cuts are accessible for examination purposes. On Crown Point claim on the north ore zone a short tunnel has been run, and an open-cut nearby exposes a wide ore body which was sampled, showing 30 ft. of ore assaying $15.73 per ton, (at present metal prices $21.70).

South of Shadow Creek an open-cut has been made on a galena showing which was sampled, showing 15 ft. of silver-lead ore, assay value $31.17 per ton. Below this open-cut a short tunnel has been driven but did not encounter a lens of ore. On up the mountain several open-cuts have been opened on mineralized showings, some of which were sampled with encouraging results.

The attached map shows most of the trenches and cuts on the north ore zone which is about 2000 ft. in length and is the section proposed to be drilled under the loan applied for.

A good camp has been set up at Shadow Creek at an elevation of 9100 ft. and from which camp, trails lead both north and south to the mineralized areas. Practically all work of development would be by adits, as will be detailed later.

(b) The property is a prospect with little proved ore reserves, but with a large surface showing fully warranting drilling and development. As far as known there has been no production or ore shipments from the property.

(c) The geologic features of the property have been well described by Oscar Hershey who visited the property in 1920, and by Erwin of the California State Mining Division, who spent considerable time on the property in 1931-33 and made a geologic report which was published January, 1934, in Vol. 30, No. 1 of the California Journal of Mines and Geology. Excerpts from these two reports are attached hereto. Also, a geologic map of the north ore zone of the Shadow Creek prospect by Edw. Wisser and J. W. Harman in included. This map indicates the ore lenses but the ore bodies are probably more extensive and continuous than the map indicates.

The type of deposit is a contact metamorphic ore zone of great width, within which are numerous lenses of commercial ore, the chief values being silver, copper, lead and zinc. The property has been sampled by a Treadwell-Yukon engineer, who dug most of the trenches on the north ore-zone, and by others. (reports not available) The lenses of ore shown by these trenches and some additional cuts, indicate a strong mineralization of the metamorphosed limestone, which dips nearly vertical, and Hershey believes the ore deposition will be stronger as the underlying intrusive (granodiorite) is approached at depth. At what depth

this contact will be found is problematical but this great inclusion of metamorphic rocks in the Sierra Nevada granodiorite appears to be over 2000 ft. in thickness. If the ore goes to this depth and ore bodies at depth are larger and higher grade than surface sulphide ores a profitable mine of magnitude could develop. This probability is what makes the mine attractive for drilling.

Hershey has also expressed the opinion that similar mineralization will be found at depth in the limestone member south of the fault which cuts off the north ore-body. (see extract from his report)

The T-Y sampling of ore-lenses in the north ore-zone gave average values, at present prices for metals, as follows:

			Per ton
Silver	2.37 oz.	@ 90¢	$ 2.13
Copper	0.676 %	@ 30¢	4.05
Lead	0.57 %	@ 14¢	1.60
Zinc	5.90 %	@ 10.5¢	12.39
	Total assay value	-	$20.17

The width sampled in the 16 trenches averaged 19.9 ft. Check sampling by others gave similar total values and widths.

To get maximum returns on this ore, selective flotation must be used, followed by smelting of copper-lead concentrate, and electrolytic treatment of zinc concentrate, making use of the ample power resources near the mine. In this way metals only will be shipped and transportation costs thus reduced to the minimum.

Two drill holes were put down on the north zone in 1927, prior to present ownership; one of which is reported to have found ore, grade unknown as no cores were kept. The exploration work planned is indicated on the attached map. The work contemplated is largely diamond drilling of the 2000 ft. length of ore zone north of Shadow Creek. In addition it is necessary to add to the camp facilities, and some minor equipment is necessary to carry out the work.

(d) The property is 58 miles by road and trail from Bishop, California, 43 miles of which are paved as far as Mammoth Lakes Town, from which a good dirt road 10 miles in length leads over the mountain to Agnew Meadows. From Agnew Meadows to the camp on Shadow Creek, above Shadow Creek Lake, the only access is over a trail 4½ miles long. It is proposed later to build an automobile road as far as the San Joaquin River below Shadow Lake, and from this point, a distance of about 3 miles, a good tractor road is to be built and a rough survey has already been made of the route. This road will be rather steep in places,

but can, at not too great a cost, be made into a good truck road later on. Supplies will have to be brought in from the highway, and Bishop is the nearest trading center. The thriving resort town of Mammoth Lakes is on the road to the mine and the distance from this town to Agnew Meadows is 10 miles. It would be necessary to house the men working on this project at the camp on Shadow Creek, and tents and beds for 10 men will be needed.

(e) Miners and other necessary labor are available in Bishop or Los Angeles. Materials and supplies are available at Bishop, Reno or Los Angeles, and equipment of all kinds at the latter place.

There is an abundance of water available in this section, and numerous lakes, creeks and rivers are on or adjacent to the property. The heavy run-off from Mt. Ritter and the Minarets provide ample water under a head that would provide power in sufficient quantity for mining, milling and electrolytic treatment of concentrates.

Within a few miles of the proposed mill-site on the Middle Fork of San Joaquin River, below Shadow Creek Falls, there are four hydro-electric power sites, capable of producing a total of more than 10,000 K.W. Additional power can be produced by a large installation on San Joaquin River about ten miles below Agnew Meadows. The first power plant located on upper Shadow Creek near the present mine camp, would produce 800 H.P. or ample for mine use.

During part of the winter there might be a shortage of water, necessitating partial closing of the electrolytic zinc plant.

5. THE EXPLORATION PROJECT:

(a) The metals for which the exploration loan is desired, are copper, lead, zinc and silver.

(b) The work planned to be done is shown on attached map, and is as follows:

Diamond drill the north ore zone on Crown Point and Crown Point No. 1 claims, to prove at depth the large indicated ore bodies or lenses. Holes 400 ft. in length on about a 45 degree angle would prove the ore at a depth of 250 ft. In addition it is planned to drill two or three deep holes to prove the ore to 500 ft. depth. Total footage approximately 18,000, contracted @4.00 ft. $72,000.00

Other necessary work planned:

Packing in and out two complete diamond drills, (gasoline driven) including accessories and supplies, estimated cost,	2,000.00
Camp equipment, tents, etc. including packing,	2,500.00
Groceries and supplies packed in weekly, for 3 mos.	3,000.00

Engineering, supervision and assaying	$ 8,000.00
Cook and helper, 3 mos.	1,800.00
Compensation and S. S. taxes	600.00
General expense	1,400.00
Total Estimated Cost	$91,300.00
Add 5% for unforseen	4,600.00
Total	$95,900.00

Note - The figure given for drilling is a firm bid by a reliable contractor, but does not include packing in equipment from Agnew Meadows to the drilling site.

The drill holes are to be spaced 50 ft. apart along a distance of 2000 ft. and will give a good cross section at depth of the ore lenses showing in the surface trenches. These lenses are often of considerable width and length and apparently are overlapping in places.

The sludge and core samples will be marked and sent either to a Bishop or Los Angeles assayer, with occasional checks by another reliable assayer and chemist, (or possible by a Bureau of Mines lab.)

As tungsten has been found in the ores, composites will be run for WO_3, in addition to Cu, Pb, Zn, and Ag on all samples.

(c) The time required to get approval of this application and examination of the property by your Regional engineer will likely consume a good part of the 1954 summer season, so that actual drilling cannot be undertaken until about June 1, 1955. The work can be completed within 5 months thereafter, or Nov. 1, 1955.

(d) The applicant has had several years of mining experience and has spent parts of each summer at the Shadow Creek mines, and has visited all the showings on the property and nearby claims.

The technical work planned will be under the supervision of the Union Engineering Co. well known engineers of Los Angeles; B. M. Snyder of this company has reported on the property and on the metallurgical plans connected therewith.

6. ESTIMATE OF COSTS:

This is shown under 5 - b. Total cost is estimated at $95,900.00.

(a) The diamond drilling is to be contracted and a firm bid of $4.00 per ft. has been made, by a large contractor having 30 diamond and core drills available.

Packing in supplies to be contracted as shown.

Assaying will be contracted at rates not determined at present, but $3,000.00 has been allowed for this work.

All other work will be done by applicant.

(b) Rates of pay for work not contracted:

Supt. (full time)	$350.00	per month	and board.	
Consulting Engineer, (part time)	400.00	"	"	and traveling expenses.
Cook, (full time)	360.00	"	"	and board
Helper, (full time)	240.00	"	"	and board.

(c) Power for drilling will be gasoline engine and is furnished by contractor. Water is plentiful and contractor will supply himself. Gasoline will be packed in once a week, together with groceries.

Wood fuel is plentiful for the cookhouse.

(d) Operating equipment. The drills and engines and accessories are furnished by contractor. Camp equipment will be purchased, as shown

(e) Rehabilitation of existing buildings and equipment not required.

(f) Only improvements to be furnished are 5 tent-houses, and beds and bedding. Some essentials for the cook-house have been stolen and will have to be replaced, but these will cost only a few hundred dollars. $2,500.00 has been allowed for all of the above, including trucking and packing.

(g) This is covered in estimate.

(h) Contingencies have been allowed for by a 5% addition for unforseen. No general overhead, interest or property taxes, etc. have been included.

Assessment work for 1954 has been done, and the report filed with the County Recorder.

NOTE - The development work planned, if drilling is favorable, is by 3 adits, the first at the south end of the drilled area to give a depth of 250 ft. on the lode; the second from near the present camp to give an additional 500 ft. depth. This third adit could later be run from the proposed mill site on the San Joaquin river, to give another 1000 ft. depth, or 1750 ft. below the outcrop of the north ore zone.

SHADOW CREEK MINES
TREADWELL-YUKON COMPANY TRENCH ASSAYS
September 1930
by Abbot A. Hanks, Inc.

