AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
415 CRANDALL BUILDING
SALT LAKE CITY, UTAH, 84101

ASARCO
J. F. FROST
MANAGER

OFFICIAL COPY
O. M. E.
RECEIVED
JAN 13 1965

INITIALS	CODE
ama	800
	~~100~~
FJ	~~110~~
	~~120~~
	220

January 11, 1965

Mr. George Fumich, Jr., Acting Director
U. S. Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

KEYSTONE UNIT
DMEA 3866
CONTRACT Idm-E903

Dear Mr. Fumich:

This will acknowledge receipt of your letter of January 6, 1965, which letter acknowledges repayment in full of captioned contract.

Regarding the press release, I believe we would do very well without any publicity; however, if you think it advisable or necessary, the release, as shown in your letter, is very good.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm

We apply necessary, we will honor this stipulation. Legal not issue of Press Release
FJ
1/15/65

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
1/5	[illegible]	200
	[illegible]	120
1/6	[illegible]	110
	[illegible]	100

Mr. J. F. Frost
Manager, Western Mining Department
American Smelting and Refining Company
415 Crandall Building
Salt Lake City, Utah 84101

JAN 6 1965

Re: DMEA-3366 (Lead-Zinc-Copper)
American Smelting and Refining Co.
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

Dear Mr. Frost:

Thank you for your check for $140.49 which was submitted to our Denver office and which completes repayment of the $39,722.50, the amount contributed by the Federal Government under the subject contract for lead, zinc, and copper. As a result of this repayment in full, the Government retains no lien or claim against the property or on any future production therefrom. This letter constitutes an official certification to that effect.

We commend you on this successful operation, and we believe that this event warrants some publicity. Consequently, we plan to give the following statement to the press for release on January 19, unless you have some objection.

AMERICAN SMELTING AND REFINING COMPANY OF NEW YORK AND SALT LAKE CITY COMPLETES REPAYMENT OF EXPLORATION ASSISTANCE CONTRACT

The American Smelting and Refining Company has completed repayment of $39,722.50, the amount contributed by the Federal Government under an exploration assistance contract for $79,445, the Department of the Interior announced today.

The American Smelting and Refining Company, on its own behalf and as agent for Park City Consolidated Mines Company of New York, entered into a contract with the Defense Minerals Exploration Administration, now the Office of Minerals Exploration, in December 1955 to explore for lead, zinc, and copper at the Keystone Mine in the Elk and Ruby Mining Districts, Gunnison County, Colorado.

23263

The contract was terminated in January 1959, and a certification of discovery or development was issued in April 1959. Royalties paid on production since 1955 have now completed the repayment. The final royalty payment was received in December 1964.

Sincerely yours,

George Fumich, Jr.

Acting Director

ASDakan:fh
1/5/65

cc: Docket
Director's reading file
CA & A Division
Region III

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

Bldg. 20, Denver Federal Center
Denver, Colo. 80225

OFFICIAL FILE COPY
O. & E.
RECEIVED JAN 4 1965

DATE	INITIALS	CODE
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December 30, 1964		120 m
		120
		220

Mr. J. F. Frost
ASARCO
415 Crandall Building
Salt Lake City, Utah

Re: Keystone Unit
EMEA 3866
Idm-E 903

Dear Jack:

I have just returned from a vacation and am happy to have your letter of December 17, 1964 and check for $140.49.

You will receive an official acknowledgment from the Washington Office OME. For your information, no lien on the subject property was ever recorded.

I wish you a Happy New Year and hope to see you at Bob Palmer's mining convention.

Yours very truly,

ORIGINAL SIGNED BY

Hugh M. Connors
Acting Field Officer, OME
Region III

cc: G. C. Selfridge
E 903
Chron

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
415 ~~XXX~~ CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

December 17, 1964

Mr. Hugh M. Connors
Acting Field Office
Office Minerals Exploration
Building 20
Denver Federal Center
Denver, Colorado

KEYSTONE UNIT
DOCKET: DMEA 3866
CONTRACT: No. Idm./E903

Dear Mr. Connors:

Instead of sending you a detailed statement for royalty based on November 1964 production, I enclose our check No. 8409 in your favor in the amount of $140.49 as the remaining balance due on captioned contract. Our figure agrees with the balance as shown by Mr. George Fumich, Jr., Acting Director, in his letter of December 7, 1964.

Please give us a proper Receipt and Discharge so it can be recorded in Gunnison County, Colorado, thereby clearing the record of any lien against production from any portion of the Keystone Mine.

Yours truly,

Copy to W.O. 12-29-64

Original signed by
J. F. FROST
J. F. FROST

JFF:bm
Encl.- Check & cc Mr. Fumich's letter.
cc: H.M.Connors (extra)
C.E.Nelson
T.A.Snedden
H.L.Goodenough
H.W.Grose
L.K.Nicholson,Jr.
) w/cc Mr. Fumich's letter

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
415 CRANDALL BUILDING
SALT LAKE CITY, UTAH, 84101

ASARCO
J. F. FROST
MANAGER

December 17, 1964

Mr. Hugh M. Connors
Acting Field Office
Office Minerals Exploration
Building 20
Denver Federal Center
Denver, Colorado

KEYSTONE UNIT
DOCKET: DMEA 3866
CONTRACT: No. Idm./E903

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Yours truly,

J. F. Frost

J. F. FROST

JFF:bm
Encl.- Check & cc Mr. Fumich's letter.
cc: H.M.Connors (extra)
C.E.Nelson)
T.A.Snedden) w/cc Mr. Fumich's letter
H.L.Goodenough)
H.W.Grose)
L.K.Nicholson,Jr.)

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

DEC 7 - 1964

Mr. J. F. Frost
Manager, Western Mining Department
American Smelting and Refining Company
415 Crandall Building
Salt Lake City, Utah 84101

Re: DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Co.
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

Dear Mr. Frost:

Reference is made to your letter dated December 1, 1964, to Mr. Connors.

Records in this office indicate that the total Government participation under the subject contract amounted to $39,722.50. Royalty payments, including the amount of $4,430.16 received with your latest letter, aggregate $39,582.01, thus indicating a remaining balance of $140.49 to complete repayment of the Government's participation in these exploration costs.

Sincerely yours,

George Fumich, Jr.

Acting Director

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
12/7	[illegible]	800
12/7	[illegible]	120M
	[illegible]	120
		110
		100
		220

DEC 7 - 1964

Mr. J. F. Frost
Manager, Western Mining Department
American Smelting and Refining Company
415 Crandall Building
Salt Lake City, Utah 84101

Re: DMEA-3366 (Lead-Zinc-Copper)
American Smelting and Refining Co.
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

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Sincerely yours,

George Fumich, Jr.

Acting Director

CEFisher/ama 12-7-64

cc:
Docket
Director's Reading File
CA & A Division
Region III

23263

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

OFFICIAL FILE COPY
O. M. E
RECEIVED 7 1964

DATE December 4, 1964

		800
		120
		120

Mr. J. F. Frost
American Smelting and Refining Co.
415 Crandall Building
Salt Lake City, Utah 84101

Dear Mr. Frost:

A copy of your letter dated December 1 is being forwarded to the Washington office of OME for our Auditor's reply to you.

Yours very truly,

Hugh M. Connors
Acting Field Officer
Region III, OME

cc: G. C. Selfridge
File
Chron

Last payment made $39,722.50

Payments:
Thru 9/64 $35,151.85
Oct 64 4,430.16 39,582.01
Balance due $ 140.49

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
415 CRANDALL BUILDING
SALT LAKE CITY, UTAH, 84101

J. F. FROST
MANAGER

December 1, 1964

Mr. Hugh M. Connors
Acting Field Office
Office Minerals Exploration
Building 20
Denver Federal Center
Denver, Colorado

KEYSTONE UNIT - ROYALTY PAYMENT
DOCKET: DMEA 3866
CONTRACT: No. Idm. E903

Dear Mr. Connors:

Herewith is our check No. 8286 in your favor in the amount of $4430.16. This is royalty payment on Lot D-30 from October 1964 production from ground covered by the DMEA contract.

Inasmuch as the next payment should completely repay the DMEA loan, would you please advise the balance due after credit is given for the enclosed check.

Yours very truly,

J. F. Frost

J. F. FROST

JFF:bm
Encl.
cc: H.M.Connors (extra)
C.E.Nelson)
T.A.Snedden) w/encls.
H.L.Goodenough)
H.W.Grose)
L.K.Nicholson,Jr.)

OFFICIAL FILE COPY
O. M. E.
RECEIVED

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

500

May 7, 1964

220

Mr. J. F. Frost, Manager
American Smelting and Refining Co.
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Subject: DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

Dear Mr. Frost:

Attached are a copy of the Royalty Audit Certificate and Royalty Audit Report dated April 29, 1964 on the subject contract.

Please forward this office your check for $684.32, the balance of royalty due the Government, shown on the Audit Report.

Very truly yours,

Original signed by

Hugh M. Connors
Acting Field Officer, OME
Region III

Enc.

cc: G. C. Selfridge (2)
E903
Chron

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

May 7, 1964

Memorandum

To: Fiscal Section, Office of Management Operations
Office of the Secretary
Department of the Interior
Washington, D. C.

From: Acting Field Officer, OME, Region III

Subject: DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

Attached are the original copies of Royalty Audit Certificate and Royalty Audit Report dated April 29, 1964 on the subject contract.

Original signed by
Hugh M. Connors

Enc.

cc: G. C. Selfridge (2)
E903
Chron

ME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/29		800
		220

APR 30 1964

Memorandum

To: Acting Field Officer, Region III

From: Chief, Contract Administration and Audit Division (Signed) E. D. Talbert

Subject: DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

The original and two copies of a Royalty Audit Certificate and Royalty Audit Report covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Office of Management Operations, Office of the Secretary, U. S. Department of the Interior, Washington, D. C. 20240;
(b) One copy for the Operator; and
(c) One copy for your files.

As evidence of your concurrence, a copy of your letter transmitting the Operator's copy of the report should be furnished to this Division. If for any reason you do not concur, the original and both copies of the report should be returned to this Division with your comments.

Enclosures

CEFisher/ama 4-29-64

cc:
Docket
Director's Reading File
CA & A Division
Fiscal Section

43683

Bldg. 20 - Denver Federal Center
Denver, Colo. 80225

March 11, 1964

ORIGINAL FILE COPY

Ground 500

Mr. J. F. Frost, Manager
American Smelting and Refining Company
Western Mining Department
600 Crandal Building
Salt Lake City 1, Utah

Re: BMEA-3866 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Co.
(Keystone Mine)
Gunnison County, Colorado

220

Dear Mr. Frost:

I am advised that Mr. Clarence E. Fisher will visit your office on or about April 13, 1964 to make a royalty audit of the captioned account.

Any courtesies shown Mr. Fisher will be greatly appreciated.

Yours very truly,

ORIGINAL SIGNED BY

Hugh M. Connors
Acting Field Officer, OMK
Region III

cc: G. C. Selfridge
E. D. Talbert
C. E. Fisher
E903
Chron

AMERICAN SMELTING AND REFINING COMPANY
120 BROADWAY
NEW YORK 5, N.Y.

H. W. GROSE
GENERAL AUDITOR

January 3, 1964

3866

Mr. F. M. Murphy, Acting Chief
Division of Minerals
U. S. Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

Dear Sir:

Attached you will find two completed MME Form 63 Request for Information on Certified Project and Project Under Royalty Agreement for Asarco's Keystone Mine.

Very truly yours,

H. W. GROSE

RS:T
Att.

OFFICIAL FILE COPY
O. M. E
RECEIVED JAN 6 1964

DATE	INITIALS	CODE
1/6		800
		420
		110
1/8		500
		220

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

November 27, 1963

Re: DMEA-3866 (Lead-Zinc-Copper)
American Smelting &
Refining Company
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

Mr. Adin A. Brown
Vice President
American Smelting and Refining Co.
120 Broadway
New York 5, New York

Dear Sir:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

s/F. M. Murphy

F. M. Murphy, Acting Chief
Division of Minerals

OFFICIAL FILE COPY
O. M. E
RECEIVED JAN 6 1964

DATE	INITIALS	CODE

MME Form 63
Revised 3-62

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since August 13, 1962, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes [X] No [ ]
O.M.E. was advised verbally shortly after lease was signed. On June 17, 1963 Asarco's Mr. Grose sent to O.M.E. a copy of the lease.

2. Since August 13, 1962, has there been any production from the land subject to the contract? Yes [X] No [ ]

A. If so and it was shipped, give quantity, value, and name and address of purchaser.
Through Oct. 1963, 2258 tons of crude ore mixed with other ore before milling. Royalty payments have been sent to the Denver O.M.E. office today. (12/23/63)

	Quantity	Value
	2258	

B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity		Estimated Grade	Location
Ore		Tons		
Concentrates		Tons		
Other		Tons		

3. Since DOES NOT APPLY, has any production been transported through workings (see of contract)? Yes [ ] No [ ]

A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by:

Name H. W. Grose
Address 120 Broadway, New York, N. Y. 10005
Title General Auditor, American Smelting & Refining Co.
Date January 3, 1964

4511

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 26 1963

DATE		
		120
		8.00
12/30	Murphy	500
		220

Building 20 - Federal Center
Denver, Colorado 80225

December 20, 1963

Mr. J. F. Frost, Manager
American Smelting and Refining Company
Western Mining Department
600 Crandal Building
Salt Lake City 1, Utah

Re: DMRA-3866 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Co.
(Keystone Mine)
Gunnison County, Colorado

Dear Mr. Frost:

This will confirm our telephone conversation of December 20, 1963, concerning production from the subject mine which is subject to royalty payment to the Government.

Thank you very much for advising us that your company will soon pay royalty to the Government on the first few months production from the Keystone mine by McFarland and Hillinger, lessees. Also, that the settlement will be subject to the Government's approval of the method used to prorate the value of concentrates produced from commingled ores, ores from inside and outside the area of the contract. As I suggested, the production from each area must be documented by assays, and by car counts, or measurement of the productive workings.

Sincerely yours,

Original signed by

T. M. Romslo
Mining Engineer

cc Chief, Division of Field Operations, OME
Royalty Corres. Idm-E903
Chron
TMR/lm

AMERICAN SMELTING AND REFINING COMPANY

120 BROADWAY

NEW YORK 5, N.Y.

ASARCO

H. W. GROSE
GENERAL AUDITOR

OME
DEPARTMENT OF THE INTERIOR
JUN 20 1963
REGION III
DENVER, COLORADO

June 17, 1963

E 903

Mr. H. M. Connor, Field Officer
Office of Minerals Exploration
Building 20
Denver Federal Center
Denver, Colorado

Dear Mr. Connor:

In accordance with your verbal request to Mr. Frost, I am enclosing copy of mining lease of our Keystone Mine to F. G. McFarland and S. R. Hullinger, dated April 1, 1963. Please note Article 4(e) on page 3 which provides that this lease is subject to the existing loan, Docket No. 3866, made by the D.M.E.A.

Yours very truly,

H. W. Grose

H. W. Grose

HWG:G
Fu
cc:JFFrost
encl.

Copy of lease to W.O. 6-20-63

OFFICIAL FILE COPY
O. M. E
RECEIVED JUN 24 1963

DATE	INITIALS	
6/24		800
6/25		500
		220

MINING LEASE

THIS MINING LEASE, made and entered into as of this First day of April, 1963, regardless of the actual times of signing and acknowledgement, between AMERICAN SMELTING AND REFINING COMPANY, a New Jersey Corporation, Lessor, and F. C. McFARLAND and S. R. HULLINGER, dba McFARLAND & HULLINGER, a partnership, of Tooele City, Tooele County, State of Utah, Lessee.

WITNESSTEH:

Article 1. Grant of Lease and Description of the Property. Lessor, in consideration of the payments and royalties herein reserved and of the covenants herein to be performed by Lessee, and the further consideration of Ten Dollars ($10.00) paid by Lessee to Lessor, receipt of which is hereby acknowledged, does hereby lease, let and demise unto Lessee, the following properties:

(a) The mining property known as the Keystone Mine, situate in the Elk and Ruby Mining Districts, Gunnison County, Colorado, and more particularly described in Appendix "A" hereto attached and made a part hereof by reference, together with all buildings and other improvements situated upon the property, including the mill, with all fixtures, machinery, equipment and supplies presently located thereon.

(b) Also, eight (8) residential structures located in Crested Butte, Gunnison County, Colorado, together with the rents, if any, derived therefrom. Said houses are also described in Appendix "A" hereto attached.

It is agreed that within the next thirty (30) days, the parties will make and sign a written inventory of the machinery and equipment, tools and supplies, as well as household goods, now situated upon the leased properties. The Lessee agrees to maintain the machinery and equipment and all buildings herein leased in a condition of reasonable repair, and turn the same back to Lessor at the expiration of this agreement in a condition of repair as it now is, with only ordinary and reasonable wear and depreciation being excepted; and provided further, that in the event any equipment or machinery depreciates to a point where, in the opinion of the Lessee, further repairs are unwarranted and replacement is necessary, then in that event it is agreed the Lessor will be so notified in writing and such equipment or machinery will be turned over to the Lessor at the property. Lessee at Lessee's expense, will replace the same and all property so replaced will be and remain the property of Lessee, and on termination of this agreement will be and is subject to removal as herein provided.

See p. 3.

(c) It is agreed that while Lessee is in possession and operation of the said mining property, as provided in this lease agreement, any mining claims located or otherwise acquired by or for Lessee within a radius of five (5) miles of the Keystone No. 1 adit shall at that time become the property of the Lessor and come under and within all the terms of this agreement. Lessee will promptly execute and deliver quitclaim deed to Lessor of all Lessee's interest in said claims; provided, however, that Lessee may acquire such surface rights outside the limits of the above described property as in Lessee's judgment may be necessary or convenient for the operation of the property.

(d) It is understood between the parties that Lessor owns a sixty percent (60%) interest in the above described property, and Park City Consolidated Mines Company owns a forty percent (40%) interest, and Lessor is the appointed Manager thereof.

Article 2. Term of Lease. The term of this lease shall be ten (10) years from the date hereof, unless sooner terminated in the manner hereinafter provided.

Article 3. Possession and Control of Property. Lessee shall have, and he is hereby given and granted the sole right to enter into the property and conduct mining operations, and to remove and sell the ores therein mined, subject to the provisions hereinafter set forth. Upon execution of this agreement by both parties, Lessor shall give to each tenant in possession of the aforesaid residences, a thirty (30) day legal notice to vacate the same.

Article 4. Rental and Royalties.

(a) Commencing on the first day of July, 1963, Lessee shall pay Lessor a rental of Two Thousand Dollars ($2,000.00) per month, due on or before the 10th day of each and every month during this lease.

If for any calendar month during this lease, Lessee, because of depressed metal prices or labor disturbances, is unable profitably to produce and sell ores from the property, and does not, on that account, operate the said mill at any time in that month, the above rental shall be reduced to One Thousand Dollars ($1,000.00) for each such month.

(b) In addition to the above rental, Lessee shall pay to Lessor a royalty of ten percent (10%) of the net smelter returns on all ores produced and sold by Lessee from the demised premises. "Net smelter returns" shall here mean the net amount received from the smelter, after freight charges, in payment for ores and concentrates produced and sold by Lessee from the property, less an amount for transportation cost from mill to the railhead at the rate of $6.00 per dry ton of material shipped to the smelters.

(c) If the combined average New York lead quotation and the East St. Louis quotation for prime western zinc as given in the E & M J Metal & Mineral Markets for any month during this lease exceed 29¢ per pound, the royalty for ores sold in such month shall be increased to 17-1/2% of net smelter returns.

(d) In the event any premium metal payments or government subsidies are paid on any ore mined from the demised premises, then, unless prohibited or limited by law or government regulation, Lessee shall pay to Lessor a percentage of such premium metal payment or government subsidy equal to the royalty percentage applied upon the net smelter returns of such ore as herein set forth.

(e) This lease agreement is subject to the existing loan, Docket No. 3866, made by the D.M.E.A. (U.S. Government agency) upon a designated portion of the leased premises, and secured by a royalty of five percent (5%) on all ores shipped therefrom until the loan is repaid. Lessor is responsible for this loan and will pay the same. Lessee agrees to furnish Lessor monthly report of data necessary to calculate D.M.E.A. royalty.

(f) Lessee, not less than every six (6) months of this lease, shall pay Lessor for all supplies consumed or used by Lessee. Payment shall be at Lessor's cost.

Article 5. Royalty Settlement Date. Royalty payments shall be made to Lessor by the purchaser of the ores or concentrates at the time settlement is made to Lessee for each shipment. Each settlement shall be accompanied by a duplicate liquidation or settlement sheet on all ores or concentrates sold. Lessor and Lessee shall give the said purchaser written instructions in accord with this provision.

Article 6. Marketing of Products. Products of the Property shall be sold by Lessees to Lessor and shall be shipped, in the case of lead concentrates, f.o.b. El Paso plant of Lessor, and in the case of zinc concentrates, f.o.b. Amarillo, Texas plant of Lessor, unless otherwise mutually agreed to. The settlement terms shall be as proposed under date of January 28, 1963 as outlined under the heading "Keystone Mine, Crested Butte, Colorado - Proposed Terms for Purchase Lead & Zinc Concentrates," Prepared by Reed F. Welch and transmitted to McFarland & Hullinger by his letter of January 28, 1963. Other terms of the agreement for the sale of such products by Lessees to Lessor shall be in accordance with the standard form of ore or concentrate purchase contract used by Lessor as of the date of this mining lease. Modification or changes in the proposed terms can be made by mutual agreement.

Article 7. Manner of Work. The Lessee agrees to cause all work, development and mining to be done in a careful and miner-like manner and to conform in all respects with the mining laws and regulations of the State of Colorado. Lessee will maintain the premises in good repair, reasonable wear and tear excepted. Lessee agrees to perform all required annual assessment work on the unpatented claims covered by this agreement, and will furnish

Lessor with all necessary information to make and file proofs of labor on all said unpatented claims at least thirty (30) days in advance of such filing date, and Lessor agrees to make and file all proofs of labor as required by law to hold all of said claims.

Article 8. Records and Inspection. Lessee's maps and records of all mining operations upon the demised premises pertinent to the computation of royalties, shall be available for Lessor's inspection upon request, but not more often than once each month; and the Lessor may enter said property at all reasonable times for the purpose of inspecting the same, and Lessee shall facilitate such inspection in every reasonable way, but Lessor shall enter upon said demised property at Lessor's own risk and so as not to hinder unreasonably the operations of Lessee; and the Lessor shall indemnify and hold harmless the Lessee from any damage, claim or demand by reason of injury to or the presence of the Lessor or the Lessor's officers, agents, representatives, licensees, or guests or any of them on the demised premises or approaches thereto. If this agreement is terminated for any reason, Lessee shall, within three (3) months following such termination, furnish Lessor with all factual geologic, engineering and assay maps and sections of the demised premises, which shall include the location, direction and attitude of all exploratory drill holes drilled by Lessee. Lessee shall also furnish from time to time copies of geologic and assay logs of such exploratory drill holes.

Article 9. Protection from Liens and Damages. The Lessee shall keep the demised premises and the whole and every part thereof free and clear of liens for Labor done or work performed upon the demised premises or materials furnished to Lessee for the development or operation thereof under this lease while the same is in force and effect, and will save and keep harmless the Lessor, their officers and employees, from all costs, loss or damage which may arise by reason of injury to any persons employed by the Lessee in or upon the demised premises or any part thereof, or, except as provided in Article 8 hereof, which may arise by reason of injury to any persons or damage to any property as the result of any work or operations of the Lessee or of his possession and occupancy of the demised premises. A lien upon the property shall not constitute a default if the Lessee in good faith disputes the validity of the claim, in which event the existence of the lien shall constitute a default only from and after the validity of the lien has been adjudicated.

Lessee shall keep the premises posted to give notice of its possession and responsibility under this lease.

Lessee agrees to carry with an insurance company approved in writing by Lessor, liability insurance in the amounts of $100,000/200,000 public liability and $50,000 property damage covering their operations and possession of the demised property.

In lieu of fire and comprehensive insurance upon Lessor's property herein leased, including both real and personal property, Lessee shall pay Lessor the sum of Two Hundred Ten dollars ($210.00) per month, payable quarterly, while this lease is in effect and commencing on the date of this agreement. Lessor shall be under no obligation to repair or rebuild, in case of any damage or loss from any cause which would be covered by such insurance.

Lessee will provide and pay for such insurance on their own property placed on the premises as Lessee deems necessary.

In particular, Lessee will save and keep harmless the Lessor, their officers and employees, from any claims, liability or loss arising from any real or asserted pollution or contamination of water or water source or supply resulting from Lessee's operations under this lease, and for a period of nine months after its termination.

Lessee shall make frequent, adequate tests of the mine and to determine the presence and concentration of methane gas, and take necessary safety precautions if such is discovered within the leased premises.

