DMEA Form 9
Rev. 6/57

GEOLOGICAL SURVEY
UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO._____ ~~DMEA~~ OME NO. 6561

Application
- [x] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [ ] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [ ] Certification of Discovery
- [ ] Closing Letter
- [ ] Cost Audits
- [ ] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [ ] Contract Amendments
- [ ] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [ ] Project summary (final)
- [ ] Work Completed analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Final Field Team Report (Tab)
- [ ] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [ ] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No._____: Reports
- [ ] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

- [ ] Field Team Semi-Annual Report for Certified Project
- [ ] Field Team Interim Reports
- [ ] Operator's Monthly Reports with transmittal, narrative and maps.

Folders No._____: Maps (Use pocket folder or envelope)

Folders No._____: Settlement Sheets

Folders No._____: Drill Logs

Folders No._____: Royalty material

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
U. S. Geological Survey - Denver Federal Center
Building 25 - Room 2284
Denver, Colorado 80225

June 2, 1966

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region III

Subject: Application for financial assistance in mineral exploration from Nye Metals, Inc., Mountain Chief area, Gilpin County, Colorado

Transmitted herewith is an application by Nye Metals, Inc., on the subject property, with an analyses by Robert U. King, commodity geologist for molybdenum.

Enclosures

J. William Hosler

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER 25, COLORADO

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RECEIVED
JUN 3 1966

June 1, 1966

Memorandum

To: J. William Hasler
Field Officer, Region III
Office of Minerals Exploration

From: R. U. King, Branch of Base and Ferrous Metals

Subject: Review of application for financial assistance in mineral exploration - Nye Metals Inc., Nye Property, Gilpin County, Colorado.

The applicant has discovered in the Mountain Chief area, molybdenite-mineralization in zones of fractured and hydrothermally altered Precambrian crystalline rocks and Tertiary intrusive quartz monzonite, and has explored on his own by core drilling some of these zones to depths of 500 to 700 feet. Some drill holes show ore grade intersections over one hundred feet in width. The applicant proposes to explore these zones and others postulated from geophysical and geochemical measurements at depth.

The subject application is well documented and detailed as to prospecting and exploratory work performed to date by the applicant. It is noted that the property on which exploration is proposed adjoins the Nye mine on the north on which mine an OME contract has recently been completed.

It is of interest that certain geologic features of the Mountain Chief area as described in the application are not unlike those of the molybdenum deposits at Questa, New Mexico and at Urad, Colorado. The success of exploration at the Questa mine with OME participation is apparent in the current activity there, and the announcement of May 19 by American Metal Climax of the discovery of a new ore body at the Urad mine both testify to the value of carefully planned exploration and deep drilling.

A major problem in the application is that of the location and attitude of some of the proposed holes: some are too close to existing drill holes; some will explore ground only one- or two-hundred feet deeper than existing holes; and others are proposed at bearings and inclinations that presume a greater knowledge of attitude of structures and alteration zones than is available from geologic work done to date.

Favorable consideration of the application for assistance to explore for low grade molybdenum deposits at depth at the Mountain Chief area is recommended, but a detailed examination of all existing drill core should be made and detailed geologic sections constructed in order to assure better placement of proposed drilling. In general the holes should be vertical to gain maximum depth - and they should be widely spaced at this stage of exploration in order to prove the existence of significant molybdenum deposits.

RUK: dmh

Ralph U King

Form 40
Rev. 65

Budget Bureau No. 42-R1506
Approval expires Dec. 31, 1968

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR FINANCIAL ASSISTANCE IN MINERALS EXPLORATION

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

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

Nye Metals, Inc.
527 Merchants Bank Building
Indianapolis, Indiana

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6561

DATE RECEIVED: 6-3-66

REGION: III

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

- INDIVIDUAL [ ]
- CORPORATION [X]
- PARTNERSHIP [ ]
- OTHER *(Specify)* [ ]

STATE IN WHICH FIRM IS ORGANIZED: Indiana

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE
Robert E. Nye	936 No. Olney, Indianapolis	President
Robert D. Enoch	9436 Spring Mill Rd., Indianapolis	Vice-Pres.
George D. Paton	Rural Rt. 1, Box 176 New Augusta, Indiana	Secretary
Arthur J. Pasmas, Sr.	3055 No. Meridian Indianapolis	Treasurer

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

ESTIMATED COST OF PROJECT: $ 268,010.00

PROPERTY NAME	LOCATION COUNTY	STATE
Nye	Gilpin	Colorado

GENERAL INSTRUCTIONS

Before filling out this application, please read the *OME Regulations for Obtaining Federal Assistance in Financing Explorations for Mineral Reserves* (30 CFR Chap. III). To assure prompt action, your application must provide all applicable material and information specified on the back of this application form. Avoid unnecessary correspondence and delays by submitting complete and accurate information. *Please submit two copies of this application and all accompanying papers* except as otherwise noted. Place your name and address on each sheet. Each item of information, maps, and reports required as a part of this application is described on the back of this form. Identify each attached statement by the item number to which it applies. If an item does not apply to your application, show the item number on your statement and after it write "not applicable." Maps or sketches should be used to supplement narrative descriptions of the property location and boundaries in item 2, existing mine workings and geology in item 3, and the proposed exploration work in item 5. When this information is not too complex, all of it may be shown on one map or sketch. All documents and other attachments submitted as a part of this application, except those in item 3(g) which you mark to be returned, become the property of the Government and will not be returned to the applicant. Send true copies, *not originals*, of leases, contracts, and other documents which are an essential part of your business records. *File this application with the Office of Minerals Exploration, Department of the Interior,* ~~Washington, D. C., or with the nearest OME Field Office.~~ Washington, D. C., 20242, or with the nearest OME Field Office.

CERTIFICATION

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

April 29, 1966
DATED

Robert E Nye
BY *(Signature)*

President
TITLE

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

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

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

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

2. Applicant's Rights in Land:

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

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

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

3. Physical Description:

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

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

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

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

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

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

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

4. Accessibility of Property:

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

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

5. Exploration Work:

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

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

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

6. Experience:

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

7. Estimate of Costs:

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

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

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

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

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

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

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

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

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

APPLICATION FOR FINANCIAL ASSISTANCE

IN MINERALS EXPLORATION

by

NYE METALS, INC.

Blackhawk, Colorado

1. FINANCIAL ELIGIBILITY

a. Efforts Made to Obtain Other Financing:

Two letters from banks are attached, in which they have refused to loan money for this exploration effort in response to our applications.

b. Affiliated Companies

None

c. Manner in Which Nye Metals Will Furnish Share of Cost:

Nye Metals, Inc. share will be furnished partly in the form of usage of mining equipment and partly with money.

2. APPLICANTS RIGHTS IN LANDS

a. Property Rights:

Nye Metals, Inc. owns a 100% interest in all of the unpatented and patented claims to be explored. There are no liens, mortgages, or encumbrances against the property.

b. Legal Description:

Patented claims - These claims are located in Sections 9, 10, 15, 16, 21, and 22, T. 2S., R. 73W., Gilpin County, Colorado.

Name	Patent No.
Mammoth	900
Mammoth No. 2	901
Smart	902
x Evening Star	5837
x Mt. Chief	
Dew Drop	5980
St. Patrick	9881
Black Hawk	

Name	Patent No.
Duke	11854
Wellington	
Dollie Varden	
Boone	
Prospect	12413A
Hope	
Golden Gate	
Yankee Doodle	
American	12530
Hardscrabble	12292
Hardpan	
Exchequer	
Gold Belt	
EGR	
Home	13873
Home Nos. 1-4	
Brightside Nos. 1-3	
Intersection	
Fly	
Missing Link #2	
Union	
Josephine	
Aurora	
Annex	
Annex Nos. 1-2	
Beatrice Nos. 3-4	
Fairview Nos. 1-3	19021
JHB	
HCB	
Cordova	12420
David B.	
Belcher	
Kimberley	
Balmoral	
Tioga	
Bechtel	
Hildalgo	
Magdalen	
Crown Point	
Pacific	
Hoosier Bar	11355

Name	Patent No.
Iron Shoe	14955
Edna	
Golden Forest	
Water Lily	
Columbine	
Lean Boy	
Little Topsy	
Eliza M	12627A
Mattie D	
Redemption	
Sunflower	
Golden Chief	
Little Bennie	
Smart No. 2	16584
Ideal	17185
Klondyke	17185
Dawson	
Jumbo	19595

Unpatented Claims- These claims are all recorded in the Gilpin County Courthouse, Central City, Colorado.

Name	Book	Page No.
Wilma Nos. 1-4	226	42, 43, 44, 46
Wilma No. 500	226	45
Nettie Hazel Nos. 6-8	226	47-49
Nine thru Twenty-Two Lodes	226	90-97, 107-108 and 111-114
Okey Nos. 1-3	239	463-465
Ni's Nos. 1-30	239	426-455
Nye's Nos. 1-7	239	456-462
Alvin Nos. 1-5	226	314-318
Alvin No. 6	232	79
Dan Nos. 1-30	242	201-230
Dan Nos. 31-32	New locations	

c. Lien and Subordination Agreements

Only the Evening Star and Mt. Chief claims are presently being leased, and a lien agreement will be sent. A few additional claims in the Mt. Chief area are in the process of being leased.

3. PHYSICAL DESCRIPTION

a. Description of Past and Present Operations:

Earliest work on the property consisted of scattered prospect pits for gold-silver exploration, probably dating from the 1870-1880 period when the Central City district was first developed.

Nye-Mathews Mining, Inc. was organized on July 29, 1954 and proceeded with location of 22 claims for molybdenum. Since July, 1956 the company has actively carried on exploration by geochemical soil sampling, surface bulldozer cuts, and underground cross-cutting and drifting. Considerable additional land holdings have been acquired. The company name was changed to Nye Metals, Inc. in 1962.

In June, 1962 the present O.M.E. Contract #2149 was approved and work was started immediately. In December, 1962 a new application was submitted for a greatly expanded OME program and approval was subsequently granted in the form of an Amended Contract #2149, for the total sum of $278,225.00. This contract was terminated early in 1966 with submission of the final report on March 14, 1966. The unused balance under the contract was $106,261.25.

Actual work under the OME contract was terminated in 1964, but subsequent drilling has been carried on in the Mt. Chief area by the company. A total of five additional holes have been drilled.

b. Company Interest in Operations

Nye Metals, Inc. has a 100% interest in all operations conducted since 1954. No interest assignments, exploration agreements or options have been entered into with any other company.

c. Production

During 1963-64, mining operations were conducted on the high-grade reserves above the adit level on the Indianapolis and Indiana veins. Total tonnage mined was about 9,108 tons averaging 1.1% MoS_2, with the bulk of this from the Indianapolis vein. The ore was milled at the leased Black Pine mill in Idaho Springs, Colorado, and concentrates were sold to Lenway Chemical Company who in turn marketed it in Europe, mainly West Germany. Mining was terminated at the end of 1965 because of termination of the premium price contract, but present negotiations indicate that a new contract is probable, thus permitting resumption of mining operations.

d. Ore Reserves

The original ore reserve estimates consisted of two blocks, one on each vein and one marginal block on the Indianapolis vein. Since assays on these blocks were only from one drift through each, reserves could only be classified as probable and possible. However, mining has now been carried to from 100-200 feet above the tunnel level. Total tonnage mined has been about 9,108 tons averaging 1.1% MoS_2, with the bulk of this from the Indianapolis vein. This mining has confirmed the probable reserves on the

Indianapolis vein, and, since similar ore is still present in the stope backs, a like tonnage can be projected between the stopes and surface. Mining has not progressed far enough on the Indiana vein to make the same conclusion, and these reserves are reduced somewhat.

Ore reserves are as follows:

Indianapolis Vein System:	Probable Ore	9,800 tons
	Possible Ore	14,700 tons
	Total	24,500 Tons
	Grade	1.26% MoS_2
Indiana Vein System:	Probable Ore	6,650 tons
	Possible Ore	10,680 tons
	Total	17,330 Tons
	Grade	1.11% MoS_2
	GRAND TOTAL	41,830 Tons
		1.21% MoS_2

The south marginal block on the Indianapolis vein contains 27,248 tons averaging .61% MoS_2.