Tr. No.	Sa. No.	Ag. Oz.	Cu. %	Pb. %	Zn. %	Width
1	1	8.70	2.30	2.10	7.27	4'
	2	12.40	2.10	3.51	3.49	3.5'
2	3	3.00	1.05	.70	6.47	3'
	4	3.60	.67	1.30	3.24	4'
	5	11.06	1.60	2.70	4.48	6'
3	6	1.30	.47	.0	9.20	2'
	7	1.00	.31	.0	5.58	6'
	8	2.26	1.78	.0	1.59	3.5'
	9	1.70	1.90	.0	4.68	4'
	10	1.50	1.83	2.61	12.15	5'
4	11	2.00	.52	.05	2.44	4'
	12	3.69	2.68	.05	3.11	4.5'
	13	.26	.10	.0	1.19	1'
	14	.74	.07	1.80	4.33	1'
	15	1.20	.10	.0	3.53	2'
	16	.73	.25	.0	7.52	2'
	17	3.59	.52	2.31	9.11	3.5'
5	18	1.60	.02	.85	7.22	6.5'
	19	.40	.01	Tr	2.97	2'
	20	.30	.01	.35	1.21	3.5'
	21	.90	.02	.18	3.67	2'
	22	Tr	.02	.0	.25	2'
	23	1.29	.02	.05	6.04	5'
	24	2.40	1.13	Tr	7.00	4'
	25	1.80	1.35	.0	12.39	5'
	26	.39	.37	.0	3.68	2.5'
6	27	2.30	1.00	.45	7.15	4'
	28	1.00	.15	.45	4.33	2.5'
	29	.50	.12	.50	3.98	6'
7	30	.90	.12	1.20	5.59	3'
	31	.30	.05	2.60	1.16	2'
	32	.97	.07	1.15	6.44	4'
	33	1.19	.07	.40	7.41	4'
	34	.10	.10	.0	10.93	7'
	35	.0	.06	.0	6.65	3'
8	36	.42	.03	1.45	5.69	5'
	37	.60	.20	.0	6.65	5'
	38	1.00	.95	.0	4.02	5'
	39	.29	.02	.0	10.33	5'
	40	3.30	1.73	.60	1.76	3'

Shadow Creek Mines
Treadwe[illegible]-Yukon Co. Trench Assays

Tr. No.	Sa. No.	Ag. Oz.	Cu. %	Pb. %	Zn. %	Width
9	41	.09	.29	.0	6.30	5'
	42	1.40	.02	Tr	6.09	5'
	43	.30	.15	.0	9.07	5'
	44	.08	.20	.0	6.60	5'
	45	.54	.50	.0	1.10	2'
	46	.80	.05	.0	4.58	3'
	47	2.50	.60	1.36	7.81	6'
	48	1.47	.80	.45	5.28	6'
10	49	.81	.07	.0	6.24	3'
	50	6.82	.33	1.70	13.95	3'
	51	.67	.02	.0	3.37	3'
	52	.41	.41	.0	7.15	5'
	53	2.06	2.05	.0	.55	5'
	54	3.33	2.31	.0	.75	5'
	55	.59	.43	.0	7.15	5'
	56	.82	1.23	.0	5.39	5'
	57	4.04	1.45	.4	.74	5'
	58	1.34	.85	.0	3.77	6'
	59	3.06	.83	.85	.45	3'
	60	2.00	.75	.18	3.42	3'
11	61	1.08	.70	.0	8.31	5'
	62	1.10	.42	.0	7.81	5'
	63	4.34	1.15	.6	2.10	5'
	64	4.70	.35	1.10	1.50	5'
	65	3.40	.35	1.20	9.87	1'
	66	2.38	.30	.66	12.85	5'
12	68	4.32	2.96	.0	6.04	3'
	69	.94	.25	.0	13.35	5'
	70	6.95	.74	1.70	6.65	5'
	71	.46	.17	.0	8.81	4'
	72	1.67	.11	.0	6.64	4'
	73	12.31	1.67	3.80	1.06	4'
13	74	1.31	.60	.0	8.82	5'
	75	30.13	.10	6.52	.60	2.5'
14	76	1.94	.07	.70	3.68	
15	77	1.30	1.19	Tr	3.92	4'
	78	.96	.15	.0	2.41	4'
	79	1.80	.05	.0	5.24	2.5'
16	80	.84	.92	.0	15.91	1.5'
	81	.72	.05	.0	10.86	4.5'
	82	.29	.03	.0	12.29	4.5'
Average		2.37	.676	.57	5.90	19.9'
Check Sampling		2.2	1.00	.3	4.9	18.3'

EXTRACTS FROM GEOLOGIC
REPORT OF OSCAR HERSHEY
Made in 1920

The lode consists of from 100 to 300 feet thickness of highly metamorphosed sediments that were originally interbedded shales and limestones, but are now hornfels, marble and contact metamorphic silicates of which garnet and epidote are the most prominent, and locally there is much amphibolite, chlorite, quartz and calcite.

The limestone beds were in long thin lenses, the strata have been tilted to a nearly vertical position, strike about N 20° W and along the lode generally dip eastward 80°, but vary to vertical or for short distances are reversed in dip. Immediately west of the belt of sediments there is a belt several hundred feet wide of fine-grained quartzite-like rock that is probably a highly altered rhyolite and rhyolite tuff. Some of it is a fine-textured quartz sericite schist. West of this, chiefly south of Shadow Creek, there is another sedimentary belt 100 to 200 feet wide consisting of a succession of thin layers of light gray limestone and somewhat thicker layers of chert and locally contact metamorphic minerals. West of this there is a complex consisting of the ancient rhyolite and tuff extensively intruded by a dark gray porphyritic rock that was a diorite or gabbro and is now very rich in epidote. Beyond this belt there is an extensive area of light-colored intrusive rock, it may be the quickly cooled border portion of the great mass of granodiorite of the High Sierra region. It is the intrusive to which I attribute the metamorphism of the older rocks. The contact usually dips eastward 60° to 70°.

East of the lode to and beyond the mouth of Shadow Creek there is a succession of belts of the highly altered ancient rhyolite and tuff, slaty and schistose rocks. The rocks all strike northward and dip steeply. Because of these steep dips the intrusive contacts are steep. The succession of rhyolite and tuffs, shales and limestones suggests the Triassic series of western Nevada. My impression is that we have here an immense inclusion of Triassic rocks embedded in the great granodiorite batholith of the Sierra Nevada region. To the heat and vapors emanating from this batholith is due the strong metamorphism of the inclusion. Silicification and sericitization were very extensive in the shales and rhyolite and epidote were developed on a grand scale. In the limestones the ordinary contact minerals including garnet were developed.

Some question might remain as to which intrusive is responsible for the metamorphism. Toward the summit of the ridge south of Shadow Creek the diorite or metagabbro belt approaches and finally adjoins the limestone-chert belt and it narrows the latter to less than half its normal width. Its only effect on the limestone has been to convert it into a fine-grained white marble to a width of about 5 feet. Besides, the epidotization that is one of the products of the general metamorphism of the region has strongly affected the basic intrusive.

A large part of the contact metamorphic rock of the lode belt is practically free from sulphides, but locally there are lenses and irregular bodies rich in sulphides of which sphalerite is the most abundant. Thus the ore deposits are of the contact metamorphic class. The most characteristic feature of this class from a mining standpoint is irregularity and lack of continuity. They usually occur where a thick bed of limestone has been intruded by a granitic rock and have been formed in the limestone against or near the contact. In a few cases the deposits have been large enough or numerous enough in a small area to make large mines, but usually the history is that one small deposit is worked out and there is nothing to guide the miner to another deposit except the contact. In this case, however, the intrusive must cut the thin limestone lenses at depth and the metamorphism has extended upward along the lenses to a great height, so that the ore now seen is far from the contact and is confined to a lode-like zone that will guide the exploration.

The early products of oxidation and secondary sulphide enrichment were completely removed by glacial abrasion during the Glacial Period and since the disappearance of the ice, oxidation has extended to the depth of a few feet only. The outcrop is porous and stained brown. Mr. Nidiver calls this material gossan. Galena may occur at the surface. All the primary sulphides are usually found in a 5-foot shaft.

The section of the lode north of Shadow Creek that is strongly mineralized is about 2000 feet long, is terminated on the north partly by too great altitude of the surface and partly by the pinching out of the limestone lenses and on the south by a fault. Some zinc ore could be sorted out and shipped crude. Most of it would have to be milled to separate the sphalerite, chalcophyrite, and galena, probably by means of a further refinement of the selective flotation process.

Going eastward on the south side of the fault, presently a little marble appears south of the fissure, then the zone of hornfels, marble and contact silicates rapidly widens, to its normal width, assumes its normal course and runs thus to Shadow Creek, on the Crown Point No. 2 claim, but it contains only a little scattered spheloxite and galena. Why this contrast with the other side of the fault? I will attempt an explanation. The throwing of the limestone beds 1000 feet farther east takes them that much farther distant horizontally from the metamorphosing intrusive which means that the present surface is 1700 feet higher above the contact traversing the beds than is the lode at the same altitudes north of the fault. In other words, the present surface between the fault and Shadow Creek is too high for ore, though actually lower in altitude than the ore exposed north of the fault. Indeed, much of the limestone has not been converted into contact silicates. At greater depth this section also may contain much ore. I may be mistaken in this, but I certainly am warranted in entertaining the hope.

South of Shadow Creek the belt of marble, hornfels and garnet-epidote rock is 100 to 300 feet wide, but there is little mineral to a point above the 35-foot tunnel on the Fortuna No. 2 claim.

In contact metamorphic ore deposits galena is usually not much deposited near the contact and characterizes the portion of the deposit farthest from the contact. Bodies of rock that are chiefly garnet and represent limestone beds are strongly developed from near the mouth of the tunnel to 300 feet from the south end of the Fortuna No. 1 claim, a distance of probably 1800 feet. Nidiver has managed to find and dig cuts in most of the appreciably lead-bearing portions. One lens near the south end may be large enough to have possibilities, but it becomes sincy southeast.

The Fortuna No. 3 claim, lying west of the Fortuna No. 1 claim, has been located on the chert-limestone belt which here has been subjected to a peculiar alteration. The outcrop shows thin-banded garnet rock and hornfels much stained with manganese oxide which I suspect of having been derived from layers of manganese-bearing siderite or secondary calcite that have replaced the limestone layers and that have decayed near the surface and made crevices along the bands. Several shallow holes show a little rather fine-grained galena and sphalerite and Nidiver thinks this may be an immense low-grade ore body. He said that a surface sample taken across a considerable width carried 7% lead, and that in this deposit there is 1/2 oz. silver to each per cent lead. The ore which he thinks may be lead-bearing to an appreciable extent may be 300 feet long and 100 feet wide, but the altered rock is much longer and 150 feet in maximum width.