Article 10. Taxes. The Lessee shall be charged with all general property taxes assessed as a nonproducing mine against the Lessor's ownership in the demised premises during the term of this lease and with taxes assessed as a producing mine as a result of lessee's operation of the demised premises. To this end, beginning with January, 1964, Lessee shall during January of each year this lease is in effect, deposit with Lessor at its Salt Lake Office, an amount equal to the taxes which would be assessed as a nonproducing mine upon the demised premises, based on the tax rate for that year. In addition, Lessee shall authorize the smelters and ore purchasers who purchase ores, concentrates, or minerals to deduct one and one half percent (1.5%) of the net smelter returns of all such material sold from the demised premises or from Lessee's mill, and remit such amounts directly to Lessor at its Salt Lake Office. From the amounts so deposited by Lessee and deducted by the smelters or ore purchasers, Lessor shall pay the general property taxes before they become delinquent. It is understood that taxes based on assessment as a producing mine do not fall due until the second year after the year in which production is had. Promptly after the amount of such taxes is determined, Lessor shall remit to Lessee any excess of monies so deposited and so received from smelters and ore purchasers, or bill Lessee for any deficiency.

Lessor shall be charged with its proportion, based on the royalties hereinabove reserved, of taxes based on assessment as a producing mine, and of any production, severance or similar or other excise taxes, and, except in the case of taxes based on assessment as a producing mine, Lessee shall advance such proportion and be reimbursed therefor.

The Lessee shall pay before they are delinquent all taxes levied or assessed against any and all personal property, machinery and equipment placed upon said demised premises by the Lessee during the term of this lease, and also such taxes levied or assessed against all personal property of the Lessor located on the demised premises.

Article 11. State and Federal Laws. Lessee shall comply with the Workmen's Compensation Laws of Colorado and with Social Security, Unemployment Insurance and all other state and federal laws relating to Lessee's operations and shall save Lessor harmless from any claim for damages or liability by reason thereof.

Article 12. Power Deposit Refund. Lessor will continue to receive and retain the refunds as they fall due from the power line deposit Lessor has made relative to the demised property.

Article 13. Development Work. During this lease, the Lessee will use reasonable efforts, in conformity with economic mining practice, to maintain proven ore reserves at their present level.

Article 14. Forfeiture Clause. The failure of the Lessee to make or cause to be made any of the payments herein provided for or to keep or perform any agreement on Lessee's part to be kept or performed according to the terms and provisions of this agreement, shall, at the election of the Lessor, work a forfeiture hereof; provided, however, that in the event of a default on the part of the Lessee, and the election of the Lessor to terminate this agreement on account thereof, the Lessor shall give to the Lessee a written notice of its intention to declare a forfeiture of this agreement and to terminate the same on account thereof, specifying the particular default or defaults relied upon by it, and the Lessee shall have thirty (30) days after receipt of such notice in which to make good such default or defaults, in which event, there shall be no forfeiture therefor; and provided further, that in the case of default in the payment of rentals, royalties or the deposit due for taxes, referred to above, Lessee shall have only five (5) days after receipt of such notice in which to make good such default or defaults. Waiver or failure to give notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 15. Cancellation. Notwithstanding any provision herein to the contrary, the Lessee may at any time upon sixty days written notice to the Lessor, cancel and terminate this lease. Upon such cancellation and termination of this lease, the Lessee shall make and complete the payments which have already accrued at the date of such cancellation and termination.

Article 16. Surrender of Property. In the event of a valid forfeiture, cancellation or other termination of this lease, the Lessee shall surrender to the Lessor peaceable possession of the demised premises in good order and shall deliver to Lessor a written relinquishment thereof.

Article 17. Removal of Equipment. The Lessee shall have and is hereby given and granted, two (2) months after a valid forfeiture, cancellation or other termination of this agreement to remove from said property, all warehouse stocks, merchandise, materials, tools, hoists, compressors, engines, motors, equipment, pumps, transformers, electrical accessories, metal or wooden tanks, pipes and connections, mine cars and any and all machinery, fixtures and furnishings erected or placed in or upon said property by Lessee, provided that such right of removal shall not extend to buildings, machinery foundations, and underground tracks, and mine timbers in place unless Lessor shall have given its previous written consent thereto. If Lessee is hampered by snowdrifts, washouts, inclement weather, or other climatic conditions, from completing the removal of said equipment within the time specified, then the Lessor agrees to extend the time by a reasonable period if requested by the Lessee.

Article 18. Notices. Any notices to be given hereunder shall be considered as delivered forty-eight (48) hours after the same shall have been deposited in the United States mail, duly registered, with postage thereon prepaid. All notices given shall be addressed to the following addresses:

If to Lessor, Attention Mining Department
120 Broadway
New York 5, New York

and

605 Crandall Building
Salt Lake City 1, Utah

and if to Lessee, Box 238
Tooele, Utah

Said addresses for receiving notices may be changed by either party upon five (5) days previous written notice to the other party.

Article 19. Assignment. Lessee may not assign this lease without the written permission of Lessor previously had and obtained. Lessee may sublet any part of the leased premises, except the mill, provided the sublease shall automatically terminate upon termination of this agreement. Any sublease shall be subject to all of the terms of this agreement, including royalty payments.

Article 20. Inurement. These presents shall inure to the benefit of and be binding upon the respective successors and assigns of the parties hereto.

Article 21. Construction. Titles to the respective articles hereof shall not be deemed a part of this lease, but shall be regarded as having been used for convenience only.

IN WITNESS WHEREOF, this agreement is executed as of the day and year first above written.

AMERICAN SMELTING AND REFINING COMPANY

By _____
Vice President

LESSOR

F. G. McFarland

S. N. Hullinger

LESSEES

STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

The foregoing instrument was acknowledged before me this 15th day of March, 1963, by ADIN A. BROWN, Vice President of the American Smelting and Refining Company, Lessor.

CLARE A. BAIONE
Notary Public, State of New York
No. 24-0130975 Qualified in Kings Co.
Cert. Filed in New York County
Commission Expires March 30, 1965

_____
NOTARY PUBLIC
Residing in New York, New York

STATE OF UTAH)
: ss.
COUNTY OF _____)

On this _____ day of _____, 1963, personally appeared before me F. G. McFARLAND and S. N. HULLINGER, two of the signers of the foregoing instrument, who duly acknowledged to me that they executed the same.

_____
NOTARY PUBLIC
Residing in _____

APPENDIX A

Mining Lease, April 1, 1963, between American Smelting and Refining Company and V. C. McFarland and S. R. Hullinger.

PATENTED CLAIMS

NAME	SURVEY NO.	ACREAGE
Berrien	3738	10.33
Furniture Boy	3739	10.33
Crested Butte Extension	4472	9.41
My Boys	6523	10.33
Union	6523	10.33
Keystone	6523	10.33
Contact	6523	10.33
Eclipse	6523	10.33
Jimmy	20749	20.66
Keystone Mill Site	20750	4.91
Contact Mill Site	20750	4.91
Park City No. 1 lode	20825	19.336
Park City No. 11 lode	20825	19.480
Park City No. 20 lode	20825	19.480
Park City No. 29 lode	20825	19.480
Park City No. 30 lode	20825	19.480
	Total,	209.456

The following property in Crested Butte, Colorado:

Lots 17 to 29, both inclusive, Block 8, and the west 12-1/2 feet of Lot 30, Block 8, including six residences and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

The East one-half of Lot 20 and all of Lots 21 and 22, including a residence and all other improvements thereon, Block 24, Town of Crested Butte, County of Gunnison, State of Colorado.

Lots 12 and 13 in Block 28, together with residence and all other improvements thereon, Town of Crested Butte, County of Gunnison, State of Colorado

UNPATENTED CLAIMS

NAME	NAME	NAME
Park City 2	Park City 26	Park City A
" " 3	" " 27	" " B
" " 4	" " 28	" " C
" " 5	" " 31	" " D
" " 6	" " 32	" " E
" " 7	" " 33	" " F
" " 8	" " 34	" " G
" " 9	" " 35	Keystone Extension 1
" " 10	" " 36	" " 2
" " 12	" " 37	" " 3
" " 13	" " 39	" " 4
" " 14	" " 40	" " 5
" " 15	" " 41	" " 6
" " 16	" " 42	" " 7
" " 17	" " 43	" " 8
" " 18	" " 44	" " 9
" " 19	" " 46 - Carol	" " 10
" " 21	" " 47 - Frankie PK	
" " 22	" " 48 - Judy PK 2	
" " 23	" " 49 PK 3	
" " 24	" " 50	
" " 25	" " 51	
	" " 52	

Approximate acreage of unpatented claims is 1349 acres.

UNPATENTED PLACER CLAIM

Jerry No. 1 (Area is covered by above listed claims.)

Building 20 - Federal Center
Denver 25, Colorado

OFFICIAL FILE COPY
O. M. E
RECEIVED AUG 23 1962

DATE	INITIALS	CODE
8/23	gla	500
		220

August 21, 1962

Memorandum

To: Fiscal Section, Division of Administrative Services
Office of the Secretary, Department of the Interior
Washington 25, D. C.

From: Acting Field Officer, OME, Region III

Subject: IMEA-3866 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Company
(Keystone Mine)
Gunnison County, Colorado

Attached is the original Report of Royalty Review on the subject property dated August 15, 1962 covering the period February 11, 1959 through August 13, 1962.

Original signed by

Hugh M. Connors

Attachments

HMC/lm

cc Chief, Division of Field Operations, OME
E. D. Talbert, Acting Chief
Contract Administration and Audit Division
Royalty Corres. Idm-E903
Chron

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		220

AUG 15 1962

Memorandum

To: Acting Field Officer, Region III

From: E. D. Talbert, Acting Chief (Signed) E. D. Talbert
Contract Administration and Audit Division

Subject: DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Keystone Mine
Gunnison County, Colorado
Contract Idm-E903

The original and one copy of a Report of Royalty Review covering the subject contract are enclosed. If you concur in the facts stated therein, please make the following distribution:

(a) Original to the Fiscal Section, Division of Administrative Services, Office of the Secretary, Department of the Interior, Washington 25, D. C.; and

(b) One copy for your files.

This Report of Royalty Review is made for record purposes only; therefore, no copy for the Operator is provided.

As evidence of your concurrence, a copy of your memorandum transmitting the original report to the Fiscal Section should be furnished this Division. If for any reason you do not concur, both copies of the report should be returned to this Division with your comments.

Enclosures

EDTalbert/ama 8-15-62

cc:
Docket
Director's Reading File
CA & A Division
Fiscal Section

43683

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

August 10, 1962

Re: DMEA-3866 (Lead-Zinc-Copper)
American Smelting & Refining Co.
Keystone Mine
Gunnison County, Colo.
Contract Idm-B903

Mr. Adin A. Brown, Vice President
American Smelting and Refining Company
120 Broadway
New York 5, New York

Dear Mr. Brown:

After the completion of the approved exploration work under the contract identified above, we asked to be informed about changes in the status of the property and production from it during the period of royalty obligation.

To assist you to furnish this information and to assure the accuracy of our records, please answer the questions on the back of this letter and return two copies to this office with copies of any pertinent documents.

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Division of Minerals

OFFICIAL FILE COPY
O. M. E.
RECEIVED AUG 14 1962

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8/15		100
8/15		110
8/15		500
		220

MME Form 63
Revised 3-62

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since **March 7, 1960**, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☒

2. Since **March 7, 1960**, has there been any production from the land subject to the contract? Yes ☐ No ☒

   A. If so and it was shipped, give quantity, value, and name and address of purchaser.

	Quantity	Value

   B. If stockpiled awaiting sale, state quantity, grade, and location.

Type	Quantity	Estimated Grade	Location
Ore	Tons		
Concentrates	Tons		
Other	Tons		

3. Since , has any production been transported through workings (see of contract)? Yes ☐ No ☒

   A. If so, state quantity, value, and disposition of material.

Disposition of Material	Quantity	Value

Submitted by: Adin A. Brown

Name Adin A. Brown Title Vice-President

Address 120 Broadway Date August 13, 1962
New York 5, N.Y.

4511

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"	Greisvald	500
		225

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
Building 20 - Federal Center
Denver 25, Colorado

February 2, 1960

American Smelting and Refining Company
P. O. Box J
Crested Butte, Colorado

Re: Docket No. IMEA 3866 (Lead-Zinc-Copper)
Contract No. Idm-E903
(Keystone mine)
Gunnison County, Colorado

Gentlemen:

In reference to the "Certification by the United States of America of a Discovery or Development under an exploration Project Contract" and the instructions in the Washington Office letter of transmittal of the Certification on the captioned project, please indicate your answer to the following questions and return one copy of the questionnaire immediately to this office.

Very truly yours,
Original signed by

J. W. Townsend
Executive Officer, OME
Field Team, Region III

1. Has the property been sub-leased or any change made in ownership other than this office has been notified? Yes ___ No___. If yes, please furnish details of the transaction on a separate sheet and include a true or signed copy of any instrument that was executed in conjunction with the matter.

2. Has there been production from the land subordinated under the referenced contract since January 1, 1959 ? Yes___ No___. If yes, and shipments made, who was the purchaser? _____

3. Is any of the following material stockpiled? Yes___ No___.

(a) Ore, Tons _____ Estimated grade _____
(b) Concentrates, lbs. _____ Estimated grade _____
(c) Low grade ore, tons _____ Estimated grade _____
Place stockpiled _____

Signed _____

Title _____ Date _____

TMR:ltm cc: Chmn. Op. Comm. ✓ Roy. Corres. E903 Chron.

MME Form 7
(10-58)

OFFICIAL FILE COPY

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4-22	Klugecheid	500
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	Vernon	~~600~~ 140
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4/29	Martin	130
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4/24	Talbut	800
3/23/59	Stephan	(130
4/24	Kiilsgaard	(130

APR 27 1959

Mr. Clarence A. Fredell, Director
Technical Research & Development Division
Defense Materials Service
General Services Administration
6018 GSA Building
Washington 25, D. C.

SOLICITOR

APR 23 1959

INTERIOR DEPT.

Re: Docket No. DMEA-3866 (Idm-E903)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Dear Mr. Fredell:

Enclosed is a copy of a certification of discovery or development related to Exploration Project Contract No. Idm-E903.

The contract was dated December 5, 1955, with the Government participating to the extent of 50 per cent in an exploration project estimated to cost $107,220.00. Actual expenditures were $79,445.00, with the Government's share being half of such amount or $39,722.50.

The total amount of work provided for under the contract consisted of 2,450 feet of drifting and crosscutting, 245 feet of timbering, 200 feet of raising, and 2,000 feet of diamond drilling. Work actually completed consists of 1,823 feet of drifting and crosscutting, 195 feet of raising, and 1,515 feet of diamond drilling.

The discovery consisted of silver-bearing, lead-zinc-copper ores occurring in fissure veins in sandstone and shale of the Cretaceous Mesa Verde formation. The estimated ore reserve resulting from the work of exploration under the contract consisted of 18,700 tons of ore having an average grade of 4.4 ounces of silver per ton, 4.8 per cent lead, 0.4 per cent copper, and 7.9 per cent zinc.

RECEIVED
APR 23 1959
ASSOC. SOLICITOR
MINERAL RESOURCES

Enclosures

Sincerely yours, WPKlugecheid/er 4-22-59

Frank E. Johnson (for)
Acting Director

Copy to: Docket
Mr. Lamb, USBM
Mr. Kiilsgaard, USGS
Dir Read File
Op. Committee
Cont. Adm. & Audit Div.
Region III (2)
Mr. Johnson
Mr. Griswold
Chron.

43683

MME Form 7
(10-58)

OFFICIAL FILE COPY

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4-22	Klugescheid	500
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	Vernon	140
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4/24	Talbert	800
4/29	Martin	130
4/24	Kiilsgaard	130
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		~~HB~~
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		500

4/24 Josephson/130

APR 27 1959

Mr. Adin A. Brown, Vice President
American Smelting and Refining Company
120 Broadway
New York 5, New York

4/24

Re: Docket No. DMEA-3866 (~~Lead-Zinc~~)
American Smelting and Refining Company
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903 4/27 a

Dear Mr. Brown:

Transmitted herewith is a certification of discovery or development related to Exploration Project Contract No. Idm-E903, dated December 5, 1955, on the lands described in the contract.

By the terms of the Exploration Project Contract and of the certification, all minerals mined or produced from December 5, 1955, to December 5, 1968, are subject to the Government's percentage royalty as set forth in the contract, until the sum of $39,722.50, which the Government has advanced as its participating interest is repaid.

You should continue to make royalty payments, as in the past, to Executive Officer, OME Field Team, Region III, 224 New Customhouse Building, Denver 2, Colorado. The payments should be accompanied, as has been customary, by suitable evidence covering the liquidations of the various products.

You are requested to notify the Executive Officer of any change in ownership or production rights that may have any effect on the Government's right to its percentage royalty. Your attention is especially called to Article 2(d), relating to the preservation of the Government's right to a percentage royalty on production. Also, if production ceases at any time for an extended period, please notify the Executive Officer at six-month intervals that such is the case.

Sincerely yours,

Frank E. Johnson (fw)

Acting Director

Enclosures

WPKlugescheid/er 4-22-59
Copy to: Docket
Mr. C.A.Fredell, Dir.TDS.DMS
Mr. Lamb, USBM
Mr. Kiilsgaard, USGS
Dir Read File
Op. Committee
Cont. Adm & Audit Div.
Finance Office
Mr. Johnson
Mr. Griswold
Region III (2)
Chron.

43683

April 23, 1959.

Memorandum

To: A. S. Dakan, Chief, Operations Control and Statistics Division.

From: W. P. Klugescheid, Mining Engineer, Division of Base Metals

Subject: Ore Reserves for Docket No. DMEA-3866 (Lead-Zinc), American Smelting and Refining Company, Keystone (Union Extension) Mine, Gunnison County, Colorado, Contract No. Idm-E903.

18,700 tons of ore containing 4.4 ounces of silver per ton, 4.8 per cent lead, 0.4 per cent copper, 7.9 per cent zinc.

This would yield:

82,280 ounces of silver.
1,795,200 pounds of lead.
149,600 pounds of copper.
2,954,600 pounds of zinc.

W. P. Klugescheid

W. P. Klugescheid

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

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 16 1959
DATE | INITIALS | CODE
4-16 | | 220

April 16, 1959

Re: DMEA Docket 3866;
Contract Idm E-903
American Smelting &
Refining Co.
Keystone Mine,
Gunnison County, Colo.

Memorandum

To: W. R. Griswold, Office of Mineral Exploration

From: Commodity Specialist, Branch of Base Metals

Subject: Review of Joint Final Report of March 20, 1959, and of Field Team Memo of March 30, 1959 on work under Contract Idm E-903

Exploration under the subject contract at the Keystone mine was begun January 24, 1956, and terminated April 23, 1958. Work completed consisted of 1,823 feet of drifting and cross-cutting, 1,515 feet of diamond drilling, 195 feet of raising and sampling, which cost a total of $79,445. The work explored the Union and Keystone veins on the 2,160 level and provided a 3 compartment raise from the 2,160 to the 2,000 level where additional drifting was done on the Union vein. Four diamond drill holes explored the hanging and footwalls of the Union vein.

As a result of drifting and raising about 12,000 tons of ore classed as indicated and 7,000 tons classed as inferred were discovered. This ore is judged to contain 4.4 ounces of silver per ton, 4.8 percent lead, 0.4 percent copper and 7.9 percent zinc.

On the basis of this discovery the field examiners and field team recommend certification of a discovery. I concur in this recommendation.

O. M. Bishop

O. M. Bishop

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
March 30, 1959

OFFICIAL FILE COPY
O. M. E.
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4-10		130
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		500

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region ~~III~~

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903
American Smelting and Refining Company, (Keystone mine)
Gunnison County, Colorado - FINAL SUMMARY REPORT

Enclosed are the original and two copies of a Joint Final Engineering and Geologic Report by F. B. Moore, Geologist, Geological Survey, and E. W. Buel, Mining Engineer, Bureau of Mines, pertaining to work completed under the subject contract. The original and one copy of the Operator's final report were forwarded by memorandum of February 18, 1959.

The contract was terminated without performance of all work originally provided for, by Termination Agreement, dated January 23, 1959, which was made effective April 23, 1958.

Final payment of the Operator's account was processed by this office March 17, 1959, in accordance with the Report of Review of reported project costs, by the Contract Administration and Audit Division, OME, dated March 10, 1959.

Exploration work completed under the contract consisted of 1823 feet of drifting and crosscutting, 195 feet of raising, and the drilling of four holes, aggregating 1515 feet of diamond drilling. Additional work or service incident to the exploration consisted of excavation of four drill stations, and analysis of 222 samples for lead, zinc and copper; all at a total accepted cost of $79,445.00, toward which the Government contributed 50 percent, or $39,722.50.

The exploration completed under the contract resulted in the discovery of a significant quantity of lead-zinc-copper ore, therefore the OME field examiners recommend certification of the project as a discovery or development, in which this office concurs.

Reviewed by
OME OPERATING COMMITTEE
4-10-59
(date)

By J. W. Townsend
J. W. Townsend

By E. N. Harshman
E. N. Harshman

Checked 3-30-59

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

OFFICE OF MINERALS EXPLORATION
REGION III

OFFICIAL FILE COPY
O. M. E.
RECEIVED APR 6 1959

DATE	INITIALS	CODE
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FIELD TEAM
FINAL REPORT.

DMEA 3866

Contract Idm-E 903

American Smelting and Refining Company

Keystone mine

Gunnison County, Colorado

OME
DEPARTMENT OF THE INTERIOR
MAR 27 1959
DENVER, COLORADO

Lead-Zinc-Copper

Joint Final Engineering and Geologic Report

By

F. B. Moore, Geologist
Geological Survey

E. W. Buel, Mining Engineer
Bureau of Mines

Reviewed by
OME OPERATING COMMITTEE
4-10-59
(date)

March 20, 1959

CONTENTS

PAGE

Introduction and summary 1

Property 3

Location and accessibility 3

Physical features 3

Ownership 4

History and production 5

Present status 6

Geology 6

Project 9

Applicant's exploration proposal 9

Recommended exploration program 10

Approved program 11

Program work completed 11

Efficiency of operations 14

Results of exploration 14

Ore reserves 15

Conclusions and recommendations 17

TABLES

Number

1. Summary of authorized and accepted work and costs 12

ILLUSTRATIONS

Figure — Follows page

1. Location map of the Keystone mine, American Smelting and Refining Company, Gunnison County, Colo. DMEA 3866, Contract Idm-E 903 3

2. Map showing subordinated claims, Keystone mine, American Smelting and Refining Company, Gunnison County, Colo. DMEA 3866. Contract Idm-E 903. 4

3. Plan of Keystone mine, Gunnison County, Colorado, showing DMEA workings in solid. 17

4. Geologic map showing DMEA exploration on the 2160 level and part of the 2000 level, Keystone mine, Gunnison County, Colorado. 17

5. Geologic map (continuation of figure 4) showing the DMEA drift, 2000 level, Keystone mine, Gunnison County, Colorado. 17

6. Longitudinal section of part of Union vein showing indicated ore reserves in contract area, Keystone mine, Gunnison County, Colorado 17

DMEA 3866
Contract Idm-E 903

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE MINE
GUNNISON COUNTY, COLORADO

INTRODUCTION AND SUMMARY

The American Smelting and Refining Company, 120 Broadway, New York, N. Y., applied for Government assistance under the DMEA program on June 22, 1955, to explore for lead, zinc, and copper at the Keystone mine, Gunnison County, Colorado. The applicant proposed to test the lateral and downward projections of the Keystone, Union, West, Berrien, and other veins northwest of the developed portions of the Union and Keystone veins of the Keystone mine by drifting, crosscutting, and diamond drilling at a total estimated cost of $115,000.00.

The property was examined by R. U. King, geologist, Geological Survey, and R. L. Bolmer, mining engineer, Bureau of Mines, July 20-22, 1955. The examining team concluded that exploration of the Union, Keystone, and other veins in the area proposed by the applicant was justified, and the applicant agreed to a modified two-stage program of drifting, crosscutting, raising, and diamond drilling estimated to cost a total of $107,220.00 toward which the Government would contribute 50 percent, or not to exceed $53,610.00.

Contract Idm-E 903 was executed by the Government and the applicant, effective December 5, 1955. The contract, except for minor changes, authorized the exploration program recommended by the field examiners

and at the same total estimated cost. Work under the contract was begun on January 24, 1956, and was suspended April 22, 1958, because of increasingly unfavorable results. The contract was terminated by a Termination Agreement made effective April 23, 1958, before completion of all work originally provided for in the contract.

The acceptable project work completed consisted of 1,823 feet of drifting and crosscutting, 1,515 feet of diamond drilling, 195 feet of raising, preparation of 4 drill stations, and analysis of 222 samples. The total cost of the accepted work amounted to $79,445.00, toward which the Government will contribute 50 percent, or $39,722.50; the amounts subject to a final audit by the Contract Administration and Audit Division, OME.

The exploration work completed resulted in the discovery of one ore body and proof of the downward extension of another, both on the Union vein. Indicated ore reserves were increased by more than 12,000 tons and inferred ore reserves by nearly 7,000 tons through work under the contract.

The lateral limits of ore along both the Keystone and Union veins have been established on the 2000 and 2160 levels. Search for upward or downward extensions of known ore bodies from these levels is believed to be mine development rather than exploration. Therefore further exploration of the Keystone or Union veins with Government assistance is not warranted.

PROPERTY

Location and accessibility

The principal workings of the Keystone mine are in sec. 31, T. 13 S., R. 86 W., and sec. 6, T. 14 S., R. 86 W., sixth principal meridian, Elk Mountain mining district, Gunnison County, Colorado (fig. 1). The mine is less than 3 miles west of the town of Crested Butte, Colorado, which is on State Highway 135.

