DMEA Form 9

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

DMEA NO. 3866

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(Withdrawn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

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

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

Left Side

Interim Royalty Audits
Reports of Royalty Review
✓ Certification of Discovery 4-24-59
Certificate of Audit (Final)
Interim Audit(s)
✓ Report of Review
✓ Termination Notice or Agreement
Recision Notice
Assignment of Contract
✓ Contract Amendments (latest on top)
✓ Contract with all exhibits and annexes
Owner's Consent to Lien
Subordination Agreement
✓ Leases and assignments of leases
✓ Application and attachments
(3) Envelope for maps

Right Side

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

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

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

Left Side

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

Right Side

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

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

✓ Folder No. 4: Settlement Sheets

Folder No. 5: Drill Logs

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT CERTIFICATE

I have examined the production, sales, and royalty accounts and records pertaining to the sale of lead and zinc concentrates for the period August 14, 1962, through April 10, 1964, produced from Keystone Mine located in Gunnison County, Colorado, on which royalty is payable to the U. S. Government under terms of Contract Idm-E903, Docket DMEA-3866 (lead-zinc-copper), dated December 5, 1955, as amended, with

American Smelting and Refining Company
120 Broadway
New York 5, New York
on its own behalf and as agent for
Park City Consolidated Mines Company
39 Broadway
New York 6, New York

My examination was made in accordance with generally accepted standards applicable in the circumstances.

The audit established the total net sales of such concentrates subject to Government royalty for this period to be $216,095.12 and the amount of royalty payable at the contract rate to be $10,804.76.

Prior Reports of Royalty Review found the sales subject to royalty for the period December 5, 1955, through August 13, 1962, to be $154,835.47 which added to the sales for the subsequent period make a total of $370,930.59. The royalty account as of August 13, 1962, was:

Total Royalty Payable	$ 7,741.79
Total Royalty Paid	7,741.79
Balance of Royalty Due	$ -0-

As of April 10, 1964, the royalty account of this project was found to be:

Total Royalty Payable	$18,546.55
Total Royalty Paid	17,862.23
Balance of Royalty Due	$ 684.32

C. E. Fisher, OME Auditor

April 29, 1964

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

ROYALTY AUDIT REPORT

I. INTRODUCTION

On April 10, 1964, an audit was made of the production, sales, and royalty accounts and records of

American Smelting and Refining Company
Western Mining Department
415 Crandall Building
Salt Lake City, Utah

pertaining to the value of lead and zinc concentrates produced and sold during the period August 14, 1962, through April 10, 1964, from property referred to as Keystone Mine located in Gunnison County, Colorado, on which royalty is payable to the U. S. Government under the terms of Contract Idm-E903, Docket DMEA-3866 (lead-zinc-copper), dated December 5, 1955, as amended.

The audit was performed in the above referred to office where the necessary records were made available for my use by Mr. J. F. Frost, manager.

II. GENERAL INFORMATION

This exploration contract was executed by American Smelting and Refining Company (hereinafter referred to as "Operator") on its own behalf and as agent for Park City Consolidated Mines Company. At the time the contract was executed the Operator owned an undivided 60 percent interest and Park City Consolidated Mines Company owned an undivided 40 percent interest in all or part of 3 patented claims (Berrien, Furniture Boy, and Union) and 11 unpatented claims (Park City Nos. 1, 7, 9, 10, 11, 15, 16, 17, 27, 29, and 32) located in sec. 31, T. 13 S., R. 86 W., 6th P.M., Elk Mountain and Ruby Mining Districts. These claims, specifically including known ore reserves in blocks numbers 1 through 8 on the Union vein, are subject to the royalty provisions of the contract.

Article 7 and Amendment No. 2 of the contract provide that, if the Government shall certify that a discovery or development resulted from the exploration work, the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on all minerals mined or produced from the land described in the contract within a period of 13 years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. A certification of discovery or development was issued on April 24, 1959.

A Report of Review dated March 10, 1959, found the accepted exploration costs to be $79,445.00 with the Government's contribution on a 50 percent basis being $39,722.50.

Amendment No. 1, effective as of the date of the contract, added the following provision to Article 7:

> "**Provided, however,** That so long as the Operator operates smelting facilities as an integrated part of its business, the settlement made by the Operator's smelter to its mine or mill on the ore or concentrates subject to the Government's royalty shall be, for the purpose of calculating the royalty payable to the Government under this contract, on the same settlement basis that the said smelter makes to its independent suppliers under the schedule most favorable to any independent supplier, or should gross income from mining operations for percentage depletion purposes in Federal income tax determination show a greater value for ore or concentrate sales than that which would result from applying the smelter schedule most favorable to an independent supplier, the greater value would be used as the basis for calculating royalty payable to the Government."

Royalty was paid by the Operator on the value of its production from the subordinated land on the basis provided by Amendment No. 1 from the date of the contract through July 1957 when such operations were suspended. The operations and royalty settlements are set forth in Reports of Royalty Review dated February 18, 1959, and August 15, 1962, covering the period December 5, 1955, through August 13, 1962. The present report extends the period covered by audit through March 31, 1964, including royalty remittances made to April 10, 1964.

Operation of the property was resumed in 1963. As of April 1, 1963, a 10-year Mining Lease was entered into between the Operator and F. G. McFarland and S. R. Hullinger, d/b/a McFarland & Hullinger, a partnership, 915 North Main, Tooele, Utah. This lease specifically states that it is subject to the DMEA royalty lien under the exploration contract and that the royalty payments to the Government will be made by the Operator based on data furnished by the lessees. The lease further provides that lead concentrates produced from the property shall be shipped to the El Paso, Texas, plant of the Operator and the zinc concentrates shall be shipped to the Amarillo, Texas, plant of the Operator. The land covered by the Mining Lease includes substantially more claims than those included in the exploration contract. The lessees' production on which the

Government is due royalty is commingled with such other production before milling.

Article 4(b) of the Mining Lease contains the following provision relating to royalty payable by the lessees to the Operator:

> "(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." (Emphasis added.)

III. SCOPE OF AUDIT AND FINDINGS

A considerable amount of preaudit work was accomplished in the OME Washington, D. C., office prior to the site audit. During this preaudit work a statement of royalty received was prepared from copies of monthly statements furnished by the Operator in support of royalty remittances made to the Acting Field Officer, OME Region III, Denver, Colorado. This statement, which is filed as a part of my audit work papers, was verified with deposits made by the Department's Fiscal Section and was reconciled with the Operator's records.

During the on-site audit copies of the smelter settlement statements issued by the Operator for shipments by McFarland & Hullinger were reviewed. Settlements were being made as contemplated by Article 4(b) of the Mining Lease, that is, in addition to the usual deductions for freight, sampling, umpire, and kindred charges, a deduction was made at the rate of $6.00 per SDT of concentrates before computing and withholding the 10 percent royalty due to the Operator.

McFarland & Hullinger supply the Operator with monthly statements showing total tonnage of ore concentrated, distributed by areas from which the ore was mined. From this source the tonnage of ore subject to DMEA royalty and that not so subject is determined. The number of SDT of lead concentrates and of zinc concentrates, as indicated by the smelter settlements for the month, is then divided

by the total tonnage of ore that was concentrated during the month to produce percentage recovery factors for lead and zinc concentrates.

These percentages are then applied to the total wet tons of ore recovered from the DMEA areas to produce the number of tons of lead concentrates and zinc concentrates subject to Government royalty. The tonnage thus determined as subject to Government royalty is then multiplied by the average value per ton of lead and zinc concentrates from all shipments during the month. Royalty has been computed and paid on the values so established.

It is believed that this method of computing the royalty payable to the Government is not unfavorable to the Government and is acceptable, except for the allowance of $6.00 per dry ton of concentrates for transportation from the mill to the railhead. The exploration contract provides that only such freight as is "paid by the buyer to a carrier (not the Operator)" shall be an allowable deduction in computing the amount of royalty payable to the Government. The contract further provides that any costs of transportation performed by the Operator or "by anyone other than the buyer" are not deductible.

During the period covered by this audit a total of 1,029.14 SDT of lead concentrates and 1,251.13 SDT of zinc concentrates were determined to be applicable to production from the subordinated area. Elimination of the improper deduction of $6.00 per ton increases the value of production on which the Government is entitled to royalty by $13,686.42. Additional royalty thus due to the Government amounts to $684.32.

IV. CONCLUSION

A brief summary of the production, sales, and royalty payable and paid during the period covered by this audit and since December 5, 1955, follows:

	This Period	Since Dec. 5, 1955
Lead Concentrates:		
SDT	1,029.94	1,613.94
Reported value	$158,150.72	$267,738.30
Add deduction of $6.00 SDT disallowed	6,179.64	6,179.64
	$164,330.36	$273,917.94

	This Period	Since Dec. 5, 1955
Zinc Concentrates:		
SDT	1,251.13	2,269.04
Reported value	$ 44,257.98	$ 89,506.27
Add deduction of $6.00 SDT disallowed	7,506.78	7,506.78
	$ 51,764.76	$ 97,013.05
Total value subject to royalty	$216,095.12	$370,930.99
Royalty Payable	$ 10,804.76	$ 18,546.55
Royalty Paid	10,120.44	17,862.23
Balance of Royalty Due	$ 684.32	$ 684.32

This audit has determined that all production of concentrates through March 31, 1964, on which royalty is payable to the Government, has been accounted for and, with the exception stated above, proper royalty has been paid. Royalty on March production was remitted to the OME Region III office on April 8, 1964.

C. E. Fisher

C. E. Fisher, OME Auditor

April 29, 1964

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Washington office pertaining to Contract Idm-E905, Docket DMEA-3866 (lead-zinc-copper), dated December 5, 1955, with

American Smelting and Refining Company
120 Broadway
New York 5, New York
on its own behalf and as agent for
Park City Consolidated Mines Company
39 Broadway
New York 6, New York

for the purpose of determining the amount of royalty payable to the U. S. Government on sales of minerals from property referred to as the Keystone Mine located in Gunnison County, Colorado, during the period February 11, 1959, through August 13, 1962.

A certification of discovery or development was issued on April 24, 1959, and, in accordance with Article 7 and Amendment No. 2 of the contract, royalty is payable on all minerals produced from the land described in Article 2 of the contract for a period of 13 years from the date of the contract or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first. A Report of Review dated March 10, 1959, indicated accepted costs under the exploration contract amounting to $79,4450.00 with the Government's contribution on a 50 percent basis being $39,722.50.

The status of the project, the scope of review, and the reasons therefor are stated on page 2.

This review established no sales subject to the Government's royalty subsequent to the period covered by a prior Report of Royalty Review which found the sales subject to the Government's royalty through February 10, 1959, to be $154,835.47. The royalty account as of February 10, 1959, was:

Total Royalty Payable	$7,741.79
Total Royalty Paid	7,741.79
Balance of Royalty Due	$ -0-

As of August 13, 1962, the royalty account of this project was found to be:

Total Royalty Payable	$7,741.79
Total Royalty Paid	7,741.79
Balance of Royalty Due	$ -0-

E. D. Talbert

August 15, 1962

E. D. Talbert, OME Auditor

Idm-5905 American Smelting and Refining Company DMEA-3866

STATUS OF PROJECT, SCOPE OF REVIEW
AND REASONS THEREFOR

This contract provides that the Operator, as principal if the producer or as surety if not the producer, shall pay to the Government a percentage royalty on any minerals produced from the land thereunder. The land consists of all or a part of 3 patented claims (Barrian, Furniture Boy, and Union) and 11 unpatented claims (Park City Nos. 1, 7, 9, 10, 11, 15, 16, 17, 27, 29, and 32) located mainly in sec. 31, T. 13 S., R. 86 W., 6th P. M., Elk Mountain mining district, and specifically includes known ore reserves on the Union vein. At the time the contract was executed the American Smelting and Refining Company owned an undivided 60 percent interest and the Park City Consolidated Mines Company owned an undivided 40 percent interest in the claims.

Exploration work under the contract was terminated effective April 23, 1958, by agreement on January 23, 1959. During the exploration work 9,712 tons of crude ore were mined from the property. The 583.975 tons of lead concentrates and 1,017.912 tons of zinc concentrates recovered from that ore were calculated, in accordance with Amendment No. 1 to the contract, to have a value of $154,835.47. Amendment No. 1 provides that, so long as the Operator operates smelting facilities as an integrated part of its business, calculations for royalty purposes shall be on the same settlement basis that its smelter uses under the schedule most favorable to any independent supplier.

The production during the exploration period is covered by a prior Report of Royalty Review. An inquiry by the OME Field Officer disclosed no further production through February 3, 1960, from the property under the contract. In an August 13, 1962, reply to a MME Form 63 inquiry, the Operator stated that neither change in property status nor production had occurred since February 3, 1960.

This review was made in lieu of an on-site audit of the Operator's accounts and records for the following reasons:

(1) The files indicate that all production from the property under the contract has been reported and proper royalty thereon paid; and
(2) The administrative cost to the Government of an on-site royalty audit at this time would be excessive in relation to the amount of possible additional royalty which might be disclosed.

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
4/22	Klugescheid	500
		500
	Gerson	140
	App'd. Sol. Off.	140
4/24	Talbot	800
4/29	Martin	130
		130
4/29	Kiilsgaard	130
		~~110~~
		~~100~~
		HB
		220
		500
4/24	Josephson	130

CERTIFICATION BY THE UNITED STATES OF AMERICA
OF A DISCOVERY OR DEVELOPMENT UNDER
AN EXPLORATION PROJECT CONTRACT

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

Pursuant to the provisions of Exploration Project Contract No. Idm-E903, dated December 5, 1955, Docket No. DMEA-3866, hereinafter called the "contract", between the American Smelting and Refining Company, a corporation, and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien thereon and on the land described in the contract, the Government considers and therefore certifies that discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows: Drifting westerly along the Union Extension vein on the 2160 level, and the 2000 level and also raising from the 2160 to the 2000 level has proved the existence of lead-zinc-copper ores with silver content. Such ores occur in steeply dipping fissure veins that cut thick-bedded sandstone and shale of the Cretaceous Mesa Verde formation.

Date APR 24 1959

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

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Director, Office of
Minerals Exploration

43683

EXTRA
O. M. E.
RECEIVED FEB 20 1959
DATE | INITIALS | CODE

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF ROYALTY REVIEW

I have reviewed the files of the Executive Officer, ~~OME Field~~ Team, Region III, Denver, Colorado, pertaining to Contract Im-E903, Docket No. IMEA-3866 (Lead, Zinc and Copper) dated December 5, 1955, including Amendments Nos. 1 and 2, with

American Smelting and Refining Company
120 Broadway
New York 5, New York

for the purpose of determining the amount of royalties due the United States Government on the sale of lead and zinc concentrates produced from ore from the subordinated sections of the Keystone Mine located in Gunnison County, Colorado, during the period December 5, 1955 through February 10, 1959.

The status of the project, scope of this review and reasons therefor are stated on Page 2.

My review established the net smelter value of sales of concentrates for this period to be $154,835.87. (See Schedule No. I, attached.) Royalty due the U. S. Government at the contract rate of 5 percent is $7,741.79. The royalty paid and the balance due are as follows:

Total royalty due	$7,741.79
Total royalty paid	7,741.79
Balance of royalty due	$ 0.00

Donald T. Finch
Donald T. Finch
OME Auditor

February 18, 1959

STATUS OF PROJECT, DESCRIPTION OF REVIEW
AND REASONS THEREFOR

CONTRACT NO. Idm-E903 DOCKET NO. DMEA 3866

The exploration work under the contract is in the process of being completed. Approved final costs are not available at present. A tentative review indicates total costs of $79,445.00, with Government participation on a 50 percent basis being $39,722.50. Pending completion of the work, no Certificate of Discovery or Development has been issued. According to the terms of the contract royalty is payable on all minerals mined or produced from the land described in Annex I, Article 2 of the contract, from the date of the contract until the lapse of time within which the Government may issue a Certificate of Discovery or Development. (Viz. within six months from the date the Operator has rendered a sufficient final report and final account,) or the net amount contributed by the Government without interest is fully repaid, whichever occurs first. Amendment No. 1 to the Exploration Contract authorized the Operator to account for production for royalty purposes on the same basis its smelter settles with its independent suppliers, using the schedule most favorable to any independent supplier.

My review included a tabulation and recomputation of all the following monthly reports on file with the Executive Officer of the OME Field Team, and which are for lots D-1 through D-15, covering the months of February, 1956 through July, 1957:

(a) Operator's summary calculation of royalty
(b) Metallurgical and financial summary
(c) Ore and concentrate liquidation sheet
(d) Summary of DMEA production

In addition, I computed summary totals of metal content of concentrates subject to royalty which are shown in Schedule No. 1, attached.

Royalty receipts were reconciled with the records of the OME Finance Office, Denver, Colorado. Smelter schedule used by the Operator was compared with similar schedules used by Operator in this area during the period. The smelter schedule used appeared to be as favorable as any in use.

A conference with the examining engineer disclosed that there has been no production from the property subject to royalty since July, 1957. The concentrator serving the property has been closed down since that time. The Engineer advised me there is approximately 800 tons of broken ore stored in place at the mine that will be subject to royalty when operations are resumed.

The review was made in lieu of an on-site audit of the producer's accounts and records for the following reasons:

(1) Operator's reports of production and royalty due were adequately documented.

(2) The examining engineer is of the opinion that all sales of production have been properly accounted for.

(3) The administrative cost to the Government of an on-site audit at this time would be excessive in relation to the amount of possible additional royalty which might be disclosed.

Schedule No. 1

AMERICAN SMELTING AND REFINING COMPANY

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

SUMMARY OR PRODUCTION SUBJECT TO ROYALTY
PERIOD DECEMBER 5, 1955 THROUGH FEBRUARY 10, 1959

	Lead Concentrates	Zinc Concentrates	Totals
Gross Production			
Tons of concentrates	583.975	1,017.912	
Ounces of silver content	36,181.08	3,556.62	39,737.70
Ounces of silver paid for	34,372.25	2,845.70	37,217.95
Amount of silver payment	$31,330.55	$ 2,591.54	$ 33,922.09
Lead content, pounds	549,003.63		549,003.63
Lead paid for, pounds	494,102.56		494,102.56
Amount of lead payment	$ 65,653.47		$ 65,653.47
Zinc content, pounds		1,036,950.20	1,036,950.20
Zinc paid for, pounds		865,529.28	865,529.28
Zinc payment		$105,334.23	$105,334.23
Copper Content, pounds	81,540.83	17,035.90	98,576.73
Copper paid for, pounds	81,540.83	11,073.32	92,614.15
Copper payment	$ 22,617.83	$ 3,198.94	$ 25,816.77
Gross Value	$119,601.85	$111,124.71	$230,726.56
Allowable Deductions			
Smelter Treatment, Base charges	$ 4,671.80	$ 38,171.71	$ 42,843.51
Lead assay adjustment	117.06		117.06
Smelter adjustment		6,063.40	6,063.40
Iron, Manganese adjustment		2,123.70	2,123.70
Labor adjustment	1,176.12	4,578.83	5,754.95
Freight	6,080.58	14,938.78	21,019.36
Special lead payment	2,031.29		2,031.29
Total Allowable Deductions	$ 10,014.27	$ 65,876.42	$ 75,890.69
Net Smelter Value, Subject to Royalty	$109,587.58	$ 45,248.29	$154,835.87
Average Net Value Per Ton	$ 187.66	$ 44.45	
Royalty Percentage	5%	5%	
Total Royalties Due	$ 5,479.38	$ 2,262.41	$ 7,741.79
Total Royalties Received	5,479.38	2,262.41	7,741.79
Balance of Royalties Due	$ 0.00	$ 0.00	$ 0.00

The last liquidation report in above data is Lot D-15 for month of July, 1957.

The last Certificate of Deposit in above data is No. 58-14 dated August 7, 1957.

CHECK SHEET OF EXAMINING ENGINEER

Operator's Name **American Smelting and Refining Company**

Address **120 Broadway**

New York 5, New York

Exploration Contract No. Idm-E **903** Docket No. DMEA **3866**

Keystone Mine Crested Butte
Gunnison County, Colorado

	Check One: Yes	Check One: No
1. (a) Does the Operator stockpile ore subject to royalty repayment?	x	
(b) If so, is segregation and identification procedure adequate?	x	
2. (a) Does Operator commingle production subject to DMEA royalties with exempt production?	x	
(b) If so, do you consider the allocation of the commingled production equitable?	x	
3. (a) Does the Operator stockpile mine or mill rejects (low grade ore, tailing, middlings, etc.) that may have potential value within the royalty payment period?	x	
(b) If so, are adequate records maintained on such material to protect the Government's interest?	x	
4. Do you consider the assay controls in effect are adequate?	x	
5. Do you consider that the manner of disposing of production gives the Government its fair royalty returns?	x	
6. Do your periodic examinations of operations indicate the Operator is properly reporting his production of ores subject to DMEA royalties?	x	
7. Does the Operator buy from or sell to other Operators?		x
8. Comment on any item 2(b) to 6, if answer is No.		

Date **Feb. 10, 1959**

Edward W. Buel
Mining Engineer
Edward W. Buel

MAR 11 1959
O.M.E.

Government's Copy

Ryan
Sawyer
Asst. Col. Atty.
Klugscheid
Hamilton
Brown
Selfridge

TERMINATION AGREEMENT

It is agreed this 23d day of January, 1959, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, hereinafter called the "Government", and American Smelting and Refining Company, hereinafter called the "Operator", parties to that certain Exploration Project Contract No. Idm-E903, Docket No. DMEA-3866, dated December 5, 1955, as amended, hereinafter called the "Contract", that:

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.

2. The Government shall not contribute to any fixed unit costs of work performed after April 22, 1958.

3. 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.

4. 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.

5. 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 Termination Agreement.

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

THE UNITED STATES OF AMERICA

By Frank P. Johnson
ACTING Director, Office of Minerals Exploration

AMERICAN SMELTING AND REFINING COMPANY

By [signature]

Title Vice President

Dong.

OFFICE OF MINERALS EXPLORATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

MAR 13 1959
O.M.E.

REPORT OF REVIEW

I have reviewed the Monthly Reports of:

American Smelting and Refining Company
120 Broadway
New York 5, New York

pertaining to Exploration Project Contract No. Ism-8903, EMSA No. 3866, including Amendments Nos. 1 and 2, and Termination Agreement dated January 23, 1959, for the period December 5, 1955 to April 22, 1958, inclusive, covering a project for the exploration of Lead-Zinc-Copper on property known as Keystone Mine located in Gunnison County, Colorado.

My review included an examination of the Monthly Reports (Form MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, verification of work performed by reference to Field Team reports and correspondence, and a determination of the reasonableness and propriety of the costs.

This review was made in lieu of a final audit of the Operator's accounts and records for the following reason:

> All of the costs incurred were under a contract provision for payment by the Government on the basis of fixed unit costs of work actually performed.

The review disclosed the following facts in regard to the amount paid or to be paid the contractor:

Total cost as billed by Contractor		$79,445.00
Exceptions:		
Prior to this review	$0.00	
Less: Reinstatement by review	0.00	
Herewith	0.00	0.00
Total Accepted Cost		$79,445.00

The contract calls for a 50 percent participation of exploration expenses by the United States Government. Therefore, payment to the Contractor by the Government in the amount of Thirty Nine Thousand, Seven Hundred Twenty-two and 50/100ths Dollars is valid and proper, provided that the Regional Executive Officer, the Director, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

Amount payable to Operator	$39,722.50
Amount reimbursed	39,222.50
Balance due Operator	$ 500.00

Donald T. Finch

March 10, 1959

Donald T. Finch
OME Auditor

Government's copy

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O. M. E.
RECEIVED DEC 22 1958
DATE | INITIALS

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

AMENDMENT NO. 3

It is agreed this 26th day of September, 1958, between the United States of America, acting through the Department of the Interior, Office of Minerals Exploration, 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.

(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 _____
ACTING Director, Office of Minerals Exploration

AMERICAN SMELTING AND REFINING COMPANY

By _____

Title _____

Government's Copy

Potter
Kenyon
Hugenberg
Williams
Chambers
Martin
Johnson

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

AMENDMENT NO. 2

It is agreed this 13th day of November, 1957, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and American Smelting & 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 date for completion of the work is extended from "December 1, 1957" to "December 1, 1958".

2. In Article 7 of the Contract the period "13 years" is substituted for the period "10 years".

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, nor the fixed unit cost of any item of work.

