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

Corbett
Hedges
Kaye
Selfridge

FEB 20 1953

Mr. Arthur F. Betchart

Metaline Falls, Washington

Re: Docket No. DMEA-2779 (Lead, Zinc, Silver)
Arthur F. Betchart & E. O. Dressel, Jr.
Oriole Mine
Pend Oreille County, Wash.

Dear Mr. Betchart:

F.C. 2/10/53

Reference is made to your application, Docket No. DMEA-2779, for Government assistance in the exploration of your property.

A study of the information furnished in your application, the reports of field engineers and other available data, indicates that your property does not have inherent possibilities of producing sufficient quantities of metals that would be necessary to justify the expenditure of public funds. We regret to advise you, therefore, that your application is denied.

Your interest in the defense program is appreciated, and we wish to thank you for bringing your property to the attention of the Government.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

FXCorbett/bjl (2/17/53)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Bishop
Mr. Kinkel
Mr. Corbett
Region II (2)
Chron.

500

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

FEB 20 1953

Memorandum

To: Administrator

From: Chief, Base Metals Division

Subject: Recommendation for denial of application for exploration assistance—Docket No. DMEA-2779 (Lead-Zinc-Silver), Arthur F. Betchart and E. O. Dressel, Jr., Oriole Mine, Pend Oreille County, Washington

The above-named application was submitted on November 5, 1952, and proposes work consisting of re-opening a 90-foot inclined winze and then driving 100 feet of drifts and crosscuts, with the total cost of the project to be $6,000.00. The past history of the mine has shown only a few small irregular lenses of silver-lead-zinc ore as replacements in dolomite.

The property was comprehensively examined by an examining team of two USGS geologists whose report, prepared in a thorough and workmanlike manner, recommends project denial. The Field Team concurs in such recommendation. Likewise the Washington members of the USGS and USBM have expressed concurrence.

The Base Metals Division is in accord with the above recommendations.

W. R. Griswold

W. R. Griswold

500

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

Memorandum

FEB 20 1953

To: Administrator

From: Chief, Base Metals Division

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/s/ [illegible]

W. H. Griswold

FILE COPY
SURNAME:

500

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

Forwarded Selfridge

Memorandum

To: Administrator FEB 2 0 1953

From: Chief, Base Metals Division

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The Base Metals Division is in accord with the above recommendations.

/s/ lyle

W. R. Griswold

FXCorbett/WRGriswold/bjl
(written 2/19/53)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals Div.
Mr. Bishop
Mr. Kinkel
Mr. Corbett
Reg. II (2)
Chron.

IN REPLY REFER TO:

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

February 16, 1953

Memorandum

Re: DMEA-2779
Oriole Mine
Metaline District
Pend Oreille County, Wash.
$6,000
Lead-zinc-silver

To: Mr. A. G. Keating

From: E. L. Newcomb, USGS
O. M. Bishop, USBM

Subject: Concurrence with field team denial

The applicant proposes to explore for a possible downdip extension of mineralization exposed in Y-crosscut on the No. 2 level. The proposal involves dewatering and reopening a 90-foot winze from the No. 2 level, and then driving 100 feet of crosscut and drift on the No. 3 level.

The field team concludes that the geologic evidence in the accessible workings does not indicate that a significant and continuous ore shoot is likely to be found between the No. 2 and No. 3 levels. They recommend the applicant's present proposal be denied.

Three samples from the Y-crosscut average about 11% combined lead-zinc over an average width of 2 feet. However, the size and nature of the ore structure does not suggest that this mineralization can be expected to extend down to the No. 3 level. The past production has been obtained from small ore lenses, which ranged in size between $1\frac{1}{2}$-$4\frac{1}{2}$ feet wide and 12-20 feet long. It can reasonably be inferred that the ore structure exposed in Y-crosscut is a small ore lens comparable in size to those previously mined. Rehabilitation and exploration work on the No. 3 level is not warranted.

We concur with the field team's recommendation that the application be denied.

E. L. Newcomb
E. L. Newcomb
Geologist

O. M. Bishop
O. M. Bishop
Base Metals Branch

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

February 16, 1953

Memorandum

Re: DMEA-2779
Oriole Mine
Metaline District
Pend Oreille County, Wash.
$6,000
Lead-zinc-silver

To: Mr. A. G. Heating

From: E. L. Newcomb, USGS
O. M. Bishop, USBM

Subject: Concurrence with field team denial

The applicant proposes to explore for a possible downdip expansion of mineralization exposed in Y-crosscut on the No. 2 level. The proposal involves dewatering and reopening a 90-foot winze from the No. 2 level, and then driving 100 feet of crosscut and drift on the No. 3 level.

The field team concludes that the geologic evidence in the accessible workings does not indicate that a significant and continuous ore shoot is likely to be found between the No. 2 and No. 3 levels. They recommend the applicant's present proposal be denied.

Three samples from the Y-crosscut average about 11% combined lead-zinc over an average width of 2 feet. However, the size and nature of the ore structure does not suggest that this mineralization can be expected to extend down to the No. 3 level. The past production has been obtained from small ore lenses, which ranged in size between 1½-4½ feet wide and 12-20 feet long. It can reasonably be inferred that the ore structure exposed in Y-crosscut is a small ore lens comparable in size to those previously mined. Rehabilitation and exploration work on the No. 3 level is not warranted.

We concur with the field team's recommendation that the application be denied.

E. L. Newcomb
Geologist

O. M. Bishop
Base Metals Branch

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 3 1953

January 28, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket DMEA-2779 (Lead-Zinc-Silver)
Betchart & Dressel, Oriole Mine
Pend Oreille Co., Washington

Dear Mr. Selfridge:

The examination report with maps and cross sections of the Oriole Mine, Pend Oreille County, Washington, by Harold Kirkemo and Howard B. Nickelson, Geologists, U. S. Geological Survey, is enclosed. The Field Team concurs with the recommendations of the examining team that this application for exploration be denied.

The exploration project proposed by the applicant was essentially one to test a geologic premise, and the initial inspection, therefore, was made by representatives of the U. S. Geological Survey. If favorable consideration of the proposal had been decided from a geological viewpoint, the U. S. Bureau of Mines would have made an inspection to determine the operating feasibility of the project.

There is insufficient geologic evidence in the accessible part of the Oriole mine to support the applicant's thought that the mineralized structure cut in crosscut Y is a minable ore body between the No. 2 and No. 3 levels. To reopen the water-filled and possibly muck-filled inclined winze to search for this supposed ore body is not the most logical and economical approach to the problem. The costs which might be incurred in reopening the old winze cannot be estimated, and the target projected from observable geologic facts is too small to justify the probable expenditure required to reach it. The applicant requested only a modest sum ($6,000.00) for exploration, but the unknown factors which might be encountered could entail a much greater expenditure of money.

An attractive grade of ore is indicated by samples cut on the vein exposed in crosscut Y, and further consideration of an exploration program at the Oriole mine would be warranted if the

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

applicant enlarges the target possibilities by means of more work on this ore structure. This additional work would include following the ore by the winze already started on the vein and by crosscutting, long holing, or diamond drilling to test extensions of the ore structure laterally and vertically.

This proposal was suggested to the applicant when the examination was made, and we have not been informed of his reaction.

By Field Team, Region II

A. E. Weissenborn

A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

M. E. Volin

M. E. Volin, Member
(U. S. Bureau of Mines)

Enclosures (4)
Distribution:
DMEA (Orig.&3)
USBM (3)
Kirkemo

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

December 28, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 3 1953

Memorandum

To: DMEA Field Team, Region II

From: Harold Kirkemo and Howard B. Nickelson, Geologists, U. S. Geological Survey

Subject: Report of examination, Oriole Mine, Pend Oreille County, Washington, Docket No. DMEA-2779 (Lead, Zinc, Silver), submitted by Arthur F. Betchart and Edwin O. Dressel, Jr., (Partners), Metaline Falls, Washington.

RECOMMENDATIONS

It is recommended that aid for the proposed exploration project at the Oriole mine be denied.

Geologic evidence on the No. 1 and No. 2 levels indicates the ore bodies are small and their depth extensions are too uncertain to warrant reopening the inclined winze and drifting 100 feet on the No. 3 level. If the applicant dewaters the inclined winze, and if the workings below the No. 2 level are accessible, reconsideration of the application for exploration aid is warranted.

A maximum reserve of 2,500 tons of ore averaging 5 ounces silver, 10 percent zinc, and 5 percent lead may be developed at the Oriole mine between the No. 2 and No. 3 levels. A preliminary exploration project on a small exposure of the best ore found by the applicant in one crosscut is suggested.

INTRODUCTION

An application for aid in an exploration project was submitted by Arthur F. Betchart, Jr., and Edwin O. Dressel, Jr. in November 1952. The applicants proposed an exploration project costing $6,000.00 to reopen a 90-foot inclined winze and drive 100 feet of drift and crosscut at the Oriole mine near Metaline Falls, Washington. An examination of the mine was made by Harold Kirkemo and Howard B. Nickelson of the U. S. Geological Survey on December 15 and 16, 1952. Mr. Betchart assisted with the examination on December 15. Geology was plotted on a base map furnished by

Reviewed by
DMEA OPERATING COMMITTEE
2-6-53
(date)

Mr. Betchart. Two geologic maps and Cross Sections A-A' and B-B' are attached to this report.

LOCATION

The mine is about two miles by road west of Metaline Falls, Pend Oreille County, Washington. The mine is situated on the west side of the Metaline zinc-lead mining district in northeastern Washington. The property is accessible by two county roads that are in fair condition. The county plowed the snow from one of the roads a day before the examination and probably would assist in keeping the road open to the mine during winter months. The Oriole group of claims consist of eight unpatented lode claims in Sections 19, 20, 29, and 30, T. 39 N., R. 43 E., W. M., with the mine workings in the SE¼ of Section 19 at elevations between 2,715 and 2,950 feet above sea level.

Several old buildings and old ore bins on the property could be repaired and made useable. The mine equipment consists of mine rails, pipe, and several old mine cars. The applicant intends to repair and use for his winze operation an old hoist and piston pump left in the mine by former operators, but it would be advisable to rent or buy a modern hoist and sump pump and not try to use the old equipment.

The mine workings consist of three levels, No's. 1, 2, and 3, totalling more than 2,000 feet of drifts, crosscuts, winze, and raises. Adit tunnels No's. 1 and 2 are accessible, but No. 3 level, driven from the bottom of an inclined winze, is not accessible because the winze is filled with water and possibly broken rock. Three short adits above the No. 1 level were driven from surface exposures of the ore structure.

The applicant proposes to reopen a winze located at the bottom of a stope containing about 200 tons of broken ore and rock. It would be necessary to remove about one-half of the muck immediately above the winze and to stull and lag the remainder of the stope before work could be started safely on the winze, although the winze could be dewatered without removing the muck. The water-filled winze (see cross section A-A') is covered with a timber matt so it was impossible to see if it was open. A weighted cord was dropped through a hole in the timber matt for a distance of 10 feet before reaching the footwall.

HISTORY

Production at the Oriole mine is reported in the Mineral Resources for the years 1911, 1917, 1925, and 1926. Smelter returns on a carload of hand picked ore is reported to be 42.1 ounces silver, 21 percent zinc, 15.3 percent lead, and 1.15 percent copper per ton. A shipment of 4½ cars of ore was reported prior to 1924. Pend Oreille Mines and Metals Company leased the property for a short time until

1929 or 1930. The diamond drill holes shown on the map submitted by the applicant were drilled by the Pend Oreille Company and the core is available in their storage. The diamond drilling failed to locate any ore bodies of interest. The applicant does not know how much ore the Pend Oreille Company mined or milled but believes it left the broken ore now in the stopes. There are no records of stoping between the No. 3 and No. 2 levels, although two lenses with a maximum width of three feet are reported in the 40-foot drift on the No. 3 level west of the winze. Inspection of the No. 3 level west of the winze for possible blocks of ore would be advisable if the winze should be rehabilitated. Mr. Betchart estimates that 5,000 tons of ore averaging 15 percent combined lead and zinc have been mined at the Oriole mine.

Until last summer when the applicant drove X crosscut and Y drift, only assessment work had been done in recent years.

OWNERSHIP

Arthur Betchart and Edwin O. Dressel, Jr., signed a lease and option agreement on the Oriole mine in October 1951 with the owners of the property, Mrs. Gertrude P. Amick, Louise M. Paulin, Alma T. Jacobsen and William A. Schulz. The purchase price of $60,000.00 is to be paid within 10 years from the date of the option agreement. A payment of $6,000.00 due on July 1, 1952, had not been paid by the lessees when the property was examined in December 1952. The owners were concerned about continuing the lease and option agreement and the lessees contend they will make proper payments when an acceptable abstract is prepared by the lessors. A quiet title action will be initiated by the lessors to bring the abstract up to date because there is discrepency in the names of claims included in the property. The owners will consent to lien if Betchart and Dressel obtain Government aid for an exploration project at the Oriole mine.

COMPETENCY OF THE APPLICANT

Mr. Betchart is chief engineer of the Pend Oreille Mines and Metals Company in Metaline Falls, Washington. He is a competent engineer with much mining experience. His partner, Mr. Dressel, Jr., operates a general store in Metaline Falls. He has had no mining experience but is financing the venture at the Oriole mine. The partners seem to be financially responsible for participation in a DMEA contract. If the application is approved, Mr. Betchart would supervise the project by visiting the mine each day while continuing his present employment or request a leave of absence to devote full time to the project.

GEOLOGY

The geology of the area is described in "Geology and Ore Deposits of the Metaline Quadrangle, Washington," U. S. Geological Survey Professional Paper 202 by C. F. Park, Jr., and R. S. Cannon, Jr.

There is a description of the Oriole mine on pages 76 and 77 of the paper.

The Pend Oreille valley north of the Kaniksu granodiorite batholith is a structural unit of Paleozoic rocks that is down-faulted between higher areas of Middle Cambrian and older rocks on the east and west. This valley block is bounded on the east by the Slate Creek fault and on the west by the Flume Creek fault and Russian Creek fault. The Flume Creek fault is believed to have a normal displacement of 10,000 feet.

The major replacement deposits of zinc and lead ore in the Pend Oreille valley block are in the upper 250 feet of the Middle Cambrian Metaline limestone formation. The Oriole mine is located in the structural high area of older rocks west of the Pend Oreille valley block and is about 14,000 feet stratigraphically below the principal ore horizon in the Metaline formation. The mine workings are in dolomite of the Monk formation (basal Cambrian(?)) and quartzite of the Gypsy formation (lower Cambrian).

The Flume Creek fault lies an estimated 500 feet east of the Oriole mine. The northeast-trending faults noted near the portals of the No. 1 and No. 2 levels may be strands of this major fault.

The country rocks in the mine trend N. 25° E. and dip 30 to 45 degrees northwest. The contact between the Monk and Gypsy formations is a gradational feature that could not be fixed with certainty for the dolomite is siliceous near the quartzite formation.

The ore bodies are a series of small replacement lenses in the dolomite along a fault seam that strikes N. 66° W. and dips 52 to 63 degrees northeast. The ore lenses are 1½ to 4½ feet wide and 12 to 20 feet long along the drift on the No. 2 level. The fault seam in the 225 feet northwest from X drift on the No. 2 level consists of 4 to 6 inches of rusty gouge and breccia with a minor amount of ore. In the following 130 feet to the northwest there are four small ore shoots which have been stoped above the No. 2 level.

The fault pinched out to the northwest where hard siliceous dolomite near the Gypsy quartzite was encountered. The adit was continued 150 feet in a northwesterly direction in unmineralized Gypsy quartzite.

The ore lenses in this area occur between two parallel fault gouges 6 to 10 feet apart. The best ore was observed on these fault strands with low grade ore or waste between the strands. The broken ore remaining in the stopes is diluted by waste or low grade rock from the area between the footwall and hanging wall fault strands. The ore minerals are sphalerite, galena, and chalcopyrite in quartz and pyrite. Some copper stain was noted in quartz.

Grab samples of broken ore and rock in the stopes assayed as follows:

Stope location	Sample No.	oz. Au.	ozs. Ag.	% Pb.	% Cu.	% Zn.
135' NW of inclined winze	409	0.05	5.4	2.8	0.16	3.6
West side of stope at winze	410	0.03	3.4	1.5	0.13	2.4
Center of stope at winze	411	0.01	2.4	1.1	0.10	1.8
East side of stope at winze	412	0.01	1.8	0.6	0.11	1.5

At 335 and 365 feet northwest of the portal on the No. 2 level Mr. Betchart has driven X and Y crosscuts southwest from the adit drift. (See attached map of No. 2 level.) Crosscut X was driven southwest along minor fault seams which may be part of the Flume Creek fault system. A small lense of ore striking N. 60° E. and dipping 30 to 50 degrees North was encountered.