I do not know whether the deposit is or is not a large ore body. I am naturally rather skeptical, but I can see a chance that in the decay of carbonate layers galena and sphalerite may have been destroyed and leave nothing identifiable at the surface.

The possibilities are so great that this certainly deserves investigation underground, either by a deep cut across the outcrop or a tunnel across the belt.

At levels above 10,000 feet most of the limestone-chert belt is not appreciably metamorphosed, but a lens of the brown-stained material occurs on the west side of the belt, pretty well up. It is not covered by the Nidiver claims and is probably subject to location.

On the Colburn property, on the south slope of the ridge, the limestone-chert belt is again strongly metamorphosed and is several hundred feet wide. The value of the Colburn property lies not in such mineral deposits as may be seen on it, but in the theoretical possibility that at depth, near the contact, the altered limestone belts may contain large bodies of zinc ore.

Contact metamorphic ore deposits usually extend to the intrusive contact. Under the theory officially promulgated by the United States Geological Survey, the metals were derived from the intruded magma, and usually began to be deposited immediately upon entering the limestone. The contact metamorphic action is strongest adjacent to the contact. It may follow that the ore deposits should be largest near the contact and that is generally found to be the case. On that basis we may look for a great increase of ore with depth, especially near the contact. The proportion of lead should become less, the proportion of copper greater with depth.

Therefore I say that it is highly probable that these deposits will extend strong to the contact and in that fact lies the great attractiveness of the property.

EXTRACTS OF MINERAL RESOURCES OF NORTHEASTERN MADERA COUNTY, CALIF.

by Homer D. Erwin, Division of Mines, January, 1934.

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LEAD-ZINC DEPOSITS

In the lead-zinc mineralization, two classes of deposits have been recognized: those deposits which occur in limestone, and those which form true vein types. The deposits in limestone are the most important.

The deposits of this class are found principally in the basins of Shadow and Minaret Creeks. The Shadow Creek deposits consist largely of primary lead and zinc ores in an altered limestone member, while the Minaret Creek deposit consists largely of lead ore. Both of the deposits carry silver and copper values.

On the north side of the Shadow Creek basin, near the summit of the Shadow-Garnet Divide, a prominent outcrop of ore is found which consists essentially of sphalerite, chalcopyrite, and galena in a highly altered limestone. The limestone member is from 100 to 150 feet wide, and has a strike of N. 25° to 35° W., and a vertical dip. Interbedded with the limestone on either side are generally metamorphosed rhyolitic tuffs and flow rock. A dark-green diorite porphyry-intrusive crops out a short distance west of the limestone and parallels this member, more or less, throughout its surface exposure. Although the limestone is extensively altered, the original bedding and parting-structure is commonly preserved. This is especially true where epidote and garnet are the important minerals to have been developed, resulting in a greenish and brownish banded-appearing rock. Where actinolite is abundant, the original character of the rock is entirely lost as a much coarser grade of crystallinity is normally present. Alteration to the silicate minerals has been somewhat selective and relatively unaltered patches of crystalline limestone frequently occur. Veinlets and drusy cavities of a quartz are commonly scattered throughout the rock. Garnet and epidote are common with the quartz.

The ore consists of an iron-bearing variety of sphalerite (black jack), chalcopyrite, pyrite and galena which carries silver. The zinc mineral is most abundant on the north side of Shadow Creek, with chalcopyrite and galena subordinate. The ore occurs generally in a somewhat large and irregular mass and as lenses, kidneys, rude veins, and disseminations through the altered limestone. Oxidation of the primary minerals has been slight and only a small amount of staining occurs in the copper ores. Some anglesite occurs in the lead ores.

On the south of Shadow Creek canyon, between the creek and the top of the divide, there are several small outcrops of ore which consist essentially of silver-bearing galena with a lesser amount of pure sphalerite, and chalcopyrite. The ore is disseminated or forms veinlets through a crystalline limestone in which relatively little alteration to silicate minerals is found. Locally,

however, patches of epidote, garnet, and rhodonite occur. The member varies from 150 to 200 feet in width, and generally the original bedding-structure is preserved. The meta-volcanic rocks are in contact with the limestone. High on the south wall of Shadow Creek, limestone is in contact with a diorite porphyry intrusion.

In Minaret Creek basin, there is one prominent occurrence of ore on Johnston Creek at about 10,000 feet. This deposit lies in the continuation of the same limestone which is host to the Shadow Creek deposits. In this vicinity, the limestone is crystalline with the bedding structure generally well preserved, and has undergone little alteration to silicate minerals. Of the new minerals developed, epidote is the most common with small amounts of actinolite and tremolite. At the Minaret Mine, the limestone ranges from 200 to 300 feet in width, strikes N. 40° to 45° W. and dips from the vertical to 80° northeast. In immediate contact with the limestone are metamorphosed rhyolitic crystal tuffs with the diorite porphyry intrusion very near to the west. Basic dikes which range up to several feet in width are intrusive into the limestone.

The ore of the Johnston Creek deposit consists of argentiferous galena with some chalcopyrite and pyrite, but sphalerite is absent. The limestone has a peculiar dark-brown to blackish appearance which is due to iron and manganese oxide staining. The ore occurs as irregular patches, lenses, and disseminations controlled by pre-mineral cross-fractures in the limestone. The most important controlling factor in the mineralization has been the intersection of pre-mineral cross-faults with the bed and parting structure of the limestone.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3447
Metal or Mineral Cu., Lead, Zinc, ~~silver~~
Date Received
Estimated Cost $95,900
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: (Mrs.) Carol S. Plant,
930 De Young Bldg., 690 Market St., San Francisco, Calif.

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract

See attached papers for answers to all questions.

(*b*) State any mine name by which the property is known.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore .....

.....

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, ore-bearing beds, etc.

(*c*) The work will start within ..... days and be completed within ..... months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☑ Money ☐ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

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.

Dated August 12, 1954

Sarah S. Plant
(Applicant)

By .....

.....

.....

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

U. S. GOVERNMENT PRINTING OFFICE 16—66551-1

Carol S. Plant
930 DeYoung Bldg.,
690 Market Street
San Francisco, Calif.

3. (a) The six claims of the group on which exploration is planned are all unpatented and described as follows:
Located in T. 3 S., R. 26 E., M.D.B.& M. in Mt. Lyell Quadrangle. (U.S.G.S.) unsurveyed section.

Crown Point Mine, located and recorded 9/5, 1939, Book 127, page 1379, Madera County Records.
Crown Point Mine No. 1, same date, recorded Book 127, p 380

Crown Point Mine No. 2, same date, recorded Book 127, p 381

Fortuna Mine, located and recorded 9/5, 1939, recorded Book 127, page 382

Fortuna Mine No. 1, same date, recorded Book 127, p 383

Fortuna Mine No. 2, same date, recorded Book 127, p 384

All locations in the name of applicant, Carol S. Plant.

The property is located in the Minaret Mining District, in the extreme northeastern part of Madera County, Calif., a few miles distant from the upper head waters of the Middle Fork of San Joaquin River. It is in a rugged section just west of the main crest of the high Sierra Nevada mountains. It lies within the Sierra National Forest, and was at one time included in Yosemite National Park from which it was separated in 1905. Elevations range from 8130 ft. below Shadow Creek Falls, on the Middle Fork of San Joaquin River to 10,500 ft. at the Garnet Lake Divide.

(b) The property has been known as the Nidever group, and later as Shadow Creek Mines.

(c) Applicant is owner of the six unpatented claims of the group.

(e) There are no liens or encumbrances, and the assessment work for 1954 has just been completed.

No. 4 PHYSICAL DESCRIPTION

(a) No recent mining operations have been carried out on the property except that trenches have been cleaned out and sampled and assessment work has been done. Roads and trails have had some work done on them and the existing mine workings and open-cuts are accessible for examination purposes. On Crown Point claim on the north ore zone a short tunnel has been run, and an open-cut nearby exposes a wide ore body which was sampled, showing 30 ft. of ore assaying $15.73 per ton, (at present metal prices $21.70).

South of Shadow Creek an open-cut has been made on a galena showing which was sampled, showing 15 ft. of silver-lead ore, assay value $31.17 per ton. Below this open-cut a short tunnel has been driven but did not encounter a lens of ore. On up the mountain several open-cuts have been opened on mineralized showings, some of which were sampled with encouraging results.

The attached map shows most of the trenches and cuts on the north ore zone which is about 2000 ft. in length and is the section proposed to be drilled under the loan applied for.

A good camp has been set up at Shadow Creek at an elevation of 9100 ft. and from which camp, trails lead both north and south to the mineralized areas. Practically all work of development would be by adits, as will be detailed later.

(b) The property is a prospect with little proved ore reserves, but with a large surface showing fully warranting drilling and development. As far as known there has been no production or ore shipments from the property.

(c) The geologic features of the property have been well described by Oscar Hershey who visited the property in 1920, and by Erwin of the California State Mining Division, who spent considerable time on the property in 1931-33 and made a geologic report which was published January, 1934, in Vol. 30, No. 1 of the California Journal of Mines and Geology. Excerpts from these two reports are attached hereto. Also, a geologic map of the north ore zone of the Shadow Creek prospect by Edw. Wisser and J. W. Harman in included. This map indicates the ore lenses but the ore bodies are probably more extensive and continuous than the map indicates.

The type of deposit is a contact metamorphic ore zone of great width, within which are numerous lenses of commercial ore, the chief values being silver, copper, lead and zinc. The property has been sampled by a Treadwell-Yukon engineer, who dug most of the trenches on the north ore-zone, and by others. (reports not available) The lenses of ore shown by these trenches and some additional cuts, indicate a strong mineralization of the metamorphosed limestone, which dips nearly vertical, and Hershey believes the ore deposition will be stronger as the underlying intrusive (granodiorite) is approached at depth. At what depth

this contact will be found is problematical but this great inclusion of metamorphic rocks in the Sierra Nevada granodiorite appears to be over 2000 ft. in thickness. If the ore goes to this depth and ore bodies at depth are larger and higher grade than surface sulphide ores a profitable mine of magnitude could develop. This probability is what makes the mine attractive for drilling.