Executed in quintuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By [signature]
Administrator, Defense Minerals
Exploration Administration

AMERICAN SMELTING & REFINING COMPANY

By [signature]

Title Vice President

CENTRAL FILE COPY
DMEA
RECEIVED DEC 16 1957

DATE	INITIALS	CODE

Docket copy

"Appd. Sol. Off."

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

AMENDMENT NO. 1

It is agreed this 30th day of April, 1956, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and American Smelting & Refining Company that Exploration Project Contract No. Idm-2903 (Docket No. DMEA-3866), dated December 5, 1955, is amended, effective December 5, 1955, as follows:

The following provision is added at the end of Article 7(a) of the contract:

> "Provided, however, That so long as the Operator operates smelting facilities as an integrated part of its business, the settlement made by the Operator's smelter to its mine or mill on the ore or concentrates subject to the Government's royalty shall be, for the purpose of calculating the royalty payable to the Government under this contract, on the same settlement basis that the said smelter makes to its independent suppliers under the schedule most favorable to any independent supplier, or should gross income from mining operations for percentage depletion purposes in Federal income tax determination show a greater value for ore or concentrate sales than that which would result from applying the smelter schedule most favorable to an independent supplier, the greater value would be used as the basis for calculating royalty payable to the Government."

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, nor the fixed unit cost of any item of work.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By C. D. Mitchenor
Administrator, Defense Minerals Exploration Administration

AMERICAN SMELTING & REFINING COMPANY

By [signature]

Title Vice President

Docket copy

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MF-200A
(Revised June 1954)

Docket No. DMEA 3866

Commodity Lead, Zinc, Copper

Contract No. Idm-E 903

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
EXPLORATION PROJECT CONTRACT[1]
(Short Form)

It is agreed this DEC 5 1955 day of ....., 195...., between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and [2] The American Smelting and Refining Company, a corporation organized and existing under and by virtue of the laws of the State of New Jersey, on its own behalf, and as Agent for Park City Consolidated Mines Company, a corporation organized and existing under and by virtue of the laws of the State of Utah, whose mailing address is American Smelting and Refining Company, Mining Department 120 Broadway, New York 5, N. Y., hereinafter called the "Operator," as follows:

ARTICLE 1. *This contract* is entered into under the authority of the Defense Production Act of 1950, as amended. It consists of this form (MF-200A), the attached Exhibit "A," Annex I, and maps.

The Operator shall not transfer or assign this contract or any right thereunder without the written consent of the Government.

ARTICLE 2. *Operator's property rights.*—(a) The land which is the subject of this contract (hereinafter called "the land") is in the State of Colorado, County of Gunnison, and is described in Annex I.[3]

(b) The Operator represents and undertakes that:

(1) The Operator is the [4] See Annex I of [5] ..... in the land, in possession and entitled to possession for all of the purposes of this contract, under and by virtue of a [6] ——, [7] ..... recorded in Book ——, page ——, official records of said County; and

(2) The Operator's right, title, or interest (whether as owner, lessee, or otherwise) is subject only to the following claims, liens, or encumbrances: None

(c) The Subordination Agreement of the holder of any claim, lien, or encumbrance listed above, and (if the Operator does not hold the legal title) the Consent to Lien of any holder of the legal title of the land (lessor, seller, optionor, etc.), are attached, as follows: waived.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] Insert name, and if an organization, its nature (corporation and place of incorporation, partnership with names of partners, etc.).
[3] State on a separate sheet marked "Annex I" the legal description or enough to identify the property, particularly excluding any areas from which the production is not to be subject to the Government's percentage royalty.
[4] Insert "owner," "lessee," "contract purchaser," "locator," etc.
[5] Insert "the entire interest," "the mineral rights," "an undivided one-third," etc.
[6] Insert "deed," "lease," "contract," "location notice," "patent," etc.
[7] If not recorded, so indicate by inserting "un."

(d) The Operator shall preserve and maintain his right, title, and interest in the land and his right to the possession thereof for the purposes of this contract, and shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of this contract. Until the lapse of the time within which the Government may make a certification of discovery or development without any such certification having been made, and after any such certification has been made, the Operator shall neither transfer, convey, nor surrender the land nor any right, title, or interest therein, nor permit nor suffer any claim, lien, or encumbrance thereon, without expressly referring to and providing in the instrument of conveyance, lien, or encumbrance for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof. If the Government makes no certification of discovery or development within the time limited in Article 7, it shall thereafter have no claim against the land or any production therefrom except for any production referred to in Article 7(b)(1).

ARTICLE 3. *The exploration project.*—The project is a search for indicated or undeveloped deposits of lead, zinc, and copper. The work to be performed is described in Exhibit "A." The Operator on or before February 1, 1956 shall commence the work, and on or before December 1, 1957 (unless the Operator's obligation to complete the work is terminated—see Article 8) shall complete the work.

ARTICLE 4. *Performance of the work.*—(a) *Operator's responsibility.*—The work shall be performed with reasonable diligence, efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for liability insurance covering employment; and with suitable and adequate equipment, facilities, materials, supplies, and labor, to bring it to completion within the time fixed.

(b) *Government may inspect.*—The Operator shall consult with and inform the Government on all phases of the work as it progresses. The Government may enter at all reasonable times to inspect the work under the contract, and also after a certification of discovery or development to inspect production operations and underground workings. The operator shall provide the Government with all reasonable means of access for such inspections.

ARTICLE 5. *Contribution by the Government.*—A fixed cost for each unit of work to be performed (per foot of drifting, per foot of drilling, per hour of operations, etc.) is hereby agreed upon, and is set forth in Exhibit "A" in connection with the estimated total cost of the project in the sum of $107,220.00 The Government will contribute 50 percent of the fixed unit costs as work is performed, in a total sum not in excess of $53,610.00: *Provided,* That until the Operator has rendered to the Government his final report, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of 10 percent of the estimated total cost of the work. The Government will make its contribution on the basis of the monthly vouchers referred to in Article 6(b), but all payments by the Government are provisional only, subject to audit, until the account between the Operator and the Government is finally audited and settled. To the extent that excesses over fixed unit costs or any excess over the estimated total cost may be necessary for the performance of the work, the Operator shall incur and pay such excesses for his own account without contribution by the Government. The Government may make payments directly to independent contractors and suppliers for the account of the Operator rather than to the Operator.

ARTICLE 6. *Reports, accounts, audits.*—(a) *Operator's records.*—The Operator shall keep suitable records and accounts of the units of work performed and of any production in which the Government may have an interest; and shall preserve those with respect to work performed for at least three years after final payment by the Government, and those with respect to production for at least three years after any obligation to pay royalties to the Government has terminated. The Government may inspect and audit said records and accounts at any time, either by itself or by a certified public accountant. The Comptroller General of the United States or his representative, until the expiration of said three-year periods, shall have access to and the right to examine any pertinent books, documents, papers, and records of the Operator. All of the Operator's vouchers and records and accounts relating thereto and the Government's payments thereof remain subject to adjustment until final audit by the Government.

(b) *Progress reports and vouchers.*—The Operator shall provide the Government with five copies of monthly progress reports in three sections as follows: (1) Operator's Monthly Report and Voucher showing a detailed statement of units of work performed during the reporting period; (2) Operator's Unit Cost and Progress Report showing the various types of work performed during the reporting period and the fixed unit costs incurred for each type of work; and (3) a Narrative Report of the work

performed during the reporting period including adequate engineering-geological maps or sketches, drill hole logs and locations, and assay reports on samples taken concurrently with advance in mineralized ground. (Forms for reporting under (1) and (2) above will be provided by the Government.)

(c) *Final report.*—Upon completion of the work or termination of the Government's obligation to contribute to costs, the Operator shall furnish the Government with five copies of a final report (in addition to the final progress report and voucher). This final report shall include a geological and engineering evaluation of the results of the work performed under the contract with an estimate of the ore reserves resulting from such work, complete assay data, adequate geological and engineering maps or sketches, and a summary of the work performed and the unit costs thereof.

(d) *Report of sales.*—The Operator shall provide the Government with suitable accounting and documentary evidence covering all production to which the Government's percentage royalty relates, such as copies of smelter or concentrator settlement sheets, and certified accounts of production and sale or other disposition of production.

(e) *Compliance with requirements.*—If in the opinion of the Government any of the Operator's reports, records, or accounts are insufficient or incomplete, or if the Operator fails to make them, the Government may procure the making or completion of such with suitable attachments as an expense of the work to which the Operator shall contribute. The Government may withhold approval and payment of any vouchers relating to insufficient or incomplete reports, records or accounts.

ARTICLE 7. *Repayment by Operator.*—(a) *Certification.*—If the Government considers that a discovery or development from which production may be made has resulted from the work, the Government, at any time not later than six months after a sufficient final report and final account (see Article 6) has been rendered, may so certify in writing to the Operator. Such certification shall describe broadly or indicate the nature of the discovery or development.

(b) *Royalty on production.*—The Operator, as principal if the Operator is the producer, or as surety if the Operator is not the producer, shall pay to the Government a royalty on all minerals mined or produced from the land, as follows: (1) regardless of any certification of discovery or development, from the date of the contract until the lapse of the time within which the Government may make such certification, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first; or (2) if the Government makes a certification of discovery or development, within a period of ten years from the date of the contract, or until the total net amount contributed by the Government without interest is fully repaid, whichever occurs first.

(c) *Basis for computation.*—The Government's royalty shall be a percentage of the gross proceeds (including any bonuses, premiums, allowances, or other benefits) from the production sold, in the form sold (ore, concentrates, metal, or equivalent), at the point of delivery (the f. o. b. point); *except,* that charges of *the buyer* arising in the regular course of business, and shown as deductions on the buyer's settlement sheets, on account of the cost of treatment processes performed by *the buyer,* sampling and assaying to determine the value of the production sold, and freight paid by *the buyer* to a carrier (not the Operator), shall be allowed as deductions in arriving at the "gross proceeds" as that term is used herein. Any costs of treatment processes, sampling or assaying, or transportation, performed or paid by the Operator or by anyone other than the buyer, are not deductible in arriving at the "gross proceeds" as that term is here used. The term "treatment processes," as here used, means those processes (such as milling, concentrating, smelting, refining, or equivalent) applied to the crude ore or other production after it is extracted from the ground, to put it into a commercially marketable form; excluding fabricating or manufacturing.

(d) *Unsold production.*—If any production (ore, concentrates, metal, or equivalent), after the lapse of six months from the date the ore was extracted from the ground, remains neither sold nor used by the Operator in integrated manufacturing or fabricating operations (for instance, if it is stockpiled), the Government, at its option, as long as it so remains, may require the computation and payment of its royalty on the value of such production in the form (ore, concentrates, metal, or equivalent) it is in when the Government elects to require computation and payment. If any production is used by the Operator in integrated manufacturing or fabricating operations before the Government makes its election, the Government's royalty on such production shall be computed on the value thereof in the form in which and at the time when it is so used. "Value" as here used means what is or would be gross income from mining operations for percentage depletion purposes in Federal income tax determination, or the market value, whichever is greater.

(e) *Percentages of royalty.*—The percentages of the Government's royalty shall be as follows:

One and one-half (1½) percent of amounts ("gross proceeds" or "value") not in excess of eight dollars ($8.00) per ton of production in the form in which sold, held, or used, plus one-half (½) percent for each additional full fifty cents ($0.50) by which such amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such amounts.

(For instance: the royalty on an amount of five dollars ($5.00) per ton would be one and one-half (1½) percent; on an amount of ten dollars ($10.00) per ton, three and one-half (3½) percent.)

(f) *Time for computation and payment.*—The Government's royalty shall be computed and paid currently upon each lot sold, held, or used in integrated operations, as the case may be, as above provided in this article.

(g) *Lien for payment.*—To secure the payment of its percentage royalty, there is hereby granted to the Government a lien upon the land or the Operator's interest in the land and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(h) *Notice to purchasers.*—The Operator shall give notice of the Government's claim for royalty to any purchaser of the production, and shall authorize and direct such purchaser to pay the royalty directly to the Government and to furnish the Government with copies of the settlement sheets. If the records of any production and sales or other disposition of production, whether the production is by the Operator or by others, are not made available to the Government, the amount of the royalty may be estimated by the Administrator, Defense Minerals Exploration Administration, or his successor, and his estimate thereof shall be final and binding upon the Operator.

(i) *No obligation to produce.*—Nothing in this contract is to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any production operations.

(j) *Government not obligated to buy.*—Nothing in this contract shall be construed as imposing any obligation on the Government to purchase any minerals mined or produced from the land.

ARTICLE 8. *Termination of the Government's obligations.*—(a) If in the opinion of the Government operations at any time have failed to achieve anticipated results that indicate the probability of making a worthwhile discovery, and in the opinion of the Government further operations are not justified, the Government may give the Operator written notice thereof, and thereupon the Government shall be free of all obligation to pay on account of units of work not then performed, and the Operator shall be free of all further obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting.

(b) If in the opinion of the Government the Operator is in any manner in default under the terms of the contract, the Government may give the Operator written notice of such default with a specification of reasonable time within which the default must be cured; and if the Operator fails to cure such default as required, thereupon the Government shall be relieved of all obligation to pay on account of units of work not performed when the notice was given, and the Operator shall be free of all obligation to prosecute the work other than such as may be necessary and incidental to winding up, reporting, and accounting. The remedy provided for the Government in this paragraph "(b)" is in addition to any other remedy provided in this contract, and in addition to any other remedy the law may provide for breach of contract.

(c) The giving of any notice by the Government under the provisions of this Article 8 shall not affect the Government's rights as provided for in the contract with respect to a percentage royalty, and such rights shall be fully preserved.

ARTICLE 9. *Notices to be given by the Government* may be delivered to the Operator, or may be sent by registered mail addressed to the Operator at his mailing address stated in this contract. If mailed, notices are deemed to have been delivered five days after the date of mailing.

ARTICLE 10. *Officials not to benefit.*—No member of or delegate to Congress or resident commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this contract if made with a corporation for its general benefit.

ARTICLE 11. *Changes and added provisions.*—

Executed in sextuplicate the day and year first above written.

AMERICAN SMELTING AND REFINING COMPANY
on its own behalf (Operator)
and as agent for Park City Consolidated
Mines Company

By R. F. Goodwin
Vice President

THE UNITED STATES OF AMERICA

By O. Mitkendorf
Administrator, Defense Mineral
Exploration Administration

Indrity 12/2/55
Designee
"Appd. Sol. Off."
Holt
Martin
H. Johnson
Jackson

I, Harold Horne, certify that I am the secretary of the corporation named as Operator herein; that R. F. Goodwin who signed this contract on behalf of the Operator, was then a Vice President of said corporation; that said contract was duly signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

Harold Horne

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—70618-1

EXPLORATION PROJECT CONTRACT
AMERICAN SMELTING & REFINING COMPANY
DOCKET NO. RMRA-3866

ANNEX I

The land referred to in Article 2 of the contract consists of patented and unpatented lode mining claims situate in Elk Mountain and Ruby mining Districts, Gunnison County, Colorado, described as follows:

(a) Unpatented lode mining claims, certificates of location of which are recorded in the office of the Clerk and Recorder of Gunnison County as follows:

Name	Book	Page
Park City No. 1 (Approximate N.W.¼ only)	255	513
Park City No. 7	255	516
Park City No. 9	255	517
Park City No. 10	255	518
Park City No. 11	255	518
Park City No. 15	255	520
Park City No. 16	255	521
Park City No. 17	255	521
Park City No. 27* *(All that fraction in the N.W. portion thereof lying west of the Berrien claim)	255	526
Park City No. 29	255	527
Park City No. 32	255	529

(b) Patented lode mining claims:

Berrien U. S. Mineral Survey No. 3738

Furniture Boy, U. S. Mineral Survey No. 3739

Union, U. S. Mineral Survey No. 6523
(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.)

Above claims are outlined in red on the accompanying map, Figure 2.

The American Smelting and Refining Company owns an undivided 60-percent interest in the above mining claims. The remaining undivided 40-percent interest in the claims is owned by the Park City Consolidated Mines Company.

Known ore reserves in blocks Numbers 1, 2, 3, 4, 5, 6, 7, and 8 on the Union vein, as marked in blue on the accompanying map, Figure 6, are situated within the area to be explored by this project. Nevertheless, it is agreed that ore mined from the foregoing blocks during the period for the performance of the work under the contract, or subsequently if the project is certified as a discovery, is also subject to the payment of royalty to the Government under the terms of the contract.

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

EXHIBIT "A"

Description of the Work

The maps attached to and made a part of the contract are as follows:

Figure 2 - Map of the Keystone-Park City group of claims, Gunnison County, Colorado, showing boundaries of property that will be subject to the provisions of an exploration project contract, DMEA-3866.

Figure 5 - Plan of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration, DMEA-3866.

Figure 6 - Longitudinal section of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration, DMEA-3866.

The work shall consist of two stages, as set forth below. The Operator shall perform the work described in Stage I, and shall perform as much of the work described in Stage II as the Government approves in advance in writing.

Stage I

Extend the 2,160 adit level of the Keystone mine northwesterly as a drift along the Keystone or the Keystone-Union, or the Union vein for a total distance of 450 feet. It is expected that the Keystone vein will join the Union vein within 350 feet. Should the Keystone vein die out or not join the Union vein within 350 feet the remainder of the allotted footage of 450 feet may be expended in crosscutting for and drifting along the Union vein.

Raise 200 feet on the Union vein exposed by Stage I work; however, if exploration on the 2,160 level is approved in Stage II, the Government may at its option in writing authorize the Operator to raise from a point approximately below the face of the existing 2,000 level Union drift.

An estimated 10 percent of the drifts and crosscuts will require timbering. Drifts and crosscuts shall be not less than ~~6~~ 5 feet by 7 feet in the clear of timber, and raises shall be not less than ~~5 feet by 10 feet in rock section.~~ 4 feet by 8 feet in usable section. (Width of drift to be measured at center of posts if these are inclined).

CBM R.J.S.

Stage II

From either the face of the drift on the vein followed in Stage I or the face of the 2,000 level drift, whichever the results of Stage I exploration indicate to be more promising, drift northwesterly along the vein for a total distance of 2,000 feet. With the prior approval of the Government, crosscutting to pick up anticipated offsets in the vein may be substituted for an equivalent footage of the stipulated drifting.

From the same exploration drift along the vein, explore the foot and hanging walls of the vein by means of 2,000 feet of diamond drilling. (The location, length, bearing, and inclination of the drill holes shall be determined after all or part of the drifting has been completed and will require the prior approval of the Government.)

An estimated 10 percent of the drifts and crosscuts will require timbering. Drifts and crosscuts shall be not less than ~~6~~ 5 feet by 7 feet in the clear of timber. (Width measured at center of posts if these are inclined)

R.J.S.

Diamond drill holes shall be not less than AX size unless otherwise approved by the Government; cores shall be marked and properly stored for inspection, and if from mineralized zones shall be split and assayed for lead, zinc and copper. Holes shall be reamed and cased, or cemented and re-drilled, where necessary.

Estimated Cost of the Project

Fixed Unit Costs

Stage I

450 feet of drifting and/or crosscutting @ $35.00/ft.	$15,750.00
Timbering 1/ in drifts or crosscuts, 45 feet @ $6.00/ft.	270.00

200 feet of raising 2/ @ $39.00/ft.	$ 7,800.00	
Estimated Total Cost of Stage I		$ 23, 820.00

Stage II

1,000 feet of drifting and/or cross-cutting @ $35.00/ft.	70,000.00	
Timbering 1/ in drifts or crosscuts, 200 feet @ $6.00/ft.	1,200.00	
Diamond drilling, 2,000 feet @ $4.60/ft. 3/	9,200.00	
Reaming and casing, 200 feet @ $2.00/ft.	400.00	
Cementing and re-drilling, 200 feet @ $2.00/ft.	400.00	
Excavation of drilling stations, 10 stations @ $100.00/each	1,000.00	
Assaying, 400 samples assayed for lead, zinc and copper @ $3.00/sample	1,200.00	
Estimated Total Cost of Stage II		$ 83,400.00
Estimated Total Cost of the Project		$107,220.00
Estimated Total Government Participation @ 50%		$ 53,610.00

1/ Standard 8- by 8-inch framed drift sets on 5-foot centers. Any allowance for timber support not required under Stage I may be expended as needed under Stage II without prior approval of the Government.

2/ Unit price includes timbering with standard 2-compartment 8- by 8-inch framed raise sets.

3/ Unit price includes logging of cores by company engineer, and splitting and storage of recovered cores and sludges.

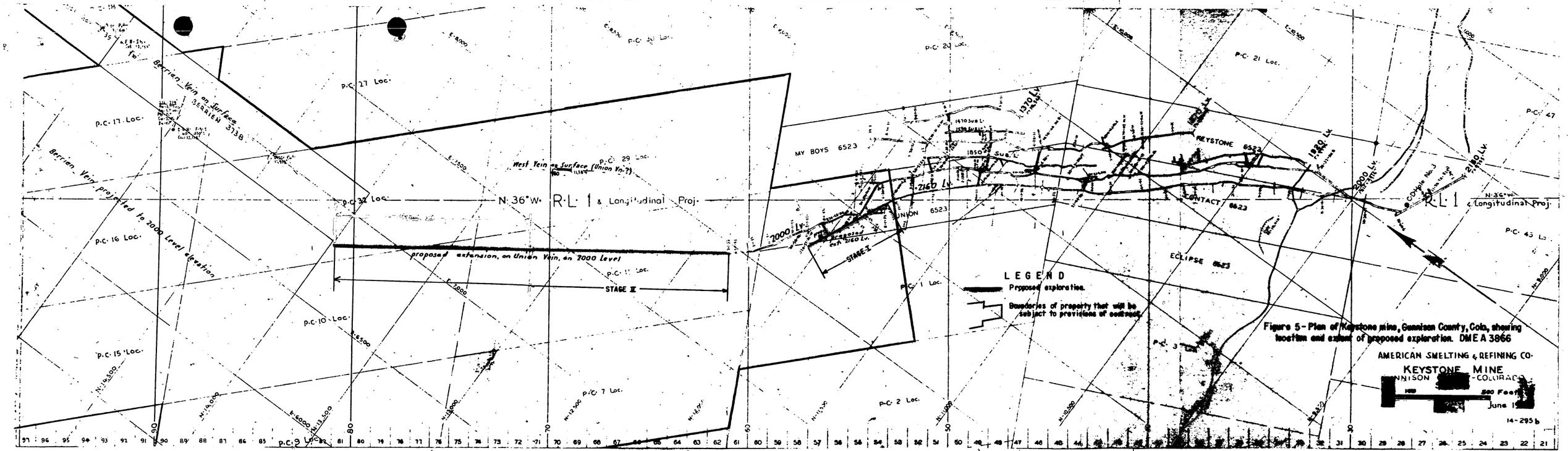


Figure 5 - Plan of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration. DME A 3866

