MME Form 9
Rev. Nov. 65

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey

OFFICIAL DOCKET FILE Contract No. _____ Docket No. 6865

Application
- [ ] Denied
- [x] Withdrawn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 Semiannual 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 Semiannual Inspection Reports
- [ ] Project Summary (Interim) by MME Engineers

Right Side

- [ ] Field Team Semiannual 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

72195-65

United States Department of the Interior

GEOLOGICAL SURVEY
OFFICE OF MINERALS EXPLORATION
656 U. S. Court House
Spokane, Wash., 99201

January 24, 1972

MEMORANDUM

To: Chief, Office of Minerals Exploration

From: Field Officer, Region I

Subject: New application (silver)
William M. Hand
Berdic claims
Beaverhead County, Montana

Enclosed is an application for OME assistance in exploring for silver in a steep-dipping "vein" that cuts Mississippian Mission Canyon Limestone some two miles northeast of Bannack, Mont. The "vein" strikes northwesterly and is approximately 50 feet wide.

The proposed work is to percussion-drill 3-inch holes from surface locations. All holes will be inclined and directed to cut the "vein" at nearly right angles. A total of 12 million tons of material will be tested and the applicant hopes to delineate ½ to 1 million tons of ore with an average grade of 4.0 ounces silver and 0.05 ounces gold per ton. Estimated cost of the work is $22,495.50.

Assay data from surface samples range from a trace to 0.03 ounces gold and 0.2 to 1.4 ounces silver per ton. Sample of a 5,000 ton dump assayed trace of gold and 2.7 ounces silver per ton. Green quartz pieces assayed trace gold and 15.6 ounces silver per ton. From these assay data, the possibility seems remote that ore averaging 4.0 ounces silver per ton can be found.

The applicant hopes to dlineate an ore body that can be open-pit mined. The silver will be heap-leached from the ore with a weak cyanide solution. No evidence has been included that proves heap-leaching of silver-bearing ore from the property has been successful.

The applicant's financial eligibility is doubtful. Although he has applied as an individual, he states that it is his desire to incorporate. If unsuccessful in incorporating, he will try to interest established mining companies in the project. If this is unsuccessful, he will "Poor Boy" it with his own money and credit. He does not include a financial statement.

To me it appears that the "vein" could be explored by vertical drill holes started on the vein outcrop. These holes, drilled down the dip of the vein could adequately determine if a large low-grade deposit exists that can be mined by low-cost bulk mining methods. The estimated drilling in exploring the deposit by vertical holes would be only a small percentage of that needed to explore the vein as outlined by the applicant.

I don't think that the applicant has evidence to support his hope of finding an ore body containing 4.0 ounces silver per ton, or whether such an ore body can be successfully heap-leached. Some details of the exploration costs are unclear; for example, the applicant does not list the number of men needed to operate the drill rig or the specifications of the rig.

A field examination could be scheduled if I were to be in the Bannack, Montana, area on other business. Perhaps I could look at the property during an annual inspection of the New Departure mine, which is only 2½ miles northeast of the Berdic claims. I can see no reason to make a special trip to examine the applicant's property, for I doubt very much that it can qualify for OME assistance.

Willard P. Puffett

Willard P. Puffett

Enclosure

MME Form 40
(Revised Nov. 68)

Budget Bureau No. 42-R1368
Approval expires Dec. 1971

RECEIVED JAN 24 1972 O. M. L. SPOKANE, WASH

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.)*

William M. Hand
30 S. Arizona
Dillon, Montana 59725

APPLICANT DO NOT USE THIS BLOCK

DOCKET NUMBER: 6865

DATE RECEIVED: 1/26/72

REGION: I

DIVISION CODE:

BUSINESS ORGANIZATION *(Check one)*

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

STATE IN WHICH FIRM IS ORGANIZED: Montana

LIST CORPORATE OFFICERS OR PARTNERS HERE, IF APPLICABLE

NAME	ADDRESS	TITLE

MINERAL(S) FOR WHICH YOU WISH TO EXPLORE: Silver & Gold

ESTIMATED COST OF PROJECT: $22,495.50

PROPERTY NAME	LOCATION COUNTY	STATE
Berdic	Beaverhead	Montana

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. II). 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 Department of the Interior, U.S. Geological Survey, Office of Minerals Exploration, 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.

January 22, 1972
DATED

William M. Hand
BY *(Signature)*

Operator
TITLE

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

INFORMATION REQUIRED WITH THIS APPLICATION

1. Financial Eligibility:

(a) Submit evidence of efforts made within 90 days preceding the filing of this application to obtain credit from your bank of account and at least one other banking institution or other private source of credit. Such evidence shall include (1) true copies of your letters to credit sources which show date of loan request, amount and terms requested, and proposed use of loan funds and (2) true copies of 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 signed by owner on MME Form 52. If the agreements cannot be obtained, state reasons and whether you can furnish a performance bond.

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.

(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) 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. State your reasons for expecting to find ore.

(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, address, and telephone number 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 time and materials *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 price 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).]

STATE BANK & TRUST COMPANY

ESTABLISHED 1899

DILLON, MONTANA

RECEIVED

RECEIVED JAN 24 1972 O. M. E. SPOKANE, WASH.

January 17, 1972

Mr. William M Hand
30 So Arizona St
Dillon, Montana 59725

Dear Bill:

Thank you for your letter of January 19, 1972 requesting a loan of $46,000.00 for the purpose of certain mineral explorations.

We regret to inform you that we are unable to make a loan of this type.

Yours truly,

Jack W. Lovell

Jack W. Lovell
Cashier

JWL/b

Certified True Copy
William M. Hand

30 S. Arizona Street
Dillon, Montana 59725

COPY

COPY

30 S. Arizona St.
Dillon, Montana 59725
January 19, 1972

RECEIVED JAN 24 1972 O. M. E. SPOKANE, WASH.

RECEIVED JAN 24 1972 O. M. E. SPOKANE, WASH.

State Bank and Trust Company

Dillon, Montana 59725

Attention: Mr. Jack Lovell,

Gentlemen:

Mineral deposits in the Bannack area of Beaverhead County and the St. Paul Gulch area five miles north east of Whitehall, Montana have profitable potential for which I wish to explore. Financial assistance will be required for approximately twelve (12) months to the extent of $ 46,000.00 beginning on March 1, 1972 and repayable one half plus interest accrued on March 1, 1973, 25% on June 1, 1973 and the balance on September 1, 1973 bearing interest at rate of eight percent (8%).

My financial statement is attached.

I would appreciate your written reply.

Very truly yours,

William M. Hand

Certified True Copy
William M. Hand
30 S. Arizona Street
Dillon, Montana 59725

FEDERAL LAND BANK ASSOCIATIONS

P.O. BOX 189 BOZEMAN, MONTANA 59715

TELEPHONE: 587-4421

D. M. FULTON, MANAGER

Federal LAND BANK Association

Dillon, Montana
1-20-72

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

Mr. William M. Hand
Dillon, Montana

Dear Mr. Hand:

In answer to your letter of 1-19-72: The Federal Land Bank makes only loans on agricultural lands for agricultural purposes. Your requested purpose would not qualify for a loan from us.

Sincerely yours,

Keith F. Newby

Keith F. Newby
Assistant Manager

FARM CREDIT SERVICE

"OWNED BY FARMERS : FOR FARMERS"

Certified True Copy

30 S. Arizona Street
Dillon, Montana 59725

COPY

RECEIVED
JAN 24 1972
O.M.E.
SPOKANE, WASH.

COPY

30 S. Arizona St.
Dillon, Mt. 59725
January 19, 1972

Federal Land Bank Association

Dillon, Montana 59725

Attention Mr. Keith Newby

Gentlemen:

Mineral deposits in the Bannack area of Beaverhead County and the St. Paul Gulch area five miles northeast of Whitehall, Montana have profitable potential for which I wish to explore. Financial assistance will be required for approximately twelve (12) months to the extent of $ 46,000.00 on March 1, 1972. The sum would be repayable 50% plus accrued interest on March 1, 1973, 25% on June 1, 1973 and the balance on September 1, 1973 bearing interest at the rate of eight percent (8%).

My financial statement is attached.

I would appreciate your written reply.

Very truly yours,

William M. Hand

Certified True Copy
30 S. Arizona Street
Dillon, Montana 59725

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

W. H. Hand
30 S. Arizona St.
Dillon, Montana

1. Financial Eligibility:

(b) I am not affiliated with any other concern, or parent and am not influenced by outside control.

(c) Financial Eligibility- operator's means. It is a sincere desire to incorporate, broaden the financial base, dilute the risk and reduce my financial participation. Efforts are being exerted in this direction with encouragement. However, should this prove too time consuming and costly, an attempt wil be made to approach established companies offering an option to purchase if they will advance the entire cost with 75% being returned.

Should outside sources of capital be withheld it is the operator's desire to "Poor Boy" it with his own money and credit but it is sincerely felt that outside participation can be found thereby giving the project its best chance.