Crosscut Y was driven 14 feet to the southwest, and cut a fault and vein at 9 feet. Mr. Betchart calls this C fault and postulates that it intersects and offsets the fault seam containing the ore lenses on Level No. 2. A 4½-foot winze was sunk on ore encountered in the floor of Y crosscut under C fault. C fault appears to be a fault segment of the mineralized fault seam exposed on the No. 2 level west of Y crosscut. The vein exposed in the winze under C fault is 1 to 4.6 feet wide and contains sphalerite, and galena in quartz. A detailed plan and cross section of the structure here are posted on the attached map of No. 2 and 3 levels.

Three samples cut on the vein in the walls of the winze assayed as follows:

Location	Sample No.	Inclusion	Width	Oz. Au.	Ozs. Ag.	% Pb.	% Cu.	% Zn.
West wall	405	0'-2.5' N.	2.5'	Trace	0.3	None	None	1-0
West wall	406	2.5'-4.6'N.	2.1'	.050	8.6	7.2	0.13	22.8
East wall	407	----	1.0'	0.080	17.5	12.8	None	18.9

Continued exploration on this ore structure is warranted but preliminary exploration should be limited to work directly on the ore structure to determine if it persists in depth and if a greater strike length can be found below the No. 2 level.

Mr. Betchart postulates this ore structure persists in depth to the No. 3 level beneath C fault toward the inaccessible winze and wants to reopen the winze to test this possibility.

CONCLUSIONS

Examination of the Oriole mine disclosed short ore shoots along a weak but persistent fault gouge in dolomite. A modest production has been obtained from short ore shoots containing sphalerite and

galena in replacement lenses along the fault. A small ore shoot may exist below an ore structure found in a crosscut driven by the applicant. A preliminary exploration program on this small exposure of ore, if successful, would lessen the risk involved in the applicants' proposed project. This exploration could be accomplished by continuing the winze started by the applicant, by crosscutting or long holing at several points from the No. 2 adit to test the westward extension of the ore structure, and by diamond drilling from a crosscut to the north to test the downward extension of the ore structure.

Harold Kirkemo

Harold Kirkemo

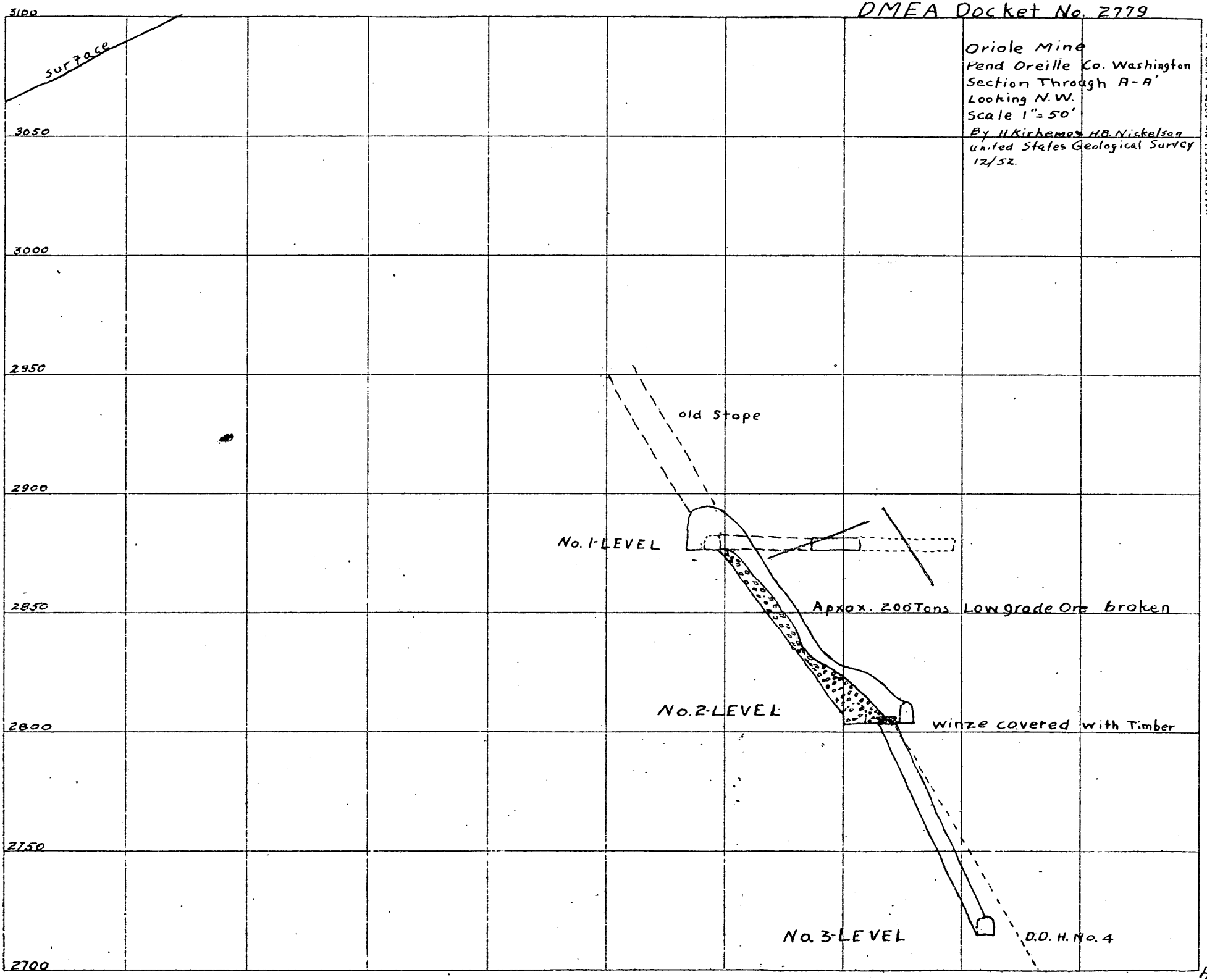
Howard B Nickelson

Howard B. Nickelson

Dist:

DMEA (orig & 3)
USBM (3)
USGS (SRO)
Docket
Kirkemo

DMEA Docket No. 2779



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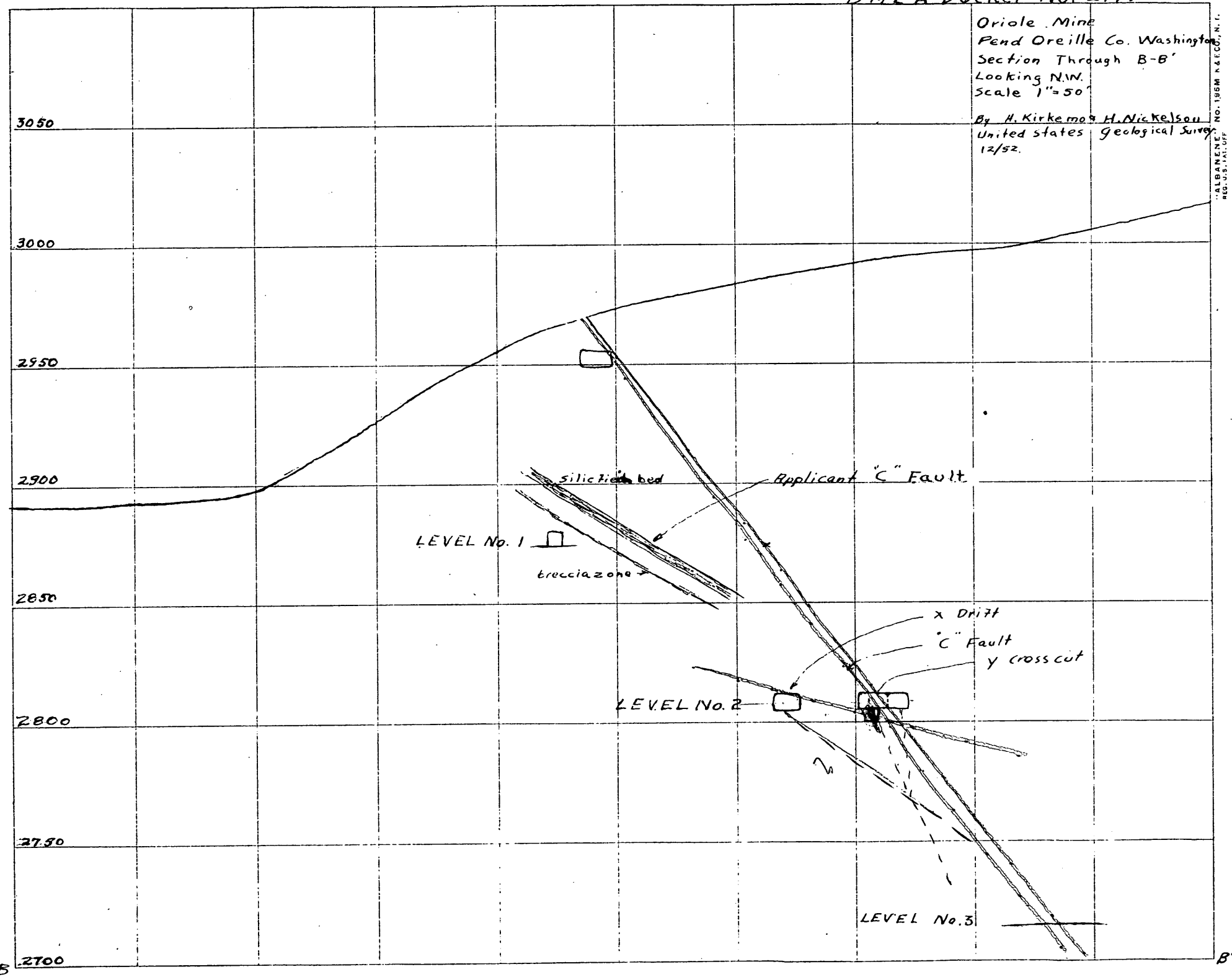
DMEA Docket No. 2779



UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

XWASHINGTONX25XDXCXX
No. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 5 1953

January 26, 1953

Mr. George W. Leffingwell, Chairman
Operating Committee
Department of the Interior
Washington 25, D. C.

Re: Project DMA-279 (Lead-Zinc-Silver)
Petitioner: Howard, Oriole Mine
Lead (Pend Oreille Co., Washington

Dear Mr. Leffingwell:

The examination report with maps and cross sections of the Oriole Mine, Pend Oreille County, Washington, by Donald Matheson and Howard B. Nicholson, Geologists, U. S. Geological Survey, is enclosed. The field team concurs with the recommendations of the examining team that this application for exploration be denied.

The exploration project proposed by the applicant was essentially one to test a geologic premise, and the initial inspection, therefore, was made by representatives of the U. S. Geological Survey. If favorable consideration of the proposal had been decided from a geological viewpoint, the U. S. Bureau of Mines would have made an inspection to determine the operating feasibility of the project.

There is insufficient geologic evidence in the accessible part of the Oriole Mine to warrant the applicant's thought that the mineralized structure cut in crosscut X is a minable ore body between the No. 2 and No. 3 levels. To assume the water-filled and possibly rock-filled fault zone where to search for this proposed ore body is not the most logical and economical approach to the problem. The costs which will be incurred in reopening the old mine cannot be estimated, and the tonnage projected from observable geologic facts is too small to justify the probable expenditure required to search for. The applicant requests only a relatively one ($ 5,000.00) for exploration, but the unknown factors which might be encountered could entail a much greater expenditure of money.

An attractive grade of ore is indicated by samples cut on the vein exposed in crosscut X, and further consideration of an exploration program at the Oriole Mine would be warranted if the

Reviewed by
DMA OPERATING COMMITTEE
2-6-53
(Date)

MF-500

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 2/4/53

REFERRED TO:

1. ~~Operating Committee~~
2. ~~Area Lamoshed~~
3. code 500-Am 2616
4.

FOR:

____ Action	____ Recommendation
____ Approval	____ Record of ____
____ Comment	____ Referring to ____
____ Conference	____ Reply for signature of ____
____ Consideration	____ Rewriting
____ Filing	____ Signature
____ Instructions	____ Suggestions
____ Investigation	____ Your information
____ Initials	
____ Mailing	
____ Previous correspondence	

REMARKS: Field Examination Report
For Agenda 2/6/53.

Check (X) before the items needing attention.

George C. Selfridge
(JVB) *Initials of sender.*

GPO 16—63815-1

applicant enlarges the target possibilities by means of more work on this ore structure. This additional work would include following the ore by the winze already started on the vein and by crosscutting, long holing, or diamond drilling to test extensions of the ore structure laterally and vertically.

This proposal was suggested to the applicant when the examination was made, and we have not been informed of his reaction.

By Field Team, Region II

A. F. Weissenborn, Sec. Officer
(U. S. Geological Survey)

J. E. Wolin, Member
(U. S. Bureau of Mines)

Enclosures (4)
Distribution:
DMA (Orig.&3)
USGS (3)
Kirkemo

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

December 23, 1952

Reviewed by
DMEA OPERATING COMMITTEE

2-6-53
(Date)

Memorandum

To: DMEA Field Team, Region II

From: Harold Kirkham and Howard B. Nickelson, Geologists, U. S. Geological Survey

Subject: Report of examination, Oriole Mine, Pend Oreille County, Washington, Docket No. DMEA-2779 (Lead, Zinc, Silver), submitted by Arthur F. Hotchart and Edwin O. Dressel, Jr., (Partners), Metaline Falls, Washington.

RECOMMENDATIONS

It is recommended that aid for the proposed exploration project at the Oriole mine be denied.

Geologic evidence on the No. 1 and No. 2 levels indicates the ore bodies are small and their depth extensions are too uncertain to warrant reopening the inclined winze and drifting 100 feet on the No. 3 level. If the applicant dewaters the inclined winze, and if the workings below the No. 2 level are accessible, reconsideration of the application for exploration aid is warranted.

A maximum reserve of 2,500 tons of ore averaging 5 ounces silver, 10 percent zinc, and 5 percent lead may be developed at the Oriole mine between the No. 2 and No. 3 levels. A preliminary exploration project on a small exposure of the best ore found by the applicant in one crosscut is suggested.

INTRODUCTION

An application for aid in an exploration project was submitted by Arthur F. Hotchart, Jr., and Edwin O. Dressel, Jr. in November 1952. The applicants proposed an exploration project costing $6,000.00 to reopen a 90-foot inclined winze and drive 100 feet of drift and crosscut at the Oriole mine near Metaline Falls, Washington. An examination of the mine was made by Harold Kirkham and Howard B. Nickelson of the U. S. Geological Survey on December 15 and 16, 1952. Mr. Hotchart assisted with the examination on December 15. Geology was plotted on a base map furnished by

Mr. Betchart. Two geologic maps and cross sections A-A' and B-B' are attached to this report.

LOCATION

The mine is about two miles by road west of Metaline Falls, Pend Oreille County, Washington. The mine is situated on the west side of the Metaline zinc-lead mining district in northeastern Washington. The property is accessible by two county roads that are in fair condition. The county plowed the snow from one of the roads a day before the examination and probably would assist in keeping the road open to the mine during winter months. The Oriole group of claims consist of eight unpatented lode claims in Sections 19, 20, 29, and 30, T. 39 N., R. 43 E., W. M., with the mine workings in the SE¼ of Section 19 at elevations between 2,715 and 2,950 feet above sea level.

Several old buildings and old ore bins on the property could be repaired and made useable. The mine equipment consists of mine rails, pipe, and several old mine cars. The applicant intends to repair and use for the winze operation an old hoist and piston pump left in the mine by former operators, but it would be advisable to rent or buy a modern hoist and sump pump and not try to use the old equipment.

The mine workings consist of three levels, No's. 1, 2, and 3, totalling more than 2,000 feet of drifts, crosscuts, winze, and raises. Adit tunnels No's. 1 and 2 are accessible, but No. 3 level, driven from the bottom of an inclined winze, is not accessible because the winze is filled with water and possibly broken rock. Three short adits above the No. 1 level were driven from surface exposures of the ore structure.

The applicant proposes to reopen a winze located at the bottom of a stope containing about 200 tons of broken ore and rock. It would be necessary to remove about one-half of the muck immediately above the winze and to stull and lag the remainder of the stope before work could be started safely on the winze, although the winze could be dewatered without removing the muck. The water-filled winze (see cross section A-A') is covered with a timber matt so it was impossible to see if it was open. A weighted cord was dropped through a hole in the timber matt for a distance of 10 feet before reaching the footwall.