Physical features

The topography of the area is typical of the mountainous Alpine-like areas of Colorado. A relief of 2,000 to 3,000 feet in elevation within a short distance is not unusual for the general region. The principal mine level adits lie at altitudes from 9,755 to 10,544 feet.

The climate is marked by long and severe winters, which are accompanied by a large amount of snowfall. The roads to the Keystone mine are maintained jointly throughout the year by the county and by the operator.

Trees suitable for most mine timbers and lumber are present on the property. Sufficient water is available from surface streams and the underground workings for all mining and milling needs.

The mine plant is supplied with 24.9 KV of electrical power by the Gunnison Electric Association (R.E.A.).

Adequate mine labor and housing are available at nearby Crested Butte.

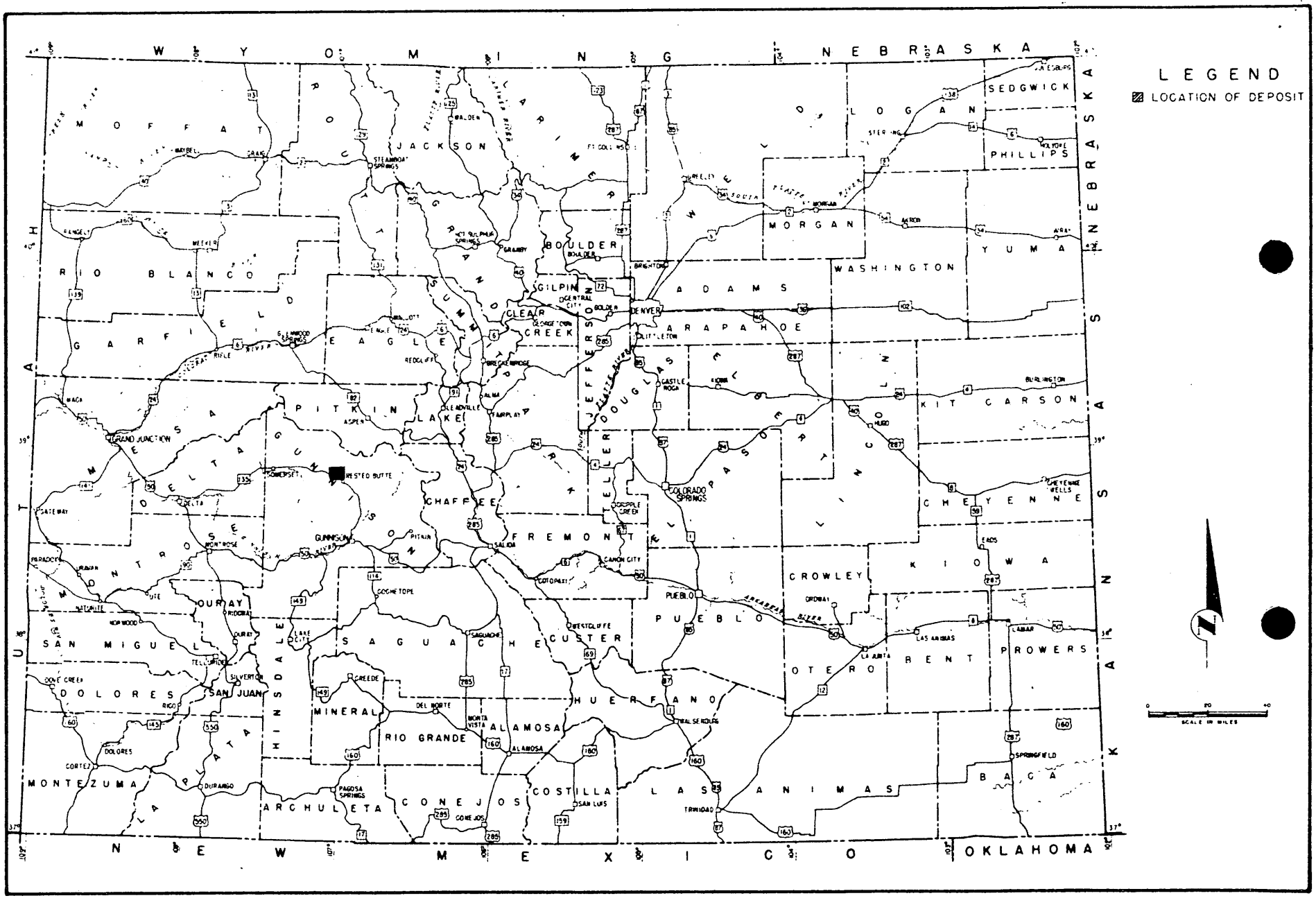

FIGURE 1.- LOCATION MAP OF THE KEYSTONE MINE, AMERICAN SMELTING AND REFINING COMPANY, GUNNISON COUNTY, COLO.
DMEA 3866, CONTRACT Idm-E903

Because of the large mine operations, supplies are usually obtained in bulk quantities from large cities, such as Salt Lake City, Utah, and Denver, Colorado, which are within a 400-mile radius of the mine.

Ownership

The American Smelting and Refining Company owns an undivided 60 percent interest in some 73 patented and unpatented lode and placer claims and mill sites. The remaining 40 percent interest is held by Park City Consolidated Mines Company, a Utah corporation of 39 Broadway, New York 6, N. Y. Only 14 (fig. 2) of the 73 claims were subordinated under the contract. A listing of the subordinated claims follows:

Unpatented lode mining claims

Name	Book	Page
Park City No. 1 (Approximate NW½ only)	255	513
Park City No. 7	"	516
" " " 9	"	517
" " " 10	"	518
" " " 11	"	518
" " " 15	"	520
" " " 16	"	521
" " " 17	"	521
" " " 27 *	"	526

* (All that fraction in the N.W. portion thereof lying west of the Berrien claim)

Park City No. 29	255	527
Park City No. 32	255	529

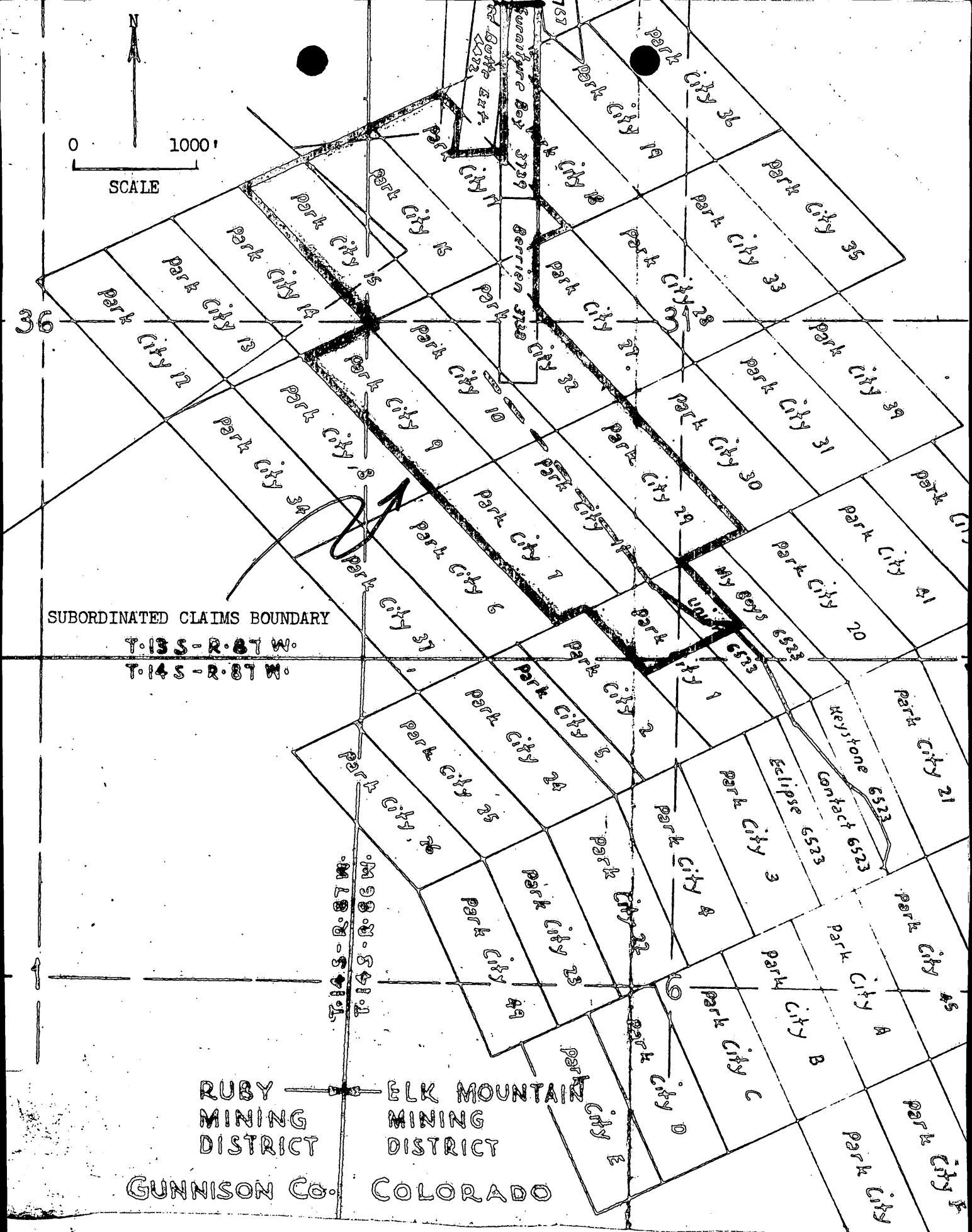

FIGURE 2- MAP SHOWING SUBORDINATED CLAIMS, KEYSTONE MINE, AMERICAN SMELTING AND REFINING COMPANY , GUNNISON COUNTY, COLO. DMEA 3866 Idm-8903

Patented lode mining claims

Name	
Berrien	U. S. Mineral Survey No. 3738
Furniture Boy	U. S. Mineral Survey No. 3739
Union (That part of the claim lying northwest of a line running N. 44° E., from a point on the southwest side line 700 feet southeast from the northwest corner of said claim.)	U. S. Mineral Survey No. 6523

History and production

The Keystone mine has been explored and developed by an estimated $2\frac{1}{2}$ miles of underground workings and numerous diamond drill and percussion drill holes. The two main veins are the Keystone and the Union. The principal workings are the 1370, 1670, 1920, 2000, and 2160 levels, and the 1470, 1570, 1850, and 2310 sublevels. The most extensively developed level is the 2000, on which there are about 4,500 feet of drifts and about 550 feet of crosscuts.

Recorded production from the Keystone mine during the period from 1914 through 1957 amounted to 180,229 tons of crude ore and 22,748 tons of concentrates. Recovered metal content is recorded as 198.38 ounces gold; 807,942 ounces silver; 2,266,507 pounds copper; 5,957,212 pounds lead; and 15,149,788 pounds zinc.

The Government was paid royalty on production from the subordinated land during the life of the contract.

Present status

Work under the DMEA contract was suspended April 22, 1958, because of increasingly unfavorable results. During 1958 a geophysical survey was conducted by the company as a basis for formulating plans for future work. The results of the survey indicated that further work in extending the workings to the northwest was not warranted. The Government agreed to that decision, and the contract was terminated by a Termination Agreement made effective April 23, 1958, without completing all the work originally provided for in the contract.

A 200-ton mill, reported to cost about $500,000, was constructed on the property by the company in early 1955. Operation of the mill began June 1, 1955, and continued until July 15, 1957, when it was closed down because of depressed metal prices. The company is at present maintaining the mill and mine on a standby basis and conducting reduced scale operations in extending the 2310 sublevel both north and south to explore the Keystone vein some 150 feet below the 2160 main haulage level.

GEOLOGY

Sedimentary rocks of Mesozoic and Tertiary ages that have been intruded by igneous rocks of Tertiary age underlie the area in the vicinity of the Keystone mine (fig. 3). The sedimentary rocks consist of sandstone and shale of the Cretaceous Mesa Verde formation and the Mancos shale unconformably overlain by sandstone and shale of the Eocene

Wasatch formation. The igneous rocks consist of stocks, laccoliths, dikes, and sills of quartz monzonite porphyry. Contact metamorphism of the sedimentary rocks by the intrusive porphyry is not apparent within the immediate vicinity of the mine.

Mancos shale, typically a soft, dark gray, sandy shale is exposed in the floor of the valley at Crested Butte, and along Slate River 1 to 2 miles northeast of the mine, and projects 400 feet under the Keystone mine workings. The Wasatch formation consisting of sandstone, shale, and conglomerate of volcanic origin, outcrops at an elevation of 12,000 feet on Mt. Emmons and caps the highest peaks and ridges.

The Mesa Verde formation consisting of about 1,000 feet of thick-bedded sandstone, interbedded sandstone and shale, and sandstone with coal beds, occupies the mine area and is the host rock for the ore bodies of the district.

A large mass of quartz monzonite porphyry is exposed on Mt. Axtell, 3 miles south of the mine, and a small stock-like mass of similar rock crops out in the vicinity of the Daisy mine in Redwell Basin 1 mile north of the Keystone mine.

The sedimentary formations on the south slope of Mt. Emmons, in the vicinity of the mine, strike east-northeast to northeast and dip from 10° to 25° SE. In the mine workings the sedimentary rocks, in general, dip southerly at angles of less than 20°.

Faults of undetermined but probably small displacements occur in the area.

The ore deposits of the district are steeply dipping fissure veins that cut thick-bedded sandstone of the Mesa Verde formation. The Keystone vein, as exposed in the Keystone mine, ranges from 1 to 20 feet in width and is more than 2,000 feet in length. It is known to extend down dip for more than 800 feet below the surface. It strikes N. 30° to 40° W. and dips between 50° and 70° SW. The vein is a fissure filling consisting of silver-bearing galena, sphalerite, chalcopyrite, and pyrite in a gangue of gray to white banded and vuggy quartz with minor amounts of massive rhodochrosite, rhodonite, and clay minerals. The vein material commonly is the matrix of a breccia that contains fragments of altered wall rock. In places the vein is split into several stringers, with barren sandstone between, forming a vein zone as much as 20 feet in width.

Slickensided fracture surfaces and seams of gouge that occur along both the hanging and foot walls of the vein indicate that the vein is along a fault structure. The displacement of the bedded wall rocks, however, is not apparent in the mine workings.

The vein is not uniformly mineralized, and the ore bodies occur in distinct shoots. The shoots have greater vertical than horizontal dimensions; they occupy from one-third to one-half of the vein length.

The Keystone vein is well exposed in the upper level drifts and is present in the breasts of the 1,370 and 1,670 levels but is below ore grade. On the 2000 level it has been followed northwesterly for 2,200 feet at which point the vein narrows to a width of less than 1 inch. On

the 2160 level the Keystone vein has been followed for a distance of over 2,200 feet but, at the northwest face, it splits into several branches each too narrow to mine.

A sub-parallel vein, called the Union vein, discovered by core drill exploration on the 2000 level, is about 150 feet southwest of and en echelon to the Keystone vein (fig. 4). The mineralogy and structure of the two veins are similar.

The tenor of the ore in the Keystone and Union veins is indicated by the following analysis representing 30,000 tons of stockpiled ore that was derived from development drifting and raising: 5.8 oz/ton silver, 2.7 percent lead, 0.8 percent copper, and 5.1 percent zinc. The gold content of the Keystone and Union veins is 0.02 to 0.03 ounce per ton.

PROJECT

Applicant's exploration proposal

The applicant originally proposed to explore for the lateral and downward extensions of the Keystone, Union, West, Berrien, and other veins in ground northwest of the Keystone mine workings. His proposed exploration program was divided into two phases estimated to cost $115,000.00. The time estimated for the program's completion was 2 years.

The first phase of the proposed program involved 150 feet of cross-cutting in a westerly direction from the face of the 2160 level to

intersect the downward projection of the Union vein; drifting for 300 feet northwesterly along the intersected Union vein; and raising 200 feet on the Union vein to connect the 2160 and 2000 levels.

Phase II of the proposed exploratory work entailed 2,000 feet of drifting and crosscutting and 2,000 feet of core drilling along the Union vein and other veins. Specifically, the proposed exploration would consist of drifting and crosscutting, wherever needed, northwesterly on the Union vein and to explore both walls of that vein at intervals by core drilling to determine whether the Keystone or other veins were present.

Recommended exploration program

The Examining Team concluded from their examination of the Keystone mine that exploration of the Union and other veins in the area northwest of the then present workings was justified. The examiners discussed certain minor modifications of the originally proposed exploration program with representatives of the operator, who concurred in the suggested changes in his exploration proposal. A three-stage program resulted, which provided for the exploration of the Union and any other veins in ground northwest of the Keystone mine. The team's estimated cost of the three-stage modified program was $107,220.00, with Government participation fixed at 50 percent, or $53,610.00.

Approved program

Contract Idm-E 903, dated December 5, 1955, was executed by the operator and the Defense Minerals Exploration Administration for the Government, which provided for an exploration program essentially as recommended by the examiners. The contract was to extend to December 1, 1957. The estimated total allowable cost of the project was $107,220.00 with the Government's participation on a 50 percent basis, or not to exceed $53,610.00. The contract was a "Short Form" with costs computed on a fixed unit cost basis.

The work authorized under the terms of the contract is summarized in table 1.

Contract modifications

The contract required two amendments before its expiration. Amendment No. 1 stipulated that the calculating of the Government's royalty shall be on the same settlement basis that the operator's smelter makes to its independent suppliers under a schedule most favorable to any independent supplier. The length of time for the contract and for the royalty payment period was extended by Amendment No. 2, respectively from December 1, 1957, to December 1, 1958, and from 10 to 13 years.

Program work completed

Actual work under the contract was begun on January 24, 1956, and suspended April 22, 1958. Because of the increasingly poor results of

Table 1.--Summary of authorized and accepted work and costs

Type	Authorized project work: Units	Authorized project work: Unit cost	Authorized project work: Total cost	Project work completed: Units	Project work completed: Unit cost	Project work completed: Total accepted cost
FIXED UNIT COSTS						
Stage I						
Drifting and/or crosscutting	450 ft.	$35.00/ft.	$15,750.00	450 ft.	$35.00/ft.	$15,750.00
Drift and/or cross-cut timbering	45 ft.	6.00/ft.	270.00	---	6.00/ft.	---
Raising	200 ft.	39.00/ft.	7,800.00	195 ft.	39.00/ft.	7,605.00
Assaying	130 samples	3.00/ea.	390.00	104 samples	3.00 ea.	312.00
		Totals	$24,210.00			$23,667.00 1/
Stage II						
Drifting and/or crosscutting	2,000 ft.	$35.00/ft.	$70,000.00	1,373 ft.	$35.00/ft.	$48,055.00
Drift and/or cross-cut timbering	200 ft.	6.00/ft.	1,200.00	---	6.00/ft.	---
Diamond drilling	2,000 ft.	4.60/ft.	9,200.00	1,515 ft.	4.60/ft.	6,969.00
Reaming & casing	200 ft.	2.00/ft.	400.00	---	2.00/ft.	---
Cementing and re-drilling	200 ft.	2.00/ft.	400.00	---	2.00/ft.	[illegible]
Drill station	10	100.00/ea.	1,000.00	4	100.00/ea.	400.00
Sample analysis	270 samples	3.00/ea.	810.00	118 samples	3.00/ea.	354.00
		Total	$83,010.00	Total Stage II		$55,778.00 1/
Total estimated cost			$107,220.00	Total accepted cost, Stages I & II		$79,445.00 1/
Government participation at 50%			$ 53,610.00	Government participation at 50%		$39,722.50 1/

1/ Subject to final audit.

the work performed to that date, the contract was terminated by a Termination Agreement made effective April 23, 1958, without performance of all work originally provided for in the contract.

Accepted work completed under Stage I of the contract consisted of 144 feet of drifting along the Keystone vein, 169 feet of crosscutting from the Keystone vein to the Union vein, and 137 feet of drifting on the Union vein. Numerous samples were cut by the operator along the Keystone and Union veins; however, reimbursement was requested for only 15 samples from the Keystone vein and 38 samples from the Union vein. All drifting and crosscutting under Stage I were performed on the 2160 level. In addition, a three-compartment raise 195 feet in length was driven between the 2160 and 2000 levels. From this raise, the operator claimed reimbursement for 51 samples. A total of 1,177 tons of ore is reported from the raise.

Stage II work, all conducted on the 2000 level, consisted of 1,373 feet of drifting along the Union vein, the excavation of 4 diamond drill stations, and the diamond drilling of 5 holes with an aggregate footage of 1,823 feet. However, only 4 of the holes aggregating 1,515 feet were approved for payment under the provisions of the contract. A total of 1,344 tons of ore was removed during the DMEA drifting on the 2000 level. Samples taken and claimed for payment by the operator under Stage II work totaled 118.

The units of work and costs authorized by the contract, and those completed, are summarized separately in table 1.

Efficiency operations

The operator performed the work under the contract in an efficient and workmanlike manner.

RESULTS OF EXPLORATION

DMEA exploration along the Keystone vein was limited to 144 feet of drifting on the 2160 level (fig. 4). Within this distance the vein changed from a single 4-foot wide, moderately well mineralized fissure to a series of branches none of which were wide or mineralized enough to be of interest to the operator. Similar conditions on the 2000 level above marked the end of the vein as a major ore-bearing structure. A crosscut from near the northwest end of the Keystone vein on the 2160 level cut the Union vein in its expected position. Diamond drilling has shown that little extension of the Union vein in a direction southeasterly from the crosscut can be expected.

Exploration along the Union vein consisted of 287 feet (150 feet on company account) of drifting on the 2160 level and 1,373 feet of drifting on the 2000 level (figs. 4 and 5). On the 2160 level 150 feet of the 287 was in ore which is the downward continuation of an ore body previously discovered. Further drifting on the 2160 level was discontinued in favor of drifting on the 2000 level. In a total of 1,373 feet of DMEA drifting on the 2000 level, 140 feet was in ore. Long hole drilling indicates that this ore body may have a horizontal

dimension of about 280 feet--the additional 140 feet occurring as a hanging-wall split outside the drift.

The strike of the Union vein is, in general, N 40-50° W. All the ore bodies discovered along the vein are in sections where the strike is more westerly than average. In sections where the strike is 30° or less west of north the vein is tight. At a point that appears to be near the northern end, the vein strikes north. The drift leaves the vein at this point and no major structure is encountered in the drift or in drill holes to the north. The Union vein is believed to horse-tail out in a manner similar to the Keystone vein.

ORE RESERVES

As calculated by the field examiners, reserves of lead-zinc ore in that part of the Keystone mine explored under DMEA contract total 63,000 tons with an average grade of 4.4 oz/ton silver, 4.8 percent lead, 0.4 percent copper, and 7.9 percent zinc. These reserves consist of the following classes: (1) broken ore--800 tons, (2) indicated ore--41,800 tons, and (3) inferred ore--20,400 tons. One ore block, which can be classed as measured ore, is too small to consider separately and is included with the indicated ore. The locations and tonnages of the various ore blocks are shown on figure 6. Of the 63,000 tons total reserves, DMEA exploration resulted in finding indicated and inferred ore reserves of 12,830 tons and 6,920 tons, respectively.

1975°

The reserves, except where one ore body can be joined between levels, have been calculated by extending the limits for indicated ore a distance above and below levels equal to one-half the horizontal exposure. Because most ore shoots in the mine have vertical dimensions of 1-1/2 to 2 times the horizontal dimensions, inferred reserves are calculated by extending the vertical limits of ore to 1-1/2 times the horizontal dimension.

Company calculated reserves for the part of the mine explored under DMEA contract are as follows:

Class	Tons	Ag oz.	Pb (percent)	Cu (percent)	Zn (percent)
Assured	801	5.1	7.0	0.7	5.9
Probable	35,455	4.0	4.1	0.4	7.3
Possible	19,190	4.8	4.4	0.4	8.4

17727
12390

The assured ore is actually broken ore remaining in the stope. Probable and possible ore correspond respectively to indicated and inferred ore of the Survey classification. The extremely conservative method of reserve calculation, i.e., extension of probable ore limits 25 feet and possible ore limits an additional 25 feet above and below levels, which, in the final report, the company claims to have used apparently was not followed. By this method, probable reserves of one-half and possible reserves of two-thirds those given are obtained.

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CONCLUSIONS AND RECOMMENDATIONS

DMEA exploration, which consisted principally of drifting plus one raise and four diamond drill holes, combined with company long-hole drilling, has adequately explored the Keystone and Union veins at the Keystone mine. The discovery of one ore body and proof of the downward extension of another, both on the Union vein, resulted from the program.

Drifting along the Keystone vein, 2160 level, reaffirmed the approximate northerly limits of ore as had been done previously on levels above. Diamond drilling to the north across the projected position of the Keystone vein failed to disclose a major structure or any significant mineralization. To the south, on and above the 2160 level, the vein has been explored to the surface.

On the 2000 level the Union vein has been explored to and probably beyond its northern limits, and drilling has shown that any possible southern extension is of no economic importance.

Exploration for the possible downward or upward extensions of known ore bodies from the 2000 or 2160 levels is more in the nature of mine development than exploration. Therefore, further Government assistance in exploring the Keystone and Union veins is not warranted.

Because work under the DMEA contract resulted in an increase of more than 12,000 tons in the indicated reserves of the exploration area, certification of the property is recommended. Average grade of the indicated ore is 4.4 oz/ton silver, 4.8 percent lead, 0.4 percent copper, and 7.9 percent zinc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
March 19, 1959

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	J.	