An additional small ore shoot has been drifted on in the north Indiana drift and is termed the North orebody. Tonnage calculations are not complete for this block, but it could add another 2500 tons of probable ore.

No ore reserves can be calculated for the Mountain Chief area, although many hole intersections are approaching ore grade and widths.

e. GEOLOGY

Rock Types

Quartz Monzonite - This rock type comprises what is known as the Apex stock, an intrusive body extending from Michigan Hill on the south nearly to Boulder Creek on the north, a distance of 3 1/2 miles. The Nye mine is approximately in the center where the intrusive is its narrowest (about 1000 feet). The Mountain Chief area lies 1/2 - 3/4 mile northeast, where the intrusive is 1/2 mile wide.

Its composition varies markedly from one portion to another, but a very detailed petrographic study would be necessary to properly subdivide every type. Some petrographic work has been done which shows that, at least in the mine area, the rock was originally a diorite but a flooding of quartz and microperthite has changed the composition to a quartz monzonite, a granodiorite, or even to a granite in places.

From the top of Oregon Hill southward, the rock is a diorite, but from Oregon Hill north to North Dakota Hill, it is either a quartz monzonite or a granodiorite. No sharp contacts have been seen, indicating that this change is due to the later quartz and feldspar alteration effects rather than separate intrusives. This factor is regarded as important since it is an alteration phase, which is very intense and which is related to the mineralization sequence in age. Wallrock alteration is discussed under a later section.

Dacite Porphyry - This intrusive type is one distinct subdivision of the Apex stock which can be made, as contacts are sharp. It occurs as dikes and as small stocks, the two known stocks located at the Mountain Chief mine and on Oregon Hill. The true dacite porphyry is very distinctive with laths of plagioclase and minor hornblende in a fine-grained light gray groundmass of microcrystalline feldspars. The laths are usually about 1/4" long, but occasional much longer ones can be seen. Gradational with this rock is one with similar phenocrysts but a coarser-grained ground-mass, termed a quartz monzonite porphyry. Quartz is present to some extent in both, but possible greater amounts in the latter. Another variation has now been drilled in the present Hole II-S11, which appears to be a very fine-grained equivalent of the dacite porphyry. Feldspar phenocrysts are very small but the groundmass is similar. Since this is at a depth of about 1000 feet, it is suggested as being the chilled margin of the main dacite porphyry intrusive.

Pre-Cambrian Gneiss and Schist - The pre-Cambrian metamorphic rocks show the normal wide variation in composition in the Apex district, but the main type is a quartz-biotite gneiss with minor pegmatitic zones and biotite schist zones. Composition is sometimes at least 75% biotite.

Pre-Cambrian Alaskite - This pre-Cambrian intrusive is composed largely of moderately coarse-grained quartz and orthoclase or microcline, often with a perthitic texture. Biotite is found in small amounts. The main locality is north of the Mountain Chief mine where it is an important host rock for disseminated molybdenite. The alaskite is clearly later in age than the gneiss.

Hydrothermal Alteration - Based on preliminary petrographic studies by Union Carbide, the following alteration effects have been observed to accompany molybdenum mineralization:

1) Recrystallization and increased crystal size of feldspar and quartz.
2) K-feldspathization, i.e., alteration of plagioclase to orthoclase.
3) Biotitization, i.e., replacement of hornblende by secondary biotite.
4) Sillicification, i.e., introduction of silica in the form of quartz.

However, since this preliminary study was made, weak to moderate argillic alteration has been found throughout the Mountain Chief area and moderate to intense sericitic alteration has also been found at depth in the Mountain Chief drilling, Hole II-S9. Chloritization varies considerably from weak to strong with the disseminated mineralization, but along the veins it is usually very strong. Development of strong sericite alteration is very important in view of little or none at surface.

Structure:

The structural setting is quite complex and hence very favorable. The northeast system, represented by the Dakota, Smith Gulch, and Paton faults, strikes from E-W to N50° E. At least the Dakota fault, since it is exposed in the mine workings, is a reverse fault with horizontal and vertical displacement of 240 and 100 feet, respectively. Its known strike length is 5000 feet and the main fault zone is 10-20 feet wide with additional fracturing beyond. Movement has been both pre- and post mineral. The northwest fault system is represented by the Oregon fault, the Mountain Chief fault and another northwest of Dakota Hill. The Mountain Chief fault represents the southwest end of a major mineralized fault zone extending through the Perigo area for 2 1/2 miles northeast. A third system is represented by the north-south Apex fault along which the Pine Creek drainage has been cut for two miles. In addition to these, numerous faults of lesser importance were mapped underground and on surface.

Throughout the intrusive, and especially near the important veins, are sheeted zones or zones of close parallel fractures, from 1/2" to 2" apart. These usually dip from 60° to vertical and are striking at various directions. These sheeted zones are particularly important with respect to presence of large tonnages of low-grade ore as they contain the quartz-molybdenite veinlets. Most of the quartz-molybdenite veins are emplaced along faults and there has also been post-mineral movement, but these will be discussed under Mineralization and Ore Deposits. Fracture zones in the monzonite are well developed near the Indianapolis vein system, on the north slope of Oregon Hill, in the North Dakota Hill area, and south of Utah Hill. Brecciation in the Mountain Chief area occurs over a wide oval-shaped area, which might be termed a breccia pipe, although the margins are not well-defined. An early period of brecciation has caused a chaotic assemblage of gneiss, quartz monzonite, and dacite porphyry blocks which have been healed. Later brecciation has caused the openings for mineralizing solutions. A feature that appears to be a breccia pipe is developed on the north side of Smith Gulch. Completely fractured gneiss has been cemented with quartz. Fracturing associated with the Apex fault has very likely influenced the deposition of sulphides at the Evergreen mine, even though previous writers give the deposit a magmatic origin.

Mineralization and Ore Deposits:

Vein-Deposits - The veins become the widest in the quartz monzonite, compared to the gneiss, but structural control is also important within the intrusive, as evidenced by the pinching of the north Indianapolis vein where the strike swung 10°-15° NE. Each vein is a system composed of 2 or more splits which join or branch off at various places. These splits may be as much as 50 feet apart. Widths vary from 2 inches to 5 feet, but 550 feet of the Indianapolis vein and 330 feet of the Indiana are 1.5 feet or more in width and generally carrying values near 1% MoS_2 or more. Additional substantial values are often present in the walls for at least the width of the drift. Oblique highly mineralized fractures are well-developed along the Indianapolis vein and contribute greatly to wall-rock grade. Correlation of the surface and underground mapping now proves a 400-foot vertical vein continuity on the Indianapolis and 200 feet on the Indiana vein. The conclusion is now indisputable that grade has increased from the surface to tunnel level.

Mineralogy is very simple, consisting of molybdenite and pyrite in quartz veins. Minor chalcopyrite, specularite, and galena may occasionally be seen. As a feature of alteration, intense chloritization of the quartz monzonite has nearly always occurred near the veins. On the other hand, only occasional blanket silicification has occurred in the walls but quartz veining is usually strong.

The 500 scale property-geologic map shows the veins now known and many others are undoubtedly present. Three types are evident:

1. The NE system, represented by the Indiana and most of the veins on Oregon Hill.

2. The N-S Indianapolis vein system.

3. A series of scattered N-W veins of probable lesser importance.

Disseminated Deposits:

Nye Mine - In the Nye crosscut adit, nearly every fracture in the 900 feet of quartz monzonite shows at least a film of molybdenite. The walls of the veins, as far as visible in the drifts, contain appreciable values. Grade is pretty well related to fracture intensity. Zones of quartz veining on surface with little or no visible molybdenite show increased molybdenite content at tunnel level, thereby showing the increased grade with 200'-400' of depth. The sparsity of molybdenite at the surface is believed by the writer to be

due to a temperature gradient effect rather than to oxidation leaching, as very little molybdenum oxides can be seen. Based on the above favorable observations, downholes II-3, II-4, and II-5 were drilled below the adit level to test the disseminated mineralization. These holes found definitely stronger silicification, quartz veining, and secondary orthoclase, but molybdenite content increased only slightly. A zone 200'-300' wide was the most interesting but its grade would not exceed .05% MoS_2.

Mountain Chief Area: Exploration for disseminated molybdenite deposits has been concentrated in the Mountain Chief area where the geology differs considerably from that of the Nye mine area. Mineralization is not found in quartz veins but rather in brecciated zones or breccia pipes in or near the dacite porphyry intrusive. The highest concentrations of molybdenite (.1% MoS_2 or more) are localized in or near major fault zones, such as the S-4 and Paton faults in Hole II-S4 and S9, but mineralization can be seen for hundreds of feet in small fractures and cavities associated with the breccia zone or breccia pipe. This is particularly evident in Hole II-S1. The best hole, II-S9, has cut 70 feet (50 feet true width) averaging .208% MoS_2 in the major northeast Paton fault. Associated alteration is particularly favorable, since this was the first hole to find strong sericitic alteration, and the 750-foot depth was the greatest explored to that time. Other alteration types of importance with the molybdenum mineralization are strong quartz veining, secondary orthoclase as irregular replacements, and chloritization. Blanket silicification is nearly absent with the ore but is present in local areas. These altered areas are also in appreciable magnetic lows of about 700 gammas, indicating a substantial destruction of magnetite in the intrusive rocks. All of the best mineralized zones drilled to date have been localized directly below high molybdenum soil geochemical anomalies of 200 - +1000 ppm Mo. Best mineralization is found in the dacite porphyry and secondly in rocks next to the dacite, particularly the quartz monzonite and the pre-Cambrian alaskite. The quartz-biotite gneiss, while mineralized, is always only weakly so.

Since completion of Hole II-S9, later Holes S12 and S13 at the Operator's expense have now pretty well confirmed the presence of a breccia pipe with dimensions at least 350 feet N-S by 500 feet E-W. Boundaries of the intensely altered and brecciated mass are fairly sharp, but lesser altered brecciated, and mineralized rock extends beyond the pipe and throughout the entire Mt. Chief Area, as has been determined from all previous drillholes.

Mineralogy consists of primarily molybdenite with often substantial amounts of specularite. Chalcopyrite is occasionally seen, especially in Hole II-S1, where wide zones averaged near 0.1% Cu, and in Hole S13, where 65 feet assayed .113% Cu. Appreciable gold is also present in Hole II-S1 and varies from a trace to $1.05/ton. Pyrite is disseminated in all of the holes, but its content is

not proportional to the molybdenite content. In fact, wide zones in Hole II-S2 contained 5-15% pyrite, but Mo content was very low, whereas the best zone in Hole II-S9 contained only minor pyrite. Minor fluorite and sphalerite are also present. Ferrimolybdite can be identified in some near-surface oxidized zones, and it is often intimately mixed with yellow-brown jarosite.

f. Reasons for Expecting to Find Ore

Although previous OME work was directed both toward the vein deposits and disseminated deposits of molybdenite, this new application is concentrated only on the disseminated deposits in the Mt. Chief area. A potential exists for finding of new vein reserves, but expected tonnages and profit potentials are very small compared to that of the disseminated ores.

A number of good reasons exist for finding one or more large tonnage disseminated orebodies on the Nye Metals property.

1. Many Drillholes With Substantial Widths of 0.1 - 0.2% MoS_2 Mineralization -

In addition to the nine holes completed with OME assistance, five more holes have been completed by the Company. Of these fourteen holes, four have intersected 70' - 123' widths of 0.1 - 0.2% MoS_2 mineralization; and three others have found lesser but still substantial widths of similar mineralization. A summation of these results is as follows:

Hole No.	Depth	True Width	% MoS_2	% Cu	Oz. Au
II-S1	430'-555'	125'	.08	0.1	.009
	670'-795'	125'	.082	0.07	
II-S2	40'-70'	30'	.106		
	120'-270'	150'	.111		
	220'-265'	45'	.154		
II-S4	465'-640'	123'	.108		
	465'-565'	70'	.152		
	500'-560'	42'	.197		
II-S7	190'-210'	14'	.146		
II-S9	210'-235'	18'	.104		
	270'-290'	14'	.122		
	750'-820'	50'	.208		
S12	405'-550'	97'	.118		
	450'-540'	60'	.144		
	640'-685'	30'	.147		

2. Geological Factors Indicative of a Porphyry Molybdenum Deposit

In addition to the large known widths of disseminated molybdenite, which is the basic favorable factor, the geological criteria are

certainly favorable and similar to those of economic porphyry molybdenum deposits. Host rock of dacite porphyry intruding quartz monzonite is comparable to many deposits. Brecciation is widespread over a square mile, in addition to one, and possibly more localized breccia pipes where degree of brecciation is intense. Hydrothermal alteration is likewise intense with the best mineralization, and consists of sericitic, argillic, chloritic, and secondary orthoclase. Quartz veining is also strong. The increase of sericitic alteration with depth in the Paton breccia pipe is particularly noteworthy since it is nearly absent at surface, and since most economic deposits have closely associated sericitization.