2. Applicant's Right to the Land- operator's interest in land.

(a) The East Berdic and West Berdic are Lode Mining Claims held by location. True copies of their location certificates are attached. The land was formerly located as the King Quartz Lode Claim on May 30, 1970 and was subsequently recorded as such by Joe T. Lavadure and Bill Jenkins (address unknown)

The 1971 Montana Legislature amended the Mining Laws effective July 1, 1971 requiring that Affidavits of Annual Representation work had to be filed not later than December 1, 1971. On December 15, 1971 such a filing had not been made and the ground was therefore open for location. A check at the Assessor's Office disclosed that the entire two sections containing the claims had no patented property in them.

(b) Applicant's right in land--Legal description.

The two Berdic claims are unpatented and are located in the NW¼ NE¼, Section 32 and the S½ Section 29, Township seven (7) South Range 11 West Bannack Area, Beaverhead County, Montana. Please refer to Reproduction 11. The claims are recorded in Book 203, pages 711-714 -Clerk and Recorders Office, Beaverhead County Courthouse in Dillon, Montana.

Item 2b

Lode

NO. 112—CERTIFICATE OF ~~PLACER~~ LOCATION

BOOK 203 713

30 S. Arizona Street
Dillon, Montana 59725

STATE PUBLISHING CO., HELENA, MONT.

CERTIFICATE OF LOCATION

*NOTICE IS HEREBY GIVEN, That the undersigned citizen.....of the United States, having discovered gold on each twenty-acre tract thereof, did on the.....*SIXTEENTH*.....day of*

DECEMBER *A. D. 19*71*..., locate and claim, by virtue of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, and the laws of Montana, the.....*

WEST BERDIC LODE ~~Placer~~ *Mining Claim, containing*.....20.....*acres of*
Lode
~~Placer~~ *Mining Grounds, situate, lying and being in*.....BANNACK.....

(unorganized) Mining District in the County of.....BEAVERHEAD.....*and State of Montana.*

The exterior boundaries of this location are distinctly marked by posts or monuments of legal size at each corner of this claim, so that the boundaries can be readily traced, viz:

BEGINNING at Corner No. 1 of this claim, which is a.....ROUND POST SQUARED TO 4" X 4".

marked Cor. No. 1 of the.....W. Berdic.....LODE ~~Placer~~

Thence.....SOUTH 30° EAST.....FIFTEEN HUNDRED.....*feet to a*

ROUND POST SQUARED 4" X 4".....*marked Cor. No. 2 of the*.....W. Berdic.....Lode ~~Placer~~

Thence.....SOUTH 60° EAST.....SIX HUNDRED.....*feet to a*

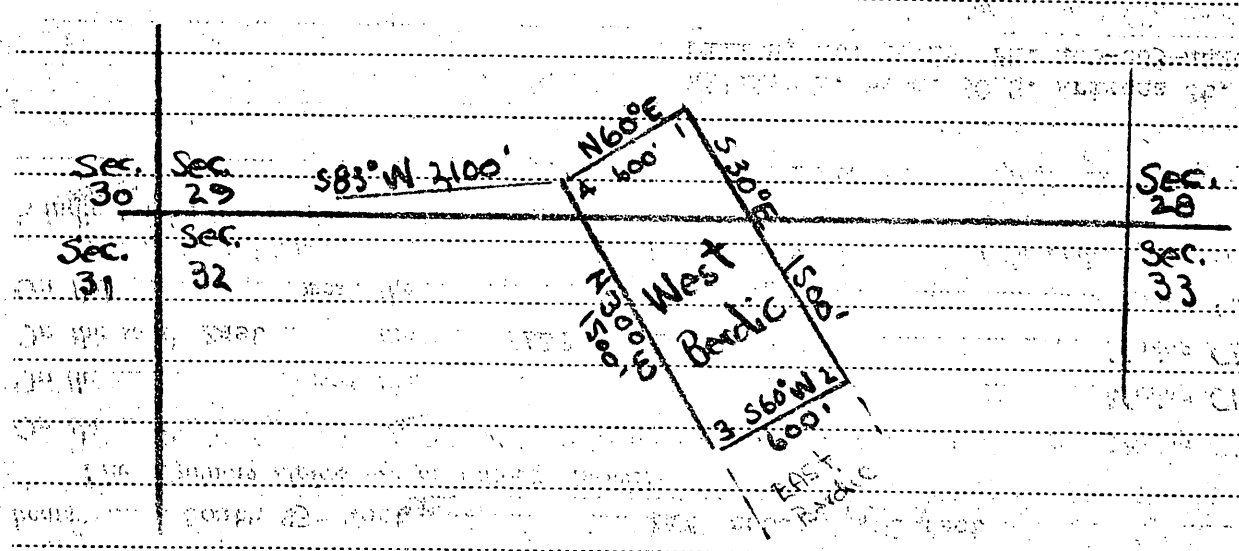
ROUND POST SQUARED 4" X 4".....*marked Cor. No. 3 of the*.....W. Berdic.....Lode ~~Placer~~

Thence.....NORTH 30° WEST.....FIFTEEN HUNDRED.....*feet to a*

ROUND POST SQUARED 4" X 4".....*marked Cor. No. 4 of the*.....W. Berdic.....Lode ~~Placer~~

Thence.....NORTH 60° EAST.....SIX HUNDRED.....*feet to a*

.....ROUND POST SQUARED 4" X 4".....



MARKED.....*Cor. No. 1, the place of beginning.*

On the date above given a notice of this location was posted at the point of discovery upon this claim by the undersigned:

William M. Hand

~~William M. Hand~~
30 S. Arizona St.
~~Dillon, Montana 59725~~
Locator.....*and Claimant*.....

NOTE—For posting upon Claim, fill out this side of sheet only and sign name.

Certified True Copy

30 S. Arizona Street
Dillon, Montana 59725

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

All corner posts are at least 4 inches square by 4½ feet long, set one foot deep with a mound of earth or stone 4 feet in diameter by 2 feet in height around each corner post, which posts or monuments were marked and so placed or set since or within 30 days after said date of location. Since and within sixty days from the date of this location, the following work has been performed upon said placer claim, viz.:

At the point of discovery a Cut (Shaft, cut, or tunnel) *the dimensions of which are* four F by six feet *feet and* seven *feet in* ~~168~~ 1 Ang. (Depth or length) *the cubical contents are not less than 150 cubic feet, which is situated* South 60° West and 300 *feet from Cor. No.* TWO

also a

The following reference is given to natural objects or permanent monuments: From Round Post Squared 4"X4" *Cor. No.* Four *of this claim* the North West Corner of Sec. 32; T 7 S, R11W *bears* South 83° West ~~XXX~~ about 2,100 feet

The adjoining claims are as follows, to-wit:

On the north the *Mining Claim;*

On the east, the *Mining Claim;*

On the south East the EAST BERDIC *Mining Claim;*

On the west, the *Mining Claim.*

The undivided interest in the above described location claimed by each of the undersigned locators is indicated by the fraction set after each name.

William M. Hand

William M. Hand, 30 S. Arizona St.
Dillon, Mt. 59725 Ph. 406-683-4420

Locator and Claimant

STATE OF MONTANA,
County of Beaverhead } ss.

William M Hand *being duly sworn, says that he is of lawful age and one of the locator and claimant of the foregoing described Placer Mining Claim; that said location is made in good faith, and that the matters set forth in the foregoing notice of location and declaratory statement by him described are true; that a notice of said location was posted at the point of discovery upon said claim on the* 16th *day of* December *A. D. 19*71

William M. Hand

Subscribed and sworn to before me this 3rd *day of* January *A. D. 19*72

W. T. Felt Jr.
Notary Public for the State of Montana.

Residing at Dillon, Montana *My Commission expires* 1 Oct 1973

NOTE—IF THIS BLANK IS USED FOR A CERTIFICATE OF LOCATION TO BE RECORDED, FILL OUT IN FULL. LOCATORS WILL SIGN ON THIS SIDE OF SHEET AND NOT OPPOSITE SIDE. If upon surveyed land a placer claim may be located by "Legal Subdivision" in which case cross out on opposite side of sheet part referring to courses and distances, viz., "Beginning at cor. No. 1," and the part following.

Within sixty (60) days after posting the notice of location upon the claim the work required by law must be performed and the Certificate of Location recorded. Dimensions and locations of said Improvements must be inserted in the notice for record.

No. 180362 INDEXED

CERTIFICATE OF PLACER LOCATION

Red Berdic Lode Placer
Bernack Mining District,
Beaverhead County,
MONTANA

Filed for Record Jan 3
A. D. 1972 at 11:45 o'clock A M.
and recorded in book 203 of
on page 713-14
Records of Beaverhead
County, Montana.
Margaret Sullivan
County Recorder.
Therese Sorenson
Deputy.