Hershey has also expressed the opinion that similar mineralization will be found at depth in the limestone member south of the fault which cuts off the north ore-body. (see extracts from his report)

The T-Y sampling of ore-lenses in the north ore-zone gave average values, at present prices for metals, as follows:

			Per ton
Silver	2.37 oz.	@ 90¢	$ 2.13
Copper	0.676 %	@ 30¢	4.05
Lead	0.57 %	@ 14¢	1.60
Zinc	5.90 %	@ 10.5¢	12.39
	Total assay value -		$20.17

The width sampled in the 16 trenches averaged 19.9 ft. Check sampling by others gave similar total values and widths.

To get maximum returns on this ore, selective flotation must be used, followed by smelting of copper-lead concentrate, and electrolytic treatment of zinc concentrate, making use of the ample power resources near the mine. In this way metals only will be shipped and transportation costs thus reduced to the minimum.

Two drill holes were put down on the north zone in 1927, prior to present ownership; one of which is reported to have found ore, grade unknown as no cores were kept. The exploration work planned is indicated on the attached map. The work contemplated is largely diamond drilling of the 2000 ft. length of ore zone north of Shadow Creek. In addition it is necessary to add to the camp facilities, and some minor equipment is necessary to carry out the work.

(d) The property is 58 miles by road and trail from Bishop, California, 43 miles of which are paved as far as Mammoth Lakes Town, from which a good dirt road 10 miles in length leads over the mountain to Agnew Meadows. From Agnew Meadows to the camp on Shadow Creek, above Shadow Creek Lake, the only access is over a trail 4½ miles long. It is proposed later to build an automobile road as far as the San Joaquin River below Shadow Lake, and from this point, a distance of about 3 miles, a good tractor road is to be built and a rough survey has already been made of the route. This road will be rather steep in places,

but can, at not too great a cost, be made into a good truck road later on. Supplies will have to be brought in from the highway, and Bishop is the nearest trading center. The thriving resort town of Mammoth Lakes is on the road to the mine and the distance from this town to Agnew Meadows is 10 miles. It would be necessary to house the men working on this project at the camp on Shadow Creek, and tents and beds for 10 men will be needed.

(e) Miners and other necessary labor are available in Bishop or Los Angeles. Materials and supplies are available at Bishop, Reno or Los Angeles, and equipment of all kinds at the latter place.

There is an abundance of water available in this section, and numerous lakes, creeks and rivers are on or adjacent to the property. The heavy run-off from Mt. Ritter and the Minarets provide ample water under a head that would provide power in sufficient quantity for mining, milling and electrolytic treatment of concentrates.

Within a few miles of the proposed mill-site on the Middle Fork of San Joaquin River, below Shadow Creek Falls, there are four hydro-electric power sites, capable of producing a total of more than 10,000 K.W. Additional power can be produced by a large installation on San Joaquin River about ten miles below Agnew Meadows. The first power plant located on upper Shadow Creek near the present mine camp, would produce 800 H.P. or ample for mine use.

During part of the winter there might be a shortage of water, necessitating partial closing of the electrolytic zinc plant.

5. THE EXPLORATION PROJECT:

(a) The metals for which the exploration loan is desired, are copper, lead, zinc and silver.

(b) The work planned to be done is shown on attached map, and is as follows:

Diamond drill the north ore zone on Crown Point and Crown Point No. 1 claims, to prove at depth the large indicated ore bodies or lenses. Holes 400 ft. in length on about a 45 degree angle would prove the ore at a depth of 250 ft. In addition it is planned to drill two or three deep holes to prove the ore to 500 ft. depth. Total footage approximately 18,000, contracted @4.00 ft. $72,000.00

Other necessary work planned:

Packing in and out two complete diamond drills, (gasoline driven) including accessories and supplies, estimated cost,	2,000.00
Camp equipment, tents, etc. including packing,	2,500.00
Groceries and supplies packed in weekly, for 3 mos.	3,000.00

Engineering, supervision and assaying	$ 8,000.00
Cook and helper, 3 mos.	1,800.00
Compensation and S. S. taxes	600.00
General expense	1,400.00
Total Estimated Cost	$91,300.00
Add 5% for unforseen	4,600.00
Total	$95,900.00

Note - The figure given for drilling is a firm bid by a reliable contractor, but does not include packing in equipment from Agnew Meadows to the drilling site.

The drill holes are to be spaced 50 ft. apart along a distance of 2000 ft. and will give a good cross section at depth of the ore lenses showing in the surface trenches. These lenses are often of considerable width and length and apparently are overlapping in places.

The sludge and core samples will be marked and sent either to a Bishop or Los Angeles assayer, with occasional checks by another reliable assayer and chemist, (or possible by a Bureau of Mines lab.)

As tungsten has been found in the ores, composites will be run for WO_3, in addition to Cu, Pb, Zn, and Ag on all samples.

(c) The time required to get approval of this application and examination of the property by your Regional engineer will likely consume a good part of the 1954 summer season, so that actual drilling cannot be undertaken until about June 1, 1955. The work can be completed within 5 months thereafter, or Nov. 1, 1955.

(d) The applicant has had several years of mining experience and has spent parts of each summer at the Shadow Creek mines, and has visited all the showings on the property and nearby claims.

The technical work planned will be under the supervision of the Union Engineering Co. well known engineers of Los Angeles; B. M. Snyder of this company has reported on the property and on the metallurgical plans connected therewith.

6. ESTIMATE OF COSTS:

This is shown under 5 - b. Total cost is estimated at $95,900.00.

(a) The diamond drilling is to be contracted and a firm bid of $4.00 per ft. has been made, by a large contractor having 30 diamond and core drills available.

Packing in supplies to be contracted as shown.

Assaying will be contracted at rates not determined at present, but $3,000.00 has been allowed for this work.

All other work will be done by applicant.

(b) Rates of pay for work not contracted:

Supt. (full time)	$350.00	per	month	and board.
Consulting Engineer, (part time)	400.00	"	"	and traveling expenses.
Cook, (full time)	300.00	"	"	and board
Helper, (full time)	240.00	"	"	and board.

(c) Power for drilling will be gasoline engine and is furnished by contractor. Water is plentiful and contractor will supply himself. Gasoline will be packed in once a week, together with groceries.

Wood fuel is plentiful for the cookhouse.

(d) Operating equipment. The drills and engines and accessories are furnished by contractor. Camp equipment will be purchased, as shown.

(e) Rehabilitation of existing buildings and equipment not required.

(f) Only improvements to be furnished are 5 tent-houses, and beds and bedding. Some essentials for the cook-house have been stolen and will have to be replaced, but these will cost only a few hundred dollars. $2,500.00 has been allowed for all of the above, including trucking and packing.

(g) This is covered in estimate.

(h) Contingencies have been allowed for by a 5% addition for unforseen. No general overhead, interest or property taxes, etc. have been included.

Assessment work for 1954 has been done, and the report filed with the County Recorder.

NOTE - The development work planned, if drilling is favorable, is by 3 adits, the first at the south end of the drilled area to give a depth of 250 ft. on the lode; the second from near the present camp to give an additional 500 ft. depth. This third adit could later be run from the proposed mill site on the San Joaquin river, to give another 1000 ft. depth, or 1750 ft. below the outcrop of the north ore zone.

SHADOW CREEK MINES
TREADWELL-YUKON COMPANY TRENCH ASSAYS
September 1930
by Abbot A. Hanks, Inc.

Tr. No.	Sa. No.	Ag. Oz.	Cu. %	Pb. %	Zn. %	Width
1	1	8.70	2.30	2.10	7.27	4'
	2	12.40	2.10	3.51	3.49	3.5'
2	3	3.00	1.05	.70	6.47	3'
	4	3.60	.67	1.30	3.24	4'
	5	11.06	1.60	2.70	4.48	6'
3	6	1.50	.47	.0	9.20	2'
	7	1.00	.31	.0	5.58	6'
	8	2.26	1.78	.0	1.59	3.5'
	9	1.70	1.90	.0	4.68	4'
	10	1.50	1.83	2.61	12.15	5'
4	11	2.00	.52	.05	2.44	4'
	12	3.69	2.68	.05	3.11	4.5'
	13	.26	.10	.0	1.19	1'
	14	.74	.07	1.80	4.33	1'
	15	1.20	.10	.0	3.53	2'
	16	.73	.25	.0	7.52	2'
	17	3.59	.52	2.31	9.11	3.5'
5	18	1.60	.02	.85	7.22	6.5'
	19	.40	.01	Tr	2.97	2'
	20	.30	.01	.35	1.21	3.5'
	21	.90	.02	.18	3.67	2'
	22	Tr	.02	.0	.25	2'
	23	1.29	.02	.05	6.04	5'
	24	2.40	1.13	Tr	7.00	4'
	25	1.80	1.35	.0	12.39	5'
	26	.39	.37	.0	3.68	2.5'
6	27	2.50	1.00	.45	7.15	4'
	28	1.00	.15	.45	4.33	2.5'
	29	.50	.12	.50	3.98	6'
7	30	.90	.12	1.20	5.59	3'
	31	.30	.05	2.60	1.16	2'
	32	.97	.07	1.15	6.44	4'
	33	1.19	.07	.40	7.41	4'
	34	.10	.10	.0	10.93	7'
	35	.0	.06	.0	6.65	3'
8	36	.42	.03	1.45	5.69	5'
	37	.60	.20	.0	6.65	5'
	38	1.00	.95	.0	4.02	5'
	39	.29	.02	.0	10.33	5'
	40	3.30	1.73	.60	1.76	3'