Regionally speaking, the Nye property is located similarly to the Climax mine, the largest molybdenum mine, 48 miles away, and the Urad mine, 16 miles away, which is being developed for mining at 5000 tpd and which will be one of the major world deposits.

3. Geochemical Magnetic Anomalies

Since outcrops are nearly lacking over the entire area, great reliance must be placed on geochemical soil sampling and magnetic anomalies, used in conjunction with the drillhole information. Molybdenum geochemical anomalies of 100 - +ppm are present over the known Paton fault area and breccia pipe over the Mt. Chief mine area, and over the North Anomaly area. Each of these are likewise favorable from the geological considerations. Coincident with these are magnetic low anomalies of about 700 gammas, which indicate the destruction of magnetite in the intrusive from very intense hydrothermal alteration. The best molybdenum mineralization has been found, without exception, in these strongest alteration zones.

4. Degree of Interest by Major Mining Companies

Although this reason is not technical, it bears emphasis in view of the very keen interest by the major mining companies who have opportunities to explore molybdenum deposits the world over. Throughout the previous exploration program, Bear Creek Mining Co., American Metal Climax, Duval Corp., and Union Carbide Corp., after examining the property in the early stages before drilling, offered and did complete extensive assaying, magnetics, geochemical surveys, aerial photography, and petrographic work at no cost and with no leasehold on the property. After drilling results continued to be promising, Bear Creek Mining Co. made a firm and favorable offer to Nye Metals, and American Metal Climax is preparing an offer; Falconbridge Nickel Mines, Phillips Petroleum, Bethlehem Steel Corp. and Superior Oil Company have indicated a desire to participate if satisfactory terms can be worked out. This unanimity of favorable opinions regarding the property by various competent geologists should certainly be a factor in considering the reasons for expecting to find ore.

In numerous molybdenum exploration programs familiar to the writer, it can be confidently stated that seldom are any substantial widths of +0.1% MoS_2 found. In most programs where surface indications were very favorable but where drilling results were negative, the average grades are considerably under 0.1%. Therefore, the results to date dictate that further exploration must proceed, particularly to greater depths where cores indicate an increase in alteration and mineralization intensity. In regard to depth, it should be mentioned that at the nearby Urad mine, a new orebody is being found at depths of 1500 - 3000 feet, thereby illustrating the possible depth of molybdenum mineralization in the Colorado Mineral Belt. Deep drilling at the Climax mine has found possible economic mineralization at a depth of 7000 feet.

4. ACCESSIBILITY OF PROPERTY

a. Location:

Either of two people will meet the OME representative:

Robert E. Nye	or	Charles E. Melbye
Blackhawk, Colorado		2020 Foothills Road
Telephone: 2607		Golden, Colorado
		Telephone: 279-1542

The property may be reached by traveling north from Blackhawk on paved State Highway #119 for 2 miles, thence 7 miles westerly on a good gravel road to Apex, a cluster of houses occupied only in the summer. The mine is then one mile northeast of Apex over a good winding dirt road. The main mine workings are completely accessible. Only the shallow surface adits and cuts are caved or sloughed.

b. Supply Points:

The nearest supply points are the small towns of Central City and Blackhawk, 10 miles away. Limited small mining operations are usually in progress in the area at all times. The city of Denver is 44 miles away. Nearest rail shipping point is Golden, 30 miles distant.

5. EXPLORATION WORK

a. Description of Proposed Work

All proposed exploration work will consist of drilling. Certain standards will be set for all drilling under the contract. Holes are planned a minimum of 150 feet apart, horizontally, and planned to intersect a vein or zone a minimum of 200 feet apart vertically. Holes will be both vertical or at an angle, depending

on the geologic conditions to be encountered. Drilling will be contracted to an outside contractor, and supervision will be furnished by the Operator. Supervision will consist of a part-time consulting geologist and a full-time assistant to take care of all core and samples and assist with surveying and other work. Work is proposed no closer than 100 feet to property boundaries.

Hole sizes should start and proceed NX as far as possible, and similarly with BX size, before switching to the minimum of AX size. These may be either standard or wireline sizes depending on which type equipment is furnished by the contractor. It will be necessary to prepare drill sites for all holes, and this will be done using a D-8 bulldozer owned by the Operator.

Only the first few hole locations are specified on the map for each area, since it is expected that considerable flexibility will be required to take into consideration new results obtained from each hole. For location of all proposed work, please refer to Plate 2- 100 scale Geologic map - Mt. Chief Area, and Plate 3 - 100 scale Magnetic map - Mt. Chief Area. General locations of each area with respect to land boundaries and broad geologic features are shown on the 500 scale property map - Plate 1. The program is set up in two stages.

The proposed exploration work is herewith listed and discussed by stages and secondarily by locations within the larger Mt. Chief area:

STAGE I

Paton Breccia Pipe

Drilling - surface 10,100 feet

Four holes are specifically located and should be drilled at these locations regardless of progressive results obtained. These are planned to both explore the mineralization to a depth of 2000 feet, to explore laterally between the II-S4 and II-S9 drillholes, to explore below Hole II-S4, and to explore the possible extension to the northwest in the vicinity of the geochemical anomalies. They are shown on Plate 2 and are listed as follows:

	Bearing	Angle	Approximate Depth
I-S16		-90°	2000'
X I-S17	S20°W	-60°	800'
I-S18	S20°W	-45°	700'
I-S19	S45°W	-45°	600'
	TOTAL		4,100'

9-7-66

Please Insert page 13 and 14 in place of page 13 & 14 in the original application.

Substituted — HK 9/16/66

on the geologic conditions to be encountered. Drilling will be contracted to an outside contractor, and supervision will be furnished by the Operator. Supervision will consist of a part-time consulting geologist and a full-time assistant to take care of all core and samples and assist with surveying and other work. Work is proposed no closer than 100 feet to property boundaries.

Hole sizes should start and proceed NX as far as possible, and similarly with BX size, before switching to the minimum of AX size. These may be either standard or wireline sizes depending on which type equipment is furnished by the contractor. It will be necessary to prepare drill sites for all holes, and this will be done using a D-8 bulldozer owned by the Operator.

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Drilling - surface 10,100 feet

Five holes are specifically located and should be drilled at these locations regardless of progressive results obtained. These are planned to both explore the mineralization to a depth of 2000 feet, to explore laterally between the IIS-4 and II-S9 drillholes, to explore below Hole II-S4, and to explore the possible extension to the northwest in the vicinity of the geochemical anomalies. They are shown on Plate 2 and are listed as follows:

"5" should be "5" on map

	Bearing	Angle	Approximate Depth
I-S15 (where located)?	S20°W	-60°	800'
I-S16		-90°	2000'
I-S17 60°?	S20°W	-45°	700'
I-S18 45°?		-90°	2000'
I-S19 45°?	West	-50°	600'
	TOTAL		6,100'

An additional 4000 feet of drilling is allotted for additional holes to be located based on the results from the initial five holes. It is impossible at this time to specifically locate these, but they will most likely be deeper holes in and offsets to the best mineralized zones.

Mt. Chief Mine

Drilling - surface 6,100 feet

Again, a certain amount of footage is specifically allotted to certain holes and the balance to be located after these first holes are completed. Four holes are shown on Plates 2 and 3 and listed as follows:

"S" should read "S"

	Bearing	Angle	Depth
I-S20	Due S	-45°	1000'
I-S21		-90°	2000'
I-S22	Due S	-65°	600'
I-S23		-90°	1000'
			4600'

Hole I-S20 is an east offset to II-S1 and within the same magnetic low anomaly. Holes I-S21 is designed to explore the wide zone of mineralization in Hole II-S1 to a depth of up to 2000 feet. This is the widest zone of mineralization encountered anywhere on the property and appreciable copper values are also present. Holes I-S22 and I-S23 are angle and vertical holes to explore the south side of the Mt. Chief fault where the magnetic low anomaly and surface dumps show very intense alteration as well as disseminated molybdenite.

Another 1500 feet is allotted for subsequent drilling at depth or offset from the best holes.

North Anomaly Area

Bulldozing - exploration 80 hours

Since this anomaly area has no surface dumps and no outcrops, very little is known. The geochemical soil samples taken in the one bulldozer cut show the +100 ppm anomaly to be 450 feet wide. Parallel cuts, three uphill and two downhill from the one, are proposed at an estimated time of 16 hours each. A spacing of 200 feet apart should be sufficient. Soil samples should be taken in these cuts from the "C" soil layer 1 - 2 feet below surface, which has been found to be a better indicator of bedrock molybdenum mineralization on the Nye property.

Drilling - surface 3000 feet

One angle hole, I-S24 1000' is located to explore below the present cut, at a bearing of S20°E and at an angle of -45°. The balance of the drilling, 2000 feet, must be planned after reviewing the mapping and sampling data from the five cuts.

An additional 6000 feet of drilling is allotted for additional holes to be located based on the results from the initial four holes. It is impossible at this time to specifically locate these, but they will most likely be deeper holes in and offsets to the best mineralized zones.

Mt. Chief Mine

Drilling - surface 6,100 feet

Again, a certain amount of footage is specifically allotted to certain holes and the balance to be located after these first holes are completed. Four holes are shown on Plates 2 and 3 and listed as follows:

	Bearing	Angle	Depth
X I-S20	Due S	-60°	1000'
I-S21		-90°	2000'
I-S22	Due S	-65°	600'
X I-S23		-90°	1000'
	TOTAL		4600'

Hole I-S20 is an east offset to II-S1 and within the same magnetic low anomaly. Hole I-S21 is designed to explore the wide zone of mineralization in Hole II-S1 to a depth of up to 2000 feet. This is the widest zone of mineralization encountered anywhere on the property and appreciable copper values are also present. Holes I-S22 and I-S23 are angle and vertical holes to explore the south side of the Mt. Chief fault where the magnetic low anomaly and surface dumps show very intense alteration as well as disseminated molybdenite.

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Drilling - surface 3000 feet

One angle hole, I-S24, is located to explore below the present cut, at a bearing of S20°E and at an angle of -45°. The balance of the drilling, 2000 feet, must be planned after reviewing the mapping and sampling data from the five cuts.

Stage II

Since it is impossible at this time to know which of the three areas will require intense additional drilling and in what amounts, 11,000 feet of surface drilling are allotted for Stage II to be divided between the three areas. Specific approval will be obtained from the Field Officer for each hole once approval has been received to proceed to Stage II exploration.

SUMMARY

Stage I -	Bulldozing - exploration	80 hours
	Drilling	19,200 feet
Stage II -	Drilling	11,000 feet

b. Access Roads

None are required except for drill roads.

c. Time

If an OME Contract is executed, the work will start within 30 days, and it is anticipated that one year will be sufficient to complete the contract, but it is requested that two years be allowed to provide for unforeseen delays. Anticipated rates of progress are as follows:

Bulldozing	8 hours/day
Drilling	30 feet/shift

6. EXPERIENCE

Technical supervision will be provided by Charles E. Melbye, Consulting Geologist and Engineer, Golden, Colorado. Mr. Melbye graduated from the Colorado School of Mines in 1950 with a Geol. B. degree. He later completed 3 years of study toward a Doctor of Science degree. His experience includes both mine operation and exploration for the Anaconda Company, Telluride Mines, Inc., and Colorado Exploration Company, as Instructor in Geology at the Colorado School of Mines, and as consultant to such companies as Phelps-Dodge Corporation, Kennecott Copper Corp., Southern Pacific Railroad, and Susquehanna-Western, Inc., Anschutz Drilling Company, Oklahoma Gas and Electric Company, American Metal Climax, Inc., and numerous other companies and individuals.