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903, American Smelting and Refining Company, (Keystone mine) Gunnison County, Colorado - FINAL PAYMENT

Enclosed are two copies of a memorandum to T. A. Christensen, dated March 17, 1959, relative to final payment under the terms of the subject contract.

J. W. Townsend

J. W. Townsend

Enclosures

224 New Customhouse
Denver 2, Colorado
March 17, 1959

Memorandum

To: T. A. Christensen

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903
American Smelting and Refining Company, (Keystone mine)
Gunnison County, Colorado - FINAL PAYMENT

Reference is made to our memorandum of May 29, 1958, whereby we forwarded the final Form MF-104, Operator's Monthly Report and Voucher, for the month of April 1958, and requested that you withhold an amount of $500.00 from reimbursement to the Operator, pending resumption of work under the contract.

Contract work was not resumed and the contract was terminated by mutual agreement effective April 23, 1958.

The Operator's final report has been received, therefore final payment to the Operator is to be made on the following basis, which is in accordance with the Report of Review, of reported costs of the Contract Administration and Audit Division, OME, dated March 10, 1959.

Basis for Final Payment

Total accepted cost----------	$79,445.00
Government participation at 50 percent	39,722.50
Total prior payments----------	39,222.50
Balance due the Operator----------	$ 500.00

Original signed by
J. W. TOWNSEND

J. W. Townsend

JWC:hmh

#500.00
J.S.
3/18/59 OME 59-95

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres.file, Reg. III
MF-104 file, Reg. III
Cooper
Chron

DMEA Form 7
(12-56)

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MAR 13 1959

Memorandum

To: Donald T. Finch, CMF Auditor

From: Jay L. Chambers
Contract Administration and Audit Division

Subject: Docket No. DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Contract No. Idm-E903

Your report of review on the above referenced contract is acceptable and normal distribution is authorized.

(Signed) J. L. Chambers

AMAlley/ama
March 13, 1959

Copy to: Docket
Director's Reading File
Mr. Chambers

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
March 9, 1959

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O. M. E.
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Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903, American Smelting and Refining Company, (Keystone mine) Gunnison County, Colorado

Enclosed are the Government's and Audit copies of the Termination Agreement, which were forwarded by your letter of January 23, 1959, for signature by the Operator.

Copies of the Termination Agreement have been distributed to the Operator, the Finance Office and others concerned in Region III.

J. W. Townsend

J. W. Townsend

Enclosures

224 New Customhouse
Denver 2, Colorado
March 9, 1959

3/12 1 Chg. 220 500

Memorandum

To: Donald T. Finch, OME Auditor

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903, American Smelting and Refining Company, (Keystone mine) Gunnison County, Colorado

The subject contract was terminated by mutual agreement, effective April 23, 1958, a copy of the Termination Agreement is enclosed for your records.

The Operator has rendered a final engineering and geologic report and final accounting report, as required by the contract, therefore, final payment of the Operator's account is in order contingent on release to this office of a Certificate and Report of Audit, or Report of Review of reported project costs, whichever the case indicates. Acceptable units of work or service completed on a fixed unit cost basis consisted of the following:

Drifting and crosscutting----------	1823 feet
Drill stations----------	4
Raising----------	195 feet
Diamond drilling (4 holes)----------	1515 feet
Assaying----------	222 samples

The sum of $500.00 was withheld from reimbursement to the Operator in processing its final accounting report which was for the month of April, 1958.

Original signed by
J. W. TOWNSEND
J. W. Townsend

Enclosure

JBC:hmh

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres.file, Reg. III
Cooper
Chron

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3/4	[illegible]	500

224 New Customhouse
Denver 2, Colorado
February 27, 1959

Mr. J. F. Frost, Manager
Western Mining Department
American Smelting and Refining Company
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. ~~DMEA 3066 (Lead-~~
Copper-Zinc)
Contract Dbm-E903
American Smelting and Refining Co.
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to your letter of February 25, 1959, concerning the proposed Termination Agreement which we forwarded to you for signature.

Item 5 of the proposed Termination Agreement does not jeopardize your rights to reimbursement for the Government's share of the allowable cost of project work performed prior to April 23, 1958, the effective date of termination.

When all copies of the Termination Agreement are returned to us, properly executed, an audit or review of the reported project costs will be scheduled by the Contract Administration and Audit Division, OME, and on release of the auditor's report to this office, final payment will be made to your company.

We trust this clarifies the matter to your satisfaction and that all copies of the Termination Agreement will be signed and returned to this office in the near future; upon receipt of which, the Operator's copy will be forwarded to you.

Very truly yours,

Original signed by
T. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JDC:hmh

cc: Chmn. Op. Comm. (2))
Harshman) w/copy
Buel, OME/DFC) of
Corres.file, Reg.III) Oper.
) ltr of
) 2/25/59

Cooper
Chron

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 2 1959

DATE	INITIALS	CODE

February 26, 1959

OME
DEPARTMENT OF THE INTERIOR
FEB 27 1959
DENVER, COLORADO

Mr. J. W. Townsend, Executive Officer, OME
Field Team, Region III
U. S. Dept. of the Interior
224 New Customhouse
Denver 2, Colorado

Docket No. DMEA 3860 (Lead-Copper-Zinc)
Contract Idm-F903
American Smelting and Refining Co.
(Keystone Mine)
Gunnison County, Colorado

Dear Mr. Townsend:

There seems to be somewhat of a stalemate on the Contract Termination Agreement referred to in your letter of February 18. Our officials have been awaiting payment of the $500.00, withheld April 1958, to be made so they can sign the Termination Agreement as you have written it.

The No. 5 clause you have written into the Termination Agreement would, as I have been given to understand, relinquish our claim to that payment. It is noted there is no disagreement as to the correctness of the accounting. Please advise.

Yours truly

J. F. FROST

JFF:EM
cc:D.J.Pope
H.Probst

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
2/20	G. McCarthy	800
2/20	[illegible]	800
2/24	C	220
2/25	[illegible]	500

FEB 24 1959

Mr. Donald T. Finch
OME Auditor
224 New Customhouse
Denver 2, Colorado

Re: Docket No. DMEA-3866
(Lead-Zinc-Copper)
American Smelting & Refining Co.
Contract No. Idm-F903

Dear Mr. Finch:

Your Report of Royalty Review on the above-referenced project is acceptable and normal distribution is authorized.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers
Contract Administration
and Audit Division

GMcCarthy/GMcC
February 20, 1959

cc: Docket
Director's Reading File
Mr. Chambers

8623

OFFICIAL FILE COPY
FEB 24 1959

DATE	INITIALS	CODE
2/24	C	220
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3/2	[illegible]	500

224 New Customhouse
Denver 2, Colorado
February 18, 1959

Mr. J. F. Frost, Manager
Western Mining Department
American Smelting and Refining Company
600 Crandall Building
Salt Lake City, Utah

Re: Docket No. DMEA 3866 (Lead-Copper-Zinc)
Contract Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to our Certified letter of January 27, 1959, whereby we forwarded the Government's, Audit, Finance Office, and Field Team copies of a proposed Termination Agreement, which were to be returned to this office either signed as indicated, or unsigned, together with your objections thereto.

Please give this your early attention so that we may proceed with matters prerequisite to closing the account, including final payment of the amount which was withheld from reimbursement to your company in processing the April, 1958 voucher.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

cc: Mr. Nolan Probst
Box J
Crested Butte, Colorado

JDC:hmh

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres.file, Reg.III
Cooper
Choon

EXTRA COPY O. M. E. RECEIVED FEB 24 1959		
DATE	[illegible]	CODE

224 New Customhouse
Denver 2, Colorado
February 18, 1959

Mr. J. F. Frost, Manager
Western Mining Department
American Smelting and Refining Company
600 Crandall Building
Salt Lake City, Utah

Re: Docket No. DMEA 3866 (Lead-Copper-Zinc)
Contract Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to our Certified letter of January 27, 1959, whereby we forwarded the Government's, Audit, Finance Office, and Field Team copies of a proposed Termination Agreement, which were to be returned to this office either signed as indicated, or unsigned, together with your objections thereto.

Please give this your early attention so that we may proceed with matters prerequisite to closing the account, including final payment of the amount which was withheld from reimbursement to your company in processing the April, 1958 voucher.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

cc: Mr. Nolan Probst
Box J
Crested Butte, Colorado

JDC:hmh

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres.file, Reg.III
Cooper
Choon

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
February 18, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 24 1959

DATE	INITIALS	CODE
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2/24	[illegible]	800
2/25	[illegible]	500

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903, American Smelting and Refining Company, (Keystone mine) Gunnison County, Colorado

Enclosed are two copies of a final report submitted by the subject Operator, pertaining to work completed under the contract.

As indicated in our letter of February 11, 1959, to the Operator, copies of which were forwarded to you, the one-page narrative section of the report originally submitted was not satisfactory. The Operator has submitted a revised narrative section to the report, which, together with the maps and tabular data originally submitted, constitutes the Operator's final report.

The report appears to be satisfactory, therefore we recommend that it be accepted as complying with the requirements under Article 6 (c) of the contract form.

J. W. Townsend

J. W. Townsend

Enclosures

K-7.7.
DMEA

OPERATOR'S FINAL REPT

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 24 1959

DATE	INITIALS	CODE

OME
DEPARTMENT OF THE INTERIOR
FEB 18 1959
REGION III
DENVER, COLORADO

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. BOX J. CRESTED BUTTE, COLO.

February 14, 1959

Mr. J. W. Townsend
Executive Officer, OME
United States Dept. of the Interior
224 New Customhouse
Denver 2, Colo.

Re: Docket No. DMEA-3866
(Lead, Zinc, Copper)
Contract No. Idm-E903
ASARCO-Keystone Mine

Dear Sir:

In compliance with your letter of February 11, 1959 to Mr. J. F. Frost herewith is a complete summary of the work performed under the captioned project.

Summary of Work

Stage I

(a) 450 ft. drifting Keystone & Union Vein - 2160 Level.
(b) 195 ft. raise connection between 2160 & 2000 Level Union Vein.

2160 Level Drifting - In February, 1956 drifting was started on the Keystone Vein in a zone of weak and irregular mineralization. One hundred thirty (130) ft. of drifting revealed no improvement in the structure or vein strength. At the point crosscutting commenced toward the Union Vein the Keystone Vein had split to form a series of small tight quartz veinlets. The crosscut between the Keystone and Union Vein revealed no sympathetic vein structures at this juncture.

Upon intersection with the Union Vein twenty five (25) ft. of crosscut was driven into the hangingwall to determine the vein limits. The crosscut revealed beds lying in conformation with the local sediments which is fairly indicative that no parallel structures exist nearby.

The first one hundred fifty (150) ft. of drifting on the Union Vein was in ore of commercial grade. The vein commenced splitting beyond this point with strong veinlets entering the footwall (note maps). The last sixty (60) ft. of drifting was in a zone with quartz as the predominate vein mineral.

One hundred thirty (130) ft. of additonal drifting was completed under ASARCO's account beyond the footage allocated under DMEA Stage I .

21-56-1 Raise - Connection with the 2000 Level Union Vein was made thru this raise. Due to an error in survey most of the raise was driven in the extreme footwall of the fissure. Assays on the upper hundred (100) ft. of the raise average well below ore grade, however, this section was included in the ore block since connection with both drifts was in ore, our faulty position in the fissure did not rule out the possibility of ore existing throughout most of the raise section.

Stage II

(a) 2000 ft. Diam. Drilling-2000 Level Union Vein.
(b) 2000 ft. drifting-2000 Level Union Vein.

2000 Level Union Vein - Drifting commenced on the 2000 Level Union Vein @ Survey Station 2054 minus 10 ft. The first one hundred seventy (170) ft. of drifting exposed a narrow irregular vein with low metal assays. At Survey Station 2057 plus 25 ft. a one hundred forty (140) ft. block of ore was developed. Subsequent long hole testing of the hangingwall indicates the possibility of extending this ore block to a total length of two hundred ninety five (295) ft.

Drifting beyond Survey Station 2065 exposed progressively weaker vein structure and mineralization. Jointing and low angle cross faulting became more pronounced. At Survey Station 2071 plus 85 ft. a large flow of water was encountered. The drift was turned into the hangingwall to circumvent this spot and from this point to the suspension of work (380 ft. beyond) no major mineralized or structural zones were encountered which could be positively identified as the major Union Vein Structure.

Due to our inability to locate a major structure in the drifting it was decided to suspend work in this direction until Diamond Drill Holes 20-11 and 20-12 could be drilled and evaluated. Footwall Hole No. 20-11 drilled to a depth of 356 ft. revealed a heavy joint pattern with no major fault zones or ore zones. Pyrite was quite heavily dissiminated throughout. Hangingwall hole No. 20-12 drilled to a depth of 247 ft. cut numerous small sulfide veinlets - none of commercial width. Heavy water inflows were cut at four separate elevations in the hole. Hangingwall hole No. 20-13 collared at the same station was drilled at a diverging horizontal angle in an attempt to form a pattern of the small structures cut in the previous hole, however, it was found that due to the erratic nature of cross fracturing no trend of significance could be plotted. In conclusion, it was decided the drifting had entered a wide zone of faulting and cross fracturing in which the mineralization had spread over a wide area as tiny veinlets in tension cracks with some filling in joints and shears.

At map coordinate 66, earlier D.D. holes No. 20-9 and 20-10 did not reveal any major parallel structures. Footwall hole No. 20-10 drilled to a depth of 600 ft. cut what was thought to be the Keystone Vein at 190 ft., however, the assays from the split core proved very low in lead, zinc content. Hangingwall hole 20-9 drilled to a depth of 418 ft. was in firm tight ground relatively free of movement and mineralization.

In supplement to the diamond drill program 16 long holes totalling 638 ft. were drilled in the walls to test for possible split zones and echelon vein patterns, except for the three holes at map coordinate 65, nothing of importance was found.

Work Completed on Project

1.	Drifting	1823 ft.	
2.	Raising	195 ft.	
3.	Diamond Drilling	1823 ft.	(Partly ASARCO's account)
4.	Longhole Drilling	638 ft.	(All ASARCO's account)

General Geology of the Project Area

The sedimentary rocks in and adjacent to the project area are of the Mesaverde formation, upper Cretaceous in age. The Mesaverde formation a thick quartz sandstone with intercalated shales, is gray to buff in color, medium grained, with fine grained interstitial argillaceous material.

The Union and Keystone Veins are an example of fault zones in which the secondary movement brecciated the early fissure filling matter and developed multiple planes of slippage. This type of structure became host to subsequent mineralization. It is noted throughout the mine whenever these conditions become pronounced and well developed, ore zones are wide and more uniform conversely when secondary movement is slight ornon-existent the vein is narrow and tight. The wall rock appears to exert no control other than structural over the ore deposition. Depth gained in the stratigraphic column, by drifting northerly, exposed beds of fine grained sandstone, bleached mudstones, and bleached shales - the significance of this toward favorable ore deposition is not understood.

Drifting on the 2000 Union Vein was toward known parallel vein structures which outcrop on the surface, however, due to the great vertical distance the relationship between surface and underground becomes obscure.

Tonnage & Value of Ore Mined in Project Area

Tons Crude	Assays Ore Mined Ag	Pb	Cu	Zn	Tons Concentrates	Total Value	Paid to DMEA 5% Royalty
9712	4.47	3.14	0.65	6.04	583.9750 1,017.9[illegible]	$154,835.92	$7,741.79

Ore Reserves in Project Area

To clarify our method in estimating ore reserves the following is an explanation of our classifications.

Ore Classifications

Assured Ore - Ore blocks which were sampled on two or more sides and from their size, shape, and position were adjudged to have a high degree of assurance, have been classified as assured ore.

Probable Ore - Ore blocks developed on one or more sides. Ore sampled on only one side was carried 25 ft. above or below the working place. This relatively short distance is necessitated by the spotty character of the ore.

Possible Ore - Ore blocks assumed to have continuety for which an estimate of tonnage and grade is still a reasonable presumption. Possible ore was not estimated over 50 ft. from a sampled working in a direction of unknown ground except between levels where some continuety was indicated.

No extensions along the vein strike were assumed.

Referring to your map of the ore reserves you will note the only assured ore is indicated in the cross-hatch area. The blue areas indicate probable ore and the yellow areas possible ore.

Classification	Tons	Assay Grade Ag oz	Pb %	Cu %	Zn %
Possible	19,190	4.8	4.4	0.4	8.4
Probable	35,455	4.0	4.1	0.4	7.3
Assured	801	5.1	7.0	0.7	5.9
Total & Averages	55,466	4.3	4.3	0.4	7.7

Reason for Suspending Project Work

Due to the negative results of the last three diamond drill holes and the inability to find a promising vein structure in the later stages of drifting a suspension of work was requested until this company could make a geophysical survey of the project area.

In the fall of 1958 an electromagnetic survey was made over the project area with unsatisfactory and inconclusive results.

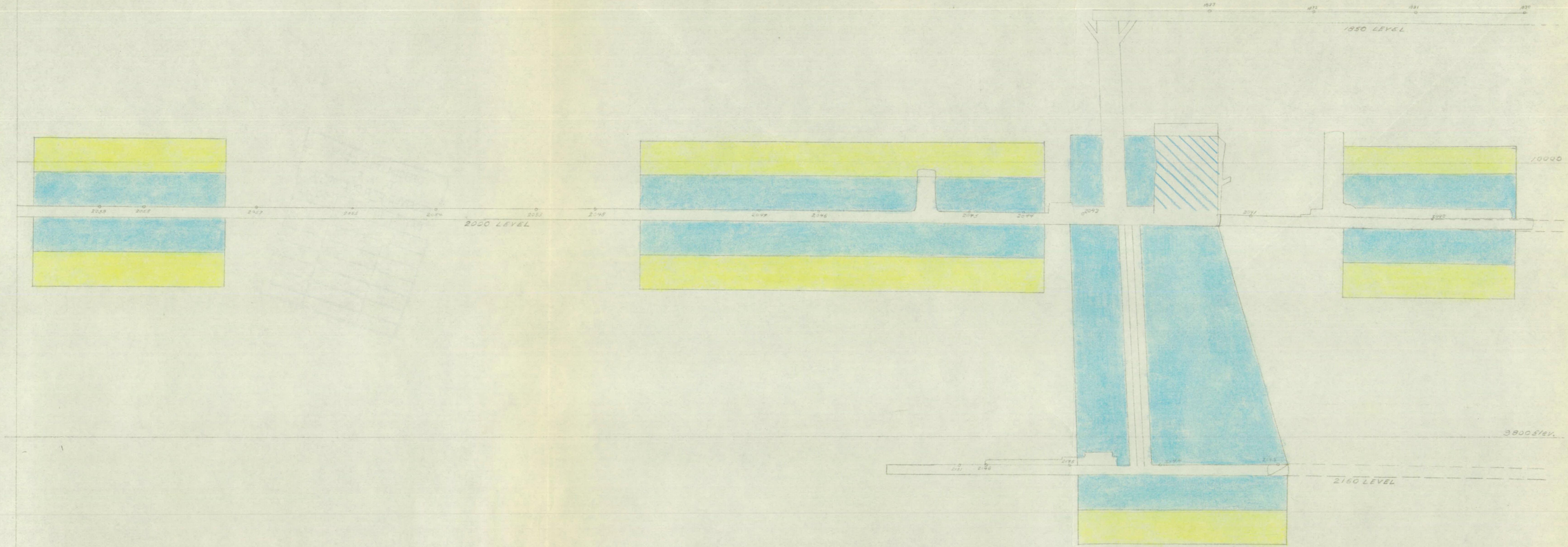
After examining all available information relative to the project area it was thought that continued drifting at this time

would only add to the project expense with no ultimate benefit to either party.

Very truly yours,

Nolan Frobst, Supt.

NP/wmc
5 copies to JWTownsend
1 copy to John F. Shaw
1 copy to J. F. Frost
1 copy to File



AMERICAN SMELTING & REFINING CO.
KEYSTONE UNIT

ORE RESERVE
O.N.E.A. PROJECT

SCALE	DATE	DRAWN BY	FILE
1" = 20'	DEC. 1958	E.H.B.	

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 24 1959

DATE	INITIALS	CODE

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RECEIVED FEB 24 1959

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RECEIVED FEB 24 1959

DATE	INITIALS	CODE

Financial Status of DMEA Project (Docket DMEA 3866 - Contract Idm-E903, Dated December 5, 1955)

Authorized By Contract				Work Completed			50 Percent Government Participation
Units	Operation	Unit Cost	Total Cost	Units	Unit Cost	Total Cost	
	Stage No. 1						
450 Ft.	Drifting and/or Crosscutting	35.00/Ft.	15,750.00	450 Ft.	35.00/Ft.	15,750.00	7875.00
45 Ft.	Timbering in Drifts and Crosscuts	6.00/Ft.	270.00	—	—	—	—
200 Ft.	Raising	39.00/Ft.	7800.00	195 Ft.	39.00/Ft.	7605.00	3802.50
—	Assaying (Stages 1 and 2)	3.00/ea.	—	104	3.00/ea.	312.00	156.00
	Sub Totals		23,820.00			23,667.00	11,833.50
	Stage No. 2						
2000 Ft.	Drifting and/or Crosscutting	35.00/Ft.	70,000.00	1373 Ft.	35.00/Ft.	48,055.00	24,027.50
200 Ft.	Timbering in Drifts and Crosscuts	6.00/Ft.	1200.00	—	—		—
2000 Ft.	Diamond Drilling	4.60/Ft.	9200.00	1515 Ft.	4.60/Ft.	6969.00	3484.50
200 Ft.	Reaming and Casing	2.00/Ft.	400.00	—	—	—	—
200 Ft.	Cementing and Re-Drilling	2.00/Ft.	400.00	—	—	—	—
10 Stations	Excavation of Drill Stations	100.00/ea.	1000.00	4	100.00/ea.	400.00	200.00
400	Assaying (Stages 1 and 2)	3.00/ea.	1200.00	118	3.00/ea.	354.00	177.00
	Sub Totals		83,400.00			55,778.00	27,889.00
	Grand Totals						
2450 Ft.	Drifting and/or Crosscutting	35.00/Ft.	85,750.00	1823 Ft.	35.00/Ft.	63,805.00	31,902.50
245 Ft.	Timbering in Drifts and Crosscuts	6.00/Ft.	1470.00	—	—	—	—
200 Ft.	Raising	39.00/Ft.	7800.00	195 Ft.	39.00/Ft.	7605.00	3802.50
2000 Ft.	Diamond Drilling	4.60/Ft.	9200.00	1515 Ft.	4.60/Ft.	6969.00	3484.50
200 Ft.	Reaming and Casing	2.00/Ft.	400.00	—	—	—	—
200 Ft.	Cementing and Re-Drilling	2.00/Ft.	400.00	—	—	—	—
10 Stations	- Excavation of Drill Stations	100.00/ea.	1000.00	4	100.00/ea.	400.00	200.00
400	Assaying	3.00/ea.	1200.00	222	3.00/ea.	666.00	333.00
	Grand Totals		107,220.00			79,445.00	39,722.50

Total Amount Work Completed	79,445.00	
50% Participation By Government	39,722.50	
Less Amount Withheld By Government (See J.W. Townsend Letter of 5/29/58)	500.00	Balance Due By DMEA
Amount Paid By Government	39,222.50	
Less Amount Paid to DMEA for Royalties (Lots D-1 thru D-15)	7741.79	
Balance Due DMEA Contingent to Certification	31,480.71	

5: Executive Officer DMEA
1: John F. Shaw
1: J.F. Frost
1: D. J. Pope
1: H.W. Grose
1: N. Probst

OFFICIAL FILE COPY
O. M. E.
RECEIVED FEB 16 1959

DATE	INITIALS	CODE
2/16	C	220
2/16	[illegible]	800
2/17	[illegible]	[illegible]

224 New Customhouse
Denver 2, Colorado
February 11, 1959

Mr. J. F. Frost
American Smelting and Refining Company
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMSA 3566 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Receipt is acknowledged of your letter of February 9, 1959, whereby you transmitted five copies of a final report pertaining to the captioned contract.

The maps and tabular data appear to be satisfactory; however, the narrative section of the report does not comply with the requirements under Article 6 (c) of the contract form. It is, therefore, necessary that you submit a revised narrative section to replace the one originally submitted, including therein essentially the following data and information:

1. Complete narrative summary of the project work, from the date of the contract until its termination, including the reasons for termination of the contract before completion of all work originally provided for.

2. Narrative description of the geology in the area covered by the project work, with particular emphasis to the geologic features which effect ore deposition, either favorably or adversely.

3. Ore reserve estimate, including calculated tonnages and grade of measured, indicated and inferred ore discovered as a result of the project work. Also indicate the quantity and value of all ore mined from the subordinated ground from the date of the contract until the present time.

4. Any additional data which will be of value to the Government in evaluating the results of the project work.

Please advise this office by return mail as to the date on or before which we can expect to receive the revised narrative section of the final report.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

cc: Mr. Nolan Probst
Box J
Crested Butte, Colorado

JDC:hmh

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres.file, Reg. III
Cooper
Chron

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 30 1959

DATE	INITIALS	CODE
1-30	C	220
1/30		800
1/30	RC	500

224 New Customhouse
Denver 2, Colorado
January 27, 1959

CERTIFIED MAIL

Mr. J. F. Frost, Manager
Western Mining Department
American Smelting and Refining Company
600 Crandall Building
Salt Lake City, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc)
Contract Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Enclosed are the Government's, Audit, Finance Office, and Field Team copies of a proposed Termination Agreement, which has been prepared in reference to your letter of December 15, 1958, to terminate contract Idm-E903, effective April 23, 1958.