LUM — DZ — YR

Certified True Copy
William M. Hand
30 S. Arizona Street
Dillon, Montana 59725

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

Lode

NO. 112—CERTIFICATE OF ~~PLACER~~ LOCATION

STATE PUBLISHING CO., HELENA, MONT.

CERTIFICATE OF LOCATION

*NOTICE IS HEREBY GIVEN, That the undersigned citizen.....of the United States, having discovered gold on each twenty-acre tract thereof, did on the.....*SIXTEENTH*.....day of* DECEMBER *.....A. D. 19*71*., locate and claim, by virtue of Chapter Six of Title Thirty-two of the Revised Statutes of the United States, and the laws of Montana, the.....*EAST BERDIC LODE *~~Placer~~ Mining Claim, containing.....*TWENTY*.....acres of LODE/~~Placer~~ Mining Grounds, situate, lying and being in.....*BANNACK*.....(unorganized) Mining District in the County of.....*BEAVERHEAD*.....and State of Montana.*

The exterior boundaries of this location are distinctly marked by posts or monuments of legal size at each corner of this claim, so that the boundaries can be readily traced, viz:

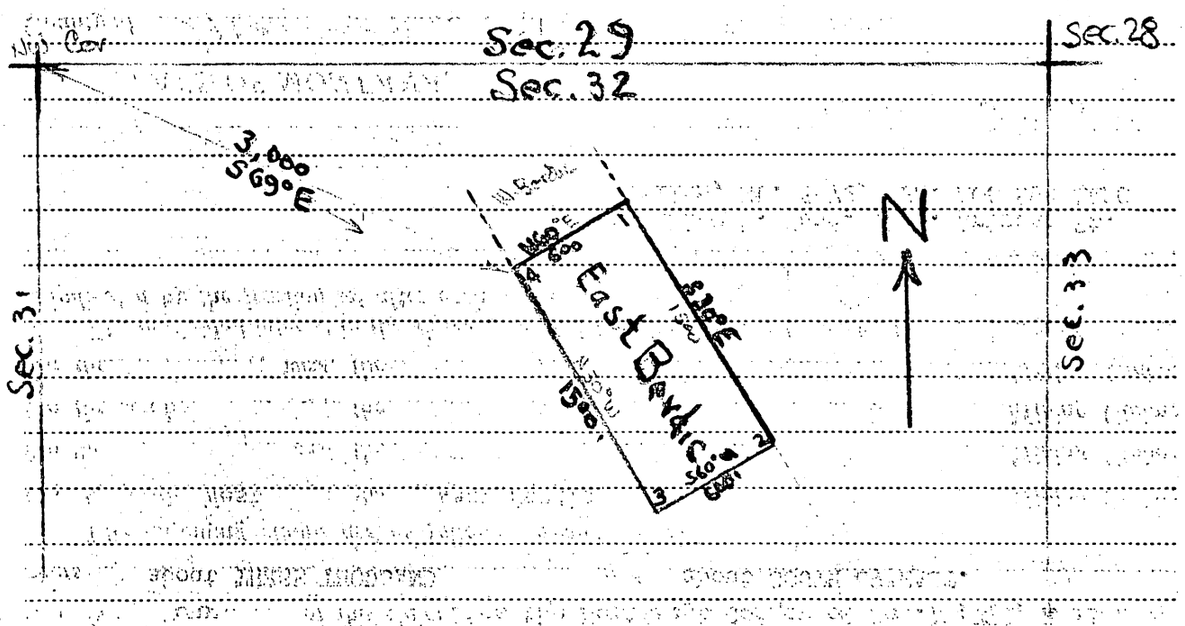
*BEGINNING at Corner No. 1 of this claim, which is a*ROUND POST SQUARED TO 4" X 4" *marked Cor. No. 1 of the.....*EAST BERDIC LODE *~~Placer~~.*

*Thence .....*SOUTH 30° EAST FOR FIFTEEN HUNDRED *.....feet to a* ROUND POST SQUARED TO 4" X 4" *marked Cor. No. 2 of the.....*EAST BERDIC LODE *~~Placer~~*

*Thence .....*SOUTH 60° WEST FOR SIX HUNDRED *.....feet to a* ROUND POST SQUARED TO 4" X 4" *marked Cor. No. 3 of the.....*EAST BERDIC LODE *~~Placer~~*

*Thence .....*NORTH 30° WEST FOR FIFTEEN HUNDRED *.....feet to a* ROUND POST SQUARED TO 4" X 4" *marked Cor. No. 4 of the.....*EAST BERDIC LODE *~~Placer~~*

*Thence .....*NORTH 60° EAST AND SIX HUNDRED *.....feet to a* ROUND POST SQUARED TO 4" X 4"



*.....*Marked*.....Cor. No. 1, the place of beginning.*

On the date above given a notice of this location was posted at the point of discovery upon this claim by the undersigned:

William M. Hand

William M. Hand
30 S. Arizona St. Dillon, Mt.
Ph. 406 683 4420

Locator.....and Claimant.....

NOTE—For posting upon Claim, fill out this side of sheet only and sign name.

Certified Free Copy
William M. Hand
30 S. Arizona Street
Dillon, Montana 59725

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

All corner posts are at least 4 inches square by 4½ feet long, set one foot deep with a mound of earth or stone 4 feet in diameter by 2 feet in height around each corner post, which posts or monuments were marked and so placed or set since or within 30 days after said date of location. Since and within sixty days from the date of this location, the following work has been performed upon said placer claim, viz.:

At the point of discovery a CUT (Shaft, cut or tunnel) *the dimensions of which are* four *by* six *feet and* seven *feet in* 168 Length (Depth or length) *the cubical contents are not less than 150 cubic feet, which is situated* 300 *feet from Cor. No.* one *also a* location notice in a coffee can.

The following reference is given to natural objects or permanent monuments: From ROUND POST ~~SQUARED 4"X4"~~. *Cor. No.* Four *of this claim* the NorthWest Corner of Sec.32;T7S, R 11 W *bears* about THREE THOUSAND *feet* about SOUTH 69°EAST.

The adjoining claims are as follows, to-wit:

On the north West *the* West Berdic *Mining Claim;*

On the ..... *east, the* ..... *Mining Claim;*

On the south ..... *the* ..... *Mining Claim;*

On the ..... *west, the* ..... *Mining Claim.*

The undivided interest in the above described location claimed by each of the undersigned locators is indicated by the fraction set after each name.

x William M. Hand

William M. Hand, 30 S. Arizona St.
Dillon, Mt. 59725 Ph. 406 683 4420

Locator ..... *and Claimant* .....

STATE OF MONTANA,
County of Beaverhead } ss.

William M. Hand *being duly sworn, says that he is of lawful age and one of the locator* ..... *and claimant* ..... *of the foregoing described Placer Mining Claim; that said location is made in good faith, and that the matters set forth in the foregoing notice of location and declaratory statement by him described are true; that a notice of said location was posted at the point of discovery upon said claim on the* 16 *day of* December *A. D. 1971*

x William M. Hand

Subscribed and sworn to before me this 3rd *day of* January *A. D. 1972*

W. G. Gilbert Jr.
Notary Public for the State of Montana.

Residing at Dillon, Montana *My Commission expires* 19 Oct 1973

NOTE—IF THIS BLANK IS USED FOR A CERTIFICATE OF LOCATION TO BE RECORDED, FILL OUT IN FULL. LOCATORS WILL SIGN ON THIS SIDE OF SHEET AND NOT OPPOSITE SIDE. If upon surveyed land a placer claim may be located by "Legal Subdivision" in which case cross out on opposite side of sheet part referring to courses and distances, viz., "Beginning at cor. No. 1," and the part following.

Within sixty (60) days after posting the notice of location upon the claim the work required by law must be performed and the Certificate of Location recorded. Dimensions and locations of said Improvements must be inserted in the notice for record.

No. 129961 INDEXED

CERTIFICATE OF PLACER LOCATION

East Berdic Lode Placer
Bannack Mining District,
Beaverhead County,
MONTANA

Filed for Record Jan. 3
A. D. 1972 at 11:45 o'clock A.M.
and recorded in book 203 of
on page 711-12
Records of Beaverhead
County, Montana.
Margaret Gehrigan
County Recorder.
Alfred Salerno
Deputy.

Fee $6.00

SUM—QZ—YR

Certified True Copy
William M. Hand

30 S. Arizona Street
Dillon, Montana 59725

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

(c) Applicant's right in land-Lien agreement.

Land owned, therefore not applicable.

RECEIVED JAN 24 1972 O.M.E. SPOKANE, WASH

3. Physical Description-Workings:

(a) Workings include an inaccessable 30 foot shaft, an accessable adit, and a minor amount of dozer work. Re: Map 1. There are no activities at present or production facilities.

(b) Physical Description--interest in operations.

I claim full interest by way of located claims.

(c) Physical Description--Production.