HISTORY

Production at the Oriole mine is reported in the Mineral Resources for the years 1911, 1917, 1925, and 1926. Smelter returns on a carload of hand picked ore is reported to be 42.1 ounces silver, 21 percent zinc, 15.3 percent lead, and 1.15 percent copper per ton. A shipment of 44 cars of ore was reported prior to 1924. Pend Oreille Mines and Metals Company leased the property for a short time until

1929 or 1930. The diamond drill holes shown on the map submitted by the applicant were drilled by the Rand Greille Company and the core is available in their storage. The diamond drilling failed to locate any ore bodies of interest. The applicant does not know how much ore the Rand Greille Company mined or milled but believes it left the broken ore now in the stopes. There are no records of stoping between the No. 3 and No. 2 levels, although two leases with a maximum width of three feet are reported in the 40-foot drift on the No. 3 level west of the winze. Inspection of the No. 3 level west of the winze for possible blocks of ore would be advisable if the winze should be rehabilitated. Mr. Betchart estimates that 5,000 tons of ore averaging 15 percent combined lead and zinc have been mined at the Oriole mine.

Until last summer when the applicant drove X crosscut and Y drift, only assessment work had been done in recent years.

[illegible]

Arthur Betchart and Edwin C. Dressel, Jr., signed a lease and option agreement on the Oriole mine in October 1951 with the owners of the property, Mrs. Gertrude P. Smick, Louise M. Paulin, Alva T. Jacobsen and William A. Schulz. The purchase price of $60,000.00 is to be paid within 10 years from the date of the option agreement. A payment of $5,000.00 due on July 1, 1952, had not been paid by the lessees when the property was examined in December 1952. The owners were concerned about continuing the lease and option agreement and the lessees contend they will make proper payments when an acceptable abstract is prepared by the lessors. A quiet title action will be initiated by the lessors to bring the abstract up to date because there is discrepancy in the names of claims included in the property. The owners will consent to lien if Betchart and Dressel obtain Government aid for an exploration project at the Oriole mine.

COMPETENCY OF THE APPLICANT

Mr. Betchart is chief engineer of the Rand Greille Mines and Metals Company in Metaline Falls, Washington. He is a competent engineer with much mining experience. His partner, Mr. Dressel, Jr., operates a general store in Metaline Falls. He has had no mining experience but is financing the venture at the Oriole mine. The partners seem to be financially responsible for participation in a DMA contract. If the application is approved, Mr. Betchart would supervise the project by visiting the mine each day while continuing his present employment or request a leave of absence to devote full time to the project.

GEOLOGY

The geology of the area is described in "Geology and Ore Deposits of the Metaline Quadrangle, Washington," U. S. Geological Survey Professional Paper 202 by C. F. Park, Jr., and R. D. Cannon, Jr.

There is a description of the Oriole mine on pages 76 and 77 of the paper.

The Pend Oreille valley north of the Kaniksu granodiorite batholith is a structural unit of Paleozoic rocks that is down-faulted between higher areas of Middle Cambrian and older rocks on the east and west. This valley block is bounded on the east by the Slate Creek fault and on the west by the Flume Creek fault and Russian Creek fault. The Flume Creek fault is believed to have a normal displacement of 10,000 feet.

The major replacement deposits of zinc and lead ore in the Pend Oreille valley block are in the upper 250 feet of the Middle Cambrian Metaline limestone formation. The Oriole mine is located in the structural high area of older rocks west of the Pend Oreille valley block and is about 14,000 feet stratigraphically below the principal ore horizon in the Metaline formation. The mine workings are in dolomite of the Monk formation (basal Cambrian(?)) and quartzite of the Gypsy formation (lower Cambrian).

The Flume Creek fault lies an estimated 500 feet east of the Oriole mine. The northeast-trending faults noted near the portals of the No. 1 and No. 2 levels may be strands of this major fault.

The country rocks in the mine trend N. 25° E. and dip 30 to 45 degrees northwest. The contact between the Monk and Gypsy formations is a gradational feature that could not be fixed with certainty for the dolomite is siliceous near the quartzite formation.

The ore bodies are a series of small replacement lenses in the dolomite along a fault seam that strikes N. 66° W. and dips 52 to 63 degrees northeast. The ore lenses are 1½ to 4½ feet wide and 12 to 20 feet long along the drift on the No. 2 level. The fault seam in the 225 feet northwest from X drift on the No. 2 level consists of 4 to 6 inches of rusty gouge and breccia with a minor amount of ore. In the following 130 feet to the northwest there are four small ore shoots which have been stoped above the No. 2 level.

The fault pinched out to the northwest where hard siliceous dolomite near the Gypsy quartzite was encountered. The adit was continued 150 feet in a northwesterly direction in unmineralized Gypsy quartzite.

The ore lenses in this area occur between two parallel fault gouges 6 to 10 feet apart. The best ore was observed on these fault strands with low grade ore or waste between the strands. The broken ore remaining in the stopes is diluted by waste or low grade rock from the area between the footwall and hanging wall fault strands. The ore minerals are sphalerite, galena, and chalcopyrite in quartz and pyrite. Some copper stain was noted in quartz.

Grab samples of broken ore and rock in the stopes assayed as follows:

Stope location	Sample No.	oz. Au.	oz. Ag.	% Pb.	% Cu.	% Zn.
135' NW of inclined winze	409	0.05	5.4	2.0	0.16	3.6
West side of stope at winze	410	0.03	3.4	1.5	0.13	2.4
Center of stope at winze	411	0.01	2.4	1.1	0.10	1.3
East side of stope at winze	412	0.01	1.8	0.6	0.11	1.5

At 335 and 365 feet northwest of the portal on the No. 2 level Mr. Betchart has driven X and Y crosscuts southwest from the adit drift. (See attached map of No. 2 level.) Crosscut X was driven southwest along minor fault seams which may be part of the Flume Creek fault system. A small lense of ore striking N. 60° E. and dipping 30 to 50 degrees was encountered.

Crosscut Y was driven 14 feet to the southwest, and cut a fault and vein at 7 feet. Mr. Betchart calls this C fault and postulates that it intersects and offsets the fault seam containing the ore lenses on Level No. 2. A 4½-foot winze was sunk on ore encountered in the floor of Y crosscut under C fault. C fault appears to be a fault segment of the mineralized fault seam exposed on the No. 2 level west of Y crosscut. The vein exposed in the winze under C fault is 1 to 4.6 feet wide and contains sphalerite, and galena in quartz. A detailed plan and cross section of the structure here are posted on the attached map of No. 2 and 3 levels.

Three samples cut on the vein in the walls of the winze assayed as follows:

Location	Sample No.	Inclusion	Width	Oz. Au.	Oz. Ag.	% Pb.	% Cu.	% Zn.
West wall	405	0'-2.5' N.	2.5'	Trace	0.3	None	None	1-0
West wall	406	2.5'-4.6' N.	2.1'	.050	8.6	7.2	0.13	22.8
East wall	407	----	1.8'	0.060	17.5	12.[illegible]	None	18.9

Continued exploration on this ore structure is warranted but preliminary exploration should be limited to work directly on the ore structure to determine if it persists in depth and if a greater strike length can be found below the No. 2 level.

Mr. Betchart postulates this ore structure persists in depth to the No. 3 level beneath C fault toward the inaccessible winze and wants to reopen the winze to test this possibility.

CONCLUSIONS

Examination of the Oriole mine disclosed short ore shoots along a weak but persistent fault gouge in dolerite. A modest production has been obtained from short ore shoots containing sphalerite and

galena in replacement lenses along the fault. A small ore shoot may exist below an ore structure found in a crosscut driven by the applicant. A preliminary exploration program on this small exposure of ore, if successful, would lessen the risk involved in the applicants' proposed project. This exploration could be accomplished by continuing the winze started by the applicant, by crosscutting or long holing at several points from the No. 2 adit to test the westward extension of the ore structure, and by diamond drilling from a crosscut to the north to test the downward extension of the ore structure.

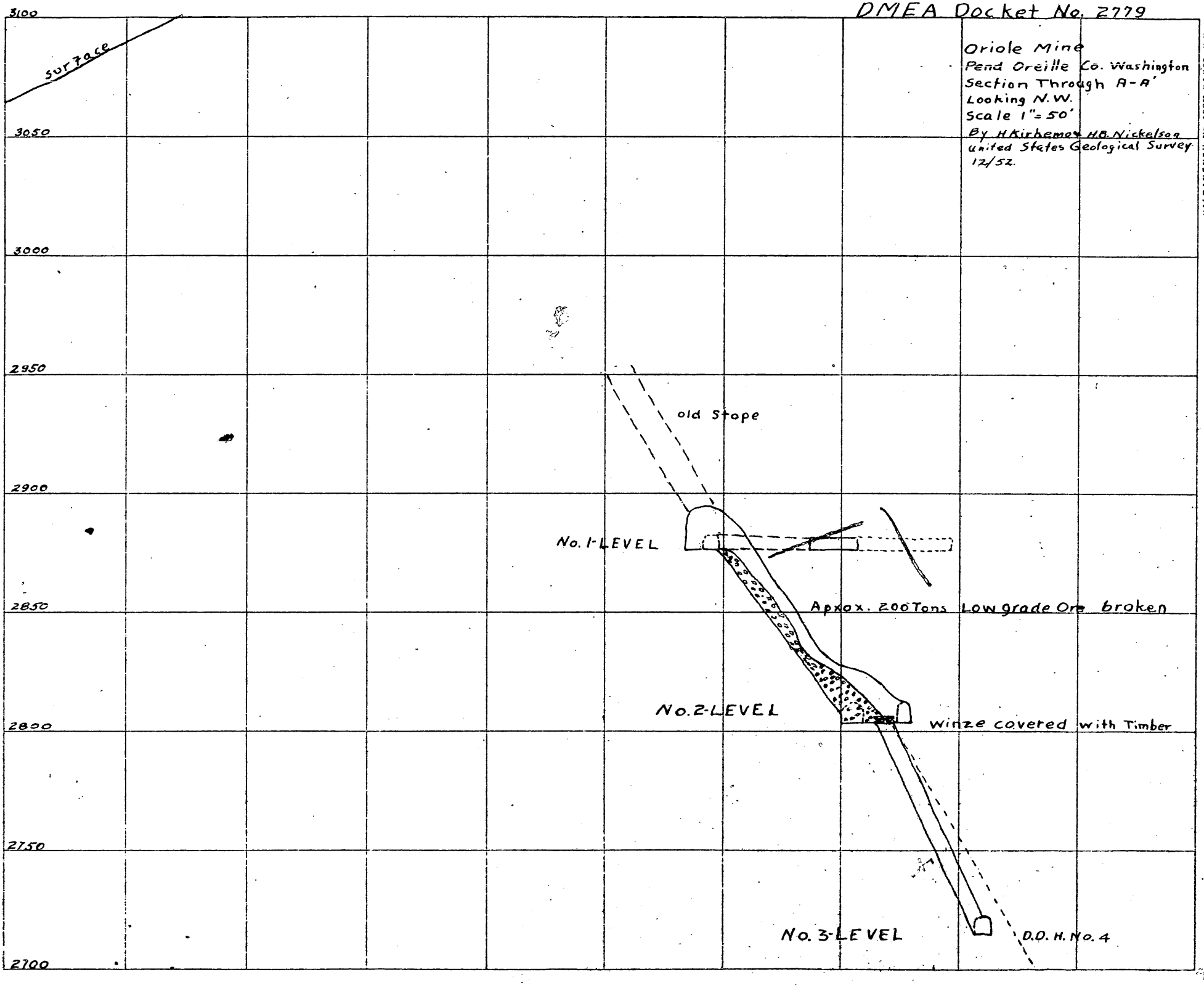
Harold Kirkemo

Howard D. Mickelson

Dist:

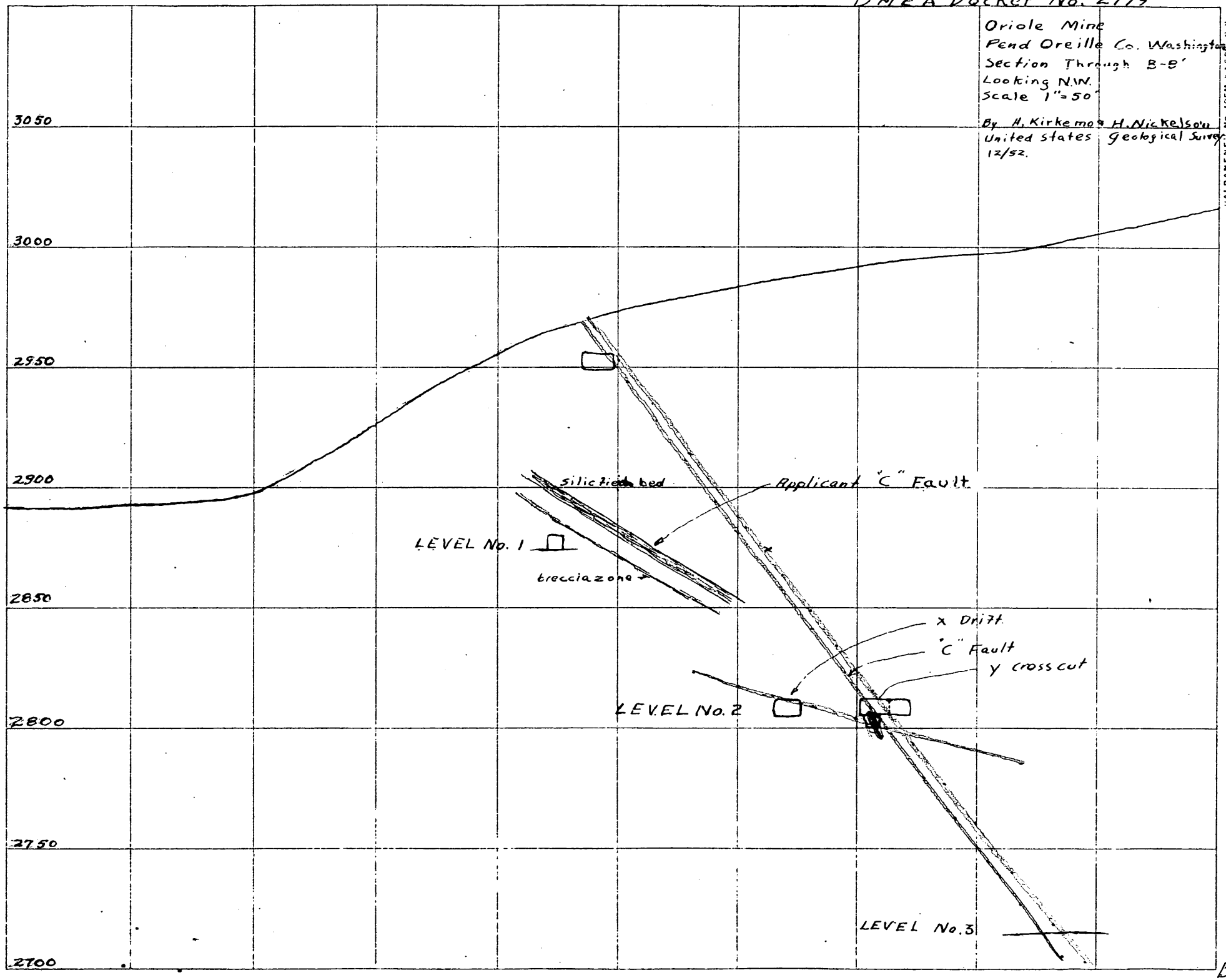
JCA (orig & 3)
[illegible] (3)
[illegible] (SLC)
Docket
Kirkemo

DMEA Docket No. 2779



"ALBANENE" REG. U.S. PAT. OFF. No. 188M K & E CO., N.Y.

DMEA Docket No. 2779



"ALBANENE" REG. U.S. PAT. OFF. No. 195M K&E CO., N.Y.

November 19, 1952

Mr. Arthur F. Betchart
Metaline Falls, Washington

Subject: DMEA-2779
Re: Exploration Assistance
Oriole Mine

My dear Mr. Betchart:

The receipt of your application dated November 5, 1952, for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-2779 and referred to the Base Metals Division.

Kindly refer to DMEA-2779 in any future correspondence relating to your application.

Sincerely yours,

R. E. ADAMS

Robert E. Adams
Chief, Operation Control
and Statistics Division

25451

November 15, 1952

Memorandum

To: Executive Officer, DMEA Field Team, Region II

From: Chief, Operation Control and Statistics Division

Subject: Assignment of Docket Number

Listed below you will find the assigned docket number to an application recently submitted from Region II.

DMEA-2779 - Betchart, Arthur F. and Dressel, E. O. Jr.

R. E. ADAMS

Robert E. Adams
Chief, Operation Control
and Statistics Division

dmea 2779

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

So. 157 Howard Street
Spokane 4, Washington

November 11, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 14 1952

Mr. F. E. Johnson, Chairman
Operating Committee, DMEA
Dept. of the Interior
Washington 25, D. C.

Dear Mr. Johnson:

Attached is the original and two copies of an application submitted by Mr. Arthur F. Betchart, Metaline Falls, Washington for the exploration of the Oriole Mine in the Metaline district, Pend Oreille County, Washington. A field examination will be scheduled as soon as possible.

