DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 4320

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.

This document has been recorded as

Exploration Project

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip Cys USGS, BM

To:	500	Date	5/31/56
To:	R. J. Thomas	Date	7/16/56
To:	F. E. Johnson	Date	7-12-56
To:	Bart Metzler	Date	7/13/56
To:	130	Date	3/13/57
To:	110	Date	3-13-57
To:	130	Date	4-8-57
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	
To:		Date	

DO NOT DETACH

CONTROLLED DOCUMENT

DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 4310

Application (Denied)
(Withdrawn
(After disposition, delete items not applicable)

Contract (Terminated - not Certified
(Cancelled
(Terminated - Certified
(Royalty Agreement

This is the official contract file containing all official records of the project. The records contained in the files are checked and are arranged in this order:

Left Side

Interim Royalty Audits
Reports of Royalty Review
Certification of Discovery
Certificate of Audit (Final)
Interim Audit(s)
Report of Review
Termination Notice or Agreement
Recision Notice
Assignment of Contract
Contract Amendments (latest on top)
Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓Leases and assignments of leases
✓Application and attachments
(3) Envelope for maps

Right Side

Project summary
Work completed analysis
All other material is filed in chronological order with correspondence including the following reports as checked:

Final Field Team Report (Tab)
Operator's Final Report
(2R) Interim Reports
(2R) Operator's monthly reports and all attachments (latest on top)
✓On-site Exam Report(s) (Tab)
(4) Settlement Sheets

When the volume of records is expected to warrant additional folders, or when convenience of reference warrants separate folders for certain records, they should be set up in this order:

Left Side

Folder No. 2: (In chron. order) Interim Summary Reports by W. O. Engineers

Right Side

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

Folder No. 3: Maps (Use pocket folder or envelope. Fold maps with title block out and show reference to related document or correspondence.)

Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

KEARNS-TRIBUNE CORPORATION
KEARNS BUILDING
SALT LAKE CITY, UTAH

June 30, 1956

RECEIVED
JUL 2 - 1956

Mr. W. R. Griswold, Chief
Base Metals Division
Defense Minerals Exploration Administration
United States Department of Interior
Washington 25, D.C.

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake County, Utah

Dear Mr. Griswold:

This is in reply to your letter of June 25, 1956, which describes certain omissions and inconsistencies in the DMEA application of K-H Mining Company.

I am enclosing four copies of a property map which shows all of the ground under lease, both patented and unpatented claims. You will note that this map leaves unpatented claims uncolored, patented claims colored yellow, and the nine claims involved in the specific project under application colored pink.

As regards your request that this map show what work has been done on the property and our proposed work, may I refer you to circled portions of the map. The circle marked No. 1 shows the Iowa Copper workings; the circle marked No. 2 shows the Scottish Chief workings. Both of these workings were accomplished just after the turn of the century and no detailed maps of either exist to our knowledge. Circle No. 3 indicates the so-called 143-drift of the Silver King Western Mining and Milling Company off the Silver King Coalition Consolidated Tunnel. This drift, now caved, was driven at a very low elevation geologically in the early 1930s and is not pertinent to the upper horizons, which K-H Mining Company proposes now to develop. If you desire, we can, for what little they are worth, furnish copies of maps made of the latter 143-drift. Other workings on the property are either so minor as to be of no importance, or are described in the application (i.e. Gorlinski lease).

As regards our proposed work, the application includes the only detailed maps that we have caused to be made. These maps include information regarding the development made by former lessees, Gorlinski, and Wheeler-Gorlinski, whose efforts and accomplishments are as well described in our application.

Also enclosed are lists by name of all of the claims, both patented and unpatented, embraced by the lease from Silver King Western Mining and Milling Company.

In regard to the last paragraph of the first page of your letter, which

questions the limitation as to depth of the property leased, may I offer a word of explanation:

K-H Mining Company desires to develop only the upper horizons of Silver King Western properties, specifically the ore beds A and B, as described in the application and indicated in the stratigraphic column which accompanies the application and is designated as figure 1 and figure 2.

The lower horizons of the Silver King Western property, particularly the Park City formation, which lies well below the contact of the Thaynes and Woodside formation, does hold promise of being productive, but only at very substantial cost, because of its depth, which would dictate approach to the Park City formation by a long drift from the Thaynes shaft on the old Silver King Coalition ground, which is now owned by United Park Mining Company. This approach would require, as already indicated, a major investment and negotiation of access and easements from United Park Mining Company. K-H Mining Company is not interested in an undertaking of this magnitude and, therefore, is not interested in anything but the upper horizon embraced by its lease with Silver King Western.

We have, however, recognized the necessity of legal access through such portions of the barren Woodside shale as our proposed work may necessitate, and, consequently, have negotiated an extension in depth of the property leased to a point 300 feet below the contact of the lower Thaynes and Woodside shale formations.

Copies of the Amendment to the Original Lease thus extending the depth are also enclosed with this letter.

At your request for longer lease tenure, we have negotiated for K-H Mining Company, an Option to Extend the Lease an additional two years. Copies of this Option are also enclosed.

The numbers attached to the nine patented mining claims on which our proposed work will be undertaken are United States Mineral Survey numbers. The page and book number of the Julie location is Book O, Page 54, Salt Lake County, as shown on page one, paragraph three, question F, of the MF-103 application form, which we have furnished.

We trust that the foregoing will satisfactorily answer your questions and objections. If it does not, we shall take whatever steps we are able to comply with yours wishes.

We shall greatly appreciate any effort that can be made to expedite consideration of this application, because of the shortness of the season in the high

elevations of the property involved, and will hasten to cooperate in any manner to furnish any additional information you may require.

Thanking you for your letter and this opportunity to perfect our application, we are,

Yours very truly,

K-H MINING COMPANY

By J. W. Gallivan

JWG:mb
enclosures

RECEIVED
JUL 2 - 1956

AMENDMENT TO LEASE

EXISTING BETWEEN SILVER KING WESTERN MINING AND MILLING COMPANY AND K-H MINING COMPANY, DATED MAY 22, 1956.

It is hereby mutually agreed by Silver King Western Mining and Milling Company, lessor, and K-H Mining Company, lessee, that the certain lease existing between these two parties dated May 22, 1956, be, and it hereby is, amended to extend the depth of premises leased to a depth of 300 feet below the contact of the lower Thaynes and Woodside shale formation

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed by their duly authorized officers on this the 29th day of June, 1956.

SILVER KING WESTERN MINING AND MILLING COMPANY

Attest:

J. W. Sullivan
Secretary

By J. F. Fitzpatrick
Lessor

K-H MINING COMPANY

By George H. Hogle by James E. Hogle attorney in fact
James E. Hogle

and J. W. Sullivan
Lessee

Witness as to
K-H Mining Company

Thomas H. Ivers

RECEIVED
JUL 2 1956

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SILVER KING WESTERN MINING AND MILLING COMPANY

Attest:

J W Galliwan
Secretary

By S. F. Fitzpatrick
Lessor

K-H MINING COMPANY

By James E Boyle
George H Boyle by James E Boyle attny in fact

and J W Galliwan
Lessee

Witness as to
K-H Mining Company

Thomas H. Ivers

RECEIVED
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SILVER KING WESTERN MINING AND MILLING COMPANY

Attest:

J. W. Sullivan
Secretary

By J. F. Fitzpatrick
Lessor

K-H MINING COMPANY

By James E. Doyle
George H. Doyle by James E. Doyle attny in fact

and J. W. Sullivan
Lessee

Witness as to
K-H Mining Company

Thomas H. Lewis

RECEIVED
JUL 2 - 1956

OPTION

Whereas a lease of all of the mining properties of Silver King Western Mining and Milling Company dated May 22, 1956, and terminating May 31, 1958, exists between said Silver King Western Mining and Milling Company and K-H Mining Company,

And, whereas it is possible that this term will not embrace sufficient time to permit K-H Mining Company to comply with certain obligations it may undertake under a pending DMEA loan agreement,

NOW, THEREFOR, in consideration of the premises and the sum of $10.00 to it paid by the undersigned, K-H Mining Company, Silver King Western Mining and Milling Company by authority of its Board of Directors hereby grants unto K-H Mining Company an option to extend the term of said lease for a period of two years, or until May 31, 1960; such option to be exercisable upon the same terms and conditions, except if exercised, said K-H Mining Company shall do the assessment work as provided in paragraph 2 of said Lease for assessment years ending July 1, 1959 and July 1, 1960; such option to be exercisable by written notice thereof by K-H Mining Company to undersigned at any time on or before May 31, 1958.

SILVER KING WESTERN MINING AND
MILLING COMPANY

By: J. F. Fitzpatrick
President

Attest:

W. Galloway
Secretary

RECEIVED
JUL 2 - 1956

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SILVER KING WESTERN MINING AND
MILLING COMPANY

By: L. J. Fitzpatrick
President

Attest:

R. Galliwan
Secretary

RECEIVED
JUL 2 - 1958

OPTION

Whereas a lease of all of the mining properties of Silver King Western Mining and Milling Company dated May 22, 1956, and terminating May 31, 1958, exists between said Silver King Western Mining and Milling Company and K-H Mining Company,

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SILVER KING WESTERN MINING AND
MILLING COMPANY

By: J. F. Fitzpatrick
President

Attest:

J. W. Sullivan
Secretary

EXHIBIT A

K-H MINING COMPANY LEASE
of
SILVER KING WESTERN MINING AND MILLING COMPANY CLAIMS

PATENTED LODE MINING CLAIMS

RECEIVED
JUL 2 - 1986

Eighty patented and 196 unpatented lode mining claims of Silver King Western Mining and Milling Company located in Township 2S Range 3 East, Salt Lake Base and Meridian, in Salt Lake and Summit Counties, State of Utah, here listed and shown in attached map.

Alladen
Argenta
Augusta
Azure Queen
Bon Ton
Brick
Brick No. 1
Brick No. 3
Chester
Chicago
Climax
Climax No. 2
Consolidated
Consolidated
Consolidated No. 2
Consolidated No. 3
Consolidated No. 4
Consolidated No. 5
Colorado Boy
Copper Belt No. 1
Copper Belt No. 2
C. P. (Ivanhoe 7/30)
Crystal lode
Denver Girl
Denver (Ivanhoe Mng Co. 7/30)
Elgin
Exchequer
Financier
Florence
Gray Hound
Great Western No. 1
Great Western No. 2
Great Western No. 3
Great Western No. 4
Great Western No. 5
Great Western No. 6
Himmeliah
Hindu
Horn of Plenty
Iowa
January
Kampe
Lady Louisa
Lorenzo
Lorenzo No. 2
Martha Mine
Matilda
Minnie No. 2
Nemesis
Ninety Nine
Orphan Boy
Orpheus
Pinafore
Pique
Pique No. 2
Pique No. 3
Poland
Randall and Taylor
Sadie
Silver Crown
Silver Star
Sofia
Spring
St. Louis
Stanley
Stanley No. 1
Stanley No. 2
Stanley No. 3
Stanley No. 4
Stanley No. 5
Summit Extension
Summit No. 2
Sunnyside
Uintah No. 1
Ulster
U. P. (Ivanhoe 7/30)
Utah Cloud
Wildcat (Ivanhoe 7/30)
Yankee Boy
Yankee Girl

UNPATENTED LODE MINING CLAIMS

Buffalo
Casey No. 1
Casey No. 2
Casey No. 3
Casey No. 4
Casey No. 5
Casey No. 6
Casey No. 7
Casey No. 8
Casey No. 9
Casey No. 10
Columbine No. 1
Columbine No. 2
Columbine No. 3
Columbine No. 4
Harp No. 1
Harp No. 2
Harp No. 3
Harp No. 4
Harp No. 5
Harp No. 6
Harp No. 7
Harp No. 8
Harp No. 9
Harp No. 10
Harp No. 11
Harp No. 12
Harp No. 13
Irish No. 1
Irish No. 2
Irish No. 3
Irish No. 4
Irish No. 5
Irish No. 6
Irish No. 7
Irish No. 8
Irish No. 9
Irish No. 10
Irish No. 11
Irish No. 12
Irish No. 13
Irish No. 14
Irish No. 15
Irish No. 16
Irish No. 17
Iron Mike No. 1
Iron Mike No. 2
Iron Mike No. 3
Iron Mike No. 4
Iron Mike No. 5
Iron Mike No. 6
Iron Mike No. 7
Iron Mike No. 8
Iron Mike No. 9
Iron Mike No. 10
Iron Mike No. 11
Iron Mike No. 12
Iron Mike No. 13
Iron Mike No. 14
Iron Mike No. 15
Iron Mike No. 16
Iron Mike No. 17
Iron Mike No. 18
Iron Mike No. 19
Iron Mike No. 20
Iron Mike No. 21
Iron Mike No. 22
Iron Mike No. 23
Iron Mike No. 24
Iron Mike No. 25
Jove
Julie
June
Lindbergh No. 5
Lindbergh No. 6
Lindbergh No. 7
Lindbergh No. 8
Lindbergh No. 9
Lindbergh No. 10
Lindbergh No. 11
Lindbergh No. 12
Lindbergh No. 13
Lindbergh No. 14
Lindbergh No. 15
Lindbergh No. 19
Lindbergh No. 20
Lone Eagle No. 10
Lone Eagle No. 11
Lone Eagle No. 12
Lone Eagle No. 13
Lone Eagle No. 15
Lone Eagle No. 16
Lone Eagle No. 18
Lone Eagle No. 19
Lone Eagle No. 20
Lone Eagle No. 21
Lone Eagle No. 22
Lone Eagle No. 23
Lone Eagle No. 24
Lone Eagle No. 25
Lone Eagle No. 26
Lone Eagle No. 27
Manhattan No. 1
Manhattan No. 2
Mark Twain
Mark Twain No. 1
Mark Twain No. 2
Mars
Overflow
Pass
Pilot
Pilot No. 1
Lone Eagle No. 9

Pilot No. 2
Pilot No. 3
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Pilot No. 20
Pilot No. 21
Pilot No. 22
Pilot No. 23
Pilot No. 24
Pilot No. 25
Pilot No. 26
Pilot No. 27
Pilot No. 28
Pilot No. 29
Rose No. 1
Rose No. 2
Rose No. 3
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Rose No. 7
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Rose No. 9
Rose No. 10
Rose No. 11
Rose No. 12
Rose No. 13
Rose No. 14
Rose No. 15
Rose No. 16
Rose No. 17
Samson
Sunflower
Sunflower No. 1
Venus
White Pine No. 1
White Pine No. 2
White Pine No. 3
Wild No. 1
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Wild No. 29
Wild No. 30

EXHIBIT A

K-H MINING COMPANY LEASE
of
SILVER KING WESTERN MINING AND MILLING COMPANY CLAIMS

JUL 2 - 1968

PATENTED LODE MINING CLAIMS

Eighty patented and 196 unpatented lode mining claims of Silver King Western Mining and Milling Company located in Township 2S Range 3 East, Salt Lake Base and Meridian, in Salt Lake and Summit Counties, State of Utah, here listed and shown in attached map.

Alladen
Argenta
Augusta
Azure Queen
Bon Ton
Brick
Brick No. 1
Brick No. 3
Chester
Chicago
Climax
Climax No. 2
Consolidated
Consolidated
Consolidated No. 2
Consolidated No. 3
Consolidated No. 4
Consolidated No. 5
Colorado Boy
Copper Belt No. 1
Copper Belt No. 2
C. P. (Ivanhoe 7/30)
Crystal lode
Denver Girl
Denver (Ivanhoe Mng Co. 7/30)
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Financier
Florence
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Himmeliah
Hindu
Horn of Plenty
Iowa
January
Kampe
Lady Louisa
Lorenzo
Lorenzo No. 2
Martha Mine
Matilda
Minnie No. 2
Nemesis
Ninety Nine
Orphan Boy
Orpheus
Pinafore
Pique
Pique No. 2
Pique No. 3
Poland
Randall and Taylor
Sadie
Silver Crown
Silver Star
Sofia
Spring
St. Louis
Stanley
Stanley No. 1
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Wild No. 28
Wild No. 29
Wild No. 30

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K-H MINING COMPANY LEASE
of
SILVER KING WESTERN MINING AND MILLING COMPANY CLAIMS

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Climax No. 2
Consolidated
Consolidated
Consolidated No. 2
Consolidated No. 3
Consolidated No. 4
Consolidated No. 5
Colorado Boy
Copper Belt No. 1
Copper Belt No. 2
C. P. (Ivanhoe 7/30)
Crystal lode
Denver Girl
Denver (Ivanhoe Mng Co. 7/30)
Elgin
Exchequer
Financier
Florence
Gray Hound
Great Western No. 1
Great Western No. 2
Great Western No. 3
Great Western No. 4
Great Western No. 5
Great Western No. 6
Himmeliah
Hindu
Horn of Plenty
Iowa
January
Kampe
Lady Louisa
Lorenzo
Lorenzo No. 2
Martha Mine
Matilda
Minnie No. 2
Nemesis
Ninety Nine
Orphan Boy
Orpheus
Pinafore
Pique
Pique No. 2
Pique No. 3
Poland
Randall and Taylor
Sadie
Silver Crown
Silver Star
Sofia
Spring
St. Louis
Stanley
Stanley No. 1
Stanley No. 2
Stanley No. 3
Stanley No. 4
Stanley No. 5
Summit Extension
Summit No. 2
Sunnyside
Uintah No. 1
Ulster
U. P. (Ivanhoe 7/30)
Utah Cloud
Wildcat (Ivanhoe 7/30)
Yankee Boy
Yankee Girl

RECEIVED

UNPATENTED LODE MINING CLAIMS

Buffalo
Casey No. 1
Casey No. 2
Casey No. 3
Casey No. 4
Casey No. 5
Casey No. 6
Casey No. 7
Casey No. 8
Casey No. 9
Casey No. 10
Columbine No. 1
Columbine No. 2
Columbine No. 3
Columbine No. 4
Harp No. 1
Harp No. 2
Harp No. 3
Harp No. 4
Harp No. 5
Harp No. 6
Harp No. 7
Harp No. 8
Harp No. 9
Harp No. 10
Harp No. 11
Harp No. 12
Harp No. 13
Irish No. 1
Irish No. 2
Irish No. 3
Irish No. 4
Irish No. 5
Irish No. 6
Irish No. 7
Irish No. 8
Irish No. 9
Irish No. 10
Irish No. 11
Irish No. 12
Irish No. 13
Irish No. 14
Irish No. 15
Irish No. 16
Irish No. 17
Iron Mike No. 1
Iron Mike No. 2
Iron Mike No. 3
Iron Mike No. 4
Iron Mike No. 5
Iron Mike No. 6
Iron Mike No. 7
Iron Mike No. 8
Iron Mike No. 9
Iron Mike No. 10
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Iron Mike No. 15
Iron Mike No. 16
Iron Mike No. 17
Iron Mike No. 18
Iron Mike No. 19
Iron Mike No. 20
Iron Mike No. 21
Iron Mike No. 22
Iron Mike No. 23
Iron Mike No. 24
Iron Mike No. 25
Jove
Julie
Juno
Lindbergh No. 5
Lindbergh No. 6
Lindbergh No. 7
Lindbergh No. 8
Lindbergh No. 9
Lindbergh No. 10
Lindbergh No. 11
Lindbergh No. 12
Lindbergh No. 13
Lindbergh No. 14
Lindbergh No. 15
Lindbergh No. 19
Lindbergh No. 20
Lone Eagle No. 10
Lone Eagle No. 11
Lone Eagle No. 12
Lone Eagle No. 13
Lone Eagle No. 15
Lone Eagle No. 16
Lone Eagle No. 18
Lone Eagle No. 19
Lone Eagle No. 20
Lone Eagle No. 21
Lone Eagle No. 22
Lone Eagle No. 23
Lone Eagle No. 24
Lone Eagle No. 25
Lone Eagle No. 26
Lone Eagle No. 27
Manhattan No. 1
Manhattan No. 2
Mark Twain
Mark Twain No. 1
Mark Twain No. 2
Mars
Overflow
Pass
Pilot
Pilot No. 1
Lone Eagle No. 9

Pilot No. 2
Pilot No. 3
Pilot No. 4
Pilot No. 5
Pilot No. 6
Pilot No. 7
Pilot No. 8
Pilot No. 9
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Pilot No. 28
Pilot No. 29
Rose No. 1
Rose No. 2
Rose No. 3
Rose No. 4
Rose No. 5
Rose No. 6
Rose No. 7
Rose No. 8
Rose No. 9
Rose No. 10
Rose No. 11
Rose No. 12
Rose No. 13
Rose No. 14
Rose No. 15
Rose No. 16
Rose No. 17
Samson
Sunflower
Sunflower No. 1
Venus
White Pine No. 1
White Pine No. 2
White Pine No. 3
Wild No. 1
Wild No. 2
Wild No. 3
Wild No. 4
Wild No. 5
Wild No. 6
Wild No. 7
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Wild No. 23
Wild No. 24
Wild No. 25
Wild No. 26
Wild No. 27
Wild No. 28
Wild No. 29
Wild No. 30

File Copy
Surname
J. ADP.

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

JUN 25 1956

K-H Mining Company
1017 Kerns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake County, Utah

Gentlemen:

Your application, dated May 23, 1956, for Government exploration assistance for the cited property has been received and reviewed by the Base Metals Division of the Defense Minerals Exploration Administration.

In order to expedite the processing of your application, we would appreciate receiving the following information:

A property map showing all of the leases which you have stated under Item 3 of the application. This map should show what work has been done on the property and your proposed work. The map which accompanied your application does not show all of these claims. This map should also show the adjacent claims that are listed in the lease.

In the lease, it is stated (page 1) ". . . . to the depth only to the contact of the lower Thaynes and Woodside shale formation, all those certain 80 patented mining claims and 196 unpatented mining claims of Lessor, situated partly in Big Cottonwood Mining District, Salt Lake County, and partly in Uintah Mining District, Summit County, State of Utah, listed and described in Exhibit "A" attached hereto and made a part hereof."

R.C.S.

Exhibit "A" is not attached to the lease and this we will need. Without this Exhibit, it is impossible to know what lands are covered by this lease.

As a considerable amount of your proposed work is, according to the map you submitted, in the Woodside shale, the limit to the Woodside shale formation should be removed from the lease. The land you have listed in Item 3 of your application should not have a limit as to depth.

The work which you are proposing to do will require considerable time. As your lease expires May 31, 1958, we will be unable to process your application unless you can get this lease extended for at least two more years.

In Item 3 of your application, you list the nine patented mining claims with numbers. Are these U. S. Minerals Survey numbers or are they the patent numbers? Please give us the page and book number of Julie Location (unpatented) claim and where it is recorded. Most likely this information is contained in Exhibit "A" of the lease.