Robert E. Nye, president of the corporation, has been general manager of the exploratory operations to date, commencing in 1954. He is generally responsible for the overall business conduct of the operation. Mr. Nye is also the discoverer of the deposit. He was in charge of driving the Indiana adit on the Indiana vein as herein described. Also, he has been in charge of the driving of the main tunnel which is 1700 feet in length and has supervised the drifting on the Indianapolis vein as herein described. Mr. Nye, therefore, has in excess of 11 year's experience in mining and exploration.

7. ESTIMATE OF COSTS

a. Independent Contracts

All drilling will be contracted to a drilling company, and 3 bids accompany this application. A D-8 bulldozer is owned by the Operator and will be used at the competitive rate of $15 per hour.

STAGE I

Drilling	19,200 feet @ $7 Ave.	$134,400.00
Cementing, reaming, casing, standby time	600 hours @ $8	4,800.00
Mobilization charge	$150/rig	300.00
Cementing & drilling materials		500.00
Bulldozing- drill sites	150 hours @ $15	2,250.00
- exploration	80 hours @ $15	1,200.00
	Total	$143,450.00

STAGE II

Drilling	11,000 feet @ $7 Ave.	$ 77,000.00
Cementing, reaming, casing, standby time	400 hours @ $8	3,200.00
Cementing & drilling materials		300.00
Bulldozer- drill sites	100 hours @ $15	1,500.00
	Total	$ 82,000.00

b. Personal Services

The only personal services required will be the consulting geologist-engineer for core logging and supervision and a non-technical assistant to take care of cores and samples and assist with surveying. This work is included as an incidental allowance at a per-foot rate, in line with other similar OME contracts.

STAGE I

Incidental allowance	19,200 feet @ $.70	$ 13,440.00

STAGE II

Incidental allowance	11,000 feet @ $.70	$ 7,700.00

c. Operating Materials and Supplies

STAGE I

Core boxes	1920 @ $1	$ 1,920.00

STAGE II

Core boxes	1100 @ $1	$ 1,100.00

d. Operating Equipment

None

e. Initial Rehabilitation and Repairs

None

f. New Buildings

None

g. Miscellaneous

In determining assay expense, it is assumed that about 2/3 of each hole will require Mo assays at 5-foot intervals, and that 25-foot composites for Cu and Au will be sufficient.

STAGE I

Assays	Mo- 2500 @ $4	$ 10,000.00
	Cu- 500 @ $1.50	750.00
	Au 500 @ $1.50	750.00
	Total	$ 11,500.00

STAGE II

Assays	Mo- 1500 @ $4	$ 6,000.00
	Cu- 300 @ $1.50	450.00
	Au- 300 @ $1.50	450.00
	Total	$ 6,900.00

COST SUMMARY

STAGE I

Independent contracts	$143,450.00
Personal services	13,440.00
Operating materials and supplies	1,920.00
Miscellaneous	11,500.00
TOTAL	$170,310.00

STAGE II

Independent contracts	$ 82,000.00
Personal services	7,700.00
Operating materials and supplies	1,100.00
Miscellaneous	6,900.00
	$ 97,700.00
GRAND TOTAL	$268,010.00

DENVER UNITED STATES NATIONAL BANK

DENVER U. S. CENTER • DENVER, COLORADO 80217 • 244-8811

April 25, 1966

JOHN H. FERRY
VICE PRESIDENT

Mr. Charles E. Melbye
Nye Metals, Inc.
c/o Melbye and Associates
Box 309
Golden, Colorado 80401

Dear Mr. Melbye:

Thank you very much for your request for a loan of $250,000, to cover the costs of an exploration program on the Nye Metals, Inc. molybdenum properties near Black Hawk, Colorado. It is my understanding that your request for $250,000 will be used for drilling, trenching, other bulldozer work, assaying, and geological services.

It would appear that from your request the mine is not in production and does not at this time have a history of profitable operations, or the basis for making cash flow projections. Inasmuch as you are asking for debt capital from a commercial bank, we are obliged to view your request from the standpoint of a term loan based on a history of profitable operations, or else a loan to be secured and repaid from an assured liquidation of assets.

It would appear that you are not in a position to provide repayment from either source, and for this reason, we must decline your application.

In the event that in the future you are able to demonstrate actual operating history showing a cash profit and reserve sufficient to support continued operating profits over a reasonable period of time, we would [redacted] be in a position to try to design a term loan for development, mill expansion, or other desirable capital expenditures.

I trust this meets with your satisfaction, and if there is anything further you would like to discuss with us regarding mining loans, we would be most happy to do so. For your information, I am enclosing a copy of a suggested form for economic evaluation reports to be submitted with application for mine production loans. Although this is not intended to be all inclusive, it does provide guide lines which are helpful to our design of a term loan.

Very truly yours,

John H. Ferry

Vice President

JHF/vs
Encl.

Ap[illegible] 29, 1966

Mr. Robert Nye
Nye Metals, Inc.
Blackhawk, Colorado

Dear Mr. Nye:

In consideration of core drilling operations on your property at Apex, Colorado, we submit the following proposal, for aproximately 30,000 feet of drilling:

A. Overburden, per lineal foot	$6.50		
	AX	BX	AX
B. Bedrock to 500', per lineal foot	$6.00	$5.25	5.25
500' to 1000', per lineal foot	6.20	5.50	
1000' to 1500', per lineal foot	6.75	6.50	$6.40
1500' to 2000', per lineal foot	8.50	7.50	7.50

C. Reaming, if necessary, ~~per~~ at $8.00 per hour.

D. Cementing, grouting, installing and pulling casing will be done at $8.00 per hour plus cost of cement and other material ~~job~~ job site.

E. Moving and setting up costs will be borne by the drilling contracter.

F. It is understood that all access roads and d rilling sites will be provided at no cost to the drilling contracter.

G. Mobilization and demobilization at $150.00 per rig.

Signed,

John R Latham

JAY LATHAM DRILLING
1606 Iris St. Apt. 11
Lakewood, Colorado 80215

Approved,

Robert E. Nye
Nye Metals, Inc.
Blackhawk, Colorado

DIAMOND CORE DRILLING
DIAMOND DRILLING EQUIPMENT
GROUTING
FOUNDATION TESTING
MINING
QUARRYING
SHAFT SINKING
TUNNEL DRIVING
MINE PLANT DESIGN
AND FABRICATION

Boyles Bros. DRILLING COMPANY

CONTRACTORS - ENGINEERS - GEOLOGISTS

~~2360 W. 7th Avenue~~ 15865 W. 5th. Ave.
~~DENVER 4, COLORADO~~ Golden, Colorado 80401
Phones: ALpine 5-9244
ALpine 5-0855

General Offices and Plant
1624 Pioneer Road P. O. Box 58
SALT LAKE CITY 10, UTAH
HUnter 7-7595

BRANCH OFFICES
PHOENIX
RENO
SPOKANE
DENVER
SACRAMENTO
ST. LOUIS

April 21, 1966

Nye Metals Inc.
Blackhowk, Colorado

Attention: Mr. Charles Melbye
2020 Foothills Road
Golden, Colorado

Gentlemen:

We submit the following schedule of charges for your drilling program of approximately 30,000 linier feet on your properties at Apex.

			NX	BX	AX
1.	Drilling overburden -	per foot	$ 7.70		
2.	0 to 500 feet in depth,	per foot	$ 7.40	$ 6.50	$ 5.90
	500 to 1000 feet in depth,	per foot	7.90	6.90	6.50
	1000 to 1500 feet in depth,	per foot		7.90	7.60
	1500 to 2000 feet in depth,	per foot		9.00	8.60
3.	Reaming, per linier foot	0 to 1000		$ 3.60	
		1000 to 2000		4.60	
4.	Cementing and drilling cement plus cost of cement or cement and mud, per hour			$ 12.00	
5.	Cardboard core boxes to hold 10 feet of core, each				$ 1.00

Drill sites and roads to be prepaired and maintained at no cost to Boyles Bros.

Thank you for calling on our company.

Very truly yours,

BOYLES BROS. DRILLING COMPANY

George E. Lensch

George E. Lensch - District Manager

GEL:bf

Consideration Schedule
Surface core drilling project
Nye Metals Company, Inc.
Property at Blackhawh, Colo.

To: Nye Metals Company, Inc.
P. O. Box 309
Golden, Colorado

From: MacPherson Drilling Co.
601 N. 2nd, Street
P. O. Box 1167
Montrose, Colorado 81401

Attention: Mr. Charles E. Melby

Gentlemen:

In consideration to drilling 30,000 feet from surface locations for Nye Metals, Inc. on property owned by Nye Metals, Inc. at Blackhawk, Colorado. MacPherson Drilling Company undertakes to perform such drilling under the terms and for the fees setforth herein. And, Nye metals agrees to accept such terms and fees which follow for the purpose indicated.

Overburden
From surface to bedrock, Cased @ $ 6.90 per ft.

Core Drilling

				Core size, rate per ft.		
				NXWL	BXWL	AX
From	top bedrock	to	500 ft. @	$6.15	$5.30	____
From	501 ft.	to	1000 ft. @	6.20	5.60	____
From	1000 ft.	to	1500 ft. @	7.20	6.85	$6.75
From	1501 ft.	to	2000 ft. @	8.90	7.95	7.50

Mobilization and demobilization
To moving of drilling equipment, drilling supplies, drill personnel, and all auxilliary equipment necessary to complete holes to the required depth shall be for a lump sum of $600.00 per rig.

Hourly rate for the following work
Labor and equipment furnished by contractor to cementing, drilling out cement, reaming of holes for casing, installing casing and recovery of casing from drill holes on completion of drilling, surveying of holes with Tro-Pari surveying instrument or other work Nye Metals may request Contractor to perform with his equipment and drill personnel shall be at an hourly rate of $13.00 per hr. so used.

Supplies charged to Nye Metals, Inc.
Cement or cemnt substitutes, core boxes, drilling mud, or other materials supplied by contractor to the job shall be charged to Nye Metals at Contractors cost F.O.B. job site. Casing or pipe left in holes by request of Nye Metals shall be charged to Nye Metals at Contractors cost FOB job site. Casing or pipe left in holes not at the request of Nye Metals shall be charged to Nye Metals at one half the cost to Contractor.

Nye Metals shall make the roads and drill sites suitable for the moving of drilling equipment, Furnish water for drilling free of any charge to Contractor. However, Contractor shall transport water for drilling at his own cost and expense.

Contractor shall furnish all drilling equipment, drill personnel, diamonds, tools, vehicles or other equipment required to perform his work in a workman like manner.

Date; April27, 1966

Respectfully submitted
M. MacPherson
Malcolm MacPherson

Merchants National Bank & Trust Company

Indianapolis, Ind. 46209

OFFICE OF THE
VICE-PRESIDENT

TELEPHONE
AREA CODE 317
MELROSE 8-2461

April 29, 1966

Mr. Robert E. Nye
President
Nye Metals, Inc.
Merchants Bank Building - Room 711
Indianapolis, Indiana 46204

Dear Mr. Nye:

With regard to your recent request for a $250,000 loan from this bank, which would be used for exploratory and drilling expenses for your Molybdenum mine, this is to advise that the request has been reviewed by our Loan Committee and that we will be unable to approve the loan. As we discussed, this loan would be for a very speculative purpose, and also, the operation is out of our banking area.

Although we cannot be of service at this time, we do appreciate the opportunity to review the above with you.

Sincerely,

Richard M. Rogers

Richard M. Rogers
Assistant Vice President

RMR:wc

100 years 1865 1965

SUCCESSOR TO THE INDIANA TRUST COMPANY

Indiana's Oldest Trust Company

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(2/63)

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12/29	Kirkemo	120
"	Johnson	110
		220
	Kilgore	
12/30	Jane Ts	
		110
		220

Nye Metals, Inc.
527 Merchants Bank Building
Indianapolis, Indiana

Re: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

Gentlemen:

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

Careful study of all the information available to us indicates that the probability of disclosing significant ore reserves on your property is not sufficiently promising to justify Government participation in the proposed exploration. We regret to advise you that, under these circumstances, your application for exploration assistance is denied. However, this denial is made without prejudice to the property. If, at any time in the future, significant additional information is available, we shall be pleased to consider a new application.