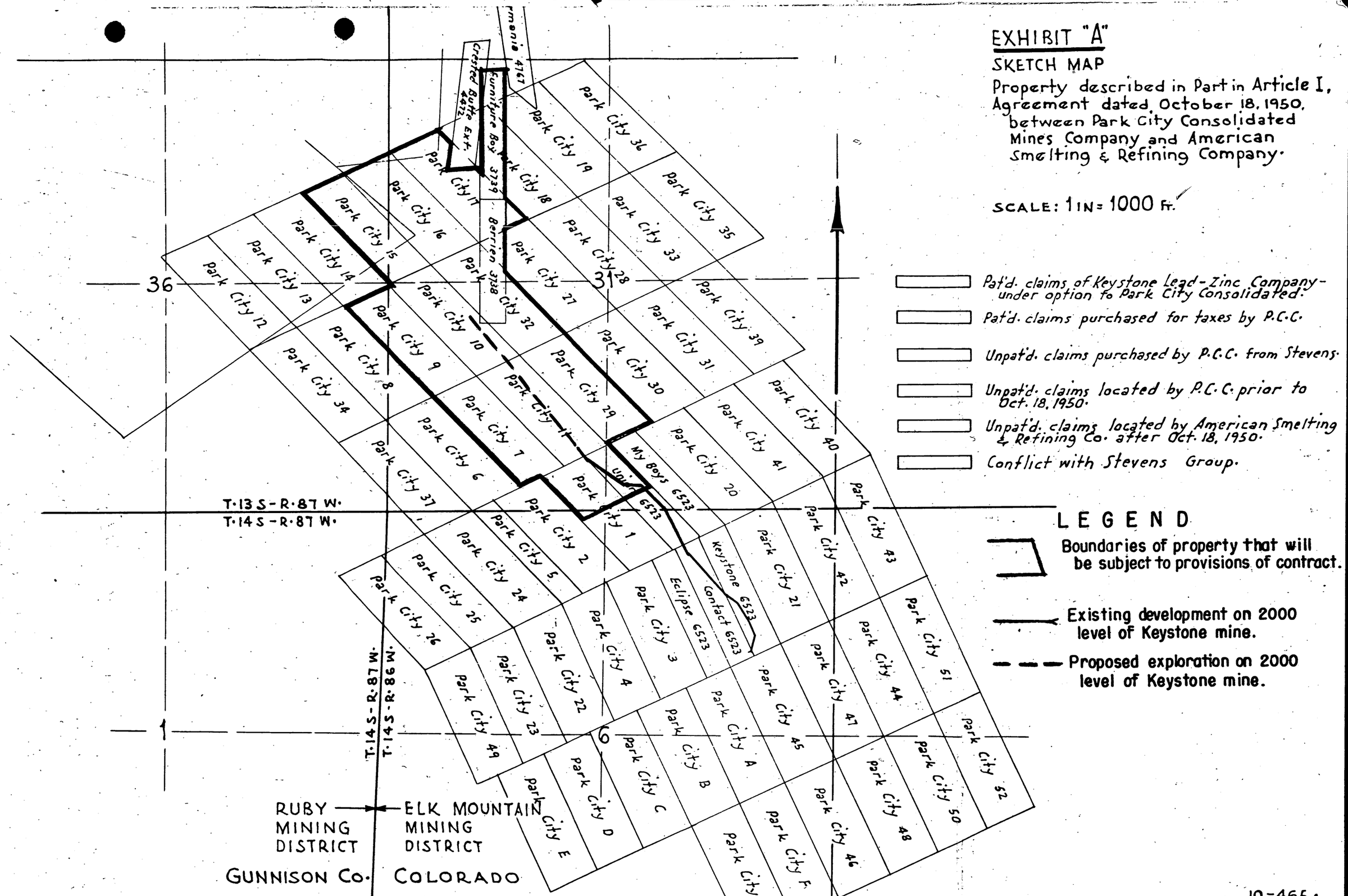
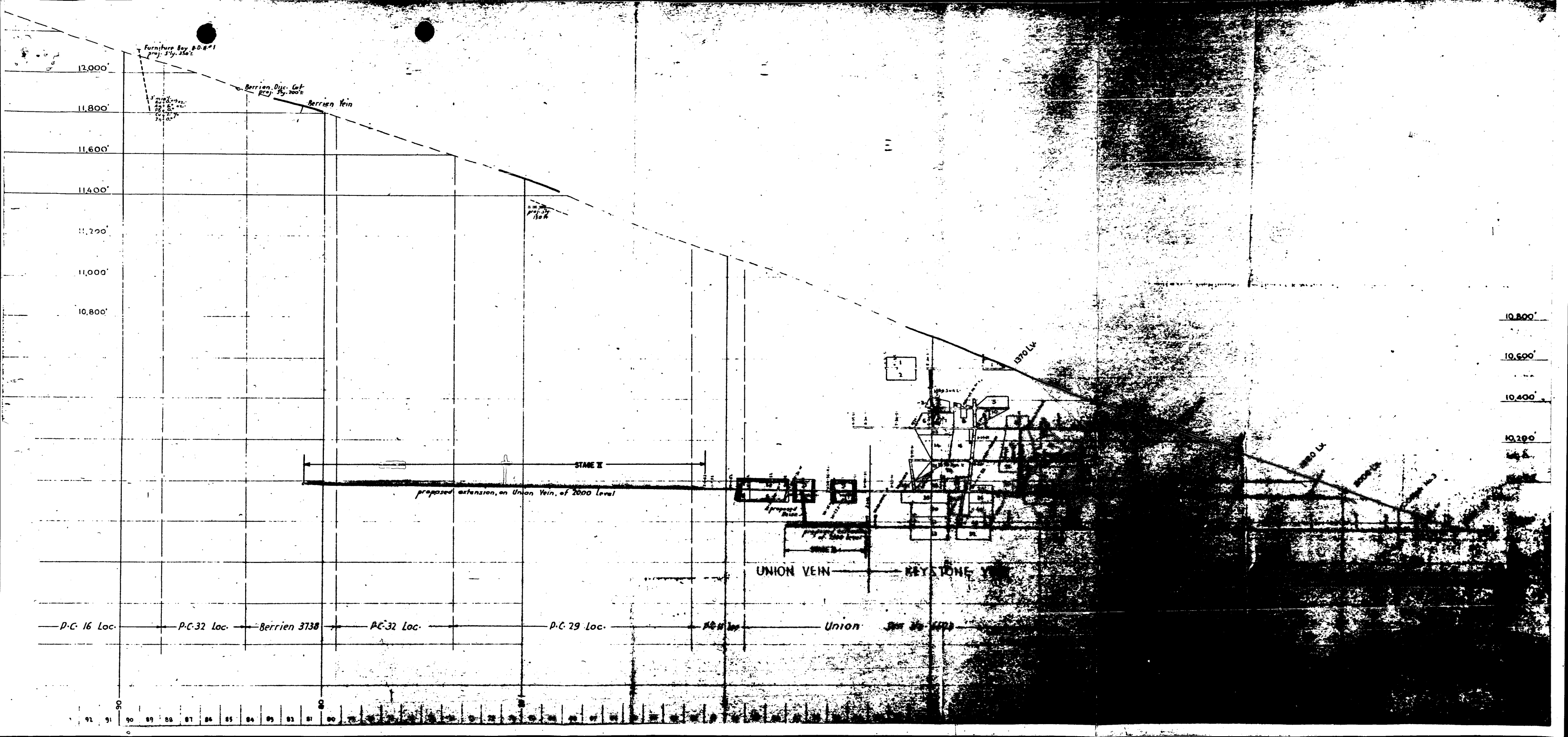


Figure 2 - Map of the Keystone-Park City group of claims, Gunnison County, Colo., showing boundaries of property that will be subject to the provisions of an exploration project contract. DMEA 3866


Furniture Bay
Berrien Disc. Cut
Berrien Vein
12,000'
11,800'
11,600'
11,400'
11,200'
11,000'
10,800'
STAGE X
proposed extension, on Union Vein, of 2000 level
1370 Lev.
1980 Lev.
10,800'
10,600'
10,400'
10,200'
UNION VEIN
KEYSTONE VEIN
P.C. 16 Loc.
P.C. 32 Loc.
Berrien 3738
P.C. 32 Loc.
P.C. 29 Loc.
Union

AMERICAN SMELTING AND REFINING COMPANY
MINING DEPARTMENT
120 BROADWAY, NEW YORK 5

RECEIVED
JUN 24 1955

R. F. GOODWIN
VICE PRESIDENT

June 23, 1955

Mr. C. O. Mittendorf, Director
Defense Minerals Exploration Administration
United States Department of the Interior
19th and E Streets, N. W.
Washington, D. C.

Dear Mr. Mittendorf:

Attached are an original and three complete copies of an application for a Defense Minerals Exploration Administration loan, to assist in the exploration of a portion of the Crested Butte area, Gunnison County, Colorado, which is owned jointly by American Smelting and Refining Company and Park City Consolidated Mines Company.

I trust that the information is complete, but if not, we will be glad to supply anything further that you may request.

Very truly yours,

R. F. Goodwin

Att.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

RECEIVED
JUN 24 1955

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

Not to be filled in by applicant

Docket No. 3866
Metal or Mineral Lead-zinc-copper
Date Received 6/24/55
Estimated Cost 115,000
Participation (Government %)

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: American Smelting and Refining Company, for itself and as agent for Park City Consolidated Mines Company.
Address: Mining Department, 120 Broadway, New York 5, New York and 600 Crandall Building, Salt Lake City 1, Utah

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

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

(*d*) If a partnership, add to the above statement the names and addresses of all partners. Not applicable.

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

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

(*b*) State any mine name by which the property is known. Union Extension.

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Applicant owns a 60% undivided interest in land; Park City Consolidated Mines Co. owns 40%.

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

(*e*) If you own the land, describe any liens or encumbrances on it None.

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice. See attached sheet.

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

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades. See attached sheet.

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

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

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

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

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

(*c*) The work will start within 10 days and be completed within 24 months from the date of an exploration project contract.

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

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

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

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

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

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

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project. None required.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project. None required.

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

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

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

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

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

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

Explain in detail on acompanying paper.

CERTIFICATION

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

Dated June 22nd, 1955

NOTE: Approval and acceptance of this application is indicated by Mr. Carl Stehle, President of Park City Consolidated Mines Company representing a 40% interest in the property.

American Smelting and Refining Company
(Applicant)

By R. F. Goodwin
Vice President

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

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

American Smelting and Refining Company
120 Broadway
New York 5, New York

ANSWERS TO QUESTIONS ON DMEA FORM MF-103

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JUN 24 1955

1.(a) - -

(b) American Smelting and Refining Company is a corporation of the State of New Jersey.

(c) R. F. Goodwin, Vice President, Mining Department, American Smelting and Refining Company, 120 Broadway, New York 5, New York.

(d) - -

2. - -

3.(a) Park City 10, Park City 11, Park City 29, Park City 32 unpatented lode claims, (and that part of the Union patented lode claim, U. S. Survey 6523, lying northwest of a line running N.44° E. from a point on the southwest side line 700 feet southeasterly from the northwest corner of said claim,) all in the Elk Mountain Mining District, Gunnison County, Colorado.

(b) - -

(c) - -

(d) - -

(e) - -

(f) Park City 10, location certificate recorded Book 255, page 518, Gunnison County Records.

Park City 11, location certificate recorded Book 255, page 518, Gunnison County Records.

Park City 29, location certificate recorded Book 255, page 527, Gunnison County Records.

Park City 32, location certificate recorded Book 255, page 529, Gunnison County Records.

4.(a) On the 2000 level of the Keystone mine, which mine adjoins the land covered by this project, approximately 800 feet of drifting and two short raises have been driven on the Union vein by the applicant. A prospect tunnel on the West vein was driven many years ago on the Park City 29 claim. The portal of the Keystone 2000 level is about 2500 feet from the cross-cut to the Union vein. In connection with the Keystone mine, there is a 200-ton mill, electric power,

American Smelting and Refining Company
120 Broadway
New York 5, New York

4.(a) Cont'd.

compressors, and the usual mine plant. The land included in the project and the Keystone mine is owned 60% by applicant and 40% by Park City Consolidated Mines Company. All the mine workings, except possibly the tunnel on the West vein, are accessible.

(b) Production consists of development ore from driving the 2000 level and two short raises. This resulted in the following estimated tonnage which was stored in dumps of the Keystone mine for later milling:

Tons	Ag. oz.	Pb %	Cu %	Zn %
2230	4.6	5.3	0.5	8.6

Probable and possible ore reserves on the Union vein are as follows, with block numbers corresponding to those shown on attached longitudinal projection (14-296).

Block No.	Tons	Width	Ag, Oz.	Pb, %	Cu, %	Zn, %
1	5,400	9.0	4.3	6.7	0.4	6.9
2	5,400	9.0	4.1	6.9	0.3	6.7
3	3,570	6.8	2.9	4.2	0.4	6.2
4	3,570	6.8	2.9	4.2	0.4	6.2
5	5,030	5.3	3.9	5.1	0.4	8.6
6	5,030	5.3	3.9	5.1	0.4	8.6
7	1,720	4.3	5.7	3.5	0.3	10.2
8	1,720	4.3	5.7	3.5	0.3	10.2
	31,440		4.0	5.3	0.3	7.6

(c) The Keystone and Union veins are zinc-lead-copper veins with quartz and rhodochrosite gangue in the sandstones and shales of the Cretaceous Mesa Verde formation. These veins strike northwesterly and dip southwesterly at from 60 to 75 degrees. The Union vein appears to be a little steeper than the Keystone vein. Both veins vary in width from less than one foot to over seven feet and contain ore in distinct shoots. The geological controls of these shoots is not as yet apparent. The West vein, on the surface, consists of quartz and leached sulphides, and may be the surface expression of the Union vein, although the dip, where exposed, is around 80 degrees.

The surface over most of the area is covered with glacial moraine and deep talus, so that bedrock exposures are scant and unsatisfactory. It appears that the Union vein may be an echelon continuation of the Keystone vein.

About three-fifths of a mile ahead of the present Keystone mine faces a vein is exposed on the Furniture Boy

4.(c) Cont'd.

and Berrien claims. This vein strikes north-south and dips west about 70 degrees. A diamond drill hole on the Berrien claim, drilled from the surface, cut this vein about 250 feet below the surface. (See plan and longitudinal section of Keystone mine 1"= 200'.) The sludge from 276' - 279' in this hole assayed Au., 0.015 oz., Ag., 5.0 oz., Pb, nil, Cu, 2.0%, and Zn, nil.

Over a mile ahead of the present mine face is the Micawber vein, which strikes northeasterly and dips southeasterly. Several thousand tons of zinc-lead ore have been produced from workings near the surface on this vein.

A half mile north of the Furniture Boy outcrop is the Daisy mine, upon which several thousand tons of lead-zinc ore were produced in 1952. This deposit appears to be a replacement of a limey bed in the Mesa Verde formation.

From the foregoing it is clear that this is a well mineralized area and that continued work into the mountain from the Keystone mine is amply justified. As can be seen from the reconnaissance surface geologic map attached (Areal Geology, Keystone Mine Area, by Kirkpatrick and Houston, 1951 - Scale 1" = 800'), this area lies on the east flank of the Mt. Axtell quartz monzonite stock or laccolith, which may well be the source of the mineralizing solutions.

4.(d) The Keystone mine is connected by about two miles of good gravel road with the town of Crested Butte, from which paved roads are available to the main cities of Colorado. The nearest railroad station is Salida, Colorado, on the Denver & Rio Grande Railroad, 90 miles by paved road from Crested Butte. The major supply point is Denver, a distance of 230 miles. There is housing at Crested Butte.

(e) There is adequate water and power. The Keystone mine has equipment necessary for the project. Availability of supplies and labor are reasonably good.

5.(a) - -

(b) The work proposed is shown diagramatically on the attached 200 scale plan and longitudinal projection maps, as the exact conditions cannot be anticipated

It consists of two phases. The first phase involves driving a crosscut from the northwest face of the 2160 level to the downward projection of the Union vein, an estimated distance of 150 feet. A drift would then be driven on the Union vein for a distance of 300 feet. A 200' raise would then be driven on the Union vein to the 2000 level in order

5.(b) Cont'd.

to make a ventilation connection nearer the 2000 level northwest face.

The second phase of the proposed exploration work would consist of exploring the Union and any other veins in the ground northwest of the present face of the 2000 level, with 2000 feet of drifting and crosscutting and 2000 feet of diamond drilling. The general plan would be to drift on the Union vein and prospect both walls periodically by diamond drilling to determine whether the Keystone vein or any other veins, such as the West, are present. In the event the Union vein should die out, then it is planned to test both walls by diamond drilling for possible other veins in view of the apparent echelon relationship of the Keystone and Union veins. If another vein should be found, then it is proposed to crosscut from the most logical point to the new vein and drift on that vein. If the second vein should in turn die out, the same procedure would be followed.

In the course of doing the above work, it will be necessary to widen the drift for short lengths at periodic intervals for use of car transfers and for diamond drill stations.

5.(c) - -

(d) American Smelting and Refining Company has had over 50 years of experience in mining all over the world. Mr. Nolan Probst, Superintendent of the Keystone unit, would locally be in charge of the proposed project. He has had five years responsible operating experience at the property and is thoroughly familiar with local conditions. He has had 15 years total mining experience. The Mine Superintendent, Mr. Morton Pratt, who would directly supervise the work under the project, has had nine years mining experience. Both men are technical school graduates.

Diamond Core Drilling
Mining
Quarries
Shaft Sinking
Tunnel Driving

Boyles Bros.
DRILLING COMPANY

CONTRACTORS – ENGINEERS
General Offices
1321 South Main Street Phone 84-4401
SALT LAKE CITY 15, UTAH

RECEIVED
JUN 24 1955

Reply to: S. L. C.

June 14, 1955

Mr. J. L. Frost
American Smelting & Refining Co.
Pacific National Life Building
Salt Lake City, Utah

Dear Mr. Frost:

Referring to your request for a bid on a proposed drilling program of approximately 2,000 feet in the Keystone Mine, we submit the following rates for your approval: For a minimum of 2,000 feet.

1. Drilling Rates	AX	BX
0 - 500 feet	$4.60	$5.20
500 - 750 feet	$5.20	

2. Reaming, if necessary, will be $2.00 per foot.

3. Cementing, if necessary, will be charged for at $8.60 per hour plus cost of cement or cement substitutes.

4. Air and water to be supplied to the drill stations at no cost to us.

5. Drill stations to be made of adequate size for a ten foot pull (18 feet in line with the collar of the hole).

It would only be necessary to drill a short distance BX in order to protect the collar of the hole. Very little reaming or cementing should be necessary from our past experience.

Thank you for calling on us.

Very truly yours

A. F. Goldsworthy

A. F. Goldsworthy
Manager, Drilling Division

AFG:bg

AMERICAN SMELTING AND REFINING COMPANY
MINING DEPARTMENT
120 BROADWAY, NEW YORK 5

RECEIVED
JUN 24 1955

R. F. GOODWIN
VICE PRESIDENT

June 20, 1955

Park City Consolidated Mines Company
39 Broadway
New York 6, N. Y.

Dear Sirs:

As you know, we propose to apply to the Defense Minerals Exploration Administration for aid in an exploration project, pursuant to DMEA Order 1, under the Defense Production Act of 1950, as amended, the property involved being the unpatented lode claims known as Park City 10, Park City 11, Park City 29, and Park City 32 and part of the Union patented lode claim, U.S. survey 6532, all in the Elk Mountain Mining District, Gunnison County, Colorado. In the event the application is granted it will be necessary for us to enter into an Exploration Project Contract with the Defense Minerals Defense Administration. Copies of our proposed application and of the contract form are enclosed herewith.

This is to confirm our understanding that the proposed application has your approval and that American Smelting and Refining Company is authorized to execute the application and contract as your agent, as well as on its own behalf.

It also seems advisable that we should reach agreement as to the method of handling expenses in connection with the project. We suggest that all expenses be treated as "Operating Expenses" as defined in Article 7 of our agreement dated October 18, 1950, and that payments from the Government be treated as an offset against such expenses.

If the foregoing meets with your approval, please so indicate by signing the enclosed copy of this letter in the space provided below and return it to us.

Very truly yours,

Encl.

AMERICAN SMELTING AND REFINING COMPANY

By R. F. Goodwin
Vice President

APPROVED AND ACCEPTED:

PARK CITY CONSOLIDATED MINES COMPANY

By Carl Stehle
President

W A R R A N T Y D E E D

Know all men by these presents: That PARK CITY CONSOLIDATED MINES COMPANY, a Utah corporation, for the consideration of TEN DOLLARS ($10.00) and other good and valuable considerations in hand paid, hereby SELLS and CONVEYS to AMERICAN SMELTING AND REFINING COMPANY, a corporation of the State of New Jersey, an undivided sixty per cent (60%) interest in and to the following real property situate in Elk Mountain and Ruby Mining Districts, County of [illegible] Colorado, to-wit:

Patented Lode Claims

Crested Butte Extension	U. S. Survey [illegible]
Furniture Boy	U. S. Survey [illegible]
Harrison	U. S. [illegible]
My Boys	U. S. Survey [illegible]
Union	U. S. Survey [illegible]
Keystone	U. S. Survey No. [illegible]
Contact	U. S. Survey No. [illegible]
Eclipse	U. S. Survey No. 6520

Lode Claim on which application for patent is pending:

Jimmy	U. S. Survey No. 30749

Mill Sites on which application for patents are pending:

Keystone Mill Site	U. S. Survey No. [illegible]
Contact Mill Site	U. S. Survey No. [illegible]750

Unpatented Lode Locations:

Certificates of Location Recorded in Office of Clerk and Recorder of Gunnison County in

Name	Book	Page
Carrol	255	394
Frankie	255	395
Judy	255	395
Park City No. 1	255	513
Park City No. 2	255	[illegible]
Park City No. 3	255	[illegible]
Park City No. 4	255	[illegible]
Park City No. 5	255	[illegible]
Park City No. 6	255	[illegible]
Park City No. 7	255	[illegible]

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	Book	Page
Park City No. 8	255	517
Park City No. 9	255	517
Park City No. 10	255	518
Park City No. 11	255	518
Park City No. 12	255	519
Park City No. 13	255	519
Park City No. 14	255	520
amended certificate	289	9
Park City No. 15	255	520
Park City No. 16	255	521
Park City No. 17	255	521
Park City No. 18	255	522
Park City No. 19	255	522
Park City No. 20	255	523
Park City No. 21	255	523
Park City No. 22	255	524
Park City No. 23	255	524
Park City No. 24	255	525
Park City No. 25	255	525
Park City No. 26	255	526
Park City No. 27	255	526
Park City No. 28	255	527
Park City No. 29	255	527
Park City No. 30	255	528
amended certificate	289	9
Park City No. 31	255	528
amended certificate	289	10
Park City No. 32	255	529
Park City No. 33	255	529

	Book	Page
Park City No. 34	255	530
Park City No. 35	255	530
Park City No. 36	255	531
Park City No. 37	255	531
Park City No. 39	255	532
Park City No. 40	255	532
Park City No. 41	255	533
Park City No. 42	255	[illegible]
Park City No. 43	255	534
Park City No. 44	255	[illegible]
Park City No. 45	255	535
Park City No. 46	255	535
Park City No. 47	255	536
Park City No. 48	255	536
Park City No. 49	255	537
Park City No. 50	255	537
Park City No. 51	255	538
Park City No. 52	255	538
Park City No. A	255	539
Park City No. B	255	539
Park City No. C	255	540
Park City No. D	255	540
Park City No. E	255	541
Park City No. F	255	541
Park City No. G	255	542

Unpatented Placer Claim:

Jerry No. 1 Book 260 Page 68

Subject to reservations contained in that certain deed recorded in Book 269, Page 350, in the office of the Recorder and Clerk of Gunnison County, Colorado, on January 4, 1951, wherein Walter Scott, Myrtle Scott and Robert Walter Scott are identified as first parties, and Park City Consolidated Mines Company is identified as second party.

And Grantor conveys the above described property with all its appurtenances and all improvements thereon and warrants title to the patented lode claims described above and warrants title to the other property described above against all persons claiming under it.

Signed and delivered this 21st day of December, 1953.

PARK CITY CONSOLIDATED MINES COMPANY

Attest:

Secretary

Its President

. . GRANTOR . .

STATE OF New York

COUNTY OF New York } ss.

The foregoing instrument was acknowledged before me this 12th day of November, 1953, by Carl Stehle as President and Secretary of Park City Consolidated Mines Company.

[redacted] and official seal.

Joseph Rosenbaum
NOTARY PUBLIC
Residing at New York, N. Y.

JOSEPH ROSENBAUM
Notary Public, State of New York
No. 30-0917100
Qualified in Bronx County
Certificate filed in New York Co. Clk.
Commission Expires March 30, 1955

STATE OF UTAH)
Salt Lake County } ss.

On the 21st day of December, 1953, personally appeared before me [illegible], who being duly sworn, did say that he is the Secretary of Park City Consolidated Mines Company, and that said instrument was signed on behalf of said corporation by authority of a resolution of its Board of Directors, and said [illegible] acknowledged to me that said corporation executed the [illegible]

Marjorie Fletcher

My commission expires
[illegible] 26, 1955

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JUN 2 4 1955

STATE OF New York
COUNTY OF New York

The foregoing instrument was acknowledged before me
this 12th day of November 1923 by Carl Stevie
as President of Consolidated Mines Company.

Residing at New York, N. Y.