Shadow Creek Mines
Treadwell-Yukon Co. Trench Assays

Tr. No.	Sa. No.	Ag. Oz.	Cu. %	Pb. %	Zn. %	Width
9	41	.09	.29	.0	6.30	5'
	42	1.40	.02	Tr	6.09	5'
	43	.30	.15	.0	9.07	5'
	44	.08	.20	.0	6.60	5'
	45	.54	.50	.0	1.10	2'
	46	.80	.05	.0	4.58	3'
	47	2.50	.60	1.36	7.81	6'
	48	1.47	.80	.45	5.28	6'
10	49	.81	.07	.0	6.24	3'
	50	6.82	.33	1.70	13.95	3'
	51	.67	.02	.0	3.37	3'
	52	.41	.41	.0	7.15	5'
	53	2.06	2.05	.0	.55	5'
	54	3.33	2.31	.0	.75	5'
	55	.59	.43	.0	7.15	5'
	56	.82	1.23	.0	5.39	5'
	57	4.04	1.45	.4	.74	5'
	58	1.34	.85	.0	3.77	5'
	59	3.06	.83	.85	.45	3'
	60	2.00	.75	.18	3.42	3'
11	61	1.08	.70	.0	8.31	5'
	62	1.10	.42	.0	7.81	5'
	63	4.34	1.15	.6	2.10	5'
	64	4.70	.35	1.10	1.50	5'
	65	3.40	.35	1.20	9.87	1'
	66	2.38	.30	.66	12.85	5'
12	68	4.32	2.96	.0	6.04	3'
	69	.94	.25	.0	13.35	5'
	70	6.95	.74	1.70	6.65	5'
	71	.46	.17	.0	8.81	4'
	72	1.67	.11	.0	6.64	4'
	73	12.31	1.67	3.80	1.06	4'
13	74	1.31	.60	.0	8.82	5'
	75	30.13	.10	6.52	.60	2.5'
14	76	1.94	.07	.70	3.68	
15	77	1.30	1.19	Tr	3.92	4'
	78	.96	.15	.0	2.41	4'
	79	1.80	.05	.0	5.24	2.5'
16	80	.84	.92	.0	15.91	1.5'
	81	.72	.05	.0	10.88	4.5'
	82	.29	.03	.0	12.29	4.5'
Average		2.37	.676	.57	5.90	19.9'
Check Sampling		2.2	1.00	.3	4.9	18.3'

EXTRACTS FROM GEOLOGIC
REPORT OF OSCAR HERSHEY
Made in 1920

The lode consists of from 100 to 300 feet thickness of highly metamorphosed sediments that were originally interbedded shales and limestones, but are now hornfels, marble and contact metamorphic silicates of which garnet and epidote are the most prominent, and locally there is much amphibolite, chlorite, quartz and calcite.

The limestone beds were in long thin lenses, the strata have been tilted to a nearly vertical position, strike about N 20° W and along the lode generally dip eastward 80°, but vary to vertical or for short distances are reversed in dip. Immediately west of the belt of sediments there is a belt several hundred feet wide of fine-grained quartzite-like rock that is probably a highly altered rhyolite and rhyolite tuff. Some of it is a fine-textured quartz sericite schist. West of this, chiefly south of Shadow Creek, there is another sedimentary belt 100 to 200 feet wide consisting of a succession of thin layers of light gray limestone and somewhat thicker layers of chert and locally contact metamorphic minerals. West of this there is a complex consisting of the ancient rhyolite and tuff extensively intruded by a dark gray porphyritic rock that was a diorite or gabbro and is now very rich in epidote. Beyond this belt there is an extensive area of light-colored intrusive rock, it may be the quickly cooled border portion of the great mass of granodiorite of the High Sierra region. It is the intrusive to which I attribute the metamorphism of the older rocks. The contact usually dips eastward 60° to 70°.

East of the lode to and beyond the mouth of Shadow Creek there is a succession of belts of the highly altered ancient rhyolite and tuff, slaty and schistose rocks. The rocks all strike northward and dip steeply. Because of these steep dips the intrusive contacts are steep. The succession of rhyolite and tuffs, shales and limestones suggests the Triassic series of western Nevada. My impression is that we have here an immense inclusion of Triassic rocks embedded in the great granodiorite batholith of the Sierra Nevada region. To the heat and vapors emanating from this batholith is due the strong metamorphism of the inclusion, Silicification and sericitization were very extensive in the shales and rhyolite and epidote were developed on a grand scale. In the limestomes the ordinary contact minerals including garnet were developed.

Some question might remain as to which intrusive is responsible for the metamorphism. Toward the summit of the ridge south of Shadow Creek the diorite or metagabbro belt approaches and finally adjoins the limestone-chert belt and it narrows the latter to less than half its normal width. Its only effect on the limestone has been to convert it into a fine-grained white marble to a width of about 5 feet. Besides, the epidotization that is one of the products of the general metamorphism of the region has strongly affected the basic intrusive.

A large part of the contact metamorphic rock of the lode belt is practically free from sulphides, but locally there are lenses and irregular bodies rich in sulphides of which sphalerite is the most abundant. Thus the ore deposits are of the contact metamorphic class. The most characteristic feature of this class from a mining standpoint is irregularity and lack of continuity. They usually occur where a thick bed of limestone has been intruded by a granitic rock and have been formed in the limestone against or near the contact. In a few cases the deposits have been large enough or numerous enough in a small area to make large mines, but usually the history is that one small deposit is worked out and there is nothing to guide the miner to another deposit except the contact. In this case, however, the intrusive must cut the thin limestone lenses at depth and the metamorphism has extended upward along the lenses to a great height, so that the ore now seen is far from the contact and is confined to a lode-like zone that will guide the exploration.

The early products of oxidation and secondary sulphide enrichment were completely removed by glacial abrasion during the Glacial Period and since the disappearance of the ice, oxidation has extended to the depth of a few feet only. The outcrop is porous and stained brown. Mr. Nidiver calls this material gossan. Galena may occur at the surface. All the primary sulphides are usually found in a 5-foot shaft.

The section of the lode north of Shadow Creek that is strongly mineralized is about 2000 feet long, is terminated on the north partly by too great altitude of the surface and partly by the pinching out of the limestone lenses and on the south by a fault. Some zinc ore could be sorted out and shipped crude. Most of it would have to be milled to separate the sphalerite, chalcophyrite, and galena, probably by means of a further refinement of the selective flotation process.

Going eastward on the south side of the fault, presently a little marble appears south of the fissure, then the zone of hornfels, marble and contact silicates rapidly widens, to its normal width, assumes its normal course and runs thus to Shadow Creek, on the Crown Point No. 2 claim, but it contains only a little scattered spheloritе and galena. Why this contrast with the other side of the fault? I will attempt an explanation. The throwing of the limestone beds 1000 feet farther east takes them that much farther distant horizontally from the metamorphosing intrusive which means that the present surface is 1700 feet higher above the contact traversing the beds than is the lode at the same altitudes north of the fault. In other words, the present surface between the fault and Shadow Creek is too high for ore, though actually lower in altitude than the ore exposed north of the fault. Indeed, much of the limestone has not been converted into contact silicates. At greater depth this section also may contain much ore. I may be mistaken in this, but I certainly am warranted in entertaining the hope.

South of Shadow Creek the belt of marble, hornfels and garnet-epidote rock is 100 to 300 feet wide, but there is little mineral to a point above the 35-foot tunnel on the Fortuna No. 2 claim.

In contact metamorphic ore deposits galena is usually not much deposited near the contact and characterizes the portion of the deposit farthest from the contact. Bodies of rock that are chiefly garnet and represent limestone beds are strongly developed from near the mouth of the tunnel to 300 feet from the south end of the Fortuna No. 1 claim, a distance of probably 1800 feet. Nidiver has managed to find and dig cuts in most of the appreciably lead-bearing portions. One lens near the south end may be large enough to have possibilities, but it becomes sincy southeast.

The Fortuna No. 3 claim, lying west of the Fortuna No. 1 claim, has been located on the chert-limestone belt which here has been subjected to a peculiar alteration. The outcrop shows thin-banded garnet rock and hornfels much stained with manganese oxide which I suspect of having been derived from layers of manganese-bearing siderite or secondary calcite that have replaced the limestone layers and that have decayed near the surface and made crevices along the bands. Several shallow holes show a little rather fine-grained galena and sphalerite and Nidiver thinks this may be an immense low-grade ore body. He said that a surface sample taken across a considerable width carried 7% lead, and that in this deposit there is 1/2 oz. silver to each per cent lead. The ore which he thinks may be lead-bearing to an appreciable extent may be 300 feet long and 100 feet wide, but the altered rock is much longer and 150 feet in maximum width.

I do not know whether the deposit is or is not a large ore body. I am naturally rather skeptical, but I can see a chance that in the decay of carbonate layers galena and sphalerite may have been destroyed and leave nothing identifiable at the surface.

The possibilities are so great that this certainly deserves investigation underground, either by a deep cut across the outcrop or a tunnel across the belt.

At levels above 10,000 feet most of the limestone-chert belt is not appreciably metamorphosed, but a lens of the brown-stained material occurs on the west side of the belt, pretty well up. It is not covered by the Nidiver claims and is probably subject to location.

On the Colburn property, on the south slope of the ridge, the limestone-chert belt is again strongly metamorphosed and is several hundred feet wide. The value of the Colburn property lies not in such mineral deposits as may be seen on it, but in the theoretical possibility that at depth, near the contact, the altered limestone belts may contain large bodies of zinc ore.

Contact metamorphic ore deposits usually extend to the intrusive contact. Under the theory officially promulgated by the United States Geological Survey, the metals were derived from the intruded magma, and usually began to be deposited immediately upon entering the limestone. The contact metamorphic action is strongest adjacent to the contact. It may follow that the ore deposits should be largest near the contact and that is generally found to be the case. On that basis we may look for a great increase of ore with depth, especially near the contact. The proportion of lead should become less, the proportion of copper greater with depth.

Therefore I say that it is highly probable that these deposits will extend strong to the contact and in that fact lies the great attractiveness of the property.

EXTRACTS OF MINERAL RESOURCES OF NORTHEASTERN MADERA COUNTY, CALIF.

by Homer D. Erwin, Division of Mines, January, 1934.

- - - - - - -

LEAD-ZINC DEPOSITS

In the lead-zinc mineralization, two classes of deposits have been recognized; those deposits which occur in limestone, and those which form true vein types. The deposits in limestone are the most important.