Please submit all information in quadruplicate at your earliest convenience.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Base Metals Division

JWAlt/er 6/25/56

Copy to:- Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

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

[redacted]

May 25, 1956

RECEIVED
MAY 28 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Application for DMEA Aid (Lead-Zinc) K-H Mining Company (Silver King Western Mining and Milling Company Property), Salt Lake County, Utah

Enclosed are two copies of the subject application in the amount of $133,947.00.

This application was submitted to the Bureau of Mines office in Salt Lake City in quadruplicate but only three copies of the application have reached this office. When we receive the missing copy of the subject application, we will forward it to your office.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

Enclosures

MF-103
(Revised April 1952)

RECEIVED
MAY 28 1956

DMEA
Date Rec'd.
MAY 25 1956

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

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

BUREAU OF MINES
~~Denver, Colorado~~

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

Not to be filled in by applicant.

Docket No. DMEA-4320
Metal or Mineral LEAD-ZINC
Date Received 5/31/56
Estimated Cost $133,947.00
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: See page one attached.

K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

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

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

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

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

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

(*b*) State any mine name by which the property is known. Silver King Western Mining & Milling Co.

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

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

(*e*) If you own the land, describe any liens or encumbrances on it Not Applicable

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. Julie Location (Book 0, Pg. 54 - Salt Lake County)

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes. See Attached Pages 1 Thru 4

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. Pages 5 thru 13

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you. See attached pages 14 thru 17

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points. See attached page 18

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

16—66551-1

See Attached page 19

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

See attached page 20

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc. See attached pages 20 thru 23

(*c*) The work will start within 30 days and be completed within 24 months from the date of an exploration project contract. See Attached page 23

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations. See attached page 23

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project: Page 24-28

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.). See attached pages 24 thru 28

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants. See attached page 24 thru 28

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel. See attached pages 24 thru 28

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be. See attached page 27

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. See attached page 27

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. Page 27

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes. See attached page 27

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above. Page 27

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

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

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

[X] Money [ ] Use of equipment owned by you [ ] Other

Explain in detail on acompanying paper. See Page 27.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated May 23rd, 1956

K-H Mining Company
(Applicant)

By J. W. Gallivan, Secy.

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

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

RECEIVED
MAY 28 1956

1. NAME OF APPLICANT

K-H Mining Company, 1017 Kearns Bldg., Salt Lake City, Utah, a joint venture of Kearns-Tribune Corporation (a Utah Corporation), J. F. Fitzpatrick, President, J. W. Gallivan, Secretary-Treasurer, 1017 Kearns Bldg., Salt Lake City, Utah; and James E. And George H. Hogle, a partnership doing business as Hogle Brothers, 132 South Main Street, Salt Lake City, Utah.

3. APPLICANT'S PROPERTY RIGHTS

Exploration project will be confined to the strata above the Woodside Shale in the following nine patented lode mining claims: C. P. 483, Wildcat 481, Poland 132, Financer 131, Elgin 130, Utah Cloud (Amd.) 146, Pique 4040, South 1/2 of Pinafore 685, South 1/2 of Kampe 5811; and the Julie Location (unpatented). All situated in the Big Cottonwood mining district, Salt Lake County, Utah.

4a. PHYSICAL DESCRIPTION

The claims to be worked by the applicant, K-H Mining Company, are a part of the property of the Silver King Western Mining and Milling Company. Bordering it on the north and east are the properties of the old Silver King Coalition Mines Company, now a part of the United Park City Mines Company. All of these properties are in the Park City Mining District, State of Utah, Counties of Summit and Salt Lake.

During the period from 1890 through 1915, considerable exploration work was done on the leased claims and some ore was produced. The work was shallow in depth and at the higher elevations of the local topography (between 9400 and 9700 feet above sea level) with the exception of one adit, known as the Copper Apex, which was driven approximately 1000 feet into the hillside at elevation 9300'. These old workings are now all closed at the portals by surface caves and for the most part are not accessible. No records of this early production are known to exist.

In 1948, Paul Gorlinski and Howard Wheeler as partners acquired a lease on a group of these claims. They reopened an old incline, and after some exploration, found a large segment of ore faulted from a previously mined ore body which they proceeded to extract at considerable profit. To facilitate mining of this ore body, Gorlinski drove a new adit to intersect his workings at the bottom of the old incline. After mining out the faulted segment, Gorlinski, now without a partner, advanced another incline 230' downward along a mineralized shear zone more or less following

4a. PHYSICAL DESCRIPTION, (cont.)

the stratum in which the original ore bodies were formed. Ore was encountered in the incline, but most of it occurred as mineralized replacements of this stratum in fault blocks within the shear zone with lateral extensions being faulted away.

Mineralization in the bottom of the incline was very strong with much unaltered galena, sphalerite, and pyrite. Some work was started at the incline bottom to explore the projection of known faulted beds and also other potentially productive strata which have not been explored locally but are known to be ore bearing elsewhere in the district.

The early snows in the fall of 1955 terminated all work before any of these geological targets could be reached. The Gorlinski lease subsequently expired and the claims are now leased to the applicant.

The Gorlinski incline as driven, is not straight, and in spots, small in cross section. It is serviced by a small, eight-cubic-foot skip which must necessarily travel very slowly. Exploration work at the incline bottom was very difficult and expensive.

It is the intention of the applicant to rent and purchase such equipment as needed. The cost of same is estimated in the section of this application which deals with costs. On the property are two small buildings, one wooden; one metal, snow sheds and ore bins which may be utilized.

The Gorlinski workings are accessible for

4a. PHYSICAL DESCRIPTION, (cont.)

inspection except during periods of low barometric pressure when the air is oxygen-deficient. However, it has proven too difficult with the equipment on hand to keep the roads open during the winter months, and from December through May, it is usually necessary to use a snow mobile to reach the workings. During some previous winters, a small crew has boarded at the mine and worked through the winter. This winter (1955-56) no one was at the mine.

The bottom of the Gorlinski incline will also be flooded and it will not be possible to unwater it before June. Up to now the incline has not been allowed to fill with water since it was driven, and so it is not known how high the water has risen. It may prove quite expensive to unwater it for inspection.

4b. PRODUCTION FROM GORLINSKI WORKINGS

(1) 1948 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	29.8935	75.068	$ 2,244.05
2	16.4695	90.682	1,493.49
3	21.5785	90.606	1,955.14
4	42.339	31.83	1,347.65
5	39.540	45.46	1,797.49
6	48.319	41.78	2,018.77
7	48.745	37.76	1,840.61
8	51.457	57.80	2,974.21
9	43.420	67.83	2,945.18
	341.763	54.47	$ 18,616.59

1948 Average production per ton:

Ounces Silver - 11.03

Per cent Lead - 15.89

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(2) 1949 Production

Lot No.	Tonnage	Value per Ton	Total Value
10	13.695	49.63	$ 679.68
11	14.059	43.93	617.61
12	13.742	49.03	673.77
13	50.290	49.73	2,500.92
14	47.137	50.47	2,379.00
15	43.706	47.03	2,055.49
16	49.024	45.83	2,246.77
17	50.812	49.38	2,509.10
18	60.138	47.51	2,857.16
19	59.567	53.67	3,196.96
20	53.891	43.57	2,348.03
21	50.802	39.09	1,985.85
22	50.847	33.50	1,703.37
23	53.431	29.49	1,575.68
24	37.529	20.77	779.48
25	45.772	23.78	1,088.46
26	65.335	39.28	2,566.36
27	32.612	25.91	844.98
28	42.447	8.41	356.98
29	40.150	4.35	174.65
30	49.349	8.52	420.45
31	43.824	6.94	304.14
32	42.676	6.21	265.02
33	47.851	20.81	995.78
34	48.405	12.55	607.48
35	39.690	.9085	36.06
36	22.850	3.778	86.33
37	51.963	32.06	1,665.93
38	47.744	24.48	1,168.77
39	52.299	32.98	1,724.82
40	49.597	24.76	1,228.02
41	20.463	18.36	375.70
42	12.828	7.44	95.44
43	40.386	7.03	283.91
44	47.022	3.75	176.33
	1491.933	28.54	$ 42,574.48

1949 Average production per ton:

Ounces Silver - 10.0
Per cent Lead - 14.88

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(3) 1950 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	12.111	26.15	$ 316.70
2	54.133	22.977	1,243.81
3	25.215	31.49	794.02
4	30.816	23.48	725.56
5	30.131	25.02	753.88
6	51.734	28.86	1,493.04
7	53.835	45.67	2,458.64
8	48.090	20.40	981.04
9	25.719	34.06	875.99
	331.784	29.06	$ 9,642.68

1950 Average production per ton:

Ounces Silver - 8.79

Per cent Lead - 14.1

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(4) 1951 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	18.276	20.81	$ 380.32
2	10.793	3.77	40.69
3	24.709	19.04	470.46
4	12.067	23.79	287.07
5	43.496	16.03	697.24
6	43.176	11.57	524.29
7	45.315	11.43	493.50
8	48.180	2.3482	113.14
9	10.356	29.20	302.40
10	18.663	16.95	316.34
11	18.993	16.23	308.26
12	23.915	8.90	212.84
13	18.885	8.47	159.96
14	31.379	6.54	205.22
15	12.659	1.72	21.77
16	12.271	38.28	445.19
17	13.179	51.32	676.35
18	12.298	51.11	628.55
19	12.519	67.85	849.41
20	11.353	34.63	393.15
21	17.093	43.47	743.03
22	23.207	33.69	781.84
23	17.709	42.23	747.85
24	13.011	42.08	547.50
25	48.203	37.42	1,803.76
26	49.266	39.56	1,948.96
27	13.165	57.87	761.86
28	18.635	45.60	849.76
29	17.961	28.87	518.53
	660.732	24.56	$ 16,229.24

1951 Average production per ton:

Ounces Silver - 6.40

Per cent Lead - 10.79

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(5) 1952 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	23.860	18.66	$ 445.23
2	41.736	15.59	650.66
3	24.180	25.86	625.29
4	25.281	32.96	833.26
5	44.013	25.91	1,140.38
6	24.062	15.05	362.13
7	17.801	7.40	131.73
8	17.604	8.48	149.28
9	6.800	31.74	215.83
10	17,898	13.69	245.02
	243.235	19.73	$ 4,798.81

1952 Average production per ton:

Ounces Silver - 4.56

Per cent Lead - 9.01

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(6) 1953 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	47.9105	7.458	$ 357.32
2	36.1515	12.038	435.19
3	38.0580	13.058	496.96
4	39.6230	13.353	529.09
5	51.8450	13.817	716.34
6	36.5145	16.211	591.94
7	28.3905	17.022	483.26
8	16.6150	20.907	347.37
9	38.6000	14.965	577.65
	333.7080	13.59	$ 4,535.12

1953 Average production per ton:

Ounces Silver - 6.28
Per cent Lead - 5.85
" " Zinc - 7.09
" " Copper- .639

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(7) 1954 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	38.618	6.937	$ 267.89
2	11.225	14.35	161.08
3	5.680	9.86	56.00
4	22.572	9.42	212.63
5	52.924	18.52	980.15
6	45.448	14.81	673.08
7	35.499	14.54	516.16
8	15.787	15.88	250.70
9	16.474	20.96	345.30
10	12.937	23.62	305.57
	257.164	14.65	$ 3,768.56

1954 Average production per ton:

Ounces Silver - 6.10
Per cent Lead - 3.56
" " Zinc - 4.62
" " Copper- .94

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(8) 1955 Production

Lot No.	Tonnage	Value per Ton	Total Value
1	46.409	23.98	$ 1,112.89
2	47.288	23.24	1,098.97
3	43.561	22.98	1,001.03
4	47.725	19.64	937.32
5	14.220	23.59	335.45
6	36.515	18.17	663.48
7	44.356	21.25	942.57
8	51.174	20.38	1,042.93
9	43.779	19.84	868.58
10	42.832	17.83	763.69
11	13.230	11.57	153.07
12	21.142	22.92	484.57
13	28.509	17.14	488.64
	480.740	20.58	$ 9,893.19

1955 Average Production per ton:

Ounces Silver - 5.46
Per Cent Lead - 6.25
" " Zinc - 8.58
" " Copper- 1.0

4b. PRODUCTION FROM GORLINSKI WORKINGS (Cont.)

(9) Recap - 1948 - 1955

Year	Tonnage	Value per Ton	Total Value
1948	341.763	54.47	18,616.59
1949	1491.933	28.54	42,574.48
1950	331.784	29.06	9,642.68
1951	660.732	24.56	16,229.24
1952	243.235	19.73	4,798.81
1953	333.7080	13.59	4,535.12
1954	257.164	14.65	3,768.56
1955	480.740	20.58	9,893.19
	4,241.059	26.19	110,058.67

NOTE: Production from 1951 on was taken primarily from exploration headings. Consequently, it was difficult to mine the ore clean. Attendant dilution was considerable. Zinc in ores was not paid for in early years because of oxidized condition. Smelters paid for zinc values after September 29, 1953.

4c. DESCRIPTION OF GEOLOGIC FEATURES

The first study of the geology of the Park City district was published by J. M. Boutwell of the United States Geological Survey in 1923. (U. S. Geological Survey Bulletin.) The U. S. Geological Survey is now completing a second study of the area, but it has not been published yet.

The ore bodies in the western portion of the Park City District occur principally as replacements in various well-defined sedimentary strata. The old Silver King immediately to the north and east of the leased properties sold many millions of dollars worth of lead zinc-silver ores extracted from replacements which often could be followed along the beds for a thousand feet and more between what were recognized as the source veins.

The bottom-most stratum entered in the west portion of the district is the Weber Quartzite, Carboniferous in age. Overlying this in sequence are the park City limestones and shales (640' ?, Carboniferous and Permian), the Woodside Shales (700' ?, Triassic) and the Thaynes limestones and sandstones (1150' ?, Triassic) and the Ankareh shales and sandstones (Triassic). (See attached sheet, figure one.) The Park City formation has been the important host to the replacement ore bodies of the old Silver King Mine, but where major faulting allowed the mineralizing solutions to penetrate through the Woodside shale series, many important ore bodies were found in various but definite horizons of the Thaynes formation.

The claims leased by the applicant straddle an east-west ridge on the top of which the Thaynes formation outcrops; the Ankareh formation having been eroded away.

4c. DESCRIPTION OF GEOLOGIC FEATURES (cont.)

A recent detailed study by Mr. M. G. Heitzman, geologist for United Park City Mines and former Manager of Operations of the old Silver King Coalition Mines has demonstrated that locally a major portion of the Thaynes formation has also been eroded away, and that a shale member immediately underlying the Gorlinski workings is actually the 700-foot-thick Woodside Shale rather than, as classified by Mr. Boutwell, a 260-foot shale member midway in the Thaynes formation. This interpretation indicates that all of the ores previously mined from the leased claims of Silver King Western have come from the various beds of the lower Thaynes formation. The ore bed from which the Gorlinski ores were mined is correlated with a recognized ore producer in the Silver King area which is found about 50 feet above the Woodside Thaynes contact. For purposes of this report, this is identified as "a" bed in the accompanying Stratigraphic Column. (Figure one.)

As noted on the stratigraphic column outline (Figure 1) a 15-foot stratum (Labeled "b" in Fig. 1) immediately above the Woodside contact has been identified elsewhere in the district as an important ore bearing bed, particularly where the bed has been in contact with the Crescent fissure in the upper levels of the Silver King Coalition Mine. Nowhere in the Gorlinski workings has this horizon been prospected.

The mineralizing fissures in the old Silver King Coalition workings were usually found to follow fault zones generally striking N 30° E and N 60° E. Fault displacement varied from a few inches to 1200 feet. Movement was both

4c. DESCRIPTION OF GEOLOGIC FEATURES (cont.)

post and pre-mineral. Many of the fissures were so tight that they were difficult to identify, and yet when they intersected the proper beds, huge replacement ore bodies were often made. It was generally conceded that the shale strata in the upper Park City and the Woodside formations dissipated minor fault movements, and ore bodies were found in the overlying Thaynes formation only in the cases where faults were strong enough to provide channels for the mineralizing solutions to penetrate beyond the clastic shale members.

A second geological column (Figure 2) portrays in greater detail the stratigraphic series in the beds immediately above the Woodside shale. The detail shown is a result of precise mapping of the strata at the surface outcrops where weathering has accentuated lithological characteristics. Underground in the Gorlinski workings, localized silicification of the beds has subdued the more pronounced characteristics and correlation is, accordingly, much more difficult.

The silicification is presumed to be a form of contact metamorphosism resulting from the intrusion of the Clayton peak stock which outcrops about 2000 feet south of the leased claims. This stock is a body of dark fine-grained diorite containing abundant plagioclase. Less than a mile to the east, the workings of the Silver King Coalition passed several thousand feet south and under the surface contact between the diorite and sedimentaries without entering the diorite, indicating that locally the diorite stock tends to mushroom. If this same shape is reflected near the leased claims, the stock can be expected to recede with depth.

4c. DESCRIPTION OF GEOLOGIC FEATURES (cont.)

As stated elsewhere, the primary mineralization found in the Gorlinski incline is in the form of Galena, sphalerite, massive pyrite, and some veins quartz. Garnet and epidote have been noted and, although no determinative assays were made, the presence of schcelite was indicated by mineralight. The ore as noted occurred as replacements in faulted blocks of the ore bed. (Figure 1 "a".) The shear zone which appears to have provided the channel for the mineralizing solution has a general strike of N 30° E and a dip varying from 65 to 80 degrees S E. Considerable minor faulting within the shear zone complicates the identification of the major structure and has made the bedded ore bodies within the zone difficult to correlate. Away from the shear zone the beds are very uniform in dip and strike; the average strike underground being near S 30° E and dip 26° N E. On the surface locally the dip and strikes are uniform with only a few faults of minor displacement being evident.

To the east of the s hear zone, several other mineralized fissures have been identified both on the surface and underground.

The ore mined at and above the level of the Gorlinski adit has been well oxidized. However, there is no evidence of oxidation in the bottom of the incline; the ore there being readily amenable to selective flotation.

Generally, the targets of our proposed program, as outlined in paragraph 5b, are the projected intersections of known mineralizing fissures with the two ore beds "a"

4c. DESCRIPTION OF GEOLOGIC FEATURES (cont.)

and "b" of the lower Thaynes formation which are known to be amenable to replacement.

4d. ACCESSIBILITY OF THE PROJECT

The claims under lease straddle a ridge 9600 feet high which divides Cottonwood Canyon to the south and Iron Canyon to the North. Cottonwood Canyon drains to the Salt Lake Valley. Iron Canyon drains to Parley's Park west of Park City and has no access roads.

Original access to the claims was gained by a nine-mile road from Park City through the Silver King Coalition properties. Ore was hauled by truck to the railroad terminals at Park City. Miners from Park City drove to the claims for work. A metal bunk house is on the property to house the miners during the winter months when the property is not accessible by car. The mining community of Park City affords adequate supply of skilled miners.

In 1954 a graded road was completed between the property and the paved State Highway in Cottonwood Canyon. During the summer of 1955, ore was trucked from the mine down Cottonwood canyon to the smelters in Salt Lake Valley at a considerable saving in haulage costs. The Gorlinski workings can now be reached by passenger automobile within an hour of leaving the center of Salt Lake City. It is about nineteen miles by truck from the Gorlinski ore bin to U. S. S. & R. Smelters in Salt Lake City.

4d. ACCESSIBILITY OF THE PROJECT (cont.)

The portal of the Copper Apex adit where this project would commence is at a lower elevation in Cottonwood Canyon and in a more protected area accessible by road.

4e. AVAILABILITY OF MANPOWER AND SUPPLIES

Good miners can be hired from either the Park City area or the general Salt Lake area.

Materials and supplies may be trucked from either the Park City railroad or the Salt Lake area.

Adequate water is available from the mine workings.

A single phase 440 volt electric power line supplies the Gorlinski adit.

A three-phase high-voltage line passes within 1000 feet of the Copper Apex adit, but no service is yet delivered to the site.

5. EXPLORATION PROJECT a: MINERALS SOUGHT

Exploration for lead and zinc minerals is the purpose of this project.

5b. PROPOSED WORK

The applicant intends to explore the leased claims included in the project by means of a new adit driven at a horizon lower than the present workings, and proposes that DMEA funds aid it in this project. It is planned to drive a new adit at the approximate elevation of the old Copper Apex adit in a direction that will intersect the old adit, and then to X-cut the Woodside Shale to the intersection of the shear-fissure zone under the bottom of the Gorlinski incline. (See accompanying plot.) From this point, a three compartment raise will be driven alongside the shear fissure zone to hole through to the Gorlinski incline. With the raise from the new adit connected through to the Gorlinski incline, it will be possible to explore the beds at the bottom of the incline economically. This work will be directed toward two goals:

1. The exploration of the "a" bed in the footwall and hanging wall of the shear zone. Faulted segments of this ore bed found in the shear zone indicate that this bed should be well-mineralized.

2. The exploration of "b" bed at the Woodside-Thaynes contact. This bed has not been probed in this area and the intensity of mineralization in the shear fissure zone as seen in the incline above the projection of this contact makes work a promising prospect.

5b. PROPOSED WORK (cont.)

Approximately 150' of drift will be required to complete the work at the top of the raise.

The drift at the new adit level will be continued north-eastward from the raise to parallel the shear-fissure system until both the ore beds "a" and "b" of the lower Thaynes are encountered. A drift will then be advanced eastward along the more promising of these ore beds to explore the projected intersection of the two vein-fissures identified in the eastern drift of the Gorlinski level. At the intersection of these drifts with each of the two fissures, X-cuts will be driven to explore the vein intersection with the second ore bed.

Also proposed is a small cross-section slusher incline to be driven from the new adit level upward following the contact of the fissure-shear zone with one of the two ore beds until the Gorlinski incline is encountered. Such an incline locally affords a maximum amount of specific exploration with a minimum of cost once an area has been entered.

Also proposed is 1000 feet of diamond drilling to provide information on stratigraphy as the work advances. Diamond drilling is restricted in its usefullness in the Western Park City District. It is not considered practical in the search for ore bodies except as an aid to the geologist in determining stratigraphic sequence.

Experience in the district has demonstrated that although fissure systems and bedding strikes and dips can be safely projected for considerable distances and intersected

5b. PROPOSED WORK (cont.)

by exploratory work, localized faulting and minor variations of strike and dip make impractical the projection of geological structures to precise points. Some latitude must be given the operators to adjust the direction and distances of drifts and raises in order to compensate for minor variations of dip and strike and for offsets resulting from lesser faults, all of which cannot be anticipated. The accompanying plat (Figure 3) indicates the approximate amount of development work estimated as necessary to accomplish each phase of the exploration program, but it is suggested that controls of the work be placed more on the position of the geological structures as encountered rather than on precise meaurements of drift direction and footages, with a definite limitation only as to the total expenditures authorized.