Limited past production is reported but unrecorded. There are no settlement sheets, mine records or the like. The Area is covered by Wayne Lowell's U.S. GS Report "Geoligic Map of the Bannack Grayling Area, Beaverhead County, Montana.", but the diggings are unnoted. Re: Reproduction No. 111 Lowell's Report and Reproduction No. IV Lowell's Map.

(d) Physical Description-Ore Reserves:

There are no reserves.

(e) Physical Description-Gedogic features:

Values seem confined to a suggested N 30 W steep dipping vein in the Lower Mission Canyon Limestone of the Madison Group. And projecting southward, the structure encounters the Ingersoll Mine having companion techonics and thereby suggesting a common vein or vein system. Then to these structures are at right angles to the major elongation of the mineralized area----enhancing this suspicion.

Silver values are apparently associated with pyrolusite, and psilomelane. Re: the attached specimens.

(f) Physical Description--Sampling:

Re: 50 scale map No. 1 and attached copies of assay certificates.

The outcrop displays spotty values over some 300 feet in length but the dozer dump assays 2.4 oz. Silver per ton and a trace of gold per ton.

If a pattern of values could be determined, chances are good for low cost open cut mining and heap leach treatment by cyanide solution. Tonnage target perhaps ½ to one million tons of 4.0 oz. silver and 0.05 oz. gold per ton.

(g) Physical Description--Technical Data:

None of the data submitted need be returned.

30 S. Arizona Street
Dillon, Montana 59725

4. Accessibility of Property--Direction information:

(a) The CME representive should please contact Bill Hand, 30 S. Arizona St., Dillon, Montana, phone 406-683-4420 or during the day 406-683-2012 or 406-683-4746.

The property is best reached by way of Bannack, thence up Hangman's Gulch, right at the gallows, past the cemetery and 1.7 miles beyond where a road bears off to the left to a dozer dump. Claim corners are also apparent. Please note the high lighted roads on Reproduction 11.

Except for the winter and early spring the area is readily accessible in an ordinary passenger car and in the other times via snow machine.

(b) Accessibility of Property--Supply Point:

The shipping and supply point would be Dillon, Montana about 30 miles away. First south on U.S. 91 from Dillon, second west on Montana 278 about 25 miles, third left to Bannack on county dirt road for about 4 miles, fourth, proceed as directed in 4 above.

5. Exploration Work--Kind and amount:

(a) It is hoped that the work can be executed with as little as possible use of the bulldozer and disturbance of the environment. It is contemplated to percussion drill 3" or so holes using a Crawler track drill with appropriate cuttings collector. The cuttings derived therefrom would be assayed (not more than ten feet of hole per assay) or at least those showing any mineralization. Thusly, it is anticipated to explore some 12 million tons of potentiel outcrop. Some 8,000 ft. of drilling is proposed.

(b) Exploration Work--Access for work:

It is hoped to do as little excavation as possible owing to the drilling machines.rough terrain mobility thereby avoiding environmental criticism.

RECEIVED JAN 24 1972 O. M. E. SPOKANE, WASH.

(c) Exploration Work-Starting and finishing dates and progress rate:

Work can be commenced any time after the execution of this contract but not later that June 1, 1972. It is anticipated that 250 feet fo hole can be drilled per day working 2 shifts. Therefore about 6 weeks of drilling and an additional 3 weeks for assay results and write-up. A total of 9 weeks.

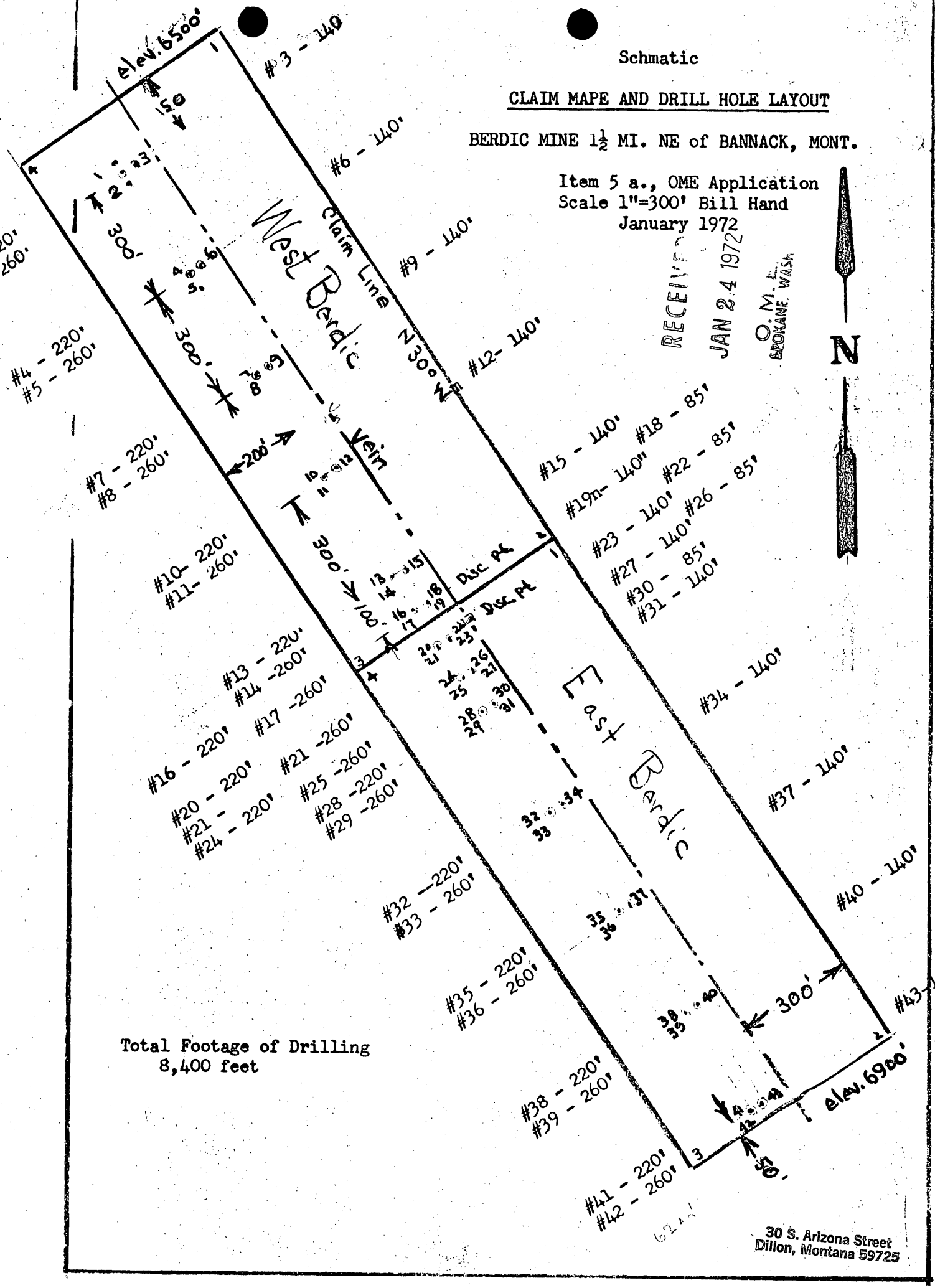
30 S. Arizona Street
Dillon, Montana 59725

Schmatic

CLAIM MAPE AND DRILL HOLE LAYOUT

BERDIC MINE 1½ MI. NE of BANNACK, MONT.

Item 5 a., OME Application
Scale 1"=300' Bill Hand
January 1972



Total Footage of Drilling
8,400 feet

30 S. Arizona Street
Dillon, Montana 59725

ESTABLISHED IN 1909

OFF. PHONE 406/442-3770

Western Laboratories

ASSAYERS · ANALYTICAL CHEMISTS · SHIPPERS REPRESENTATIVES

46 SOUTH LAST CHANCE GULCH • P. O. BOX 537 • HELENA, MONTANA 59601

HORACE HAND
MANAGER

RECEIVED JAN 24 1972 O. M. E. SPOKANE, WASH.

November 1, 1971

Bill Hand

HAND SAMPLE

DESCRIPTION	GOLD Ozs. Per Ton	SILVER Ozs. Per Ton	WET LEAD Per Cent	COPPER Per Cent	ZINC Per Cent	Per Cent	Per Cent	Per Cent
6020	Trace	0.2						
6021	0.03	0.3						
6022	Trace	0.2						
6023	Trace	2.4						

Mont Bi Co

ESTABLISHED IN 1909

OFF. PHONE 406/442-3770

Western Laboratories

ASSAYERS · ANALYTICAL CHEMISTS · SHIPPERS REPRESENTATIVES

46 SOUTH LAST CHANCE GULCH • P. O. BOX 537 • HELENA, MONTANA 59601

HORACE HAND
MANAGER

October 22, 1971

Bill Hand

HAND SAMPLE

DESCRIPTION	GOLD Ozs. Per Ton	SILVER Ozs. Per Ton	WET LEAD Per Cent	COPPER Per Cent	ZINC Per Cent	Per Cent	Per Cent	Per Cent
6009	Trace	0.1	~~Ingersoll~~					
10	Trace	Trace	Ingersoll					
1	Trace	0.1	– Monty Bordic					
2	0.08	1.4	8.0 Maulden		Skip Pocket – west of			
3	0.15	0.6	5.0 "		"	"	"	

CHARGES:

*Gold not deducted
N.D.—None Detected
Total Charges $ NC

WESTERN LABORATORIES

By J. Hand

Certified True Copy
William M. Hand
30 S. Arizona Street
Dillon, Montana 59725

6. Experience:

(a) The operator has more than twenty-four years of mining operation experience at the Maulden or Hand Mine located at Argenta some 20 miles west of Dillon, Montana. Production records can be submitted or they can be gotten from the Albany office of the U. S. Bureau of Mines. Your inquiry is invited. The operation was not large but a small producer of crude ore suitable for direct smelting without concentration. Some 70,000 tons were produced having a value of just about $3,000,000.