Sincerely yours,

FRANK E. JOHNSON

Frank E. Johnson
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Division File
Economic Geology File
Docket File
OME Region III
OME Reading File
Mr. Kirkemo
120M
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GLAult/a 12-29-66

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MME Form 7
(2/63)

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Date	Surname	Code
12/29		120
"	Johnson	110
		220
		110
		220

December 29, 1966

Memorandum

To: The File

From: Harold Kirkemo, Office of Minerals Exploration

Subject: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

JUSTIFICATION FOR DENIAL

In response to our critical review dated October 19, 1966, of this application and of the Field Officer's recommendation dated September 13, 1966, for a drilling program, Mr. Robert U. King, USGS, reanalyzed available information and studied some information recently released by the Applicant. King found important discrepancies between the information shown on the recently released geologic logs of existing drill holes, and the geologic and assay cross sections in the application.

King concluded that any further exploration would be largely prospective in character, and would be directed at targets broadly defined from geologic generalizations.

The grade of molybdenite mineralization indicated by extensive exploration completed by the Applicant ranges from about 0.005 to 3.0 percent MoS_2, and although small tonnages of high-grade ore (50,000 tons averaging 1.0% MoS_2) are estimated by the Applicant in the Nye mine area, the average grade of the entire mineralized zone probably is in the range of 0.01 to 0.05 percent MoS_2. This grade of material is not of economic importance. A deposit west of Empire, Colorado, about 15 miles west of the Nye property, and under development by AMAX, is estimated to have a reserve of 236 million tons averaging 0.45 percent MoS_2. The grade of the Nye deposit does not approach the grade considered necessary to warrant extensive exploration and development.

King recommends drilling possibly three vertical holes of about 1,000 feet each in an area geologically favorable for mineralization, but where the Applicant first would have to complete preliminary prospecting to reveal geologic targets which are acceptable for consideration by OME. The probable grade of material in this case does not appear promising.

In view of these conclusions and recommendation by King, I recommend that the application be denied without prejudice to the property.

Harold Kirkemo

Harold Kirkemo

cc: Director's Reading File
Division File
Economic Geology File
Docket File
OME Reading File
Mr. Kirkemo

HKirkemo/gla 12-29-66

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO 80225
Office of Minerals Exploration

December 21, 1966

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O. K. M.
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DEC 23 1966

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gla 120 M
~~gj 110~~
120

Memorandum

To: Assistant Chief, OME

From: Field Officer, Region III

Subject: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

Transmitted herewith is a copy of a memorandum from Robert U. King to the Field Officer, Region III on the above mentioned docket.

J. William Hasler
mc.

J. William Hasler,
Field Officer, Region III
Office of Minerals Exploration

December 21, 1966

Memorandum

To: Field Officer, Region III

From: Robert W. King

Subject: OME-6361 (Molybdenum)
Rye Metals, Inc.
Rye Property
Gilpin County, Colorado

The Rye Metals, Inc. of Indianapolis, Indiana has partly explored by tunneling and core drilling an irregular zone of molybdenite mineralized rock on its Rye Property near Apex, Gilpin County, Colorado. The zone of mineralization, about 700 feet wide, trends north-northeastward from the Rye Mine to the old Mountain Chief mine, a distance of about 4,500 feet. Mineralization ranges in depth from a few hundred feet at the extremes of the area to as much as 1,000 feet in the central part of the area. The grade of molybdenite mineralization ranges from about 0.005% to 3.0% and although small tonnages of high grade ore (50,000 tons at 1.0% MoS_2) have been calculated by the company for the Rye Mine area, the average grade of the entire mineralized zone probably is not higher than a few hundredths of one percent (.01 to .05% MoS_2).

Inasmuch as the company has drilled 10 holes from underground stations in Rye Mine and 14 holes from surface sites in the central and northern parts of the property, further exploration will be largely prospective in character, that is, a search for a higher grade of molybdenite mineralization than that discovered to date, and directed at targets broadly defined from geologic generalizations.

Analysis of proposed drilling

Proposed hole S-16 to test at depth the Mountain Chief or Paton Breccia pipe.

The purpose of Hole S-16 is to explore a vertical breccia pipe (Paton or Mountain Chief) to a depth of 2,000' by a vertical hole drilled centrally in this "pipe". A review of the geologic logs of these holes (only recently made available for examination) and comparison with geologic and assay cross sections reveals important discrepancies--sufficient I believe to materially reduce the mineral potential of this site. The area surrounding proposed hole S-16 has been explored to a depth of 800 feet below the surface by four holes.

According to the geologic logs, the altered quartz monzonite penetrated by holes S-14 and S-9 is not brecciated over significant intervals--an indication that the "breccia pipe" is not the uniform cylindrical structure shown on the geologic-assay cross sections.

Holes S-12, S-13, and S-14, all bottom in unbrecciated dacite porphyry, at elevations of 9390, 9360 and 9380 feet respectively. It seems as reasonable to interpret this as indicating a relatively flat lower limit of the breccia zone as to conclude that each of the three holes crossed the wall of a "pipe"-like structure at nearly equal elevations. Hole S-9 according to my interpretation did not drill beyond brecciated dacite porphyry because it bottomed at an elevation of about 9720 feet, almost 100 feet above the lower limit of brecciation. The strike and dip of this flat lying lower limit of brecciation is N. 50° E; 10° SE.

Molybdenite mineralization in these 4 holes (9, 12, 13, 14) is most intense in the interval between 10,200 feet and 9750 feet elevation, a position well within the possible flat-lying breccia zone. The elevations of the lower limits of molybdenite mineralization (0.01%) range from 9750 to 9700 feet--a remarkably uniform and nearly flat cut-off. It should be noted that some of these long holes are surveyed for changes in direction or inclination and any geologic interpretation applied to the results is thereby weakened.

It is possible such a flat-lying brecciated zone could be repeated at greater depths but there is no evidence for this or to indicate that the molybdenite content would be higher than that found thus far in the existing holes.

If the vertical pipe interpretation is valid--the 4 holes have discovered a zone of molybdenite mineralization 100 feet wide by 300 feet in length containing an average of about .07% MoS_2.

A vertical hole at this site (pdh S-16) would not be well suited for exploring such an oriented mineral zone.

Proposed holes S-18 and S-17. To test for molybdenite below Drill Hole II S-4 and 200 feet west of hole II S-4.

Hole II S-4 penetrated 200 feet of brecciated dacite porphyry containing molybdenite mineralization from 0.01% to 0.5% MoS_2. Average grade of this 200 foot mineral intersection is 0.16% MoS_2, which would be quite significant if further exploration showed either an improvement in grade or increase in the width of intersection. The probability for such improvement with depth is weak in view of the negative results from existing holes S-11 and S-13 which are within 300 feet of the proposed holes and have drilled to depths of about 900 to 1200 feet below surface.

Proposed holes S-20, S-22, and S-23, are not acceptable because of proximity to property boundaries and otherwise can be justified only on the basis of geophysical anomalies, i.e.--magnetic lows, and low grade molybdenite mineralization. The magnetic lows are presumed to indicate removal of iron-rich minerals by hydrothermal alteration. That this hydrothermal alteration may be accompanied by significant molybdenite mineralization is not supported by drilling results to date except for hole S-1, which shows a 900-foot mineral intersection averaging .07% MoS_2 at a relatively shallow depth--further exploration of this mineralized zone is probably justified. The zone is of significant size, and only an improvement in grade would be needed to show a significant molybdenum ore reserve. This mineralized zone encountered 300 to 400 feet below the surface apparently is blind--other than traces of molybdenum found in weathered surface rocks and scattered prospect pits.

Proposed hole S-21 at 90° would largely duplicate exploration by hole S-1 for the first 500 feet but would serve to delineate the mineralized zone already known from hole S-1. If favorable results--significant mineral intersections of several hundred feet at grades of better than .1% MoS_2--were obtained, 4 offset holes should be allowed for. Minimum offset distance should be 500 feet--maximum depths of holes should be 2000 feet with provision to halt drilling progress beyond 1,000 feet depending on the presence of visible molybdenite in drill core or assays falling below .03% MoS_2.

Based on a review of the geologic logs of holes drilled by the company, which were made available for examination subsequent to my memorandum dated 6-1-66, and a comparison with geologic-assay cross sections, and geologic and geophysical maps, only one site for further exploration, S-21, appears to me to be amenable to the OME program. 0

On broad geologic inference two or three vertical holes of about 1,000 feet in depth could be drilled along the line of east fork of Jenny Lind Gulch which approximately follows the section line between secs 15 and 16. These holes would be for the purpose of exploring for disseminated type molybdenite mineralization in the preCambrian quartz-biotite gneiss mass of intrusive quartz monzonite and in the upper part of the quartz monzonite near its contact with the preCambrian rocks. Although geologically this is a favorable environment for mineralization, no preliminary prospecting has been done to provide suitable leads. The site of proposed hole S-19 would be a good place to start. A second and third hole 1,000 feet and 2,000 feet north should follow depending on results of S-19. Some trenching, sampling, or drilling probably would have to be done by the company to indicate the validity of this geologic inference in order to justify participation in exploration by the Office of Minerals Exploration.

I recommend approval of the applicant's proposed hole S-21 (location shown on geologic map accompanying application) with provision to drill to the limits of visible MoS_2 or to a cut off of 0.03% MoS_2.

AMAX AMERICAN METAL CLIMAX, INC.
1270 AVENUE OF THE AMERICAS, NEW YORK, N.Y. 10020

FRANK COOLBAUGH
CHAIRMAN

December 14, 1966

To the Shareholders:

In our letter of May 19, 1966 we informed our shareholders that diamond drilling had provided additional confirmation of a new molybdenum deposit west of Empire, Colorado. Discovery of this deposit was first announced in June 1965.

It has now been decided that work will start immediately by our Climax Molybdenum Company Division to sink a 23-foot diameter shaft for access to this molybdenum deposit. The 2350-foot shaft will permit underground drilling for closer delineation of the presently indicated mineral zones and will serve as a development shaft.

Extensive surface drilling has now progressed to the point where the following preliminary estimate of reserves has been made:

	Approximate Tons	Grade*
Proven	154,000,000	.45% MoS_2
Probable	82,000,000	.45 MoS_2
Total	236,000,000	.45 MoS_2

* In place, without allowance for mining dilution.

This estimate is based upon 13,000 feet of mineral intersection obtained in 17 diamond drill holes, out of a total of 78,000 feet of diamond drilling in 22 holes, of which 4 holes are still in progress. Based on geological analysis of the results so far obtained, it is likely that further drilling will increase the reserves.

Although drilling to date has established that the deposit is a major one, additional information is needed before definite mining plans and realistic cost estimates can be made. It must be emphasized that the deposit will be very costly to develop due to its depth and the nature of the mining methods which may have to be employed. Assuming favorable resolution of these problems, every effort will be made to bring the new deposit into production in the early 1970's. For this reason, the initial shaft is sized for use during development and production stages. Preliminary engineering studies are being made based on a mining rate of 30,000 tons of ore per day which, at the indicated grade, would produce approximately 50,000,000 pounds of molybdenum annually.

The new deposit has been named the Henderson Project in memory of Robert Henderson, former vice president in charge of Western operations of Climax Molybdenum Company. Mr. Henderson's encouragement and support of the early geological work played a key role in the initial discovery of the deposit.

Sincerely yours,

Frank Coolbaugh

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/16	Johnson	
12/15	Kirkemo	
12/19	Kilgore	
12/19	KCooper	
		120M

DEC 19 1966

Mr. Philip W. Kelleher
Counsel, Committee on Armed Services
U. S. House of Representatives
Washington, D. C. 20515

Dear Mr. Kelleher:

This is in reply to your letter of December 8 concerning the status of the application of Nye Metals, Inc. (OME-6561), Indianapolis, Indiana, for financial assistance to explore for molybdenum at its property in Gilpin County, Colorado, and enclosing a letter to Congressman Bray dated November 28 from Mr. Nye.