JOSEPH [illegible]
Notary Public, State of New York
No. 01-[illegible]
Qualified in [illegible] County

STATE OF COLORADO
County of Gunnison } ss.
I hereby certify that this instrument was filed for record in my office at [illegible] o'clock P.M. [illegible] 1923
Ethel [illegible]
County Clerk and Recorder
By [illegible]
Fee $ [illegible]

JUL 2

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT

RECEIVED
JUN 24 1955

D. J. POPE, GENERAL MANAGER
L. H. HART, ASSISTANT MANAGER
W. R. LANDWEHR, CHIEF GEOLOGIST
J. FRED JOHNSON, MANAGER OF OPERATIONS
NORMAN WEIBE, MILLING ENGINEER

800 PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY, UTAH

July 19, 1951

Park City Consolidated Mines Company
625 Keeler Building
Ogden, Utah

RECEIVED
JUN 24

Attention: Mr. J. A. Howell, Vice President

Gentlemen:

Reference is made to contract between you and the undersigned of October 18, 1950, and particularly to Article 4, Sub-section (d) thereof.

On April 4, 1951, you informed us by letter that it was not your intention or purpose to make the payments then forthcoming to Keystone Lead and Zinc Mining Corporation or Reconstruction Finance Corporation. You stated that you were without funds to make the payment and requested that we discharge those debts in accordance with the terms of our agreement.

Thereafter, under date of April 11, supplemental agreement was reached between us covering procedure to be followed in the payment of said amounts. Pursuant thereto, we paid the sum of $39,300.00, being the balance due the Keystone Lead and Zinc Mining Corporation, and received deed and caused the same to be recorded and thereafter returned to you. Thereafter, we determined the amount of principal and interest due upon the R. L. Ballard loan to Reconstruction Finance Corporation, bearing docket No. C-MD-7651. The amount of principal and interest was $4,330.09. We have paid that amount and now have executed release of mortgage from Reconstruction Finance Corporation. The original of the release of mortgage has been sent to the clerk and recorder of Gunnison County, Colorado, with instructions that it be recorded and thereafter returned to you. We are enclosing herewith photostatic copy of the release for your records.

Under the terms of the agreement there is a balance due you of $6,369.91. This represents the difference between the amounts paid Keystone Lead and Zinc Mining Corporation and Reconstruction Finance Corporation on the one hand and $50,000.00 on the other. Our check for $6,369.91 payable to your order is enclosed herewith. This discharges our obligation

under the agreement of October 18, 1950 as amended and entitles us to all benefits accruing under the agreement by reason of having made these payments.

Please record your approval of the foregoing statements by affixing your signature to the enclosed copy of this letter and returning the same to us.

Very truly yours,

L. H. Hart

L. H. HART

LHH/cb
encl. - Check $6,369.91
Photostatic copy of release

cc: Carl Stehle

APPROVED AND ACCEPTED
PARK CITY CONSOLIDATED MINES COMPANY

BY _____
Vice President

AMERICAN SMELTING AND REFINING COMPANY
MINING DEPARTMENT
120 BROADWAY, NEW YORK 5

November 28, 1950

R. F. GOODWIN
VICE PRESIDENT

Park City Consolidated Mines Company
39 Broadway
New York 6, New York

Gentlemen:

Our attorneys, Ray, Quinney & Nebeker, have just received from your Secretary and attorney, Judge J. A. Howell, a letter amending Article 6 of our agreement of October 18, 1950, by adding to Article 6 an additional paragraph identified as 6(f). A copy of Judge Howell's letter is enclosed herewith.

The amendment as stated by Judge Howell is strictly in accordance with the sense of our understanding, but it seems to us that three words need to be inserted into the amendment before it is entirely clear. We believe that the words "the distribution of" should be inserted after "before", and before the word "any" in the first line of the amendment.

We also believe that, for clarification, Article 1 should be amended. Article 1(d) now provides that either party, with the consent of the other, may acquire additional property. But no provision is made to take care of the costs of such acquisitions, or to specify the several interests of the parties therein. We have, therefore, suggested an amendment to take care of that situation.

As we understand it, we have agreed orally with you that the contract of October 18, 1950, may be, and it is hereby amended as follows:

1. Article 1 is amended by adding thereto 1(e) which shall read as follows:

"1(e). If, while Buyer is in possession and control of the above described property as provided herein, Buyer shall, with the consent of Seller, acquire additional property within a radius of five miles of Keystone No. 1 adit, such additional property shall become subject to all the terms and conditions of this agreement and the undivided interest of the parties therein shall be as set forth in Articles 2, 3, and 4 hereof. That is, Buyer's interest shall be 55% and Seller's 45%, unless Buyer shall have advanced $50,000.00 as provided in Article 4(d), in which event Buyer's interest shall be 60% and Seller's 40%. Any sum paid by Buyer for the acquisition of any such additional property shall be construed as a capital advance, and Buyer shall be reimbursed therefor in accord with Article 6

hereof. If Sellers shall acquire any additional property within a radius of five miles of Keystone No. 1 Adit, such property shall come under this agreement to the same extent as if directly acquired by Buyer. And in such event Buyer will reimburse Seller for the cost of acquiring such additional property, and Buyer in turn will be reimbursed as if Buyer had acquired such additional property in the first instance.

"If either Buyer or Seller acquire such additional property after Seller has delivered to Buyer the warranty deed provided for in article 4(c), the interest in such additional property shall be obtained in the names of both Seller and Buyer with the respective interests of each therein as above set forth."

2. Article 6 is amended by adding thereto 6(f), which reads as follows:

"6(f). Before distribution of any profits for the return of advancements or otherwise to either of the parties under this agreement, Buyer shall be entitled to establish and maintain out of the proceeds of the operation of said property a reasonable and sufficient working capital to economically and efficiently operate the mining properties involved. The amount of such working capital shall be reported by Buyer to Seller from time to time when and as the same is set up, and the purpose or purposes thereof.

"As such working capital fund is established, the moneys theretofore supplied by Buyer as working capital shall be returned to Buyer before any distribution of any profits under this Article 6."

If the foregoing correctly sets forth our oral understanding, will you kindly so indicate by affixing your signature at the place provided below, whereupon the amendments hereinbefore set forth will become effective.

Very truly yours,

AMERICAN SMELTING AND REFINING COMPANY

By R. D. Goodwin

Vice President

Approved and Accepted.

PARK CITY CONSOLIDATED MINES COMPANY

By Leonard C. Badger

Vice President

9:30 A. Spitz 51
269 371
Ethel H. Sisson

Rayford M. Poyter
139

J. H. Hart
P. & B. Co.
Western Minnesota
600 People Nat. City Bldg
Saint Paul City, Minn

A G R E E M E N T

THIS AGREEMENT entered upon this 18th day of October, 1950, between PARK CITY CONSOLIDATED MINES COMPANY, a Utah corporation, party of the first part, hereinafter called Seller, and AMERICAN SMELTING AND REFINING COMPANY, a New Jersey corporation, party of the second part, hereinafter called Buyer,

W I T N E S S E T H :

Article 1. Description of Property.

Seller represents and agrees that it is the owner of certain real property in Elk and Ruby Mining Districts, in Gunnison County, Colorado. All such property is described in that certain index which is hereby referred to and which is attached hereto as Exhibit "A" and which is hereby made a part hereof, and includes in part:-

(a) Patented Mining Claims:

Crested Butte Extension,	U. S. Survey No. 4472
Furniture Boy,	U. S. Survey No. 3739
Herrian,	U. S. Survey No. 3738

(b) Unpatented Mining Claims:

The unpatented lode mining claims listed in Schedule "A" attached hereto, and shown on the map Exhibit "A" also attached hereto, and any other unpatented lode or placer mining claims which Seller may own in the said Elk and/or Ruby Mining Districts.

(c) Seller further represents and agrees that it is the owner of an exclusive option to purchase from Keystone Lead and Zinc Mining Corporation the following particularly described patented lode mining claims located in Elk and Ruby Mining Districts, Gunnison County, State of Colorado:

Mr Boyd,	U. S. Survey No. 652[illegible]
Oxford,	U. S. Survey No. 652[illegible]
Keystone,	U. S. Survey No. 652[illegible]
Comet,	U. S. Survey No. 652[illegible]
Eclipse,	U. S. Survey No. 652[illegible]

(d) It is agreed that while Buyer is in possession and operation of the property above described as provided in the [illegible]

neither party hereto will acquire directly or indirectly the ownership or control of any mining ground outside of the limits of the above described property and within a radius of five miles of the Keystone No. 1 unit without the written consent of the other party; provided however, [illegible] such surface rights outside the limits of the above described property as in its judgment may be necessary or convenient in the operation of the property.

Article 2. Acquisition.

Seller agrees to sell and convey to the Buyer by warranty deed, and Buyer agrees to buy from Seller a fifty-five per cent (55%) undivided interest in and to the above described property at the time and upon the terms and conditions hereinafter set forth.

Article 3. Possession, Control and Management of Property.

The Buyer shall have, and it is hereby given and granted, the right to enter into and take over immediately the sole and exclusive possession, control and management of said property, and the whole and every part thereof, and, during the term of this Agreement, to remain in the sole and exclusive possession, control and management thereof; and in this connection and in accordance with its unrestricted discretion and judgment, to improve, investigate, measure, sample, examine, test, develop, work, mine, operate, use, manage and control the said property, and the water, water rights and improvements appurtenant thereto, or used in connection therewith, and to mine, extract and remove from said property the ores, minerals, and materials therein and appurtenant and belonging thereto, and to treat, mill, ship, sell or otherwise handle and dispose of the same, and to receive the full proceeds therefrom; and to erect, construct, maintain, use, and operate on and in said property, buildings, structures, underground workings, machinery, plant facilities, and other improvements; and to enter into agreements, to hire employees, to enter into labor contracts, to employ engineers, attorneys, and other experts, to insure

against such risks, and in such amounts, and with such insurers as the Buyer may consider proper, to set up reserves for such purposes and in such amounts as the Buyer may consider proper, to keep records and accounts in its own name and in accordance with its own accounting system, to settle and compromise claims and demands arising out of or connected with said property and the work in connection therewith, whether such claims and demands be for torts, breach of contract, breach of duty or for taxes, to perfect title to said property to the Buyer's reasonable satisfaction, to acquire title to mining claims under any of the provisions of this Agreement, to acquire in the name of the Seller, but subject to this Agreement, such surface rights or such other property as may be required as contemplated by Article 1 (d) hereof. It is agreed that no ore shall be shipped or removed from the property until a mill has been completed by Buyer. Thereafter ores shall be shipped until it has been concentrated in such mill except that if ore is mined, which in the judgment of Buyer may be smelted with more profit to the operation without milling, then Buyer may ship such ore directly to smelter.

Article 4. Terms and Conditions of Acquisition.

(a) Buyer's rights to possession, control and management of the property shall terminate at the end of ninety-five (95) years from and after the date hereof unless during each year Buyer has spent not less than $10,000.00 for the purposes set forth in Article 3 hereof, and in performing the other provisions of this Agreement by the Buyer to be performed hereunder.

Buyer's right to possession, control and management of said property shall terminate at the end of the second year from and after the date hereof unless during the two years immediately after the date hereof Buyer has spent not less than [illegible] hundred and [illegible] dollars [illegible]

[illegible]

set forth in Article 3 hereof, and in performing the other provisions of this Agreement by the Buyer to be performed.

(b) Buyer's right to the possession, control and management of the property shall terminate unless prior to thirty days following a period ending three years from the date hereof Buyer shall have commenced the construction of a mill upon the property for the purposes of milling ores produced, and to be produced, from said property.

Buyer shall have the right, if it so elects, to commence the construction of, and to complete a mill at any time while this contract is in force and effect. In the event Buyer commences the construction of such a mill, the costs thereof shall be applied in discharge of Buyer's obligations to make expenditures hereunder.

It is understood that if Buyer elects to construct a mill, such mill shall have a capacity to treat not less than 100 tons of crude ore per day, and Buyer agrees that if it proceeds to construct such a mill, it will proceed with due diligence to complete construction.

(c) When and if Buyer has completed a mill of the capacity herein provided, Buyer shall be entitled to receive, and Seller will forthwith execute and deliver to Buyer, Warranty Deed conveying to Buyer an undivided fifty-five per cent (55%) interest in and to the property covered hereby; provided, however, that Seller shall not be required to execute and deliver such Deed unless the cost of said mill, when added to other expenditures made by Buyer in accordance herewith, shall total not less than $750,000.00.

(d) It is understood that Seller will be required to pay to Keystone Lead and Zinc Mining Corporation the sum of $39,308.00 on or before June 26, 1951, as the balance due upon the purchase price of the property hereinbefore described in Article 1, subsection (a). It is also understood that by the terms of the [illegible] Seller has the right to receive from Keystone Lead and Zinc [illegible] the payments described in Article 3, sub-section (c), Seller

will be obliged to pay to Reconstruction Finance Corporation the principal sum of $ [illegible]. Unless Seller notifies Buyer on or before the 10th day of April, 1951, that it has paid, or furnishes evidence that it has made arrangements to pay, the balance due upon the purchase price to Keystone Lead and Zinc Mining Corporation and to Reconstruction Finance Corporation, then Buyer shall have the right, if it so elects, to pay to Seller on or before the 26th day of April, 1951 the sum of $50,000.00, or if Seller obtains an extension of the time within which payment shall be made to Keystone Lead and Zinc Mining Corporation and has not paid or furnished evidence that it has made arrangements to pay the full sum due Keystone Lead and Zinc Mining Corporation not less than sixty days before such payment shall be due then Buyer shall have the right and option to pay Seller the sum of $50,000.00 at any time within the sixty days. On the payment of such sum to Seller by Buyer, Seller will forthwith pay the balance of purchase price to Keystone Lead and Zinc Mining Corporation, and the indebtedness above referred to, to Reconstruction Finance Corporation. If after Buyer makes such payment to Seller it shall perform the conditions upon its part to be performed as provided herein and complete the mill as herein contemplated, then Seller shall convey to Buyer, by Warranty Deed, a sixty per cent (60%) undivided interest in and to the property conveyed hereby, instead of the fifty-five per cent (55%) mentioned in (c) above. In the event Buyer makes the $50,000.00 payment in this paragraph referred to, then such sum shall not be included in computing the $250,000.00 referred to in (e) above.

(e) In the event this Agreement shall be terminated before Buyer shall have commenced or completed a mill, but after Buyer shall have advanced $50,000.00 to Seller for the purpose of discharging indebtedness due and owing by Seller to Keystone Lead and Zinc Mining Corporation and Reconstruction Finance Corporation, then, notwithstanding the termination of said Agreement, Buyer shall be entitled to be paid by Seller ten per cent (10%) of all net smelter or mill returns from ores or concentrates mined and shipped from the property until such time as Buyer

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shall have been reimbursed in the full sum of $50,000.00. This obligation to reimburse Buyer the sum of $50,000.00 shall be an obligation upon the Seller, its successors and assigns, and shall be a lien upon all ores or concentrates produced from the property. Payment of the obligation in this paragraph provided may be accelerated at the election of Seller, and the indebtedness may be paid up at any time.

(f) It is understood that this Agreement is entered upon for the exploration, development and mining of the property covered hereby or acquired hereunder as a whole for the mutual benefit and advantage of the parties hereto. As long as Buyer shall remain in possession of the property covered hereby or acquired hereunder in accordance with the rights conferred upon it by Article 3 and 4 hereof neither party hereto will do any act or thing designed or intended to bring about a partition or separation of their several interests. During such period such interests shall remain undivided so that the property may be explored, developed and mined as a unit. If Buyer shall abandon exclusive possession of the property by forfeiting, surrender or termination after it has acquired an undivided interest therein then the property shall be held by the parties in accordance with the laws of Colorado.

Article 5. Entry and Manner of Work.

Buyer agrees to take possession of said property forthwith after signing this Agreement and to cause all work, development and mining which it undertakes to be done in a careful and minerlike manner, and to conform in all respects to the mining laws and regulations of the State of Colorado.

Article 6. Division of Net Profits.

In the event Buyer has expended the sum of $250,000.00 for the purposes covered by Article 3 hereof, or in the construction of a mill upon the property, and in the event Buyer considers it feasible and advisable to conduct mining and milling operations upon the property, and if such mining and milling operations result in a profit, such profits shall be distributed as follows:

(a) One-fourth to the Seller and three-fourths to Buyer until such time as Buyer has been reimbursed in full without interest for all expenditures made by it in excess of $250,000.00, and not more than $500,000.00.

(b) After Buyer shall have been so reimbursed for all expenditures made by it in excess of $250,000.00, but not in excess of $500,000.00, Buyer shall receive all profits from such operations until Buyer shall have been reimbursed for all expenditures made by it in excess of $500,000.00, without regard to when such expenditures may have been made.

(c) After Buyer shall have been reimbursed as next hereinbefore provided for all expenditures made by it in excess of $250,000.00, all profits arising from the operation of the property shall be paid to the parties fifty-five per cent (55%) to Buyer and forty-five per cent (45%) to Seller, unless Buyer shall have advanced $50,000.00 to Seller to discharge its obligations to Keystone Lead and Zinc Mining Corporation and Reconstruction Finance Corporation, in which case profits shall be divided sixty per cent (60%) to Buyer and forty per cent (40%) to Seller. The division of profits provided in the preceding sentence shall persist until Buyer shall have again advanced funds for capital purposes in connection with the operation of the property. Any such such advances shall be repaid to Buyer out of earnings before any distribution shall be made to Seller.

(d) When and as profits from operating the property shall be available for distribution by further terms, they shall be distributed semi-annually, quarter annual periods shall end on the last day of March, June, September and December.

(e) If additional properties are acquired and come under the [illegible] as in Article 1 (d) hereof, profits obtained in the operation thereof shall be subject to [illegible]

Losses sustained in any one quarter or period shall be carried forward against future profits.

Within thirty days next following the end of each quarter period, the Buyer shall render to the Seller a written account and settlement for the next preceding quarter period, and if the Seller does not file written objections to such written account and settlement within sixty days after the date it is submitted, it shall be conclusive and binding upon the parties.

Article V. Definitions for Accounting Purposes.

(A) Net Operating Profit.

"Net Operating Profit" shall be determined by deducting all operating expenses as herein defined from the gross returns received from the sale of the ores and concentrates produced from the property.

(B) Gross Returns.

"Gross Returns" shall be the net smelter returns plus all government subsidies which may be received on account of the production of such ores and concentrates, but only to the extent to which such subsidies legally may be included.

(C) Net Smelter Returns.

"Net Smelter Returns" shall mean the net amount received from the smelter in payment for ores and concentrates produced from the property less cost of transportation from the mine to the smelter.

(D) Operating Expenses.

"Operating Expenses" shall mean all costs, obligations, liabilities, [illegible] of [illegible] which are incurred or become chargeable in connection with operations upon the said property by the Buyer for the benefit of the property, the [illegible] development, maintenance, and operation, excluding [illegible] Without limiting the generality of the [illegible] operating [illegible] shall include the following items which are incurred [illegible] operation of the property shown described.

(a) A charge of ten cents per dry ton of ore produced for Buyer's general administration, that is to say, for management above that of the resident superintendent or manager of the property, provided, however, that not more than $1,600.00 per month shall be charged under this sub-article.

(b) The actual cost of Buyer's traveling auditor's audit of the accounts which come each year.

(c) The cost of insurance placed and carried by Buyer upon the property or any part thereof, or in compliance with requirements of compensation laws, or for any other purpose.

(d) All costs for management and supervision at the property and all costs of labor, including salaries, wages, and benefits of whatsoever nature; also the cost of technical personnel such as engineers, geologists, and others who are employed in connection with the operation of the property.

(e) The cost of all equipment and facilities for the use and welfare of employees at the property.

(f) All sums payable for hospital and medical attention, accident benefits and other sums payable on account of death or injury to employees, and all sums payable as compensation for damages arising in any manner out of the mining, treatment and delivery of the product or operation of the property, including all legal expenses incurred in connection therewith.

(g) Cost of all supplies, equipment, machinery, plant maintenance and plant additions, including additions to original plant, repairs to and replacements of the original plant and all development work upon the property covered hereby in connection with mining and treating of any product or ore produced from the property subject of this Agreement.

(h) All taxes, rates and assessments, fees, and duties, except income taxes, payable to any governmental authority while this Agreement is in effect, whether charged, levied or imposed upon the said property or upon the Buyer in respect thereof.

Article 8. Expenses during shutdown period.

If, after the Buyer has acquired its interest of 55% or 60% as the case may be, work on the property should be suspended because of economic depression, low metal prices, or other causes which in the judgment of the Buyer make operation, exploration or development uneconomical, or as a result of any condition enumerated in Article 17 hereof, the expenses incurred during such period of suspension of operations for the protection and maintenance of the property shall be paid by the Buyer, and the Seller will reimburse the Buyer for 45% or 40% as the case may be, on demand by Buyer; provided however, that Buyer shall not make such demand unless such period of suspension shall continue for more than ninety (90) days. In the event Seller shall, for any reason, fail to reimburse Buyer for its share of such expenses then any and all profits which would otherwise be distributed to Seller will be distributed to Buyer until Buyer shall have been fully reimbursed.

Article 9. Marketing of Products.

All ores and concentrates produced from the property shall be marketed at the best terms obtainable from any responsible smelter with due regard to freight differentials and any other charges involved, and if such ores and concentrates shall be treated at a smelter of the Buyer, the smelter schedules used for determining the net smelter returns as defined herein shall not be less favorable to said property than the schedules under which the ore and concentrates of like character and in similar quantity are purchased at the time from other shippers by the smelter involved.

Article 10. Records and Books of Account.

The Buyer shall keep accurate books of account covering the operations of the property, including the mining, milling, sale, and disposal of ores or concentrates from said property, which books of account shall be open to the inspection of the Seller or its duly authorized agent at all reasonable times. The Buyer's judgment as to the proper classification of any item of cost or expense

shall control unless arbitrary and clearly contrary to accepted mine accounting practice when applied to the terms of this agreement.

Buyer will at all reasonable times furnish Seller with access to maps, records and books of accounts, and will furnish Seller with a quarterly account of all operations and payment of profits, if any, and will give to Seller periodically, but not less frequently than once each quarter, assay and development and exploration reports made regularly by Buyer in the normal conduct of operations, and an outline of the proposed operating plans, if any, which have been formulated, together with a summary of operations for the past quarter. Any additional information desired by Seller may be accomplished by it at its expense insofar as consistent with the intent of this article.

Article 11. Termination of Option.

[illegible]

disposed of by the Buyer, and all taxes levied against the Buyer as an employer of labor, all such taxes to be promptly paid when due and before delinquent.

Article 13. Protection from Liens and Damages.

Except as provided in Article 11 hereof, the Buyer shall keep said property and the whole and every part thereof free and clear of liens for labor done or work performed upon said property, or materials furnished to it for the development or operation thereof under this Agreement and while the same is in force and effect, and will save and keep harmless the Seller from all costs, loss, or damage which may arise by reason of injury to any persons employed by the Buyer in or upon said property or any part thereof, or which may arise by reason of injury to any persons or damage to any property as the result of any acts or operations of Buyer or of its possession and occupancy of the property.

Article 14. Insurance.

The Buyer shall carry at all times while working under the terms of this Agreement, industrial compensation insurance required by the laws and mining regulations of the State of Colorado for all employees engaged in said operations.

Article 15. Assessment Work.

[illegible] and perform within the time required by law the annual [illegible] on or for the benefit of the unpatented mining claims [illegible] necessary to comply with the laws of the United States and [illegible] the completion of the annual labor for any per- [illegible] within the requisite statutory period, an [illegible] have been performed. Provided, however, that if [illegible] completed or commenced at any time between July 1st [illegible] 1st of each, the Buyer shall be relieved from [illegible] annual labor year. So long as the exemption [illegible] work is authorized by law, the Buyer may, at its [illegible] claim for exemption as may be required by law for [illegible] and on behalf of and in the name of

the Seller, and the Seller does hereby nominate and appoint the Buyer its agent for that purpose. Any and all expenses in doing annual assessment work shall be credited to Buyer's obligation under Article 4 hereof.

Article 16. Forfeiture Clause.

The failure of the Buyer to make or cause to be made the expenditures or payments specified in Article 4 hereof, or to keep or to perform any agreement on its part to be kept and performed, according to the terms and provisions of this Agreement shall, at the election of the Seller work a forfeiture hereof; provided, however, that in the event of a default on the part of the Buyer, and the election of the Seller to terminate this Agreement on account thereof, the Seller shall give to the Buyer 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 Buyer shall have sixty (60) days after receipt of such notice in which to correct such default or defaults, and if the default is corrected, there shall be no forfeiture of this Agreement. Waiver or failure to file notice of a particular default or defaults shall not be construed as condoning any subsequent default.