It was operated as a family business, a sole proprietership.

References are: Montana Hardware Co, Butte, Montana: Att: Mr. Carveth, manager, State Bank and Trust Co., Dillon, Montana: Att: Mr. Lovell. Mr. Paris Robert, President, 1st National Bank, Twin Bridgers, Montana.

7. Estimate of Costs:

Fixed costs: drill site prep. and road maint. each	250.00	500.00
(a) Independent contracts	none	
(b) Personal services:		
Take home pay	3,200.00	
Consultant Fees (Engineer Services)	9,000.00	
		12,200.00
(c) Material and Supplies:		
350 sample bags	175.00	
2 drill bits at $250.00 each	500.00	
3 barrels oil at $75.00 each	225.00	
3,000 gal. gasoline at 20¢	600.00	
500 gal. gasoline at 40¢	200.00	
Misc. hand tools	200.00	
Sample collecting supplies	200.00	
Cement	200.00	
		2,300.00
(d) Operating Equipment:		
Truck rental	150.00	
Compressor and drill	3,750.00	
		3,900.00
(e) Initial Rehabilitation and repairs:	none	
(f) New Buildings, Fixtures and Installations:	none	
(g) Miscellaneous:		
Workmans Accident Insurance	670.00	
Soc. Sec. Fed. & State Withholding	1,230.00	
Employment Security Ins.	125.50	
Assaying	1,370.00	
Office Account Exp. 2 mo. @$100.00 a month	200.00	
		3,595.50
TOTAL ESTIMATED COST OF PROJECT		$22,495.50
Government Participation @ 75%		16,871.25

RECEIVED
JAN 24 1972
SPOKANE, WASH.

30 S. Arizona Street
Dillon, Montana 59725

OME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

FEB 25 1972

Mr. William M. Hand
30 S. Arizona Street
Dillon, Montana 59725

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic Claims
Beaverhead County, Montana

Dear Mr. Hand:

In accordance with your letter of February 17, 1972, we consider your application as withdrawn, and have transferred it to our inactive files.

Thank you for your interest in the OME program.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: DRF
Mineral Resources
OME reading file
Region I
Mr. Kirkemo
130

HKirkemo/cac 2/25/72

COPY
O. M. E.
RECEIVED
FEB 22 1972
INITIALS | CODE
Cac | 120
gla | 130
| 120

30 S. Arizona St.
Dillon, Montana 59725
February 17, 1972

United States Department of the Interior
Geological Survey
Washington, D. C. 20242

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic Claims
Beaverhead County, Montana

Attention: Mr. Harold Kirkemo, Chief
Office of Minerals Exploration

Dear Mr. Kirkemo:

Thank you for your letters of February 10th and 14th and our telephone conversation.

I appreciate and accept your objective remarks and ask that the application (re. above) be withdrawn.

I assure you I am not offended.

Very truly yours,

William M. Hand

Copies to:
Willar Poffiet, OME Spokane
U.S. Rep. Dick Shoup

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code

FEB 14 1972

AIRMAIL

Mr. William M. Hand
30 South Arizona
Dillon, Montana 59725

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic claims
Beaverhead County, Montana

Dear Mr. Hand:

This is to thank you for your telephone call on February 10, 1972. I appreciate the opportunity to discuss with you the factors which we considered in reviewing your request for financial assistance to explore the Berdic claims.

As stated in my letter to you dated February 10, which was mailed prior to your call, the data in your application do not appear to justify expenditure of Government funds in the proposed project.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: DRF
Mineral Resources
OME Reading file
Region I
Mr. Kirkemo

HKirkemo/cac 2/14/72

OFFICIAL FILE

2/10/72 120

120M

February 10, 1972

AIRMAIL

Mr. William M. Hand
30 South Arizona
Dillon, Montana 59725

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic claims
Beaverhead County, Montana

Dear Mr. Hand:

This is in reply to your letter of February 5, 1972.

The new information does not support your estimate that the deposit contains an average of 4.0 ounces silver and 0.05 ounces gold per ton. Incidentally, we are not convinced that material of this grade would be exploitable under present conditions.

Our concern is not whether open pit or underground mining methods would be used, but whether the metal content of the deposit is sufficient to warrant exploration under the OME program. The data available to us suggest that the grade is too low to justify expenditure of Government funds for the proposed project.

Your analysis of laboratory work conducted in the spring of 1971 indicates that less than half of the silver content was recovered by leaching. The total cost of extraction was 9.7 cents per ton greater than the value of the recovered metal. These data do not offer promise that a profitable operation can be developed.

Unless you can furnish much more favorable information to support your proposal, we suggest that you consider withdrawing the application.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME docket

OME Reading File
OME Region I
Mr. Kirkemo

HKirkemo/gla 2-10-72

30 S. Arizona St.
Dillon, Montana 59725
February 5, 1972

United States Department of the Interior
Geological Survey
Office of Minerals Exploration
Washington, D. C. 202242

OFFICIAL COPY
O. M. E.
RECEIVED
FEB 9 1972
INITIALS | CODE
HK | 120M
D | 220

Attention: Mr. Kirkemo, Chief, OME

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic Claims
Beaverhead County, Montana

Gentlemen:

I have your letter of February 2. Your objective comments are sincerely appreciated. Your questions are good and deserve answers.

First, the relevant subject is ore and the chance of finding it. Let us address ourselves to that at this time. The financing later.

(Re: your Para. 3) My interest is not fired by deposits that lend themselves wholy to underground methods. I have one of the best and twenty three years experience in operating it which taught that the high cost of labor, supplies and complex regulations makes it real tough to make a dollar.

Dump assays have a way of decieving but if one accepts the 5,000 tons of dozer dump as assaying 2.7 ounces in silver per ton (sample No. 5954) as having come from the width of workings shown on the 50-scale Geologic map and pass this area alongthe strike and to a reasonable depth, say, 150' wide X 300'long X 100' deep, my imagination can concieve nearly a half million tons containing $1\frac{1}{4}$ million ounces of silver. And with grade control, very possibly 4 oz. silver and 0.05 oz. gold.

If the silver present is a result of disolution, dispersion and precipitation along and in the vein walls owing to the erosion process, this deposit could be formed. I believe, channel samples, particularly wide ones in hard rock as in this case, would vary greatly owing to the

lack of uniformity in deposition. An average of the excavation product would be a truer "grade cross section", namely, the 5,000 tons of dump which assays 2.7 oz. per ton in silver.

I welcome your question about heap leach economics and technique. Herein lies the most challenging part of the program.

This method is now used in a companion manner for leaching the low grade copper waste dumps piled on on impervious asphalt pads in the porphry copper camps where in microrganisums and acid are used to disolve copper which is later recovered as cement. Pretty much the same technique is brought to play at Cortez and Carlon, Nevada where cyanide solution is trickled over the gold and silver ore. The cyanide precess is older than this century.

A local prospector instituted the method last Summer showing that it has low capital requirements and therefore does not require extensive laid-out and measured reserves. Any means of mining in keeping with grade control can be used. Here envisioned are breaking, cat-can transport to crusher and dozer drifting onto impervious pad from crusher. The recovered product would be electrolytic gold-silver bullion.

This contrasts with shipping ore requiring, hauling, frieght, smelting charges and refining losses. The heap leach is many times cheaper. The ores can be readily lab tested. My preliminary investigations yeild the attached results and estimates.

Knowledgable men have remarked that this is the best means yet devised to promote and save the gold and silver mines. The process is non pollution.

I believe that as economis in this area now stand, my chances of developing a going thing are far superior with this sort of endeavor than any underground mine in Montana .... I site my third paragraph.

I would appreciate it if you would reveiw my application. Thanks!