The deposits of this class are found principally in the basins of Shadow and Minaret Creeks. The Shadow Creek deposits consist largely of primary lead and zinc ores in an altered limestone member, while the Minaret Creek deposit consists largely of lead ore. Both of the deposits carry silver and copper values.

On the north side of the Shadow Creek basin, near the summit of the Shadow-Garnet Divide, a prominent outcrop of ore is found which consists essentially of sphalerite, chalcopyrite, and galena in a highly altered limestone. The limestone member is from 100 to 150 feet wide, and has a strike of N. 25° to 35° W., and a vertical dip. Interbedded with the limestone on either side are generally metamorphosed rhyolitic tuffs and flow rock. A dark-green diorite porphyry-intrusive crops out a short distance west of the limestone and parallels this member, more or less, throughout its surface exposure. Although the limestone is extensively altered, the original bedding and parting-structure is commonly preserved. This is especially true where epidote and garnet are the important minerals to have been developed, resulting in a greenish and brownish banded-appearing rock. Where actinolite is abundant, the original character of the rock is entierly lost as a much coarser grade of crystallinity is normally present. Alteration to the silicate minerals has been somewhat selective and relatively unaltered patches of crystalline limestone frequently occur. Veinlets and drusy cavities of a quartz are commonly scattered throughout the rock. Garnet and epidote are common with the quartz.

The ore consists of an iron-bearing variety of sphalerite (black jack), chalcopyrite, pyrite and galens which carries silver. The zinc mineral is most abundant on the north side of Shadow Creek, with chalcopyrite and galena subordinate. The ore occurs generally in a somewhat large and irregular mass and as lenses, kidneys, rude veins, and disseminations through the altered limestone. Oxidation of the primary minerals has been slight and only a small amount of staining occurs in the copper ores. Some anglesite occurs in the lead ores.

On the south of Shadow Creek canyon, between the creek and the top of the divide, there are several small outcrops of ore which consist essentially of silver-bearing galena with a lesser amount of pure sphalerite, and chalcopyrite. The ore is disseminated or forms veinlets through a crystalline limestone in which relatively little alteration to silicate minerals is found. Locally,

however, patches of epidote, garnet, and rhodonite occur. The member varies from 150 to 200 feet in width, and generally the original bedding-structure is preserved. The meta-volcanic rocks are in contact with the limestone. High on the south wall of Shadow Creek, limestone is in contact with a diorite porphyry intrusion.

In Minaret Creek basin, there is one prominent occurrence of ore on Johnston Creek at about 10,000 feet. This deposit lies in the continuation of the same limestone which is host to the Shadow Creek deposits. In this vicinity, the limestone is crystalline with the bedding structure generally well preserved, and has undergone little alteration to silicate minerals. Of the new minerals developed, epidote is the most common with small amounts of actinolite and tremolite. At the Minaret Mine, the limestone ranges from 200 to 300 feet in width, strikes N. 40° to 45° W. and dips from the vertical to 80° northeast. In immediate contact with the limestone are metamorphosed rhyolitic crystal tuffs with the diorite porphyry intrusion very near to the west. Basic dikes which range up to several feet in width are intrusive into the limestone.

The ore of the Johnston Creek deposit consists of argentiferous galena with some chalcopyrite and pyrite, but sphalerite is absent. The limestone has a peculiar dark-brown to blackish appearance which is due to iron and manganese oxide staining. The ore occurs as irregular patches, lenses, and disseminations controlled by pre-mineral cross-fractures in the limestone. The most important controlling factor in the mineralization has been the intersection of pre-mineral cross-faults with the bed and parting structure of the limestone.

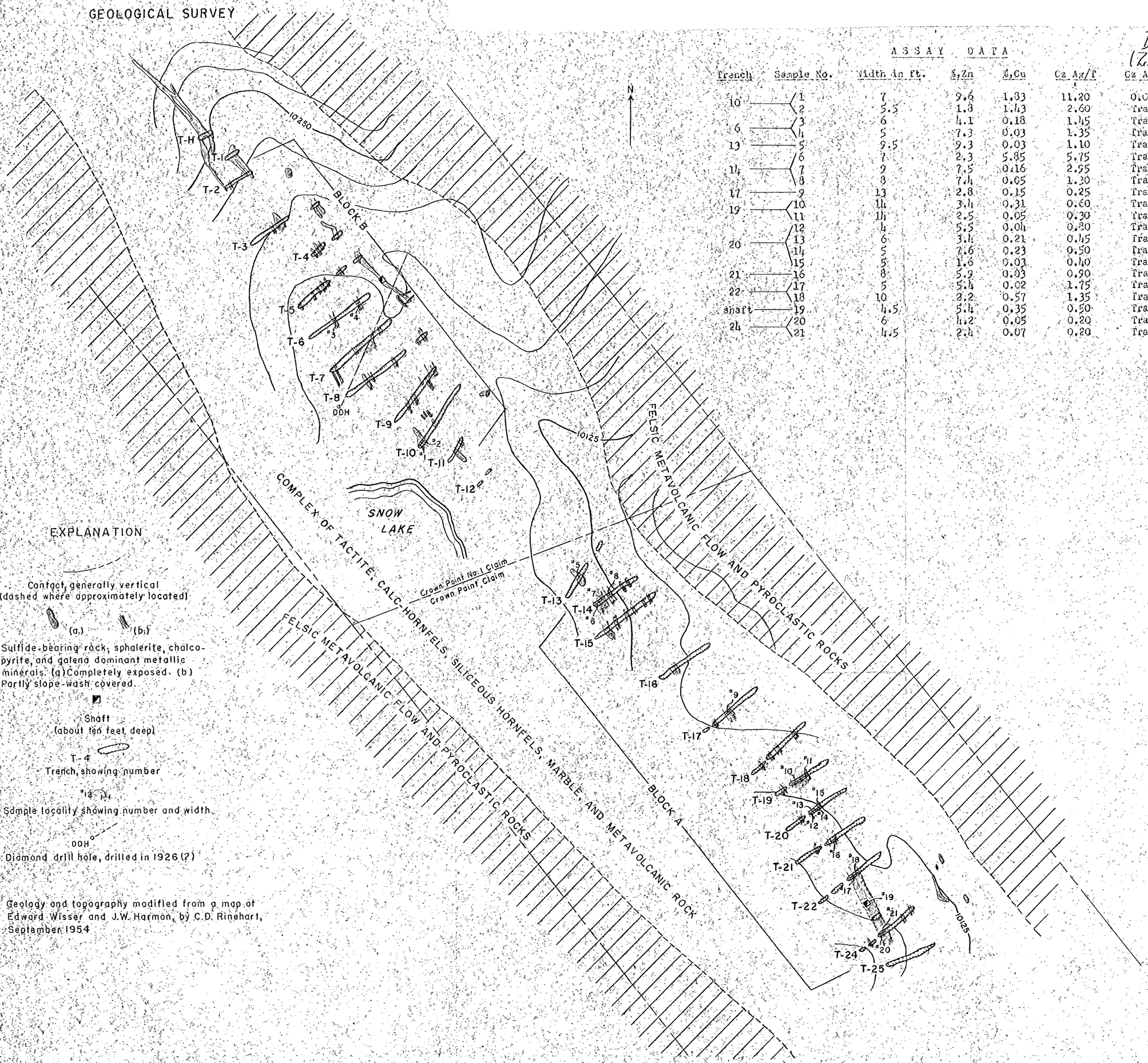
UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGIONAL OFFICE
REGION VII
NORRIS, TENNESSEE

OFFICIAL BUSINESS

Mr. Jay I. Chambers
Defense Minerals Exploration
Administration
Interior Building
Washington 25, D. C.

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA-3447
(ZINC, COPPER



EXPLANATION

Contact, generally vertical (dashed where approximately located)

(a.) (b.)

Sulfide-bearing rock; sphalerite, chalcopyrite, and galena dominant metallic minerals. (a) Completely exposed. (b) Partly slope-wash covered.

Shaft (about ten feet deep)

T-4
Trench, showing number

#12 1.1
Sample locality showing number and width

DDH
Diamond drill hole, drilled in 1926 (?)

Geology and topography modified from a map of Edward Wisser and J.W. Harmon, by C.D. Rinehart, September 1954

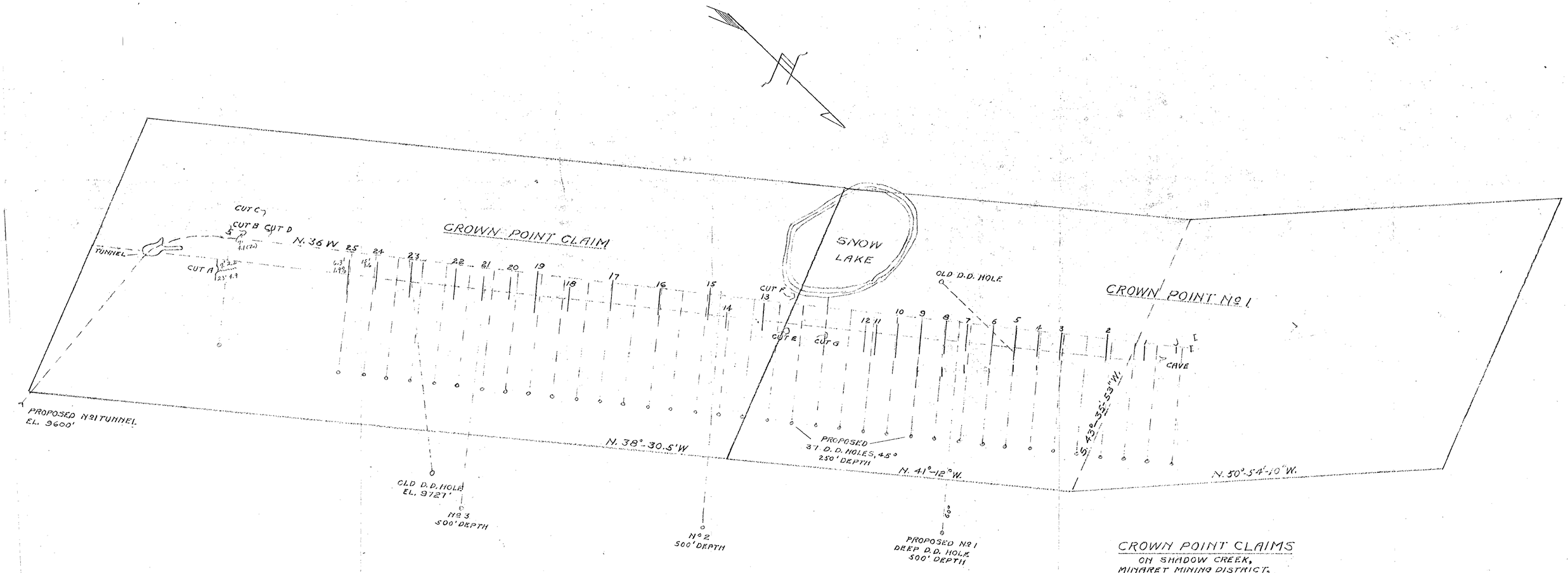
100 0 100 200 300 Feet
Contour Interval 25 feet