Article 17. Unavoidable Delays.

If the Buyer shall be delayed in performing any of the obligations on its part to be performed hereunder, by any act or neglect of the Seller, or by reason of weather or other acts of nature, strike, threat of imminent strike, fire, flood, interruption or delay in transportation, war, insurrection or mob violence, requirement or regulation of government, unavoidable casualties, shortage of labor or materials, failure of any operating requirement or any disabling cause without regard to the foregoing enumeration, beyond the control of the Buyer, or which cannot be overcome by the means normally employed in performance, then and in such event, any such delay shall not be deemed a breach of this Agreement or a default on the part of the Buyer constituting a cause for forfeiture, but shall suspend the performance of any of the aforesaid obligations, except the payment of the percentage

of net profits due and taxes, during such period of disability and shall postpone the dates of performance or the making of any other expenditures or payments by a period or periods of time equal to those of the disabilities. The Buyer agrees to use reasonable diligence to remove such causes of disability as may occur from time to time.

Article 18. Cancellation.

Notwithstanding any provision herein to be contrary, the Buyer may at any time upon thirty days' notice to the Seller, cancel and terminate this Agreement. Upon such cancellation and termination of this Agreement, the Buyer shall be under no further obligation of whatsoever kind or nature to the Seller, except for the making of payments which have already accrued at the date of such cancellation and termination; provided, that no cancellation or termination of this Agreement which takes place after Buyer has acquired the interest provided in Article 4 hereof shall divest Buyer of such interest.

Article 19. Surrender of the Property.

(a) In the event of a forfeiture, surrender or termination of this Agreement prior to the time when Buyer shall have acquired an interest as provided in Article 4 hereof, Buyer will surrender to Seller peaceable possession of Seller's interest in the property described in Article 1 of this Agreement.

(b) If this Agreement is terminated prior to the time the Buyer has acquired the interest described in Article 4 hereof, the Buyer, on written request of the Seller, shall deliver to the Seller a written relinquishment of any further rights the Buyer may have under this Agreement, except rights retained under Article 4 (c) hereof.

Article 20. Removal of Equipment.

(a) In the event Buyer exercised its right to terminate this Agreement before it has commenced the construction of a mill, or acquired the interest described in Article 4 hereof, it shall have the right to remove any and all

property placed upon the property by it except pipe in place, rails in place, and buildings, and may retain all such property for its own account. Buyer shall have a reasonable time, not less than six months which shall include the months of July, August, and September after such termination, within which to remove such property.

(b) In the event Buyer exercises its right to terminate this Agreement after it has become the owner of the interest in said property referred to in Article 4 hereof, it may, under its rights to manage said property and any subsequently acquired property under Article 4(d), elect to sell, either to itself or to others, for fair value, any and all property placed upon these premises or any of them by Buyer, including the mill, machinery and fixtures; provided, that prior to such removal and sale Seller shall be given sixty days after written notice by Buyer of its intention to remove such property during which Seller may purchase the property from Buyer at a price not greater than that offered by any other responsible bidder. In the event of the sale by Buyer of such property, the proceeds thereof, together with any such reserves held by Buyer out of the operation of said property, shall be treated as profits and distributed in accordance with the provisions of Article 5 hereof.

Article 11. Title.

Seller agrees that title to the property covered hereby will be conveyed clear of all liens and encumbrances. And Seller hereby authorizes Buyer to perfect title in and to said property, or any part or parcel thereof, to the reasonable satisfaction of Buyer, any expenditure made by Buyer for the purpose of title and all expenditures in connection under the provisions of [illegible]

Article 12. Maintenance.

[illegible]

operating profit during any quarter in which operation is carried on hereunder, this dispute shall be referred to arbitration in the following manner: Each of the parties hereto will select one arbitrator, and submit to said arbitrators the questions to be considered. If said arbitrators cannot agree upon the decision of said issues, they shall appoint a third arbitrator, and the decision of any two of said Board of three arbitrators shall be binding upon both parties hereto. Such decision shall be rendered in writing and signed by at least two of the arbitrators.

Article 21. Notices.

Any notices required or permitted 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, addressed:

(a) If to the Seller, 340 Keenan Building
Salt Lake City 1, Utah

(b) If to the Buyer, Attention Mining Department
120 Broadway
New York 5, N. Y.

and

600 Pacific National Life Building
Salt Lake City 1, Utah

Said addresses for receiving notices may be changed by either party upon ten (10) days' previous written notice to the other party.

Article 22. Corporate Franchise Taxes.

Seller covenants and agrees with Buyer that it will pay all franchise taxes and all other filings necessary to keep and maintain Seller as a corporation in good standing throughout the life of this Agreement.

Article 23. [illegible]

[illegible] as the consent of this Agreement.

[illegible]

[illegible] to the benefit of and be binding upon the [illegible] hereto.

Article 27. Construction.

The titles to the respective Articles hereof shall not be deemed a part of this Agreement, but shall be regarded as having been used for convenience only.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their respective officers, and their corporate seals to be affixed, as of the day and year first above written.

PARK CITY CONSOLIDATED MINES COMPANY

by _____
Executive Vice President
Seller

ATTEST:

_____
Secretary

AMERICAN SMELTING AND REFINING COMPANY

by _____
Vice-President
Buyer

ATTEST:

_____
Secretary

STATE OF UTAH)
) ss.
CITY AND COUNTY OF SALT LAKE)

The foregoing instrument was acknowledged before me this _____ day of _____, A. D. 1950 by _____, _____ of Park City Consolidated Mines Company, Seller.

My commission expires:

Witness my hand and official seal.

_____
Notary Public

STATE OF NEW YORK)
) ss.
CITY AND COUNTY OF NEW YORK)

The foregoing instrument was acknowledged before me this 10th day of December, A. D. 1950 by _____, Vice President of American Smelting and Refining Company, Buyer.

My commission expires:

Witness my hand and official seal.

_____
Notary Public

STATE OF UTAH)
COUNTY OF Weber) ss

On the 18th day of October, 1950, personally appeared before me H. C. BADGER, who being duly sworn, did say that he is the Executive Vice President of Park City Consolidated Mines Company, and that said instrument was signed by him in behalf of said corporation by authority of a resolution of its Board of Directors, and said H. C. BADGER acknowledged to me that the said corporation executed the same.

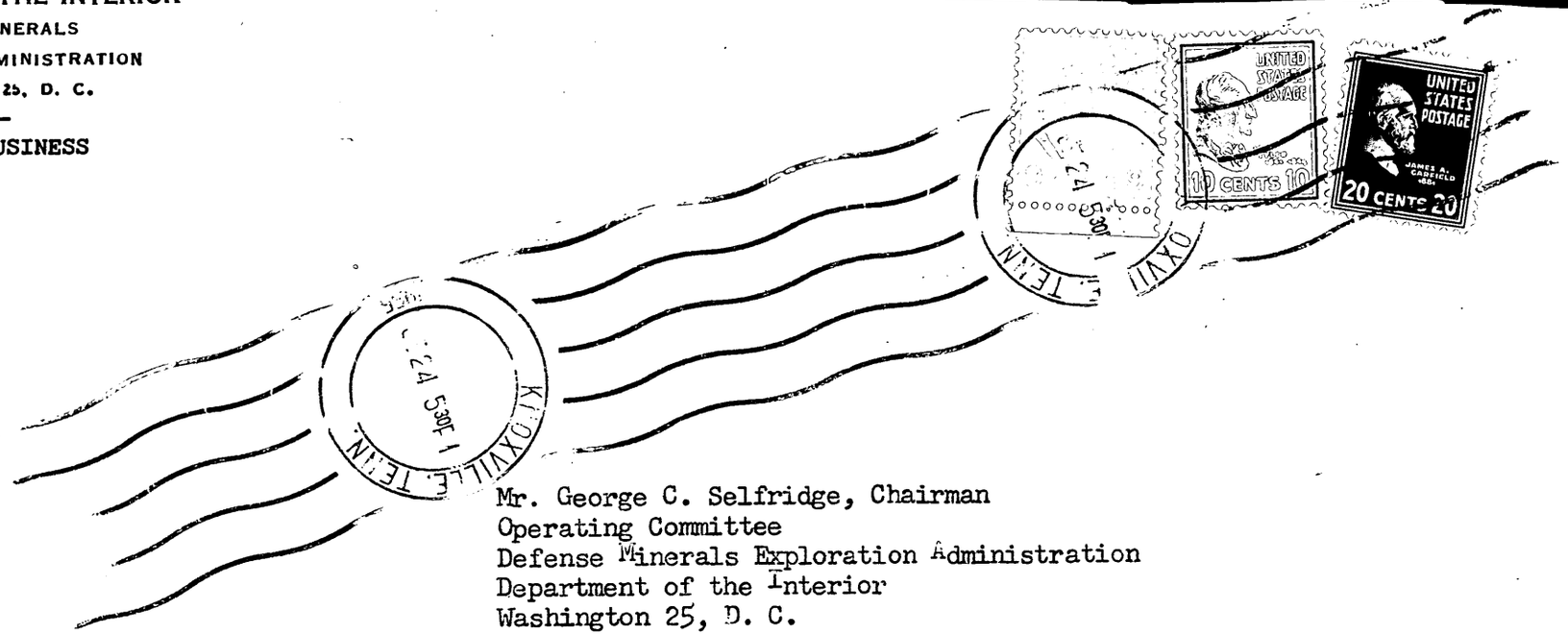
Notary Public
Residing at

My commission expires:

RECEIVED
JUN 24 1955

DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS
EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.
OFFICIAL BUSINESS

ROOM 13 POST OFFICE BLDG.
KNOXVILLE 2, TENN.



Mr. George C. Selfridge, Chairman
Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D. C.

Telephone: 234-2451

March 7, 1983

Mr. Ora Rostad
7624 W. Laurel Ave.
Denver, CO 80123

Dear Mr. Rostad:

The contract which you wished to see (DMEA 3866 - American Smelting Co.) has finally arrived from the Federal Archives in Washington.

I have tried to reach you by telephone since it arrived last week, but there was no answer. Perhaps you can pick the file up at your convenience. The package consists of several folders so the information is quite extensive.

Very truly yours
Jane Spence

Secretary

Ora Mor two folder of DMEA Docket 3866. Will return data as well Will White. AMAX

Docket file

PROJECT SUMMARY REPORT

By: W. P. Klugescheid August 17, 1959

1. DMEA-3866 (Lead-Zinc-Copper)
Contract No. Idm-E903

Operator - American Smelting and Refining Company
120 Broadway
New York 5, New York

Property - Keystone Mine
Gunnison County, Colorado

Operator's Property Rights -

American Smelting and Refining Company owns a 60% undivided interest in the land; Park City Consolidated Mines owns a 40% interest. American Smelting and Refining Company acted as agent for the Park City Consolidated Mines on this project.

Letter confirming American Smelting and Refining Company as agent is in the docket.

2. Contract - dated December 5, 1955. Completion date - December 1, 1957.

Work Authorized -

Drifting and Crosscutting, 2,450' @ $35.00/ft.	$85,750.00	
Raising, 2-compartment with timber, 200' @ $39.00/ft.	7,800.00	
Timbering Drifts & Crosscuts, 245' @ $6.00/ft.	1,470.00	
Diamond Drilling, AX size, 2,000' @ $4.60/ft.	9,200.00	
Cementing and redrilling, 200' @ $2.00/ft.	400.00	
Reaming and Casing, 200' @ $2.00/ft.	400.00	
Diamond drill stations, 10 @ $100.00 each	1,000.00	
Assaying, 400 samples @ $3.00 each sample	1,200.00	
Total Estimated Cost		$107,220.00
Government Participation @ 50%		$ 53,610.00

Amendments -

No. 1 - A clause covering settlement of company's smelter with the mine, as the company operates its own smelter. No increase in estimated cost of the work.

No. 2 - Completion date is extended from December 1, 1957, to December 1, 1958. The royalty payment period is increased from 10 years to 13 years. No increase in the cost of the project.

No. 3 - Was not signed as results of geophysical work were not at all satisfactory.

Termination Agreement - dated January 23, 1959, effective April 23, 1958. Termination was requested by the Operator as geophysical results were discouraging and the structure in the DMEA face was very weak. Further work was considered of doubtful benefit to both the Operator and the Government.

Work Completed -

Drifting and Crosscutting - 1,823' @ $35.00/ft.	$63,805.00	
Raising, 2 compartment with timber, 195' @ $39.00/ft.	7,605.00	
Diamond Drilling, 1,515' @ $4.60/ft.	6,969.00	
Diamond Drill Stations, 4 @ $100.00 each	400.00	
Assaying, 222 samples @ $3.00 each sample	666.00	
Total Cost of the Project		$79,445.00
Government Participation @ 50%		$39,722.50

3. Audit Report of Review, dated March 10, 1959.

Total cost as billed by the Contractor	$79,445.00
Exceptions	None
Total Accepted Cost	$79,445.00
Government Participation @ 50%	$39,722.50

4. Certification of discovery, dated April 24, 1959

Ore Reserve Estimate:

Indicated ore	12,800 tons
Inferred ore	6,900 "
Total ore	19,700 tons @

4.4 oz. silver per ton, 4.8% lead, 0.4% copper, and 7.9% zinc.

5. Comments -

The exploration work completed resulted in the discovery of one ore body and proof of the downward extension of another, both of which were on the Union vein. 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. Further exploration of the Keystone or Union veins with Government assistance is not warranted.

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. 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. The vein is not uniformly mineralized, and the ore bodies occur in distinct shoots. The shoots have greater vertical than horizontal dimensions.

A sub-parallel vein, called the Union vein, is about 150 feet southwest of and en echelon to the Keystone vein. The mineralogy of the two veins is similar.

DMEA exploration along the Keystone vein was limited to 144 feet of drifting on the 2160 level. In 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 enough or sufficiently mineralized to be of interest to the Operator. Similar conditions on the 2000 level 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. Drifting along this vein showed 150 feet in ore which is a downward continuation of a known ore body. Of the 1,373 feet of DMEA drifting on the Union vein on the 2000 level, 140 were in ore. Near the end of the drift on the 2000 level the vein leaves the drift and from this point to the north no major structure is encountered either in the drift or in the various drill holes.

The work was carried on efficiently and in a workmanlike manner.

W.P. Klugescheid

W. P. Klugescheid

WPKlugescheid/gla
cc to: Director's Reading File
Mr. Johnson
Docket
Mr. Klugescheid

DMEA Form 17
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

After final audit or review report is received, prepare original only and file in official docket

Operator THE AMERICAN SMELTING AND REFINING COMPANY		Actual Cost	
State COLORADO		Agreed Unit Cost	X
Final Report of Audit		Commodity LEAD-ZINC-COPPER	Docket No. DMEA-3866
Final Report of Review	X		Contract No. Idm-E903

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
Drifting & Crosscutting	2,450' @ $35.0/ft	$85,750.00	1,823'	$63,805.00	$ 63,805.00
Raising 2 compartment with timber	200' @ $39.0/ft	7,800.00	195'	7,605.00	7,605.00
XXXXXXX Timbering Drifts and Crosscuts	245' @ $6.0/ft.	1,470.00			
XXXXXX Diamond Drilling Cementing and Redrilling	200' @ $2.0/ft.	400.00			
Diamond (AX) Drilling (Specify)	2,000' @ $4.60/ft	9,200.00	1,515'	6,969.00	6,969.00
Surface Excavation					
Diamond Drill Stations- Underground Excavation	10 @ $100	1,000.00	4	400.00	400.00
Roads and Trails					
Reaming and casing- 200' @ $2.0/ft		400.00			
~~XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX Operating Equipment Purchased~~					
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify) Assaying-- 400 samples @ $3.00		1,200.00	222	666.00	666.00
Totals		$ 107,220.00		$ 79,445.00	* $ 79,445.00

* Net cost total must agree with final report of audit or review.

Prepared by W. P. Klugescheid Date 3/20/59.

31390

Total Stage II $ 85,400.00

Total Project $ 107,220.00

Stage I

Drifting & Crosscutting	450' @ 35.00	$15,750.00
Timbering Drs & XCs.	45' @ 6.00	270.00
Raising	200' @ 39.00	7,800.00

Total Stage I. $ 23,820.00

Stage II

Drifting & Crosscutting	2,000' @ 35.00	$ 70,000.00
Timbering — Drs & XCs.	200' @ 6.00	1,200.00
Diamond Drilling	2,000' @ 4.00	8,000.00
Reaming & Casing	200' @ 2.00	400.00
Cementing & Redrilling	200' @ 2.00	400.00
D.D. Stations	10 @ 100.00	1,000.00
Assaying	400 @ 3.00	1,200.00

~~Feb. Mar. Apr. May June July Aug.~~

1957 ~~Jan.~~, ~~Feb.~~ 1956, ~~Mar.~~, ~~Apr.~~ ~~May~~, ~~June~~ ~~July~~ ~~Aug.~~, ~~Sept.~~, ~~Oct.~~, ~~Nov.~~ ~~Dec.~~

Spent

Drilling + Crosscutting @ 35.00 ~~78'~~ ~~188'~~ ~~331'~~ ~~450'~~ ~~491'~~ ~~612'~~ ~~750'~~ ~~867'~~ ~~932'~~ ~~1021'~~ ~~1097'~~ ~~1126'~~

39,410.00
~~38,395.00~~
~~35,735.00~~ ~~32,620.00~~
~~11,585.00~~ ~~2,730.00~~
~~15,750.00~~ ~~6,580.00~~
~~21,420.00~~ ~~17,185.00~~
~~26,250.00~~ ~~30,345.00~~

Raising @ 39.00 195' ~~35'~~ ~~80'~~ ~~116'~~ ~~165'~~

~~4,368.00~~ ~~3,120.00~~
~~6,435.00~~ ~~1,365.00~~
7,605.00

Drill Stations 2

200.00

Drilling ~~Stope II~~ @ 4.60 ~~300'~~ ~~915'~~

~~4,209.00~~
~~1,380.00~~

Assaying 222 ~~33~~ ~~27~~ ~~53~~ ~~65~~ ~~84~~ ~~161~~ ~~194~~ ~~15~~ @ 3.00 ~~91~~ ~~109~~ ~~175~~ ~~192~~ ~~101~~ ~~185~~ ~~191~~

666.00
~~273.00~~ ~~195.00~~ ~~99.00~~ ~~87.00~~
~~513.00~~ ~~231.00~~ ~~159.00~~ ~~45.00~~
~~576.00~~ ~~555.00~~ ~~402.00~~ ~~327.00~~
~~582.00~~ ~~543.00~~ ~~555.00~~ ~~483.00~~

~~47,477.00~~ ~~39,338.00~~ ~~20,384.00~~ ~~2,775.00~~
~~49,174.00~~ ~~38,475.00~~ ~~20,494.00~~ 6,661.00
53,690.00 ~~40,480.00~~ ~~23,664.00~~ ~~15,909.00~~
~~44,113.00~~ ~~23,112.00~~ ~~17,310.00~~
~~46,276.00~~ ~~24,407.00~~ ~~19,101.00~~

Spent ~~Oct~~ 1957 ~~Nov~~ ~~Dec~~ 1958 January ~~Feb~~ ~~Mar~~ April

Stage I.

Drot XCS. @ $35.00 450' $15,750.00

Raising @ 39.00 195' 7,605.00

Assaying @ 3.00 104 312.00

$23,667.00

Stage II. ~~1,293'~~ ~~1187'~~ ~~1077'~~ ~~980'~~ 1373' ~~905'~~ ~~51,675.00~~

Drot XCS. @ $35.00 ~~780'~~ 48,055.00 ~~52,500.00~~

~~45,255.00~~ ~~54,550.00~~

~~41,545.00~~ ~~57,695.00~~

Timbering @ $6.00

Drilling (AX) @ $4.60 1,515' ~~945'~~ 6,969.00 ~~4,347.00~~

Assaying @ 3.00 118 354.00

D.D. Stations @ 100.00 4 ~~2~~ 400.00 ~~200.00~~

~~Stand~~ ~~55,730.00~~

79,445.00 ~~66,135.00~~ ~~60,105.00~~

~~73,885.00~~ ~~69,975.00~~

Royalties

$752.10
118.42
322.00
178.85
113.03

Total Paid to 10/9/56 - $1484.40

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

July 8, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 15 1957

DATE	INITIALS	CODE
7/15		220
7/15	WHK	500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA 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 three copies of a work change order from this office, dated July 8, 1957, revising the extent of the drill hole approved by the Field Team, Region III, under item 1 of its letter to the Operator dated March 20, 1957.

Also enclosed are three copies of the Operator's letter of July 1, 1957, with attached maps and three copies of a joint memorandum dated July 3, 1957, from R. U. King, Geologist, Geological Survey, and E. W. Buel, Mining Engineer, Bureau of Mines, both pertaining to the work change order.

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

W H King
W. H. King

Encls.

OFFICIAL FILE COPY
DMEA
RECEIVED JUL 15 1957

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

July 8, 1957

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

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

Dear Mr. Probst:

Reference is made to the project work approval issued by this office, dated March 20, 1957, and the work change order dated June 21, 1957, relative to the length of the hole to be drilled under item 1 of the first-mentioned project work approval.

After review of the data forwarded by your letter of July 1, 1957, the Government approves the drilling of the hole in question to a length necessary to penetrate the projected position of the Keystone vein beyond reasonable doubt. Based on data presently available, it is estimated that the hole will be about 615 feet in length.

Nothing in this approval for the change in extent of work 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 FieldTeam, Region III

W. H. King
W. H. King

E. M. Harshman
E. M. Harshman

JWT:bh
cc-Mr. F. V. Richard
Salt Lake City, Utah

Chairman, Op. Comm. (3)
Finance Office, Reg. III
Amendment File, Reg. III
Harshman
DMEA/DFC
Townsend
Corres. File - Chron.

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

DMEA
PARTMENT OF THE INTERIOR
JUL 2 1957
REGION III
DENVER, COLORADO

July 1, 1957

Mr. W. H. King, Executive Officer, DMEA
Field Team, Region III
United States Department of Interior
224 New Custom House
Denver 2, Colorado.

Re: Docket DMEA-3866
Contract Idm-E903

Dear Sir:

In accordance with the request made in your letter of June 21, for the plan and cross section maps thru the proposed drill hole location on the 2000 level Union Vein, find enclosed three of each. These are enclosed for your further study of my proposal of a 600 foot hole in the footwall of the Union Vein in section 66.