Mr. Betchart has sent copies of "Owner's Consent to Lien" to Mrs. Gertrude T. Adick of Spokane for signature. These will be forwarded to you as soon as they are received in this office.

Sincerely yours

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure 1 (in trip.)
cc: JMH (2)
Kirkemo

MF-108
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 10 1952

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
NOV 10 1952
U. S. G. S.
SPOKANE, WASH.

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. dmea 2779
Metal or Mineral
Date Received 11-17-52
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: Arthur F. Botchart, Metaline Falls, Wash.
E. O. Dressel, Jr., Metaline Falls, Wash.
(A partnership)

(*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 (Lease and option: Oriole, Bk "J", Pge 45; Red Crown, Bk 12, Pge 591; Oriole Annex Bk 12, Pge 591; Silver Queen, Bk 16, Pge 277; Daisy, Bk 16, Pge 278; Eastern Star #1, Bk 2, Pge 55; Eastern Star #2, Bk 2, Pge 56) (Owned by partners: Protector #4, Vol 1, Page 612; Protector #6, Vol 5, Pg 47; (cont below) b. Oriole Mine

(*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 Lessee and purchaser under contract and owner as indicated in (a) above.

(*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 None

(*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.

Cont. from 3(a) above.
Protector #1, Vol.1, Pge. 610
Protector #2, Vol.1, Pgo. 611)

16—66551-1

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

(*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, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 5 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 Nov. 5, 1952

BETCHART-DRESSEL PARTNERSHIP
(Applicant)

By Arthur F. Betchart

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

Supplemental Application Sheets to MF-103 (Oriole Mine)

Par. 1, 2, 3; Accomplished on Form MF-103

Par. 4 (A) Workings described on the enclosed plan, with the exception of cross-cuts labeled "x" and "y" on main tunnel level, are old workings. Reference is made to professional paper 202 for the geologic surveys description. Cross-cuts "x" and "y" were driven during the past spring and summer by this partnership.
(B) No production records are available except those in P. P. 202. I would estimate that plus 5000 tons of perhaps 15% combined PB and ZN have been mined. Approximately 10 tons of 15% PB and 25%ZN with 20 oz. AG were mined and piled on the dump this summer by ourselves (from "x" and "Y" area). No ore reserves are claimed except for approximately 500 tons of broken, oxidized muck on the dumps and in the old stopes. All workings are accessible except the winze level.
(C) The Oriole deposit occurs mainly in the form of a replacement vein, striking N65°W and dipping approximately 56° to the NE. It consists of coarsely crystalline, massive sphalerite and galena in a qtz. matrix and penetrates the walls but little. As indicated on the enclosed map, this structure persists for 250 ft. on the main tunnel level but has made ore only in a series of "chutes" for perhaps a total length of 60 ft. The writers observation of fault "C" in five places throughout the mine prompted the assumption that the explored counterpart of vein "B" was only the hanging wall or displaced portion of that structure. It was further reasoned that the footwall portion of the structure may be more uniformly mineralized, if it did exist.

On the above mentioned basis, cross-cut "x" was collared where fault "C" intersected the main tunnel level. Massive lead-zinc mineralization was encountered at 30 ft., however this proved to be only an ore chute a few feet long and its strike and dip resembled more that of the original discovery, labeled vein "A" on the enclosed map. Cross-cut "y" was then collared and the second round encountered the "tip" of the footwall portion of vein "B"(our objective). A five foot winze was sunk on the ore (in the footwall of fault "C"). In this small area one may observe 20% PB-ZN ore from one to three feet thick. Since Fault "C" is a very tight structure, and since the unmineralized hanging wall portion of Vein "B" structure is seemingly in tension, it is quite possible that the top of a fairly strong and persistent vein of PB and ZN may exist in a northwesterly direction between cross-cut "x" and the winze level and continue downward under the gypsy quartzite for some distance. In the opposite direction from cross-cut "y", the country is intensely faulted and broken up, due probably to the proximity of the great Plume Creek fault which is approximately 600 ft. distant but supposedly easterly dipping.
(D) The property is located 2 miles due west of Metaline Falls, Washington. It is accessible from two roads, one of which the county will keep open nearly to the mine and perhaps the entire distance. It may be considered a three mile haul to the rail head at Metaline Falls.
(E) For exploration purposes these items would be no problem. Sufficient water is available for a small (25 ton) mill and the P. U. D. substation is only 1½ miles distant, should a mill be justified.

Par. 5 (B) The proposed work includes rehabilitating a 90 ft. winze and driving say 100 ft. of drift and cross-cut from the winze level. The proposed drift and cross-cut are indicated on the enclosed map as "z". Reference is made to Par. 4.c. above for the logic of doing this work. The exact location of cross-cut "z" would be determined after inspecting Fault "C" on the winze level, if it shows.
(D) My operating experience includes during the past 16 years, shaft and drift mining; mine supervisor (40 to 60 men); engineering; currently chief engineer at Pend Oreille Mines and Metals Co.
Par. 6 (A) Estimate of Costs--Independent contracts: Unit costs or contracts may be established for all phases of the work except rehabilitation of the shaft. The drifting, including the hoisting and pumping required during the drifting process, may be figured at $20 per foot. This figure is based upon labor, equipment and supply costs itemized in (b) below.

(B) Labor, Supervision, Consultants.

	Man Shifts
1. Rehabilitation of Main tunnel and Winze collar	
Mucking with slusher and tramming--200 tons	20
Rigging pump and hoist and pumping	10
Hanging skip, repairing timber, track, etc.	50
Building chute lip and small pocket at winze collar	10
2. Mucking out sump	20
3. Collaring east drift (z) off winze	6
4. Drift-cross-cut (z), no track w/slusher, 100 ft.	50
Total	166
Labor @ $15.00 per shift	$2490.00
Plus 20% for supervision @ $22	726.00
sub-total	$3216.00

Note: It may be appropriate to group supervision, consultants and labor together in case the Government were to approve of the applicant spending full time in the three capacities.

(C) Operating Materials and supplies

Powder	@ 6 lbs. per foot of drift (600 x $17)	$ 102.00
Bits	6 @ $14.00	84.00
Primers	20 ft per ft. drift (2000 x 1.3¢)	26.00
Gasoline	$3.00 per day for 90 days	270.00
Steel	@ 15¢/lg x say 100 lbs.	15.00
Hose	Air and water	50.00
Pipe fittings		25.00
Wire rope	(200 ft of 5/8" @ 25¢) hoist	50.00
" "	(200 ft of ½" @ 10¢) slusher	20.00
Hand tools, machine oil, etc.		50.00
	sub-total	$ 692.00

(D) Operating equipment

	three month cost
Compressor, gas 105CFM, Sullivan @ $150 per month (owned by operator)	$ 450.00
Slusher and scraper @ $80-1 mo.	240.00
Hoist, Air, Sole drum @ $50-1 mo.(owned by operator)	150.00
Pump, Cameron, Piston type @ $50-1 mo. " " "	150.00
Machine, 45lb. jack leg @ $80-1 mo.(2 months)	160.00
sub-total	$1150.00

(E) Rehabilitation and repairs		
Pipe Lines (Air and water)		$ 50.00
Hoist		50.00
Pump		50.00
Winterizing Compressor Bldg.		50.00
	sub-total	$ 200.00
(F) None		
(G) Miscellaneous		
Analytical Work		100.00
Accounting		90.00
Workmens Compensation @ 1½%		50.00
	sub-total	$ 240.00
(H) Contingencies		
Plowing road		$ 100.00
Allowances for inaccurate estimates, approx. 7% x $5538		402.00
	sub-total	$ 502.00
Grand Total		$6000.00

Par. 7
(B) We would like to keep our cash commitments in the vicinity of $2500. We would expect some credit on the compressor and possibly the pump and hoist.

LEASE AND OPTION AGREEMENT.

The purpose of this document is to state the terms and conditions under which the persons hereinafter designated as Lessees may occupy, work and remove and sell ore from certain mining claims below described; also to give them an option whereby they may if they desire purchase and receive title to the subject matter of this contract.

Present owners of the property are hereinafter called the Lessors; these are William S. Schulz, as Executor of the Will and Estates of Henry Schulz and Pauline Schulz, Deceased, William S. Schulz individually, Gertrude I. Anlick, Louise M. Maulin, and Alma I. Jacobson. These are contracting with Arthur F. Betchart and Edwin C. Trusch, Jr., who will be called the Lessees.

The subject matter of this agreement consists of the following:

1. These mining claims situated in the Metaline Falls Mining District, Pend Oreille County, Washington, named respectively as Oriole Lode Claim, Red Cloud Lode Claim, Silver Queen Lode Claim, Daisy Lode Claim, Oriole Annex Lode Claim, Eastern Star No.1 Lode Claim, and Eastern Star No.2 Lode Claim, all located contiguously in Sections Nineteen (19), Twenty (20), Twenty-nine (29) and Thirty (30), Township Thirty-nine (39) North, Range Forty-three (43) E.W.M., together with all mines, minerals, lodes and veins within the limits of said claims and their dips and spurs, and all appurtenances belonging to the same.

2. All items of mine and mill, machinery, supplies and buildings on the above premises, including compressor, steam engine, boiler, shop tools, pipe vise, blacksmith vise, post drill, blacksmith blower and forge, anvil, two shaking tables, hammer mill, elevator, trommel screen, 12 or more pulleys, all shafting and pillow blocks, hoist, pump, skip, three mine cars, and rails and pipe either installed or on hand.

In consideration of $250.00 presently paid by Lessees to Lessors, and certain further periodic payments to be made as below stated, the Lessors grant to the Lessees an option for the purchase of the above subject matter, as well as a lease beginning presently, and to continue for the period of ten years. Such lease shall apply to all the subject matter above specified. Regular annual payments shall commence in 1952, and be made in such year and each year thereafter; that is to say, on or before July 1, 1952 the sum of $6,000.00 shall be paid by the Lessors to the Lessees; in subsequent years beginning with 1953, the sum of $5,000.00 shall be paid on or before the

first day of July in each successive year. The right now granted to remove and sell ore or other valuable minerals from the mining claims described shall begin only after the payment of $6,000.00 shall have been made on or before July 1, 1952. The present payment, however, shall initiate this lease, and will entitle the Lessees to go upon the premises, and commence to operate the same, but they shall not remove any ore therefrom except for the purpose of testing, prior to the payment of $6,000.00 on or before July 1, 1952, as above provided.

As an exception to the general plan of this transaction, it is provided that if the Lessees shall desire to construct a portable mill, and shall wish to use or adapt for that purpose the items below described, they shall purchase such items of personal property outright, by paying therefor, to the escrow depositary, the sum of $1,500.00. The items may not be so used unless purchased; if they be purchased, the title to such items shall be and remain in the Lessees, whether or not they exercise the principal option hereinafter granted. The items referred to are these:

One hammer mill,
One trommel screen,
Two elevator pulleys and buckets,
All loose pillow blocks, sheaves and pulleys.

The Lessees shall conduct all their option on the described property in a competent and good minerlike manner, with due regard to preserving sound and workable conditions on the property. The Lessors shall have the right of inspection at all reasonable times.

It is further provided with respect to annual payments that the Lessees shall pay 10% of all net smelter returns to the Lessors, as well as 10% of any sums that may be realized by any other or different disposition of ores or minerals. Sums so derived from smelter returns by the Lessors shall be credited against the annual payments herein called for; and if in any single year the amount so paid on smelter returns shall exceed the annual payments, such excess shall be credited against the annual payment for the following year.

In addition to the lease granted, the Lessors, in consideration of the initial payment of $250.00, do further grant to the Lessees an irrevocable

option for the term of ten years from this date, to purchase the described property. This option may be exercised at any time within the ten-year period of this lease by a written notice, personally delivered to William G. Schulz or mailed to him by registered mail at Metaline Falls, Washington; in the event of his decease during the period, such notice shall be delivered or mailed to any one of the other named Lessors. If the option be exercised, the purchase [illegible], subject, however, to reduction by the total amount [illegible] payment [illegible] made, other than the original payment of $250.00, which is not to be considered for this purpose, in that it is meant only as consideration for the option and initial rights. Although paid originally as rent reserved or as the price of special items referred to on page 2, such payments shall apply on the purchase price if the option be exercised. The balance remaining unpaid, after application of such credits, shall be paid in cash within six months after the giving of the notice. If this option be exercised before the [illegible] of the term of the lease, completion of purchase through the exercise of the option shall terminate the lease automatically.

At a reasonable time prior to July 1, 1962, the Lessors shall obtain and deliver to the Lessees for their inspection a suitable abstract or abstracts, or title insurance, brought down to date, for inspection by the Lessees before the payment of $6,000.00 becomes due.

As a special proviso, it is understood and agreed that William G. Schulz shall have the right to reside on the premises until the first annual payment shall have been made on or before July 1, 1962.

The Lessees must give the Lessors proof of the required annual assessment work, for filing by Lessors; if the Lessees fail to perform the required annual assessment work on or before June 1 of each year, then the Lessors may enter and have the right to perform such assessment work, in order to protect the preoperty. In such event the Lessees shall pay the Lessors $700.00 additional to other payments herein required, on or before July 1 of the next year following the year in which Lessors were so required to act. This amount of $700.00, to be paid for each year in which the Lessees have failed to do assessment work and the Lessors

[illegible] without the written consent of the Lessors. But it is further provided that the Lessors will not withhold consent unreasonably, if assignment be desired for the purpose of hypothecation, or if further associates are desired by the Lessees, and these are responsible persons of good reputation.

Time is of the essence of this agreement and a faithful compliance on the part of the Lessees with all the obligations herein assumed by them. If they shall fail to make any payment on the day when the same becomes due, or shall fail to maintain the premises in a proper and good minerlike manner, the Lessors may declare a forfeiture of this contra ct and all rights granted hereunder. If the Lessors so elect, they must give a notice in writing, addressed and sent individually to the Lessees at Metaline Falls, Washington, by registered mail, or delivered to them personally; such notice must specify the particulars in which default or breach is claimed, and allow a period of 90 days within which such brea ches or defaults may be cured. If within the stated period the Lessees fail to correct or cure the breaches complained of or to bring the contract out of default, the forfeiture may then be made final and complete by giving Lessees written notice that the forfeiture is final; such notice to be delivered personally or sent by registered mail. In such event, all rights of the Lessees created herein shall immediately cease, and possession of the des cribed property shall at once be surrendered to the Lessors (excepting such items as Lessees may have bought for $1,500.00 as provided on page 2); all payments therefore made by the Lessees to the Lessors shall remain the property of the latter by way of liquidated damages.

This transaction shall be carried out through an escrow agreement.

The original signed copy of this lease and option, together with a suitable deed and a bill of sale covering the subject matter, shall be deposited with Ione State Bank at Ione, Washington, for delivery to the Lessees if and when they exercise their option of purchase, and complete the same as herein

required. Escrow fees shall be divided equally. All payments required hereunder shall be made at the office of the Ione State Bank at Ione, Washington.

IN WITNESS WHEREOF, The parties have executed this lease and option agreement as of the 20TH day of October, 1951.

William C. Schulz
As Executor of the Will's and Estates of
Jerry Schulz and Pauline Schulz, Deceased.

LESSORS.

William C. Schulz

Gertrude I. Anick

Alma T. Jacobson

Louise T. Paulin

LESSEE.

Arthur F. Getchart

Erwin O. Dressel Jr.

October 11, 1952

I hereby certify this contract is a true copy of the one the Ione State Bank is holding in escrow.

_____, Cashier

dmea 2779

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

November 11, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 17 1952

Mr. F. E. Johnson, Chairman
Operating Committee, DMEA
Dept. of the Interior
Washington 25, D. C.

Dear Mr. Johnson:

Attached are the original and two copies of an application submitted by Mr. Arthur F. Betchart, Metaline Falls, Washington for the exploration of the Oriole Mine in the Metaline district, Pend Oreille County, Washington. A field examination will be scheduled as soon as possible.

Mr. Betchart has sent copies of "Owner's Consent to Lien" to Mrs. Gertrude T. Amick of Spokane for signature. These will be forwarded to you as soon as they are received in this office.

Sincerely yours

A E Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure 1 (in trip.)
cc: USBM (2)
Kirkemo

dmea 2779

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A. S. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure 1 (in trip.)
cc: [illegible] (2)
Kirkemo

MF-103
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration
RECEIVED
NOV 17 1952

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
NOV 10 1952
U. S. G. S.
SPOKANE, WASH.