ASSAY DATA

Trench	Sample No.	Width in ft.	%,Zn	%,Cu	Oz Ag/T	Oz Au/T	%,Pb
10	1	7	9.6	1.33	11.20	0.005	2.5
	2	5.5	1.8	1.43	2.60	Trace	0.4
6	3	6	4.1	0.18	1.45	Trace	0.3
	4	5	7.3	0.03	1.35	Trace	0.3
13	5	9.5	9.3	0.03	1.10	Trace	0.4
14	6	7	2.3	5.85	5.75	Trace	0.3
	7	9	7.5	0.16	2.95	Trace	0.3
	8	8	7.4	0.05	1.30	Trace	0.3
17	9	13	2.8	0.15	0.25	Trace	0.3
19	10	14	3.4	0.31	0.60	Trace	0.3
	11	14	2.5	0.05	0.30	Trace	0.3
20	12	4	5.5	0.04	0.80	Trace	0.3
	13	6	3.4	0.21	0.45	Trace	0.3
	14	5	7.6	0.23	0.50	Trace	0.4
	15	5	1.6	0.03	0.40	Trace	0.3
21	16	8	5.9	0.03	0.90	Trace	0.3
22	17	5	5.4	0.02	1.75	Trace	0.3
	18	10	2.2	0.57	1.35	Trace	0.3
shaft	19	4.5	5.4	0.35	0.50	Trace	0.3
24	20	6	4.2	0.05	0.20	Trace	0.3
	21	4.5	2.4	0.07	0.20	Trace	0.3

Figure 2

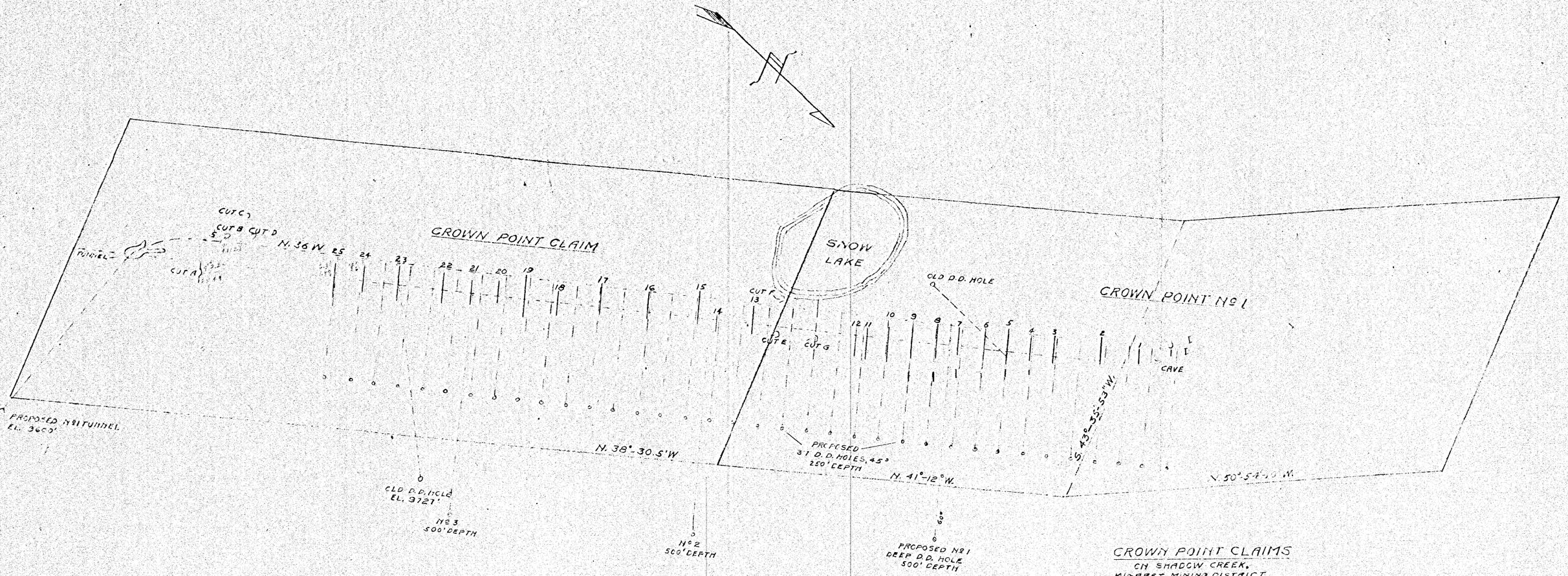
GEOLOGIC MAP OF THE NORTH ORE ZONE
SHADOW CREEK (NIDEVER) PROSPECT
MADERA COUNTY, CALIFORNIA



1" = 100'

CROWN POINT CLAIMS
ON SHADOW CREEK,
MINARET MINING DISTRICT,
MADERA CO., CALIF.
SHOWING PROPOSED DIAMOND DRILLING

UNION ENGINEERING CO.
LOS ANGELES, CALIF.



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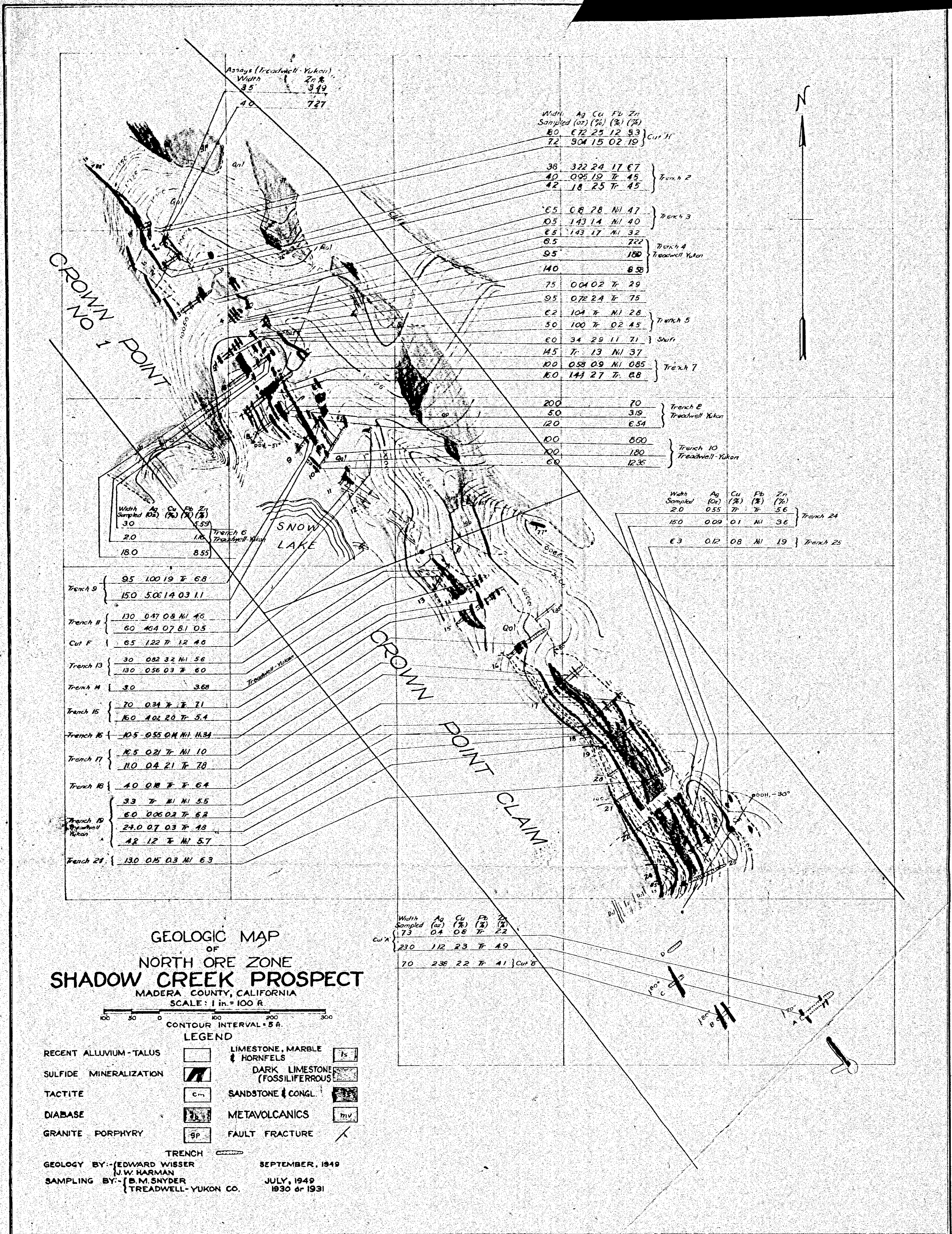
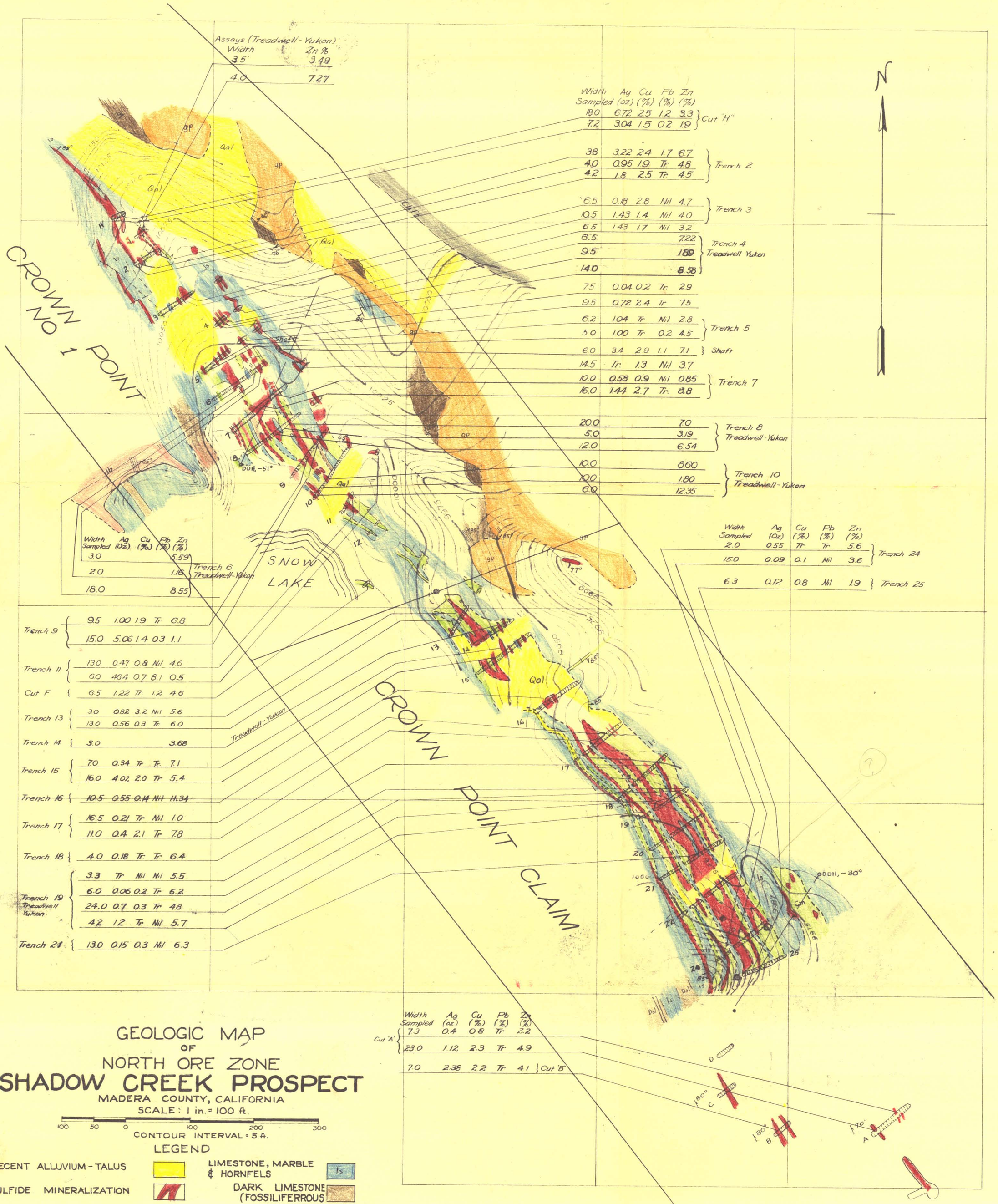