The total amount of work estimated to accomplish these goals is as follows:

Drifting and X-cutting	1990 Feet
Raises	180 "
Inclines	260 "

Selection of the Copper Apex adit level as the elevation for the proposed new adit is recommended for three reasons:

1. It is about 170 feet below the bottom of the Gorlinski incline. This elevation affords a large area for overhead exploration without requiring to much X-cutting to pick up the north dipping beds.
2. Even though the Copper Apex adit deviates somewhat from the zone to be explored, if it is not caved on the inside, it can provide much useful information to the geologist in delineating additional prospects.

5b. PROPOSED WORK (cont.)

3. Nothing is known as to the size or condition of this drift beyond its portal. If it is found that the drift is standing and is large enough to allow passage of haulage equipment, some or all of this drift can be substituted for the driving of new adits to the destination. It is suggested that provision be made in the allocation of funds so that money may be diverted from the allowance for driving new adits and x-cuts and used to rehabilitate a portion or all of the old adit as substitute footage if such should be determined practical.

5c. STARTING AND COMPLETION OF PROJECT

The work would start as soon as favorable action on this application would permit. The applicant will attempt to continue operation during the winter months, but it is deemed important to provide for interuptions during the winter months in the operating schedule. Therefore, the project should not be expected to be completed prior to two years after commencement.

5d. OPERATING EXPERIENCE AND BACKGROUND OF APPLICANT

The applicants are experienced mine operators and will have available consulting engineers and geologists who are thoroughly familiar with the problems of the Park City District.

6. ESTIMATE OF COSTS a: INDEPENDENT CONTRACTS

It is currently planned that all work will be done by local labor supervised by foremen working for the applicant. The cost estimates are based on that premise. However, the applicant would reserve the privilege of letting some or all of the work to independent contractors should such develop to be advantageous. Diamond drilling will be contracted in any event: 1000' @ $7.00 = $7,000.00.

6b. LABOR SUPERVISION, CONSULTANTS, SUPPLIES (6c.)

Inasmuch as the available records of the former lessee, Gorlinski, are not suitable for use in anticipating costs of the type of work projected by the applicant, the estimates of labor costs provided herein are tied to wage rates and performance data as provided by the United Park City Mines Company which operates in the neighboring area under conditions similar to those anticipated in the proposed project.

6b & 6c. LABOR SUPERVISION, CONSULTANTS, SUPPLIES

DRIFTING - MACHINE LOADING

	Cost Per Foot	
Labor:		
Breaking	$ 4.81	
Mucking	2.91	
Track & Pipe	.21	
Timber @ 75%	1.74	
Water ditch	1.75	
Working Foreman	6.72	
Fringe Items	2.83	
Consultants	2.97	
TOTAL LABOR		23.94
Supplies:		
Power	1.85	
Timber	7.20	
Pipe & Fittings	1.15	
Ventilation & Accessories	1.20	
Track rails, ties, etc.	2.09	
Explosives	2.70	
Bits, Steel, etc.	1.25	
Equipment maintenance	1.00	
Equipment	5.09	
TOTAL SUPPLIES		23.53
TOTAL DRIFT COST PER FOOT-MACHINE LOADING		$ 47.47

DRIFTING - HAND LOADING

Labor:		
Breaking	$ 4.71	
Mucking	5.70	
Timbering	2.17	
Track & Pipe	.21	
Working Foreman	6.72	
Fringe Items	3.04	
Consultants	2.97	
Water ditch	1.75	
TOTAL LABOR		27.27
Supplies:		
Same as machine loading	23.53	
except, add for 100% timbering	2.40	
TOTAL SUPPLIES		25.93
TOTAL COST PER FOOT - HAND LOADING		$ 53.20

6b. & 6c. LABOR SUPERVISION, CONSULTANTS, SUPPLIES, (cont.)

RAISING (BASED ON DAY PAY RATE AND 100% TIMBERING)

	Cost per Foot	
Labor:		
Labor	$ 34.70	
Consultants	2.97	
TOTAL LABOR		37.67
Supplies:		
Timber	22.80	
Power	1.85	
Pipe & Fittings	1.15	
Ventilation & Accessories	1.20	
Explosives	3.41	
Bits, steel, etc.	1.40	
Equipment Maintenance	1.00	
Equipment	5.09	
TOTAL SUPPLIES		37.90
TOTAL RAISING COST		$ 75.57

INCLINE DRIFTING

Labor:	
(Same as level drifting less track laying cost)	27.12
Supplies:	
(Same as level drifting less track)	23.84
TOTAL COST PER FOOT INCLINE DRIFTING	$ 50.96

6d. EQUIPMENT COST

Purchase:	Cost	Resale	Use Cost
Electric Air Compressor	7,572.60	3,786.30	3,786.30
Power Saw	450.00	225.00	225.00
2 Jack legs	1,437.00	359.00	1,078.00
Ventilating fan	551.16	275.58	275.58
Mucking Machine	3,587.40	1,793.70	1,793.70
Power line, transformers, etc.	2,000.00	500.00	1,500.00
Rent:			
Air Motor			1,000.00
8 mine cars			800.00
Ford truck (men & supplies)			1,800.00
Air Hoses			100.00
		TOTAL	$ 12,358.58

6e. PREPARING PORTAL BUILDINGS & ROAD

Labor:	
Pour foundation & move bldg.	500.00
Move shed and pour foundation	340.00
Open portal	680.00
Open upper workings for inspection	900.00
Move equipment (cars, motor, etc.)	400.00
Materials:	
Foundation materials	300.00
Bldg. materials or pruchase	1,000.00
Portal timber	150.00
Rental	
Bulldozer - 5 days @ $100.	500.00
	$ 4,770.00
Diamond Drilling	
7,000 feet @ $7	$ 7,000.00

Paragraphs 6f. through 6g.

Either not applicable or answered elsewhere.

6. ESTIMATE OF COSTS (cont.)

COST SUMMARY

	No. Feet	Cost Per Foot	Total Cost Cost
Drifting at adit level (machine)	1840	$ 47.47	$ 87,344.80
Drifting (hand loading)	150	53.20	7,980.00
Raising	180	75.57	13,602.60
Incline Drifting	260	50.96	13,249.60
			$ 122,177.00
Opening Portal, road, bldgs., etc.			4,770.00
Diamond Drilling			7,000.00
	TOTAL COST		$ 133,947.00

7b. APPLICANT'S SHARE OF COST

Kearns-Tribune Corporation and Hogle Bros., joint venturers in K-H Mining Company, the applicant, will advance cash in equal shares as required to offset the applicant's cost obligations should this project be approved for DMEA participation.

RECEIVED
MAY 28 1956

L E A S E

THIS LEASE, made and executed in triplicate this _____ day of May, 1956, by and between SILVER KING WESTERN MINING & MILLING COMPANY, a Delaware corporation, hereinafter termed "Lessor" and K-H MINING COMPANY, which is a joint venture of Kearns-Tribune Corporation, a Utah corporation, and James E. Hogle and George H. Hogle doing business as Hogle Bros., a partnership, hereinafter termed "Lessees",

W I T N E S S E T H :

That Lessor, for and in consideration of the royalties, covenants and agreements hereinafter reserved and by Lessees to be paid, kept and performed, has granted, demised and let, and by these presents does grant, demise and let unto Lessees, to the depth only to the contact of the lower Thaynes and Woodside shale formation, all those certain 80 patented mining claims and 196 unpatented mining claims of Lessor, situate partly in Big Cottonwood Mining District, Salt Lake County, and partly in Uintah Mining District, Summit County, State of Utah, listed and described in Exhibit "A" attached hereto and made a part hereof.

TO HAVE AND TO HOLD the said demised premises unto said Lessees for the purpose of mining and for no other purposes, from and including the 1st day of June, 1956, to and including the 31st day of May, 1958, a period of two years, unless sooner terminated as hereinafter provided.

AND IN CONSIDERATION of said demise, Lessees do jointly and severally covenant and agree with Lessor as follows:

1. That Lessees herein are independent contractors and there shall be no privity of contract between Lessor and employees of Lessees, but all such employees, whether on a wage or profit-sharing basis, shall be selected by Lessees, fired by Lessees, directed by Lessees

and paid by Lessees; and that subject only to the specific limitations herein set out, Lessees shall have exclusive dominion and control over the leased property and the operations therein during the term of this lease.

2. That they will enter upon said leased premises and at their expense, will prior to July 1, 1957 do and perform on or for the benefit of all said unpatented mining claims labor and/or improvements of the value of One Hundred Dollars ($100.00) for each of said unpatented claims for the assessment year ending June 30, 1957, and on or after July 1, 1957 and prior to July 1, 1958 do and perform on or for the benefit of all said unpatented mining claims labor and/or improvements of the value of One Hundred Dollars ($100.00) for each of said unpatented claims for the assessment year ending June 30, 1958, as assessment work to the end that none of said unpatented claims shall be open for relocation because of any failure to do such annual assessment work as required by law from and after the 1st day of July, 1956, to and including the 30th day of June, 1958. If such assessment work is done at one or more points for the group or groups of said unpatented claims, Lessees shall post a notice upon each of said unpatented claims at the discovery monument, stating where such work is being done for such unpatented claim and also post a notice at the entrance or entrances of the workings where such work is done, stating the names of the unpatented claims for which the work is done.

3. That they will perform all work in said demised premises in a safe and minerlike manner in accordance with the mining laws of the State of Utah, and such rules and regulations as may have been or may be issued by the Industrial Commission of Utah or by the State Metal Mine Inspector. All openings shall be maintained in accordance with standards established by such rules and regulations, and shall be kept thoroughly drained, clear of loose rock and rubbish and obstruction

unless prevented by extra-ordinary mining casualty, except where safe and economical mining practice requires back filling.

4. That they will pay when due all occupation, net proceeds and other taxes accruing on account of or chargeable upon the operations conducted by the Lessees on the property leased, including taxes on all tangible property of Lessees on said premises.

5. That they will, at their expense, carry Workmen's Compensation Insurance and Occupational Disease Compensation Insurance covering all their employees and Lessees will pay any taxes and/or make any deductions under the Federal Social Security Act and/or the Utah Employment Security Act for which Lessees may become obligated, and will comply with all other laws, rules and regulations of any governmental authority affecting Lessees' operations in said demised premises, and will furnish Lessor at such reasonable periods as it may require with supporting evidence of such compliance, including full payroll information.

6. That there is reserved to the Lessor a right of way over said premises or through any workings thereon, and the right of entry into said property for the purpose of inspection of the workings for surveying, sampling, and for checking upon compliance with safety rules and regulations.

7. That they will forthwith post and thereafter keep posted in conspicuous places on the demised premises as many written notices as may be necessary to notify adequately all persons who may come within or upon the demised premises, that the same are held by Lessees under lease from Lessor, and that Lessees and not Lessor are liable for all labor performed and supplies and/or materials used by Lessees in and upon the demised premises, and that Lessees and not Lessor shall be responsible for all debts and expenses incurred in mining operations in or upon the demised premises.

8. That they will hold Lessor harmless and fully indemnify it against all claims and demands of every kind and nature which may be made upon Lessor or against the above described premises for or on account of any debts or expenses contracted or incurred by Lessees, as well as from and against all acts, transactions or omissions by Lessees, their agents and servants, including claims, demands, causes of action, costs and expenses arising during the continuance of this agreement from or on account of injury to any person, whether occasioned by any unsafe or dangerous condition of any part of the above described premises or any workings thereon or therein used by Lessees, or otherwise, and will defend Lessor at their own cost and expense from any such liability or asserted liability.

9. That they will not assign or sublet this lease, or any interest therein, or the premises affected thereby, or any portion thereof, (without the written consent of the Lessor) nor allow any person not in privity with the parties hereto to take or hold said premises, or any part thereof, under any pretense whatsoever.

10. That they will deliver to Lessor the said premises with the appurtenances and improvements, in good order and condition, with all shafts, tunnels, levels and other permanent workings used or employed by Lessees thoroughly clear of waste, rubbish and water and ready for immediate working, accidents not arising from negligence alone excepted, without demand or further notice on the last day of the term, or any extension of term hereof, or at any time previous thereto, upon demand for forfeiture; provided, that Lessees shall have thirty (30) days from and after the day of any such termination in which to remove all broken ore from the property for shipment under the terms of this agreement; and Lessees shall have the right during such interim, to remove from said premises all tools, equipment, and supplies owned by them.

11. That they will pay to Lessor, as rental for property leased to them, a royalty on all ores marketed in an amount equal to fifteen percent of the net mill or smelter return value, as hereinafter defined. "Net mill or smelter return value" is defined, for each lot, as the amount remaining after deducting from the figure given on its settlement sheet for such lot as the gross metal values per dry ton thereof, the mill or smelter treatment and working charges given on such sheet, freight and/or trucking or hauling charges and nothing more.

That in the event any subsidy shall be paid to Lessees by the United States Government or any agency thereof during the term of this lease on the metal content of the ores mined from the leased premises, the parties shall undertake to negotiate a supplement to this lease providing that, in addition to the royalties provided for herein, if and to the extent that Government regulations may permit, Lessees will pay as royalty the same percentage, as the applicable royalty set forth in this paragraph of the subsidy payable on the metal content of each lot of ore computed according to the subsidy regulations in effect at the time the settlement is made by the smelter.

12. That they will furnish, at their own cost, all labor, operating supplies, equipment and other material required in the doing of said work.

13. Upon violation by Lessees of any of the covenants or agreements of this lease, the term of this lease shall, at the option of the Lessor, terminate and expire, and the lease and leasehold rights of Lessees in the premises shall be forfeited, if such default or violation shall continue at the expiration of ten (10) days next after Lessor shall have given to Lessees written notice of such violation or default, and demand for possession of the leased premises because thereof, Lessees being given said ten (10) days' time to overcome the cause of such forfeiture by full compliance with the violated covenant

or agreement, and if such cause be not so overcome at the expiration of said ten days' time, without further demand or notice, Lessor, by its agents or attorneys, may enter upon the leased premises and dispossess all persons occupying the same. In the event Lessees deny that the violation had occurred or that the default existed, of which notice was so given, they may, within five (5) days from receipt of such notice, serve written demand upon Lessor for submission of such question to arbitration; thereupon, Lessor and Lessees shall each, within five days from the making of said demand, appoint an arbitrator, and if the two so appointed do not agree within five days, such arbitrators shall promptly select a third, and the decision of any two such arbitrators shall be rendered within ten days and shall be conclusive and binding upon Lessor and Lessees as to the fact of the occurrence or non-occurrence of such claimed violation or default, except as provided in paragraph 14 below. Any expense incurred in said arbitration shall be borne by the party found to be at fault by arbitrators.

14. That all operations shall be conducted in a safe and prudent manner; and it is agreed that should any dispute arise between Lessor and Lessees regarding the conduct of operations in a safe and prudent manner, such dispute shall be referred to the State Mine Inspector for decision, such decision to be final and binding upon both parties.

15. That this lease applies only to ore bodies, veins, or ledges within the demised premises above the contact between the lower Thaynes and Woodside shale formation, and in no event or circumstances shall Lessor be held liable if Lessees' operations continue beyond the outside boundaries of the leased property herein described.

16. That no officer or employee of the Lessor shall be interested in or participate in the profits derived from this lease.

17. This lease shall be binding upon and inure to the benefit of the successors and assigns of Lessor and the respective successors and assigns of Lessees.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be signed by their duly authorized officers the day and year first above written.

SILVER KING WESTERN MINING & MILLING COMPANY

By J. F. Fitzpatrick

LESSOR

Attest: W Sullivan
Secretary

K-H MINING COMPANY

By W Sullivan

and James E. Hazle

LESSEES

Witness as to K-H Mining Company: [illegible]

RECEIVED
MAY 28 19

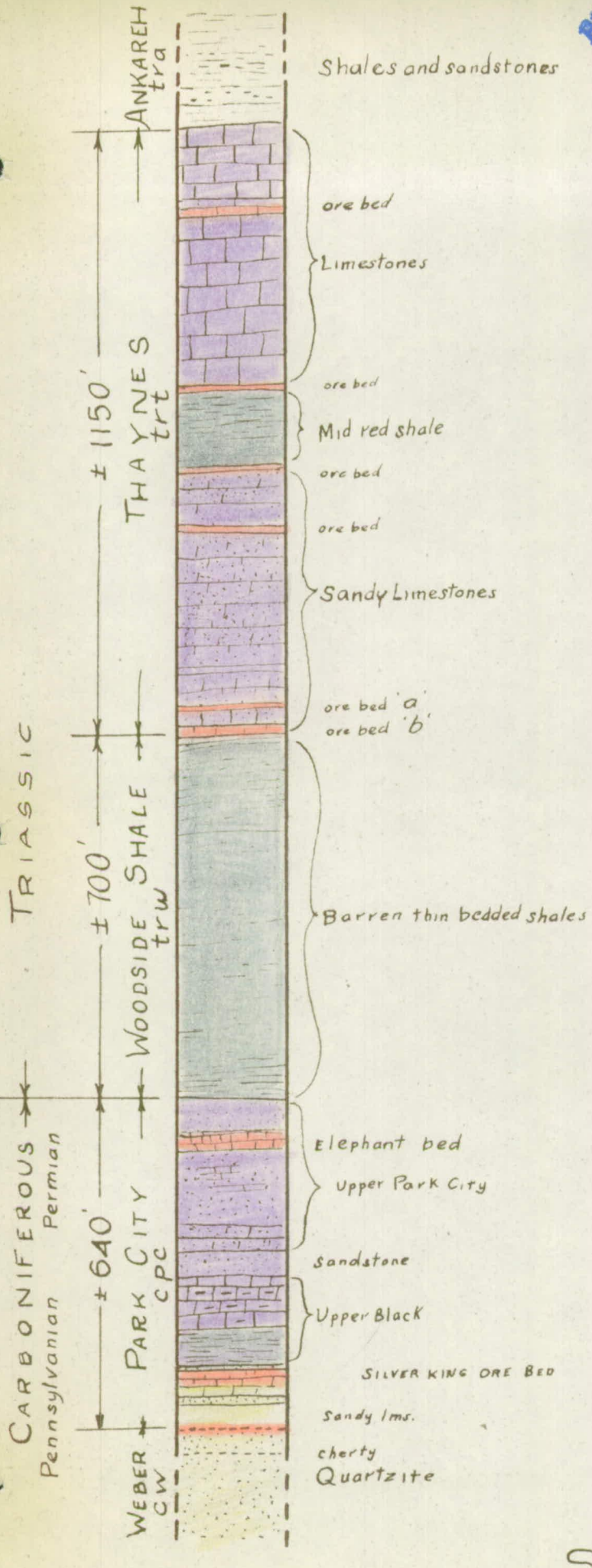

FIGURE One

Scale 1" = 300'

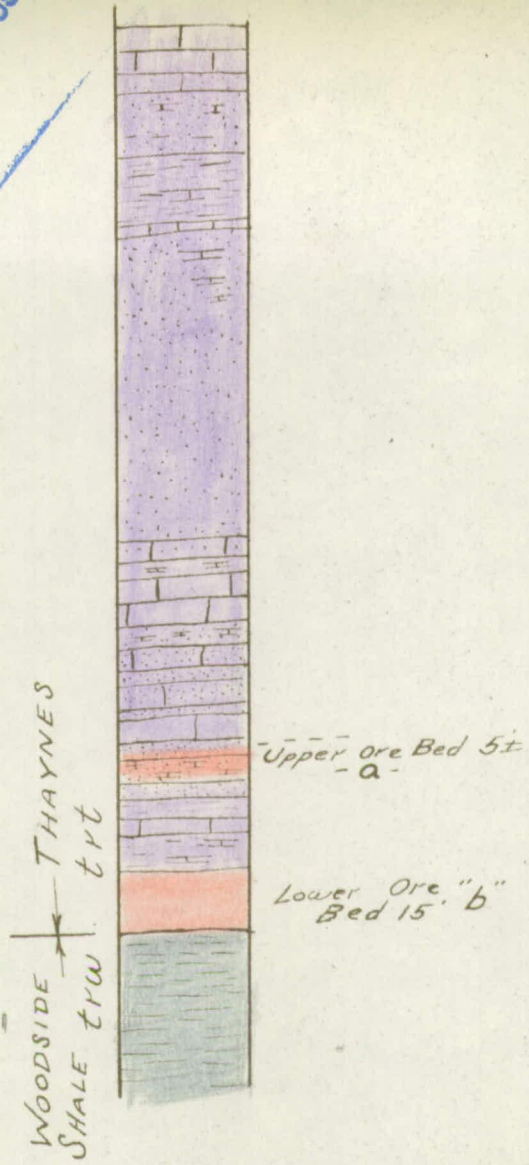

FIGURE Two

Scale 1" = 50'

STRATIGRAPHIC COLUMN

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 1 1957

DATE	INITIALS	CODE
7/1	C	220
7/2	alh.	500

June 27, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4320 (Lead-Zinc) K-H Mining Company, (Silver King Western Mining & Milling Company Property), Salt Lake and Summit Counties, Utah

Reference is made to your teletype of June 27, 1957, regarding the subject docket.

Enclosed are two photo copies of a letter from Mr. Gallivan, Secretary, K-H Mining Company, directed to Mr. E. N. Harshman, Acting Executive Officer.

Your attention is directed to the last paragraph of Mr. Gallivan's letter requesting that the file be held open until such time as the property can be reached and necessary information obtained.

W H King
W. H. King

Enclosures

ARIGUNE CORPORATION
KEARNS BUILDING
SALT LAKE CITY, UTAH

June 4, 1957

DMEA
DEPARTMENT OF THE INTERIOR
JUN 5 - 1957
REGION III
DENVER, COLORADO

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
Department of the Interior
224 New Customhouse
Denver 2, Colorado

Re: Docket DMEA-4320 (Lead-Zinc)
K-H Mining Company
(Silver King Western Mining & Milling Company Property)
Salt Lake & Summit Counties, Utah

Dear Mr. Harshman:

We spent all of yesterday with Mr. Moore and Mr. Howes in conference on the cited application in pursuit of a mutually acceptable program.

Whereas it is not possible without further examination of the property to arrive at a conclusion on which we might base an amended program, I believe that progress was made toward that end.

Our discussion concluded that certain costs would have to be known before an amended application could properly be appraised and that such costs could not be approximated without re-opening the old Copper Apex adit portal (mentioned in the original application) to determine its usability, and re-examining the Gorlinski incline (also there mentioned) which will undoubtedly necessitate de-watering.