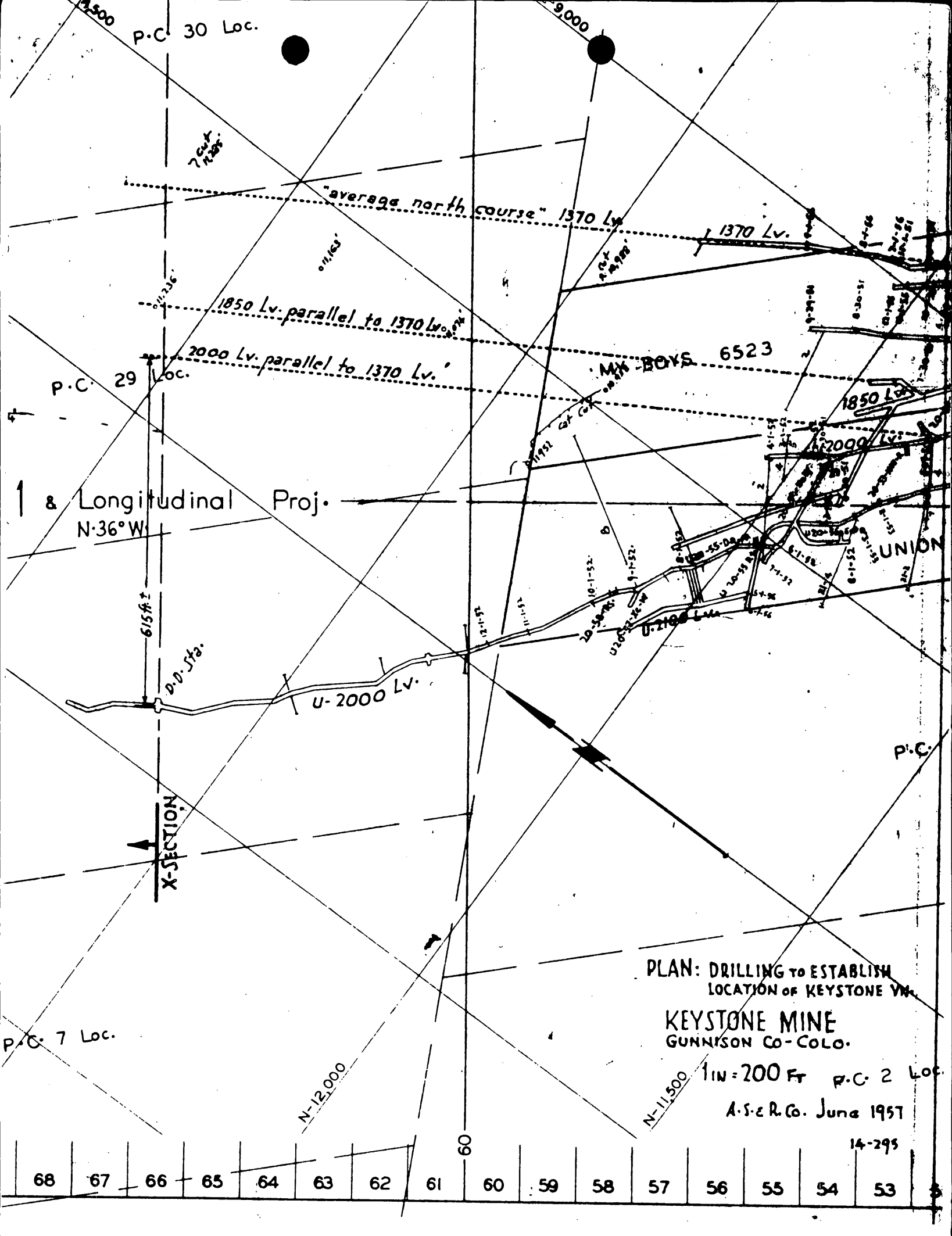
The walls of the 1370, 1470 and 1570 levels have never been explored except for short drill holes on the 1370 level. A decided split of the vein structure on the 1850 level, of which one leg of the split shows a tendency toward bearing in the same direction as the overlying levels, will be noted on the plan map. This brings up the possibility that the upper levels may lie on a footwall split of the Keystone Vein. If this does exist, it is noted minable ore lies considerably ahead on the upper levels of the Keystone Vein in respect to the lower levels.

Surface outcrops ahead of our present workings indicate parallel structures which may be part of the Keystone Vein pattern, if the 1370 level continues its present bearing. This divergence of structure between the 2160 and 1370 levels may be accounted for if a persistent footwall split does occur as indicated on the 1850 level.

You will note from the enclosed plan map a 615 foot hole would be necessary to intersect a possible downward extension of the Keystone Vein should a split occur and the dip remains constant.

Would you please in the future send copies of your correspondence to Mr. F. V. Richard, Mgr., Western Mining Dept., 600 Crandall Bldg., Salt Lake City, Utah.

Yours very truly,


P.C. 30 Loc.
"average north course" 1370 Lv.
1370 Lv.
1850 Lv. parallel to 1370 Lv.
2000 Lv. parallel to 1370 Lv.
MX BOYS 6523
P.C. 29 Loc.
1850 Lv.
2000 Lv.
& Longitudinal Proj.
N·36° W.
UNION
615 ft.
D.D. Sta.
U-2000 Lv.
U-2100 Lv.
P.C.
X-SECTION
P.C. 7 Loc.
N-12,000
N-11,500
P.C. 2 Loc.
PLAN: DRILLING TO ESTABLISH LOCATION OF KEYSTONE VN.
KEYSTONE MINE
GUNNISON CO-COLO.
1 IN = 200 FT
A.S.&R. Co. June 1957
14-295
68
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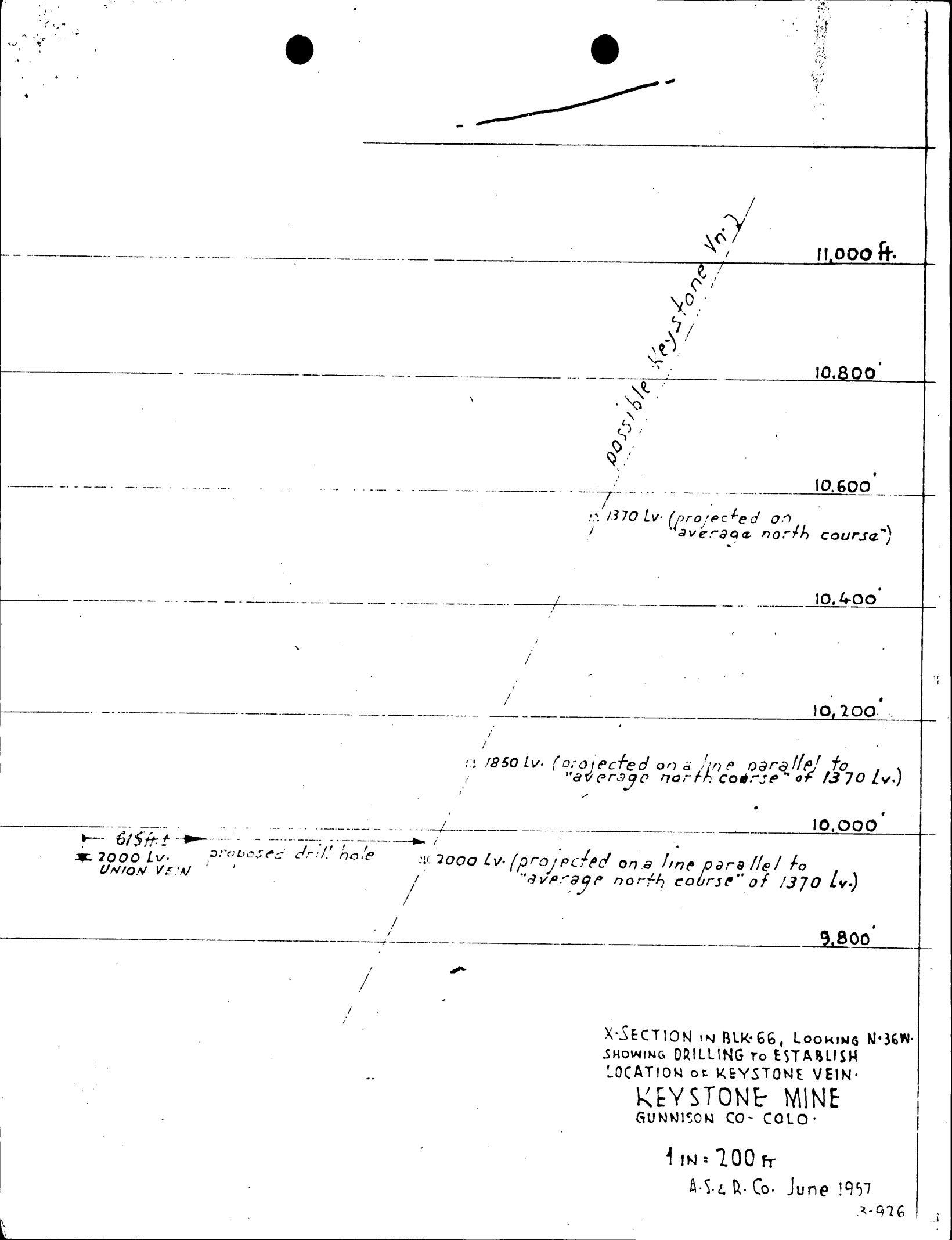
OFFICIAL FILE COPY
D M E A
RECEIVED JUL 15 1957

DATE	INITIALS	CODE



X-SECTION IN BLK. 66, LOOKING N. 36 W.
SHOWING DRILLING TO ESTABLISH
LOCATION OF KEYSTONE VEIN.

KEYSTONE MINE
GUNNISON CO. - COLO.

1 IN = 200 FT

A.S.&R. Co. June 1957

3-926

OFFICIAL FILE COPY
D M E A
RECEIVED JUL 1957

DATE	INITIALS	CODE

IN REPLY REFER TO:
DMEA
DEPARTMENT OF THE INTERIOR
JUL 5 1957
REGION III
DENVER, COLORADO

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

FILE COPY
OFFICE
DMEA
RECEIVED JUL 15 1957

DATE	INITIALS	CODE

July 3, 1957

Memorandum

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

From: R. U. King
E. W. Buel

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

The operator in replying by letter dated July 1, 1957, to the Field Team letter of June 21, 1957, presents his justification for the request to extend the north drill hole from 400 to 600 feet.

The justification for extending the hole to 600 feet is based on projections of the dip and strike of the Keystone vein on the 1370 and 1850 levels, and not by projecting the Keystone vein on the 2000 level--the level on which the exploration is being conducted.

The operator has used the most adverse strike projection possible, and is using the Keystone vein solely as the target for the lateral drilling. The lateral targets originally included the "West vein" (Union vein?) at the surface, an item apparently overlooked by the operator in his request.

The 500-foot depth suggested in the Field Team letter of June 21, 1957, would have been adequate to reach probable projection down dip of the West vein (Union vein?) and the projections along strike of the Keystone vein on the 2000 level. However, since the target projections made by the operator are entirely within the realm of possibility, the extension of the north hole to 615 feet can be regarded as a safety measure and therefore should be approved.

R U King
R. U. King, Geologist

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

RUKing:arh

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

224 New Customhouse
Denver 2, Colorado

June 21, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 24 1957

DATE		CODE
6/25	C	220
6/25		500

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

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

Enclosed are four copies of a work change order from this office, dated June 21, 1957, revising the extent of the drill hole approved by the Field Team, Region III, under item 1 of its letter to the Operator dated March 20, 1957.

Also enclosed are four copies of a memorandum dated June 20, 1957, from E. N. Harshman, Geologist, Geological Survey, and member of the Field Team, Region III, pertaining to the extension of the drill hole.

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

W. H. King

Encls.

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 24 1957
DATE | INITIALS | CODE

224 New Customhouse
Denver 2, Colorado

June 21, 1957

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

Re: Docket No. DMEA 5866 (Lead-Zinc-Copper)
Contract No. Idm-2903
American Smelting and Refining Company
(Keystone mine)
Gunnison County, Colorado

Dear M . Probst:

Reference is made to your letter of June 14, 1957, wherein you request the Government's approval to increase the drill hole to the northeast, approved under item 1 in our letter of March 20, 1957, from 400 feet to 600 feet in length.

A review of map data available to us indicates that the vein should be encountered within 500 feet, and you may consider this the Government's approval to extend the hole to that extent. In the meantime, please forward three copies of a plan map in the vicinity of and a vertical cross section through the proposed drill hole that depicts the structures involved or projections thereof.

If, in your opinion, 500 feet will be insufficient to reach the objective, please advise when you forward the above mentioned plan and cross section.

Nothing in this change order shall be construed to increase the estimated total cost of the project, the aggregate amount which the Government may be required to contribute, nor any item of allowable cost which is expressly designated "maximum."

Very truly yours,

W H King

W. H. King
Executive Officer, DMEA
Field Team, Region III

JWT:prl

cc: Chan.Op.Comm.-4) w/copy of
Harshman) Operator's
DMEA/DFC) letter of
Townsend) June 14.
Corres. file)
Finance Office Reg. III
Amendment file Reg. III
Chron.

DFC

DMEA
DEPARTMENT OF THE INTERIOR
JUN 17 1957
REGION III
DENVER, COLORADO

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

JUNE 14, 1957

OFFICIAL FILE COPY DMEA RECEIVED JUN 24 1957		
DATE	INITIALS	CODE

DMEA Field Team, Region III
U. S. Department of The Interior
224 New Custom House
Denver 2, Colorado

Re: Docket DMEA-3866
Contract No. Idm-E903

Attention: E. N. Harshman:

Gentlemen:

I have been authorized to drill the two diamond drill holes previously requested by your office and your field engineer. As you requested, these holes are to be drilled in section 66 on the 2000 Level Union Vein. One hole to be drilled on a bearing approximately N 55 °E to a depth of 400 Ft, the other drilled on a bearing approximately S 55 °W to a depth of 300 Ft.

The most immediate known objective of any drilling to the NE would be intersection, of a possible extension of the Keystone Vein. Projecting our upper levels on the Keystone Vein to a point opposite the proposed drill site on the 2000 Union Vein a marked divergence of vein structure is noted. Should this divergence persist in dip it is entirely possible that a 400 Ft. hole in the footwall of the Union Vein would not be deep enough to intersect a possible Keystone extension.

I would like your consideration toward extending the hole to the NE from 400 to a 600 Ft. depth. Your early consideration of this request will be appreciated.

Very truly yours,

William Probst

William Probst, Mgr.

IN REPLY REFER TO:

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

DMEA
DEPARTMENT OF THE INTERIOR
JUN 21 1957
REGION III
DENVER, COLORADO

June 20, 1957

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. M. Harshman

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

Please refer to the operator's request of June 14, 1957, in which it is proposed to drill 2 holes from the 2,000-foot level on the Union vein to explore for parallel structures in the foot and hanging walls.

A Field Team letter of March 20, 1957, authorized 2 holes at a point about 500 feet from the start of Stage II drifting on the Union 2,000-foot level as follows:

(1) One hole will be drilled horizontally, directed approximately N. 55° E., for a length of 400 feet.

(2) One hole will be drilled horizontally, directed approximately S. 55° W., for a length of 300 feet.

The operator, in his June 14, 1957, letter, requests without supporting data, that the hole directed N. 55° E. be authorized for a total length of 600 feet instead of 400 feet as specified in the work approval of March 20, 1957.

A review of the plan map which accompanies the operator's progress report for May 1957 (titled "2160 Drift North, Progress, Geology and Assay Map") indicates that the N. 50° E. hole would have to be drilled to a length of about 450 feet to intersect the northwesterly projection of the Keystone vein. The operator may have additional information not available to me, which would indicate the desirability of drilling this hole to the 600-foot length.

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DMEA
RECEIVED JUN 24 1957

DATE	NOTES	

In the absence of such data I recommend that the hole be approved for a length of 500 feet and that the operator be requested to furnish a map and cross-sections to support his request for the 600-foot length.

It should be noted that the projection of the Keystone is not the sole objective of the northeasterly hole. The vein which outcrops on the surface and appears to lie between the Union and Keystone veins (known as the West vein) and other possible enechlon structures are also targets.

E. N. Harshman
Member, Field Team

ENHarshman:mp

OFFICIAL FILE COPY
DMEA
RECEIVED JUN 24 1957

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

May 28, 1957

OR-FROM BALE COUNTY
DATE
RECEIVED COPY
DATE
1/31
2/6
C
WRB
220
800
500

Mr. Nolan Probst, Superintendent
American Smelting and Refining Company
P. O. 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 April, 1957, has been received in this office and is being processed for payment.

An amount of $6.00, the reported cost for two samples assayed at $3.00 per sample is reinstated. The cost of the two sample analyses was disallowed by this office from the March, 1957 Voucher and was again deducted by your office from the costs reported on Form MF-104 for April, thereby effecting a duplicate deduction.

The "Totals to Date" column on Form MF-104 and "Costs to Date" column on Form MF-104A for April, 1957, are in agreement with our records.

Yours very truly,

Original signed by
E. N. HARSHMAN

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

JDC:hmh
cc: Chmn. Op. Comm. (2)
Harshman
Konselman
Townsend
Corres. file, Reg. III
Chron.

OFFICIAL FILE COPY
DMEA
RECEIVED MAY 13 19
DATE | | CC
5/13 | C | 220
5/13 | | 800
5/13 | | 500

224 New Customhouse
Denver 2, Colorado

May 10, 1957

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

Re: Docket DMEA-3866 (Lead-Zinc-Copper)
Contract Idm-E903
American Smelting and Refining Co.,
on its own behalf and as agent for
Park City Consolidated Mines Co.
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Probst:

By letter of March 20, 1957, we confirmed our verbal approval of an additional 500 feet of drifting northwesterly on the Union 2,000 level and drilling two diamond drill holes from a point about 500 feet northwest of the start of Stage II drifting on that level.

We have been informed that you are in the process of cutting a diamond drill station at the approved location, but we do not know your plans regarding the drilling.

The structure along which you are now drifting, undoubtedly the Union vein, is well defined and contains intervals of commercial base-metal sulfide ore; continued exploration northwesterly appears warranted.

We are, however, somewhat concerned about the possibility of parallel mineralized structures existing in either wall, but particularly in the footwall. The surface geologic map shows the West vein in a position that suggests it may be a mineralized structure in the footwall of the Union vein although it can be the outcrop of the Union vein if that vein flattens considerably up dip from the 2,000 level.

Diamond drilling was included in the contract to explore the walls for parallel or en echelon structures, and we believe it is to the interest of your company and the Government to complete the two holes approved in our letter of March 20, 1957 before completing the 1,000 feet of drifting approved under Stage II of the contract. The data to be obtained by this drilling may have an important bearing on approval of additional work northwesterly on the Union vein.

Please notify us of your plans for the diamond drilling.

Very truly yours,

DMEA Field Team, Region III

Original signed by
E. N. HARSHMAN

By E. N. Harshman
Acting Executive Officer

ENH:jy
cc: Chm. Op. Comm. (2)
Harshman
Konselman (2)
Townsend
Corresp. File E903
Chron.

OFFICIAL FILE COPY
D M E A
RECEIVED MAY 1 1957

DATE	INITIALS	CODE
5/1	C	220
5/2	[illegible]	800
5/2	wrb.	500

224 New Customhouse
Denver 2 Colorado

April 29, 1957

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 March, 1957, has been received in this office and is being processed for payment.

We have checked our records and we are able to find locations and results for only 25 of the 27 assays reported for the month of January, 1957. Therefore, the cost of two samples assayed for Lead, Zinc and Copper is disallowed from the March, 1957 voucher.

As two of the samples reported for December, 1956 were obtained from the January, 1957 drift advance, it is possible that the two samples (8364 and 8365) were reported for January also. Please check your records, and if you find that we are correct, make the necessary adjustment of units and costs on the next reports which you submit on vouchering and accounting Forms MF-104 and MF-104A.

If your records cannot be reconciled with the above deduction, please furnish this office with the locations and results for any samples not shown on the map which you submitted with the January, 1957 report and voucher.

Yours very truly,

Original signed by
E. N. HARSHMAN

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

JDC:hh
cc: Chmn.Op.Comm. (2)
Harshman
Konselman (2)
Townsend
Corres. File, Reg. III
Chron.

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

March 20, 1957

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 22 1957

DATE	INITIALS	CODE
3/27	C	220
3/22	WRG	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 Idm-E903
American Smelting and Refining Company (Keystone Mine)
Gunnison County, Colorado

Enclosed are four copies of confirmation of work approval issued by the DMEA Field Team, Region III. Also enclosed are four sets of data relative to the work approval.

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

E. N. Harshman

Encls.

E. N. Harshman

OFFICIAL FILE COPY
DMEA
RECEIVED MAR 22 1957

DATE	INITIALS	CODE

224 New Customhouse
Denver 2, Colorado

March 20, 1957

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

Re: Project ~~DMEA-3866 (Lead-Zinc-Copper)~~
Contract No. ~~Ida-2903~~
American Smelting and Refining Co.,
on its own behalf and as Agent for
Park City Consolidated Mines Company
(Keystone Mine), Gunnison Co., Colo.

Dear Mr. Probst:

This confirms verbal approval by the Government on March 8, 1957, for you to extend the drift northeasterly on the Union 2,000 level an additional 300 feet. In addition, the following diamond drilling is approved. The diamond drilling consists of two holes to be drilled from a point approximately 500 feet from the start of Stage II drifting on the Union 2,000 level.

1. One hole will be drilled horizontally, directed approximately N. 55° E., for a length of 400 feet.

2. One hole will be drilled horizontally, directed approximately S. 55° W., for a length of 300 feet.

Nothing in this confirmation of 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

W. Harshman

By W. H. Harshman
Acting Executive Officer

cc-Mr. F. V. Richard
JWT:bh
cc--Chair., Op. Comm. (4)
Finance Office, Reg. III
Amendment File, Reg. III
Harshman
Shaw
Townsend
Corres. File E-903
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REGION III

DMEA
DEPARTMENT OF THE INTERIOR
MAR 18 1957
REGION III
DENVER, COLORADO

Building 20
Denver Federal Center
Denver 2, Colorado

March 15, 1957

EXTRA COPY DMEA RECEIVED MAR 1957		
DATE	INITIALS	CODE

Memorandum

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

Through: John F. Shaw
E. N. Harshman

From: D. H. Richter
E. W. Buel

Subject: Docket DMEA 3866 (Lead-Zinc-Copper) Contract Ida-2903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado - Approval for continuance of Stage II work

The operator was given verbal approval on March 8, 1957, to do an additional 500 feet of drifting along the Union vein on the 2,000-level. In addition to the drifting, the operator was informed that two diamond-drill holes should be drilled to determine the existence of any other veins that may be parallel to or en echelon with the Union vein. Stage II provides for 2,000 feet of drifting and 1,000 feet of diamond drilling.

The operator recently exposed in the Union drift a very favorable showing of ore-grade material, presently known to be 7 feet wide and extend 1½ several feet along the drift. On the basis of this new showing and from previous ore-bearing areas discovered by DMEA drifting, the operator was given verbal approval for continuance of the Union drift.

Initially recommended diamond drilling consists of two holes to be drilled from a point approximately 500 feet from the start of Stage II drifting on the Union 2,000 level. One hole will be drilled horizontally, approximately N. 55° E., for a length of 400 feet. The other hole will be drilled horizontally, approximately S. 55° W., for a length of 300 feet. It is anticipated that additional drilling will be recommended, contingent upon the results of the initial drilling.

Donald H. Richter
Donald H. Richter
Geologist

Edward W. Buel
Edward W. Buel
Mining Engineer

cc 9
EHHarshman
Ida-2903

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

March 12, 1957

RECEIVED
MAR 14 1957
Div. of Mineral Technology
BUREAU OF MINES
Denver Experiment Station
Denver, Colorado

EXTRA COPY
DMEA
RECEIVED
DATE INITIALS DATE

DMEA
DEPARTMENT OF THE INTERIOR
MAR 18 1957
REGION III
DENVER, COLORADO

Mr. Ed Buel
U. S. Dept. of Interior
Defense Minerals Exploration Administration
224 New Custom Building
Denver 2, Colorado

RE: Docket DMEA - 3866
Contract Idm - E903

Dear Sir:

Pursuant to our telephone conversation of March 11, I am enclosing for your study the theoretical projection of the 2000 Level Union Drift with the proposed arrangement of the diamond drill stations. These stations will be located at 500 ft. intervals and on opposite sides of the drift.

The present showing of ore in the 2000 Union Drift face appears encouraging. Considerably more gouge is developed at this point than elsewhere on the Union Vein.

Kindly confirm in writing your verbal approval for the next 500 ft. of drifting on the project.