Sincerely,

William M. Hand

Copy to: Willard Poffitt

Attached Heap Leach X
Lab tests-Results and Estima tes
OME 6865
February 5, 1972

William M. Hand
Berdic Mine
Beaverhead County, Montana

Data:

Ore Tested -----Samkple No. 5954 assaying Trace oz. per ton Gold - 2.7 oz./ton Silver

Crushed to -½"
Cyanide Consumption - 1 lb. per ton ore
Lime Consumption - 3 lb. per ton ore

Silver Recovery after 144 hours of ~~of~~ leaching 1.3oz per ton

Cost Estimates:

15,000 tons in first heap

Crushing ----------	$.89 per ton
Breaking	.31
Dozer Driftin to Crusher	.013
Impervious pad Preparation	.084
Sol. procurement & circulat.	.19
Lime & cyanide	.24
Engr'g and Supervision	.13
Total Extraction Cost. - $	1.857

1.3 oz. per ton with silver at $1.50/oz. sell for 90% of price - $ 1.76/ ton recovered

Conclusions:

Conduct another test using twice the cyanide solution strength, bed 1 lb/ton of lime in sample at preparation-- control cyanide strength carefully.

Look for a little better grade of ore.

Lab work at Hand Mine, near Argenta 20 miles west of Dillon
During the spring of 1971. Work by Bill Hand

OME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/2/72		120
		220
2/2	Cae	120M

AIRMAIL

FEB 2 1972

Mr. William M. Hand
30 South Arizona
Dillon, Montana 59725

Re: OME-6865 (Silver-Gold)
William M. Hand
Berdic claims
Beaverhead County, Montana

Dear Mr. Hand:

We have reviewed your application for financial assistance to explore the Berdic claims. More information should be furnished for a number of items, but the geologic information and assay data fail to support your expectations for finding an exploitable low-grade deposit of silver. For this reason, further consideration of the application is not warranted unless more favorable data are submitted.

Because of the present budgetary constraints on the OME program, very few of the more promising proposals in pending applications can be considered for modest assistance. In view of this situation and unless additional information is furnished to indicate a more favorable target, we would suggest that you consider withdrawing the application.

We understand from the geological information available to us that the deposits which were mined in the past were irregular replacement bodies in limestone adjacent to small intrusive granodiorite masses or occurred as replacement veins in granodiorite. Individual ore bodies were not large. Your suggestion that 500,000 to one million tons of ore may be found in a tabular body of considerable length and thickness is not supported by the data presented.

The assay data do not support your estimate of 4.0 oz. silver and 0.05 oz. gold per ton in the target area. According to the application, assays of surface samples range from a trace to 0.03 oz. gold and 0.2 to 1.4 oz. silver per ton. The possibility seems remote that material in the target area would average much better.

The economic and technical problems of open cut mining and heap leach treating the ore are not discussed in your application. Considering the low grade of the material and the unknown factors of the leaching process, the outlook for developing and operating the property is not favorable.

We will be glad to review any additional information you may submit that would answer the questions mentioned above. However, after you have reviewed any additional geologic and assay information you may have and then decide to withdraw the application, please advise us.

Incidentally, we note that cash necessary to meet the operator's share of costs in the event of a contract is not immediately available. We would have to be assured that you could finance your share of the costs with cash less a fair allowance for use of equipment you may own and possibly allowance for supervision if you were the supervisor. This problem, however, is secondary to those concerning geology, and the value and recovery of the silver and gold.

Sincerely yours,

Harold Kirkemo

Harold Kirkemo
Chief, Office of
Minerals Exploration

cc: Director's Reading File
Mineral Resources
OME Docket
OME Reading File
OME Region I
Mr. Kirkemo

HKirkemo/gla 2-2-72

ECONOMIC GEOLOGY

ORE DEPOSITS

The deposits of the Bannack and Blue Wing mining districts,[1] in the northwest part of the map area, reportedly yielded about $12 million in gold and silver before 1930. The New Departure mine was active during the summer of 1955, and development was in progress at the New Departure and the Graeter mines during 1962.

The Bannack mining district includes secs. 4-36, T. 8 S., R. 11 W.; the Blue Wing T. 7 S., and secs. 1, 2, and 3, T. 8 S., R. 11 W.

Gold.— Most of the mines in the map area are in the Bannack mining district, which has yielded gold valued at about $10 million (Shenon, 1931). Of this total, placer deposits produced about $8 million and the lode deposits about $2 million.

The placer deposits were discovered in August 1862, and the first of several water ditches for placer mining was completed in 1866. Dredging was begun in 1885. The gold-bearing gravels and bench gravels of Grasshopper Creek were worked for 8 miles downstream from Bannack. Some gold-bearing gravels on ridge crests and in gulches just southwest of Bannack may be residual deposits formed by weathering and erosion of Oligocene and Miocene conglomerates which here contain rocks from the contact-metamorphic zone bordering the granodiorite stock. The gold probably was derived from the stock east of Bannack and was incorporated into the conglomerates.

The first lode mine, the Dakota, was located near Bannack in 1862. Mining and mill development followed and activity was fairly continuous until the 1920's. The lode deposits are in the contact metamorphic zone between the granodiorite and limestone of the Madison Group. The gold deposits generally occur between the marbleized and the silicate zones, although some gold ore has been recovered from the silicate zone; the best deposits were associated with apophyses of granodiorite in the limestone. The gold occurs free and in association with base sulfides, mostly pyrite but partly chalcopyrite. Gold recovery was mostly from oxidized, limonite-rich ore.

Extensive workings were developed on the west side of the granodiorite intrusive in the east part of sec. 7 and west part of sec. 8, T. 8 S., R. 11 W., where erosion has exposed the contact through a vertical interval of several hundred feet. Several small mines and numerous prospects were opened on the north side of Grasshopper Creek. The remainder of the contact zone on the south and east has not been carefully prospected. Because of the high iron content of the ore, similar concealed ore bodies possibly could be detected by geophysical methods.

Silver.—The Blue Wing mining district, discovered in 1964, has yielded silver reportedly valued at $2 million. The productive mines are in secs. 26-29 and 33, T. 7 S., R. 11 W., and in sec. 4, T. 8 S., R. 11 W. The deposits are in the Madison Group adjacent to small intrusive granodiorite masses. The ore is in a complex of small imbricate faults and forms irregular replacement bodies having sharp contacts with the enclosing bleached limestone and marble. Shenon (1931, p. 32) reported replacement silver veins in the granodiorite.

[1] Data for the historical sketch of the Bannack and Blue Wing mining districts were taken from Shenon (1931, p. 26-36).

Mining operations were not extensive and in most of the mines a single ore body was removed. The most extensive workings were in the Kent and New Departure mines. In the New Departure mine about 3,000 feet of workings was open in 1951, and inaccessible workings probably total another 2,000 feet. In the New Departure mine, ore was exposed on the sill of one of the lowest mine levels and indicates that ore continues below the present workings. Mineralization in and bordering the granodiorite stock in secs. 28, 33, 34, T. 7 S., R. 11 W., suggests that additional ore bodies may occur in the limestone south and west of the present mine workings of the New Departure.

Copper.—Copper mineralization is common in the pre-Belt metamorphic rocks in the eastern part of T. 9 S., R. 11 W. The best showing of copper is on the edge of a marble lens in contact with granite in the NW 1/4 sec. 36, T. 9 S., R. 11 W. Malachite, probably derived from chalcopyrite, is the common mineral at the surface. Numerous prospect holes are present but none has revealed enough copper to be of commercial interest.

NONMETALLIC DEPOSITS

Nonmetallic materials of present and future interest in the map area include phosphate rock, gravel, crushed rock, and silica.

Phosphate rock.— Phosphate rock and phosphatic shale are present in the Phosphoria Formation, which crops out in several places in the map area.

The Retort Phosphatic Shale Member was trenched and sampled at both ends of the hogback at Dalys, and in the Cedar Creek area. The detailed sequence of beds and the chemical analysis of the samples have been published (Swanson and others, 1953; Klepper and others, 1953). Phosphate is distributed throughout the Retort Phosphatic Shale Member in the trenched areas as thin beds of phosphatic shale and phosphate rock interbedded with mudstone layers. At the base of the member at Dalys is a 3-foot-thick bed that contains 26 percent P_2O_5.

Gravel.—Deposits of alluvial gravel abound along both sides and within the valleys of Beaverhead River and Rattlesnake and Horse Prairie Creeks. The most accessible are the alluvial fans at the mouths of gulches tributary to the valley of Beaverhead River. They consist of pebbles and cobbles in a matrix of sand and clay. The deposits are unconsolidated and easy to work, and many are within a few hundred feet of U.S. Highway 91, county roads, and the Union Pacific Railroad. A fairly large volume of gravel has been produced and used as road metal for surfacing U.S. Highway 91.

Crushed rock.—Basalt flows are extensively exposed along both sides of Beaverhead River valley below Grayling. This rock, because of its freshness, hardness, and toughness, is desirable for road metal and ballast. Several extensive talus deposits at the foot of steep slopes and cliffs contain large volumes of rock almost ready for use in its present state. It has been used in the past, during the early 1950's, by the Union Pacific Railroad, which operated a large ballast quarry in basalt rock in the SW 1/4 sec. 11, T. 9 S., R. 10 W.