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. dmea 2999
Metal or Mineral
Date Received 11-17-52
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: Arthur E. [illegible], [illegible], [illegible], [illegible]. E. O. Grosset, Jr., [illegible], [illegible]. (Partnership)

(*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 (Lease and option: Oriole, Book [illegible], Page 15; [illegible], Bk 12, Page 631; Oriole Annex Bk 12, Page [illegible]; Silver Queen, Bk 12, Page 277; Daisy, Bk 12, Page 278; Inspiration Star #1, Bk 2, Page 25; Inspiration #2, Bk 2, Page 56) (Owned by partners: Protector #1, Vol 1, Page 612; Protector #6, Vol 5, Pg 47; (cont below) b. Oriole Mine

(*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 Lessee and purchaser under contract and owner as indicated in (a) above.

(*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 None

(*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.

Cont. from 3(a) above.
Protector #1, Vol.1, Pge. 610
Protector #2, Vol.1, Pge. 611)

16—66551-1

5. *The exploration project.*—(a) State the mineral or minerals for which you [illegible] to explore Galena, Sphalerite

(*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, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 5 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 Nov 5, 1952

BETCHART - DRESSEL PARTNERSHIP
(Applicant)

By Arthur F. Betchart

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

Supplemental Application Sheets to MF-103 (Oriole Mine)

Par. 1, 2, 3; Accomplished on Form MF-103

Par. 4 (A) Workings described on the enclosed plan, with the exception of cross-cuts labeled "x" and "y" on main tunnel level, are old workings. Reference is made to professional paper 202 for the geologic surveys description. Cross-cuts "x" and "y" were driven during the past spring and summer by this partnership.
(B) No production records are available except those in P. P. 202. I would estimate that plus 5000 tons of perhaps 15% combined PB and ZN have been mined. Approximately 10 tons of 15% PB and 25% ZN with 20 oz. AG were mined and piled on the dump this summer by ourselves (from "x" and "y" cross). No ore reserves are claimed except for approximately 500 tons of broken, oxidized muck on the dump and in the old stopes. All workings are accessible except the winze level.
(C) The Oriole deposit occurs mainly in the form of a replacement vein, striking N65°W and dipping approximately 56° to the NE. It consists of coarsely crystalline, massive sphalerite and galena in a qtz. matrix and penetrates the walls but little. As indicated on the enclosed map, this structure persists for 350 ft. on the main tunnel level but has made ore only in a series of "chutes" for perhaps a total length of 60 ft. The writers observation of fault "C" in five places throughout the mine prompted the assumption that the explored counterpart of vein "B" was only the hanging wall or slopped portion of that structure. It was further reasoned that the footwall portion of the structure may be more uniformly mineralized, if it did exist.

On the above mentioned basis, cross-cut "x" was collared where fault "C" intersected the main tunnel level. Massive lead-zinc mineralization was encountered at 20 ft., however this proved to be only an ore chute a few feet long and its strike and dip resembled more that of the original discovery, labeled vein "A" on the enclosed map. Cross-cut "y" was then collared and the second round encountered the "tip" of the footwall portion of vein "B"(our objective). A five foot winze was sunk on the ore (in the footwall of fault "C"). In this small area one may observe 70% PB-ZN ore from one to three feet thick. Since fault "C" is a very tight structure, and since the mineralized hanging wall portion of Vein "B" structure is seemingly in tension, it is quite possible that the top of a fairly strong and persistent vein of PB and ZN may exist in a northwesterly direction between cross-cut "x" and the winze level and continue downward under the gypsy quartzite for some distance. In the opposite direction from cross-cut "y", the country is intensely faulted and broken up, due probably to the proximity of the great Pluto Creek fault which is approximately 600 ft. distant but supposedly easterly dipping.
(D) The property is located 8 miles due west of Metaline Falls, Washington. It is accessible from two roads, one of which the county will keep open nearly to the mine and perhaps the entire distance. It may be considered a three mile haul to the mill here at Metaline Falls.
(E) For exploration purposes there does not would be no problem. Sufficient water is available for a small (25 ton) mill and the P. U. D. substation is only 1½ miles distant, should a mill be justified.

Par. 5 (B) The proposed work includes rehabilitating a 80 ft. winze and driving say 100 ft. of drift and cross-cut from the winze level. The proposed drift and cross-cut are indicated on the enclosed map as "2". Reference is made to Par. 4.c. above for the logic of doing this work. The exact location of cross-cut "2" could be determined after inspecting Fault "C" on the winze level, if it shows.
(D) My operating experience includes during the past 16 years, shaft and drift mining; mine supervisor (40 to 60 men); engineering; currently chief engineer at Pend Oreille Mines and Metals Co.
Par. 6 (A) Estimate of Costs--Independent contracts: Unit costs or contracts may be established for all phases of the work except rehabilitation of the shaft. The drifting, including the hoisting and pumping required during the drifting process, may be figured at $20 per foot. This figure is based upon labor, equipment and supply costs itemized in (b) below.

(B) Labor, Supervision, Consultants.

	Man shifts
1. Rehabilitation of main tunnel and winze collar	
Muching with slusher and tramming--200 tons	20
Rigging pump and hoist and pumping	10
Hanging skip, repairing timber, track, etc.	50
Building chute lip and small pocket at winze collar	10
2. Muching out sump	20
3. Collaring east drift (2) off winze	6
4. Drift-cross-cut (2), no track w/slusher, 100 ft.	20
Total	136

Labor @ $18.00 per shift	$2480.00
Plus 20% for supervision @ $62	496.00
sub-total	$2976.00

Note: It may be appropriate to group supervision, consultants and labor together in case the Government were to approve of the applicant spending full time in the three expeditions.

(C) Operating Materials and supplies

Powder	@ 6 lbs. per foot of drift (600 x $17)	$ 102.00
Bits	6 @ $14.00	84.00
Primers	20 ft per ft. drift (2000 x 1.2¢)	26.00
Gasoline	$3.00 per day for 90 days	270.00
Steel	@ 15¢/lg x say 100 lbs.	15.00
Hose	Air and water	50.00
Pipe fittings		25.00
Wire rope	(100 ft of 5/8" @ 50¢) hoist	50.00
" "	(200 ft of 3/8" @ 10¢) slusher	20.00
Hand tools, machine oil, etc.		50.00
	sub-total	$ 694.00

(D) Operating equipment

	three month cost
Compressor, gas 105CFM, Sullivan @ $150 per month (owned by operator)	$ 450.00
Slusher and scraper @ $80-1 mo.	240.00
Hoist, Air, Hole drum @ $50-1 mo.(owned by operator)	150.00
Pump, Cameron, Piston type @ $50-1 mo. " " "	150.00
Machine, 45lb. jack leg @ $80-1 mo.(3 months)	160.00
sub-total	$1150.00

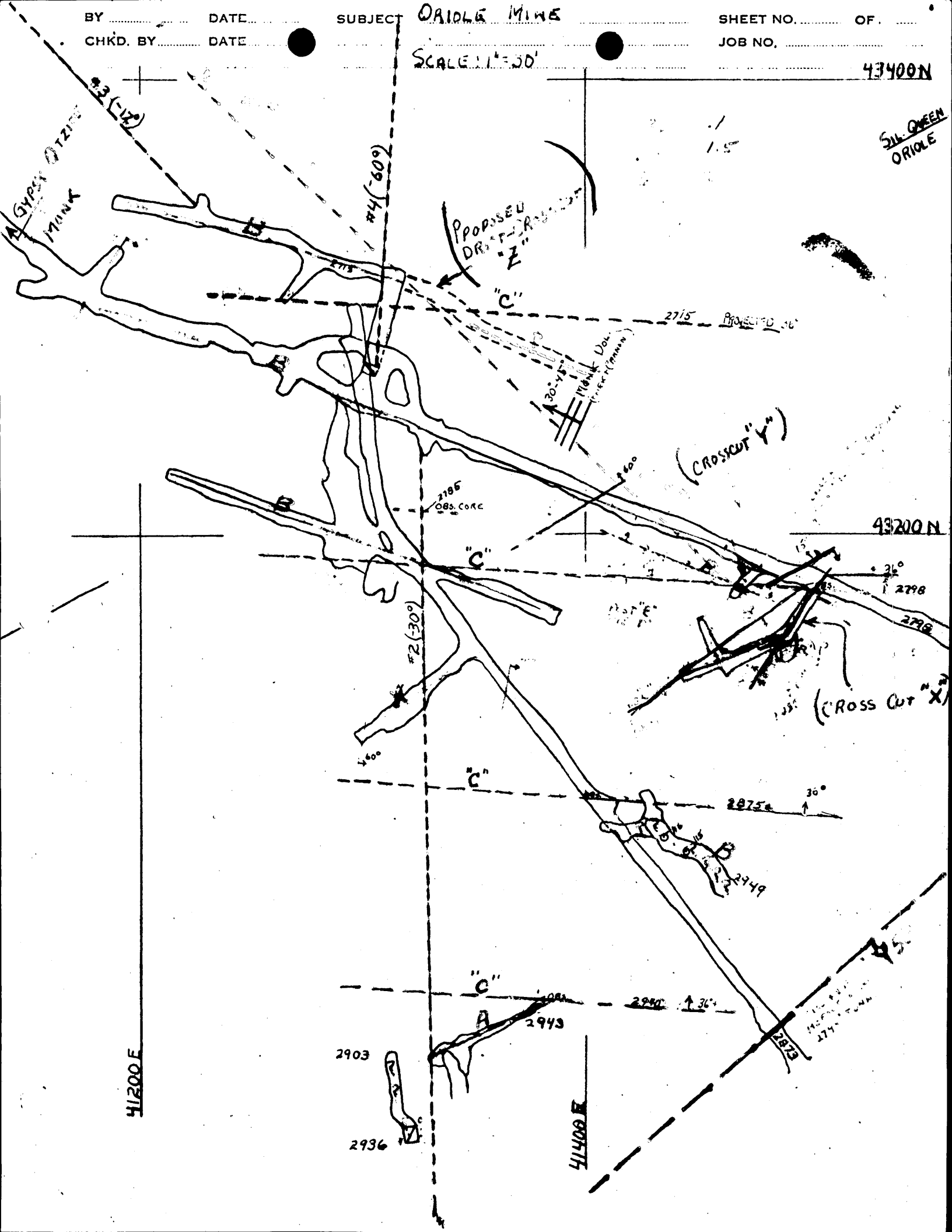
(E) Rehabilitation and repairs		
Pipe Lines (Air and water)		$ 50.00
Hoist		50.00
Pump		50.00
Winterizing Compressor Bldg.		50.00
	sub-total	$ 200.00
(F) None		
(G) Miscellaneous		
Analytical Work		100.00
Accounting		50.00
Workmens Compensation @ 1%		50.00
	sub-total	$ 200.00
(H) Contingencies		
Plowing road		$ 100.00
Allowances for inaccurate estimates, approx. 7% x $8508		608.00
	sub-total	$ 708.00
Grand Total		$8000.00

Par. 7
(D) We would like to keep our cash commitments in the vicinity of $2500. We would expect some credit on the compressor and possibly the pump and hoist.

BY ..... DATE ..... SUBJECT ORIOLE MINE ..... SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... JOB NO. .....

SCALE: 1" = 50'



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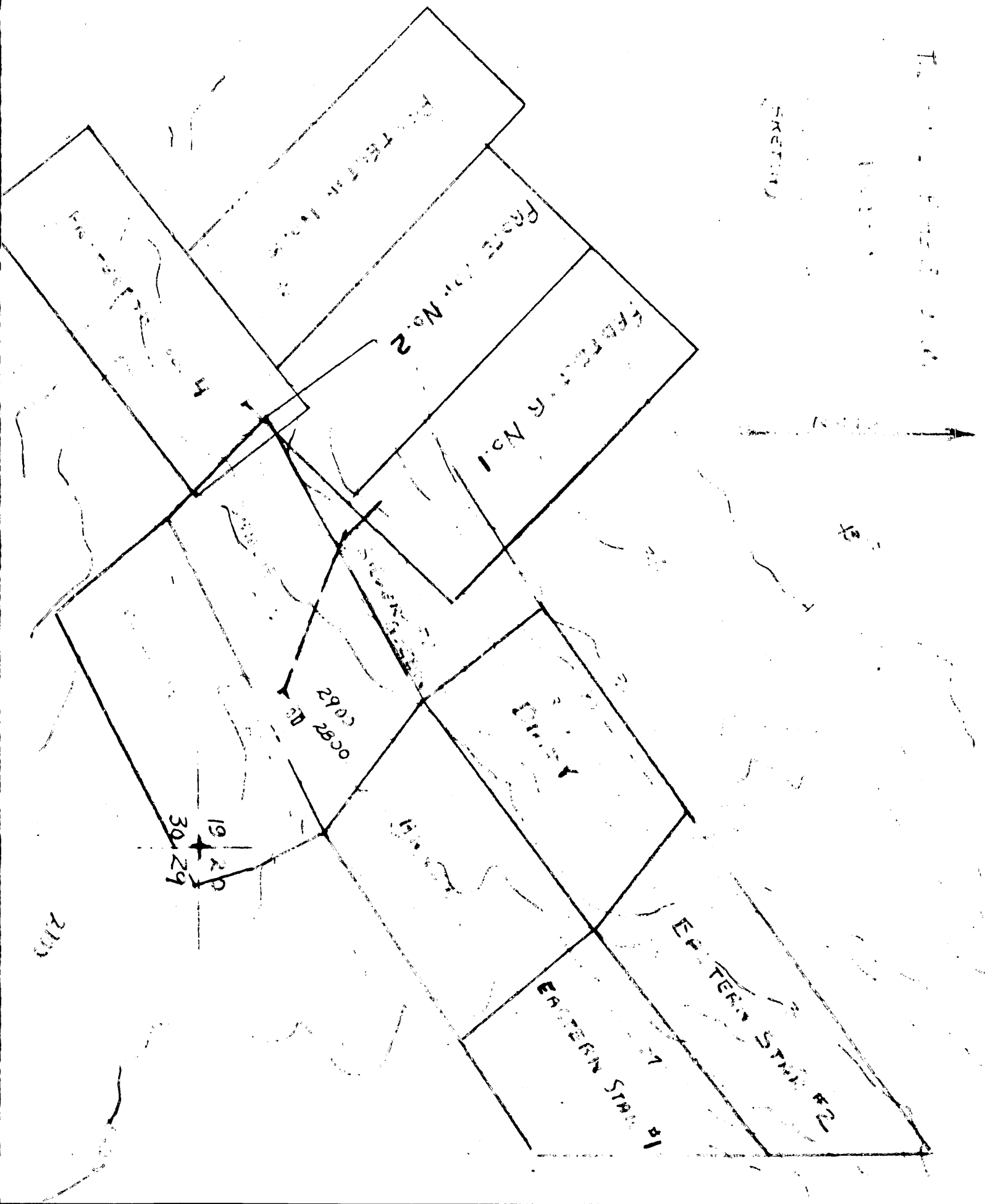

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All loose pillow blocks, sheaves and pulleys.

The Lessees shall conduct all their option on the described property in a competent and good minerlike manner, with due regard to preserving sound and workable conditions on the property. The Lessors shall have the right of inspection at all reasonable times.

It is further provided with respect to annual payments that the Lessees shall pay 10% of all net smelter returns to the Lessors, as well as 10% of any sums that may be realized by any other or different disposition of ores or minerals. Sums so derived from smelter returns by the Lessors shall be credited against the annual payments herein called for; and if in any single year the amount so paid on smelter returns shall exceed the annual payments, such excess shall be credited against the annual payment for the following year.

In addition to the lease granted, the Lessors, in consideration of the initial payment of $250.00, do further grant to the Lessees an irrevocable

option for the term of ten years from this date, to purchase the described property. This option may be exercised at any time within the ten-year period of this lease by a written notice, personally delivered to William S. Schulz or mailed to him by registered mail at Metaline Falls, Washington; in the event of his decease during the period, such notice shall be delivered or mailed to any one of the other named Lessors. If the option be exercised, the purchase price shall be $[illegible], subject, however, to reduction by the total amount of all payments theretofore made, other than the original payment of $250.00, which is not to be considered for this purpose, in that it is meant only as consideration for the option and initial rights. Although paid originally as rent reserved or as the price of special items referred to on page 2, such payments shall apply on the purchase price if the option be exercised. The balance remaining unpaid, after application of such credits, shall be paid in cash within six months after the giving of the notice. If this option be exercised before the normal expiration of the term of the lease, completion of purchase through the exercise of the option shall terminate the lease automatically.

At a reasonable time prior to July 1, 1952, the Lessors shall obtain and deliver to the Lessees for their inspection a suitable abstract or abstracts, or title insurance, brought down to date, for inspection by the Lessees before the payment of $6,000.00 becomes due.

As a special proviso, it is understood and agreed that William S. Schulz shall have the right to reside on the premises until the first annual payment shall have been made on or before July 1, 1952.