Four feet of snow remained last Sunday on the road leading to the property, so it is not likely, as previously reported, that the property can be reached until July 1st or thereafter.

Hence, we request that our file be held open until such time as we can reach the property, gain the necessary information, and offer an amended program.

Thanking you for your courtesies, we are,

Sincerely yours,
K-H MINING COMPANY

By J. W. Gallivan
Secretary

cc: Mr. Moore
Mr. Howes

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
6/27	[illegible]	500
	[illegible]	500
6/27	[illegible]	130
6/27	Johnson	110
"	Mattendorf	100
6/28	[illegible]	255
		500

JUN 27 1957

T E L E T Y P E

WROriswold/er Rm. 4444, Ext. 3669

DMEA-Division of Base Metals

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXX

14X4401(01) Revolving Fund,
Defense Production Act, Interior,
(Transfer to Office of Secy.)

Date:

To: Mr. W. H. King, Executive Officer, DMEA Field Team, Region III, Denver, Colorado

Re: Docket No. DMEA-4320, K-H Mining Company. Please advise us regarding the status of this application. We have no information since your May 13 letter to Applicant.

George C. Selfridge

Chairman, Operating Committee

JWAlt/er 6/27/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

ORIGINAL FILE COPY
DMEA
RECEIVED MAY 17 1957

DATE	INITIALS	CODE
5/20	C	220
5/20	JWa	500

224 New Customhouse
Denver 2, Colorado

May 13, 1957 5/20

Mr. J. W. Gallivan, Secretary
K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket DMEA-4320 (Lead-Zinc)
K-H Mining Company
(Silver King Western Mining & Milling Company property)
Salt Lake & Summit Counties, Utah

Dear Mr. Gallivan:

In reply to your letter of May 10, 1957, it appears that Mr. Moore will be in Salt Lake City the latter part of this month. At that time a conference between you, Mr. Moore and a representative from Mr. Wilson's office can be arranged.

We will notify you in advance of Mr. Moore's arrival in Salt Lake so that you may make plans for the discussions.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

ENH:jy
cc: Sec. Op. Comm. (2)
King (2)
Wilson
Docket 4320
Harshman (2)
Chron.

OFFICIAL FILE COPY
DMEA
RECEIVED APR 29 1957
CODE
4/29 C 220
4/29 Jwa 500
225

224 New Customhouse
Denver 2, Colorado

April 25, 1957

Mr. J. W. Gallivan, Secretary
K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket DMEA-4320 (Lead-Zinc)
K-H Mining Company
(Silver King Western Mining & Milling Company property)
Salt Lake & Summit Counties, Utah

Dear Mr. Gallivan:

Your letter of April 23, 1957, requested a meeting in Denver or Salt Lake City to discuss an amended application for exploration at the Silver King Western property.

The geologist processing our Utah projects has just returned from Salt Lake, and I do not anticipate that he will return there for about 30 days.

In order to expedite your amended application, I suggest that a meeting be held here in Denver at any time suitable to you. Please give us two or three days notice of your proposed visit so that we may arrange a meeting with you.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer
DMEA Field Team, Region III

ENH:jy
cc: Sec. Op. Comm. (2)
King (2)
Wilson
Docket 4320
Harshman (2)
Chron.

The Salt Lake Tribune
EXECUTIVE OFFICE
1017 KEARNS BUILDING
SALT LAKE CITY, UTAH

April 23, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED APR 25 1957

DATE	INITIALS	CODE
4/25	C	220
4/25	aw	500
		225

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

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and Milling
Company Property
Salt Lake and Summit Counties, Utah

Dear Mr. Mittendorf:

Enclosed is a copy of a letter to Mr. Harshman written per your suggestion.

We are grateful for the consideration you have given us, and will make every effort to justify it.

Yours sincerely,

K-H MINING COMPANY

By W. Galliwan
Secretary

Encl.

OFFICIAL FILE COPY
DMEA
RECEIVED APR 25 1957

DATE	INITIALS	CODE

April 23, 1957

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining & Milling
Company Property
Salt Lake & Summit Counties, Utah

Dear Mr. Harshman:

A letter of April 9, 1957, from Mr. Mittendorf indicates the willingness of DMEA to consider an amended application in our case, and suggests our consulting with your office before preparing and filing such amendment.

Accordingly, this letter is written to discover your pleasure in this matter and to determine if a meeting might be arranged with the proper member of your team in Salt Lake City or Denver.

We would hope in such a meeting to discover a mutually agreeable plan, which we might then reduce to a formal amendment.

Thanking you for your consideration, we are,

Sincerely yours,

K-H MINING COMPANY

By: _____
Secretary

cc-Mr. Mittendorf

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
4/8	GOD.	500
"	Johnson	110
"	Mittendorf	100
4/9	C	227
		800

APR 9 - 1957

Mr. J. W. Gallivan, Secretary
K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake and Summit Counties, Utah

Dear Mr. Gallivan:

This is to acknowledge your letter, dated March 27, 1957, regarding the cited property which was denied Government exploration assistance on March 14. We would be glad to consider an amended application, stating your proposed revised exploration program.

Before preparing and submitting the amended application, we believe that it would be well to consult with Mr. E. N. Harshman, Acting Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado.

Sincerely yours,

C. O. Mittendorf

Administrator

JWAlt/er 4/5 &8/57
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
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		500
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		100
		225

Mr. J. W. Gallivan, Secretary
K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake and Summit Counties, Utah

Dear Mr. Gallivan:

This is to acknowledge your letter, dated March 27, 1957, regarding the cited property which was denied Government exploration assistance on March 14. As you request that your application be reopened we will consider doing this, provided that you submit an amended application supplying all the necessary information, maps, and costs pertaining to the change in your proposed exploration work. Such information should be submitted in quadruplicate. It will not be necessary to duplicate the information given in your original application.

Before preparing the amended application, we believe that it would be well to consult with Mr. E. M. Harshman, Acting Executive Officer, DMEA Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. Since the Field Team has already examined your property they will undoubtedly have certain ideas as to the form in which exploration work should be done. Hence, with prior consultation with them we presume it will be possible to arrive at a meeting of minds regarding an amended proposal.

Sincerely yours,

Chairman, Operating Committee

APPROVED:

Member, Bureau of Mines

Member, Geological Survey

JWAlt/er 4/5/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

8623

aee

Excerpt from Mr. Mittendorf's diary, 3/27/57:

OMEA-4320

Jim Ivers, Jr., of Salt Lake City, is in Washington as a consultant for OMM and is returning home at 2 p.m. today. He was anxious to see me, so I had him come to my office shortly after his request. The purpose was to discuss the K&H Mining Company's application, which was denied March 14. He said the applicants are Kerns and Hogle, both of whom are very substantial businessmen in Salt Lake City. According to Ivers, they were quite disappointed by our action because they were under the impression that the field team had recommended the project.

I did not recall the details of the case, so I obtained the docket. I told him the field team in no way agreed with the applicant and that an impasse had been reached over the manner in which the exploration work should be accomplished. It appears to me that neither side would yield and therefore the application was denied on the basis of the applicant's proposed program.

Ivers wanted to know if a case could be considered as withdrawn rather than denied. I told him it could not and explained the reasons why.

He then wanted to know if it could be reopened for reconsideration and I told him it could. I suggested that he suggest to Hogle and Kerns that they immediately write us a letter stating that they are willing to consider a revised project and requesting our reconsideration of the case.

Since Griswold handled the case, I thought it best that he meet Ivers, and I took Ivers to Bill's room.

The Salt Lake Tribune
EXECUTIVE OFFICE
1017 KEARNS BUILDING
SALT LAKE CITY, UTAH

March 27, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED APR 1 1957

DATE	INITIALS	CODE
4/1	C	220
4/1	JWa	500
		225

4/3/57

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

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and Milling Company Property
Salt Lake and Summit Counties, Utah

Dear Mr. Mittendorf:

We were surprised and disappointed to receive your notice denying our application for DMEA assistance. Until its receipt we were under the impression that processing of our application was proceeding favorably. Consequently, we were wholly unprepared for a negative conclusion.

Careful re-examination of our file leads us to believe that somewhere along the line we have developed a misunderstanding. We can arrive at no other logical conclusion.

Silver King Western Mining and Milling Company has long been looked upon as the most promising undeveloped property in the Park City area. All during our negotiation with the field team representing you the "promise" of the property was never questioned.

Therefore, we must conclude that our program must have caused the refusal. It is in this area we feel a misunderstanding must exist.

Mr. Moore of USGS, Denver, did frankly question our proposed program and -- as the file shows -- offered thoughtful and detailed counter proposal. In personal conversations with him and by letter, we explained our reasons for believing our program more economical than his.

Perhaps in our enthusiasm for our program we appeared adamant against any change. Our program was the result of long and conscientious planning, and represented the unanimous opinion of the best experience we could assemble.

It is possible, therefore, that in its defense we created the impression that we were interested in no program but our own and would consider no change. If we did create such an impression, it was not our intention. Our last letter to Mr. Moore

closed with this sentence: "If there are further points you would care to discuss, we will be glad to meet with your at your convenience."

It later developed that this letter was received by Mr. Moore after he had returned our file to Washington. It is possible, therefore, that Mr. Moore had reasonably concluded from his conversations with us that we were frozen to our own program.

We wish now to stress that such is not our position and that we would be grateful for an opportunity to continue our negotiations to see if a mutually acceptable program cannot be developed.

We have suggestions to offer which we feel will make such a program possible and we herewith respectfully request that our application be reopened. We are anxiously awaiting your advice.

Sincerely yours,

K-H MINING COMPANY

By: J. W. Gallivan

J. W. Gallivan, Secretary

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/12	Friauf	500
	Gff.	500
3/13	Selfridge	120
"	Johnson	110
"	Mittendorf	100
		~~48~~ 225

MAR 14 1957

K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and Milling Company Property
Salt Lake and Summit Counties, Utah

Yager
Kiilsgaard

Gentlemen:

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

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

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

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

Sincerely yours,

J. D. Mittendorf (for)

Administrator

JWAlt/er(bjl 3/6/57)
rewritten 3/12/57
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/6	Alt	500
~~3/6~~		~~500~~
		130
		110

K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake and Summit Counties,
Utah

Noted: Kiilsgaard
Noted: Bishop (see Kiilsgaard file.

Gentlemen:

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

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

Careful study of all our information, although noting ~~a small amount of~~ lead-zinc ore on your lease, indicates to us that the probability of disclosing significant ore reserves ~~by your proposed program~~ is not sufficiently promising to justify Government participation. We regret to advise you, under these circumstances, that your application for exploration assistance is denied.

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

Sincerely yours,

JWAlt/bjl (3/6/57)

Administrator

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

8623

Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
3/7	aw	500
		130
		110
		100
		225

Bishop
Yoe

March 6, 1957

Memorandum

To: Administrator

From: Chief, Base Metals Division

Subject: Denial of Application Docket No. DMEA-4320, K-H Mining Company, Silver King Western Mining and Milling Company Property (Lead-Zinc), Salt Lake and Summit Counties, Utah

The cited application, dated May 23, 1956, was received by this office on May 28. On June 25, we wrote the Applicant requesting additional information which was received July 2. On July 12, the application was referred to the Field Team for their consideration, a field examination if warranted, and recommendation.

The Field Team report of examination was received by this office on February 18, 1957.

The Applicant's proposal consisted of driving a new adit at the approximate elevation of the old Copper Apex adit to the intersection of the shear zone under the Gorlinski incline, and along this shear zone to the intersection of the "A" and "B" beds in the lower Thaynes formation (approximate distance, 1,390 feet); to drift along the most promising of the "A" and "B" beds (approximate distance, 450 feet); to drive a three compartment raise from the new adit level, along the shear zone, to the bottom of the Gorlinski incline (approximate distance, 180 feet); to drift along the shear zone at the top of the raise to explore the "A" and "B" beds (approximate distance, 150 feet); to drive a small cross-section inclined slusher raise from the new adit level (approximate distance, 260 feet); and 1,000 feet of diamond drilled core holes. The Applicant estimated that the proposed work would cost $133,947.00.

During 1948, Paul Gorlinski acquired a lease from Silver King Western and Milling Company covering the group of claims now proposed for exploration by K-H Mining Company. From 1948 to 1955 (inclusive), the production from the property was 4,241 tons averaging .015 oz. of Au. and 7.84 ozs. of Ag. per ton, 11.20 per cent Pb., 3.44 per cent Zn., and 0.55 per cent Cu.

8623

The Field Team did not approve of the Applicant's proposal and recommended an exploration program from the present Gorlinski adit and winze, with subsequent work at greater depths if those beds prove to be favorable exploration targets. This was discussed with the Applicant and the proposal was not acceptable.

Geologically, there is no reason to assume that exploration 600 feet downdrift from the now accessible Gorlinski workings will prove more successful than exploration in the vicinity of these workings.

The Field Team states:

> "We would concur with a program of drilling and/or crosscutting and drifting from the present workings, or drilling from stations established by drifting northeasterly from present Gorlinski adit breast. In conferences with the Applicant and later with the Applicant's geologist, Moore was unable to arrive at a mutually satisfactory compromise program. It thus appears that the Applicant is not interested in any exploration which differs from that in his application. Under these circumstances, we have no other alternative than to recommend denial of the application for exploration assistance."

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

W. A. Griswold

JWAlt/bjl (3/6/57)

Copy to: Docket
Base Metals
Chron.

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

OFFICIAL FILE COPY
B M E A

RECEIVED MAR 1 1957

DATE	INITIALS	CODE
3-1	C	220
3/4/57 3/1	JWA	500
W. R.	Griswold,	DMEA

March 1, 1957

Re: DMEA 4320; Lead-Zinc
$133,947
K-H Mining Company
Silver King Western Mining & Milling Co.,
Salt Lake & Summit Counties, Utah

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, Branch of Base Metals

Subject: Field team review of February 7, 1957 (received February 18, 1957) and of the applicants letter of comment dated February 8, 1957 (received February 25, 1957)

The K-H Mining Company proposed a 1,380-foot crosscut adit to cut favorable beds 160 feet below the deepest Gorlinski workings. Other openings proposed included an 180-foot raise, a 260-foot incline, 610 feet of drifts and 1,000 feet of diamond drilling. The stratigraphic horizons to be explored are the "a" and "b" beds of the Thaynes formation.

These beds have been the source of important tonnages of ore from mines a mile or so to the east of the K-H leasehold. The "a" bed produced 4,241 tons of ore with a gross value of $110,000 from 4 small ore shoots in the Gorlinski workings. The "b" zone was unexplored, and the favorable Park City formation is in the order of 1,000 feet below the existing workings, and is also unexplored.

M. M. Howes, Bureau of Mines Engineer reviewed the application and examined the property. He recommended that instead of the new 1380-foot crosscut adit proposed that the feasability of reopening the Copper Apex Adit be investigated; that if such be feasible that adit could save about 700 feet of drifting. Otherwise no major change was suggested except to note that the Government might not participate at the rate of 50 percent in a raise of more than 2 compartments, nor would it be bound by a depth limitation for repayment.

Osterstock of the Geological Survey examined the property, believed the company program too extensive, and F. B. Moore (G.S.) who prepared the report for the Survey considers that local exploration, particularly in the vicinity of known orebodies is warranted, but that the program involving a long crosscut-adit has too large a part of the exploration cost spent on non-exploratory elements. Mr. Moore outlined a simplified, less expensive program of exploration to the applicant company - one which provided for exploration of the "a" and "b" beds from existing workings by extending the Gorlinski incline and doing some crosscutting. A second stage involving the 1,320-foot crosscut and raising and crosscutting was outlined as contingent upon the first stage.

The applicant found the modifications unacceptable, largely by reason of cost and wishes to explore as outlined in his application.

Because of this impasse, the field team recommends denial of assistance. I concur in denial for the reason that I believe all the objections of the applicant to the Survey program, and the objections of the Survey to the applicants program (both original and as modified by Howes) are valid. In other words both programs are weak in terms of objective when compared to cost.

O. M. Bishop

O. M. Bishop

Copy to: Division of Minerals
Mr. Kiilsgaard
Mr. Lamb
Mr. Bishop
Files

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 1 1957

DATE	INITIALS	CODE
3/1	C	220
3/1	jwa	500

February 28, 1957

Re: DMEA 4320
K-H Mining Co.
Gorlinski Mine
Salt Lake and Summit
Counties, Utah
Appl. Est. $133,947
Lead - Zinc

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of letter of the secretary of the applicant concerning a long adit and other work

The secretary continues his argument in justification of a long adit, raising and drifting in a search for possible small orebodies in and near the intersection of a shear zone and 2 beds, one of which, a 5-foot bed, is known to be favorable for ore deposition.

My comment of February 14, 1957 is in my opinion, still valid and again I recommend denial of the application if the applicant remains opposed to the common sense proposal of the geologist examiner and the Field Team.

N. E. Nelson

N. E. Nelson

IN REPLY REFER TO:

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

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 18 1957

DATE	INITIALS	CODE
2-18	C	220
2-20	alt.	500

February 14, 1957
Re: DMEA 4320
K-H Mining Company
Gorlinski Mine
Salt Lake and Summit Counties, Utah
Appl. Est. $133,947.00 - Lead-zinc

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of Field Team Report

The applicant requested assistance in exploring the downward and lateral projection of the intersection of a near-vertical shear zone and flatly dipping (-25°) beds. For 400 feet, measured on the dip, the intersection is the locus of small orebodies in the 5-foot 'a' bed of the Triassic Lower Thaynes formation. In that distance (400 feet), the structure made 4,241.06 tons of oxidized shipping ore, or 10.6 tons per dip foot. Probably selective mining was done in order to keep a shipping grade, but at best the tonnage probably is small.

The intersection of the shear zone with a 15-foot lower bed, 'b', is assumed to have ore making possibilities. Considerable work has been done near the intersection, especially where the Gorlinski adit crosscuts the bed, but the intersection has not been tried out and the ore making potential is a matter of conjecture. No mention is made of conditions at the outcrops of the 'b' bed and the shear zone.

The applicant proposed rehabilitation of an old adit and its extension to the projected intersection of the shear zone and the beds at a down dip distance of 350 feet from the lowest workings or about 750 feet from the outcrop. Sulfide ore instead of practically non-beneficiable oxide ore is expected at the lower level. The estimated cost of the applicant's proposed work is $133,947.00.

The geologist and the engineer of the examining team propose differing work programs. The engineer's program is essentially that of the applicant, but lower unit costs and other expected savings would reduce the estimated cost to $116,086.40. The geologist examiner proposes a 2 part program that would tend to demonstrate the real ore

making potential of the 'a' bed for 200 feet by winzing below the now lowest level, and determine by crosscuts and drifts and/or diamond drilling whether or not the 'b' bed is ore bearing where cut by the shearing. If the work in the upper levels indicates the long crosscut, etc. are warranted that work would follow more or less as proposed by the applicant. No detailed estimate of the cost is made, but a 'quick' estimate by the geologist names $30,000 as the approximate cost of the Stage I work.

Judging by the maps showing the stoping in the 'a' bed, the ore does not extend back more than about 40 feet from the shearing. That means, if the ore is continuous, the 'a' bed might make $\frac{2 \times 40 + 20 \text{ (shear)} \times 350 \times 5}{10} = 17,500$ tons of ore between the present bottom of the incline and the proposed new bottom. The 'b' bed, as it is three times as thick, might make 50,000 tons. The latter figure is entirely conjectural since no ore is known to occur in the 'b' bed in the Gorlinski mine area. The figure for the 'a' bed is probably high. Only a small part (about 1/3) of the 'a' bed in the upper 400 feet was minable as direct shipping 'oxide' ore.

In my opinion the program of the geologist is the more realistic. If the applicant is not interested in such an approach, I, with the geologist and the Field Team, recommend that the application be denied.

N. E. Nelson

N. E. Nelson

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

224 New Customhouse
Denver 2, Colorado

February 14, 1957

Memorandum

To: Secretary to the Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket DMEA 4320 (Lead-Zinc) K-H Mining Company (Silver King Western Mining and Milling Company Property) Salt Lake and Summit Counties, Utah

Enclosed are four copies of a letter dated February 8, 1957, from J. W. Gallivan, Secretary K-H Mining Company for incorporation with the Reports of Examination on the subject docket forwarded with our memorandum of February 7, 1957.

This letter substantiates the statements made in Paragraph 7 of our transmittal memorandum of February 7.

DMEA Field Team, Region III

W. M. Traver

By W. M. Traver
Executive Officer

Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED FEB 18 1957

DATE	INITIALS	CODE
2-18	C	220
	esf	130
2-19	C	220
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KEARNS-TRIBUNE CORPORATION
Kearns Building
SALT LAKE CITY, UTAH
February 8, 1957

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Mr. Frank Moore
U.S.G.S.
Building 25
Denver Federal Center
Denver Colorado

Re: Docket DMEA 4320 (Lead & Zinc)
Silver King Western Mining and Milling
Company Property
Salt Lake City, Utah

Dear Mr. Moore:

This letter is in response to the suggestions which you have proposed by your letter of January 9 and later verbally to Mr. Ivers regarding changes in our proposed plan of development of the Silver King Western property.

We appreciate fully your reasons in suggesting that additional exploration work be conducted from the Gorlinski incline prior to the starting of the new adit, since we have been equally desirous of acquiring as much geological data as economically possible before we committed ourselves to the expenditure of the sums involved, and pursuant to this desire we have considered such possibilities in considerable detail. We subsequently concluded that the nature of the anticipated difficulties involved in further probing from the Gorlinski incline was such as to thoroughly discourage such work, particularly when we compared the high costs and limited information derived to the advantages gained from exploring from a new adit. All of the factors involved may not be apparent to those who are not familiar with the district and we therefore take the liberty of enumerating them with the hope that you will appreciate our point of view.