Silica.—Nearly pure quartz sandstone has been quarried intermittently by the Anaconda Co. from the Quadrant Sandstone at Dalys. The quarry site is a few hundred feet west of a fault which has about 1,000 feet of displacement. The faulting has so brecciated the sandstone that quarrying of the rock is simple. Several carloads have been produced yearly for use as silica flux in the smelter at Anaconda, Mont.

30 S. Arizona Street
Dillon, Montana 59725

Bill Hand

RECEIVED
JAN 24 1972
O.M.E.
SPOKANE, WASH.

January 26, 1972

Mr. William M. Hand
30 S. Arizona
Dillon, Montana 59725

Subject: OME-6865

Dear Mr. Hand:

Your application for exploration assistance, dated January 22, 1972, submitted to our office at Spokane, Washington, has been assigned Docket No. OME-6865.

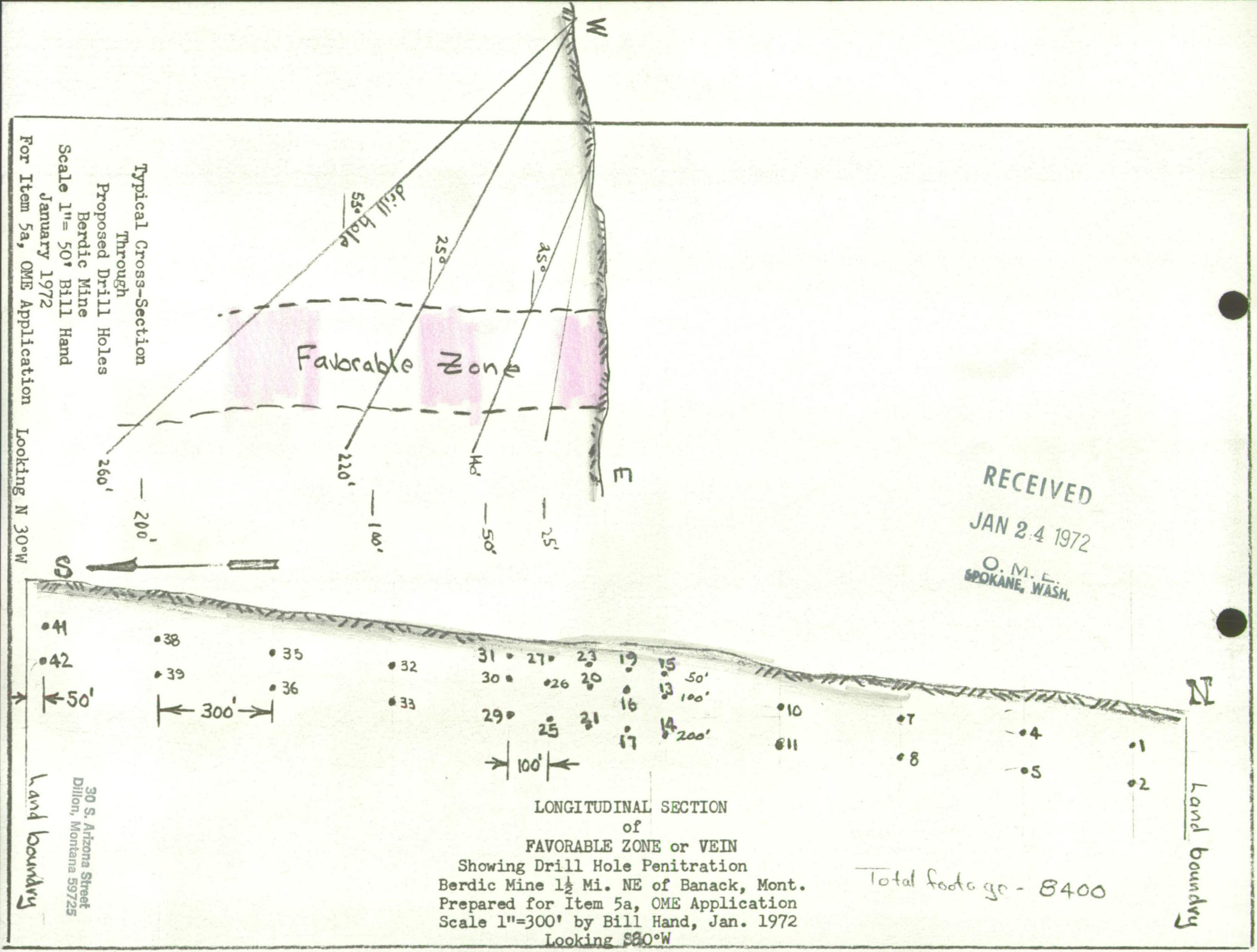
Please identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Harold Kirkemo
Chief, Office of
Minerals Exploration

Copy to Region I

N-5033



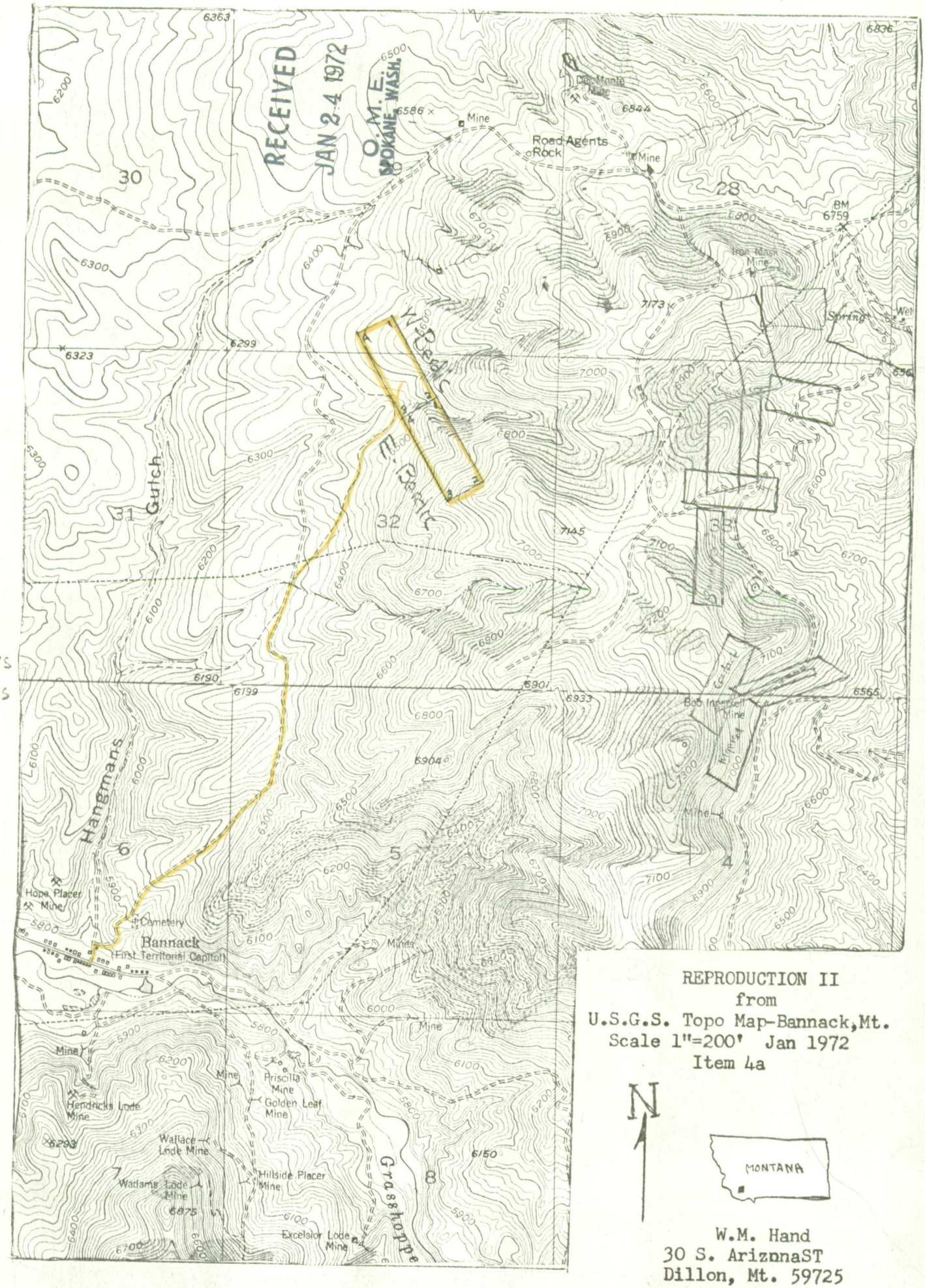
Typical Cross-Section
Through
Proposed Drill Holes
Berdic Mine
Scale 1"= 50' Bill Hand
January 1972
For Item 5a, OME Application Looking N 30°W

RECEIVED
JAN 24 1972
O. M. E.
SPOKANE, WASH.