The Lessees must give the Lessors proof of the required annual assessment work, for filing by Lessors; if the Lessees fail to perform the required annual assessment work on or before June 1 of each year, then the Lessors may enter and have the right to perform such assessment work, in order to protect the preoperty. In such event the Lessees shall pay the Lessors $700.00 additional to other payments herein required, on or before July 1 of that year following the year in which Lessors were so required to act. This amount of $700.00, to be paid for each year in which the Lessees have failed to do assessment work and the Lessors

were compelled to act, shall be in addition to all other payments herein called for.

Neither this lease nor the option herein contained may be assigned by the Lessees without the written consent of the Lessors. But it is further provided that the Lessors will not withhold consent unreasonably, if assignment be desired for the purpose of hypothecation, or if further associates are desired by the Lessees, and these are responsible persons of good reputation.

Time is of the essence of this agreement and a faithful compliance on the part of the Lessees with all the obligations herein assumed by them. If they shall fail to make any payment on the day when the same becomes due, or shall fail to maintain the premises in a proper and good minerlike manner, the Lessors may declare a forfeiture of this contra ct and all rights granted hereunder. If the Lessors so elect, they must give a notice in writing, addressed and sent individually to the Lessees at Metaline Falls, Washington, by registered mail, or delivered to them personally; such notice must specify the particulars in which default or breach is claimed, and allow a period of 90 days within which such brea ches or defaults may be cured. If within the stated period the Lessees fail to correct or cure the breaches complained of or to bring the contract out of default, the forfeiture may then be made final and complete by giving Lessees written notice that the forfeiture is final; such notice to be delivered personally or sent by registered mail. In such event, all rights of the Lessees created herein shall immediately cease, and possession of the des cribed property shall at once be surrendered to the Lessors (excepting such items as Lessees may have bought for $1,500.00 as provided on page 2); all payments therefore made by the Lessees to the Lessors shall remain the property of the latter by way of liquidated damages.

This transaction shall be carried out through an escrow agreement.

The original signed copy of this lease and option, together with a suitable deed and a bill of sale covering the subject matter, shall be deposited with Ione State Bank at Ione, Washington, for delivery to the Lessees if and when they exercise their option of purchase, and complete the same as herein

required. Escrow fees shall be divided equally. All payments required hereunder shall be made at the office of the Ione State Bank at Ione, Washington.

IN WITNESS WHEREOF, The parties have executed this lease and option agreement as of the 20TH day of October, 1951.

LESSORS.

William S. Schulz
As Executor of the Wills and Estates of
Henry Schulz and Pauline Schulz, Deceased.

William S. Schulz

Gertrude P. Amick

Alma T. Jacobson

Louise M. Paulin

LESSEES.

Arthur F. Betchart

Edwin O. Dressel Jr.

October 21, 1952

I hereby certify this contract is a true copy of the one the Ione State Bank is holding in escrow.

_____, Cashier

MF-103
(Revised April 1952)

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

NOV 1 6 1952

RECEIVED
NOV 10 1952
U. S. G. S.
WASH. D. C.

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. dmea 2779
Metal or Mineral
Date Received 11-17-52
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: Arthur F. Betchart, Metaline Falls, Wash.
E. O. Dressel, Jr., Metaline Falls, Wash.
(A partnership)

(*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 (Lease and option: Oriole, Bk"J", Pge 35; Red Crown, Bk 12, Pge 591; Oriole Annex Bk 12, Pge 591; Silver Queen, Bk 16, Pge 277; Daisy, Bk 16, Pge 278; Eastern Star #1, Bk 2, Pge 55; Eastern Star #2, Bk 2, Pge 56) (Owned by partners: Protector #4, Vol 1, Page 612; Protector #6, Vol 5, Pg 47; (cont below)

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

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Lessee and purchaser under contract and owner as indicated in (a) above.

(*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 None

(*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.

Cont. from 3(a) above.
Protector #1, Vol.1, Pge. 610
Protector #2, Vol.1, Pge. 611)

16—66551-1

5. *The exploration project.*—(*a*) S[redacted] the mineral or minerals for which you wis[redacted] explore Galena, ~~Sphalerite~~

(*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, veins, ore-bearing beds, etc.

(*c*) The work will start within 30 days and be completed within 5 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?

[X] Money [X] 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 Nov. 5, 1952

BERCHART-DRESSEL PARTNERSHIP
(Applicant)

By Arthur F. Berchart

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

Supplemental Application Sheets to MF-103 (Oriole Mine)

Par. 1, 2, 3; Accomplished on Form MF-103

Par. 4 (A) Workings described on the enclosed plan, with the exception of cross-cuts labeled "x" and "y" on main tunnel level, are old workings. Reference is made to professional paper 202 for the geologic surveys description. Cross-cuts "x" and "y" were driven during the past spring and summer by this partnership.
(B) No production records are available except those in P. P. 202. I would estimate that plus 5000 tons of perhaps 15% combined PB and ZN have been mined. Approximately 10 tons of 15% PB and 25%ZN with 20 oz. AG were mined and piled on the dump this summer by ourselves (from "x" and "Y" area). No ore reserves are claimed except for approximately 500 tons of broken, oxidized muck on the dumps and in the old stopes. All workings are accessible except the winze level.
(C) The Oriole deposit occurs mainly in the form of a replacement vein, striking N65°W and dipping approximately 56° to the NE. It consists of coarsely crystaline, massive sphalerite and galena in a qtz. matrix and penetrates the walls but little. As indicated on the enclosed map, this structure persists for 350 ft. on the main tunnel level but has made ore only in a series of "chutes" for perhaps a total length of 60 ft. The writers observation of fault "C" in five places throughout the mine prompted the assumption that the explored counterpart of vein "B" was only the hanging wall or displaced portion of that structure. It was further reasoned that the footwall portion of the structure may be more uniformly mineralized, if it did exist.

On the above mentioned basis, cross-cut "x" was collared where fault "C" intersected the main tunnel level. Massive lead-zinc mineralization was encountered at 30 ft., however this proved to be only an ore chute a few feet long and its strike and dip resembled more that of the original discovery, labeled vein "A" on the enclosed map. Cross-cut "y" was then collared and the second round encountered the "tip" of the footwall portion of vein "B"(our objective). A five foot winze was sunk on the ore (in the footwall of fault "C"). In this small area one may observe 20% PB-ZN ore from one to three feet thick. Since Fault "C" is a very tight structure, and since the unmineralized hanging wall portion of Vein "B" structure is seemingly in tension, it is quite possible that the top of a fairly strong and persistent vein of PB and ZN may exist in a northwesterly direction between cross-cut "x" and the winze level and continue downward under the gypsy quartzite for some distance. In the opposite direction from cross-cut "y", the country is intensely faulted and broken up, due probably to the proximity of the great Flume Creek fault which is approximately 600 ft. distant but supposedly easterly dipping.
(D) The property is located 2 miles due west of Metaline Falls, Washington. It is accessible from two roads, one of which the county will keep open nearly to the mine and perhaps the entire distance. It may be considered a three mile haul to the rail head at Metaline Falls.
(E) For exploration purposes these items would be no problem. Sufficient water is available for a small (25 ton) mill and the P. U. D. substation is only 1½ miles distant, should a mill be justified.

Par. 5 (B) The proposed work includes rehabilitating a 90 ft. winze and driving say 100 ft. of drift and cross-cut from the winze level. The proposed drift and cross-cut are indicated on the enclosed map as "z". Reference is made to Par. 4.c. above for the logic of doing this work. The exact location of cross-cut "z" would be determined after inspecting Fault "C" on the winze level, if it shows.

(D) My operating experience includes during the past 16 years, shaft and drift mining; mine supervisor (40 to 60 men); engineering; currently chief engineer at Pend Oreille Mines and Metals Co.

Par. 6 (A) Estimate of Costs--Independent contracts: Unit costs or contracts may be established for all phases of the work except rehabilitation of the shaft. The drifting, including the hoisting and pumping required during the drifting process, may be figured at $20 per foot. This figure is based upon labor, equipment and supply costs itemized in (b) below.

(B) Labor, Supervision, Consultants.

	Man shifts
1. Rehabilitation of Main tunnel and Winze collar	
Mucking with slusher and tramming--200 tons	20
Rigging pump and hoist and pumping	10
Hanging skip, repairing timber, track, etc.	50
Building chute lip and small pocket at winze collar	10
2. Mucking out sump	20
3. Collaring east drift (z) off winze	6
4. Drift-cross-cut (z), no track w/slucher, 100 ft.	50
Total	166

Labor @ $15.00 per shift	$2490.00
Plus 20% for supervision @ $22	726.00
sub-total	$3216.00

Note: It may be appropriate to group supervision, consultants and labor together in case the Government were to approve of the applicant spending full time in the three capacities.

(C) Operating Materials and supplies

Powder	@ 6 lbs. per foot of drift (600 x$17)	$ 102.00
Bits	6 @ $14.00	84.00
Primers	20 ft per ft. drift (2000 x 1.3¢)	26.00
Gasoline	$3.00 per day for 90 days	270.00
Steel	@ 15¢/lg x say 100 lbs.	15.00
Hose	Air and water	50.00
Pipe fittings		25.00
Wire rope	(200 ft of 5/8" @ 25¢) hoist	50.00
" "	(200 ft of ½" @ 10¢) slusher	20.00
Hand tools, machine oil, etc.		50.00
	sub-total	$ 692.00

(D) Operating equipment

	three month cost
Compressor, gas 105CFM, Sullivan @ $150 per month (owned by operator)	$ 450.00
Slusher and scraper @ $80-1 mo.	240.00
Hoist, Air, Sole drum @ $50-1 mo.(owned by operator)	150.00
Pump, Cameron, Piston type @ $50-1 mo. " # "	150.00
Machine, 45lb. jack leg @ $80-1 mo.(2 months)	160.00
sub-total	$1150.00

(E) Rehabilitation and repairs		
Pipe Lines (Air and water)		$ 50.00
Hoist		50.00
Pump		50.00
Winterizing Compressor Bldg.		50.00
	sub-total	$ 200.00
(F) None		
(G) Miscellaneous		
Analytical Work		100.00
Accounting		90.00
Workmans Compensation @ 1½%		50.00
	sub-total	$ 240.00
(H) Contingencies		
Plowing road		$ 100.00
Allowances for inaccurate estimates, approx. 7% x $5598		402.00
	sub-total	$ 502.00
Grand Total		$6000.00

Par. 7
(B) We would like to keep our cash commitments in the vicinity of $2500. We would expect some credit on the compressor and possibly the pump and hoist.

LEASE AND OPTION AGREEMENT.

The purpose of this document is to state the terms and conditions under which the persons hereinafter designated as lessees may occupy, work and remove and sell ore from certain mining claims below described; also to give them an option whereby they may if they desire purchase and receive title to the subject matter of this contract.

Lessors or owners of the property are hereinafter called the Lessors; these are William G. Schulz, as Executor of the Wills and Estates of Henry Schulz and Pauline Schulz, Deceased, William G. Schulz individually, Gertrude [illegible] Erlich, Louise [illegible] Mallin, and Alma [illegible] Jacobson. These are contracting with Arthur F. Botchart and Edwin C. [illegible], Jr., who will be called the Lessees.

The subject matter of this agreement consists of the following:

1. The mining claims situated in the Metalline Falls Mining District, [illegible], Washington, named respectively as Oriole Lode Claim, [illegible], Silver Queen Lode Claim, Fairy Lode Claim, Oriole [illegible] Lode Claim, Lantern Star No. 1 Lode Claim, and [illegible], all located contiguously in Sections Nineteen (19), Twenty (20), Twenty-nine (29) and Thirty (30), Township Thirty-nine (39) North, Range Forty-three (43) [illegible], together with all mines, minerals, lodes and veins within the lines of said claims and their dips and spurs, and all appurtenances belonging to the same.

2. All items of mine and mill, machinery, supplies and buildings on the above premises, including compressor, steam engine, boiler, shop tools, pipe vise, blacksmith vise, post drill, blacksmith blower and forge, anvil, two shaking tables, hammer mill, elevator, trommel screen, 12 or more pulleys, all shafting and pillow blocks, hoist, pump, skip, three mine cars, and rails and pipe either installed or on hand.

In consideration of $250.00 presently paid by Lessees to Lessors, and certain further periodic payments to be made as below stated, the Lessors grant to the Lessees an option for the purchase of the above subject matter, as well as a lease beginning presently, and to continue for the period of ten years. Such lease shall apply to all the subject matter above specified. Regular annual payments shall commence in 1952, and be made in such year and each year thereafter; that is to say, on or before July 1, 1952 the sum of $[illegible],000.00 shall be paid by the Lessors to the Lessees; in subsequent years beginning with 1953, the sum of $[illegible],000.00 shall be paid on or before the

first day of July in each successive year. The right now granted to remove and sell ore or other valuable minerals from the mining claims described shall begin only after the payment of $6,000.00 shall have been made on or before July 1, 1952. The present payment, however, shall initiate this lease, and will entitle the Lessees to go upon the premises, and commence to operate the same, but they shall not remove any ore therefrom except for the purpose of testing, prior to the payment of $6,000.00 on or before July 1, 1952, as above provided.

As an exception to the general plan of this transaction, it is provided that if the Lessees shall desire to construct a portable mill, and shall wish to use or adapt for that purpose the items below described, they shall purchase such items of personal property outright, by paying therefor, to the escrow depositary, the sum of $1,500.00. The items may not be so used unless purchased; if they be purchased, the title to such items shall be and remain in the Lessees, whether or not they exercise the principal option hereinafter granted. The items referred to are these:

One hammer mill,
One trommel screen,
Two elevator pulleys and buckets,
All loose pillow blocks, sheaves and pulleys.

The Lessees shall conduct all their option on the described property in a competent and good minerlike manner, with due regard to preserving sound and workable conditions on the property. The Lessors shall have the right of inspection at all reasonable times.

It is further provided with respect to annual payments that the Lessees shall pay 10% of all net smelter returns to the Lessors, as well as 10% of any sums that may be realized by any other or different disposition of ores or minerals. Sums so derived from smelter returns by the Lessors shall be credited against the annual payments herein called for; and if in any single year the amount so paid on smelter returns shall exceed the annual payments, such excess shall be credited against the annual payment for the following year.

In addition to the lease granted, the Lessors, in consideration of the initial payment of $250.00, do further grant to the Lessees an irrevocable

option for the term of ten years from this date, to purchase the described property. This option may be exercised at any time within the ten-year period of this lease by a written notice, personally delivered to William S. Schulz or mailed to him by registered mail at Metaline Falls, Washington; in the event of his decease during the period, such notice shall be delivered or mailed to any one of the other named Lessors. If the option be exercised, the purchase price shall [illegible], subject, however, to reduction by the total amount of all payments [illegible], other than the original payment of $250.00, which is not to be considered for this purpose, in that it is meant only as consideration for the option and initial rights. Although paid originally as rent reserved or as the price of special items referred to on page 2, such payments shall apply on the purchase price if the option be exercised. The balance remaining unpaid, after application of such credits, shall be paid in cash within six months after the giving of the notice. If this option be exercised before the normal expiration [illegible] of the lease, completion of purchase through the exercise of the option shall terminate the lease automatically.

At a reasonable time prior to July 1, 1952, the Lessors shall obtain and deliver to the Lessees for their inspection a suitable abstract or abstracts, or title insurance, brought down to date, for inspection by the Lessees before the payment of $6,000.00 becomes due.

As a special proviso, it is understood and agreed that William S. Schulz shall have the right to reside on the premises until the first annual payment shall have been made on or before July 1, 1952.

The Lessees must give the Lessors proof of the required annual assessment work, for filing by Lessors; if the Lessees fail to perform the required annual assessment work on or before June 1 of each year, then the Lessors may enter and have the right to perform such assessment work, in order to protect the property. In such event the Lessees shall pay the Lessors $700.00 additional to other payments herein required, on or before July 1 of the next year following the year in which Lessors were so required to act. This amount of $700.00, to be paid for each year in which the Lessees have failed to do assessment work and the Lessors

were compelled to act, shall be in addition to all other payments herein called for.

Neither this lease nor the option herein contained may be assigned by the Lessees without the written consent of the Lessors. But it is further provided that the Lessors will not withhold consent unreasonably, if assignment be desired for the purpose of hypothecation, or if further associates are desired by the Lessees, and these are responsible persons of good reputation.

Time is of the essence of this agreement and a faithful compliance on the part of the Lessees with all the obligations herein assumed by them. If they shall fail to make any payment on the day when the same becomes due, or shall fail to maintain the premises in a proper and good minerlike manner, the Lessors may declare a forfeiture of this contract and all rights granted hereunder. If the Lessors so elect, they must give a notice in writing, addressed and sent individually to the Lessees at Metaline Falls, Washington, by registered mail, or delivered to them personally; such notice must specify the particulars in which default or breach is claimed, and allow a period of 90 days within which such breaches or defaults may be cured. If within the stated period the Lessees fail to correct or cure the breaches complained of or to bring the contract out of default, the forfeiture may then be made final and complete by giving Lessees written notice that the forfeiture is final; such notice to be delivered personally or sent by registered mail. In such event, all rights of the Lessees created herein shall immediately cease, and possession of the described property shall at once be surrendered to the Lessors (excepting such items as Lessees may have bought for $1,500.00 as provided on page 2); all payments therefore made by the Lessees to the Lessors shall remain the property of the latter by way of liquidated damages.