The property of Nye Metals, Inc. has been explored for molybdenum under a previous contract with the Government. The total cost of the work performed was $169,968.75, of which the Government contributed $84,984.36. The results of the work under this contract and the information submitted with the new application do not present adequate support for the deep drilling exploration of the property as proposed by the applicant.

The cores from the previous drill holes are undergoing detailed examination and a geologic analysis is being made in order to determine if there is sufficient support for a deep drilling project. As soon as this study is completed we will notify the applicant of our findings accordingly.

In accordance with your request Mr. Nye's letter is returned.

Sincerely yours,

Arthur A. Baker

Acting Director

cc: General files
Division files
Director's ~~xxxxxx~~ Chron. file
Economic Geologic file
OME file
OME reading file
OME Region III w/cys.inc.ltrs.

Enclosure

FEJohnson/bih 12/16/66

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SUITE 2120, RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, D.C.

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EARL J. MORGAN, PROFESSIONAL STAFF MEMBER
RALPH MARSHALL, PROFESSIONAL STAFF MEMBER
ONETA L. STOCKSTILL, EXECUTIVE SECRETARY

December 8, 1966

Mr. Frank Johnson, Chief
Office of Minerals Exploration
Room 4460
Interior Building
Washington, D. C.

Dear Mr. Johnson:

In the absence of the Chairman, I wish to draw your attention to the attached letter dated November 28, 1966 which has been handed to the Armed Services Committee by Congressman William Bray.

The letter is from Mr. Robert E. Nye, President, Nye Metals, Inc., Indianapolis, Indiana, and relates to a loan application, styled as indicated in the letter.

I will be most appreciative if you can indicate the status of this loan application in order that I may respond to Mr. Bray, returning the basic correspondence with your reply.

Sincerely,

Philip W. Kelleher
Counsel

Enclosure

NYE METALS, INC.
FORMERLY NYE-MATHEWS MINING, INC.

BLACK HAWK,
COLORADO

527
ROOM 20X MERCHANTS BANK BLDG.
INDIANAPOLIS, INDIANA
632-6163

November 28, 1966

Congressman Bray
Indianapolis, Indiana

Dear Congressman Bray:

On April 29, 1966, our company submitted a loan application (Docket No. OME-6561) for assistance in exploring a molybdenum property in Gilpin County, Colorado, located 45 miles west of Denver, Colorado. The estimated cost of our drilling program is $268,010.00, which is the total amount applied for in our application.

It is known through the contacts of our company with other companies in the United States and other parts of the world that there is a definite shortage of molybdenum, so much so that they are willing to pay premium prices (blackmarket prices).

It is our understanding the The Office of Minerals Exploration was set up to help explore properties such as ours. Some of the grades of ore being drilled in our shallow holes is being mined today in Canada.

We would appreciate your earliest attention and advice as to the status of this application, Docket No. 6561.

Yours truly,

NYE METALS, INC.

Robert E. Nye

Robert E. Nye
President

REN:ah

MME Form 7
(2/63)

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Date	Surname	Code
10/19	Kirkham	120
		110
10/19	Cal	220
		120M

AIRMAIL

Memorandum

OCT 1 9 1966

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OMX-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

We have studied your recommendation to prepare a contract for this project, but we are not convinced that the ambitious program proposed is warranted by the geologic facts.

The proposed program is essentially to drill six vertical holes each to a depth of 2,000 feet for the purpose of exploring two breccia pipes for molybdenite. Our study of the lithology, structure, and assays of samples obtained from the completed holes shows no reason to expect an improvement in grade of material with greater depth. We marked the locations of all samples containing 0.10% MoS_2 or better on the sections of completed holes and observed that the number of such assays is a minor portion of the total number of samples assayed. The grade of material does not increase with depth nor does the number of assays of 0.10% MoS_2 or better increase with depth.

"Significant mineralization" is indicated on some of the drill hole sections across wide zones, but assays of samples from these zones show scattered values in molybdenite.

The pattern of the 17 holes already drilled covers reasonably well the area under consideration for additional exploration as the enclosed sketch map indicates. The area of the Paton breccia pipe is extensively explored. The vertical range of exploration also is extensive, the deepest hole reaching a depth of 1,373 feet, and 4 or 5 holes reaching about 1,000 feet.

Reference is made by R. U. King in his memorandum dated June 1, 1966, to the similarity of certain geologic features of this deposit to deposits at Questa, New Mexico, and Urad, Colorado. Unfortunately,

23263

the grade of material suggested by the assays from drill holes at the Nye property does not compare favorably with the grade of material at the Questa deposit. The Final Geological and Engineering Report on the DMEA project at the Questa mine states, in part, "Because of the homogeneous character of the molybdenum deposit it can be reasonably assumed that the entire mass of mineralized rock within the limits of exploration will contain better than 0.2% MoS_2." Unless the grade of material considered to be ore at present is appreciably less than 0.20% MoS_2, the Nye deposit does not appear to contain sufficient mineralization to support a large-scale mining operation such as that at Questa or under development at Urad.

We agree with Mr. King's suggestion that ". . . a detailed examination of all existing drill core should be made and detailed geologic sections constructed in order to assure better placement of proposed drilling." The cross sections now available show the general distribution of rock types, but they do not offer evidence to support the proposal for deeper drilling. Evidence such as extent of rock alteration, brecciation, and character of mineralization is not available at present.

Examination of the drill hole sections did indicate some areas that may warrant further investigation. Perhaps careful examination of the drill core would suggest possibilities for further exploration. The first 300 feet of drill hole II-88 intersected a breccia zone in dacite porphyry that is moderately mineralized. Perhaps the mineralization is associated with a geologic structure that offers some hope of continuity on strike and/or in depth. Drill holes II-84, II-89, and 812 also cut zones of mineralization that may warrant further study--at least examination of the drill core.

Please consider these comments and give us your advice on the next action which should be taken on this application.

FRANK E. JOHNSON

Frank E. Johnson

Enclosure

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Reading File
Mr. Kirkemo

HKirkemo/gla 10-19-66

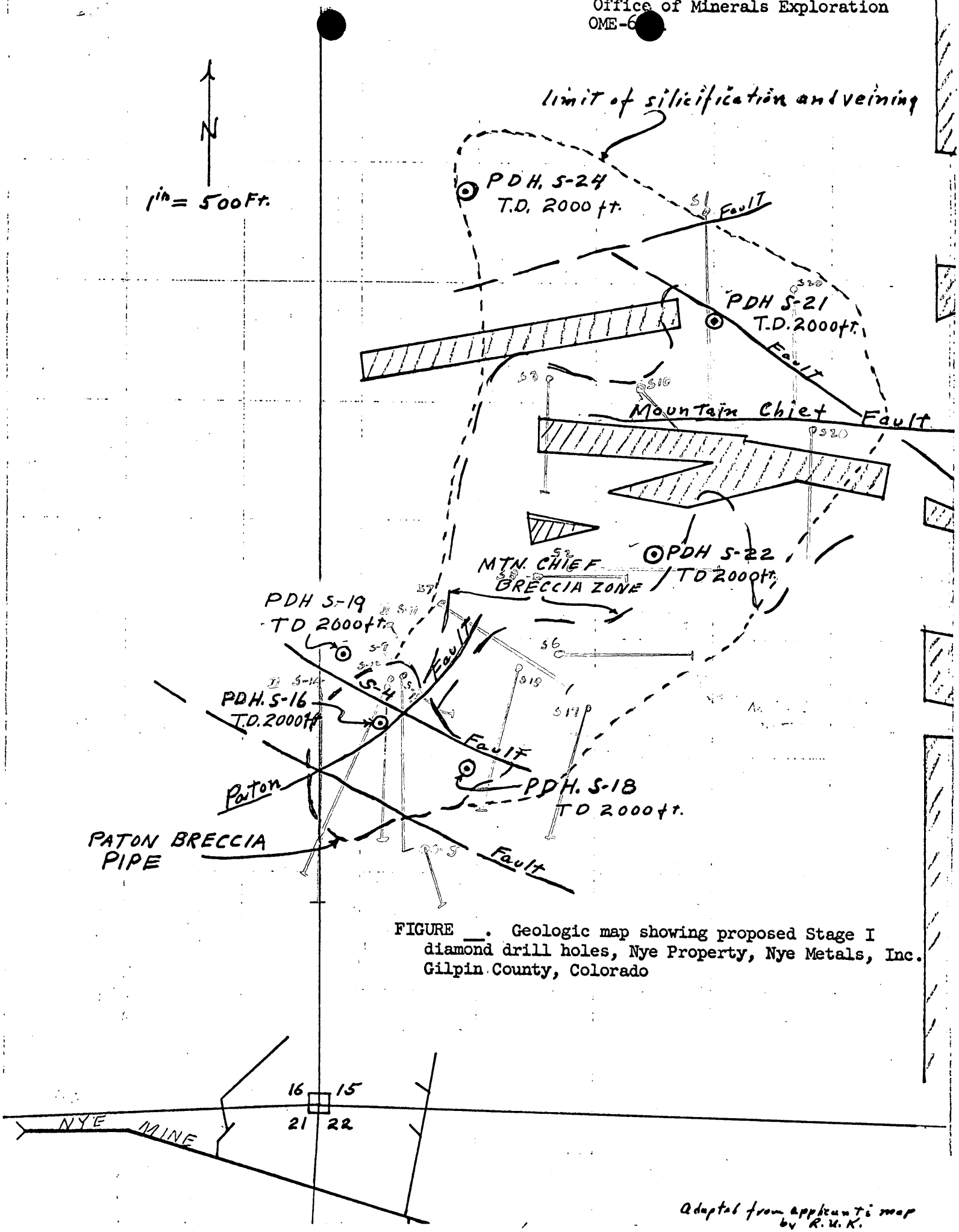

FIGURE __. Geologic map showing proposed Stage I diamond drill holes, Nye Property, Nye Metals, Inc. Gilpin County, Colorado

Adapted from applicant's map by R.U.K.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER 25, COLORADO

Office of Minerals Exploration
Building 25 - Room 2284

OFFICIAL COPY
O. M. E.
AUG. 31
SEP.

September 13, 1966

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Memorandum

To: Chief, OME

From: Field Officer, Region III

Subject: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

This memorandum is in reply to yours of August 23 relative to the subject application.

The applicant's geologist has been consulted in conferences on September 7 and September 12 during which time Stage I of the original program was modified to consist of the following holes and new sites to drill more adequately at depths to 2,000 feet the mineralized Paton breccia pipe, the Mountain Chief breccia zone and the zone of silicification and veining. No change is contemplated in the total footage proposed.

All presently proposed holes are to be drilled vertically ? ok in the approximate location shown on the enclosed figure. All ground shown on the map is controlled by Nye Metals, Inc. with the exception of the shaded claims. All proposed holes are more than 200 feet from the applicant's property boundaries. ?

Hole 23 ? out
Hole 21 ? 150' from shaded claim area.

F.O.'s recommendation

The applicant's consulting geologist concurs with the amended location as shown on the attached figure.

It is recommended that all core be split and assayed in not less than 10-foot intervals and that a minimum of one foot of split core for each 10 feet of hole be retained for government use. ? ok 5'

Hole S-15 was drilled by the applicant but was not completed and consequently is not applicable to the present amended proposal. The discrepancies between the applicant's map and narrative in the angles and depths have been corrected and are shown on the substituted pages 13 and 14 accompanying this memorandum, but because the locations have now been amended these corrections no longer apply.

In regard to cross sections in the target areas, applicable geologic and assay cross sections to the amended holes are as follows:

Proposed hole S-16. See cross section for hole S-12 accompanying application.

Proposed hole S-18. See cross section for hole S-4 accompanying Final Report on OME-6231.

Proposed hole S-19. No cross section available.

Proposed hole S-21. See cross section for hole S-1 accompanying Final Report OME-6231.

Proposed hole S-22. See cross section for holes S-2 and S-8 accompanying Final Report OME-6231.

Proposed hole S-24. No cross section available.