If the Termination Agreement is satisfactory, all copies are to be signed by a representative of American Smelting and Refining Company authorized to sign such an instrument, and all copies promptly returned to this office; upon receipt of which the Operator's copy will be forwarded to you.

If the proposed Termination Agreement is not satisfactory, all copies are to be promptly returned to this office unsigned, together with your objections to the agreement.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Executive Officer, OME
Field Team, Region III

JDC:hmh

cc: Mr. Nolan Probst
Box J
Crested Butte, Colo.

cc: Chmn. Op. Comm. (2)
Harshman
Buel, OME/DFC
Corres. file, Reg. III
Cooper
Chron

OFFICIAL FILE COPY O. M. E. RECEIVED JAN 30 1959		
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~~1-30~~	~~[illegible]~~	~~[illegible]~~

224 New Customhouse
Denver 2, Colorado
January 27, 1959

Mr. Nolan Probst, Superintendent
American Smelting and Refining Company
P. O. Box J
Crested Butte, Colorado

Re: Docket No. ~~DMA 3866 (Lead-Zinc)~~
Contract Idm-8903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Probst:

Reference is made to your letter of January 26, 1959, regarding the amount of $500.00, which was withheld from reimbursement to your company in processing Form MF-104, Operator's Monthly Report and Voucher, for April, 1958.

It is necessary that the following conditions be fulfilled prior to final payment of the amount withheld.

1. Termination of the contract by mutual agreement of the parties thereto. A proposed Termination Agreement is being forwarded to Mr. J. F. Frost today, for execution by an authorized official of your company. ✓

2. Rendering to this office by your company, five copies of a final engineering and geologic report, as required under Article 6(c) of the contract form. ✓

3. Release to this office of a Certificate and Report of Audit, or Report of Review of reported project costs by the Contract Administration and Audit Division, OME. The audit or review cannot be scheduled until the contract is terminated, and your final report is received by this office. ✓

In reference to the last sentence of your letter, the monthly accounting report and voucher for April, 1958 constitutes your final

accounting report to this office; however, as required under Article 6(c) of the contract form, your final engineering and geologic report must contain a summary of the work performed, and the unit costs of the work.

If you have any further questions regarding the matter, please feel free to contact this office.

Very truly yours,

J. W. Townsend
Executive Officer, OME
Field Team, Region III

cc: Mr. J. F. Frost
600 Crandall Building
Salt Lake City, Utah

JDC:bmh

cc: Chmn. Op. Comm. (2)) w/copy Operator's
Harshman) letter of
Buel, OME/DFC) 1/26/59
Corres. file, Reg.III)
Cooper
Chron

DME

OME
DEPARTMENT OF THE INTERIOR
JAN 27 1959
REGION III
DENVER COLORADO

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. BOX J. CRESTED BUTTE, COLO.

January 26, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 30 1959

DATE	INITIALS	CODE

United States Dept. of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: Mr. J. W. Townsend

Re: Docket No. DMEA 3866
(Lead, Zinc, Copper)
Contract No. Idm-E903
ASARCO - Keystone Unit

Gentlemen:

By your letter of May 29, 1958 $500.00 was withheld under the above contract pending resumption of work. We have been carrying this on our books as accounts receivable. I have been informed that it was your intention to reimburse us for this amount, if so, it would simplify our handling of this account if reimbursement was made prior to our final accounting to your office.

Very truly yours,

Nolan Probst, Supt.

NP/wmc
cc: JFFrost
File

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
1/21	Klugescheid	500
	Diamond	800
1-22	Chambers	800
1/23	[illegible]	130
"	Johnson	110
		~~100~~
		~~HB~~
1/23	[illegible]	220
		500

500

JAN 23 1959

Mr. J. W. Townsend
Executive Officer
DME Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMB-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Dear Mr. Townsend:

In accordance with the request of the Operator, dated December 15, 1958, and your memorandum of December 23, 1958, we are enclosing the original and four copies of a proposed Termination Agreement for the cited contract, signed by the Acting Director, for the Government. We are also enclosing two extra copies for the use of the Field Team.

If the agreement meets with your approval, kindly present it to the Operator for signature and, when completed, distribute the copies in the usual manner. In the event, that the agreement is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHS)

WPKlugescheid/er 1/21/59

CC: Docket
Dir Read File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

Enclosures
APPROVED:

C. T. BAROCH (JHS)
Member, Bureau of Mines

N. E. Nelson (JHS)
Member, Geological Survey

43683

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Kluegaclaid	500
		140
		500

January 7, 1959

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Chief, Division of Base Metals

Subject: Preparation of Termination Agreement for Docket No. IMEA-3866 (Lead-Zinc-Copper), American Smelting and Refining Company, Keystone (Union Extension) Mine, Gunnison County, Colorado, Contract No. Idm-E903

Will you kindly prepare a Termination Agreement for the cited contract as follows:

1. Effective April 23, 1958, the Contract and all obligations of the parties thereunder, except as otherwise herein expressly provided, shall be and are hereby terminated.

All other clauses shall be as in the usual standard form.

W. R. Griswold

WRGriswold/fw-1/7/59

cc: Docket
Dir. Read. File
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

January 7, 1959

Memorandum for the Files

From: W. P. Klugescheid, Mining Engineer,
Division of Base Metals

Subject: Justification for Termination Agreement

Docket No. DMEA-3866 (Lead-Zinc-Copper)
Contract No. Idm-E903
American Smelting and Refining Company
Keystone (Union Extension) Mine
Gunnison County, Colorado

The Operator has requested the termination of the contract as the geophysical work which was done did not materially improve the possibilities for work on the section of the property which is covered by the contract.

In the Operator's own language: "In view of the fact that additional drifting appears to be work of doubtful benefit to either the Government or ourselves, we hereby request a termination agreement as of April 22, 1958.

The date given is the day on which all work was stopped.

Proposed Amendment No. 3 was never signed by the Operator so the contract expired December 1, 1958.

Messrs. F. B. Moore, Geological Survey, and E. W. Buel, Bureau of Mines, state: "Because of weak structure and poorly mineralized ground at the present DMEA face as well as a lack of encouraging results from company geophysical work, it is recommended that the Operator's request be approved. However, because of discoveries of ore under DMEA exploration in other parts of the mine, a certification of discovery will be recommended."

W.P. Klugescheid

W. P. Klugescheid

WPKlugescheid/fw-1/7/59
cc: Docket
Dir.Read.File
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
12/31	[illegible]	500
12/31	[illegible]	500
12/31	[illegible]	130
1/2/59	C	230
		500

DEC 31 1958

Department of the Interior

OME

1490108, Salaries and Expenses, Office of Minerals Exploration, Interior, 1959

XXXXXXXXXXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXXXXXXXXXX

T E L E T Y P E

J. W. TOWNSEND, EXECUTIVE OFFICER
OME FIELD TEAM, REGION III
224 NEW CUSTOMHOUSE BUILDING
DENVER, COLORADO

REURMEMO DECEMBER 23, DOCKET NO. DMEA-3866, AMERICAN SMELTING AND REFINING COMPANY, CONTRACT DM-E903. TERMINATION AGREEMENT BEING PREPARED.

George C. Selfridge

CHAIRMAN, OPERATING COMMITTEE (GCS)

WPKlugescheid/esf
12/31/58
cc to: Director's Reading File
Operating Committee
THKiilsgaard, Rm. 5224
Mr. Klugescheid
Confirmation to Region III

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

224 New Customhouse
Denver 2, Colorado

December 23, 1958.

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 30 1958

DATE	INITIALS	CODE
12/30	Sd. g.	335
12/30	669	~~710~~ 800
		500

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA-3866 (Lead-Zinc), Contract No. Idm-E903
American Smelting and Refining Company (Keystone Mine)
Gunnison County, Colorado

Supplementing our memorandum to you of December 17, 1958, enclosed are the original and two copies of a joint memorandum dated December 19, 1958, from F. B. Moore, Geologist, Geological Survey, and E. W. Buel, Mining Engineer, Bureau of Mines, recommending that the contract be terminated in its present status and wherein they advise that a certification of discovery or development will be recommended.

This office concurs in the Field Examiners' recommendation, and further recommends that a suitable termination agreement be prepared to terminate the contract effective April 23, 1958.

Proposed Amendment No. 3, which was not executed, item 2(a) provided for suspension of operations beginning April 22, 1958; however, a review of correspondence indicates that work was suspended on April 22; therefore, it appears fitting that the termination agreement be made effective the following day, or April 23, 1958.

When the matter has been reviewed, please teletype advice as to your decision so that the Operator can be advised accordingly.

J. W. Townsend

Enc.

W.O.

IN REPLY REFER TO:

OME

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Office of Minerals Exploration
Denver Federal Center
Denver, Colorado

DEPARTMENT OF THE INTERIOR
DEC 22 1958
REGION III
DENVER COLORADO
OFFICIAL FILE COPY

December 19, 1958

O. M. E.
RECEIVED DEC 30 1958

DATE	INITIALS	CODE

Memorandum

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

From: F. B. Moore
E. W. Buel

Subject: Docket DMEA 3866 (Lead-zinc), Contract Idm-E 903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

The operator in a letter of December 15, 1958, requests a termination agreement as of April 22, 1958, the day work stopped under the contract. Approximately 627 feet of drifting and 485 feet of drilling remain to be completed.

Because of weak structure and poorly mineralized ground at the present DMEA face as well as lack of encouraging results from company geophysical work, it is recommended that the operator's request be approved. However, because of discoveries of ore under DMEA exploration in other parts of the mine, a certification of discovery will be recommended.

F. B. Moore
F. B. Moore, Geologist

for H. M. Connors
E. W. Buel, Mining Engineer

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

224 New Customhouse
Denver 2, Colorado

December 17, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 22 1958

DATE	INITIALS	CODE
12/22	C	220
12/23	[illegible]	580

Memorandum

To: Chairman, Operating Committee

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA-3866 (Lead-Zinc)
Contract No. Idm E-903, American Smelting & Refining Co. - Keystone Mine, Gunnison County, Colorado

Enclosed are the following in conjunction with terminating the subject contract.

1. Government, Audit, Operator's, Finance Office, Field Team, and two extra copies of proposed Amendment No. 3, which was forwarded by your letter of September 26, 1958, for signature by the Operator.

2. Two copies of the Operator's letter of December 10, 1958.

3. Two copies of the Operator's letter of December 15, 1958.

4. Two copies of the memorandum from this office dated December 17, 1958, to the Field Examiners, requesting their recommendations relative to terminating the contract and certifying the project.

Proposed Amendment No. 3 was returned unexecuted for reasons stated in the Operator's letter of December 15, 1958. As soon as field recommendations are received, the matter will be forwarded for your consideration.

J. W. Townsend

Enclosures

J. W. Townsend

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 22 1958

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

December 17, 1958

Memorandum

To: E. N. Harshman) with
E. W. Buel) encls.

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA-3866 (Lead-Zinc) Contract No. Idm-E903
American Smelting and Refining Company (Keystone Mine)
Gunnison County, Colorado

Enclosed are the following pertaining to termination of the subject contract:

1. Letter from Nolan Probst, Supt., A.S.& R, dated December 10, 1958

2. Letter from J. F. Frost, Mgr., A.S.& R. dated December 15, 1958

The above letters constitute a request for Government approval to terminate the contract effective April 22, 1958. Please submit a joint memorandum report containing your recommendations in the matter. Also include recommendations relative to the issuing of a Certification of Discovery or Development as a result of the work performed under the contract.

Original signed by
J. W. TOWNSEND

J. W. Townsend

JWT:bh
cc: Chmn. Op. Comm.(2)
Corres. File
Cooper
Chron.

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

OFFICIAL FILE COPY
O. M. E.

RECEIVED DEC 22 1958

DATE	INITIALS	CODE

December 15, 1958

OME
DEPARTMENT OF THE INTERIOR
DEC 17 1958
REGION III
DENVER, COLORADO

Mr. J. W. Townsend, Executive Officer
OME Field Team, Region III
United States Dept. of the ~~Interior~~
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

~~DOCKET NO. DMEA 3866~~ (Zn, Pb, Cu)
~~CONTRACT NO. IDM-2903~~
AMERICAN SMELTING & REFINING CO.
KEYSTONE MINE
GUNNISON COUNTY, COLORADO

Dear Sir:

Under date of August 19, 1958 we requested an extension of the captioned contract. You prepared Amendment No. 3 and sent it to this office, but Amendment No. 3 has never been approved by this company. All four copies of Amendment No. 3 are being returned to you with this letter.

My letter of August 19th explained the reasons for wishing a suspension of the contract, namely, on April 22, 1958 we were following fractures that did not give much promise of ore. We drilled laterally by both diamond drill and long hole drill but did not find a promising lead to follow. By the time we received Amendment No. 3, we had completed geophysical work on the surface. The geophysical work did not materially improve the picture on the portion of the property covered by captioned contract.

In view of the fact that additional drifting appears to be work of doubtful benefit to either the Government or ourselves, we hereby request a termination agreement as of April 22, 1958 that may be presented to our officials for approval.

Under date of May 29, 1958, we were notified that $500 was being withheld from reimbursement pending resumption of work under the contract. In our final accounting I understand we are to continue to show this amount as an accounts receivable. We have no other pending claims under this contract.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm
Encls.

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. BOX J. CRESTED BUTTE, COLO.

OME
DEPARTMENT OF THE INTERIOR
DEC 12 1958

December 10, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 22 1958

DATE	INITIALS	CODE

Mr. E. N. Harshman, Acting Executive Officer
United States Dept. of the Interior
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

DOCKET NO. DMEA 3866 (Pb-Zn)
Contract No. ~~Idm-E903~~
American Smelting & Rfg. Co.
Keystone Mine
Gunnison County, Colorado

Dear Sir:

Mr. Frosts letter to you on October 7, 1958 expressed our wish to discontinue further drifting on the Union Vein in view of the resultant geophysical work.

Since no action was taken by ASARCO or the DMEA officers to terminate the contract prior to its expiration date it was permitted to extend officially until December 1, 1958.

For our files we would like your written notice that ASARCO is free of any further obligation to prosecute the remaining units of work not performed under this agreement.

Very truly yours,

Nolan Probst, Supt.

NP/wmc
cc: J. F. Frost
File

K-7.7.
DMEA

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. BOX J. CRESTED BUTTE, COLO.

OME
DEPARTMENT OF THE INTERIOR
DEC 12 1958

December 10, 1958

OFFICIAL FILE COPY
COLORADO
O. M. E.
RECEIVED DEC 22 1958

DATE	INITIALS	CODE

Mr. E. N. Harshman, Acting Executive Officer
United States Dept. of the Interior
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

DOCKET NO. DMEA 3866 (Pb-Zn)
Contract No. Idm-E903
American Smelting & Rfg. Co.
Keystone Mine
Gunnison County, Colorado

Dear Sir:

Mr. Frosts letter to you on October 7, 1958 expressed our wish to discontinue further drifting on the Union Vein in view of the resultant geophysical work.

Since no action was taken by ASARCO or the DMEA officers to terminate the contract prior to its expiration date it was permitted to extend officially until December 1, 1958.

For our files we would like your written notice that ASARCO is free of any further obligation to prosecute the remaining units of work not performed under this agreement.

Very truly yours,

Nolan Probst, Supt.

NP/wmc
cc: J. F. Frost
File

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 15 1958

DATE	INITIALS	CODE
12/15	C	220
12/15	[illegible]	800
12/17	[illegible]	500

224 New Customhouse
Denver 2, Colorado
December 10, 1958

CERTIFIED MAIL

Mr. J. F. Frost, Manager
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866 (Lead, Zinc, Copper)
Contract No. Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Under the provisions of Article 3 of the contract, as amended by Amendment No. 2, the work under the contract shall be pursued in such a matter to bring it to completion on or before December 1, 1958, unless the Operator's obligation to complete the work is terminated as provided for under Article 8 of the contract.

By letter of September 29, 1958, we forwarded to you the Government's, Audit, Finance Office, and Field Team copies of proposed Amendment No. 3 to the contract which was prepared to provide for a suspension of operations under the contract beginning April 22, 1958 and ending not later than January 1, 1959 and extension of the completion date under Article 3 to July 1, 1959. To date, the Amendment has not been executed and returned to this office as requested.

Under the circumstances, your company is presently in default of provisions in the contract. To correct the situation, you must either execute and return proposed Amendment No. 3 or obtain the Government's approval to terminate the contract in its present status in conformance with Article 8 of the contract, and as outlined to you in our letter of October 9, 1958.

The contract cannot be maintained in an indefinite status; therefore, your prompt attention to the matter is requested.

Very truly yours,

J. W. Townsend
Executive Officer
OME Field Team, Region III

JWT/ad
cc: Chairman, Operating Comm. (2)
Harshman
Buel, OME/DFC
Corres. File
Cooper
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~DEFENSE MINERALS EXPLORATION ADMINISTRATION~~
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
November 14, 1958

DATE	INITIALS	CODE
11/18	W.J.	225
11/18		800
11/19		500

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc) Contract Idm-E903, American Smelting Refining and Mining Company, (Keystone mine) Gunnison County, Colorado - Interim Inspection Report

Enclosed are the original and two copies of a memorandum dated November 10, 1958, from E. W. Buel, Mining Engineer, Bureau of Mines, pertaining to a recent visit to the subject property.

No work has been performed under the contract subsequent to April, 1958, and the Operator plans to submit a formal request for termination of the contract in its present status.

J. W. Townsend

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION III

DENVER EXPERIMENT STATION

BUILDING 20, FEDERAL CENTER
DENVER 2, COLORADO

OME
DEPARTMENT OF THE INTERIOR
NOV 12 1958
REGION III
DENVER, COLORADO

Nov. 10, 1958

OFFICIAL : C. M. E.
RECEIVED NOV 18 1958

DATE	INITIALS	CODE
11/18	A. g.	225-
		800
		500

Memorandum

To: Executive Officer, OME Field Team, Region III

From: E. W. Buel

Subject: Docket DMEA 3866 (Lead-Zinc) Contract Idm-E903
American Smelting and Refining Co. (Keystone mine)
Gunnison County, Colo. -- Progress report

A visit was made to the Keystone mine on November 3, 1958. It was learned from Mr. N. Probst, mine manager, that the operator still expects to ask for a formal termination of the contract. A tentative request for termination is given in the operator's letter of October 7, 1958, to the Field Team.

The mine, except for a limited amount of development and exploration work, is on a standby basis. The operator has completed about 500 feet of drifting to the north and south along the Keystone vein. This drifting is on the sub-level below the main haulage level (2100-level). Drifting is reported to be in ore-grade material. The amount and grade of the ore was not obtained.

E. W. Buel
E. W. Buel
Mining Engineer

EWB/mw
cc: 6
Idm-E903
chron

224 New Customhouse
Denver 2, Colorado
October 9, 1958

10/13 C 220
10/13 CEO 800
~~10/16 [illegible] 500~~

Mr. J. F. Frost, Manager
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMRA 3866 (Lead-Zinc-Copper)
Contract No. I6m-K903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

In reference to your letter of October 7, 1958, there is no specific provision in the contract for terminating it at the Operator's convenience. However, under proper circumstances, it is possible for the Government to agree to the termination of a contract before completion of all work provided for.

The procedure in such a matter is for the Operator to make formal request to the Government for its consideration, properly justified, that the contract be terminated effective on a specific date.

Such a request should be addressed to this office, consisting of the original and five copies, and contain the date the last work was performed under the contract.

Very truly yours,

Original signed by
E. N. HARSHMAN
E. N. Harshman
Acting Executive Officer

JWT:prl

cc: Chmn.Op.Comm.-2) w/copy of
Harshman) Operator's
Buel GME DFC) letter of
Corres. file) October 7.
Cooper
Chron.

K-7.7

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

OME
DEPARTMENT OF THE INTERIOR
OCT 9 - 1958
REGION III
DENVER, COLORADO

October 7, 1958

Mr. E. N. Harshman, Acting Executive Officer
United States Dept. of the Interior
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

DOCKET NO. DMEA 3866 (Pb-Zn)
Contract No. Idm-E903
American Smelting & Rfg. Co.
Keystone Mine
Gunnison County, Colorado

Dear Mr. Harshman:

Reference is made to your letter of September 29, 1958 to which you attached proposed amendment No. 3 to our contract.

Since writing my letter of August 19, 1958 to Mr. J. W. Townsend, our preliminary geophysical work has been completed at Keystone. Results were such that no particular encouragement was given for the area of the captioned contract. We do not wish to make additional expenditures on that portion of the property without more encouraging information than we now have.

Upon review of the contract I do not find a method whereby we may initiate a termination of the contract for presentation to our officials. We await your advice as to the next step which should be made.

Yours truly,

J. F. FROST

JFF:bm

COPY

10/2	C	220
10/2		800
10/8		500

254 Rear Customhouse
Denver 2, Colorado
September 29, 1958

Mr. J. F. Frost
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City, Utah

Re: Docket No. DMM 3866 (Lead-Zinc)
Contract No. Ida-8903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Enclosed are the Government's, Audit, Finance Office, and Field Team copies of proposed Amendment No. 3 to Contract No. Ida-8903, which has been prepared in reference to your letter of August 19, 1958 and preceding correspondence, to extend the date fixed in Article 3 of the contract from December 1, 1958 to July 1, 1959; to provide for suspension of work under the contract beginning April 22, 1958 and ending not later than January 1, 1959; and to extend the royalty repayment period and lien for payment thereof to fourteen (14) years from the date of the contract. You will note that the extension of the completion period is for seven months and not for eight months, as requested by you.

If the Amendment is satisfactory, all copies are to be signed by an official of American Smelting and Refining Company authorized to sign such an instrument, the signer's title inserted, and all copies promptly returned to this office; upon receipt of which the "Operator's Copy" will be forwarded to you.

Very truly yours,

Original signed by
E. N. HARSHMAN

E. N. Harshman
Acting Executive Officer

Enclosures

JDC:prl
cc: Chan. Op. Comm. (2)
Harshman
Real GME;DFC
Corres. file
Cooper
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9/25	Klugescheid	500
	Grisamer	500
9/25	Talbot	800
9/26	Martin	130
"	Johnson	110
"	Cutkendorf	100
		~~HB~~
9/26		220
		500

500

SEP 26 1958

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

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Dear Mr. Townsend:

In accordance with your memorandum, dated August 22, 1958, and the request of the Operator, dated August 19, 1958, we are enclosing the original and four copies of proposed Amendment No. 3 (two pages) to the cited contract, signed by the Acting Director, for the Government. We are also enclosing two copies for the use of the Field Team.

You will note that the only variation from the request of the Operator is, that the date of completion is July 1, 1959, and that the allowed extension is only seven and not eight months.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. In the event that the amendment is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee (HB)

Enclosures
APPROVED:

Frank J. Cservenyak (HB)
Member, Bureau of Mines

N. E. Nelson (HB)
Member, Geological Survey

WRKlugescheid/er 9/25/58
Copy to: Docket
Admr R File - Operating Comm.
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-10	Klugescheid	500
	Yrame	500
9-10	Chamber	800
9/12	[illegible]	130
9/12	Johnson	110
		100
		242
		220
		500

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Building
Denver 2, Colorado

SELICH R

SEP 17 1958

INTERIOR DEPT

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Dear Mr. Townsend:

In accordance with your memorandum, dated August 22, 1958, and the request of the Operator, dated August 19, we are enclosing the original and four copies of proposed Amendment No. 3 (2 pages) to the cited contract, signed by the Administrator for the Government. We are enclosing three extra copies for the use of the Field Team.

You will note that the only variation from the request of the Operator is, that the date of completion is July 1, 1959, and that the allowed extension is only seven and not eight months.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. In the event that the agreement is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures
APPROVED:

P. F. Yopes (GCS)
Member, Bureau of Mines

N. E. Nelson (GCS)
Member, Geological Survey

WPKlugescheid/izm 9-10-58
cc: Admr.'s Reading File
Operating Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS

8623

Government's copy

EXPLORATION PROJECT CONTRACT
AMERICAN SMELTING AND REFINING COMPANY
DOCKET NO. DMEA-3866

AMENDMENT NO. 3

It is agreed this _____ day of _____, 1958, between the United States of America, acting through the Department of the Interior, ~~Defense~~ Minerals Exploration ~~Administration~~, and the American Smelting and Refining Company, that Exploration Project Contract No. Idm-E903 (Docket No. DMEA-3866), dated December 5, 1955, as amended, is further amended as follows:

1. In Article 3 of the Contract, the period for completion of the work is further extended from December 1, 1958 (Amendment No. 2) to July 1, 1959.

2. (a) Work under the Contract shall be suspended during the period beginning April 22, 1958, and ending not later than January 1, 1959.

(b) The Government will not contribute to any costs incurred by the Operator during the period of suspension or to any costs of rehabilitation or repair which in the Government's opinion would not have occurred had there been no suspension of work.

(c) The Operator, at its own cost and expense, without contribution by the Government, during the period of suspension shall preserve and protect the project work.