1. Rehabilitation of the Gorlinski incline adequate to permit efficient exploratory work in a safe manner would be a difficult and expensive project. As you will recall, the incline is crooked both laterally and vertically and is equipped with a small skip with capacity of about half the size of a small car. If we were to make this incline usable, the following preparations would be necessary:

a. We would have to excavate enough room at the head of the incline to allow space enough to accommodate a larger hoist and room for a skip dump or car transfer, depending on which system we would use. This area is very tight and heavily timbered. Additional excavation would be slow and require equally heavy timber to support the ground.

b. We would have to acquire, by purchase or rental, a hoist of sufficient power and rope capacity to permit the work proposed. This would mean power enough to pull the dead weight of the loaded car or skip and a drum with capacity enough to wind a rope 200 feet longer and of larger diameter.

c. Such a hoist would require a power source, either electric or air, much larger than the compressor that is now on hand. For the crew to operate efficiently, the compressor should have enough extra power to operate the drills, pumps, and fans required. Although there is a 110 volt line at the portal which is brought from a nearby police radio station, if we were to use electric power to operate any of the equipment, we would need a new line and transformers.

d. We should then straighten out the sharper lateral and vertical bends in the incline and raise the back where it is too low. However, the incline cannot be straightened out completely and it will never provide a good hoisting median. Even with the track and bed replaced with good rails, we can expect frequent derailments and spillage from the side rope tugs resulting from pulling around the lateral bends.

e. The major portion of the incline will have to be timbered to make it safe for use. Gorlinski drove this incline cutting all cost corners and he used an absolute minimum of rock support. Since the incline is in the shear zone, much of the ground is slabby and given to sloughing. In some spots where Gorlinski has merely cleaned up the sloughing material, the back has worked up several feet. We believe that the state mine inspector would require a responsible operator to timber the whole incline.

Because of the time involved, we have not attempted to estimate the cost of accomplishing the above listed steps. In fact, it would be quite difficult to prepare a realistic cost estimate without an examination of the incline with such a project in mind. Bitter experience has taught us that even well planned estimates of this type of work have usually been too low. Suffice it for now to say that the project of rehabiliting the incline would be very expensive.

One might, then, logically suggest that it would be better to attempt some exploration from Gorlinski's incline without an attempt to rehabilitate it. The extremely costly result of Gorlinski's attempt to explore from the incline bottom is an immediate answer in the negative. Gorlinski spent an entire summer season attempting to do the small amount of work as represented on the map of the incline bottom. And more important, safety considerations preclude any work of an extensive nature without first making the incline safe.

2 & 3: Unfortunately, any drifting done from the rehabilitated incline could not be accomplished at any where near the cost of the same work when driven from a raise. The greater inefficiencies of working from such an incline can be summarized briefly:

a. A third man is required near the hoist at all times when men are in the incline. Even when the rock is not being hoisted, the threat of strata gas, (low oxygen air peculiar to the Park City district) feeding into the workings makes it necessary that the hoist be available at all times to lift the men out of the bottom.

b. As pointed out earlier, frequent derailment and rock spillage in the incline will materially slow down disposal of the waste.

c. The mucking cycle is slowed by the necessity of transferring the muck to the incline and hoisting it.

d. Since no one is at the mine between shifts to start the power units, a delay of considerable time results each morning while the incline bottom is dewatered. This delay is particularly lengthy after weekends. If a man is dispatched ahead of the shift to start the pumps, his time and separate transportation costs up the mountain must be covered.

e. The crew is often delayed in entering the incline to start the pumps until the low oxygen air which accumulates in the incline is blown out. Adequate electric power to operate the fans and pumps automatically is costly, as cited above. Adit drifts and drifts from raises connected through for natural ventilation do not present these problems.

f. In the spring and fall, the crews are often delayed by the necessity of breaking a path through the drifted snow banks. The lower adit would be much more accessible. If the men are required to board at the mine, their over-all wage is considerably higher.

An accumulation of these factors can be expected to at least double the actual unit cost of drifting from the incline levels. Thus the estimated cost per foot for drifting from raises as submitted in our proposals should be more than doubled if applied to drifting from such a rehabilitated incline.

Considerable drifting may be required to pursue the beds through the complex fault zone in order to properly trace the continuity of the mineralized beds beyond the fault zone. A short drift or crosscut will not be adequate to disprove the presence of continuous ore bodies at these various horizons. If it were planned to abandon Phase II if Phase I should prove negative in results, we would want to be prepared to do enough work during Phase I to satisfactorily explore the potential of the more promising prospects. Therefore, we should anticipate doing a considerable amount of drifting in Phase I prior to the abandonment of the project. If Phase I does not result in conclusive results, then there is no logic in the much greater expense of working in the Gorlinski incline prior to the driving of the new adit. We certainly don't want to abandon the project and our invested capital with the promise of ore bodies being much the same as Gorlinski has left the prospect. Unfortunately, this money cannot be recovered for use down below. Before we undertake further exploration of ore beds in localized areas, we should be in the best position possible to accomplish the work efficiently.

4. As we have emphasized earlier, by far the most promising prospect is the pursuit of the heavily mineralized zone in the bottom of the Gorlinski incline northward and downward along the "a" bed contact. Related closely to this is the exploration of the "b" bed immediately below this zone. The Gorlinski prospect will not be satisfactorily explored until this zone has been thoroughly probed. If we did no other work, we would consider this essential. But such exploration requires the attainment of considerable more

depth. It would be extremely costly to achieve this depth by extending the Gorlinski incline. Even when such inclines are sunk with the most modern types of equipment under ideal conditions, the cost is considerably more than that of ordinary drifting. Here, the conditions will be far from ideal. Considering the limitations of pumping water, the flow of which will increase with depth, underhand scraping, mucking, and drilling, rock hoising, ground support, etc., this incline can be expected to cost at least four and possibly five times the cost of an ordinary drift. The factors restricting the efficiency of drift work done at the bottom of the extended incline will be even more effective than at its present bottom.

Although we had not so indicated in our formal proposal, we have plans for considerable extra drifting and crosscutting at our own expense in certain zones where additional work will be indicated. These zones are two in particular: One as a continuation of the work projected from the top of the proposed raise and the other is at the intersection of the raise with the lower "b" bed horizon. This work was not included in the original proposal because of the anticipated difficulty of describing the localized targets ahead of time in sufficient detail to permit inclusion in the contract, considering the fact that the location of this work must be flexible in all factors except geology. These drifts are necessary to complete the satisfactory exploration of the best prospects and should be included as part of the minimum amount of work necessary in Phase I before Phase II can be abandoned. If the suggestion is agreeable with you, we would be glad to include this drift footage as part of the original proposal.

As you can appreciate from the foregoing, the cost of Phase I, which you propose will be very much in excess of the $30,000 you suggest -- far in excess if the first indications are not fruitful or if the complex faulting near the shear zone requires extra drifting to follow the ore beds. With allowance made for diamond drilling and other incidentals, the cost of phase one would very likely exceed three-fourths of the total cost of the project as we proposed it and with the result of a much smaller zone being explored.

This is exactly the situation which we wish to avoid. Gorlinski and his predecessors expended considerable funds attempting to explore the area with inefficient costly methods. If Gorlinski had started the new adit after he had mined out his ore bodies rather than his incline downward, he would have been able to complete almost all of the work which we propose with the money he subsequently expended. Of course, the strength and nature of the mineralization was not apparent to him then as it is now. If we now expend additional sums following the Gorlinski pattern or on the dead work of rehabilitation, we will be short that much of the total funds available to us for efficient exploration in the most promising zones. We must be prepared financially to see Phase II carried to its ultimate commitment if such were to be the program. Our source of funds is limited and if the total cost of the project were to be increased one-half again over the original plan because of the costly nature of Phase I, we would not be in a position to complete our commitments, let alone do some of the extra work we have described above.

A point of greater importance is the fact that in the professional opinion of our own people, the work that Gorlinski has done has exposed a mineralized channel of such intensity and nature that, considering the characteristics of the district, it shows sufficient promise to merit a larger more extensive effort without the need of further preliminary search

of localized possibilities. To a considerable extent, Gorlinski's work has already accomplished to our satisfaction what Phase I is intended to do.

Generally speaking, we now need elbow room to follow the intense mineralization to the ore-making beds. We cannot urge too strongly that exploration of this property commence with the driving of a new adit as originally proposed.

In your letter, you also suggest that the raise from the new adit parallel to the shear zone is not necessary for exploration purposes. On the contrary, we believe it is very important inasmuch as the drifts and x-cuts projected into the "a" and "b" beds near the incline bottom will require the chutes for rock disposal. The proposed incline upward from the new level along "b" bed has exploration value only and will not be equipped to transfer broken rock economically. Incidentally, this incline is intended to follow "b" bed with an occasional short raise to "a" bed where the mineralization appears strongest.

We are in agreement that the proposed diamond drilling should be saved for near the end of the adit as well as for some work near the top of the raise. From expensive experience in the Park City district, we cannot emphasize too strongly that this drilling has very limited application in the search for ore bodies peculiar to the district. Ore encountered in the core is not necessarily significant and large ore bodies can and have been narrowly missed by barren holes. On the other hand, diamond drilling properly applied can be of great value to the geologist in determining his position in the strata.

If there are further points you would care to discuss, we will be glad to meet with you at your convenience.

Sincerely yours,
K - H MINING COMPANY

By: /S/ J. W. Gallivan
J. W. Gallivan, Secretary

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

224 New Customhouse
Denver 2, Colorado

February 7, 1957

Memorandum

To: Secretary, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Reports of Examination, Docket DMEA 4320, (Lead Zinc) K-H Mining Company (Silver King Western Mining and Milling Co. property) Salt Lake and Summit Counties, Utah

Enclosed are the original and three copies of the following:

1. Engineering Report of Examination on the subject docket by M. M. Howes, Mining Engineer, USBM.

2. Transmittal letter for Item 1 by S. R. Wilson, Supervising Mining Engineer, USBM.

3. Geologic Report of Examination on the subject docket by F. B. Moore, Geologist, USGS.

4. Transmittal letter for Item 3 by E. N. Harshman, Member Field Team, Region III

The engineer recommends a program of crosscutting, drifting, raising, and diamond drilling that is essentially the same as that requested by the applicant. The cost of the program is estimated to be $116,086.40.

The geologist believes that some exploration at the Silver King Western property is warranted, but proposes a more conservative program. It would include exploration of the postulated favorable beds near presently accessible workings with subsequent work at greater depths if those beds prove to be favorable exploration targets.

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
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The program proposed by the applicant and recommended by the engineer includes about 1,400 feet of adit and 180 feet of raising which has little or no exploratory value. This proposed work would cost about $70,000.00 or 60 percent of the total project cost. We consider this to be an adverse ratio of exploratory to non-exploratory work.

The geological aspects of the program proposed in the engineering report are discussed in Harshman's review of October 31, 1956, attached to the engineering report. Geologically, there is no reason to assume that exploration 600 feet downdrift from the now accessible Gorlinski workings will prove more successful than exploration in the vicinity of these workings.

We would concur with a program of drilling and/or crosscutting and drifting from the present workings, or drilling from stations established by drifting northeasterly from the present Gorlinski adit breast. In conferences with the applicant and later with the applicant's geologist, Moore was unable to arrive at a mutually satisfactory compromise program. It thus appears that the applicant is not interested in any exploration which differs from that in his application. Under these circumstances we have no other alternative than to recommend denial of the application for exploration assistance.

S. R. Wilson advises that the applicant is preparing a reply to F. B. Moore's letter of January 9, 1957, which will definitely confirm the K-H Mining Company's refusal to accept any other program than that proposed by them or the one slightly modified by the examining engineer with respect to costs. We will forward the letter upon receipt, but prefer not to delay further transmittal of the reports as it should in no way influence your decision. Wilson also suggested the possibility of your considering the Company's program as outlined with a smaller Government participation. This approach, however, we do not believe is consistent with DMEA policy.

In the event a contract is made, it may be necessary to furnish a further breakdown of costs in accordance with Minutes, Operating Committee No. 296. This will be done on advice from you.

Enclosures

DMEA Field Team, Region III

E. N. Harshman

W. M. Traver

W. M. Traver

E. N. Harshman

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IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

TRANSMITTED
FEB 7 1957

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

January 18, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III
Through: E. N. Harshman

From: Frank B. Moore

Subject: Docket DMEA 4320 (Lead-zinc), K-H Mining Co. (Silver King Western Mining and Milling Co. property), Salt Lake and Summit Counties, Utah

This memorandum will attempt to clear up any confusion which may exist in regard to the application submitted by the subject company.

Because Osterstock left the Survey shortly after the property was examined, because Ivers, company geologist, left Utah in pursuit of other interests, and because of my own personal troubles, no real opportunity to discuss suggested changes in the proposed method of exploration was found until January 15, 1957. An attempt was made in November 1956 at Salt Lake City to reach agreement on an acceptable way to carry out the exploration. J. W. Gallivan, company secretary, said that because Ivers had done all the geologic work toward preparation of the application, he was the only one in a position to handle the problem for the company. Ivers, at that time, was on the east coast. Gallivan, in the attached letter dated December 6, 1956, outlined, in part, the company position on the suggested changes. On January 9, 1957, the second attached letter was sent to Gallivan outlining

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

a method of exploration that might be acceptable to DMEA, and on January 15, 1957, Ivers called at the Denver office. A three-hour conference with Ivers failed to change the company stand on the method of exploration.

I talked to Osterstock briefly in November at Salt Lake, and he intimated that he thought the company program was too ambitious. However, time did not allow discussion of details. In telephone conversations with Harshman since, he has also stated that he did not agree with the company program.

The accompanying geologic report is written with the realization that the Bureau of Mines member is in disagreement with my recommendations. Under the circumstances, no attempt has been made to give details of the suggested method of exploration. The suggested exploration, however, would almost exactly duplicate the company's objectives if carried through both stages but would allow DMEA to stop at possibly one-quarter of the total cost if conditions were unfavorable.

Frank B. Moore

Frank B. Moore

Enclosures

FBMoore:arh

COPY

KEARNS-TRIBUNE CORPORATION
KEARNS BUILDING
SALT LAKE CITY, UTAH

December 6, 1956

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Mr. Frank Moore
U.S.G.S.
Building 25
Denver Federal Center
Denver, Colorado

Re: Docket DMEA 4320 (Lead & Zinc)
Silver King Western Mining and
Milling Company Property
Salt Lake City, Utah

Dear Mr. Moore:

During your recent visit to Salt Lake you posed several questions pertaining to our proposed plan of exploration of the property which we have under lease from the Silver King Western Mining and Milling Company and which we have outlined in our application to DMEA. These matters have been discussed with the geologists and engineers of our group, and the following constitutes their beliefs and reasoning.

At the time we were preparing our proposal to DMEA, our principals, together with our staff, devoted considerable thought and discussion toward the various prospects available to us. Among those considered was the possibility of exploring the "b" bed at the various levels available through the Gorlinski workings. The beds have not been probed in this particular area and the ore bodies found within them in the adjacent Silver King Coalition workings made them an attractive prospect. The following factors were considered most important and it was decided to forego exploration in the upper zones at this time.

1. Although the beds were near present accessible Gorlinski workings, an ambitious and expensive program would be necessary to pursue the beds through the complex fault zones in order to properly explore the mineral bearing potential of the beds at that horizon. In other words, a simple drift or cross-cut would not be adequate to prove or disprove the presence of ore.

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(date)

2. The ores found to date at and above the Gorlinski level are thoroughly oxidized and are not subject to simple beneficiation. If these ores can be treated at all, it is only by complex inefficient methods tailored to the specific characteristics of the ore. Normally in the district, such oxidized ores are shipped directly to a lead or zinc smelter, depending on which mineral is the predominant one value-wise. Even if one of the minerals is present in sufficient quantity to make extraction profitable, as was the case with the ores Gorlinski mined early in his lease, conditions do not permit good conservation practices. The lesser grade ores must be left unmined. Only one of the minerals is recovered in the smelter, the major portion of the other is lost. Gorlinski was able to negotiate some of his ore sales so that the local lead smelter paid him for some of the zinc present. This was done under market conditions different from today and such payments would not be available to the future mine operator.

The ores found in the "b" bed above the Gorlinski level would be closer to the surface than ores mined by Gorlinski from "a" bed and thus even more thoroughly oxidized. In our opinion, the potential economic return of such oxidized ores would not justify the expenditure of funds, or for that matter, the use of equipment and available time, to the same degree that the sulphide zone does.

3. Our most promising and immediate target is the pursuit of the heavily mineralized zone found continuing downward from the bottom of the Gorlinski incline to the "a" bed outside, but adjacent to the fissure zone where the bedded ore bodies are expected to be continuous. As you will recall, the bottom of the incline had uncovered a heavily mineralized zone which was partially made up of vein matter, but more predominantly replacement of small fault segments of the "a" beds and some drag ore. Following your visit, the miners were instructed to head a fault wall on the east side of the incline bottom. Rich galena and sphalerite was uncovered and found to be part of a small fault block bounded again by a barren fault wall on the east.

The mineralization appears to be increasing in intensity with depth and we believe exploration of this zone cannot be completed satisfactorily without the attainment of greater depth.

Exploration of the "b" bed at the Gorlinski level would contribute very little to the information needed to satisfactorily explore the "a" bed at depth. Whether ore was found or not in the "b" bed at the upper levels, the promise of potential ore bodies in the "a" bed in the heavily mineralized zone at and below the Gorlinski incline, as judged by condition of ore occurrences elsewhere in the distant would still merit extensive exploration in that direction.

In the same sense, the presence or absence of oxidized ore in the "b" bed in the zone accessible to the Gorlinski adit is not conclusive proof that ore will or will not be present elsewhere in the bed. The best zone of exploration for the "b" bed is believed to be in the area nearest to that portion of the fissure zone which is most intensely mineralized. This area is vertically below and to the North of the "a" bed ore bodies which Gorlinski previously mined, not south and above them. Gorlinski attempted to explore this more promising area by drifting parallel to the fissure zone from the bottom of his incline in an attempt to reach and explore the "b" beds at this elevation, but the conditions under which he had to drive this drift were extremely cumbersome and inefficient to the result that less than one-third of the work was accomplished than would be anticipated considering the time and money expended. Gorlinski's lease expired before he was anywhere near his destination.

Considering the fact that the most intensely mineralized portion of the fissure system exposed is around and in the incline bottom, the best area to explore the "b" beds known to date would be at the intersection of these "b" beds with the fissure underneath the incline. As our application indicates, we have planned a raise from our proposed new level, which will penetrate this zone.

Generally speaking, it is our purpose to explore fully the ore potential of this entire zone with the greatest return of useful information per dollar expended. We do not have unlimited capital reserves available to us and we cannot afford to explore the many secondary targets until we have first resolved the most promising. Otherwise we may expend too much capital toward the search for oxidized ore bodies and be left with insufficient capital to complete the search for those prospects which promise the most with regard to quantity of minerals and economic return. We would benefit by Gorlinski's experience and plan our exploration in a manner wherein we can enter the largest amount of ground at the least total cost. Had Gorlinski, after mining his ore, devoted his capital toward exploring in the manner we propose, he would have completed by now a good portion of the work we plan. As it is, he has a useless incline and inadequate information.

It should be kept in mind that in the long range, our project is a logical step toward the development of a potentially much larger area. The first ore bodies of our neighbor, the Silver King, were found in the Thaynes formation and these were followed to greater depth to the eventual development of the mammoth ore bodies found in the Park City formation. In our area, the tremendous capital expenditure necessary to explore the underlying Park City formation cannot

be justified by the information at hand. If our exploration is successful, it would certainly lead to large expenditures of private capital in the search for the potentially large reserves below. We believe that such a program is in complete accord with the spirit and purpose of the DMEA. Such developments are unlikely to result from alternate programs localized search of oxidized ore bodies in a manner wherein no means of follow-up or further development at depth is provided.

Please advise us if any further information is desired or if there is anything that we can do to expedite final consideration of our application.

Sincerely yours,

K-H MINING COMPANY

By: /s/ J. W. Gallivan, Secretary

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

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January 9, 1957

Mr. J. W. Gallivan
K-H Mining Company
1017 Kearns Building
Salt Lake City, Utah

Re: Docket DMEA 4320 (Lead-zinc)
(Silver King Western Mining
& Milling Company Property)
Salt Lake County, Utah

Dear Jack:

This letter will give you an idea of the type of exploration program that I feel is adaptable to the Silver King Western property. We do not try to plan programs; we do suggest changes and, if agreeable to the company, make our recommendations on that basis. As you will see below, there are very few changes and none in the ultimate objectives. The chief change is in the order in which these objectives are reached.

I will simply list a possible program in what I think is a logical order. If you have reasons for changing the order, except of course putting Stage II ahead of Stage I, I think we can agree.

Stage I (to be completed before Stage II can begin)

1. Rehabilitate the Gorlinski incline enough so that the Stage I work can be carried out under reasonable conditions.

2. Crosscut to the "b" bed from a point about 120 feet down the incline (at the low point). This is one of two new things

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

I suggest and it will give us a look at the "b" bed underneath one of Gorlinski's ore bodies. Sould take less than 100 feet.

3.. Crosscut to the "b" bed from the bottom of the Gorlinski incline. You have already proposed to do this. I think it would be simpler to make just one crosscut rather than two (one on each side of the shear) as originally proposed. Gorlinski already has this part done. When the "b" bed is reached then you can drive across the shear to see the other side. Should take less than 100 feet.

4. Continue the incline downward on the "a" bed for about 200 feet. You have already planned this incline.

5. Crosscut from the bottom of the new incline to the "b" bed. Should take about 100 feet.

If favorable conditions are encountered in Stage I, then Stage II

1. Drive the 1,380-foot crosscut adit as you have proposed.

2. Complete the incline to join with the upper workings. A point I wish to make - on your cross section you show the incline following the "b" bed; on your plan the bottom is on the "b" bed (or nearly) and the top is on the "a" bed which means that all of the incline is between the two beds. The text says to follow "one of the two ore beds." Anyway I can't see it crossing from one to the other. This will take about 140 feet.

3. A certain minimum amount (possibly 500 feet) of drifting, crosscutting, winzing, or inclining on the ore beds near the end of

the adit. Your plan implies that you intended to do about 450 feet of drifting and crosscutting in this area.

Cost figures are Mike's baby so the following estimates are for my guidance only. Proper figures may alter distances somewhat but it shouldn't be too much. Stage I or a good portion of it might be done for less than $50,000. If nothing is found I doubt if you would be interested in Stage II.

The raise from the adit on the shear to the bottom of the Gerlinski workings seems to be for the extraction of ore and has little exploration value. Very little of it is in favorable beds.

I would like to clear up the drilling proposal a bit. You propose to drill for "information on stratigraphy as the work advances." It seems to me that this drilling should be saved for near the end of the adit.

I had better stop now or I will have to send this by freight. I wish we could have talked it over in person but this, at least, may help us to get going. Therefore, please consider this as a personal conversation and I wish to hear your side. You can call me collect here at the Federal Center.

I am sending a copy of this to Mike so we can all know where we stand.

Hope to see you next time I am in Salt Lake.