This transaction shall be carried out through an escrow agreement.

The original signed copy of this lease and option, together with a suitable deed and a bill of sale covering the subject matter, shall be deposited with Ione State Bank at Ione, Washington, for delivery to the Lessees if and when they exercise their option of purchase, and complete the same as herein

required. Escrow fees shall be divided equally. All payments required hereunder shall be made at the office of the Ione State Bank at Ione, Washington.

IN WITNESS WHEREOF, The parties have executed this lease and option agreement as of the 20TH day of October, 1951.

LESSORS.

William S. Schulz
As Executor of the Wills and Estates of
Henry Schulz and Pauline Schulz, Deceased.

William S. Schulz

Gertrude P. Amick

Alma T. Jacobson

Louise M. Paulin

LESSEES.

Arthur F. Batchart

Edwin C. Dressel Jr.

October 21, 1952

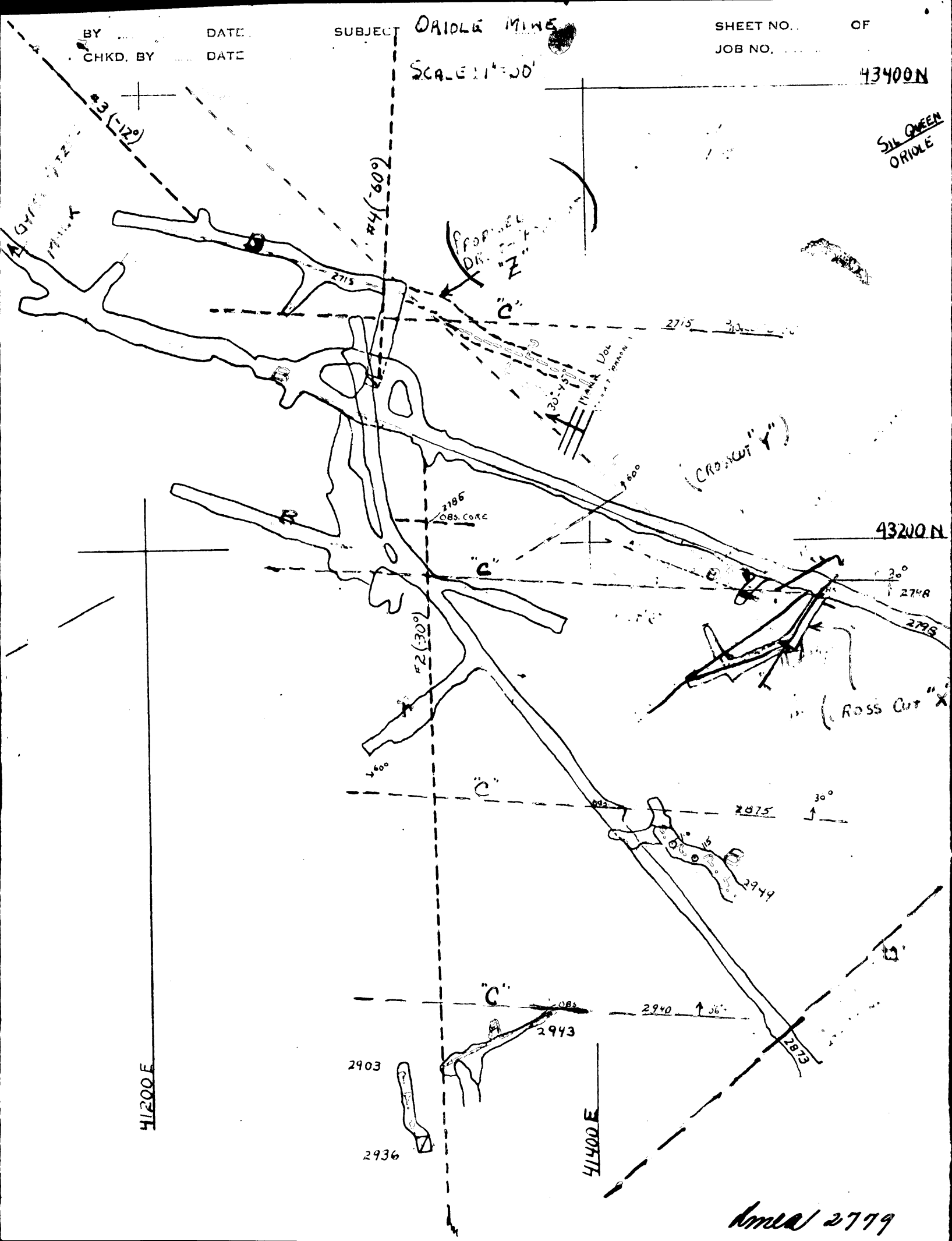
I hereby certify this contract is a true copy of the one the Ione State Bank is holding in escrow.

_____, Cashier

BY ..... DATE ..... SUBJECT ORIOLE MINE SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... JOB NO. .....

SCALE: 1" = 20'



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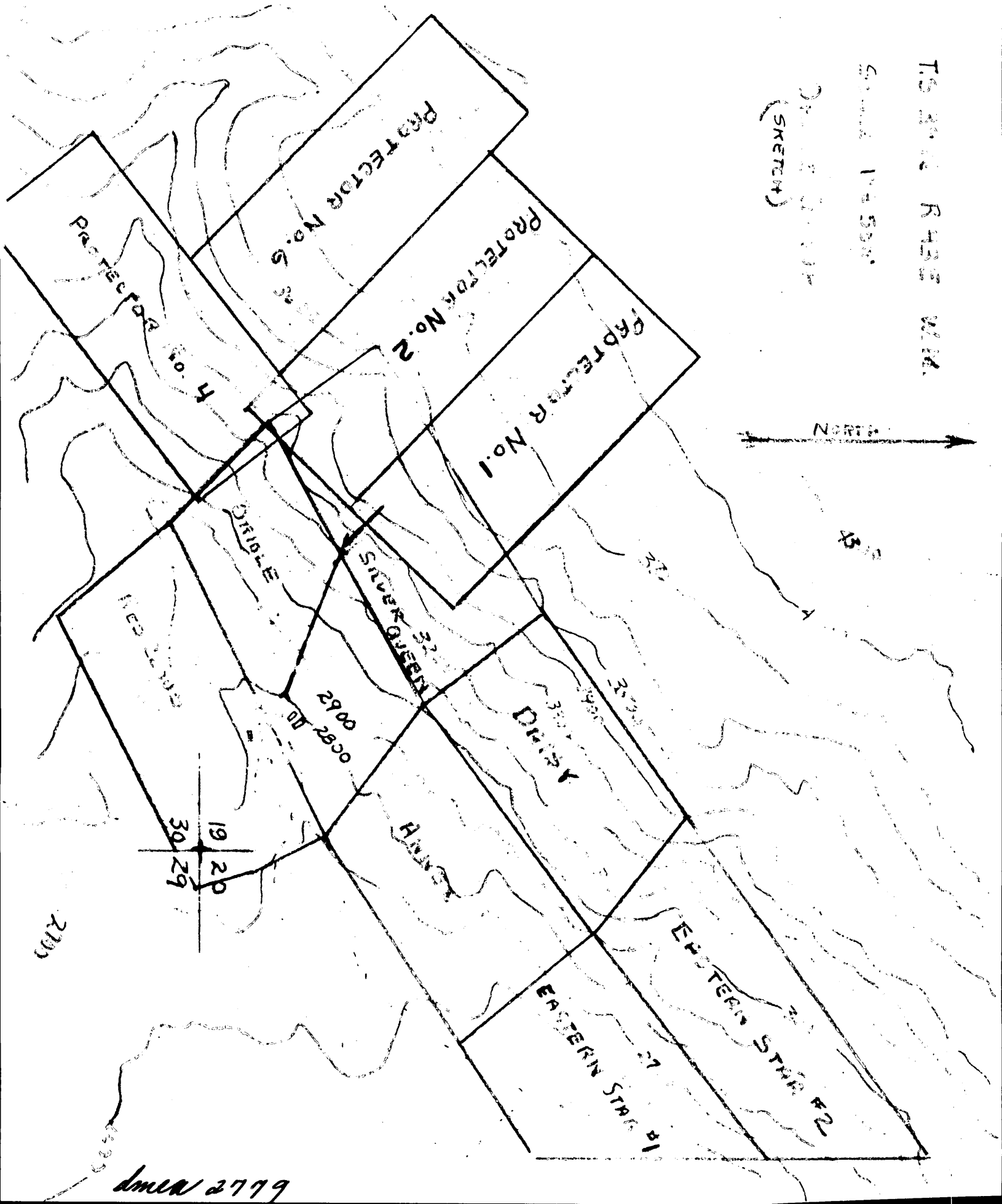
BY ..... DATE ..... SUBJECT ..... SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... JOB NO. .....



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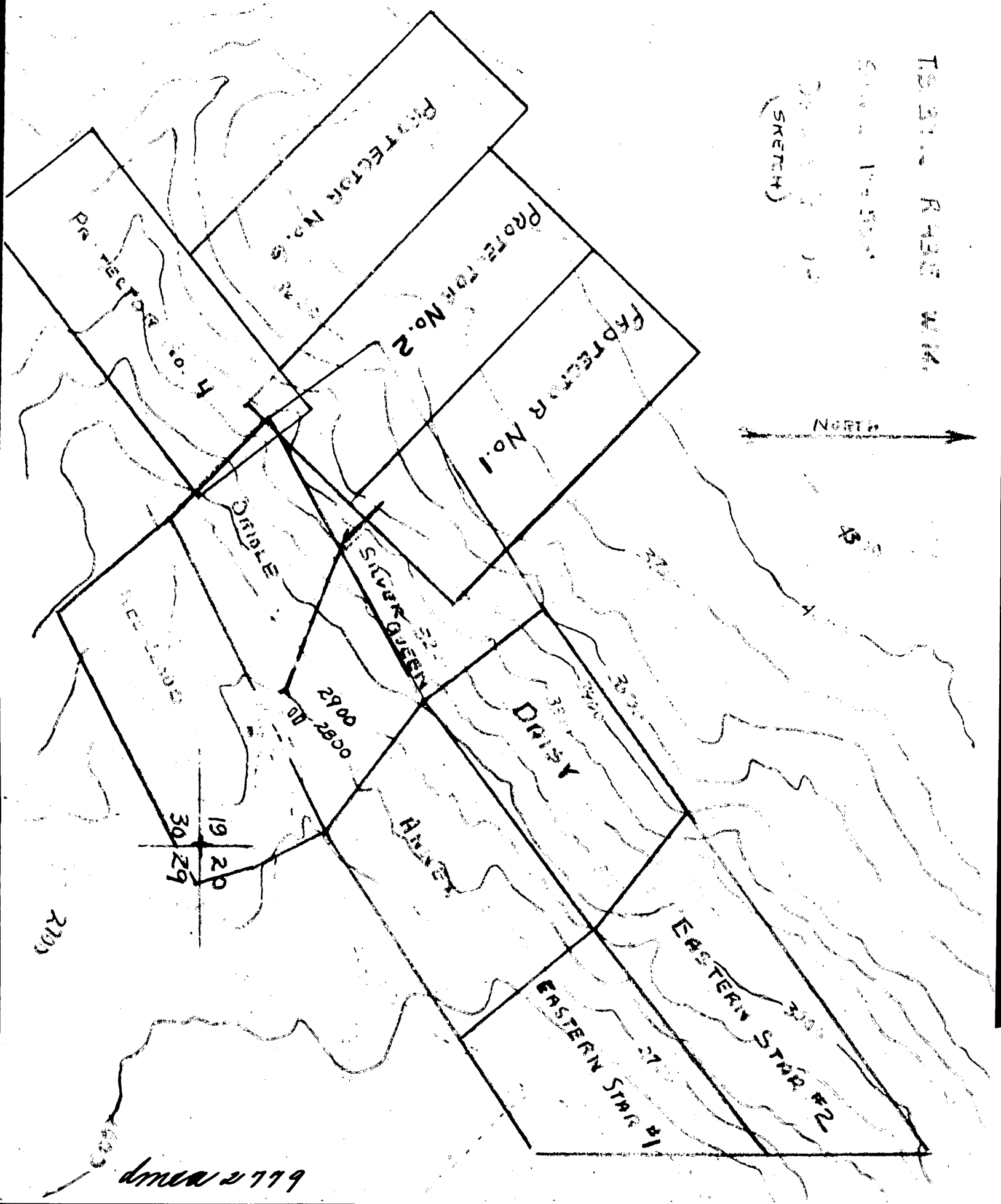
BY..... DATE..... SUBJECT..... SHEET NO..... OF.....

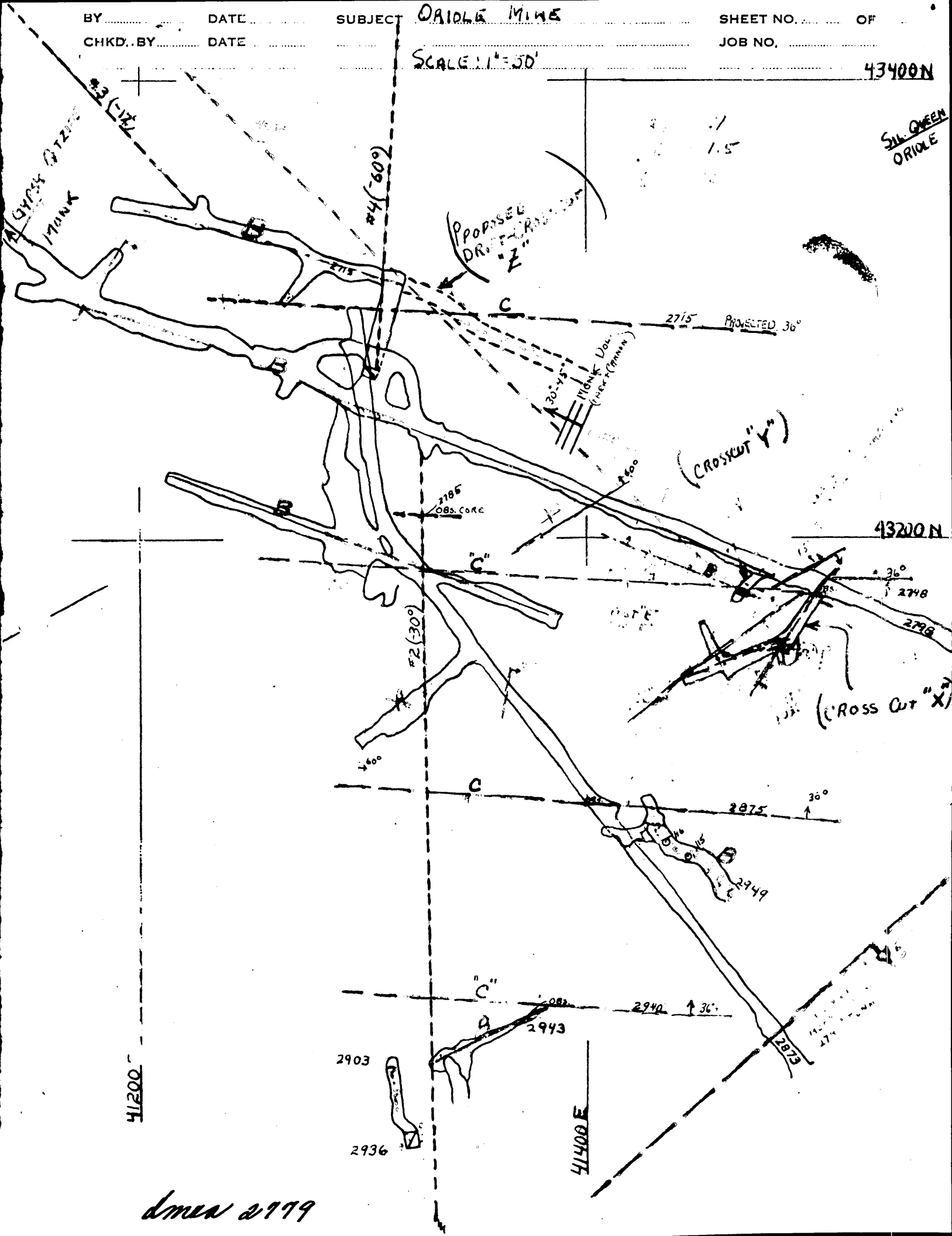
CHKD. BY..... DATE..... JOB NO.....