Assays (Treadwell-Yukon)
Width Zn %
3.5' 3.49
4.0 7.27
Width Sampled Ag (oz) Cu (%) Pb (%) Zn (%)
18.0 6.72 2.5 1.2 3.3 } Cut 'H'
7.2 9.04 1.5 0.2 1.9
3.8 3.22 2.4 1.7 6.7
4.0 0.95 1.9 Tr 4.5 } Trench 2
4.2 1.8 2.5 Tr 4.5
6.5 0.8 2.8 Nil 4.7
10.5 1.43 1.4 Nil 4.0 } Trench 3
6.5 1.43 1.7 Nil 3.2
6.5 7.22
9.5 1.80 } Trench 4 Treadwell Yukon
14.0 8.58
7.5 0.04 0.2 Tr 2.9
9.5 0.72 2.4 Tr 7.5
6.2 1.04 Tr Nil 2.8
5.0 1.00 Tr 0.2 4.5 } Trench 5
6.0 3.4 2.9 1.1 7.1 } Shaft
14.5 Tr 1.3 Nil 3.7
10.0 0.58 0.9 Nil 0.85
16.0 1.44 2.7 Tr 8.8 } Trench 7
20.0 7.0
5.0 3.19 } Trench 8 Treadwell Yukon
12.0 6.54
10.0 8.60
10.0 1.80 } Trench 10 Treadwell-Yukon
6.0 12.35
Width Sampled Ag (Oz) Cu (%) Pb (%) Zn (%)
2.0 0.55 Tr Tr 5.6
15.0 0.09 0.1 Nil 3.6 } Trench 24
6.3 0.12 0.8 Nil 1.9 } Trench 25
Width Sampled Ag (Oz) Cu (%) Pb (%) Zn (%)
3.0 5.59
2.0 1.16 } Trench 6 Treadwell-Yukon
18.0 8.55
Trench 9 { 9.5 1.00 1.9 Tr 6.8
15.0 5.06 1.4 0.3 1.1
Trench 11 { 13.0 0.47 0.8 Nil 4.6
6.0 4.64 0.7 8.1 0.5
Cut F { 6.5 1.22 Tr 1.2 4.6
Trench 13 { 3.0 0.82 3.2 Nil 5.6
13.0 0.56 0.3 Tr 6.0
Trench 14 { 3.0 3.68
Treadwell-Yukon
Trench 15 { 7.0 0.34 Tr Tr 7.1
16.0 4.02 2.0 Tr 5.4
Trench 16 { 10.5 0.55 0.14 Nil 11.34
Trench 17 { 16.5 0.21 Tr Nil 1.0
11.0 0.4 2.1 Tr 7.8
Trench 18 { 4.0 0.18 Tr Tr 6.4
Trench 19 Treadwell Yukon { 3.3 Tr Nil Nil 5.5
6.0 0.06 0.2 Tr 6.2
24.0 0.7 0.3 Tr 4.8
4.2 1.2 Tr Nil 5.7
Trench 21 { 13.0 0.15 0.3 Nil 6.3
Width Sampled Ag (oz) Cu (%) Pb (%) Zn (%)
Cut 'A' { 7.3 0.4 0.8 Tr 2.2
23.0 1.12 2.3 Tr 4.9
7.0 2.38 2.2 Tr 4.1 } Cut 'B'
CROWN NO 1 POINT
CROWN POINT CLAIM
SNOW LAKE
Qal
gp
Shaft
DDH, -51°
DDH, -30°
N
GEOLOGIC MAP OF NORTH ORE ZONE
SHADOW CREEK PROSPECT
MADERA COUNTY, CALIFORNIA
SCALE: 1 in. = 100 ft.
100 50 0 100 200 300
CONTOUR INTERVAL = 5 ft.
LEGEND
RECENT ALLUVIUM - TALUS
SULFIDE MINERALIZATION
TACTITE
DIABASE
GRANITE PORPHYRY
LIMESTONE, MARBLE & HORNFELS
DARK LIMESTONE (FOSSILIFERROUS
SANDSTONE & CONGL.
METAVOLCANICS
FAULT FRACTURE
TRENCH
GEOLOGY BY:- EDWARD WISSER, J.W. HARMAN SEPTEMBER, 1949
SAMPLING BY:- B.M. SNYDER JULY, 1949
TREADWELL-YUKON CO. 1930 or 1931

JWH 9/16/49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Cut "H"
3.8 3.22 2.4 1.7 6.7
4.0 0.95 1.9 Tr 4.8
4.2 1.8 2.5 Tr 4.5
Trench 2
6.5 0.18 2.8 Nil 4.7
10.5 1.43 1.4 Nil 4.0
6.5 1.43 1.7 Nil 3.2
Trench 3
6.5 7.22
9.5 1.89
14.0 8.58
Trench 4
Treadwell-Yukon
7.5 0.04 0.2 Tr 2.9
9.5 0.72 2.4 Tr 7.5
6.2 1.04 Tr Nil 2.8
5.0 1.00 Tr 0.2 4.5
Trench 5
6.0 3.4 2.9 1.1 7.1
Shaft
14.5 Tr 1.3 Nil 3.7
10.0 0.58 0.9 Nil 0.85
16.0 1.44 2.7 Tr 8.8
Trench 7
20.0 7.0
5.0 3.19
12.0 6.54
Trench 8
Treadwell-Yukon
10.0 8.60
10.0 1.80
6.0 12.35
Trench 10
Treadwell-Yukon
Width Ag Cu Pb Zn
Sampled (oz) (%) (%) (%)
3.0 5.59
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Width Ag Cu Pb Zn
Sampled (oz) (%) (%) (%)
2.0 0.55 Tr Tr 5.6
15.0 0.09 0.1 Nil 3.6
Trench 24
6.3 0.12 0.8 Nil 1.9
Trench 25
Trench 9
9.5 1.00 1.9 Tr 6.8
15.0 5.06 1.4 0.3 1.1
Trench 11
13.0 0.47 0.8 Nil 4.6
6.0 46.4 0.7 8.1 0.5
Cut F
6.5 1.22 Tr 1.2 4.6
Trench 13
3.0 0.82 3.2 Nil 5.6
13.0 0.56 0.3 Tr 6.0
Trench 14
3.0 3.68
Trench 15
7.0 0.34 Tr Tr 7.1
16.0 4.02 2.0 Tr 5.4
Trench 16
10.5 0.55 0.14 Nil 11.34
Trench 17
16.5 0.21 Tr Nil 1.0
11.0 0.4 2.1 Tr 7.8
Trench 18
4.0 0.18 Tr Tr 6.4
Trench 19
Treadwell Yukon
3.3 Tr Nil Nil 5.5
6.0 0.06 0.2 Tr 6.2
24.0 0.7 0.3 Tr 4.8
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13.0 0.15 0.3 Nil 6.3
Width Ag Cu Pb Zn
Sampled (oz) (%) (%) (%)
Cut "A"
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