LONGITUDINAL SECTION
of
FAVORABLE ZONE or VEIN
Showing Drill Hole Penitration
Berdic Mine 1½ Mi. NE of Banack, Mont.
Prepared for Item 5a, OME Application
Scale 1"=300' by Bill Hand, Jan. 1972
Looking S80°W

Total footage - 8400

30 S. Arizona Street
Dillon, Montana 59725



REPRODUCTION II
from
U.S.G.S. Topo Map-Bannack,Mt.
Scale 1"=200' Jan 1972
Item 4a

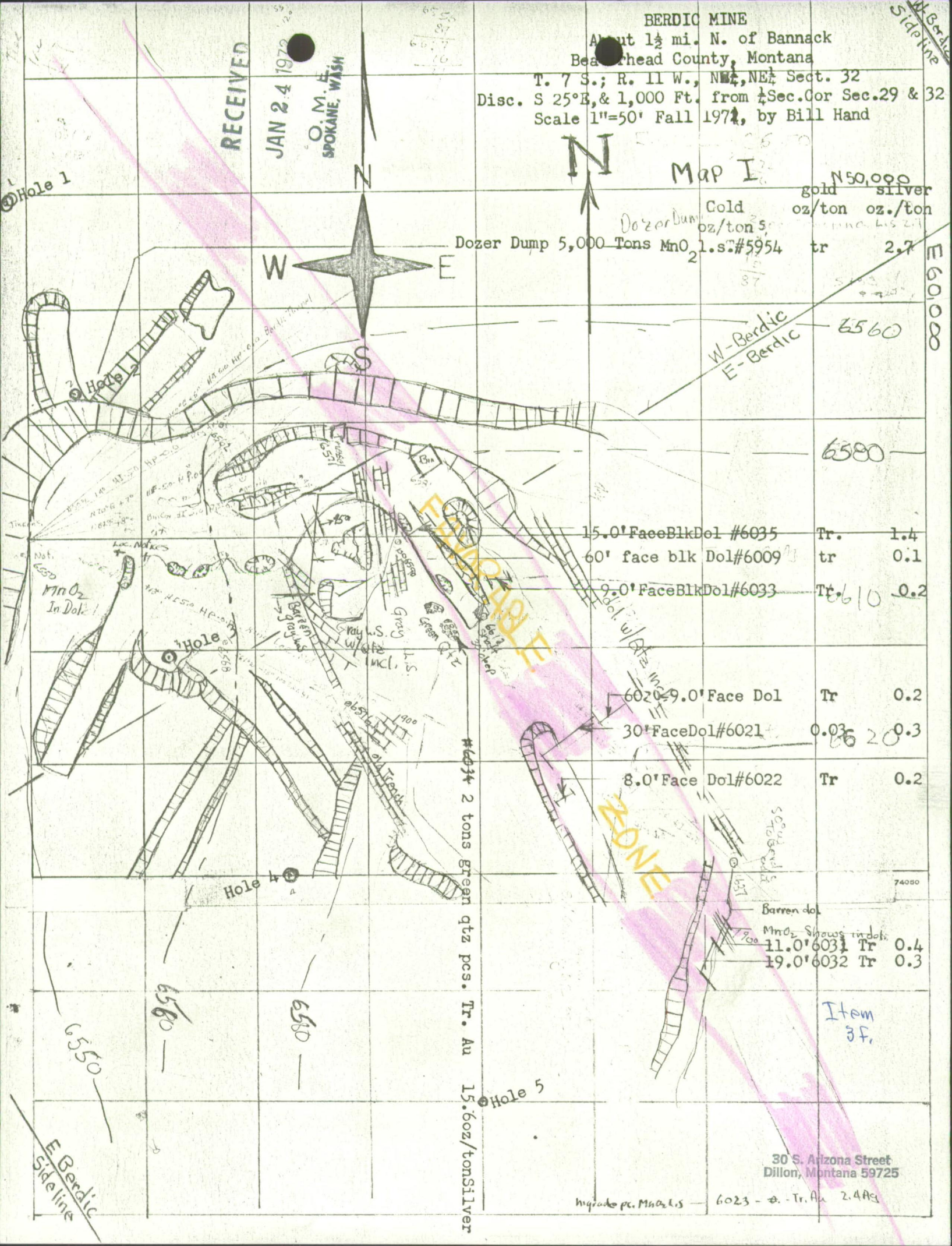
N

MONTANA

W.M. Hand
30 S. ArizznaST
Dillon, Mt. 59725

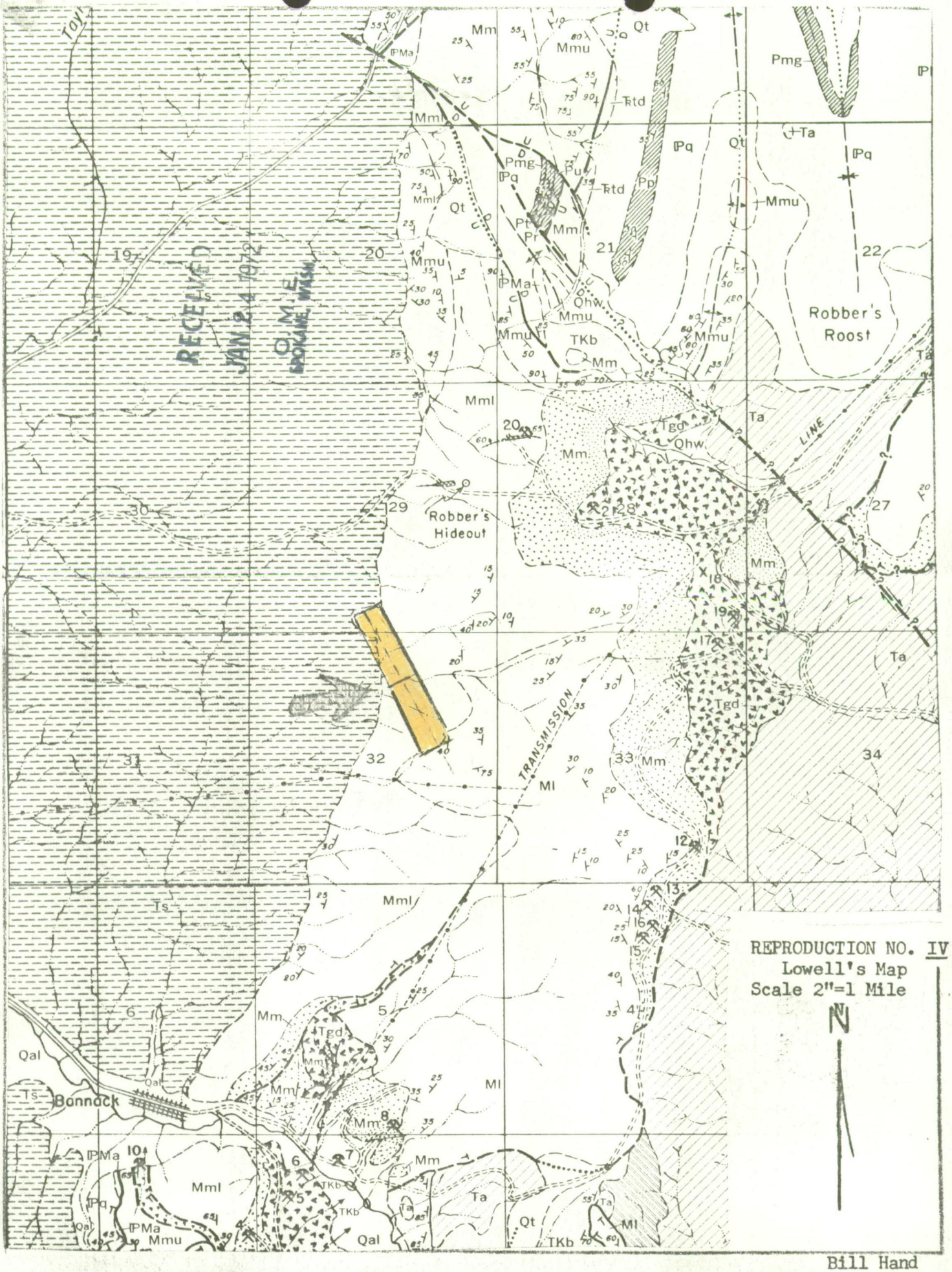
BERDIC MINE
About 1½ mi. N. of Bannack
Beaverhead County, Montana
T. 7 S.; R. 11 W., NW¼, NE¼ Sect. 32
Disc. S 25°E, & 1,000 Ft. from ¼ Sec. Cor Sec. 29 & 32
Scale 1"=50' Fall 1974, by Bill Hand

RECEIVED
JAN 24 1979
O. M. E.
SPOKANE, WASH



30 S. Arizona Street
Dillon, Montana 59725

higrade pc. MnO2 l.s — 6023 - ~~0~~ - Tr. Au 2.4 Ag



Bill Hand
30 S. Arizona St.
Dillon, Mt. 59725