BY ..... DATE ..... SUBJECT ORIOLE MINE ..... SHEET NO. ..... OF .....

CHKD. BY ..... DATE ..... JOB NO. .....

SCALE: 1" = 50'



dmen 2779

DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

224 New Customhouse
Denver 2, Colorado

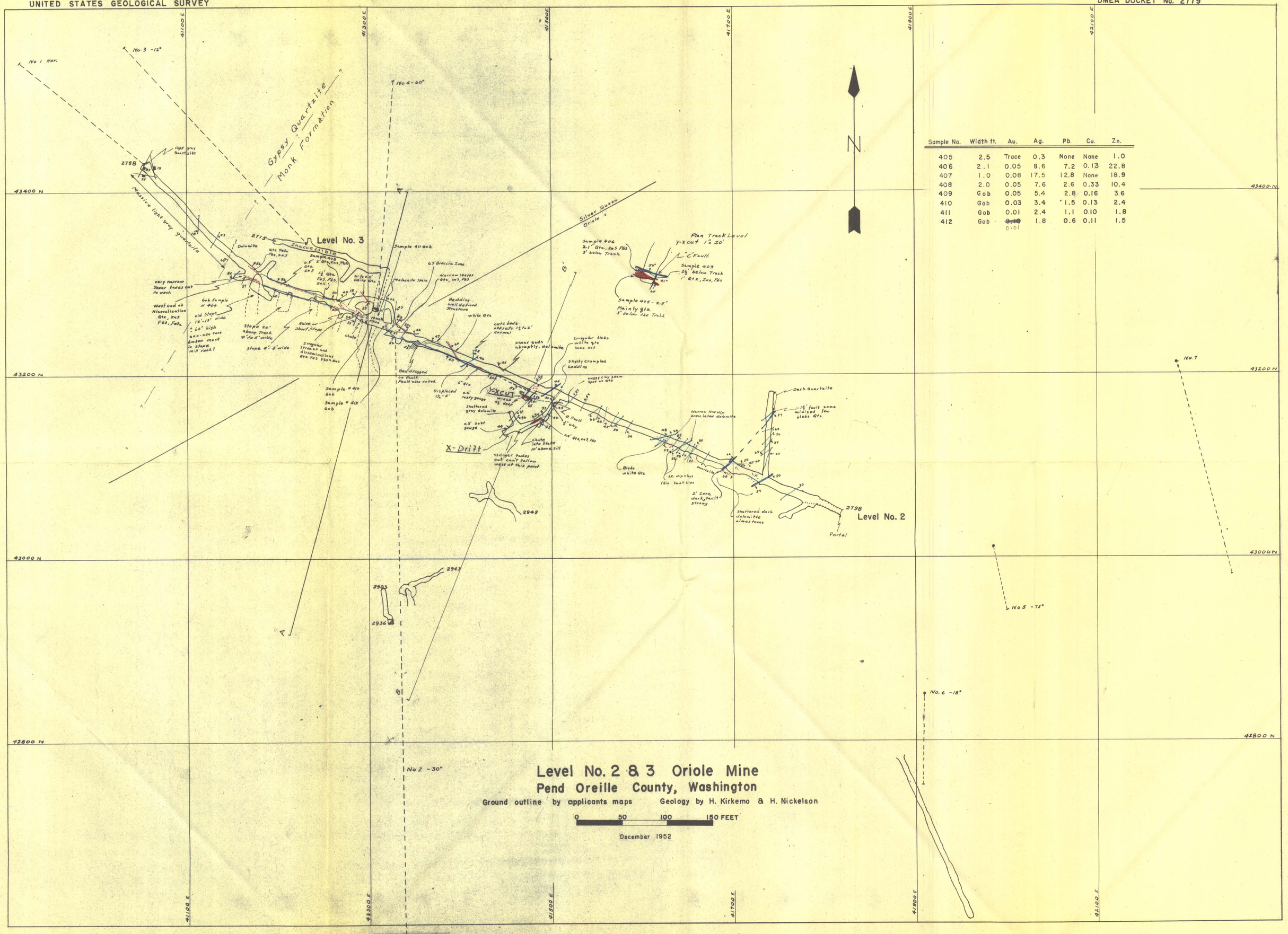
OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE $300
(PMGC)

Defense Minerals Exploration Admin.
Interior Building
Washington 25, D. C.

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DMEA DOCKET No. 2779



Sample No.	Width ft.	Au.	Ag.	Pb.	Cu.	Zn.
405	2.5	Trace	0.3	None	None	1.0
406	2.1	0.05	8.6	7.2	0.13	22.8
407	1.0	0.08	17.5	12.8	None	18.9
408	2.0	0.05	7.6	2.6	0.33	10.4
409	Gob	0.05	5.4	2.8	0.16	3.6
410	Gob	0.03	3.4	1.5	0.13	2.4
411	Gob	0.01	2.4	1.1	0.10	1.8
412	Gob	~~0.10~~ 0.01	1.8	0.6	0.11	1.5

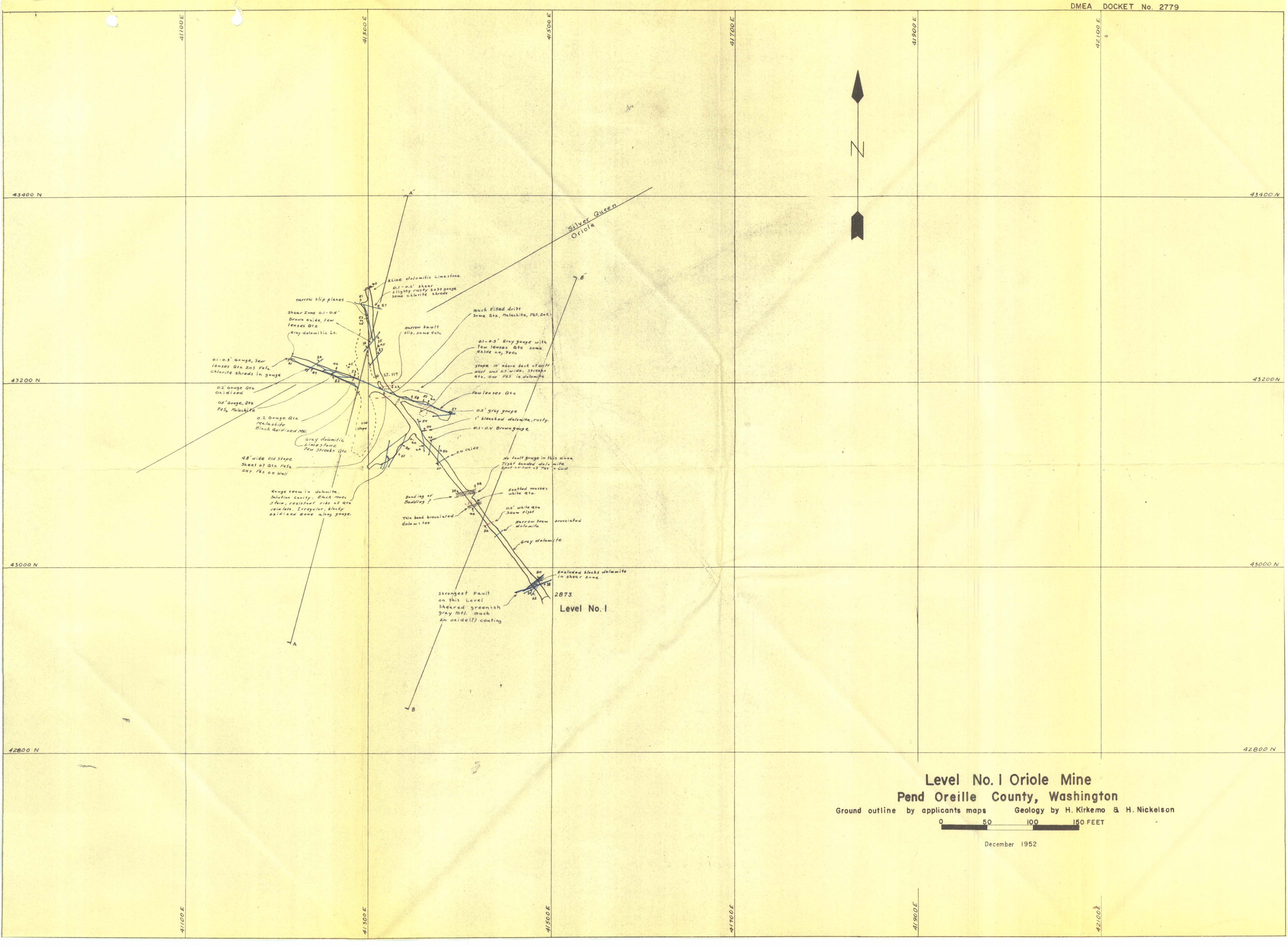
Level No. 2 & 3 Oriole Mine

Pend Oreille County, Washington

Ground outline by applicants maps Geology by H. Kirkemo & H. Nickelson

0 50 100 150 FEET

December 1952



Level No. 1 Oriole Mine

Pend Oreille County, Washington

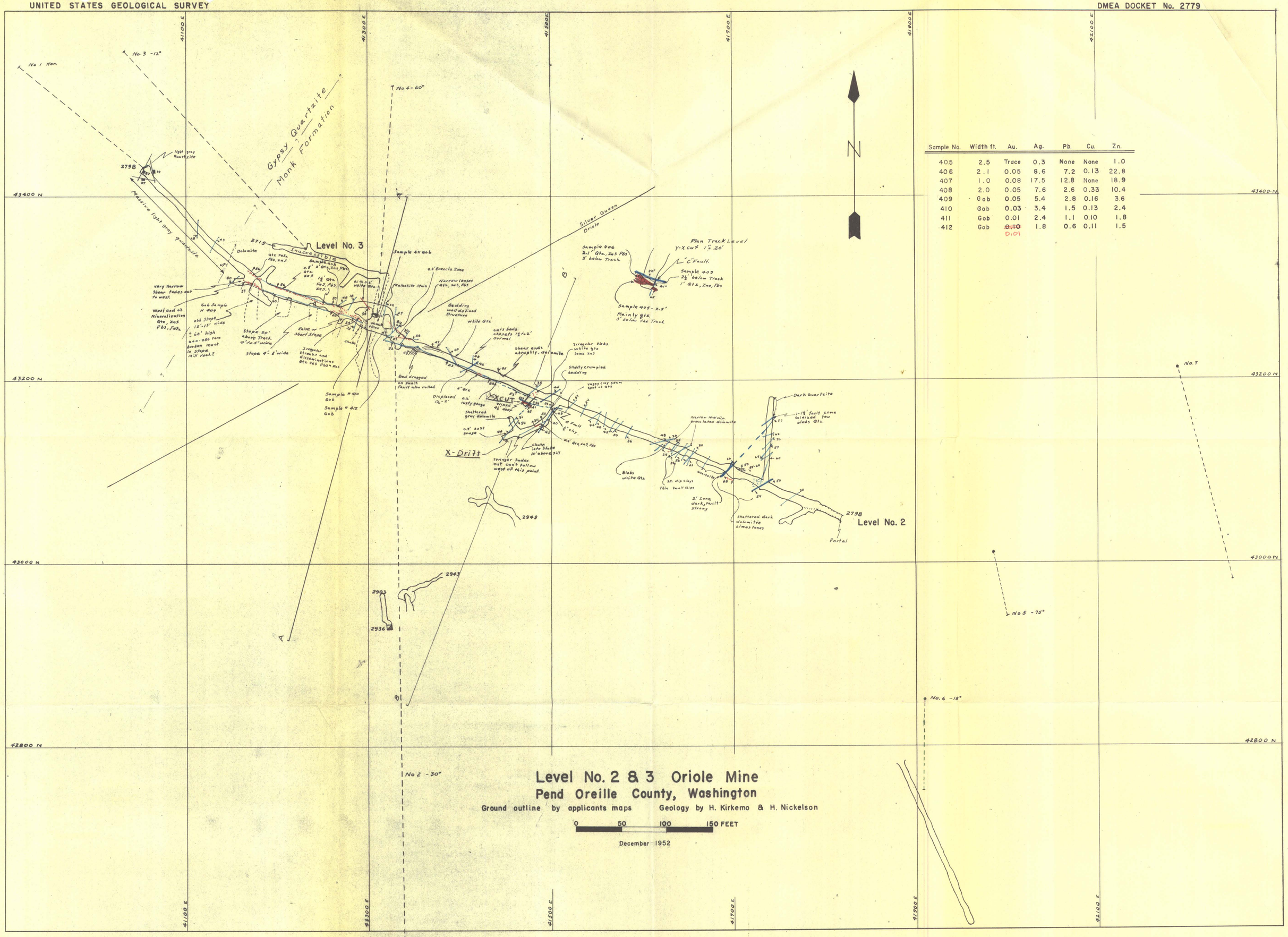
Ground outline by applicants maps Geology by H. Kirkemo & H. Nickelson

0 50 100 150 FEET

December 1952

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DMEA DOCKET No. 2779



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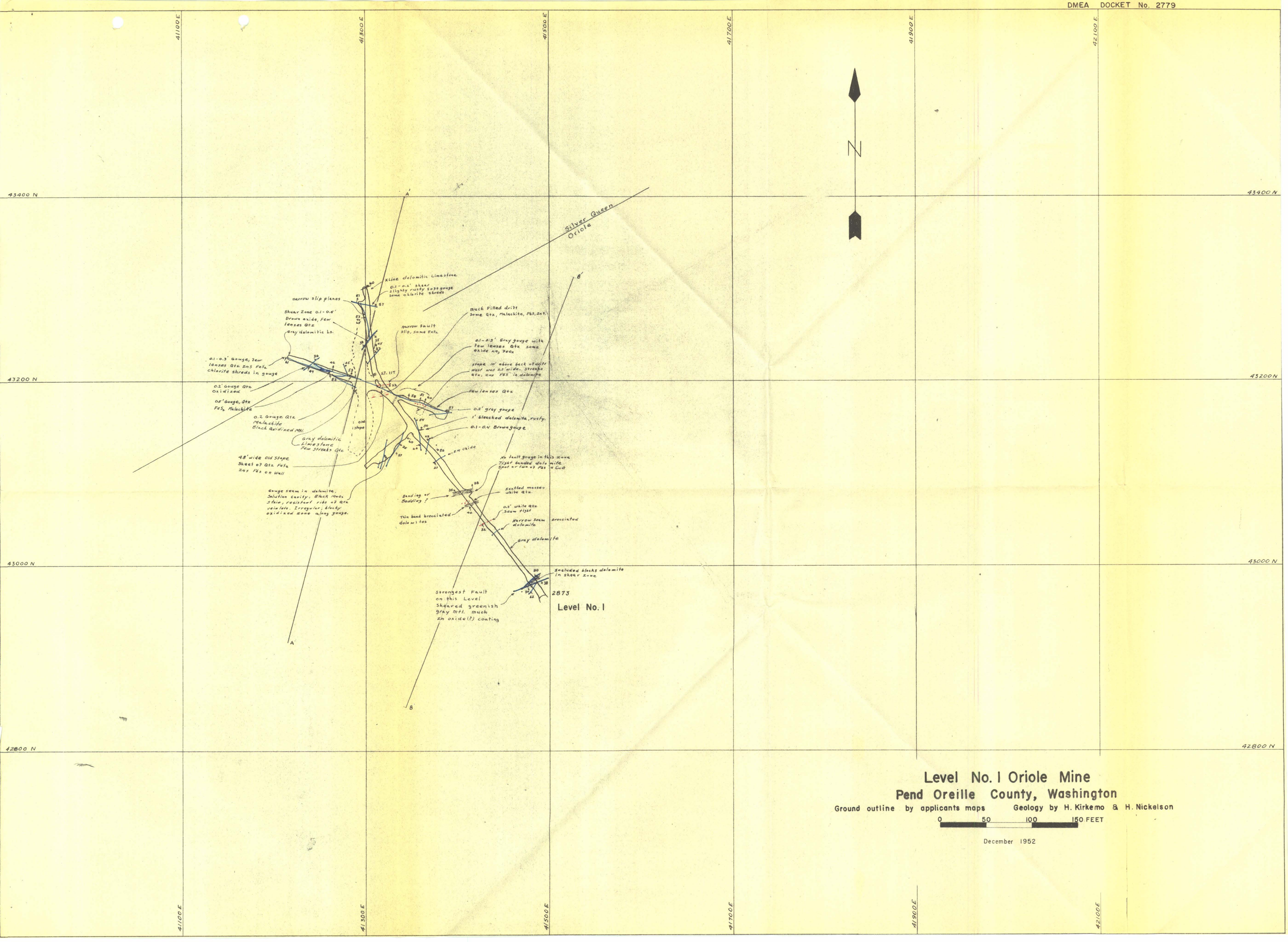

Level No. 1 Oriole Mine

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