3. In Article 7 of the Contract the period "14 years" is substituted for the period "13 years" (Amendment No. 2).

4. It is of the essence of this Contract that the work be resumed before the termination of the period herein fixed for suspension, and be completed before the termination of the period herein fixed for completion; and if it is not so resumed and so completed, in the manner required by the Contract, the following provisions shall thereupon become effective:

(a) The Contract and all obligations of the parties thereunder, except as hereinafter otherwise provided, shall be and are hereby terminated, as follows:

App'd. Sol. Off.
Klugescheid.
Chambers
Selfridge
Johnson

(i) Effective April 22, 1958, if the work has not been resumed on or before January 1, 1959.

(ii) Effective July 1, 1959, if the work is resumed on or before January 1, 1959, but is not completed on or before July 1, 1959.

(b) The Government will contribute only to the fixed unit costs of any work performed prior to the relevant effective date set forth under 4(a) above.

(c) The Operator shall promptly perform all winding-up and settlement actions provided for in the Contract, including the rendering of the final report and final account.

(d) All rights of the Government respecting certification of discovery or development, percentage royalty and liens to secure payment thereof, reports (including preservation of Operator's records), accounts, audits, and the right to recover any overpayment, are hereby preserved.

(e) The Operator hereby releases and agrees to save the Government harmless from all claims or demands under or arising out of said Contract, except as otherwise provided in this Amendment No. 3.

This amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may be required to contribute, or the fixed unit cost of any unit of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By_____
~~Administrator, Defense~~ Minerals Exploration ~~Administration~~

AMERICAN SMELTING AND REFINING COMPANY

By_____

Title_____

UNITED STATES
DEPARTMENT OF THE INTERIOR
~~DEFENSE MINERALS EXPLORATION ADMINISTRATION~~
OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
September 18, 1958

SEP 22 1958		
	INITIALS	CODE
9-22	C	220
22	Com	100
"	JM	110
9/23	Talbot	800
9/24	Alg.	500

Memorandum

To: Office of Minerals Exploration, Washington

From: Office of Minerals Exploration, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

Enclosed are three copies of a memorandum, dated September 15, 1958, from E. W. Buel, Mining Engineer, Bureau of Mines, concerning the present status of the subject contract.

The geophysical survey on the property has been completed by the Operator at its sole expense; however, the results of the survey have not yet been made known to the Government.

By letter of August 19, 1958, copies of which were forwarded to you, the Operator advised this office that it will be in a position, on or before December 1, 1958, to request either continuation of the project work or termination of the contract.

J. W. Townsend

SEP 22 1958
DATE INITIALS CODE

DMEA
DEPARTMENT OF THE INTERIOR

REGION III

SEP 15 1958
REGION III
DENVER, COLORADO

Building 20
Denver Federal Center
Denver 2, Colorado
Sept. 15, 1958

Memorandum

To: Alternate Acting Executive Officer, DMEA Field Team, Reg. III

From: E. W. Buel

Subject: DMEA Docket 3866 (Lead-zinc-copper) Contract Idm-E903, American Smelting and Refining Company (Keystone mine) Gunnison County, Colo. -- Progress report

A visit was made on September 5, 1958, to the subject property. Purpose of the visit was to determine what work the operator has accomplished since the recession of the DMEA contract work.

It was learned from Mr. Nolan Probst, manager, that a geophysical survey was completed at the property. The results of the survey are being studied. Mr. Probst said that the survey did not disclose any favorable anomalous areas along the northern extensions of the Keystone and Union veins. The absence of good anomalies in these areas are not too conclusive as the anticipated depths of possible ore bodies may be too deep to determine by a geophysical survey. The company is now attempting to determine the effectiveness of the geophysical survey along the northern extensions of the Keystone and Union veins. Interpretation of the results and plans of the operator have not been made known to the Field Team.

E. W. Buel
E. W. Buel
Mining Engineer

EWB/mr
Idm-E903
cc: 6
chron

September 3, 1958

Memorandum

To: The File

From: W. P. Klugescheid, Mining Engineer
Division of Base Metals

Subject: Justification for Amendment No. 3.

Docket No. DMEA-3866 (Lead-Zinc-Copper)
Contract No. Idm-E903
American Smelting and Refining Company
Keystone (Union Extension) Mine
Gunnison County, Colorado

The Operator has requested a suspension of operations to give time for geophysical work so as to secure additional knowledge regarding the vein pattern at the Keystone Mine. It is hoped that this work will produce a definite proposal for the continuation of the project or, if the results are negative, a request that the contract work be abandoned. At the present time the Operator is geologically lost.

The following reasons should suffice to warrant the granting of this amendment as advantageous to the Government:

1. The reconnaissance work being carried on at the present time is at no cost to the Government.

2. No money is now being spent on work of extremely dubious character.

3. The geophysical work now in progress may reveal a definite objective which could lead to further discoveries.

4. If the plan brings about further discoveries, the Government's chance of recovery of its share of the cost will be enhanced.

5. If the results obtained are negative, the Contract will be terminated thus avoiding fruitless expenditure of money by both the Operator and the Government.

6. The addition of a year to the royalty payment period would also be of benefit to the Government.

The Operator states that a definite proposal for either continuation or else termination of the Contract should be ready on or

before December 1, 1958. If the proposal is not presented before December 1, 1958, and we allow a month for processing, a seven month extension of the Contract should cover all requirements.

W. P. Klugescheid

W. P. Klugescheid

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
9-3		140
9-3	Hugoschird	500

INTERIOR DEPT.
SEP 3 - 1958
SOLICITOR

September 3, 1958

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: W. R. Griswold, Director
Division of Base Metals

Subject: Preparation of Amendment No. 3
Docket No. DMEA-3866 (Lead-Zinc-Copper)
American Smelting and Refining Company
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Will you kindly prepare an amendment for the cited contract as follows:

1. Work under the Contract shall be suspended during the period beginning April 22, 1958, and ending not later than January 1, 1959.

2. In Article 3 of the Contract, as amended by Amendment No. 2, the date for completion of work is extended from "December 1, 1958," to "July 1, 1959."

3. In Article 7 of the Contract, as amended by Amendment No. 2, the period "14 years" is substituted for the period "13 years."

The Contract shall be terminated as follows:

(i) Effective April 22, 1958, if the work has not been resumed on or before January 1, 1959.

(ii) Effective July 1, 1959, if the work is resumed on or before January 1, 1959, but is not completed on or before July 1, 1959.

It is expected that this project will be certified.

RECEIVED
SEP 4 1958
ASSOC. SOLICITOR
MINERAL RESOURCES

W. R. Griswold

WPK/izm
cc: Docket

8623

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado
August 22, 1958

FILE COPY
DMEA
RECEIVED AUG 25 1958

DATE	INITIALS	
8/25	N. g.	225
8/25	[illegible]	500
8/26	Klug	500

Memorandum

To: Chairman, Operating Committee, DMEA

From: DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

In reference to your letter of July 9, 1958, enclosed are the original and two copies of the Operator's letter of August 19, 1958, further justifying its request for approval of a recess of operations and extension of the date presently fixed in the contract for completion of the work.

We believe that performance of the geophysical survey is of paramount importance as concerns future work. However, since, as you say, the project can be certified on the basis of work completed to date, the matter of granting a recess and extension of the completion date, or termination of the contract in its present status, appears to involve DMEA policy. Therefore, under the circumstances, we have nothing to add to our previous recommendation in the matter.

J. W. Townsend

E. N. Harshman

Enclosures

WO

K-7.7

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 25 1958
DATE | INITIALS | CODE

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

DMEA
DEPARTMENT OF THE INTERIOR
AUG 21 1958
REGION III
DENVER, COLORADO

August 19, 1958

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Docket No. DMEA 3866 (Pb-Zn)
Contract No. Idm-E903
American Smelting & Refining Co.
(Keystone mine - Union Ext.)
Gunnison County, Colorado

Dear Mr. Townsend:

Reference is made to your letter of July 18th and to preceeding correspondence requesting approval of suspension of operations from April 22, 1958 to January 1, 1959, and also an 8 months' extension of the completion date presently fixed in the contract.

A brief review of the matter will indicate that 627 feet of drifting (2000 feet -1373 feet) and 485 feet of diamond drilling (2000 feet -1515 feet) provided by the contract had not been completed when work was stopped by this company in April. At that time we were geologically lost, and the various fractures we were following did not give much promise of ore, hence our decision to halt expenditure of our own money and the Government's money, thereby saving needless expense pursuing work of doubtful benefit. Such a saving should be beneficial to the Government as well as to ourselves. Therein lies the basis of our request for approval of suspension of operations.

Even before suspension of operations we were drilling laterally, by both diamond drill and long hole drill. At the present time we have a geophysical crew on the property in an attempt to secure additional knowledge regarding the vein pattern at the Keystone Mine. Both drilling and geophysical work have as their objective a definite proposal that will warrant continuation of the project on a sound basis or else come up with a request that the contract work be abandoned. The time necessary to prepare such concrete proposals is the basis for the request for extension of time. It appears to the undersigned that this company's interest is parallel with the Government's interest in the matter. We hope the DMEA will also see that our interests are parallel.

Mr. J. W. Townsend
Defense Minerals Exploration Adm.

August 19, 1958

The definite proposal for either continuation or else termination should be ready on or before the present end of the contract, namely, December 1, 1958.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm
Encl.- 1 extra

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
800 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

7/30 C 220
7/30 800
WPA 500

July 25, 1958

DMEA
DEPARTMENT OF THE INTERIOR
JUL 28 1958
REGION III
DENVER, COLORADO

Mr. J. W. Townsend, Alternate Acting Executive Officer
DMEA Field Team, Region III
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Docket DMEA-3866 (Pb.-Zn)
Contract Idm-E 903

Dear Mr. Townsend:

This will acknowledge receipt of your letter of July 18 to Mr. Frost.

Mr. Frost is out of town at the present, but as soon as he returns he will furnish you with the information you have requested.

Yours very truly,

Betty W. Madsen
Secretary to Mr. Frost

bwm

7/28/58 Copies distributed to:
Chm. Op. Comm (2)
Harshman
DMEA, DFC (Buel)
Corres. file, Reg. III
Cooper

7/21 C 220
7/21 800
500

224 New Customhouse
Denver 2, Colorado
July 18, 1958

Mr. J. F. Frost
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 5866 (Lead-Zinc)
Contract No. Ldm-8903
American Smelting and Refining Company
(Keystone mine - Union Extension)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to our letter of July 14, 1958 and your reply of July 16.

We have been instructed by the Washington Office, DMEA, that very valid reasons must be submitted for all suspensions of operations and extensions of completion time, as the winding up of DMEA is in process. The following is quoted in part from their letter regarding the matter:

> "We do not mean to force a hurried decision but merely to point out that very careful consideration will have to be given to a recess and extension of time, and that supporting data will have to be very complete and convincing."

In view of the foregoing, we trust you will supply the required information at an early date, as the contract cannot be maintained in an indefinite status.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Alternate Acting Executive
Officer, DMEA Field Team,
Region III

JWT:prl
cc: Chem.Op.Comm.-2) w/copy of
Harshman) Operator's
DMEA/DFC-Buel) letter of
Corres. file) July 16
Cooper)
Chron.

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

July 16, 1958

DMEA
DEPARTMENT OF THE INTERIOR
JUL 17 1958
REGION III
DENVER, COLORADO

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

DOCKET NO. DMEA 3866 (Pb-Zn)
CONTRACT NO. Idm-E903
AMERICAN SMELTING & REFINING CO.
(KEYSTONE MINE, UNION EXT.)
GUNNISON COUNTY, COLORADO

Dear Mr. Townsend:

This will acknowledge receipt of your letter of July 14th. Our geophysical program at the Keystone mine will depend somewhat upon the results as we go along. A much better answer may be given your letter after the work is underway, which we expect will be this month.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm

DATE	INITIAL	CODE
7/16	C	220
7/16	[illegible]	800
~~7/17~~	~~[illegible]~~	~~580~~

224 New Customhouse
Denver 2, Colorado
July 14, 1958

Mr. J. F. Frost
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMRA 3966 (Lead-Zinc)
Contract No. Lzn-2903
American Smelting and Refining Company
(Keystone mine, Union Extension)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to your letters of May 5 and May 26, 1958, wherein you request approval for suspension of operations from April 22, 1958 to January 1, 1959, and an eight-months' extension of the completion date presently fixed in the contract.

We are in process of closing out as soon as possible all completed or terminated contracts and contracts where additional work is not justified. Before further consideration can be given your request for the time extensions, the following information is requested:

1. Nature and extent of geological and geophysical reconnaissance work planned for performance this summer.

2. When is the reconnaissance work to be started and when is it expected to be completed, including evaluation of results?

3. What are the contemplated benefits of the reconnaissance work as concerns the exploration work provided for in the contract?

Please forward the above requested information and any added justification for the suspension of operations and extension of the completion period, so that the Government can continue to process your request.

JWT:prl

Very truly yours,
Original signed by
J. W. TOWNSEND

J. W. Townsend
Alternate Acting Executive Officer
DMRA Field Team, Region III

cc: Chmn. Op. Comm. (2)
Hardmann
DMRA/BPC-Buel
Corres. file
Cooper
Chron.

w/copy of Chairman's letter of July 9.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
7/8	Kluegel	500
	Mr. Ivan	500
7/9	GS	130
"	Johnson	110
"	Chatenay	100
7/10	C	220
		500

500

JUL 9 1958

Mr. J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-8903

Dear Mr. Townsend:

We refer to your memorandum dated May 29, 1958, and the memorandum of Messrs. Harshman and Buell dated May 28, 1958, concerning the request made by the Operator for a recess and an extension of the completion time.

As we are now in process of winding up the DMEA, it will be necessary to submit very valid reasons for a recess and an extension of completion time.

We will require full particulars as to:

1. What kind of work the Operator plans to do this summer pertaining to geological and geophysical reconnaissance.

2. What it will accomplish thereby that will either benefit or have a definite bearing on the cited project.

3. How long this work would take, including the necessary evaluating of results. If the work can be done in a relatively short time, it would not be to the advantage of the Government to have the project recessed for six months.

4. It must be borne in mind that the benefit that may accrue to the Government by an extension will be of paramount importance.

Should the Operator be interested in postponing the work for reasons of economy, no consideration would be given to a recess.

8623

This project has discovered sufficient ore to warrant a certification and if future prospects are dim, it might be preferable to call quits and save both the Operator and the Government money.

We do not mean to force a hurried decision but merely to point out that very careful consideration will have to be given to a recess and extension of time, and that supporting data will have to be very complete and convincing.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

Frank D. Lamb (GCS)

Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)

Member, Geological Survey

WPKlugescheid/er 7/8/58

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

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 2 1958

DATE		CODE
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6/2		800
6/3		

224 New Customhouse
Denver 2, Colorado

May 29, 1958

Mr. Holan Probst, Superintendent
American Smelting and Refining Company
P. O. Box J
Crested Butte, Colorado

Re: Docket No. DMEA 3866 (Lead-Zinc-Copper)
Contract No. 14s-2903
American Smelting and Refining Company
(Keystone mine) Gunnison County, Colo.

Dear Mr. Probst:

Form MF-104, Operator's Monthly Report and Voucher for April, 1958, has been received in this office and is being processed for payment.

An amount of $500.00 is withheld from reimbursement to American Smelting and Refining Company pending resumption of work under the contract.

Very truly yours,

Original signed by
J. W. TOWNSEND

J. W. Townsend,
Alternate Acting
Executive Officer.

JDC:bh

cc: Mr. W. R. Landsohr,
Acting Mgr. Western Mining Dept.
600 Crandall Building
Salt Lake City, Utah.

Chairman, Op. Comm. (2)
Harshman
DMEA/DFC
Townsend
Corres. File
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
224 New Customhouse
Denver 2, Colorado
May 29, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 6 1958

DATE	INITIALS	CODE
6/2	C	220
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6/3		300

VIA AIR MAIL

Memorandum

To: Chairman, Operating Committee, DMEA

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

Enclosed are the following pertaining to an amendment to the subject contract:

1. The original and two copies of the Operator's letter of May 26, 1958, which supplements its letter of May 5, 1958.

2. The original and two copies of a joint memorandum, dated May 28, 1958, from Edward W. Buel, Mining Engineer, Bureau of Mines, and E. N. Harshman, Geologist, Geological Survey, and Member, DMEA Field Team, Region III.

The Operator requests an amendment to the contract to provide for suspension of operations and extension of the date presently fixed in the contract on or before which the work shall be completed, to provide time to perform geophysical work, the results of which will have an important bearing on future work, if any, to be performed under the contract.

Preparation of an amendment of the nature involved is not within the authority delegated to this office. Therefore, the matter is forwarded for your consideration and appropriate action, with the recommendation that an amendment be prepared to provide for suspension of operations beginning May 1, 1958 and ending on or before January 1, 1959, extension of the completion date an additional eight months, and increase of the maximum period for royalty payments.

J. W. Townsend

J. W. Townsend

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

DMEA
DEPARTMENT OF THE INTERIOR
MAY 28 1958
REGION III
DENVER, COLORADO

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
May 28, 1958

W.O.

CENTRAL FILE COPY
DMEA
RECEIVED 1958

Memorandum

To: Acting Executive Officer, DMEA Field Team, Region III

From: Edward W. Buel and E. N. Harshman

Subject: Docket DMEA 3866 (Lead-zinc-copper) Contract Idm-E903, American Smelting and Refining Company (Keystone mine) Gunnison County, Colo.

The operator in a letter of May 5, 1958, to the Field Team, requested permission to suspend the work temporarily. The reason given for a suspension was that the operator planned on conducting some geophysical work which would assist him in determining the best direction to extend the DMEA Union-vein drift on the 2000-ft. level.

Additional information was required from the operator by the Field Team before a suspension of work could be granted. In a letter of May 26, 1958, the operator said that work on the drift was discontinued on April 22, 1958, and that diamond drilling was completed during the early part of May. The operator drilled 3 diamond drill holes totaling 781 feet of which two holes aggregating 600 feet were authorized under the contract. It is believed that the 600-footage was obtained before May 1st. In his recent letter, the operator asks for a suspension of operations to on or before January 1, 1959, and the extension of the completion date of the contract to 8 months more.

The present drift face on the 2000-ft. level of the Union vein exposes a relatively weak structure with occasional small pods of lead-zinc sulfides and pyritization of the wall rock. Drilling into the footwall exposed no significant mineralization nor vein structure. Two horizontal holes drilled into the hangingwall, however, encountered significant lead-zinc mineralization and structure.

In view of the recent exploration work, a geophysical survey and an evaluation of the results would materially assist in determining future exploration. It is recommended that the operator be granted permission to suspend operations for the amount of time as requested.

Edward W. Buel
Edward W. Buel, Mining Engineer
E. N. Harshman
E. N. Harshman, Member Field Team

EWB/mw
cc: 9 Idm-E903 chron

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

ORIGINAL FILE COPY
DMEA
RECEIVED JUN 2 1958
DATE | INITIALS | CODE

DMEA
DEPARTMENT OF THE INTERIOR
MAY 27 1958
REGION III
DENVER, COLORADO

May 26, 1958

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team
United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

KEYSTONE UNIT
DOCKET NO. DMEA 3866
CONTRACT NO. Idm E903

Dear Sir:

On May 5, 1958 we requested permission to suspend work on the captioned project; under date of May 7 you requested additional information.

1. The date the last work under the contract was performed.

   Drifting on the 2000 level was discontinued April 22, 1958 pending outcome of drilling. Drilling was completed earlier this month and disclosed only problematic structures.

2. The date on or before which work will be resumed.

   January 1, 1959.

3. Extent of extension of the completion date fixed in Article 3 of the contract if an extension is necessary in conjunction with the suspension of operations.

   We would like an extension of 8 months of the completion date.

The geophysical work is expected to be done this summer. Some time thereafter is usually required for computations and interpretation of results; hence we request suspension and equivalent extension times as indicated above.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm

DMEA
REC'D 9 1958
5/9 C 220
5/9 KWG 880

224 New Customhouse
Denver 2, Colorado
May 7, 1958

Mr. J. F. Frost, Manager
Western Mining Department
American Smelting and Refining Company
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc-Copper)
Contract No. Ldm-8903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Frost:

Reference is made to your letter of May 5, 1958, wherein you request permission to suspend the work temporarily.

Before final action can be taken on your request, the following information is necessary:

1. The date the last work under the contract was performed.

2. The date on or before which work will be resumed.

3. Extent of extension of the completion date fixed in Article 3 of the contract if an extension is necessary in conjunction with the suspension of operations.

Very truly yours,

Original signed
E. N. HARSHMAN

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

cc: Mr. Nolan Probst, Superintendent
American Smelting and Refining Company
P. O. Box "J"
Crested Butte, Colorado

JWT:prl

cc: Chem.Op.Comm.-2) w/copy of
Harshman) Operator's
DMEA/DFC-Rmel) letter of
Corres. file) May 5.
Chron. Townsend

K-7.7

AMERICAN SMELTING AND REFINING COMPANY

WESTERN MINING DEPARTMENT
600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

J. F. FROST
MANAGER

DMEA
DEPARTMENT OF THE INTERIOR
MAY 6 1958
REGION III
DENVER, COLORADO

May 5, 1958

AIR MAIL

Mr. E. N. Harshman, Acting Executive Officer
DMEA Field Team
United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

KEYSTONE UNIT
DOCKET NO. DMEA 3866
CONTRACT NO. Idm-E903

Dear Sir:

You are no doubt aware that the captioned project has run into difficulty in that there is no well defined mineralized fissure which is apparent that we should follow with the drift on the 2000 ft. level. This letter is to request your permission to suspend the work temporarily. I understand the term "recess the project" is sometimes used.

This summer we plan to do some geophysical work on the property. Among other results we hope to obtain from such geophysical work is some indication of the direction the 2000 ft. level north face should be driven. I assume DMEA wants to spend money only where it has the best chance of finding ore, and that is certainly our attitude on the subject.

Yours truly,

J. F. Frost

J. F. FROST

JFF:bm

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

April 22, 1958

OFFICIAL FILE COPY
DMEA
RECEIVED APR 25 1958
DATE | INITIALS | CODE
4/25 | C | 220
4/25

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper) Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine) Gunnison County, Colorado

Enclosed are three copies of a change in previous work approval issued by the DMEA Field Team, Region III. Also enclosed are two copies of the Operator's letter of April 16, 1958, and three copies of a memorandum dated April 21, 1958, from F. B. Moore, Geologist, Geological Survey, pertaining to the change in drill hole lengths.

Copies of the work approval change have been distributed to the Operator, the Finance Office, and to others concerned in Region III.

E. N. Harshman

E. N. Harshman

Encls.

224 New Customhouse
Denver 2, Colorado

April 22, 1958

Mr. Nelson Probst, Superintendent
American Smelting and Refining Company
P. O. Box J
Crested Butte, Colorado

Re: Docket No. DMEA 3866 (Lead-Zinc-Copper)
Contract No. I4m-2903
American Smelting and Refining Company
(Keystone mine) Gunnison County, Colo.

Dear Mr. Probst:

In reference to your letter of April 16, 1958, and with specific reference to the work approval by the DMEA Field Team, Region III, dated December 18, 1957, maximum lengths of the two drill holes described in the work approval are changed as follows:

2. (a) Maximum length changed from 250 feet to 350 feet.

2. (b) Maximum length changed from 300 feet to 250 feet.

Nothing in this approval for change in drill hole lengths shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, nor the fixed unit cost of any item of work.

Very truly yours,

DMEA Field Team, Region III

By E. N. Harshman
E. N. Harshman

By J. W. Townsend
J. W. Townsend,
Acting Member

JWT:bh
cc: Chairman, Op. Comm. (3)
Finance Office, Reg.III
Amendment File, Reg.III
Harshman
DMEA/DFC (Buel)
Corres. File
Townsend
Chron.

cc: Mr. W. R. Landwehr
American Smelting & Refining Co.
Crandall Building
Salt Lake City 1, Utah

IN REPLY REFER TO:

DMEA
DEPARTMENT OF THE INTERIOR
APR 21 1958
REGION III
DENVER, COLORADO

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

W.O.

April 21, 1958

Memorandum

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

From: F. B. Moore

Subject: Docket DMEA 3866 (Lead-zinc-copper), Contract Idm-E 903, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

In regard to lateral diamond core drilling along the Union vein extension on the 2000 level of the Keystone mine, the northeast side is considered the more promising for the occurrence of parallel veins. The parallel Keystone vein projects to a distance of 200 to 250 on the northeast in the drill area near station 2076; a second vein, the West, projects from the surface into this area.

For the above reason, I recommend that the northeasterly hole be drilled to a depth of 300 to 350 feet and the southwesterly hole be drilled to a depth of 200 to 250 feet.

OFFICIAL FILE COPY
DMEA
RECEIVED APR 25 1958

DATE	INITIAL	CODE

F. B. Moore

F. B. Moore
Geologist

FBMoore:mp

K-7.7.
DMEA

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. BOX J. CRESTED BUTTE, COLO.

DMEA
DEPARTMENT OF THE INTERIOR
APR 18 1958
REGION III
DENVER, COLORADO

April 16, 1958

Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

Re: Docket DMEA-3866
Contract Idm-E903

Gentlemen:

In your letter of December 18, 1957 to Mr. W. R. Landwehr you recommended:

(a) One drill hole N 55° E a maximum length of 250 ft.
(b) One drill hole S 55° W a maximum length of 300 ft.