The applicant's proposed exploration was designed to explore at depth the mineralized Paton breccia pipe, the Mountain Chief Breccia zone and the molybdenum-bearing zone of silicification and veining. The amended hole locations were selected to accomodate these favorable geologic targets as well as to test the favorable hydrothermally altered areas as indicated by magnetic lows from geophysical measurements.

It is concluded that there is a fair chance of making a significant discovery of molybdenum on this property and it is recommended that the amended exploration program be approved and a contract be prepared to complete the exploration program herein outlined.

J. William Hasler

MME Form 7
(2/63)

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Date	Surname	Code
8/23	Larrabee	120
8/23	Smith	120
		110
8/23	Cole	220
		120M

AUG 23 1966

Memorandum

To: Field Officer, Region III

From: Chief, Office of Minerals Exploration

Subject: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

Confirming our telephone conversation of August 22, we need the following data before processing the above application.

1. Drill holes: We are unable to locate Hole 1-S15 (1-515) on the maps. Also, there are discrepancies between map and narration in the angles and depths of some proposed drill holes, as follows:

Hole	Map Angle	Depth	Text Angle	Depth
S17 (517)	-60°	800'	-45°	700'
S18 (518)	-45°	700'	-90°	2000'
S19 (519)	-45°	600'	-50°	600'
S23 (523)		2000'		1000'

Please advise which figures the Applicant plans to use and has used in his cost estimates.

2. Cross sections through target areas, requested in our letter of July 6, have not been received.

3. Lien agreements for the Evening Star and Mr. Chief claims, promised with the application of April 29, have not been received.

4. If you agree with King's memorandum of June 1 recommending a contract, with wider hole spacing and drilled at -90° instead of the Applicant's proposal, please offer some guidance as to location of holes and their depths.

cc: Director's Reading File
Division File
Economic Geology File
OME File ✓
OME Reading File
130

FRANK E. JOHNSON (gla)

Frank E. Johnson

DMLarrabee/gla 8-23-66

23263

CHARLES E. MELBYE AND ASSOCIATES

MINING - GEOLOGICAL - GEOPHYSICAL - ENGINEERS

July 20, 1966

OFFICIAL COPY
O. M. E.
RECEIVED
JUL 22 1966
INITIALS | CODE
120 m
170
120

Mr. Frank E. Johnson, Director
Office of Mineral Exploration
U. S. Geological Survey
Washington 25, D. C.

Re: OME-6561
Nye Metals, Inc.
Gilpin County, Colorado

Dear Frank:

After sending you the logs requested, I received the copy of your letter to Nye Metals, Inc. I note you are requesting also the logs from previous OME drilling. These were all included with my final report, but if these are difficult for you to obtain, please let me know, and I can send additional copies.

Your statement about the holes not being correctly shown on the map was, I assume, in reference to the error in drafting hole nos. This was corrected on the new prints. If there is some other error, please let me know.

I have assured Mr. Nye that I will assist in expediting this application in any way possible. Therefore, if you have any questions or need additional data, please call me.

Sincerely yours,

Charles E. Melbye

Charles E. Melbye

M/am
cc: Robert E. Nye

Copy to RL III with 2nd copy of memo dated 8/23 thermofax mailed 9/2/66 m

P. O. BOX 309 | 2020 FOOTHILLS ROAD | 303: 279-1542
GOLDEN, COLORADO 80402

CHARLES E. MELBYE AND ASSOCIATES

MINING - GEOLOGICAL - GEOPHYSICAL - ENGINEERS

July 7, 1966

6561

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JUL 11 1966

INITIALS	CODE
	120
	120

Mr. Frank E. Johnson
Chief, Office of Minerals Exploration
U. S. Geological Survey
Washington, D. C.

Dear Frank: Re: Nye Metals, Inc. Application

Enclosed are copies of the logs requested by William Hasler.

Hole S14 has not yet been assayed, but it appeared to be similar to Hole S12. Hole S11 was not assayed, as it was out of the breccia pipe, but it did show low-grade disseminated mineralization for most of the depth.

If you need further data, please let me know. With best regards.

Sincerely yours,

Charles E. Melbye

Charles E. Melbye

M/am
cc: Robert E. Nye

P. O. BOX 309 2020 FOOTHILLS ROAD 303: 279-1542
GOLDEN, COLORADO 80402

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
7/6	Kirkemo	120
		110
7/6	cal	220
		120M

AIRMAIL

JUL 6 1966

Nye Metals, Inc.
527 Merchants Bank Building
Indianapolis, Indiana

Re: OME-6561 (Molybdenum)
Nye Metals, Inc.
Nye Property
Gilpin County, Colorado

Gentlemen:

We have made a preliminary review of your application for OME assistance to explore the subject property. Certain geological information was not included in the application, and we have asked Mr. J. W. Hasler, OME Field Officer, Region III, to request your representative, Mr. Charles H. Melbye, to prepare and submit the necessary data.

The proposed diamond drill holes described in your application are not correctly shown on the maps, the geological logs of holes already drilled on the property were not presented with the application, and no cross sections through the target areas were submitted. Upon receipt of this information from Mr. Melbye, we will continue processing your application.

The information available to us now suggests that some of the proposed holes are too close to existing drill holes, some holes would explore ground only one- or two-hundred feet deeper than existing holes, and others are proposed to explore areas where geological information is not sufficient to warrant the drilling. We hope that the requested information will supply the answers.

Receipt of additional information should not be construed as a commitment that the Government will prepare an exploration contract.

Sincerely yours,

FRANK E JOHNSON

Frank E. Johnson

cc: Director's Reading File
Division File
Economic Geology File
OME Docket
OME Region III
HKirkemo
OME Reading File

Copy to: Mr. Charles H. Melbye
2020 Foothills Road
Golden, Colorado

Logs
XC

June 3, 1966

Nye Metals, Inc.
527 Merchants Bank Building
Indianapolis, Indiana

Subject: OME - 6561

Gentlemen:

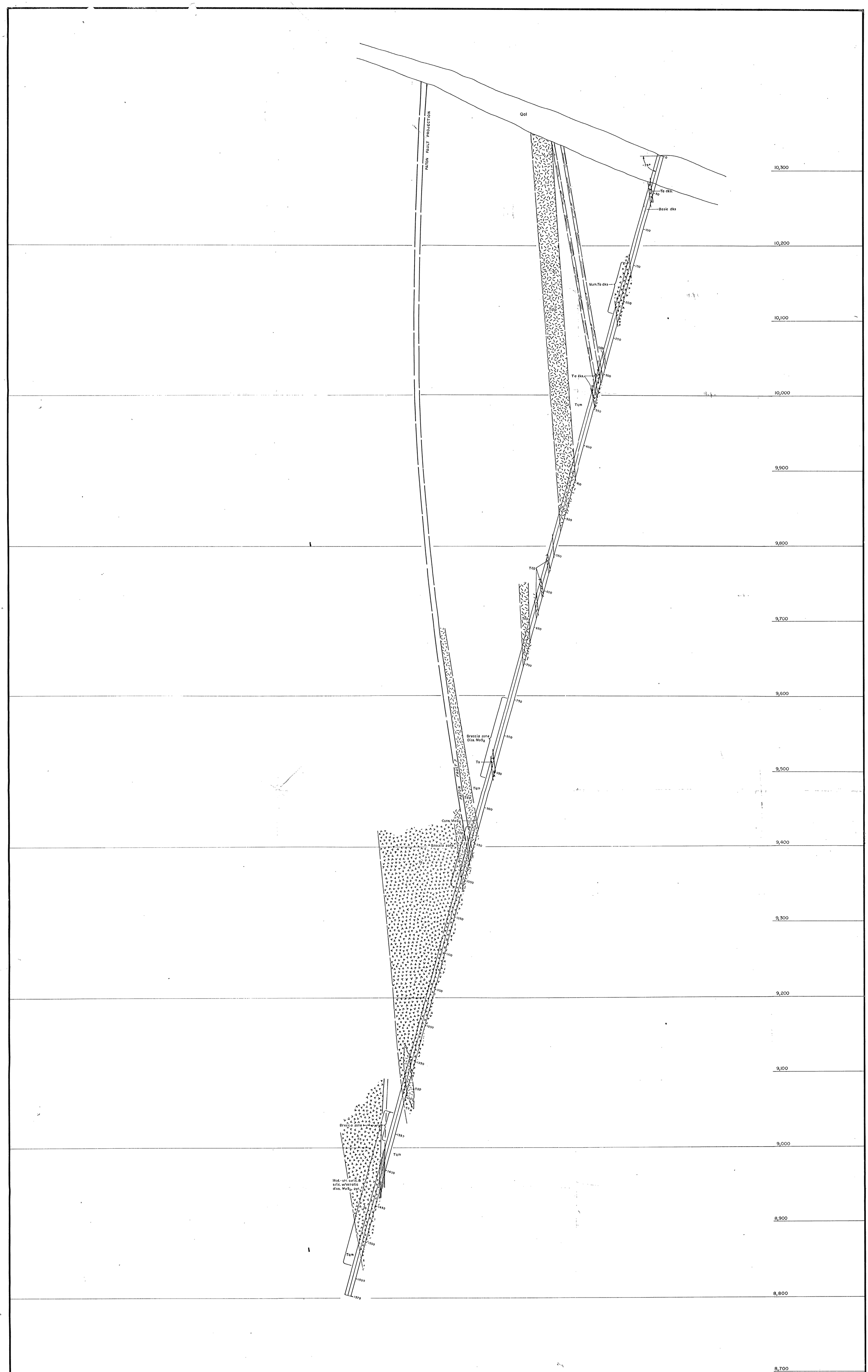
Your application for exploration assistance, dated April 29, 1966, submitted to our office at Denver, Colorado, has been assigned Docket No. OME-6561.

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

Sincerely yours,

Frank E. Johnson
Chief, Office of
Minerals Exploration

Copy to Region III



NYE METALS INC.

GEOLOGIC-ASSAY CROSS-SECTION

DRILL HOLE NO. S11

Scale 1"=50' Elev. 10,320'

N17°W Section Looking W

December 1964

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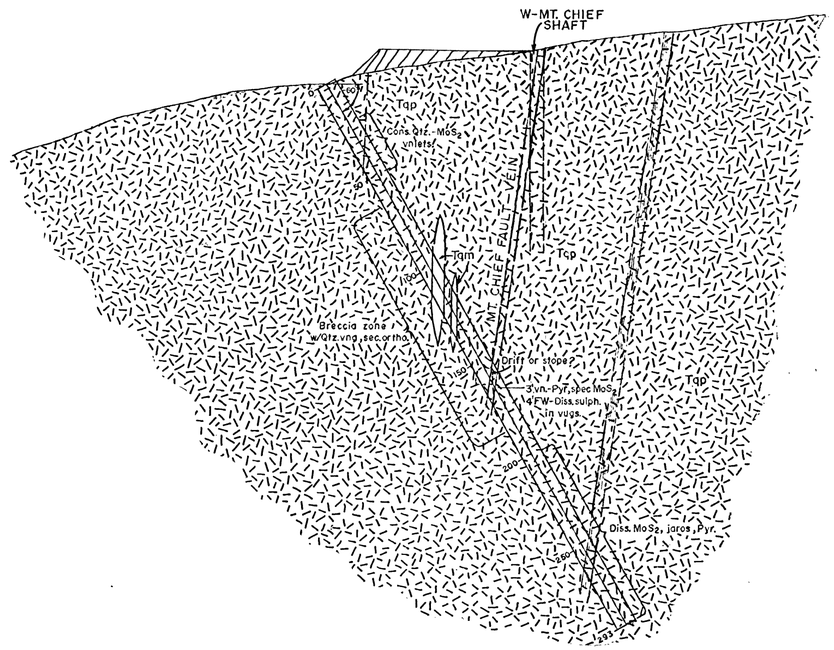
CHARLES MELBYE
Geological Engineer



10,600

10,500

10,400

10,300

10,200

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CHARLES E. MELBYE
Geological Engineer