Sincerely,

/s/ Frank B. Moore

Frank B. Moore
Geologist

FBMoore:mp

ON-SITE Report

FOR UNITED STATES GOVERNMENT USE ONLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
FRED A. SEATON, SECRETARY

TRANSMITTED

FEB 7 1957

DEFENSE MINERALS EXPLORATION ADMINISTRATION

REPORT OF EXAMINATION BY FIELD TEAM
REGION III

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DMEA 4320

K-H Mining Company

Silver King Western Mining and Milling Company property

Salt Lake and Summit Counties, Utah

Lead-zinc

Geologic Report

by

F. B. Moore, Geologist
Geological Survey

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

January 21, 1957

CONTENTS

	Page
Introduction	1
Geology.	2
Conclusions and recommendations.	4

ILLUSTRATIONS

Figure		Follows page
1.	Vertical section through the Gorlinski incline showing exploration proposed by company and suggested by DMEA, Gorlinski workings, Salt Lake and Summit Counties, Utah.	5

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DMEA 4320

K-H MINING COMPANY
SILVER KING WESTERN MINING AND MILLING COMPANY PROPERTY
SALT LAKE AND SUMMIT COUNTIES, UTAH

INTRODUCTION

On May 23, 1956, the K-H Mining Company, 1017 Kearns Building, Salt Lake City, Utah, applied for DMEA assistance to explore for lead-zinc deposits at the Gorlinski (Poland) workings, Salt Lake and Summit Counties, Utah. The property was examined August 17, 1956, by R. W. Osterstock and F. B. Moore (U. S. Geological Survey) and M. H. Howes (U. S. Bureau of Mines). J. W. Gallivan, company secretary, James Ivers, company geologist, and Paul Gorlinski, the former lessee, accompanied the examining team. Due to the resignation of Osterstock from the Survey, the pursuit of other interests by Ivers, and the fact that the property would be inaccessible until the spring of 1957, suggested changes in the exploration program were not discussed until December 6, 1956. On that date, Gallivan sent a letter outlining, in part, the company position in regard to these changes.

The property consists of nine patented and one unpatented lode mining claims on the divide between the Park City and Big Cottonwood mining districts. The land, though registered as part of the Big Cottonwood mining district, is closer areally, and probably geologically, to the Park City district.

Reviewed by
DMEA CLEARING COMMITTEE
2-15-57
(date)

The property was worked from 1948 through 1955 by Paul Gorlinski under lease from the Silver King Western Mining and Milling Company of Delaware. The K-H Mining Company now holds this lease. During the period 1948-55, lead-zinc ore valued at $110,058.67 was produced. Production from the property prior to 1948 is unknown, but, judging from the size of the old stope, was small.

The company wishes to explore the property by means of a 1,380-foot crosscut adit which will cut favorable beds 340 feet down dip or 160 feet vertically below the bottom of present workings (fig. 1). The total cost of the project including an 180-foot raise, a 260-foot incline, 610 feet of drifts, and 1,000 feet of diamond drilling, is estimated by the company to be $133,947.

GEOLOGY

The Gorlinski (Poland) workings are on the western edge of the Park City mineralized area. The California and Comstock mines, among the westernmost of the productive Park City mines, are 1 mile east; the Scottish Chief and Iowa Copper mines - production unknown but probably small - are 2,000 feet west and southwest, respectively.

The rocks exposed at the property consist of Triassic Woodside shale - a fine-grained, dark-red shale about 700 feet thick - overlain by the lower part of the Triassic Thaynes formation. The Thaynes formation, normally over 1,000 feet thick, consists of sandstones, shales, and limestones. At the Gorlinski (Poland) workings, the upper

member, the Mid-red shale which separates the upper and lower members, and the top of the lower member have been eroded. The eroded portion contained four of the six favorable ore beds in the Thaynes formation. The two remaining favorable beds - an upper "a" bed and a lower "b" bed - are about 40 feet apart stratigraphically at the bottom of the formation. The "a" bed is about 5 feet thick and the "b" bed is 15 feet thick. The Park City formation underneath the Woodside shale is the one from which most of the Park City ores have been produced. However, as it is 800 to 1,200 feet stratigraphically below the Gorlinski workings, it is not being considered for exploration at this time. The rocks in the mine have been silicified in places making correlation of beds difficult. The metamorphic effects are believed to have been caused by a diorite stock about half a mile south of the property.

The beds, in general, dip northerly at 20 to 30 degrees. However, in the area of the mine much faulting has produced blocks with a variety of dips. The most conspicuous shear trends about N. 30° E. and dips steeply to the southeast. The shear is a zone 10 to 20 feet wide in which the rocks are much broken. The shear was followed by the Gorlinski incline and, as all ore mined to date has been found in or near it, it is believed to be the primary control for localization of the ore bodies in the mine. Smaller shears, parallel to the large one, are probably related structures. A cross fault, trending about east-west and dipping to the north, has faulted out the "b" bed in the Gorlinski adit.

Five small bodies of oxidized ore have been found in the "a" bed in the Gorlinski workings. The ore bodies are from 20 to 40 feet long, 10 feet wide, and 5 to 10 feet high. Four of the ore bodies, in or adjacent to the shear zone, had a production of $110,058.67 between 1947 and 1956. The fifth ore body is part of older workings from which production is unknown. The "b" bed has not been explored in the area of the mine.

CONCLUSIONS AND RECOMMENDATIONS

Past experience indicates that both the "a" and "b" beds are favorable for ore deposition in the Park City district to the east. However, there is no evidence to show that the "b" bed is favorable in the area of the Gorlinski workings. Geologically, both beds can be considered potentially favorable anywhere along the shear with the exception that they must be considered most favorable in the vicinity of the known ore bodies in the Gorlinski workings. If the "b" bed is ore-bearing in areas below known ore bodies, production from the mine might be doubled with less than 200 feet of new workings.

On the basis of the known production from the mine, it is difficult to justify the extensive program of exploration proposed by the applicant, particularly when an unduly large part of the proposed work will be crosscutting to reach the target area. (See figure 3 of the accompanying Engineering Report.)

It is believed that some exploration is warranted, particularly in the vicinity of the known ore bodies (fig. 1). A conservative program of exploration to determine the ore potential of the mine should include exploration of the "b" bed in the vicinity of the Gorlinski incline, either by diamond drilling or by crosscutting or drifting, and deeper exploration of the "a" bed from the present workings. Should such preliminary work indicate a significant ore potential at deeper horizons, consideration could then be given to the extensive program proposed by the applicant.

The above program was discussed with Ivers, company geologist, in Denver on January 15, 1957. Ivers stated that he is certain the company will not accept the suggested method of exploration. It is therefore recommended that the application for DMEA assistance be denied.

IN REPLY REFER TO:

DMEA

DEPARTMENT OF THE INTERIOR

NOV 1 1956

REGION III

DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

TRANSMITTED

FEB 7 1957

October 31, 1956

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Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman

Subject: DMEA Docket 4320 (Lead-zinc), K-H Mining Company (Silver King Western Mining and Milling Co. property) Salt Lake and Summit Counties, Utah

The engineering report on the subject property, prepared by M. H. Howes, U. S. Bureau of Mines, was received in your office on October 8, 1956. The recommendations in this report are the result of a field examination made by Howes on August 17, 1956. He was accompanied by R. W. Osterstock, U. S. Geological Survey, who will make his recommendations in a geologic report not yet received.

As you know Mr. Osterstock is no longer with the U. S. Geological Survey and since repeated efforts to get the rough draft of the geologic report completed have been unsuccessful I have reviewed the engineering report and the application. I do not concur with the recommendations made in the engineering report.

The K-H Mining Company proposal is one of a number in Utah based on the hope that significant ore deposits may be found on or near the intersections of favorable beds and fissures.

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

Geologically, such intersections are favorable targets only when there is considerable data to indicate that the particular intersection to be explored has been mineralized and thus may contain ore deposits. Lacking such data projects based on fissure-favorable bed targets are, in my opinion, "wild cat" prospecting.

For convenience in analyzing the proposed work and the probability of finding ore, the program may be considered as having two objectives. The first, and by far least attractive, is prospecting the "A" and "B" beds of the Thaynes at and near their intersection with two small fissures exposed in the eastern drift of the Gorlinski adit level. This work would be done about 600 feet down dip from the Gorlinski level and 300 feet vertically below it. This work appears to be high risk prospecting which cannot be geologically justified. In my opinion exploration of the intersections of these two fissures with the "A" and "B" beds, if warranted, should be undertaken from the eastern workings of the Gorlinski adit level where the fissures are exposed. This exploration would be in an area of known mineralization and could be completed at a small fraction of the cost of the work proposed by the examining team. Should exploration on the Gorlinski adit level not find ore, exploration 600 feet down dip would be difficult to justify.

The second objective is to explore for ore in the "A" and "B" beds along the shear zone exposed in the Gorlinski incline. The "A" bed has been explored by the incline for a distance of

about 250 feet (down dip) below the Gorlinski adit level; the "B" bed remains unexplored in this area. The "B" bed may be a legitimate exploration target particularly in the area below the ore-bearing parts of the "A" bed, as is shown on the geologic sections included in the application.

In my opinion exploration of the "B" bed can be most economically done by diamond drilling short holes (100 feet more or less) downward from the Gorlinski adit level and from the Gorlinski incline. Some rehabilitation work may be required in the incline to make it accessible for drilling.

Until unexplored fissure-favorable bed targets on the Gorlinski adit level and near the Gorlinski incline are tested by a modest exploration program, somewhat as outlined above, I cannot concur with an extensive program designed to explore these same targets 350 to 600 feet down dip from the now accessible mine workings.

Frank Moore leaves for Utah on November 7, 1956, to make several DMEA examinations and interim inspections. Further discussions, after you have reviewed the above suggestions and before Moore's departure, appear desirable. If you agree that a limited program of exploration should be substituted for the extensive program proposed in the engineering report, Moore can discuss our proposal with Wilson, re-visit the property if necessary, and work with Wilson on the preparation of the Field Team recommendations now long overdue.

E. N. Harshman

E. N. Harshman
Member, Field Team

ENHarshman:mp

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1600 EAST FIRST SOUTH STREET
SALT LAKE CITY 12, UTAH

DMEA
DEPARTMENT OF THE INTERIOR
OCT 8 1956
REGION III
DENVER, COLORADO

October 4, 1956

Memorandum

To: W. M. Traver, Executive Officer, DMEA Field Team, Region III

From: Stephen R. Wilson

Subject: Docket No. DMEA-4330 (Lead-zinc), K-M Mining Co. (Silver King Western Mining and Milling Co. property), Salt Lake and Summit Counties, Utah

Enclosed are the original and eight copies of an engineering report pertaining to examination of the subject property to appraise a request for DMEA assistance. The examination was made and report prepared by M. M. Howes. Also included is a copy of the brochure, with attachments.

The applicant has requested a loan of $133,947 to conduct exploration consisting of 1,000 feet of drifting, 180 feet of raising, 260 feet of inclined drifting, and 1,000 feet of diamond drilling.

The applicant has obtained a lease from Silver King Western Mining and Milling Co. for a 2-year period. The mining claims included in the application are part of a large group owned by Silver King Western Mining and Milling Co. During the period 1948 through 1955, the property was held under lease by Paul Gerlinski. A total of 4,241 tons of ores with a gross value of $110,058 was produced during this period.

The "A" and "B" beds in the Lower Thaynes formation have been important ore producers in the Park City district, although the greatest production has come from a limestone bed approximately 125 feet above the base of the Park City limestone. The "B" bed is approximately 15 feet thick and occurs at the base of the Thaynes formation in contact with the underlying Woodside shale. Most of the ores produced in the "A" and "B" beds was mined from the district early in the history of the area. Ore mined by Paul Gerlinski was produced entirely from the "A" bed. The mineralization occurs principally along a shear zone. The applicant proposes to explore both the "A" and "B" beds.

The examining engineer believes that the cost estimate submitted by the applicant is high. He recommends that a loan of $116,086.40 be approved to explore the property essentially as outlined by the applicant. A few alterations to the original project are suggested. The

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

engineer believes that chances for discovery of significant lead-zinc ore bodies on property of Silver King Western Mining and Milling Co. are promising.

The application includes a lower vertical limit on property to be subordinated to the Government. The examining engineer advised a representative of the applicant that no vertical limitation should be placed on the property. The representative will agree to obtain an amendment to the lease from Silver King Western Mining and Milling Co. to permit subordination of the property without the vertical limit in the event a contract is to be prepared.

I am in accord with the recommendation of the examining engineer that a loan be granted to K-M Mining Co.

Stephen R. Wilson

Stephen R. Wilson

Enclosures

cc: W. H. King
J. B. Clemmer

K-H MINING CO.
SILVER KING WESTERN MINING AND MILLING CO. PROPERTY
SALT LAKE AND SUMMIT COUNTIES, UTAH
DMEA-4320
Lead-Zinc

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Engineering Report

By M. H. Howes
Mining Engineer
Bureau of Mines

October 4, 1956

Reviewed by
DMEA OPERATING COMMITTEE
2-15-57
(date)

FOR UNITED STATES GOVERNMENT USE ONLY

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FEB 7 1957

K-H MINING CO.
SILVER KING WESTERN MINING AND MILLING CO. PROPERTY
SALT LAKE AND SUMMIT COUNTIES, UTAH

CONTENTS

	Page
Engineering report	
Introduction	2
Location, topography and physical features	2
History and production	3
Ownership and extent	5
Description of the deposits	6
Present status	8
Project proposals	8
Alternate project proposals	10
Estimated cost of project proposals	11
Proposed financing	13
Conclusions and recommendations	13

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ILLUSTRATIONS

Fig. 1 Location map, K-H Mining Co., Salt Lake and Summit Counties, Utah
Fig. 2 Claim map
Fig. 3 Map showing old workings, geology, and proposals

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INTRODUCTION

An application, dated May 23, 1956, has been submitted by K-H Mining Co. for Government aid in an exploratory project under docket No. 4320. The mining claims involved are located in the Park City district, Summit and Salt Lake Counties, Utah. The proposed program consists of 1,990 feet of drifting, 180 feet of raising, 260 feet of inclined drifting, and 1,000 feet of diamond drilling at a total estimated cost of $133,947, for the purpose of exploring two ore-bearing horizons in the Lower Thaynes formation of Triassic age.

A field examination of the property was made August 17, 1956, by R. W. Osterstock and Frank Moore, Geological Survey, and M. H. Howes, Bureau of Mines, for the purpose of determining the feasibility of the proposed exploration and for appraisal of the estimated costs and engineering aspects of the job. The field examiners were accompanied to the property by J. W. Gallivan and James Ivers, representatives of the company.

LOCATION, TOPOGRAPHY AND PHYSICAL FEATURES

The property, held under lease from Silver King Western Mining and Milling Co., is situated approximately 30 miles southeast of Salt Lake City, in the extreme western portion of the Park City district (fig. 1). The claims straddle the main divide of the Wasatch Range near the heads of Big Cottonwood Canyon on the west and Thaynes Canyon on the east. Altitudes range from 9,300 to over 9,800 feet. The ground is located in

sections 24 and 25, T. 2 S., R. 3 E., S.L.B. and M., Salt Lake and Summit Counties, Utah. Originally the claims were reached by a 9-mile road from Park City over properties owned by the original Silver King Coalition Mines Co., now part of United Park City Mines Co. During 1954 a graded road was constructed to the mine from a point on paved State Highway 152 in Big Cottonwood Canyon, a short distance below Brighton.

During summer months, days are warm and nights cool, with frequent rainfall. Generally, severe winter conditions, including heavy snows from December through May, make access to the mine by road difficult. Inasmuch as the proposed project work is located at a lower elevation, in a more protected area than the upper mine workings, and unless unusually severe conditions exist, accessibility by road during the winter will be assured.

HISTORY AND PRODUCTION

The Silver King Western Mining and Milling Co. was organized September 6, 1928. Several groups of patented claims, together with an extensive tract of unpatented ground adjoining to the north, were acquired. Many mineralized surface showings on the property were prospected by early workings and some production was made. In 1930 the company launched a campaign of underground exploration of the lower Park City limestone from the Consolidated Tunnel. This level is approximately 2,400 feet lower in elevation than the Copper Apex adit. The distance from the

portal of the Consolidated Tunnel to the Silver King Western boundary is approximately 18,000 feet. Requirements for long-distance transmission of electricity, compressed air, and ventilation presented special problems. Unusually severe conditions were encountered in the form of excessive flow of water, crushed, heavy, and caving ground, gasses, oxygen-deficient air, and low temperatures. These difficulties tremendously increased the cost of the work. However, approximately 5,000 feet of drifting was completed, with disclosure of three promising veins and several narrow seams containing copper, lead, and zinc minerals. During the course of drifting, miners, caught behind sudden caving of heavy, wet, crushed ground, narrowly escaped death.

During 1948, Paul Gorlinski acquired a lease from Silver King Western Mining and Milling Co. covering the group of claims now proposed for exploration by K-H Mining Co. The lease expired in 1955. The following is a tabulation of the results of production from the Gorlinski lease:

		Weighted Average						
		Ounces		Percent			Value per	Total
Year	Tonnage	Au	Ag	Pb	Zn	Cu	ton	value
1948	341.763	.016	11.03	15.89	2.53	.55	$54.47	$ 18,616.59
1949	1,491.933	.018	10.00	14.88	2.01	.52	28.54	42,574.48
1950	331.784	.013	8.79	14.10	1.55	.51	29.06	9,642.68
1951	660.732	.012	6.40	10.79	3.17	.41	24.56	16,229.24
1952	243.235	.009	4.56	9.01	1.78	.02	19.73	4,798.81
1953	333.708	.016	6.28	5.85	7.09	.64	13.59	4,535.12
1954	257.164	.018	6.10	3.56	4.62	.94	14.65	3,768.56
1955	480.740	.013	5.46	6.25	8.58	1.00	20.58	9,893.19
	4,241.059	.015	7.84	11.20	3.44	.55	$26.19	$110,058.67

Note: Ore produced after 1950 was taken from exploratory workings, and was consequently diluted.

OWNERSHIP AND EXTENT

Claims subordinated for the proposed DMEA exploratory program are part of property owned by the Silver King Western Mining and Milling Co. and leased to the K-H Mining Co., applicant for Government aid (fig. 2). Organization of the K-H Mining Co., 1017 Kearns Building, Salt Lake City, Utah, constitutes a joint venture of Kearns-Tribune Corp. (a Utah corporation), J. J. Fitzpatrick, president, and J. W. Gallivan, secretary-treasurer, 1017 Kearns Building, Salt Lake City, Utah; and James E. and George H. Hogle, a partnership doing business as Hogle Brothers, 132 South Main Street, Salt Lake City, Utah. The above lease covers a period of 2 years, from June 1, 1956, to May 31, 1958, and applies to the demised premises from the surface to a depth of 300 feet below the contact of the Lower Thaynes formation and Woodside shale. The subordinated claims are as follows:

Claim	Survey No.	Status
C. P.	483	Patented
Wildcat	481	"
Poland	132	"
Financer	131	"
Elgin	130	"
Utah Cloud (Amended)	146	"
Pique	4040	"
Pinafore (South 1/2)	685	"
Kampe (South 1/2)	5811	"
Julie Location		Unpatented

Julie Location is recorded in book 0, page 54, Salt Lake County, Utah, Recorder's office.

DESCRIPTION OF THE DEPOSITS

The Park City district is situated near the junction of the east-west-trending Uinta Range and the north-south-trending Wasatch Range. Formation of the two transverse anticlinal structures at their junction was accompanied by much warping and faulting of the beds. The sedimentary rocks, along the axis of the east-west uplift, contain intrusive masses of granodiorite, quartz diorite, and diorite porphyry.

Within the property sedimentary formations exposed underground and on the surface from the oldest to youngest are: Weber quartzite, consisting of medium, fine-grained, massively bedded quartzite with several cherty calcareous beds intercalated near the top (Carboniferous); Park City limestone, composed of approximately 640 feet of limestones, sandstones, and shales (Carboniferous and Permian); Woodside shale, a uniformly, dark red, fine-grained shale about 700 feet thick (Triassic); and Lower Thaynes formation, consisting of approximately 450 feet of sandstones and limestones (Triassic). The Mid Red shale and Upper Thaynes formation (Triassic), approximately 100 feet and 600 feet thick, respectively, which normally overlie the Lower Thaynes formation, have been entirely eroded from this property.

Deposits of silver-lead-zinc-copper ores in the Park City district occur in association with the intrusives, chiefly as replacement ore

bodies in several favorable limestone horizons and along northeasterly striking faults. Several limestone beds favorable to ore deposition occur in both the Park City and Thaynes formations. While by far the greatest production in the district has come from a limestone bed about 125 feet above the base of the Park City limestone, two limestone beds, the "A" and the "B" beds in the Lower Thaynes formation, have been important producers. The "A" bed is approximately 5 feet thick and occurs about 50 feet above the base of the Thaynes formation. The "B" bed is approximately 15 feet thick and occurs at the base of the Thaynes formation in contact with the underlying Woodside shale. Most of the ores mined in these beds was produced from the west side of the Park City district during the early history of the area. Among properties that produced important tonnages of ores from these beds are: the California-Comstock mine, from the California and Comstock stopes; the upper workings of the Keystone mine; and the Kearns-Keith incline, from the Hanauer adit in the footwall of the Crescent fissure. All of these properties lie within a few thousand feet east of the K-H property.

Ore from the Gorlinski lease (fig. 3) was produced entirely from the "A" bed of the Lower Thaynes formation. This mineralization occurs chiefly along a shear zone, which generally strikes N. 30° E. and dips 65° to 80° SE. Several other mineralized fissures occur to the east and are essentially parallel to the shear zone. Two have been encountered in the eastern drift of the Gorlinski level.

Two samples of ore taken near the bottom of the Gorlinski incline during the examination of the property assay as follows:

Sample No.	Place	Cut	Percent Pb	Percent Zn	Percent Cu	Ounces Ag
1	Bottom incline	3'	5.2	14.6	1.45	7.2
2	10' above bottom	3'	10.7	1.0	0.06	4.0

PRESENT STATUS

Old workings on the property consist principally of short adits, shallow shafts, and pits, which have caved considerably. The old Copper Apex adit is more than 1,000 feet long. The portal of this adit is filled with silt, probably backwash from runoff, since there is no surface evidence of caving.

Workings in the vicinity of the Gorlinski lease consist of two inclined shafts each about 180 feet deep, over 1,000 feet of adit and drifts, and approximately 230 feet of inclined winze. Two small buildings, snow sheds, and ore bins are situated at the Gorlinski workings.

The property is served by a graded dirt road from State Highway 152, a short distance below Brighton. In places, this road is steep, but it is possible to negotiate the grades by passenger car.