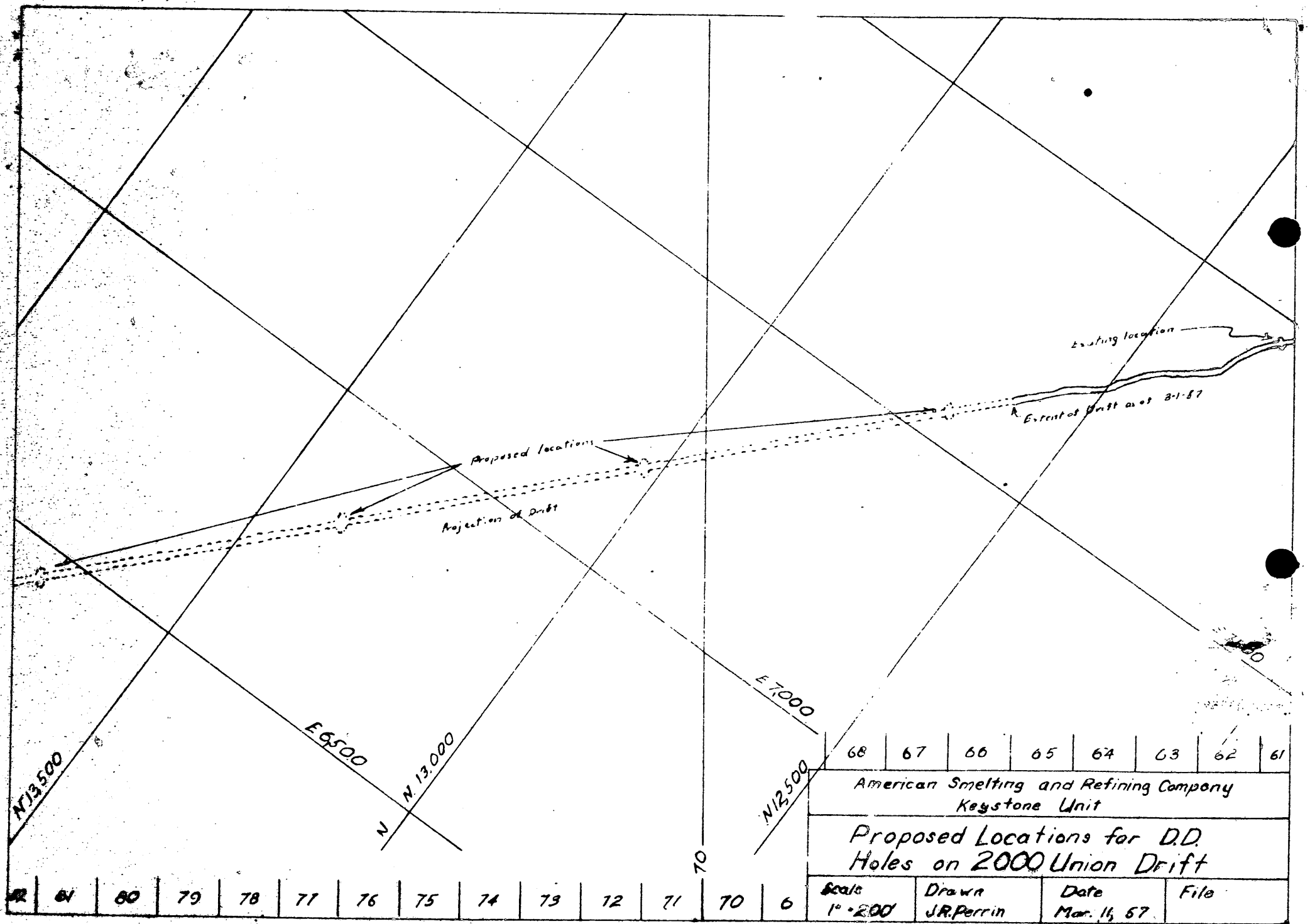
Very truly yours,

Nolan Probst

Nolan Probst, Supt.

NP:rmc

cc: FVR w/encl.
RKKirkpatrick, w/o encl.


Existing location
Extent of Drift as of 3-1-57
Proposed locations
Projection of Drift
E 7,000
E 6,500
N 13,000
N 13,500
N 12,500
70
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American Smelting and Refining Company
Keystone Unit
Proposed Locations for D.D.
Holes on 2000 Union Drift
Scale
1" = 200'
Drawn
J.R. Perrin
Date
Mar. 16, 57
File

EXTRA COPY
D M E A
1957
RECEIVED MAIL
DATE | INITIALS | CODE

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
2/28	Griswold	500
3/1	Selfridge	130
"	Johnson	110
"	Hetherington	100
		225
3/4	C	220

500

500

MAR - 1 1957

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

Re: Docket No. DMEA-3366 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-B903

Dear Mr. Harshman:

We have noted the interim report, dated February 14, by Donald H. Richter, covering work under the cited project. If the thinning and weakening of the vein and structure should persist, it probably would be well to probe the walls by diamond drilling to see if a stronger parallel structure may exist. If such a more promising structure was found, it would then be advisable to crosscut to it for subsequent drifting.

There appears to be some reason to believe that the West vein, shown as outcropping on the surface, is not the Union vein upon which the drift is being driven.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (DB)

WRGriswold/er 2/28/57

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

APPROVED:

Frank D. Lamb (DB)
Member, Bureau of Mines

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

8623

MAR - 1 1957

Mr. [illegible] H. Marshman
Acting Executive Officer
DMEA Field Team, Region III
224 New Customhouse Bldg.
Denver 2, Colorado

Re: Docket No. DMEA-306 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-2903

Dear Mr. Marshman:

We have noted the interim report, dated February 14, by Donald H. Richter, covering work under the cited project. If the thinning and weakening of the vein and structure should persist, it probably would be well to probe the walls by diamond drilling to see if a stronger parallel structure may exist. If such a more promising structure was found, it would then be advisable to crosscut to it for subsequent drifting.

There appears to be some reason to believe that the West vein, shown as outcropping on the surface, is not the Union vein upon which the drift is being driven.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee

WRGriswold/er 2/28/57

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

APPROVED:

Frank D. Lamb

Member, Bureau of Mines

N. E. Nelson

Member, Geological Survey

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

224 New Customhouse
Denver 2, Colorado

November 6, 1956

Mr. F. V. Richard
American Smelting and Refining Company
Western Mining Department
600 Pacific National Life Building
Salt Lake City 1, Utah

Re: Docket No. DMEA 3866
(Lead-Zinc-Copper)
Contract No. Idm-E903
American Smelting and Refining
Company, on its own behalf and
as agent for Park City Consolidated
Mines Company (Keystone mine),
Gunnison County, Colorado

Dear Mr. Richard:

Reference is made to your letter of November 2, 1956, relative to the Government's approval of only 500 feet of drifting northwesterly on the 2000 level under Stage II of the Contract.

It is the Government's preference that the 2,000 feet of drifting authorized under Stage II be accomplished in progressive stages, dependent upon conditions encountered as the work progresses. Therefore, only 500 feet was approved at the beginning. When approximately 400 feet of the 500 feet of drifting has been completed, you should then request the Government's approval for additional drifting.

Our field examiners expect to keep in close touch with operations so that the matter of your request for additional drifting can be resolved without delay to operations.

Very truly yours,

Original signed by
W. M. TRAVER
W. M. Traver
Executive Officer, DMEA
Field Team, Region III

cc: Mr. M. Probst, Superintendent
Keystone Unit, A.S. & R.
P. O. Box "J"
Crested Butte, Colorado

JWT:prl

cc: Chairman, Op. Comm. (2) } w/copy of Operator's letter of Nov. 2
Harshman
Shaw
Townsend
Corres. file
Chron.

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT

F. V. RICHARD, MANAGER
W. R. LANDWEHR, CHIEF GEOLOGIST
NORMAN WEISS, MILLING ENGINEER

600 PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH

November 2, 1956

DMEA
DEPARTMENT OF THE INTERIOR
NOV 5 1956
REGION III
DENVER, COLORADO

Mr. W. M. Traver, Executive Officer
U. S. Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

DOCKET NO. DMEA 3866
CONTRACT NO. Idm-E903

Dear Sir:

This will acknowledge your letter of October 29th in which the Government, under the above contract, approves 500 feet of drift northwesterly on the 2000 level under Stage II.

I note that approval is being granted for only 500 feet on the 2000 level, whereas Stage II allows for 2,000 feet of drifting. If the footage approved in your letter of October 29th is not in error, then I would appreciate instructions as to the procedure to be followed for doing the remaining 1,500 feet of 2000 level drifting.

Very truly yours,

F. V. Richard

F. V. RICHARD

FVR:bm
cc: N.Probst

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

224 New Customhouse
Denver 2, Colorado

OCT 31 1956

RECEIVED NOV 2 1956 D.M.E.A.

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, on its own behalf and as Agent for Park City Consolidated Mines Company (Keystone mine), Gunnison County, Colorado

Enclosed are four copies of confirmation of project work approval issued by the DMEA Field Team, Region III.

Also enclosed are two copies of the Operator's request of September 6, 1956 and four copies of a joint memorandum, dated October 26, 1956, from D. H. Richter, Geologist, Geological Survey, and R. L. Bolmer, Mining Engineer, Bureau of Mines.

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

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED NOV 2 1956 D.M.E.A.

224 New Customhouse
Denver 2, Colorado

October 29, 1956

Mr. F. V. Richard
American Smelting and Refining Company
Crandall Building
Salt Lake City, Utah

Re: Docket No. DMEA 3866 (Lead-Zinc-Copper)
Contract No. Idm-E903
American Smelting and Refining Company,
on its own behalf and as Agent for Park
City Consolidated Mines Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Richard:

In reference to your request of September 6, 1956, and consistent with provisions in the Contract pertaining to Stage II work, this confirms verbal approval by the Government on October 23, 1956, for you to proceed with 500 feet of drift northwesterly on the 2,000 level.

Nothing in this confirmation of 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

W. M. Traver

W. M. Traver

E. N. Harshman

E. N. Harshman

JWT:prl
cc: Chairman, Op. Comm. (4)
Finance Office, Reg. III
Amendment file, Reg. III
Harshman
Shaw
Townsend

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

Corres. file
Chron.

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
October 25, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: E. N. Harshman
John F. Shaw

From: D. H. Richter
R. L. Bolmer

Subject: Docket DMEA 3866 (Lead-zinc-copper) Contract Idm-2903, American Smelting and Refining Company (Keystone mine) Gunnison County, Colorado -- Authorization of Stage II

The operator, on September 6, 1956, requested permission to proceed with Stage II work, under the subject contract, on the 2000 level of the mine. A memorandum dated September 14, 1956, by E. N. Harshman and R. L. Bolmer stated that inasmuch as the full length of the 2000 level Union drift could not be examined due to bad air, definite recommendations regarding the operator's request should be deferred until the drift is made accessible. On October 19, 1956, the Field Team was verbally advised that the drift was accessible and an examination was made October 23, 1956.

The Union vein is well exposed throughout the length of the drift on the 2000 level and although some areas were relatively barren of sulfide mineralization, the vein structure is apparently strong. At the face of the drift the vein is 1.5 feet thick and consists primarily of quartz, with minor amounts of sphalerite, galena, and pyrite. Assays across the vein at the face ran 4 oz. silver, 2.8 percent lead, 0.04 percent copper, and 2 percent zinc. This assay is more or less representative for the last 200 feet of vein exposed in the drift. Back from this point, however, to the apparent beginning of the Union vein, the vein is usually richer and wider. The vein which at the face strikes N. 34° W. and dips 62° SW. is entirely in a light gray dense sandstone of the Cretaceous Mesa Verde formation.

Inasmuch as the vein structure is still strong at the end of the 2000 level drift and sulfide mineralization was present, the operator was verbally authorized on October 23, 1956 to proceed with 500 feet of the Stage II work on the 2000 level.

Donald H. Richter
D. H. Richter
U. S. Geological Survey

R. L. Bolmer
R. L. Bolmer
U. S. Bureau of Mines

cc: 9
Idm-2903
EEHarshman
Chron

RECEIVED
OCT 26 1956
REGION III
DENVER, COLORADO

September 6, 1956

DMEA
DEPARTMENT OF THE INTERIOR
SEP 7 1956
REGION III
DENVER, COLORADO

NOV 9 1956
D.M.E.A.

Mr. W. M. Traver, Executive Officer
U. S. Department of Interior
Defense Minerals Exploration Administration
224 New Custom House
Denver 2, Colorado

DOCKET DMEA 3866
CONTRACT Idm 3903

Dear Mr. Traver:

Exhibit A of the above mentioned contract contemplated that permission be secured from your adminstration to proceed with the Stage II work on this exploration project, and your letter to Mr. Probst of June 20, 1956 asked that this request for permission be presented through your office in sextuplicate, together with maps.

In keeping with these instructions, this letter requests permission to proceed with all the drifting, crosscutting, and diamond drilling to explore to the northwest at the 2000 level elevation, as outlined under Stage II on page three of Appendix A of the above mentioned contract, and as shown in red in a general way on the attached longitudinal projection and plan of the Keystone mine workings.

The work done on Stage I of this exploration project through the end of August, 1956 is shown in blue on the attached maps. It can be seen that the contemplated drifting and crosscutting on the 2160 level has been completed and that substantial progress has been made in the raise on the Union vein between the 2160 level to the 2000 level, which is expected to be completed in September.

Your office has been supplied with monthly reports on the progress and results of the work done to date. To summarize these briefly, the 2160 level drifting northwesterly on the Keystone vein revealed the values to die out much as happened on the 2000 level. The crosscut westerly from this point encountered the Union vein, and drifting continued on this vein 190 feet northwesterly in ore. Raising to the 2000 level was started on the Union vein at a location approved by your office, and is still in progress. Production of ore from the exploration under Stage I has resulted in royalty payments under the contract.

The results of the exploration work at the 2160 level are about as expected, and nothing is indicated by this work which would change the plans outlined in Appendix A under Stage II. Permission is, therefore, requested to proceed with this Stage II work as soon as the raise on the Union vein under Stage I is completed.

I would like to take this opportunity to thank you and your organization for the splendid cooperation we have received on this project.

Very truly yours,

/S/ F. V. Richard
F. V. RICHARD

FVR:bm
Encls.

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

RECEIVED
SEP 19 1956

224 New Customhouse
Denver 2, Colorado

September 17, 1956

Mr. F. V. Richard, Manager
Western Mining Department
American Smelting and Refining Company
600 Pacific National Life Building
Salt Lake City 1, Utah

Re: Docket DMEA 3866 (Lead-Zinc-Copper)
Contract Dm-E903
American Smelting and Refining Company
on its own behalf and as Agent for
Park City Consolidated Mines Company
(Keystone mine)
Gunnison County, Colorado

Dear Mr. Richard:

Reference is made to your request dated September 6, 1956 for authorization for the performance of Stage II of the captioned contract on the 2000 level of the Keystone mine.

Due to the inaccessibility of that section of the 2000 level drift beyond the raise connection presently being completed between the 2160 and the 2000 level, our field man will not be able to examine the heading until the raise is completed and an auxiliary fan installed. Therefore, we are deferring action on the request until such time as an examination of the 2000 level beyond the raise is possible.

Please advise this office promptly when that section of the 2000 level in question is accessible and we will immediately request field recommendations and give you Field Team verbal authority, followed by written confirmation, in order to eliminate any delay in your operations.

Very truly yours,

W. M. TRAVER

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

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

Chron.
Docket
w/copy of memo from Field

WMT:prl
cc: Sec. to Sp. Comm. (4)
Harshman
Shaw (2)
Townsend

RECEIVED
SEP 1

DMEA
DEPARTMENT OF THE INTERIOR

REGION III

SEP 14 1956
REGION III
DENVER, COLORADO

Building 20
Denver Federal Center
Denver 2, Colorado
September 14, 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

Through: John F. Shaw
Supervising Mining Engineer

From: E. N. Harshman and R. L. Bolmer

Subject: DMEA 3866 (Lead-zinc-copper) Contract Idm-E903, American Smelting and Refining Co. (Keystone mine) Gunnison County, Colorado -- Operator's request for permission with work authorized under Stage II of the project

The operator under the subject contract, in a letter dated September 6, 1956, requested permission to proceed with all of the authorized Stage II work on the 2000 rather than the 2160 level of the mine. Stage II of the authorized project involves 2000 feet of drifting and 2000 feet of core drilling and is to be carried out on whichever level the results of Stage I exploration indicate to be the more promising.

Stage I of the project involved 450 feet of drifting and crosscutting on, and 200 feet of raising from, the 2160 or lowest level of the mine. To date, all but about 50 feet of the authorized raise between the 2160 and 2000 levels has been completed. The results of this work have been promising and, from present knowledge, it would appear to make little, if any, difference on which level the Stage II exploration was performed.

The existing 2000 level drift on the Union vein, which the operator proposes to advance under Stage II of the project, extends some 500 feet northwest of the raise connection. The air in this section is bad and the drift will remain inaccessible until the raise connection is made and an auxiliary fan is installed. It is expected that such work will be completed within three or four weeks.

It is believed that any definite recommendations regarding the operator's request should be deferred until the full length of the 2000 level Union drift is made accessible for inspection by DMEA representatives.

E. N. Harshman

E. N. Harshman
Member Field Team

R. L. Bolmer

R. L. Bolmer
Mining Engineer

RLB/mw cc: 9 Idm-E903 Chron

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

RECEIVED
SEP 12 1956

224 New Customhouse
Denver 2, Colorado

September 10, 1956

Memorandum

To: John F. Shaw - w/copy of Operator's request.
E. N. Harshman - " " "

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

Subject: Docket DMEA 3866 (Lead-Zinc-Copper), Contract Idm-8903, American Smelting & Refining Co., on its own behalf and as agent for Park City Consolidated Mines Company (Keystone mine), Gunnison County, Colorado.

Reference is made to the Field Team's letter of June 20, 1956 to the subject contractor, wherein he was instructed to submit his request for performance of work under Stage II of the contract.

Attached hereto is a copy of the request, complete with supporting maps and justification.

Please submit a memorandum with your recommendations at an early date, in order that the Field Team may give the contractor either authorization or denial of the request.

You should return the material supplied herewith with your memorandum, to facilitate proper distribution on the final action.

W. M. TRAVER

W. M. Traver

Enclosure

WMT:prl

cc: Chairman, Oper. Comm. (2)
Townsend
Corres. / 8903
Chron.

July 12, 1956

Memorandum

To: Administrator

From: George C. Selfridge, Special Assistant

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

The subject property was visited May 24, 1956, with Messrs. Traver, Barshman and King from the Denver office, and Mr. M. Probst, superintendent of the property.

Especial attention was given to the section of the DMEA work on the Union vein on the 2360-Level. Where intersected by the 21-55 W. crosscut the vein is 3.5 feet wide at the floor and 1.5 feet at the back. The width appeared to be governed by the type of country rock. The vein occurs in the Cretaceous Mesa Verde formation which consists of alternating sandstone and shale members. The vein continues strongly northwestward until near the face. Some 30 to 40 feet back from the face the vein had split, and the company supervisory personnel were in a quandary as to just what had happened or what should be done. In splitting, the vein had divided into two sections with a 20" vertical one on the hanging wall side. The footwall side had retained the normal vein dip and had been left in the northeast wall. The hanging wall split ranged to 20 inches in width and exhibited rhodochrosite, quartz and iron, copper, lead and zinc sulphides in shale. The walls were of sandstone which was somewhat blocky, hard and fractured. It contained little mineralization and appeared to be a poor host. Slabbing was started on the footwall split at the time of the examination.

The drift on the Union vein crosscuts the sediments at an acute angle from hanging wall to footwall. Replacement mineralization appears to be minor. Probably most is of the open-space filling type. Bags are common. The face should be continued to see what happens ahead in the sandstone which is coming up from the floor as the drift is advanced. The raise

allowed in the contract was mentioned but it is not needed for ventilation as the ventilation was good. When questioned, the supervisor stated that no geologic work had ever been done in the mine with relation to the width and grade of ore depending on whether the country rock was shale or sandstone or mixtures. It is typical for the veins to pinch and swell and this may depend in part upon the type of country rock. Study and sections may show that the better ore trends with the beds rather than occurring in vertical shoots. Apparently, the only geology that is done at the mine is done by the exploration man stationed in Denver.

The company hasn't readied the 2000-foot Level for the work scheduled there. The air is poor so it could not be visited. In fact, none of the DMEA personnel have ever seen the 2000-foot Level face. The development of any of the presently known ore shoots to depth in the future will have to be done by sinking as there are no more available adit sites.

Mining is done by shrink-stoping 40-foot panels for speed in reaching the next level. Chutes are on 10-foot centers. No pillar is left between the drift and the stope so stope floors are timbered. The average life of the Copco steel used is 400 feet. The company mills 240 tons of ore daily, making lead and zinc concentrates. It plans to mill some dump ore this summer of which there is approximately 10,000 tons available.

Although this is a company operation, it does appear that only the minimum of geologic work is being done and that more could be effectively used.

George C. Selfridge esf

George C. Selfridge

GCSelfridge/esf
(7/12/56)
cc to: Docket
Admr. R. File
Messrs: Johnson
Griswold
Selfridge

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

RECEIVED
JUL 5 - 1956

224 New Customhouse
Denver 2, Colorado

July 3, 1956

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

Re: Royalty payments, Docket DMEA 3866 (Lead-Zinc-Copper), Contract Idm-E903, American Smelting and Refining Company (Keystone mine), Gunnison County, Colorado

Dear Mr. Probst:

Your letter dated June 25, 1956 with settlement sheets and check for $752.10 to cover royalty due on Lots D-1, D-2, D-3 and D-4 has been received. We note contrary to the intent of Amendment No. 1, to the cited contract, royalty was computed and paid on a crude ore basis.

The Amendment was made to avoid the involved calculations necessary when computing royalty on a metallic base from commingled production. It was deemed more logical to calculate a liquidation for Keystone Unit production on a net smelter basis. Inasmuch as production from the property described in the contract is disposed of in the form of concentrates to the smelter, the Government's royalty shall be a percentage of the net smelter value of the concentrates. The settlement sheets submitted appear to be entirely acceptable in all other respects.

We thus advise that royalty is due on Lots D-1 through D-4 as follows:

Lot D-1	Tons Conc.	Net Smelter Value/ton	Total Net Value	Royalty at 5%
Pb concentrates	4.342	$304.56	$1,322.40	$66.12
Zn "	10.701	56.37	603.22	30.16
Total Royalty Due				96.28
Total Royalty Pd.				28.93
Bal. Royalty Due				$67.35

	Tons Conc.	Net Smelter Value/ton	Total Net Value	Royalty at 5%
Lot D-2				
Pb Concentrates	2.308	$203.47	$469.61	$23.48
Zn "	4.921	49.67	244.43	12.22
Total Royalty Due				35.70
Total Royalty Pd.				10.67
Bal. Royalty Due				$25.03
Lot D-3				
Pb Concentrates	2.51	$204.15	$512.42	$25.62
Zn "	4.59	53.50	245.57	12.28
Total Royalty Due				37.90
Total Royalty Pd.				11.40
Bal. Royalty Due				$26.50
Lot D-4				
Pb Concentrates	48.85	$208.82	$10,200.86	$510.04
Zn "	67.90	56.14	3,811.91	190.60
Total Royalty Due				$700.64
Total Royalty Pd.				701.10
Overpayment				$ 0.46

Your check for $118.42, representing the balance of royalty due on these shipments, should be made payable to the Defense Minerals Exploration Administration, and sent to the Executive Officer, DMEA Field Team, Region III, Room 224 New Customhouse, Denver 2, Colorado.

We have appreciated your patience and assistance in arriving at a mutually satisfactory method to effect repayment on DMEA production from the Keystone Unit.

Yours very truly,

W. M. TRAVER

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

cc: Mr. F. V. Richard, Manager
Western Mining Department

MHM/vj

cc: Royalty File E903
Sec. Opr. Comm. (2)
J. F. Shaw (2)
D. T. Finch
Marshall
Chron.

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

RECEIVED
JUN 25 1956

224 New Customhouse
Denver 2, Colorado

June 21, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903
American Smelting and Refining Company on its own behalf and as agent for Park City Consolidated Mines Company
(Keystone Mine), Gunnison County, Colorado

Enclosed for your records are four copies of work concurrence issued by the DMEA Field Team, Region III. Also enclosed are four copies of the Operator's letter requesting Government's approval of the raise in question.

W. M. Traver

Enc.

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

RECEIVED
JUN 25 1956

224 Sam Gustafson
Denver 2, Colorado

June 20, 1956

Mr. Nolan Probst, Superintendent
Keystone Unit,
American Smelting & Refining Co.
P. O. Box 3
Crested Butte, Colorado

Re: Docket DMEA 3266 (Lead-Zinc-Copper)
Contract Ldm-2903, American Smelting
& Refining Company on its own behalf
and as agent for Park City Consoli-
dated Mines Company (Keystone Mine),
Gunnison County, Colorado

Dear Mr. Probst:

Reference is made to your letter of June 11, 1956, to Mr. E. L. Nelson, Mining Engineer, Bureau of Mines, relative to the location of a raise not to exceed 200 feet in height, which is to be driven under Stage I of Contract Ldm-2903.

The Government concurs in your suggested location of the raise in the DMEA drift on the Nelson Vein at a point approximately 105 feet northwest of the 23-55 west crosscut which was also driven under Stage I of the DMEA contract.

Completion of the above-described raise will complete the exploration work authorized under Stage I of the contract, and in that respect your attention is directed to the provision in the contract that the performance of the work under Stage II is contingent on the results obtained from the work performed under Stage I, and the Stage II work is subject to prior written approval by the Government.

Your request for the Government's approval for the work you propose to perform under Stage II must be in writing and six copies forwarded to this office, each copy complete with maps or other pertinent data to justify your work proposal.