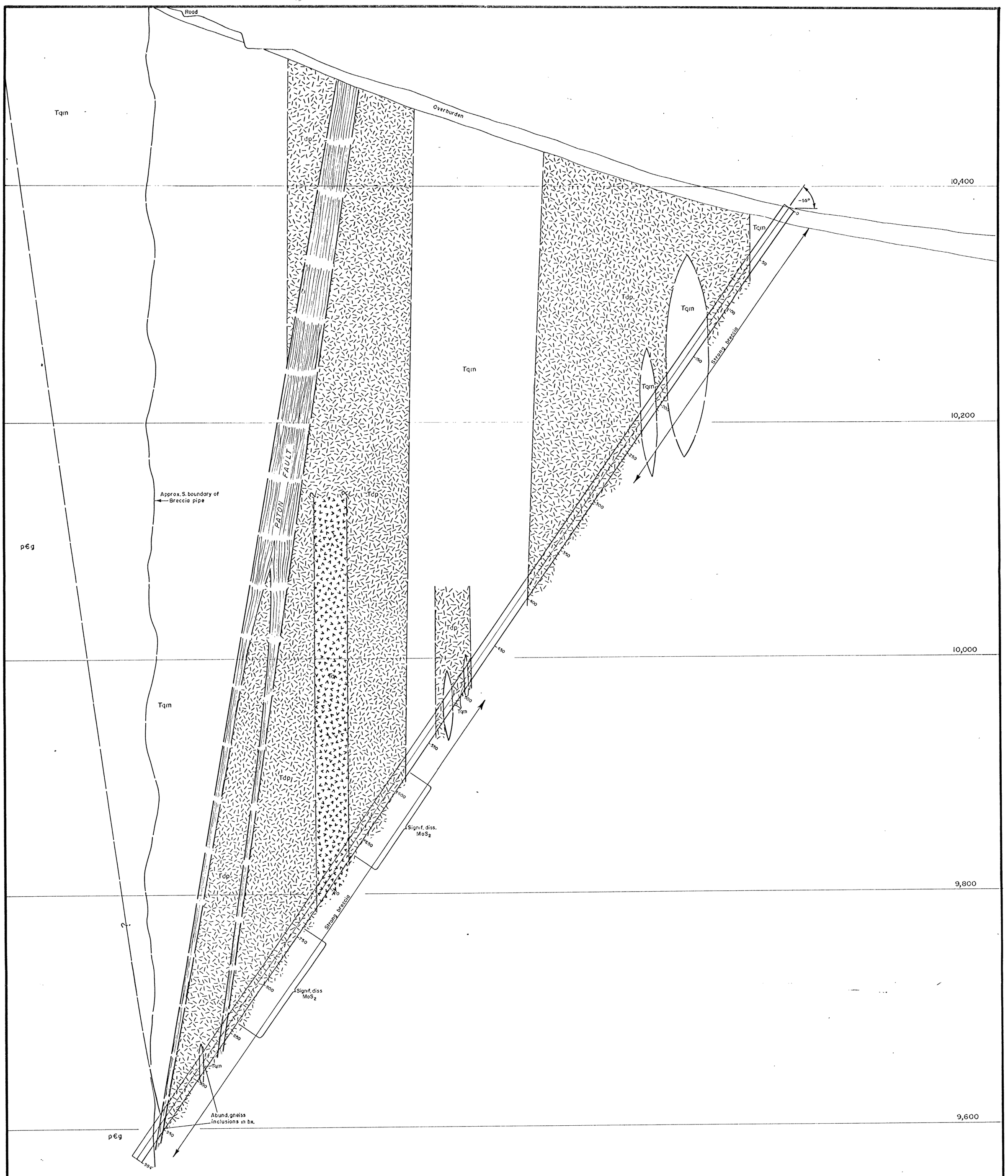
NYE METALS INC.

GEOLOGIC-ASSAY CROSS-SECTION
DRILL HOLE NO. II-S10

Scale 1"=50' Elev. 10,500'

Section Looking NE

December 1964



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NYE METALS INC.

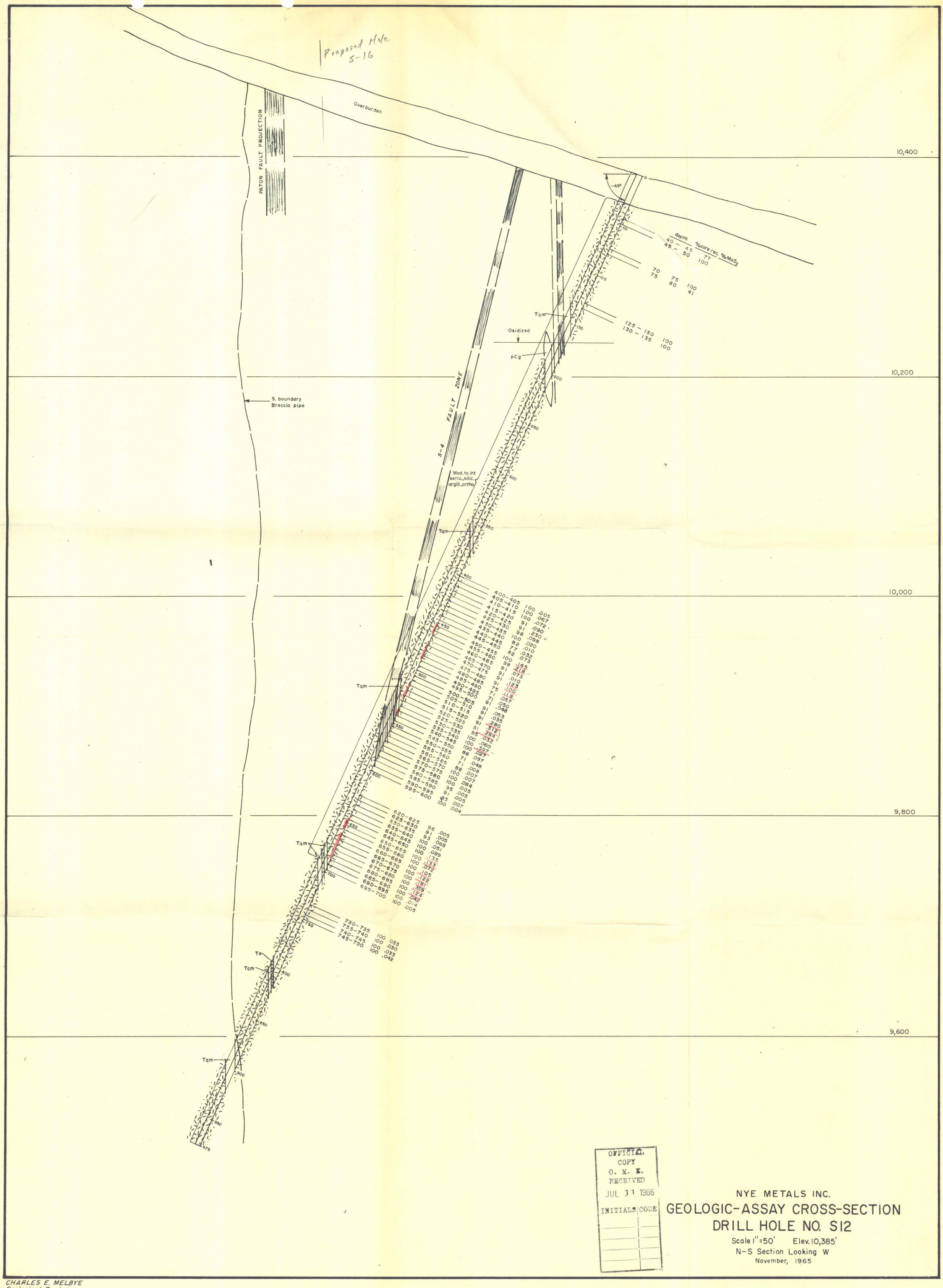
GEOLOGIC-ASSAY CROSS-SECTION
DRILL HOLE NO. S14

Scale 1" = 50' Elev. 10,382'

N-S Section Looking W

February, 1966

CHARLES E. MELBYE
Geological Engineer



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NYE METALS INC.

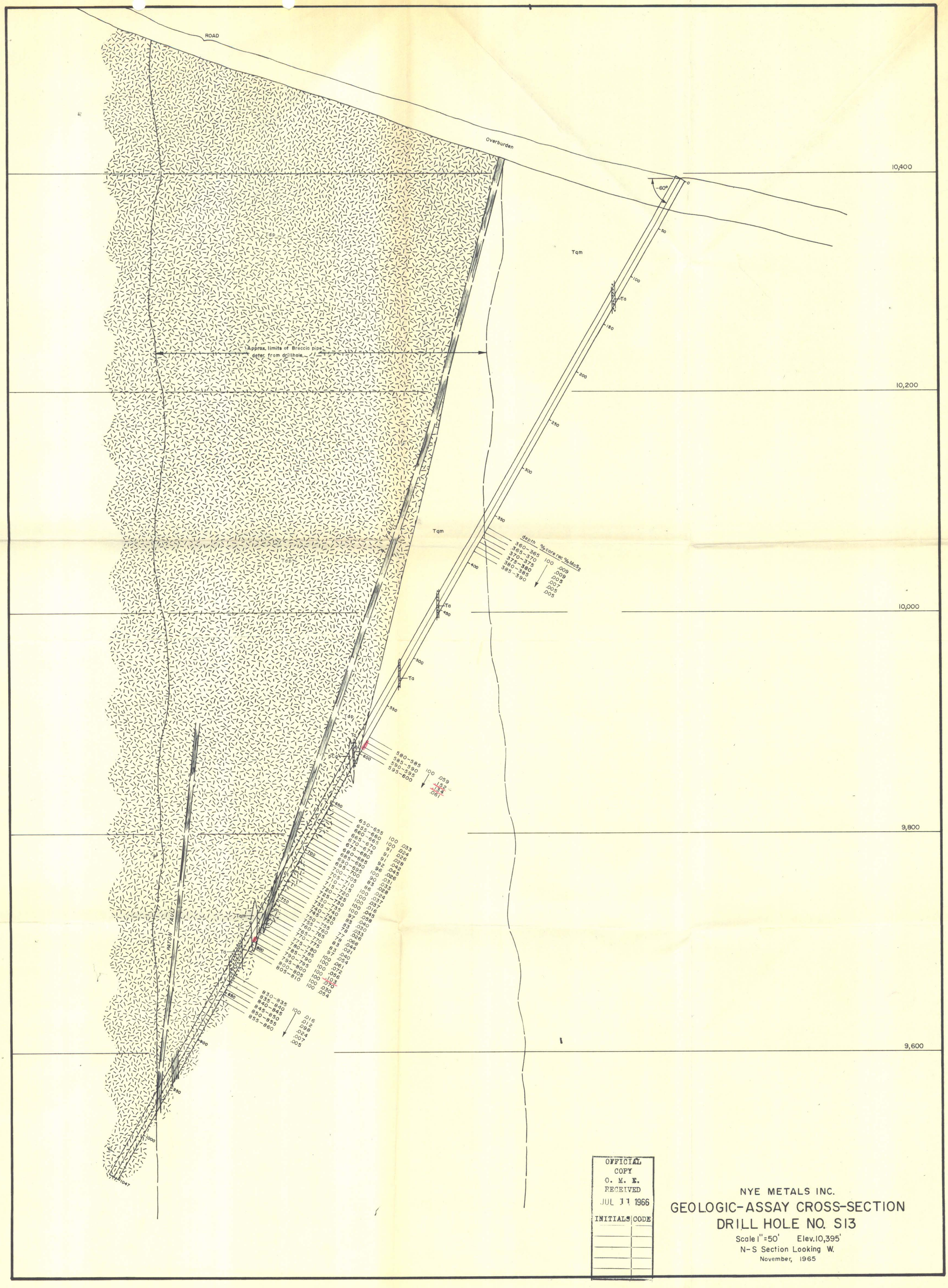
GEOLOGIC-ASSAY CROSS-SECTION
DRILL HOLE NO. S12

Scale 1"=50' Elev. 10,385'

N-S Section Looking W

November, 1965

CHARLES E. MELBYE
Geological Engineer



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NYE METALS INC.

GEOLOGIC-ASSAY CROSS-SECTION

DRILL HOLE NO. S13

Scale 1" = 50' Elev. 10,395'

N-S Section Looking W.

November, 1965