PROJECT PROPOSALS

The applicant proposes to explore the property for lead-zinc ores by the following means:

1. To drive a new adit at the approximate elevation of the old Copper Apex adit, to intersect the old adit at a point about 350 feet from the portal, and then continue to crosscut the Woodside shale to the intersection of the shear zone under the Gorlinski incline, and along this shear zone to the intersection of the "B" and "A" beds in the Lower Thaynes formation (approximate distance 1,390 feet);

2. To drift along the most promising of the "A" and "B" beds southeasterly from the new adit to the projected intersections of the two veins exposed in the eastern drift of the Gorlinski level and thence along these veins to explore the "A" and "B" beds (approximate distance 450 feet);

3. To drive a three-compartment raise from the new adit level, along the shear zone, to the bottom of the Gorlinski incline (approximate distance 180 feet);

4. To drift along the shear zone at the top of the raise to explore the "A" and "B" beds (approximate distance 150 feet);

5. To drive a small cross-section, inclined slusher raise from the new adit level along the contact of the shear zone and the most promising of the "A" and "B" beds until the Gorlinski incline is encountered (approximate distance 260 feet).

6. To drill approximately 1,000 feet of diamond core-drilled holes to provide geologic information on stratigraphy or structures as the work advances.

ALTERNATE PROJECT PROPOSALS

The following alterations to the original project proposals are recommended:

First Reopen the portal of the Copper Apex adit to determine if this adit is usable. If it is feasible to recondition the adit to a point approximately 900 feet from the portal, a drift would then be driven to the area of the raise under proposal 3. This method will eliminate approximately 450 feet of drifting by means of a new adit.

However, if it is determined that the old adit is badly caved or will require excessive enlargement, retimbering, realignment, or regrading, or in any other respect is impractical for present use, then a new adit will be driven as described in proposal 1.

Second No changes are recommended for proposals 2, 4, 5, and 6.

Third The Government will not contribute to the cost of more than a two-compartment raise. Otherwise, proposal 3 shall not be changed.

Minimum sizes of workings and drill holes are to be as follows:

Drift (mechanical loading)	5 by 7-1/2 feet
Drift (hand loading)	5 by 7 feet
Raise (two-compartment)	5 by 8 feet
Slusher incline	5 by 7 feet
Diamond drill holes	EX

ESTIMATED COST OF PROJECT PROPOSALS

An estimated cost of $116,086.40 has been substituted for the applicant's estimated cost of $133,940.00, which is considered too high.

The following estimated costs are based on present prices for equipment and materials, local labor costs, and on conditions peculiar to the subject property. Transportation of men and materials over steep roads at altitudes greater than 9,000 feet is difficult and expensive. Winter weather conditions often cause costly delays.

It is estimated that the cost of driving 450 feet of new adit, in lieu of using the old adit, will be essentially the same as the cost of rehabilitating some 900 feet of the old adit. Therefore, the project cost estimate is based on the cost of driving a new adit.

Tabulation of estimated costs follows. The numbers refer to Items of Cost as listed on form MF-104.

(1) Contracts

Bulldozing (roads, camp site, adit portal preparation) 5 days at $100 per day	$ 500.00	
Diamond drilling 1,000 feet at $7 per foot	7,000.00	
Total contracts		$7,500.00

(5) Initial Rehabilitation

Reopening old adit portal	$ 830.00

(6) New Buildings

Bunkhouse and compressor house	$2,140.00

(7) Miscellaneous

Sample analyses 100 samples at $3 each (average cost)	$ 300.00

	Estimated cost per foot			
	Drifting			
	Mechanical loading (1840')	Hand loading (150')	2-Comp. raise (180')	Slusher incline (260')
(2) Labor and Supervision				
Labor) Supervision)	$ 15.00	$ 18.00	$ 12.00	$ 15.00
Technical Services	2.97	2.97	2.97	2.97
(3) Operating Materials and Supplies				
Timber	7.20	9.60	15.20	7.20
Explosives	2.70	2.70	2.90	2.70
Pipe	1.15	1.15	1.15	1.15
Ventilation pipe	1.20	1.20	1.20	1.20
Track	2.09	2.09	----	----
Bits and steel	1.25	1.25	1.25	1.25
Other supplies	2.00	2.00	2.00	2.00
Power	1.85	1.85	1.85	1.85
(4) Operating Equipment				
Depreciation	3.50	3.50	3.50	3.50
(7) Miscellaneous				
Repairs to equipment	1.00	1.00	1.00	1.00
Payroll taxes	.45	.45	.45	.45
Liability insurance	.64	.64	.64	.64
Cost per foot	$ 43.00	$ 48.40	$ 46.11	$ 40.91
Total cost of proposals	$79,120.00	$7,260.00	$8,299.80	$10,636.60

Summary of Estimated Costs

Bulldozing (5 days)	$ 500.00
Diamond drilling (1,000 feet)	7,000.00
Reopening old adit portal	830.00
Bunkhouse and compressor house	2,140.00
Sample analyses (100 samples)	300.00
Drifting, mechanical loading (1,840 feet)	79,120.00
Drifting, hand loading (150 feet)	7,260.00
Raising, two compartment (180 feet)	8,299.80
Slusher incline (260 feet)	10,636.60
Total cost of project proposals	$116,086.40
Government participation at 50 percent	$ 58,043.20

PROPOSED FINANCING

The applicant is prepared to invest $58,043.20 in the proposed exploratory project, which is 50 percent of the total estimated cost of $116,086.40, in accordance with the regulations on Government participation, as stated in Section 7, DMEA Order 1, Amended.

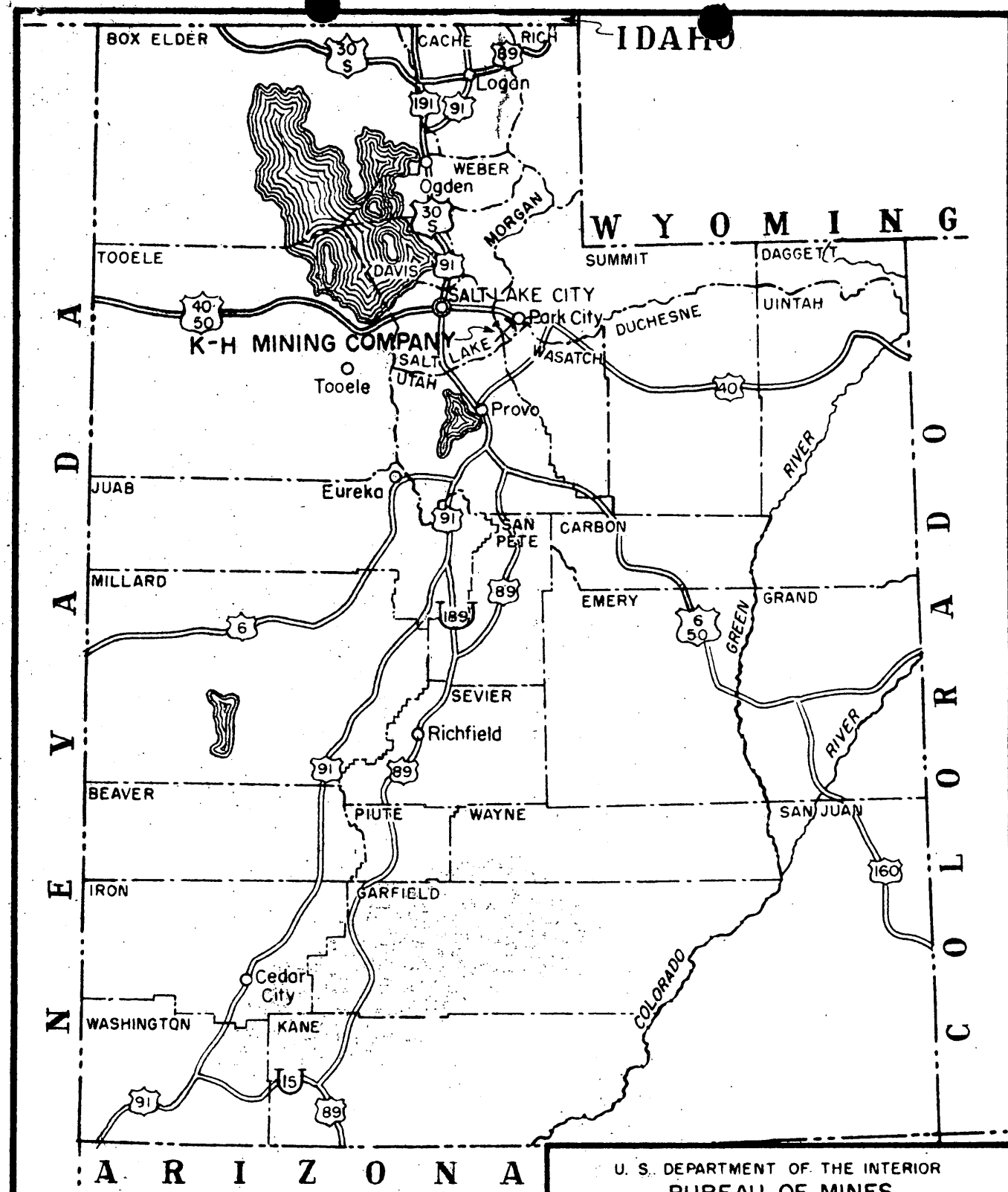
CONCLUSIONS AND RECOMMENDATIONS

K-H Mining Co. proposes to explore only the upper ore beds, namely, the "A" and "B" beds in the Lower Thaynes formation, which are exposed on the Silver King Western properties. It is recognized that lower beds, particularly the Park City ore bed (situated approximately 125 feet above the base of the Park City limestone) may contain commercial ore bodies. Because of the depth of the Park City ore bed (approximately 1,200 feet below the Thaynes formation-Woodside shale contact), cost of exploratory work would be extremely high. The best approach to this

bed in the Silver King Western property would be by driving a long drift from the Thaynes shaft workings. This would not only require a major financial investment by the company, but would require negotiation for access and easements through the Thaynes shaft workings of United Park City Mines Co.

The applicant has been informed that no depth limit should be placed on property which is subject to a DMEA contract and has replied that, if the Government insists on this stipulation after considering the above explanation of conditions, a lease with no depth limit on the property can be obtained from Silver King Western Mining and Milling Co.

K-H property is situated in a geologically favorable area. The known ore horizons, "A" and "B", of the Lower Thaynes formation are exposed near granodiorite intrusives and within a zone of known fissuring and mineralization. Chances for discovery of commercial ore bodies appear promising. It is therefore recommended that the above-described exploratory program, estimated to cost $116,086.40, be approved.



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Fig. 1 DMEA Docket No. 4320

Location Map

K-H MINING COMPANY

SALT LAKE AND SUMMIT COUNTIES, UTAH

ENGINEER: *M. H. HOWES*	DATE: SEP. 19, 1956
TRACED: SEP., 1956, A.P.T.S.	1500 - 1174 - G
CHECKED:	

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

RECEIVED
JUL 27 1956

July 24, 1956

224 New Customhouse
Denver 2, Colorado

Mr. J. W. Gallivan
K-N Mining Company
Kearns Building
Salt Lake City, Utah

Re: Docket DMEA 4320 (Lead-Zinc) Silver King Western Mining and Milling Company Property, Salt Lake County, Utah

Dear Mr. Gallivan:

This will acknowledge receipt of your letter dated July 19, 1956 assuring us that you would cooperate in every way to expedite processing of the captioned application.

As soon as a definite date for the field examination of your property can be scheduled, you will be advised so that you or your representative may accompany the field examiners.

Very truly yours,

W. M. TRAVER

W. M. Traver
Executive Officer, DMEA
Field Team, Region III

HMC:ab

cc: Sec. Op. Comm. (2)
Docket 4320
Harshman
Osterstock
Wilson
Chron.

KEARNS-TRIBUNE CORPORATION
KEARNS BUILDING
SALT LAKE CITY, UTAH

July 19, 1956

RECEIVED
JUL 27 1956
DMEA
Date Rec'd.
JUL 20 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Custom House Building
Denver 2, Colorado

Re: Docket No. DMEA-4320(Lead-Zinc)
K-H Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake County, Utah

Dear Mr. Traver:

A letter dated July 16, 1956, signed by C.O. Mittendorf, Administrator, DMEA, Washington D.C. advises us that our application, above referenced, has been reviewed by the Base Metals Division and referred to your office.

We are pleased with this progress and hasten to assure you that we will cooperate in every way to expedite processing of this application.

As explained in the letter of transmittal originally accompanying our application, the ground involved in this application is located at altitudes above 9,000 feet, and consequently enjoys very short snow-free season. For this reason, we are most anxious to commence work, and will be grateful for any action that will speed us to this end.

Sincerely yours,

K-H MINING COMPANY
By J.W. Gallivan

JWG:mc

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

RECEIVED
JUL 23 1955

224 New Customhouse
Denver 2, Colorado

July 17, 1955

Memorandum

To: J. F. Shaw (2))with brochure
R. W. Osterstock

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-4320 (Lead-Zinc), K-H Mining Company
(Silver King Western Mining and Milling Company Property)
Salt Lake County, Utah

Enclosed is the subject application in the amount of $133,947.00. A field examination and suitable report are requested.

As noted in the Chairman's letter, copy of which is attached, the letter from J. W. Gallivan, copies of the Amendment To Lease, Option, and one map are attached to the brochure.

In the event that the examiners consider the project favorably, please advise this office in advance of the report of examination so that we may again notify the applicant that no depth limit should be placed on the land which might be subject to the terms of the contract.

Also enclosed are copies of the review of the application by N. E. Nelson and O. M. Bishop.

Please return the brochure with the report of examination.

W. M. Traver

Encls.
HMC:bh

cc-Sec. Op. Comm. (2)
Harshman
DMEA-4320
Chron.

File Copy
Surname

J. Alb
Selfridge
Yoshimura
Mottendorf

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

JUL 12 1956

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-M Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake County, Utah

Dear Mr. Traver:

The cited application for exploration assistance is being referred to your office for consideration, a field examination of the property if warranted, and recommendation.

Enclosed is a copy of a letter from J. W. Gallivan, dated June 30, in reply to our letter of June 25. Also enclosed are copies of the Amendment To Lease, Option, list of patented and unpatented lode mining claims and one map.

In the event that you should consider the project favorably, the Applicant should again be notified that no depth limit should be placed on the land which is subject to the terms of the contract. The Applicant should be requested to supply Consents to Lien.

We would appreciate receiving a property map showing where the work is to be done and a map showing the proposed work. These maps should be made in a size that can be conveniently attached to the contract.

The Applicant's estimated costs for the proposed work are excessively high and should be carefully studied by the Field Team. The timbering of the drifts and crosscuts should be a separate item. Also, there should be an item for sampling and what the samples are to be assayed for.

We have only attempted to point out a few items in this application as we realize that it will need to be thoroughly studied by the Field Team.

Copies of memoranda, dated June 5 and June 11, 1956, by N. E. Nelson, Geological Survey, and O. M. Bishop, Bureau of Mines, respectively, relating to the project, are enclosed for your information.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Enclosures

APPROVED:

/s/ Robert W. Geehan (JHB)

Member, Bureau of Mines

Thor H. Kiilsgaard (JHB)

Member, Geological Survey

P. S. The Amendment To Lease can be changed to remove the depth limit on the Applicant can obtain an agreement from the landowner which provides for royalty payments on the ground below the stipulated depth limit. Please refer to Gormax Mining Company contract, Docket No. DMEA-3982.

JWAlt/er 7/10/56

Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

File Copy
Surname
J. Alt.
Guhen
Kiilsgaard
Selfridge
H. Johnson

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

JUL 12 1956

K-M Mining Company
1017 Kerns Building
Salt Lake City, Utah

Re: Docket No. DMEA-4320 (Lead-Zinc)
K-M Mining Company
Silver King Western Mining and
Milling Company Property
Salt Lake County, Utah

Gentlemen:

This is to acknowledge receipt of the letter from Mr. J. W. Gallivan, dated June 30, 1956, regarding the cited property, and the enclosed four copies of a property map, Amendment To Lease, Option, and lists by name of all claims, both patented and unpatented.

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

Mr. W. M. Traver
Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

If the Field Team requires additional information concerning your application, they will contact you at an early date.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

JWAlt/er 7/10/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

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

RECEIVED
JUN 11 1956

June 11, 1956

Re: DMEA-4320, Lead-Zinc, $133,947
K. H. Mining Company
Silver King Western Mining & Milling Co., leases
Salt Lake County, Utah

Memorandum

To: W. R. Griswold, DMEA

From: O. M. Bishop, USBM

Subject: Review of application of May 23, 1956, received May 28, 1956

The applicant has leased 10 claims from the King Silver Western Mining and Milling Company. The claims are immediately south and west of the Silver King Coalition Mines property. Prior to 1915 considerable exploration was done but most of the work was shallow except for the Copper Apex Adit which was driven 1,000 feet into the mountainside at an elevation of 9,300. The amount of production is unknown.

In 1948 the property was leased to Gorlinski and Wheeler who discovered and exploited a faulted segment of ore. From that segment and subsequent exploration on the "a" member of the Thaynes limestone they shipped 4,241 tons of ore for a net smelter return of $110,058.

The applicant, who now holds the Gorlinski lease plans a new adit crosscut (300 feet below the Gorlinski Adit and the same elevation as the Copper Apex Adit) to explore the "a" and "b" ore horizons down dip from the previous mine workings. In addition to 1,990 feet of adit drift and crosscut, 180 feet of 3 compartment raise, 260 feet of incline drifting and 1,000 feet of diamond drilling are proposed for a total cost of $133,947.

The geologic merit of the "a" and "b" beds in the Thaynes formation is not clear despite the small success of Mr. Gorlinski.

I recommend that the application be referred to the Field Team for property examination and application review.

O. M. Bishop

O. M. Bishop

Copy to - Mr. Kiilsgaard, Room 5224
Mr. Geehan
Division of Minerals
O. M. Bishop
Files

IN REPLY REFER TO:

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

RECEIVED
JUN - 5 1956

June 5, 1956

Re: DMEA 4320
K-H Mining Company
Silver King Western Mining and Milling Co.
Salt Lake Co., Utah
$133,947.00 - Lead-zinc

Memorandum

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

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

The applicant requests assistance in exploring by drifting, crosscutting, raising, and diamond drilling possible down-dip extensions of known small ore bodies in bed "a" and a long projection of a bed "b". The beds with which "a" and "b" are tentatively identified are known to be favorable host rocks in the central section of the very productive area (Park City).

In the years 1948-1955, 4,241.06 tons of ore was mined and shipped from the property by Paul Gorlinski. The value per ton was $26.19 and the total value $110,058.67.

Justification of the application is based, in large part, on a revised interpretation of areal geology, the identification of the two shale beds, "a" and "b", and the evaluation of the mineralizing potential of a shear structure found in the Gorlinski workings.

To test the bold conception, the applicant proposes the following work:

	Est. Cost	
Drifting and crosscutting 1,990 feet	$95,324.80	
Raising 180 "	13,602.60	
Incline drifting (up dip) 260 "	13,249.60	
Diamond drilling 1,000 feet	7,000.00	
Total		$129,177.00
Preliminary works, roads, bldgs., etc.		4,770.00
Grand total		$133,947.00

The proposed long new adit, or possible rehabilitation of an old adit, and the drifting and crosscutting from it would give access to and explore the down-dip extension of the "a" bed about 350 feet down-dip of the lowest Gorlinski work. That the bed should be more productive at the lower level is not too apparent, even though sulfide ore should be found.

Neither is it apparent why the "b" bed was not cut in the Gorlinski adit if it is to be expected in the proposed raise and lower proposed drifting and incline drifting.

No geologic or claim maps available show the location of the mine and its relationship to the many mines of the camp and it is not possible to evaluate the geologic reasoning by which the large proposed program is justified. That a mine eleven times the size of the Gorlinski is a probability is not too patent.

Referral of the application to the Field Team for appraisal is recommended.

N. E. Nelson

N. E. Nelson

May 31, 1956

K-H Mining Company
1017 Kearns Building
Salt Lake City,
Utah

Subject: DMEA-4320
Re: Exploration Assistance
Silver King Western Mining
and Milling Company

Gentlemen

The receipt of your application dated May 23, 1956 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-4320 and referred to the Base Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

May 31, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region III.

DMEA

- 4320 K-H Mining Company

Robert E. Adams
Chief, Operation's Control
and Statistics Division

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

RECEIVED
MAY 31 1956

May 28, 1956

224 New Customhouse
Denver 2, Colorado

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

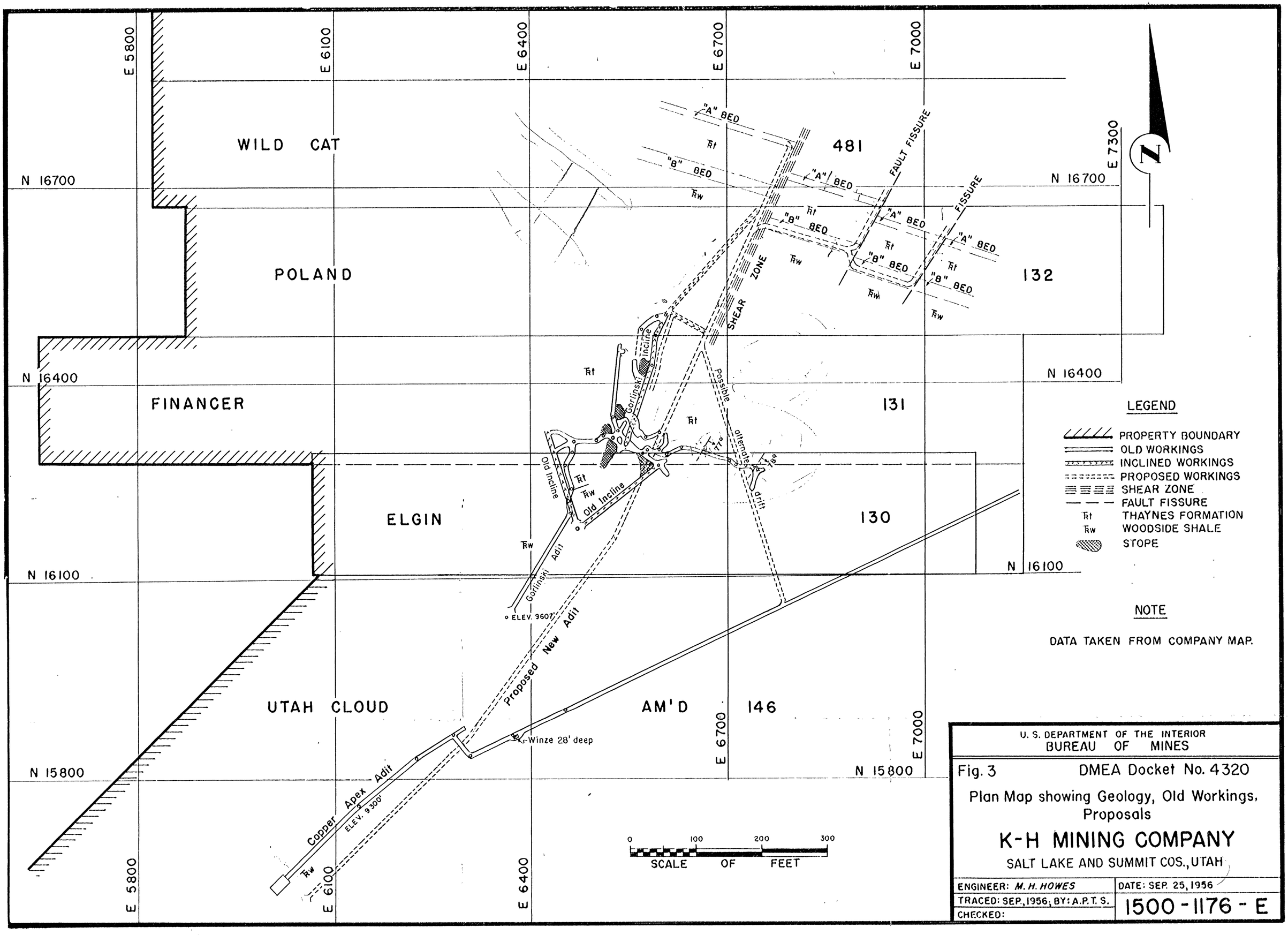
Subject: Application for DMEA (Lead-Zinc) K-H Mining Company, (Silver King Western Mining and Milling Company Property), Salt Lake County, Utah

Reference is made to our memorandum dated May 25, 1956 regarding the subject application. The fourth copy of the application was received in the mail this morning. It is attached and will make the third copy forwarded your office. One copy of the application has been retained in our file.