During Mr. Moore's visit last month he recommended the following which is currently being executed:

(a) One drill hole N 55° E to a maximum length of 350 ft.
(b) One drill Hole S 55° W to a maximum length of 250 ft.

Kindly substantiate Mr. Moore's recommendation.

Very truly yours,

Nolan Frobst, Supt.

Orig. & 4 cc: Executive Officer
cc: John F. Shaw
J. F. Frost
File

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DATE	INITIALS	CODE

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

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DMEA
RECEIVED MAR 7 1958

DATE	INITIALS	CODE
3/7	C	220
~~3/7~~	~~[illegible]~~	~~500~~

March 5, 1958

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

Enclosed are three copies of work approval change issued by the DMEA Field Team, Region III, pertaining to the location of the drill station for the two drill holes approved by letter of December 18, 1957.

Also enclosed are three copies of a memorandum, dated February 26, 1958, from F. B. Moore, Geologist, Geological Survey, pertaining to the change in location of the drill station.

Two copies of the Operator's letter of February 14, 1958, requesting an opinion from this office regarding the location of the drill station, were forwarded by copies of our memorandum dated February 17, 1958 to the field examiners requesting their recommendations in the matter.

Copies of the change in work approval have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W H King

W. H. King

Enclosures

COPY
DMEA
RECEIVED MAR 7 1958
CODE

25th Ave Customhouse
Denver 2, Colorado
March 3, 1958

Mr. Dalen Probst
P. O. Box "J"
Crested Butte, Colorado

Re: Docket No. DMEA 3866 (Lake-Zinc)
Contract No. 14s-1083
American Smelting and Refining Company
(Keystone mine - Union Mutsumian)
Gunnison County, Colorado

Dear Mr. Probst:

Reference is made to your letter of February 14, 1958, concerning the location of the drill station for the two diamond drill holes approved for drilling by the DMEA Field Team, Region III, under item 2 of its letter, dated December 18, 1957.

In lieu of locating the drill station where previously approved, the drill station will be located at the most advantageous point, as determined by ground conditions, in the drift on or along the Union vein within the area from a point not to exceed 50 feet northerly from Survey Station No. 2076 to a point not to exceed 30 feet southerly from Survey Station No. 2078. Otherwise, there are no changes in the provisions pertaining to the drilling of the two holes from that outlined in the referred to work approval dated December 18, 1957.

Nothing in this work approval change shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, nor the fixed unit cost of any item of work.

Very truly yours,

DMEA Field Team, Region III

By W. E. King
W. E. King

By E. H. Harshman
E. H. Harshman

cc: American Smelting and Refining Company
Grunsell Building
Salt Lake City 1, Utah

JWF:prl
cc: Chem. Op. Comm. (3)
Finance Office, Region III
Amendment file, Region III
Harshman
DMEA/DPE (Buel)
Corres. file
Townsend
Chron.

IN REPLY REFER TO:

DMEA

DEPARTMENT OF THE INTERIOR

MAR 3 - 1958

REGION III

DENVER, COLORADO

UNITED STATES

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Defense Minerals Exploration Administration

Denver Federal Center

Denver, Colorado

OFFICIAL FILE COPY

DMEA

RECEIVED MAR 17 1958

DATE	INITIALS	CODE
	EMH	

February 26, 1958

Memorandum

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

From: F. B. Moore

Subject: Docket DMEA 3866 (Lead-zinc-copper), Contract ~~Idm-E 903~~, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

The Keystone mine was visited February 19, 1958, by F. B. Moore, Geological Survey, following reports that the Union Extension drift was not following the Union vein. An underground inspection was made with Mr. Bloomfield, company engineer. The general situation was discussed with Mr. Nolan Probst, superintendent.

The Union Extension drift was turned westerly off the Union vein near station 2072 when a heavy flow of water was encountered in the vein. The drift was turned back to a heading of nearly north and should be running about parallel to the vein at a distance of 15 to 20 feet. Approximately 145 feet of "drifting" has been done since leaving the vein. Two long holes, 30 and 70 feet beyond the 2072 station, have intersected the Union vein at distances of 15 to 20 feet. A third hole, 120 feet beyond the station, is currently being drilled.

In the last 200 feet of exposure the Union vein has changed from a general 65 to 75 westerly dip to vertical or, in places a steep

easterly dip. The strike also appears to be changing from a 25 to 30° northwesterly direction to more nearly northerly. Beyond station 2072 the Mesa Verde sandstone becomes quite siliceous and has flattened from a 25 to 30° southerly dip to one of 2 to 3° southerly. Two northerly-trending shears cross in the face. One is a 1-foot nearly vertical zone of crushed rock and gouge with no visible sulfides. The second, consisting of 6 inches of quartz and pyrite, dips 50° to the east. The second shear was making considerable water at the time of the examination. Between station 2072 and the face several narrow northerly- and northwesterly-trending shears are present. A few contain thin (1/2 to 1 inch) seams of sulfides, chiefly sphalerite. Pyrite fills small fractures and is disseminated in the siliceous sandstone in many places in the area.

The changes in strike and dip of the Union vein together with the increase in silicification of the sandstone and the possible increase in pyrite may indicate that the drift is approaching an area influenced by a series of northerly-trending veins as represented by the Barrien-Furniture Boy vein. The expected position of the Barrien, however, is about 1,000 feet northwesterly from the present face. Insufficient footage (831 feet) remains in the contract to reach this vein on the present trend of the drift.

Because the drift is now in a virgin area in which conditions seem to be changing, it was pointed out to the operator that diamond core drilling would now be in order. The best ground for exploration should lie to the east. The Keystone vein, if it continues, would lie less than

200 feet away. It was cut at 200 feet in DMEA drill hole 20-10 and, unless it too changes strike, should be coming to a junction with the Union a few hundred feet ahead of the face. Diamond drill hole 20-9, drilled westerly, cut no mineralized ground.

Probst agreed to diamond drilling but preferred to drill from the footwall side of the Union vein and to wait until he encountered what he considered to be better ground. He estimated that, by crowding the drift to the east, he would cut the Union vein within 50 feet or that the drill station would cut it. Drilling from that point--600 to 700 feet from the previous station--would consist of 300-350 feet northeasterly and 200-250 feet southwesterly. Footage remaining for one last hole would be about 500 feet.

In view of previous company reluctance to diamond drill and because the mining policy is actually decided by the Salt Lake or New York office, it is recommended that a drill station be cut at a distance of not more than 80 feet beyond station 2076. If bad ground is encountered the drill site can be moved back but not farther than 50 feet in a portalwise direction from where the Union vein leaves the drift. From the selected site the two holes should be drilled normal to the expected strike of the Keystone vein. The cutting of the drill station and the drilling may be done concurrently with drifting beyond the point 80 feet from station 2076. Approval of the last 500 feet of drifting should be made contingent upon completion of the two drill holes.

F. B. Moore

F. B. Moore, Geologist

FBMoore:arh

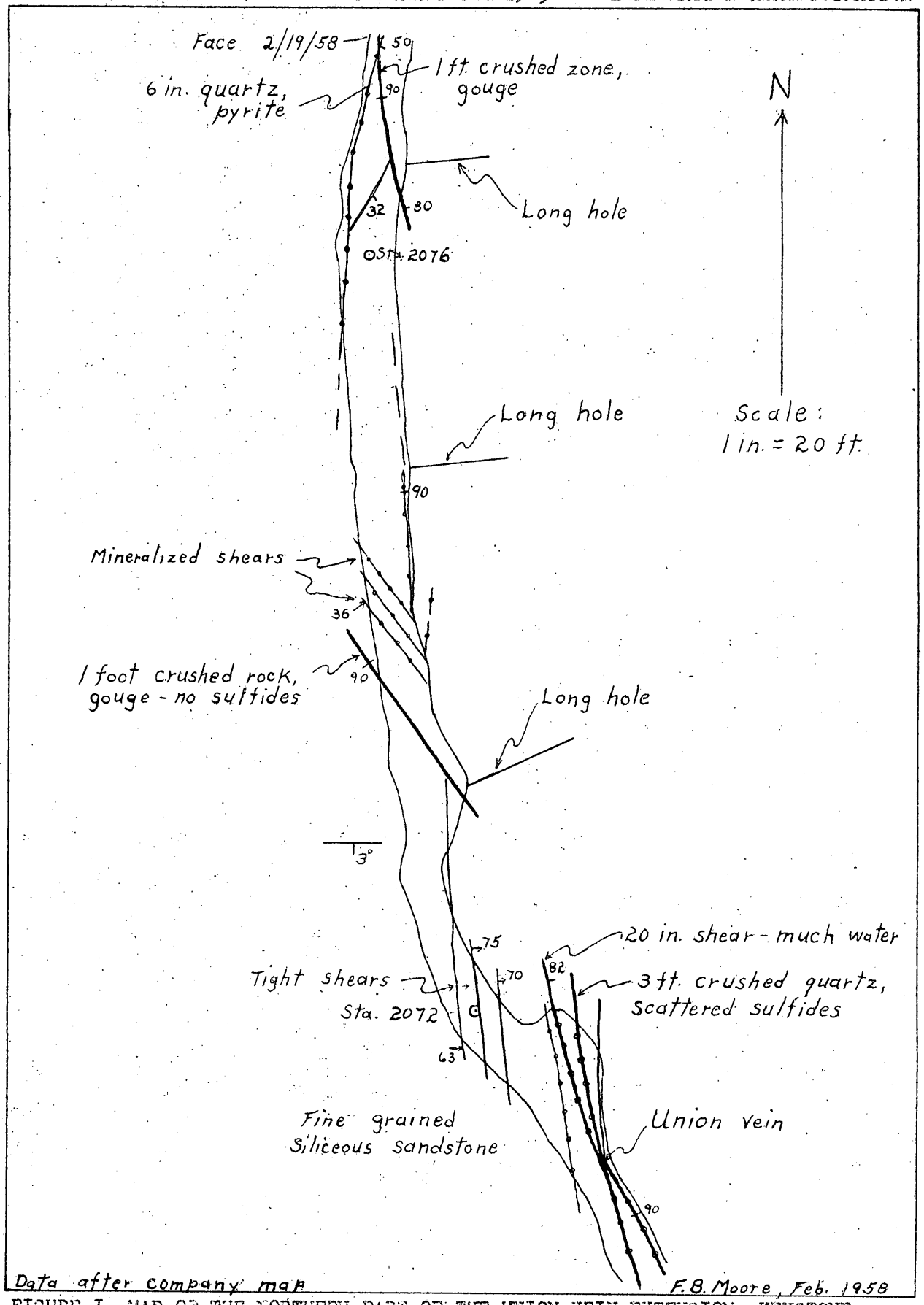

FIGURE I- MAP OF THE NORTHERN PART OF THE UNION VEIN EXTENSION, KEYSTONE MINE, GUNNISON COUNTY, COLORADO

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 7 1958

DATE	INITIALS	CODE

COPY

DMEA
RECEIVED FEB 19 1958

DATE	INITIALS	CODE
2-19	C	220
2/20	[illegible]	800
~~2/22~~	~~[illegible]~~	~~500~~

224 New Customhouse
Denver 2, Colorado

February 17, 1958

Memorandum

To: E. N. Harshman - w/enclosure
DMEA/DFC (Buel) " "

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

Enclosed is a copy of the Operator's letter of February 14, 1958 explaining the circumstances in conjunction with drifting northwesterly on the 2,000-foot level along the Union vein and the cutting of a drill station for the drilling of the two holes approved December 18, 1957.

The Operator requests an opinion relative to the location of the drill station. Therefore, please submit a joint memorandum report of your recommendations in the matter.

Original signed by
W. H. KING
W. H. King

JWT:prl

cc: Chmn.Op.Comm.-2 } w/copy of
Corres. file } enclosure.
Townsend
Chron.

DMEA
FEB 19 1958
CODE

K-7.7
DMEA

AMERICAN SMELTING & REFINING COMPANY
KEYSTONE UNIT
P. O. Box J CRESTED BUTTE, COLO.

February 14, 1958

DMEA
DEPARTMENT OF THE INTERIOR
FEB 17 1958
REGION III
DENVER, COLORADO

Executive Officer, DMEA, Field Team
Region III, 224 New Custom House
Denver 2, Colorado

Re: Docket DMEA-3866
Contract Idm-5903

Gentlemen:

Two diamond drill stations were to have been cut near survey station 2072 on the Union Vein. At this point considerable water was encountered and the walls are badly fractured. It was decided at this time to turn from the water course and drift in the hangingwall side of the vein. We have now drifted approximately 140 feet parallel to the old course. The ground has become more broken as drifting continues. Test holes into the walls reveal crushed zones which we are unable to penetrate with long hole steel. I explained to Mr. Buel that it was my opinion the diamond drill sites should be located in fairly stable ground and at some point which we are reasonably sure represents a true wall of the Union Fissure. I am writing this to explain why the drill stations have not been cut. Kindly give me your opinion. Mr. Buel can give you a good explanation of the ground conditions in and near the current drift face.

Very truly yours,

ORIGINAL SIGNED
NOLAN PROBST

Nolan Probst, Supt.

Orig. & 4 cc: Executive Officer
cc: John F. Shaw
J. F. Frost
File

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

DEC 20 1957

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 23 1957

DATE	INITIALS	CODE
12/23	gb	220
12/23	Klag.	500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-zinc-copper), Contract No..Idm-E903, American Smelting and Refining Company (Keystone mine - Union Extension), Gunnison County, Colorado

Enclosed are three copies of project work approval issued by the DMEA Field Team, Region III, pertaining to work under Stage II of the contract.

Also enclosed are three sets of data relative to the matter, consisting of the Operator's request of December 6, 1957, and a joint memorandum report, dated December 17, 1957, from E. W. Buel and R. U. King.

Copies of the work approval have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W H King
W. H. King

Enclosures

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 23 1957

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

December 18, 1957

Mr. W. R. Landwehr, Chief Geologist
Western Mining Department
American Smelting and Refining Company
Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc)
Contract No. Ida-8905
American Smelting and Refining Company
(Keystone mine - Union Extension)
Gunnison County, Colorado

Dear Mr. Landwehr:

In reference to your letter of December 6, 1957, and consistent with provisions in the Contract relative to prior approval by the Government for work under Stage II of the Contract, the Government approves the following work:

1. Extend the drift northwesterly on the 2000-foot level an additional 500 feet.

2. Prepare drill sites in the drift on the 2000-foot level driven northwesterly under previous approval at a location approximately 500 feet northwesterly of holes 20-9 and 20-10, and drill the following two holes:

   (a) One hole to be directed horizontally on a bearing N 55° E a maximum length of 250 feet.

   (b) One hole to be directed horizontally on a bearing S 55° W for a maximum length of 300 feet.

The drilling under item 2 (a) and (b) is to be performed as expeditiously as the drift advance will permit, so that information obtained from the drilling will be available as soon as possible, prior to the completion of the drifting advance approved under item 1.

Nothing in this work approval shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, nor the fixed unit cost of any item of work.

Very truly yours,

DMEA Field Team, Region III

By W. E. King
W. E. King

By E. N. Harshman
E. N. Harshman

cc: Mr. Nolan Probst
P. O. Box "J"
Crested Butte
Colorado

JWT:prl

cc: Chmn. Op. Comm. (3)
Finance Office, Region III
Amendment File, Region III
Harshman
DMEA/DFC (Buel)
Corres. fil
Townsend
Chron.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

DMEA
DEPARTMENT OF THE INTERIOR
DEC 18 1957
REGION III
DENVER, COLORADO

Defense Minerals Exploration Administration
Denver Federal Center
Denver, Colorado

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 23 1957

DATE	INITIALS	CODE

December 17, 1957

Memorandum

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

From: E. W. Buel
R. U. King

Subject: DMEA Docket 3866 (Lead-zinc-copper), Contract Idm-E 903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

The operator requested in a letter dated December 6, 1957, DMEA approval of a continuation of Stage II drifting.

All but 90 feet of all approved drifting was completed as of December 1, 1957. On completion of this footage, 1,000 feet of drifting along the Union vein on the 2000 level will have been accomplished. Exploration for parallel structures in the foot- and hanging-walls has amounted to 1,142 feet of core drilling. A total of 2,000 feet of drifting, and 2,000 feet of core drilling is allowed under Stage II of the contract with prior Government approval.

Results of sampling show that the Union vein contains at least 5 ore shoots distributed along the first 900 feet of DMEA drift on the 2000 level. It is estimated that ore grade mineralization occupies about two-thirds of the vein length on this level. The vein,

from 6 inches to 6-3/4 feet wide, contains from 0.1 to 10.3 percent Pb, 0.2 to 1.8 percent Cu, 0.3 to 35.1 percent Zn, and 0.2 to 36.6 oz. Ag per ton.

Although for the last 200-foot interval the Union vein is relatively thin and only weakly mineralized, it is present in the face (Buel, Progress Report, Dec. 10, 1957), and it seems likely that the metal content of the vein may again increase and its width improve as the drift approaches the mineralized structures exposed on the Berrian-Furniture Boy claims near the crest of Mt. Emmons (fig. 3, Examination Report).

Due to the proximity of a probable parallel vein (Keystone ?) in the footwall (Richter, Interim Geologic Report, Nov. 15, 1957) further exploration by core drilling of both the footwall and hanging wall zones seems warranted.

It is recommended therefore that the applicant's request to continue Stage II exploration be approved and that it consist of (1) an additional 500 feet of drifting westerly along the Union vein and (2) two core drill holes into the hanging- and foot-walls from a point in the 2000 level drift approximately 500 feet west of the existing holes 20-9 and 20-10, as follows: Hole No. 1, horizontal, N 55° E, maximum length 250 feet; Hole No. 2, horizontal, S 55° W, maximum length 300 feet.

It is also recommended that some provision be made to urge the operator to commence drilling at an early date, so that information

will be available to guide later drifting and/or crosscutting in the event the Union vein should pinch out and other parallel veins be shown to be more promising structures.

for H. M. Tonsos

E. W. Busl
Mining Engineer

R U King

R. U. King
Geologist

RUKing:mp

December 6, 1957

Crandall

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DMEA
RECEIVED DEC 23 1957

DATE	INITIALS	CODE

DMEA
DEPARTMENT OF THE INTERIOR
DEC 9 - 1957
REGION III
DENVER, COLORADO

Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

DOCKET: DMEA-3866 (Pb-Zn-Cu)
CONTRACT NO.: Idm-5903

Dear Sir:

Your letter of March 20, 1957 approved certain work on the captioned contract. This work is almost finished. Approval of a continuation of the drifting on the 2000 level of the Union Vein in the Keystone Mine is hereby requested. Proposed work is a portion of Stage II as originally planned for this project. Prompt approval would be appreciated so there will be no suspension of this work.

It is expected that diamond drill stations, for drilling in both the hanging wall and in the footwall, will be cut near the end of the presently approved 500 feet of drift.

Yours very truly,

W. R. LANDECHE

JFF:bm
Encls.- 4 extra
cc: John F. Shaw

CONSULTING ENGINEERS
W. R. LANDWEHR, CHIEF GEOLOGIST
NORMAN WEICO, MILLING ENGINEER

December 6, 1957

Special
[illegible]
SAN JOSE CITY 1, CALIF.

DMEA
DEPARTMENT OF THE INTERIOR
DEC 9 1957
REGION III
DENVER, COLORADO

Executive Officer
DMEA Field Team, Region III
224 New Customhouse
Denver 2, Colorado

DOCKET: DMEA-3866 (Pb-Zn-Cu)
CONTRACT NO.: I6m-5903

Dear Sir:

Your letter of March 20, 1957 approved certain work on the captioned contract. This work is almost finished. Approval of a continuation of the drifting on the 2000 level of the Union Vein in the Keystone Mine is hereby requested. Proposed work is a portion of Stage II as originally planned for this project. Prompt approval would be appreciated so there will be no suspension of this work.

It is expected that diamond drill stations, for drilling in both the hanging wall and in the footwall, will be cut near the end of the presently approved 500 feet of drift.

Yours very truly,

W. R. Landwehr

W. R. LANDWEHR

dfs:sm
Enclosure 1 extra
cc: John F. Shaw

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

OFFICIAL FILE COPY
DMEA
RECEIVED DEC 16 1957

DATE	INITIALS	CODE
12/16	glr	220
12/16	[illegible]	500

December 10, 1957

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 3866 (Lead-Zinc), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine, Union Extension), Gunnison County, Colorado

Enclosed are the Government's and Audit copies of Amendment No. 2 to the subject contract, which were forwarded by your letter of November 13, 1957 for signature by the Operator.

Copies of the Amendment have been distributed to the Operator, the Finance Office, Region III, and to others concerned.

W H King

W. H. King

Enclosures

ORIGINAL FILE COPY
DMEA
RECEIVED NOV 18 1957

DATE	INITIALS	COPY
11-18	C	220
11/18	[illegible]	800
11/18	Klug.	500

224 New Customhouse
Denver 2, Colorado

November 15, 1957

Mr. W. R. Landwehr, Acting Manager
American Smelting and Refining Company
Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc)
Contract No. Idm-E903
American Smelting and Refining Co.
(Keystone Mine, Union Extension)
Gunnison County, Colorado

Dear Mr. Landwehr:

In reference to your letter of October 25, 1957, enclosed are the Government's, Audit, Finance Office, and Field Team copies of proposed Amendment No. 2 to Contract No. Idm-E903, which was prepared in Washington and has been signed by the Administrator, DMEA, for the Government, to provide for a one-year extension of the date fixed on or before which work will be completed. In addition, the amendment increases the maximum period for payment of royalty and lien for payment thereof to thirteen years from the date of the contract.

If the amendment is satisfactory, all copies are to be signed by an official of American Smelting and Refining Company authorized to sign such an instrument, the signer's title inserted, the corporate seal affixed, and all copies promptly returned to this office, upon receipt of which the "Operator's Copy" will be forwarded to you.

Very truly yours,
Original signed by
E. N. HARSHMAN

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

Encls.

JWT:bh

cc-Chairman, Op. Comm.(2)
Harshman
DMEA/DFC (Buel)
Corres. File
Townsend
Chron.

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
11/12	Klugescheid	500
	Lorance	500
11-13	Chambers	800
11-13	Martin	130
"	Johnson	110
"	Gottendorf	100
		~~HB~~
	gb	220
		500

500

NOV 13 1957

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

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-E903

Dear Mr. Harshman:

We refer to your memorandum, dated October 28, 1957, and the letter of Mr. Landwehr to you, dated October 25, 1957, concerning an extension to the completion time for the cited contract.

We are enclosing the original and four copies of proposed Amendment No. 2 (one page), to the above contract, signed by the Administrator, Defense Mineral Exploration Administration. We are also enclosing two extra copies for the use of the Field Team.

The amendment is for a one year extension as you recommended.

If the amendment meets with your approval, kindly present it to the Operator for approval and signature and, when completed, distribute the copies in the usual manner. In the event that the amendment is not satisfactory and cannot be amended within your delegated authority, return all copies with your recommendations concerning any modifications.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Enclosures
APPROVED:

O. M. Bishop
Member, Bureau of Mines

Thor H. Kiilsgaard
Member, Geological Survey

WPKlugescheid/er 11/12/57
Copy to: Docket
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

P.S. Royalty payment period extended three years on the assumption that the Operator might mine reserves which would pay no royalties first. Production figured at a lower rate than expected due to the economic conditions.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
11/6	Klugescheid	500

500

November 6, 1957

Memorandum

To: Associate Solicitor, Division of Mineral Resources

From: Director, Division of Base Metals

Subject: Preparation of Amendment No. 2 for American Smelting and Refining Company, Docket No. DMEA-3866, Keystone (Union Extension) Mine, Gunnison County, Colorado, Contract No. Idm-E903 (Lead-Zinc-Copper)

Will you kindly prepare an amendment for the cited contract as follows:

In Article 3 of the contract, the completion date shall be extended from December 1, 1957 to December 1, 1958.

In Article 7 of the contract, the royalty payment period shall be increased from ten to thirteen years.

for W R Klugescheid
W. R. Griswold

WRKlugescheid/er
Copy to: Docket
Chron.

8623

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code

November 6, 1957

Memorandum for the File

From: W. P. Klugescheid, Mining Engineer

Subject: Justification for Amendment No. 2, Docket No. DMEA-3866, American Smelting and Refining Company, Keystone (Union Extension) Mine, Gunnison County, Colorado, Contract No. Idm-E903, Lead-Zinc-Copper.

Approximately 1,324 feet of drifting still remain to be done before completion of the contract and this cannot possibly be done before the completion date of December 1, 1957, as set forth in the contract.

The following calculations will show how the increase of royalty payment period was arrived at.

Total amount of royalty received by the Government to date	$7,741.79
Total tonnage of crude ore mined for above royalty	9,712.00

Then: 7,741.79/9,712 :: $0.797 average royalty received per ton of crude ore mined. Let us say <u>$0.80 per ton.</u>

<u>Ore Reserves as given by the Operator.</u>

Reserve not subject to royalty	300,000 tons
Reserve on stockpile	30,000 "
Total nonroyalty reserve	330,000 tons

Let us assume that in time this may be built up to 500,000 tons. Assume also that poor metal prices may cut royalty payment down to $0.40 per ton, that total Government participation in the project will be as given in the contract, or $53,610.00, and that production of the mine will average 5,000 tons per month.