DMEA Field Team, Region III

By J. W. Townsend
Acting Executive Officer

Enclosure



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

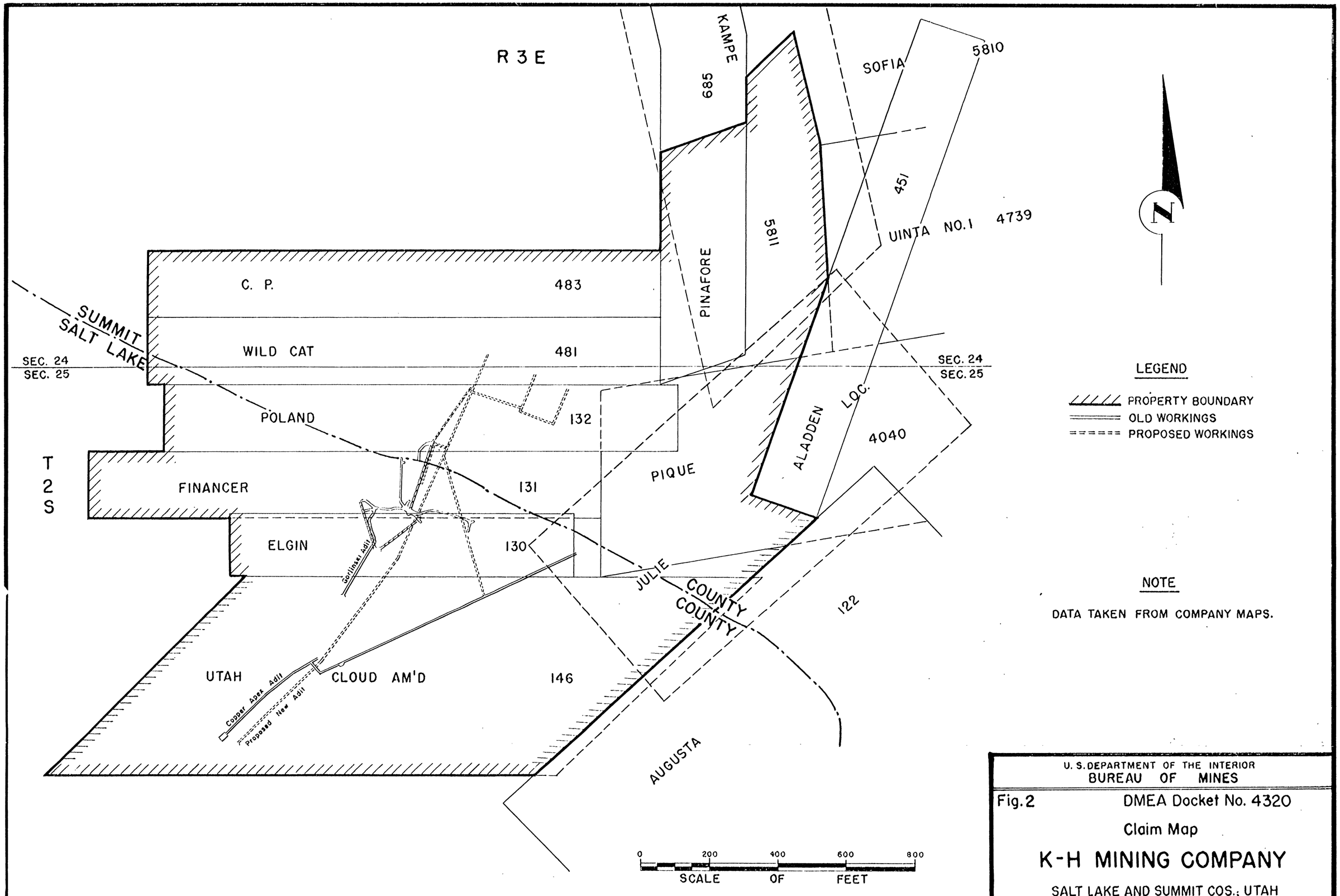
Fig. 3 DMEA Docket No. 4320

Plan Map showing Geology, Old Workings, Proposals

K-H MINING COMPANY

SALT LAKE AND SUMMIT COS., UTAH

ENGINEER: *M. H. HOWES*	DATE: SEP. 25, 1956
TRACED: SEP., 1956; BY: A.P.T.S.	1500-1176-E
CHECKED:	



U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

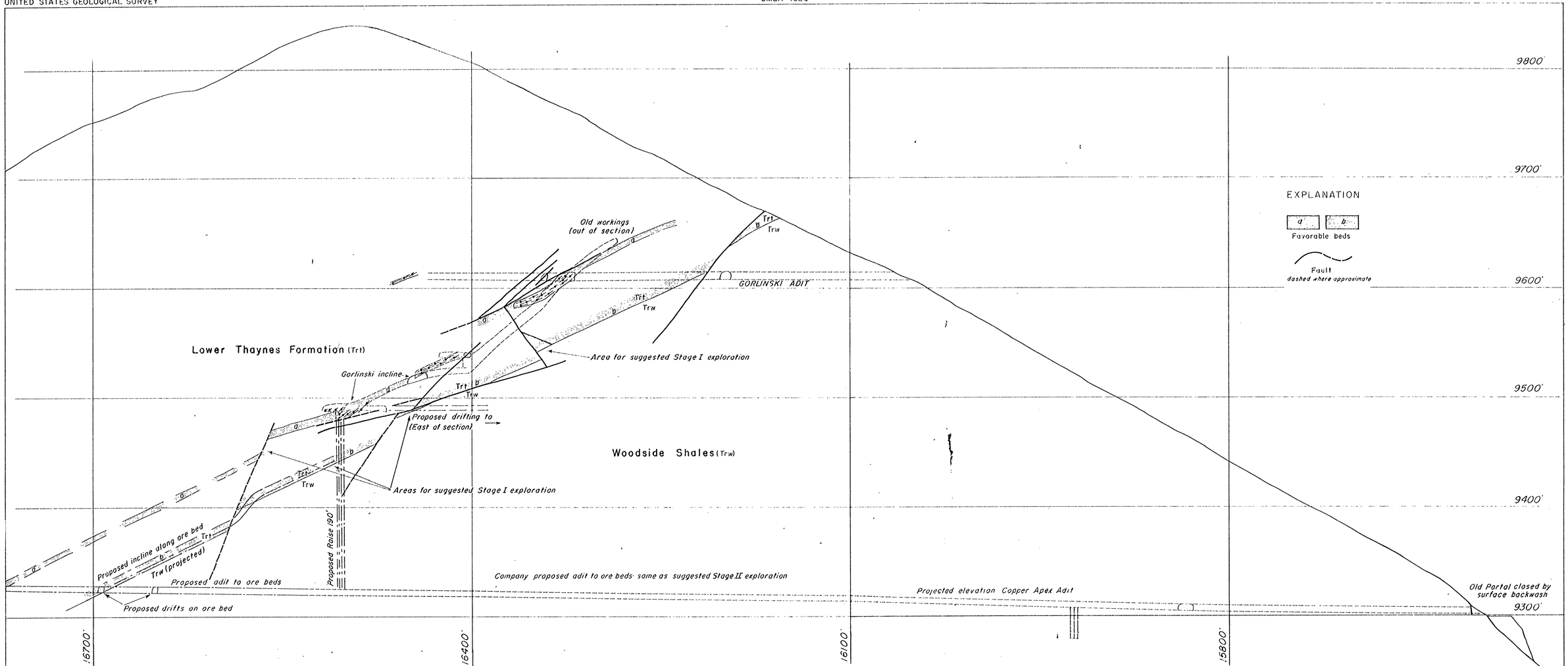
Fig. 2 DMEA Docket No. 4320

Claim Map

K-H MINING COMPANY

SALT LAKE AND SUMMIT COS., UTAH

ENGINEER: *M. H. HOWES*	DATE: SEP. 21, 1956
TRACED: SEP., 1956; BY: A. P. T. S.	1500 - 1175 - E
CHECKED:	

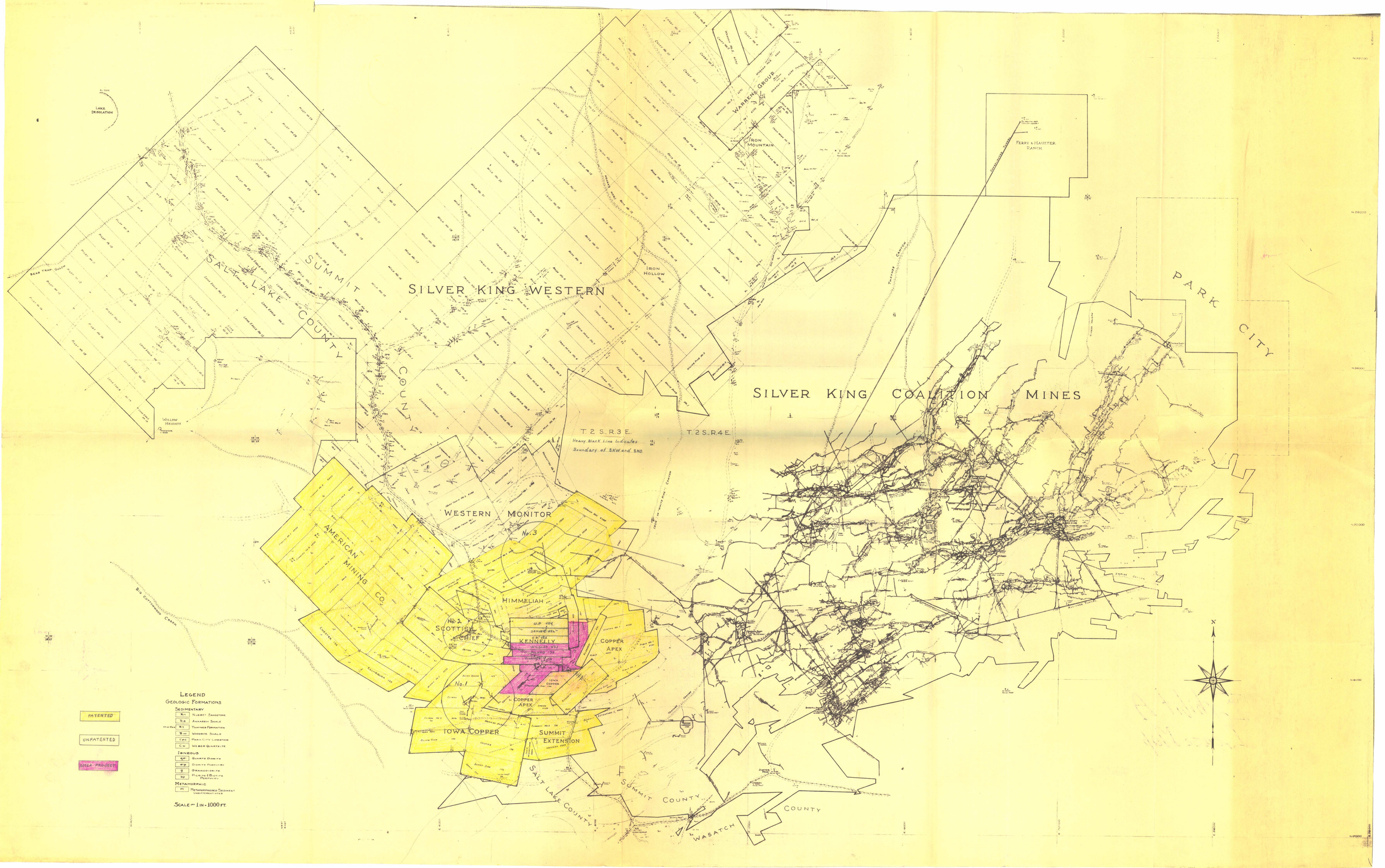


After section by K-H Mining Company

F. B. Moore, Jan., 1957

FIGURE I -- VERTICAL SECTION THROUGH THE GORLINSKI INCLINE SHOWING EXPLORATION PROPOSED BY COMPANY AND SUGGESTED BY DMEA, GORLINSKI WORKINGS, SALT LAKE AND SUMMIT COUNTIES, UTAH

50 0 50 100 Feet


SILVER KING WESTERN
SILVER KING COALITION MINES
SALT LAKE COUNTY
SUMMIT COUNTY
PARK CITY
WARRENS GROUP
IRON MOUNTAIN
IRON HOLLOW
FERRY & HAUETTER RANCH
LAKE DESOLATION
BEAR TRAP GULCH
WILLOW HEIGHTS
BIG COTTONWOOD CREEK
T. 2 S. R. 3 E.
T. 2 S. R. 4 E.
Heavy Black Line Indicates Boundary of SKW and SKC
WESTERN MONITOR
No. 3
AMERICAN MINING CO.
HIMMELIAH
No. 2 SCOTTISH CHIEF
KENNELLY
COPPER APEX
No. 1
IOWA COPPER
SUMMIT EXTENSION
SALT LAKE COUNTY
SUMMIT COUNTY
WASATCH COUNTY
LEGEND
GEOLOGIC FORMATIONS
SEDIMENTARY
Nubbin Sandstone
Ankareh Shale
Thaynes Formation
Woodside Shale
Park City Limestone
Weber Quartzite
IGNEOUS
Quartz Diorite
Diorite Porphyry
Granodiorite
Porphyry
METAMORPHIC
Metamorphosed Sediment Undifferentiated
PATENTED
UNPATENTED
DMEA PROJECT
SCALE — 1 IN. = 1000 FT.

C. P. 483

Figure 3

SECTION 24
1/4 C
SECTION 25

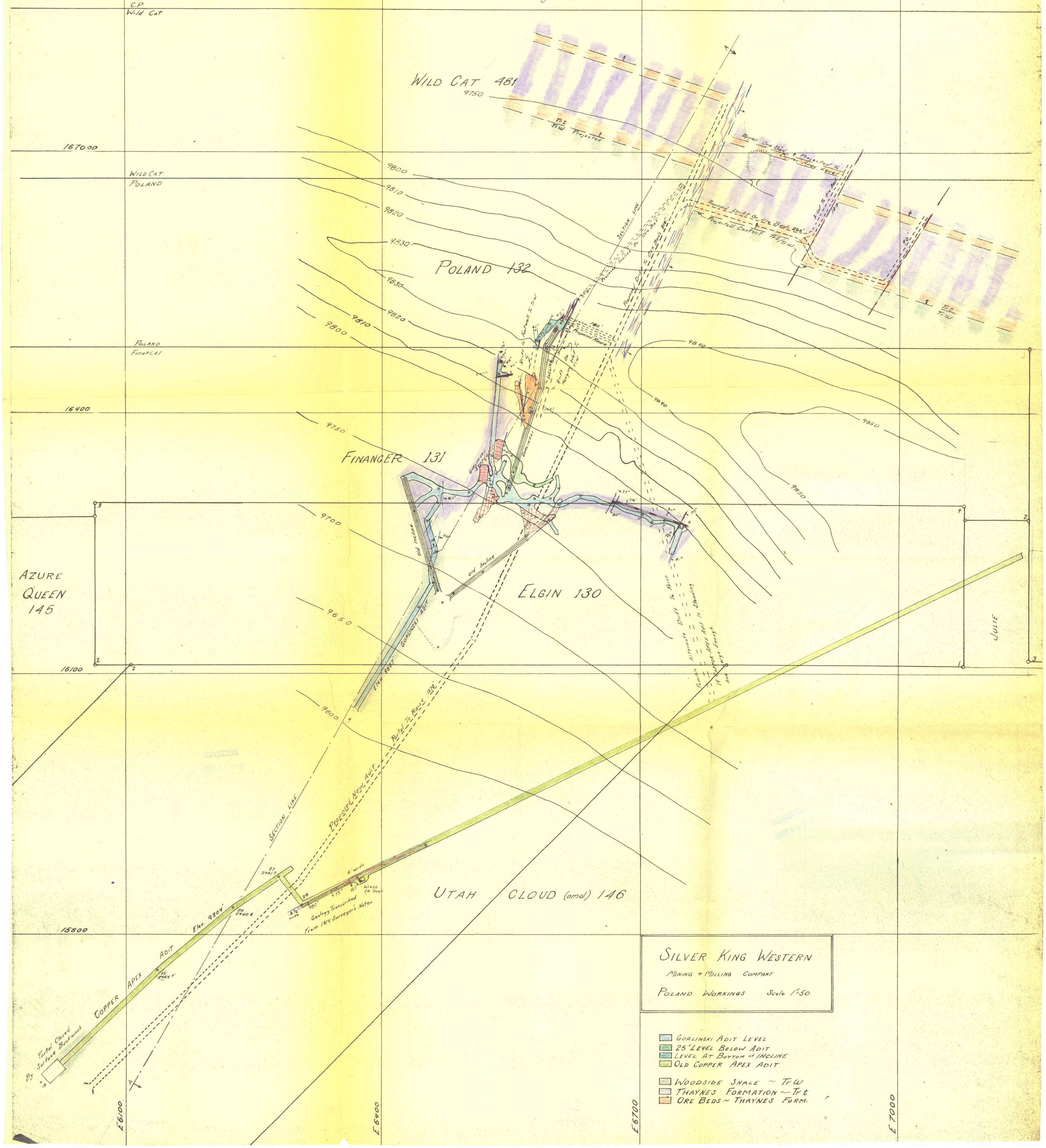
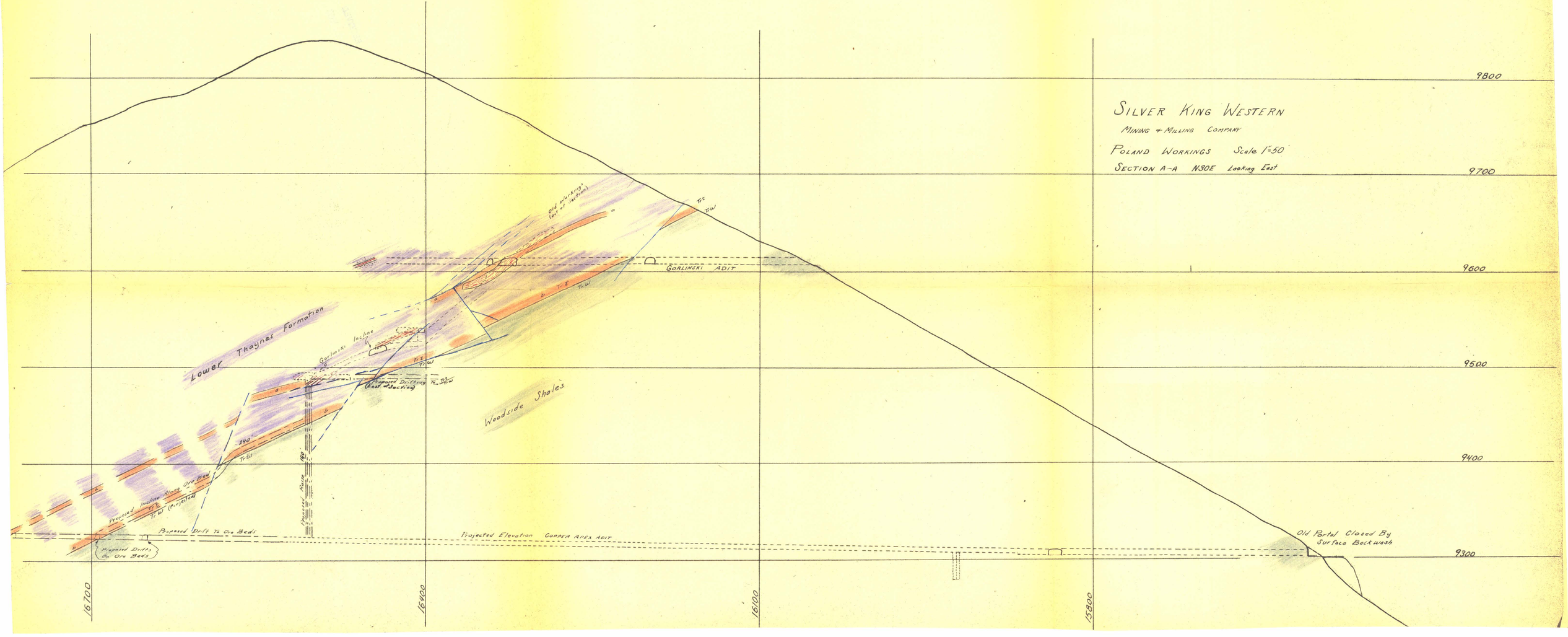


Figure 3-a


SILVER KING WESTERN
MINING + MILLING COMPANY
POLAND WORKINGS Scale 1"=50'
SECTION A-A N30E Looking East
9800
9700
9600
9500
9400
9300
16700
16600
16100
15800
GORLINSKI ADIT
Old Workings (out of section)
Lower Thaynes Formation
Gorlinski Incline
Proposed Drifting (East dipping)
Woodside Shales
Proposed Incline Along Ore Vein
Proposed Drift To Ore Beds
Proposed Drifts On Ore Beds
Projected Elevation COPPER APEX ADIT
Old Portal Closed By Surface Backwash