Then: 500,000/5,000 :: 100 months necessary to mine nonroyalty reserve.
53,610/2,000 :: 27 months necessary to pay off Govt. Particip.

127 months total time necessary to pay off the Government participation on the assumption that all nonroyalty ore will be mined before the ore subject to royalty. As a safety factor, all royalty paid to date and all nonroyalty ore mined has not been taken into consideration.

Total time necessary to pay off Government participation	127 months
Royalty payment period remaining as of to-day (Dec.1, 57)	96 "
Further payment period required	31 months

Add 36 months or three years.

This figure is about as close as we can come in protecting the Government as far as royalties are concerned.

This project will be certified as ore has been found by the exploration work under the DMEA contract.

W. P. Klugescheid

W. P. Klugescheid

Data for Justification

	Dry Tons	Royalty
D-14+15	285.60	1,023.18 ✓
D-13	292.10	1,402.29 ✓
D-12	275.90	1,449.16 ✓
D-10+11	252.80	1,251.49 ✓
D-9	166.13	812.62 ✓
D-8	66.60	318.65 ✓
D-6+7	54.25	291.88 ✓
D-5	61.22	322.00 ✓
D-1-4		870.58 ✓
		$7,741.79

	Crude Ore
D-15	✓ 572.00
D-14	✓ 1,139.00
	✓ 1,078.00
	✓ 1,125.00
D-11	✓ 794.00
D-10	✓ 1,355.00
	✓ 803.00
	✓ 500.00
D-7	✓ 288.00
D-6	✓ 284.00
	✓ 511.00 ✓
D-4	✓ 779.00 ✓
D-3	✓ 100.00 ✓
D-2	✓ 194.00 ✓
D-1	✓ 256.00 ✓
	9,712.00 Tons

Reserve in Original Deposit
300,000 ounces
30,000 stockpile
330,000 assume
5,000 tons/month
5) 330 | 66 months
66/12 = 5.5 years

Assume 500,000 Ton Reserve
@ 5,000/mo = 100 months
or 8.5 years
+ 1.2 years for Pegatite
9.7 years for total liquidation

Royalty $0.797/Ton of Crude Ore

@ 5,000 Tons/month = 5000 × 0.8 = $4,000/mo.

Assuming Total Expenditure of $53,610 for Pegatite.

4000 | 53,610 | 13.4 months to pay off
4000 ×
13610
12000
16100
16000

If we assume a total reserve of 500,000 tons exclusive of royalty reserve. Assume 5,000 tons/month production.

5000 | 500,000 | 100 months to get to DMEA ore.

Royalty period remaining is 8 years or 96 months

Assume total money expended with Govt. Participation of $53,610. From other sheet royalty would be $0.80/ton or 5000 x .8 = $4,000 per month. Let us assume less profit due to lower prices or a royalty of only $2,000/mo.

2000 | 53,610

26.8 say 27 months to pay off.

Total time for payoff = 100 + 27 = 127 months.

less 96 remaining

Hadeing 31 months

If we raise the ante 3 years it should be as good as can be expected.

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

October 28, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED NOV 1 1957

DATE	INITIALS	CODE
11/1	C	220
11/4	WPB.	130
		500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Acting Executive Officer, DMEA Field Team, ~~Region III~~

Subject: Docket No. DMEA 3866 (Lead-Zinc-Copper), Contract No. Idm-E903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

Enclosed are the original and two copies of the Operator's letter of October 25, 1957, which we have accepted as a request for an 18-months' extension of the date fixed on or before which work is to be completed.

Also enclosed are three copies of our letter to the Operator, dated October 28, 1957, advising of the disposition of its letter of October 25.

Work under the contract has not been pursued in a very diligent manner, and it is our opinion that an 18-months' extension is more time than should be required to complete the balance of work provided for in the contract. Therefore, we recommend that an amendment be prepared extending the completion date only one year.

E. N. Harshman

E. N. Harshman

Enclosures

224 New Customhouse
Denver 2, Colorado

October 28, 1957

EXTRA COPY DATE		
RECEIVED		
DATE	[illegible]	CODE

Mr. W. R. Landwehr
Acting Manager, Western Mining Department
600 Crandall Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc-Copper)
Contract No. Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Landwehr:

We will take your letter of October 25, 1957, as a request for an amendment to the Contract to provide for an eighteen-months' extension of the date fixed on or before which work shall be completed.

Preparation of an amendment of the nature involved is not within the authority delegated to this office. Therefore, the matter is being referred to the Washington Office, DMEA, for their consideration and appropriate action, on which you will hear at an early date.

Very truly yours,

Original signed by
HARSHMAN

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

JWT:prl

cc: Chmn. Op.Comm. (3)
Harshman
DMEA/DFC-Buel
Townsend
Corres. file
Chron.

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT

~~F. V. RICHARD, MANAGER~~ Acting Manager
W. R. LANDWEHR, ~~CHIEF GEOLOGIST~~
NORMAN WEISS, MILLING ENGINEER

600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

October 25, 1957

DMEA
DEPARTMENT OF THE INTERIOR
OCT 28 1957
REGION III
DENVER, COLORADO

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

DOCKET DMEA-3855 (LEAD-ZINC-COPPER) CONTRACT Idm-E903
AMERICAN SMELTING & RFG. CO.
(KEYSTONE MINE)
GUNNISON COUNTY, COLORADO

Dear Sir:

Contract Idm-E903, under which we are operating at our Keystone Unit, Gunnison County, Colorado, expires December 1, 1957. As of October 1st there remained to be completed 1324 feet of drifting. On a one-shift basis, that footage obviously cannot be completed before the expiration date; consequently we would like to request an extension, and I would appreciate it if you would advise me how the application should be made and supply any necessary forms.

It is Mr. Probst's opinion that the extension should be for a period of eighteen months at least.

Thanking you, I am

Very truly yours,

W. R. Landwehr

W. R. LANDWEHR

WRL:si
cc:N.Probst

OFFICIAL FILE COPY
DMEA
RECEIVED NOV 1 1957
DATE | INITIALS | CODE

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT

F. V. RICHARD, MANAGER
W. R. LANDWEHR, CHIEF GEOLOGIST
NORMAN WEBB, MINING ENGINEER

600 CRANDALL BUILDING
SALT LAKE CITY 1, UTAH

October 9, 1957

C 220
10/11/57 800
10/15 500

Executive Office
DMEA Field Team
U. S. Bureau of Mines
224 New Custom House
Denver 2, Colorado

DOCKET NO. DMEA 3866
Contract No. 1dm-E90

Gentlemen:

Due to the untimely death of Mr. Richard, hereafter correspondence should be addressed to me as Acting Manager.

Very truly yours,

W. R. Landwehr

W. R. LANDWEHR

WRL:bm

10-11-57
Copies distributed to:
Chron. Op. Comm (2)
Harshman
DMEA, DFC
Townsend
Royalty file, Reg. III
Cores file, Reg. III

224 New Customhouse
Denver 2, Colorado

August 22, 1957

DMEA RECEIVED		
DATE		CODE
8/26	O	220
8/26		800
		500

Mr. Nolan Probst, Superintendent
American Smelting and Refining Company
Box J
Crested Butte, Colorado

Re: Docket DMEA-3866 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Probst:

Form MF-104, Operator's Monthly Report and Voucher, for July, 1957, has been received in this office and is being processed for payment.

The work approval dated March 20, 1957, stipulates that the hole directed S. 55° W shall be drilled for a length of 300 feet. Hole No. 20-9, which corresponds to the above hole, was drilled to a total length of 418 feet, an excess of 118 feet of core drilling, the cost of which is disallowed.

Hole No. 20-10 has not yet been completed, therefore the cost reported for 112 feet of core drilling in this hole is disallowed. The entire allowable cost of the hole is to be reported after it has been completed.

You will be further advised concerning the above deductions by means of an Administrative Audit Difference Statement which will be forwarded to you by the Finance Office, Region III. Please make the necessary adjustments for the footage and costs disallowed on the next reports submitted on Forms MF-104 and MF-104A.

Yours very truly,

Original signed by
J. W. TOWNSEND

J. W. Townsend
Alternate Acting Executive Officer
DMEA Field Team, Region III

JDC:hmh
cc: Chmn. Op. Comm. (2)
Harshman
DMEA, DFC
Townsend
Corres.file,Reg.III
Chron.

2000 LEVEL ASSAYS

Ref	Sample	Width	Ag	Pb	Cu	Zn	Loc
72	14034	3.9	24.9	6.9	1.9	25.9	V
73	14038	4.6	34.1	10.3	1.5	16.8	V
74	14042	1.2	8.9	2.3	0.6	11.5	V
75	14048	5.5	13.8	3.7	1.2	15.6	V
76	14054	4.2	57.2	8.3	1.0	23.3	V
77	14055	3.4	36.6	6.9	1.4	21.2	HW
78	14056	3.4	1.8	Tr	0.15	2.1	FW
79	14061	2.6	27.2	5.8	0.7	26.2	V
80	14066	5.3	6.8	1.7	0.9	7.5	V
81	14073	4.4	1.6	1.3	0.2	1.7	Face
82	14091	3.2	0.3	0.1	0.1	0.3	Face
83	Long Holes	4' to 8'	1.2	0.9	0.2	3.1	Cuttings
84		8' to 12'	10.0	6.5	0.9	9.8	
85		16' to 20'	7.8	5.4	0.3	9.1	
86		12' to 16'	12.2	8.4	1.3	18.5	
87		16' to 24'	2.8	2.1	0.3	2.9	
88		8' to 12'	7.4	4.7	0.8	26.9	
89		12' to 16'	4.4	3.3	0.2	3.4	

Ref.	Sample	Width	Ag	Pb	Cu	Zn	Loc.
1	8304	1.6	1.0	1.4	0.1	2.6	V
2	8306	1.8	2.2	2.8	0.15	4.3	V
3	8308	2.0	1.5	1.0	0.1	2.3	V
4	8311	1.7	0.6	0.9	0.15	1.1	V
5	8314	2.0	0.4	0.6	0.1	2.9	V
6	8315	1.8	0.2	0.1	0.1	0.5	V
7	8317	2.3	0.6	0.5	0.15	1.5	V
8	8319	1.7	0.9	1.6	0.2	1.9	V
9	8321	3.6	0.8	1.5	0.1	2.7	V
10	8323	5.0	1.7	4.8	0.25	4.3	V
11	8326	1.0	3.1	2.3	0.6	9.6	V
12	8328	1.0	3.4	3.6	0.4	6.8	V
13	8330	0.8	18.8	5.1	0.3	2.4	V
14	8334	1.0	0.9	0.7	0.15	1.0	V
15	8336	1.0	6.2	2.0	0.15	0.7	V
16	8341	1.6	5.9	6.6	0.8	6.6	V
17	8343	0.9	4.0	3.4	0.25	13.0	V
18	8346	0.6	2.4	0.1	0.2	20.0	V
19	8349	4.5	1.0	0.2	0.15	2.0	Fc
20	8350	4.0	0.4	0.5	0.1	1.2	V
21	8351	4.7	1.3	0.8	0.3	4.5	V
22	8354	1.9	0.4	0.5	0.1	1.2	V
23	8355	3.0	1.0	0.2	0.1	0.8	V
24	8358	4.6	1.2	0.7	0.2	5.4	V
25	8359	5.3	0.4	0.1	0.1	2.1	V
26	8360	5.0	0.4	0.1	0.1	1.4	V
27	8362	6.4	1.2	1.9	0.25	7.6	V
28	8363	6.0	1.4	0.2	0.15	1.8	V
29	8364	6.8	9.5	3.8	0.85	6.0	V
30	8365	5.8	11.6	7.7	0.5	12.1	V
31	8366	3.0	23.2	8.1	0.6	12.4	V
32	8368	1.3	6.2	10.8	0.16	17.4	V
33	8372	1.5	18.0	9.8	0.36	10.3	V
	8373	2.6	0.8	0.2	0.05	0.8	FW
	8374	1.8	6.4	0.8	0.05	1.4	HW
34	8375	3.0	26.8	7.2	0.2	8.5	V
35	8376	4.0	10.0	5.9	0.4	15.6	V
36	8378	6.2	2.2	2.8	1.7	14.0	V
37	8379	3.6	8.2	3.0	1.8	26.2	V
	8380	2.9	1.4	1.6	0.2	3.5	HW
38	8381	3.2	12.4	4.7	0.4	27.6	V
39	8384	3.3	11.0	4.8	0.35	23.1	V
40	8387	3.3	15.6	6.5	0.4	36.1	V
41	8392	1.7	9.4	3.8	1.5	18.8	V
42	8397	4.1	12.0	7.7	0.6	19.8	V
43	8398	1.6	13.2	9.5	1.2	18.8	V
44	8399	1.6	15.8	6.5	0.6	32.0	V
45	8400	2.9	10.9	7.6	1.8	18.8	V
46	8402	3.4	2.0	0.1	0.1	1.9	V
	8403	3.3	1.2	1.6	0.3	4.2	HW
47	8409	3.0	5.6	3.9	0.65	12.8	V
48	8413	3.2	4.0	1.8	0.2	13.6	FW
	8414	2.8	2.2	1.5	0.25	2.3	HW
49	8416	4.1	6.2	2.3	0.1	6.5	FW
	8417	2.6	9.1	14.1	0.6	11.5	HW
	8415	3.2	2.0	2.3	0.15	4.7	HW
50	8420	3.6	6.4	8.5	0.7	10.8	V
51	8423	1.8	4.7	5.2	0.3	6.1	V
52	8426	2.3	3.8	3.1	0.4	2.3	V
53	8429	2.0	9.8	1.6	1.5	1.6	V
54	8434	0.9	1.4	1.0	0.1	2.2	V
55	8435	0.8	1.2	1.0	0.2	1.8	V
56	8438	1.3	0.4	0.4	0.1	1.5	V
57	8441	3.7	3.8	0.5	1.3	1.8	V
58	8445	.6	0.2	0.1	0.1	0.1	V
59	8447	2.0	0.8	0.7	0.2	2.8	V
60	8451	5.0	0.4	0.2	0.2	0.9	V Fc
61	8453	1.8	1.6	0.1	0.1	1.0	V
62	8459	0.6	1.8	0.1	0.8	1.2	V
63	8469	0.8	0.6	0.1	0.1	0.4	V
64	8473	1.4	1.6	0.1	0.2	2.0	V
65	8476	2.9	9.3	2.6	0.5	31.4	V
66	8478	5.4	6.4	1.9	0.8	29.2	V
67	8482	2.5	6.6	1.6	0.9	16.7	V
	8485	2.7	15.6	4.2	1.4	26.7	V
68	8490	3.0	9.4	3.4	1.3	28.1	V
69	8491	1.5	7.8	2.1	0.4	9.5	V
70	8494	2.4	4.1	1.8	0.3	6.6	V
71	14008	2.5	3.4	0.4	0.2	1.3	V

2160 LEVEL ASSAYS

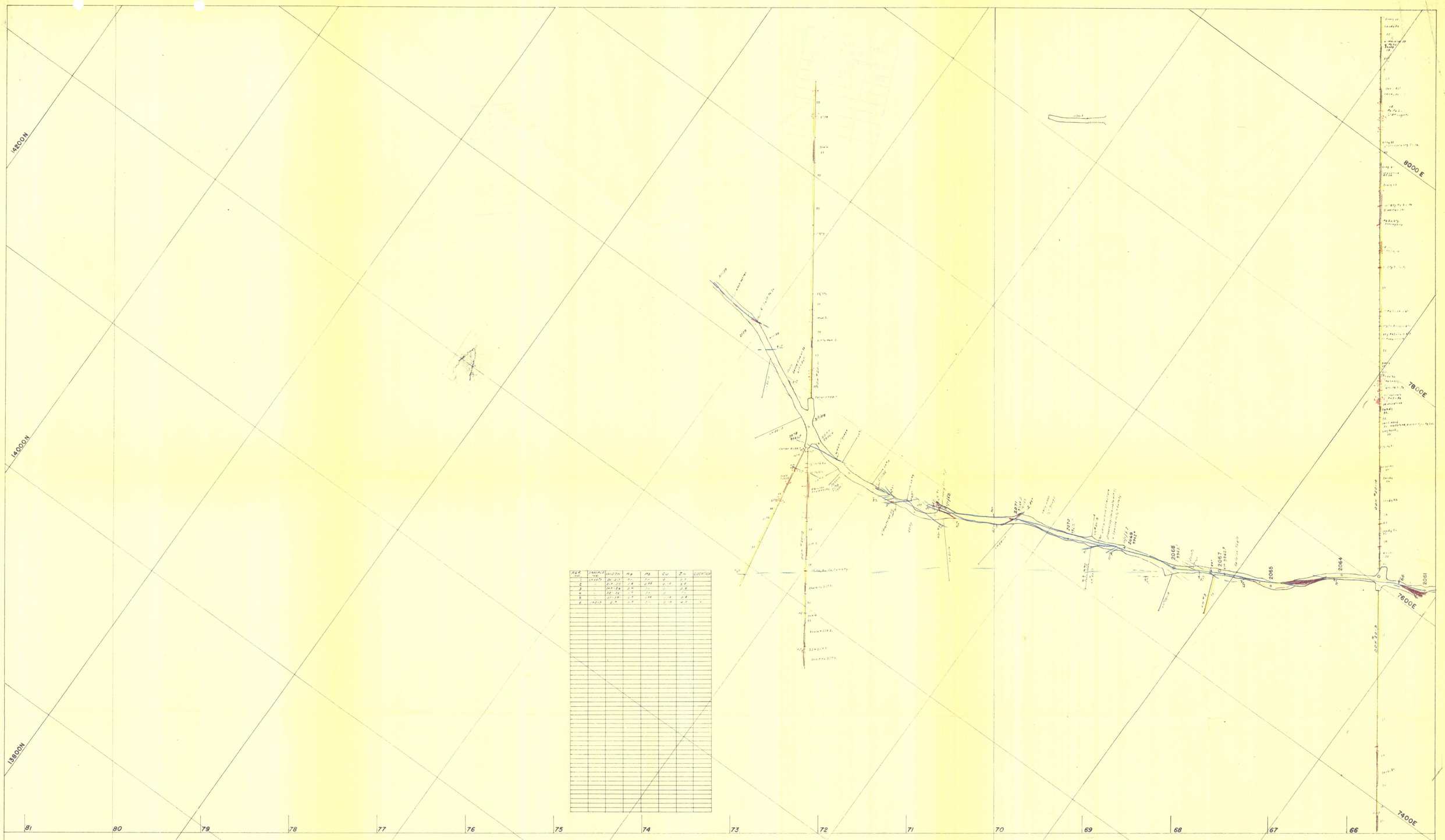
REF. #	SAMPLE NO.	W.	AG.	PB.	CU.	ZN.	LOC.
1	7276	3.1	4.8	0.1	0.4	4.1	V
	7277	3.2	2.1	TR	0.1	0.8	FW
2	7290	2.7	7.1	1.5	0.7	3.1	FW
	7291	3.1	3.8	TR	0.5	0.8	HW
3	7292	3.9	0.35	TR	0.1	1.5	HW
	7293	1.8	11.7	1.2	1.35	3.75	V
	7294	2.2	1.55	0.6	0.2	0.45	FW
4	7295	3.2	0.35	0.2	0.1	0.1	FW
	7296	2.2	6.25	1.15	1.8	3.2	V
	7297	2.4	0.35	TR	0.1	TR	HW
5	7298	3.2	0.35	TR	0.1	TR	HW
	7299	1.5	3.95	0.9	1.2	1.45	V
	7300	1.8	1.35	TR	0.7	1.1	FW
6	7301	2.5	1.1	0.9	0.1	0.6	HW
	7302	1.4	3.2	3.1	0.25	3.9	V
	7303	2.7	0.6	0.5	0.1	1.4	FW
7	7304	1.7	2.3	0.5	0.15	2.8	V
	7305	3.5	0.4	0.4	0.5	0.8	HW
	7306	2.7	0.35	0.4	0.1	0.5	FW
8	7307	2.8	1.1	0.5	0.5	1.65	V
	7308*	4.7	0.5	0.35	0.15	0.8	FW
9	7310	1.1	4.7	2.2	0.4	6.5	V
	7311	4.3	0.7	0.8	0.1	0.8	FW
10	7312	2.3	3.5	1.8	0.35	8.45	V
	7313	3.9	0.8	0.8	0.1	1.7	FW
11	7314	1.2	0.5	0.4	0.15	5.2	HW
	7315	5.3	3.6	0.6	0.25	4.55	V
12	7316	1.5	0.8	0.1	0.15	1.15	HW
	7317	1.9	4.3	0.45	0.45	2.35	V
	7318	3.8	0.35	0.25	0.1	0.1	FW
13	7319	0.8	0.1	0.25	0.05	0.01	HW
	7320	4.1	3.1	0.25	0.6	0.6	V
	7321	1.8	0.25	0.1	0.15	0.7	FW
14	7324	6.1	1.85	1.1	0.25	2.2	V
15	7325	3.1	3.9	0.8	0.35	3.6	V
	7326	2.7	0.5	0.1	0.55	1.5	FW
16	7327	4.1	5.9	1.2	0.7	2.5	V
	7328	1.8	0.6	0.1	0.05	0.55	HW
17	7329	1.5	1.4	1.3	0.35	1.1	HW
	7330	3.9	7.9	0.2	0.8	1.1	V
	7331	1.7	0.8	4.8	0.15	0.2	FW
18	7333	1.5	0.7	0.1	0.15	1.2	HW
	7334	2.3	0.8	0.6	0.4	2.2	V
	7335	2.7	0.8	0.3	0.3	2.8	FW
19	7336	1.1	0.8	0.6	0.1	6.1	V
	7337	4.4	3.9	1.1	0.5	1.2	FW
20	7338	1.1	1.6	1.6	0.15	1.9	V
	7339	4.1	0.2	0.2	0.15	1.2	FW
21	7343	2.8	0.8	1.2	0.2	5.3	V
	7344	3.2	0.4	0.1	0.05	1.9	FW
22	7345	1.5	2.2	2.5	0.15	2.1	V
	7346	3.9	0.8	0.1	0.1	0.6	FW
23	7347	6.3	2.2	0.6	0.2	1.9	
24	8087	4.5	9.1	7.8	0.3	9.1	V
25	8086	3.1	3.9	8.9	0.4	6.7	V
26	8088	3.9	5.8	7.9	0.8	3.8	V
27	8089	4.9	5.8	2.9	1.2	5.1	V
28	8090	3.9	8.7	11.3	1.9	10.8	V
29	8091	3.8	11.7	5.9	2.4	9.9	V
30	8092	3.9	13.1	4.7	6.1	10.1	V
31	8093	2.8	6.9	5.4	1.8	6.5	V
32	8097	5.9	5.9	3.7	0.47	5.7	V
33	8100	2.8	5.8	7.7	0.9	6.4	V
34	8101	2.8	1.3	5.4	0.25	3.8	FW
35	8103	5.9	4.4	10.3	0.45	6.7	V
36	8105	3.9	6.8	10.2	1.9	10.0	V
37	8106	3.5	5.8	9.8	1.1	8.8	V
38	8108	5.9	4.9	5.3	0.7	9.8	V
39	8109	5.9	4.9	3.6	0.7	7.4	V
40	8110	6.1	1.8	1.8	0.5	7.9	V
41	8111	5.7	2.9	2.8	0.8	10.9	V
42	8112	5.9	1.3	0.8	0.45	3.8	V
43	8113	3.8	4.2	2.8	0.7	5.8	V
44	8114	6.8	3.4	2.8	0.9	4.7	V
45	8115	7.9	2.2	3.2	0.32	5.9	V
46	8116	9.5	1.6	0.5	0.8	3.9	V
47	8117	5.9	1.5	2.9	0.6	5.8	V
48	8118	4.5	1.8	1.1	0.23	8.7	V
49	8119	5.0	1.8	2.1	0.6	4.8	V
50	8120	6.5	2.5	2.8	0.25	5.2	V
51	8121	7.5	2.2	1.9	0.4	4.9	V
52	8122	5.3	2.0	0.9	0.35	2.9	V
53	8123	5.5	3.1	2.3	1.0	6.2	V
54	8124	5.0	4.3	4.0	0.3	7.8	V
55	8448	6.4	7.0	1.9	0.9	8.5	V
56	8452	2.0	5.3	3.9	0.9	8.5	V
57	8454	2.7	11.2	1.2	2.9	5.3	V
58	8460	2.8	11.6	0.6	2.2	1.7	HW
	8461	4.0	1.2	0.1	0.2	0.1	HW
59	8470	5.0	2.4	0.4	0.6	2.0	V
60	8477	3.0	2.6	2.7	0.2	3.2	FW

AMERICAN SMELTING & REFINING CO.
KEYSTONE UNIT

2160 DRIFT NORTH

PROGRESS, GEOLOGY & ASSAY MAP

SCALE	DR. TR. CH. APP.	W. PILL	DATE	FILE
1" = 50'				



REF. NO.	SAMPLE NO.	WIDTH	Ag	Pb	Cu	Zn	LOCATION
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
3	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
4	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
6	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

AMERICAN SMELTING & REFINING CO.

KEYSTONE UNIT

2000 NORTH DRIFT

(UNION VEIN)

PROGRESS, ASSAY and GEOLOGY MAP

SCALE	DRAWN	DATE	FILE
1" = 50'	J.R. PERRIN		