Nothing in this work concurrence 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,

[illegible] Field Team, Region III

By _____
W. H. Tanner,
Executive Officer

cc - Mr. F. U. Richard

JWT:bh

cc-Chairman, Op. Comm. (4)
Finance Office, Region III
Amendment File, Region III
Harshman
Shaw
Townsend
Corres. File E-903
Chron.

COPY

AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE UNIT
P. O. Box 8
Crested Butte, Colo.

RECEIVED
JUN 2 5 1956

June 11, 1956

Mr. R. L. Palmer
U. S. Bureau of Mines
224, New Customhouse
Denver 2, Colorado

[redacted]

Dear Sir:

This is to request approval of the location of the connecting raise from the 2160 level to the 2000 level Union Vein.

A few additional rounds in the drift face of the 2160 level Union Vein has shown a consolidation of vein and improvement in mineralization.

Very truly yours,

/S/ Nelson Prehet

Nelson Prehet, Supt.

NP:ghf

cc: FVRichard

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

224 New Customhouse
Denver 2, Colorado

June 7, 1956

Mr. F. V. Richard, Manager
American Smelting and Refining Company
Western Mining Department
600 Pacific National Life Building
Salt Lake City 1, Utah

Re: Royalty payment, Docket DMEA 3866
(Lead-Zinc-Copper), Contract Idm-E903
American Smelting and Refining Company
(Keystone mine), Gunnison County, Colo.

Dear Mr. Richard:

You are requested to furnish this office with (4) four copies of each settlement sheet and applicable royalty computed on sales value in the form sold as provided by Amendment No. 1 to Contract Idm-E903.

The request is retroactive to the effective date of the contract December 5, 1955, and includes Lots No. D-1 and D-2 previously submitted.

Yours very truly,

W. M. TRAVER

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

MHM/vj

cc: Royalty File E903
Sec. Opr. Comm. (2)
J. F. Shaw (2)
Marshall
Chron.

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

224 New Customhouse
Denver 2, Colorado

June 6, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3866 (Lead-Zinc-Copper), Contract Idm-E903, American Smelting and Refining Company, on its own behalf and as agent for Park City Consolidated Mines Company, (Keystone mine), Gunnison County, Colorado.

Enclosed are the Government's, Division, and Docket copies of Amendment No. 1 to Contract Idm-E903, which were forwarded by your letter of April 30, 1956 for signature by the Operator.

Copies of the Amendment have been distributed to the Operator, the Finance Office, Region III, and other offices concerned.

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED
MAY 11 1956

224 New Customhouse
Denver 2, Colorado

May 9, 1956

Memorandum

To: T. A. Christensen

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3866 (Lead-Zinc-Copper) Contract Idm-E903, American Smelting and Refining Company (Park City Claims, et al.) Gunnison County, Colorado

Attached is a photo copy of a letter from the subject Operator dated May 7, 1956 requesting that payments under Contract Idm-E903 be sent to the following address rather than to the New York Office.

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

Please send all future payments to the above address.

W. M. TRAVER

W. M. Traver

Enclosures

JDC:jy
cc: Corresp. E903 w/orig. of Operator's letter
Sec. Op. Comm. (2))
Harshman) w/copies of
Shaw (2)) Operator's letter
Townsend)
Chron.

K-7.7

x file
x notify fiscal

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

RECEIVED MAY 11 1956

DMEA Date Rec'd MAY 9 1956

BUREAU OF MINES
Denver, Colorado

May 7, 1956

Mr. W. M. Traver, Executive Offices
U. S. Dept. of Interior
Defense Minerals Exploration Administeration
224 New Custom House
Denver 2, Colorado

RE: DOCKET DMEA 3866
CONTRACT Idm-E903

Dear Sir:

Please arrange to have any future payments made under the above contract sent to this office rather than the New York Office of AS&RCo.

Very truly yours,

Nolan Probst

Nolan Probst, Supt.

NP:gnf

cc: HLGoodenough

File Copy
Surname
Griswold
Chambers
Selfridge

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

500

APR 30 1956

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

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

Dear Mr. Traver:

We refer to your teletype of April 12, and our teletype reply of April 13, covering royalty payments under the cited contract.

Royalty payments will be calculated as outlined in our April 10 letter to you; however, it is believed that the contract should be clarified by means of an amendment.

We are therefore, enclosing the original and five copies of Amendment No. 1, to the cited contract, signed by the Administrator. Also enclosed are two extra copies of the amendment for the use of the Field Team. Kindly present it to the Operator for signature and distribute the copies in the usual manner. Naturally, if you should not be in accord with the amendment terms, and any proposed changes should lie beyond the range of your delegated authority, all copies should be returned to us, with your comments.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

APPROVED:

P. F. Yopes
Member, Bureau of Mines

N. E. Nelson
Member, Geological Survey

WRGriswold/er 4/27/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

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

APR 25 1956

Memorandum

To: The Administrator, DMEA

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3866, American Smelting & Refining Co.
Contract Idm-E903, Amendment No. 1 (Lead, Zinc, Copper)

As requested in a reference slip dated April 23, 1956, from the Deputy Administrator, we have prepared an amendment incorporating into the contract the provision outlined in the letter from the Operating Committee to the Executive Officer dated April 10, 1956.

Any instructions to the Operator concerning the procedure for making settlement for the Government's royalty, such as that outlined in your letter dated June 8, 1953, to the U. S. Smelting and Refining Co., Docket No. DMEA-2028, may be stated in the Administrator's letter transmitting the amendment to the Operator for signature.

Robert P. Dwyer

Attachments

File Copy
Surname
Griswold
Nelson
Cunningham
Selfridge
Johnson
McKendry

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

APR 13 1956

WRGriswold/er, Rm. 4444, Ext. 3669

Base Metals Division, Interior

XXXXXXXXXXXXXXXXXXXXXXXXXX
CXXXSXXXXXXXXXXXXXXXXXXXXXX

1kX4401(01) Revolving Fund, Defense Production Act, Interior (allocated Working Fund to Office of Secy.)

T E L E T Y P E

Date:

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

Reurtt April 12, Docket DMEA-3866, Contract Idm-E903, American Smelting and Refining Company. A representative of this company has requested a conference with the Administrator on April 17 regarding royalty matters. You will be advised thereafter.

George C. Selfridge
Chairman, Operating Committee

WRGriswold/er (written 4/13/56)

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

R.C.S.

File Copy
Surname

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

APR 19 1956

Mr. Robert D. Elder
1223 Quaker Lane
Alexandria, Virginia

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Ida-2903

Dear Mr. Elder:

Your letter of April 9, inquiring as to the location of the cited project, has been referred to me.

The property in question is known as the Keystone mine. It is located about three miles west of the town of Crested Butte, in the Elk Mountain and Ruby mining districts, in Gunnison County, Colorado. The various mining claims comprising the property are in Sections 31 and 36, Township 13S, Range 87W. The mine is located on the south slope of Mt. Emmons.

For your information, the Defense Minerals Exploration Administration is listed under the Assistant Secretary in the 1955-1956 Organization Manual.

Sincerely yours,

J. J. Mittendorf

Administrator

WRGriswold/er 4/12/56
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Director's Reading File, USBM
Bureau of Mines File (2)
Chron.

Chairman Operating Comm.
D.MEA

RECEIVED
APR 13 1956

R MINES, DN 235 4-12-56 4-38 PM

AIRMAN, OPERATING COMMITTEE, DMEA PLS DELIVER IMMEDIATELY

E - DOCKET DMEA 3866, CONTRACT IDM-E8 XXX IDM-E903, AMERICAN
MELTING AND REFINING COMPANY

OUR PRESUMPTION CONTAINED IN LAST PARAGRAPH OF LETTER OF APRIL
0,1956 IS CORRECT. DOES THIS LETTER CONSTITUTE OUR AUTHORITY TO SO
INFORM THE OPERATOR OF THESE ROYALTY PROVISIONS /Q/

W M TRAVER, EXECUTIVE OFFICER, REGION III

enver, Colorado

APR 13 7 55 AM '56

BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

File Copy
Surname
Truswell
Chamber
Selfridge
Fleming
Nutkendorf

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

APR 1 0 1956

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

Re: Docket No. DMEA-3866 (Lead-Zinc)
American Smelting & Refining Co.
Keystone (Union Extension) Mine
Gunnison County, Colorado
Contract No. Idm-7903

Dear Mr. Traver:

We have your memorandum of April 2, with enclosures, relative to royalty payments under the cited contract.

In the cases of lead-zinc producers who also operate custom smelters, we have recently been adding the following proviso to our contracts:

> "Provided, however, That so long as the Operator operates smelting facilities as an integrated part of its business, the settlement made by the Operator's smelter to its mine or mill on the ore or concentrates subject to the Government's royalty shall be, for the purpose of calculating the royalty payable to the Government under this contract, on the same settlement basis that the said smelter makes to its independent suppliers under the schedule most favorable to any independent supplier, or should gross income from mining operations for percentage depletion purposes in Federal income tax determination show a greater value for ore or concentrate sales than that which would result from applying the smelter schedule most favorable to an independent supplier, the greater value would be used as the basis for calculating royalty payable to the Government."

The first part of the proviso is essentially as stipulated in the June 8, 1953 letter of the Administrator to the U. S. Smelting, Refining and Mining Company (Docket No. DMEA-2028). The second part of the proviso, referring to "gross income from mining operations for percentage depletion purposes" is to cover any possibility that the

R.C.L.

This leaves the matter in abeyance unless we do something. Traver cont.

Will probably require an amendment – now that Simon Strauss belives the problem 'involved'.

M

smelter might give especially favorable rates to the mine in question. Such a rate decrease would, of course, increase the gross income from mining operations and permit larger depletion credits for Federal income tax purposes. In such an event the Government should receive royalty payments based upon the more favorable rate.

We presume that, in this particular instance, the ores subject to Government royalty will always be commingled with other mine ores. Hence, it would seem that the instructions contained in the cited Administrator's letter would also be applicable here. However, as above, should the mine receive preferential treatment from the smelter beyond that given any independent supplier, the greater value becomes the basis for royalty calculation.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCB)

APPROVED:

J. W. Pennington (JWB)
Member, Bureau of Mines

N. E. Nelson (NEN)
Geological Survey

P.S. With reference to the "mill schedule DMEA-1" submitted by the Operator, milling costs are, of course, not an allowable deduction.

WRGriswold/bjl (4/6/56)

Copy to: Docket
Admr. R. File
Op. Committee
Mr. Bishop
Mr. Kiilsgaard
Mr. Chambers
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

REFERENCE SLIP

DATE 4-10-56

REFERRED TO:
1. DMEA
2. Room 4459
3.
4. ~~100~~

~~500~~

FOR:

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

mt

REMARKS: with a copy to Director's Reading File, and Bureau files

Check (X) before the items needing attention.

Dir of Minerals
E R Parker
Initials of sender.

GPO 16—51162-1

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

SIMON D. STRAUSS
VICE PRESIDENT

Answered

RECEIVED
APR 11 1956

April 9, 1956

Mr. C. O. Mittendorf, Administrator,
Defense Minerals Exploration Administration,
19th & E. Streets,
Washington 25, D.C.

DMEA-386

Dear Mr. Mittendorf:

Reference is made to DMEA Contract Idm-E903, covering our Keystone mine in Gunnison, Colorado. On March 30th, Mr. Traver of your Denver office wrote us regarding this matter. Apparently some question has arisen with respect to royalty payments under the terms of the contract.

I expect to be in Washington on Tuesday, April 17th, and as the question is somewhat involved, I would like an opportunity to discuss the matter with you at that time. I would appreciate it if in the meantime you could defer any final decision.

With kind regards,

Sincerely yours,

Simon D. Strauss

SIMON D. STRAUSS

ROBERT D. ELDER
STATE SENATOR
TWENTY-FIRST SENATORIAL DISTRICT
LEADVILLE, COLORADO

Senate Chamber
State of Colorado
Denver

RECEIVED
APR 11 1956

Director

COMMITTEES
CHAIRMAN OF:
PRIVILEGES AND ELECTIONS
MEMBER OF:
BANKING
CONSTITUTIONAL AMENDMENTS
CORPORATIONS
FISH, FORESTRY AND GAME
JUDICIARY
MILITARY AFFAIRS
MINES AND MINING
MOTOR VEHICLES AND MOTOR TRANSPORTATION
REAPPORTIONMENT

Robert D. Elder
1223 Quaker Lane
Alexandria, Va.
April 9, 1956

Hon. John J. Forbes
Director, Bureau of Mines
Department of the Interior
Washington 25
D. C.

Dear Mr. Forbes:

Mining World of April 1956 reports the following:

"The DMEA has granted a $107,220 contract to the American Smelting and Refining Company for exploration of lead-zinc-copper in Gunnison County, Colorado. The government's share of this contract is $53,610." *

Please advise name and location of above AS&RCO property -- Section, Township, and Range. Also with respect to nearest town, roads, creeks, named mountains, and other natural features.

The lead-zinc-copper combination in this area has occasioned interest.

Sincerely yours,

Robert D. Elder

Robert D. Elder

* The Administrator of Defense Minerals Exploration Administration is no longer listed in Organization Manual 1955-1956.

[Listed under Asst. Secretary in 1955 issue.]

BUREAU OF MINES
WASHINGTON, D. C.

APR 10 9 40 AM '56

RECEIVED
APR 10 1956
BUREAU OF MINES,
Office of Director.

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

RECEIVED
APR 6 - 1956

224 New Customhouse
Denver 2, Colorado

April 4, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

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

Enclosed are four copies of concurrence by the DMEA Field Team, Region III, to discontinue drifting on the Keystone vein.

Also enclosed are four sets of data relevant to the matter.

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED
APR 6 - 1956

224 New Customhouse
Denver 2, Colorado

March 30, 1956

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

Re: Docket DMEA 3866 (Lead-Zinc-Copper)
Contract Idm-E903, American Smelting and Refining Company on its own behalf and as agent for Park City Consolidated Mines Company, Keystone Mine, Gunnison County, Colorado

Dear Mr. Probst:

In reference to your letter of March 19, 1956 this constitutes confirmation of the verbal permission by the DMEA Field Team, Region III of March 19, 1956 through R. L. Belmer, Mining Engineer, Bureau of Mines, which was as follows:

> Because of conditions encountered as the drifting progressed, the extension of the 2160 adit level drift Northwesterly along the Keystone vein will be discontinued at a point approximately 125 feet from the starting point of said drift extension. The balance of the 450 feet of drifting and/or crosscutting authorized under Stage I will be used in crosscutting to and drifting on the Union vein.

Nothing in the foregoing work approval shall be construed to increase the estimated total cost of the project, the aggregate total 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

W. M. TRAVER

W. M. Traver

E. N. Harshman

E. N. Harshman

cc: Mr. F. V. Richard

JWT:jy
cc: Amend. File, Reg. III
Corresp. File
Chair. Op. Comm. (4)
Finance Office, Reg. III
Harshman
Shaw
Townsend
Chron.

DMEA
Date Rec'd.
MAR 29 1956
BUREAU OF MINES
Denver, Colorado

Region III

Building 20
Denver Federal Center
Denver 2, Colorado
March 29, 1956

RECEIVED
APR 6 - 1956

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: R. L. Bolmer and R. U. King
Through: John F. Shaw JWS for
E. N. Herzman E.N.H.

Subject: Docket DMEA 3866 (Lead-Zinc-Copper), Contract Idm-E903, American Smelting and Refining Co. (Keystone mine), Gunnison County, Colo. -- Recommendations regarding operator's request to begin crosscut to Union vein.

The operator under the subject contract, in a letter dated March 19, 1956, requested permission to discontinue the authorized 2160 level drift on the Keystone vein and to begin an authorized alternate crosscut to the Union vein.

On the date of the operator's letter, the 2160 adit level of the Keystone mine (the project heading) had been advanced approximately 125 northerly as a drift along the Keystone vein. Within this distance, the Keystone vein weakened appreciably and changed course. Its strike, as exposed along the final 110 feet of the project heading, is essentially parallel to that of the Union vein. It is apparent from present exposures that the two structures will not junction within the 350-foot distance estimated in the contract.

The northerly extension of the Union vein is the primary exploration objective of the project. Inasmuch as the Keystone vein -- which was to be followed to this objective -- has weakened and changed course, it is recommended that the operator be granted permission to drive the authorized alternate crosscut to the Union vein from the present point of advance in the 2160 North drift rather than from the point stipulated in the contract.

This memorandum will confirm the informal recommendations made previously regarding this matter. In a telephone conversation on March 19, 1956, the operator was given verbal authority to start the requested crosscut from the existing breast of the 2160 North drift. The operator has asked for written verification of this authority.

R. L. Bolmer

R. L. Bolmer, Mining Engineer
Bureau of Mines

E. N. Herzman

for R. U. King, Geologist
Geological Survey

cc 9
Idm-E903
Chron.

RM/eh

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

RECEIVED
APR 6 - 1956
DMEA
Date Rec'd.

March 19, 1956

MAR 21 1956
BUREAU OF MINES
Denver, Colorado

Mr. W. M. Traver, Executive Officer
U. S. Dept. of Interior
Defense Minerals Exploration Administration
224 New Custom House
Denver 2, Colorado

RE: DOCKET DMEA 3666
CONTRACT Idm-E903

Dear Sir:

This is to request permission to discontinue further drifting on the Keystone Vein and Cross-Cut to the Union Vein.

The vein structure in the present Keystone Vein face (125 ft. from starting point) is about 6" wide of which 2" is sulfides. The ground is tight and fairly hard. There is no present indication the Keystone Vein will connect with the Union Vein.

It is planned to cross-cut to the Union Vein at a 50° angle from the Keystone Vein.

Very truly yours,

ORIGINAL SIGNED BY
NOLAN PROBST

Nolan Probst, Supt.

NP:ghf

Orig & 5 cc: WMTraver
cc: FVRichard
File

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

RECEIVED
APR 5 - 1956

224 New Customhouse
Denver 2, Colorado

April 2, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

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

Enclosed are your two copies of our letter of this date to the American Smelting and Refining Company regarding the calculation of royalties due under the subject contract. Also enclosed are two copies of a letter of March 27, 1956 from A.S. & R.'s manager addressed to John Shaw.

We request an official ruling as to the basis for royalty payments. This corporation sells refined metal, therefore, the terms of the contract require payment of royalties on the metal-sales basis as was required of Banner Mining Company (Contract Idm-E32). A different ruling was however given to the U. S. Smelting, Refining and Mining Company (Contract Idm-E360) which corporation also normally sells refined metal. You are referred to letter dated June 8, 1953 from C. O. Mittendorf addressed to Mr. George Gange, Comptroller of U. S. Smelting, Refining and Mining Company. We are furnishing you two photocopies of this letter for your convenience.

As shipments are now being made from the Keystone property we request an immediate reply as to the basis for royalty payments under Contract Idm-E903.

W. M. Traver

W. M. Traver

Enclosures

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

RECEIVED
APR 5 - 1956

224 New Customhouse
Denver 2, Colorado

March 30, 1956

Mr. F. V. Richard
American Smelting and Refining Company
600 Pacific National Life Building
Salt Lake City, Utah

Re: Royalty payments, DMEA Docket 3866 (Lead-Zinc-Copper), Contract Idm-R903, American Smelting and Refining Company (Keystone Unit), Gunnison County, Colorado

Dear Mr. Richard:

Your letter of March 27, 1956 addressed to John F. Shaw of the U. S. Bureau of Mines, concerning royalty payments under the subject DMEA Contract has been referred to this office for reply.

Evidently you have misconstrued the intent of Contract Idm-R903 regarding the computation of royalty due the Government. As stated in Article 7, paragraph (c). "The Government's royalty shall be a percentage of the gross proceeds - - - in the form sold (ore, concentrates, metal, or equivalent) - - -." American Smelting and Refining Company normally sells refined metal. The Government's royalty should be 5.0 percent of any amounts received from the sale of this metal to any purchasers, less freight charges, etc. incurred by the buyer (not the seller) and shown on the purchaser's settlement sheet or other evidence of sale. In the event that your corporation concentrates this ore and disposes of it as concentrates, the same ruling will apply except that DMEA royalty will be 5.0 percent of the sale value of concentrates less buyer's deductions.

We realize that this requirement may ultimately be further complicated by the fact that production from the Keystone mine will be combined with other production not subject to Government royalty either at the mill or at the smelter before final sale is made.

In view of the complications involved, both now and in the future, we are referring your correspondence on the subject along with our recommendations to the Administrator of DMEA in Washington

for a ruling. You will be advised of his decision, either direct or through this office, as soon as it is made.

In the mean time continue to furnish us with the metallurgical data on subsequent lots as you have on Lot B-1, but have Mr. Probst defer royalty payments until we are advised of the Administrator's ruling.

Yours very truly,

W. M. TRAVER

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

RDB/vj

cc; Royalty File E903
Sec. Opr. Comm. (2)
J. F. Shaw (2)
Berkenkotter
Chron.

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

C O P Y

C O P Y

500

June 8, 1953

RECEIVED
APR 5 - 1956

Mr. J. George Gange, Comptroller
U. S. Smelting, Refining & Mining Co.,
75 Federal Street
Boston, Massachusetts

Re: Docket No. DMEA 2028 (Lead-Zinc)
Lark Mine
Utah County, Utah
Contract No. Idm-E360

Dear Mr. Gange:

This will refer to your inquiry as to a basis upon which to pay royalty to the Government from ores resulting from the Exploration Project at the Lark Mine.

We presume that such ores, as they are produced, are commingled with the ores resulting from your ordinary mining operations at this mine, and that all such resulting mixed ore tonnage is sent to your flotation mill at Midvale. From this point the resulting lead concentrate is sent to your lead smelter and the zinc concentrate sent to the Anaconda plant in Montana for treatment.

It would truly be laborious and cumbersome to attempt any calculation on a metallic base for royalty payments. It would appear more logical to calculate a liquidation for such ores on a "net smelter" basis. Since these ores do not go as individual shipments to a mill, nor are they milled by themselves, any such calculation must be to an extent a theoretical one. Obviously these project ores must be sampled, perhaps by car sampling, at or near their sources, and their tonnage determined. Therefore, it would be a relatively simple matter at the end of each month, with a known total tonnage and a known weighted average grade, to calculate the amount and grade of concentrates which would result from the milling of the ore. Then, applying a smelter schedule, using prevailing and "most favorable" smelter schedules and charges, a theoretical smelter liquidation could be derived, showing a "net smelter" sum which would be subject to the 5 per cent royalty.

We see no need of making a settlement more than once monthly and, hence, while the above procedure does involve some calculation, we feel that it perhaps is about as simple as could be arranged, in view of the nature of your operations.

WROriswold/Hmj (64/53)
CC to: Docket
Adm. R. File
Op. Committee
Base Metals Division
Mr. Kinkel
Co. Mgr.

Sincerely yours,

/S/ C. O. Mittenorf

Administrator

Property File E360

F. V. RICHARD, MANAGER
W. R. LANDWEHR, CHIEF GEOLOGIST
NORMAN WEISS, MILLING ENGINEER

March 27, 1956

RECEIVED
MAR 29 1956
DIV. OF MINERAL TECHNOLOGY
BUREAU OF MINES
Denver Experiment Station
Denver, Colorado

600 PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH

RECEIVED DMEA
Date Rec'd.
APR 5 - 1956
APR 3 1956
BUREAU OF MINES
Denver, Colorado

Mr. John F. Shaw
U. S. Bureau of Mines
Room 137, Building 20
Denver Federal Center
Denver, Colorado

KEYSTONE UNIT
DOCKET DMEA - 3866
CONTRACT IDM-1903

Dear Sir:

During February 1956, 256 tons of development ore from the 2160 level north face was milled, having the following assay based on corrected grab sample assays:

Ag, oz.	Pb, %	Cu, %	Zn, %
3.5	0.4	0.5	2.5

We will hereafter refer to this material as our Lot D-1. Subsequent production will be lotted by months and assigned lot numbers consecutively. Based on metallurgical recoveries we expect to obtain, current smelter schedules, freight rates, other costs and average metal prices for February, this material would have a net smelter return of $3.98 per ton after deducting freight and mill treatment cost (see Sheet A). The applicable royalty rate from Article 7(c) of the above-mentioned contract would be 1.5%. I am, therefore, requesting Mr. Probst by his copy of this letter to send your department a check in the amount of $15.36 in payment of royalties on Lot D-1.

For convenience in checking the royalty calculations, I am attaching mill schedule DMEA-1, which has been used to calculate the value for royalty purpose. This schedule was derived from net smelter returns and metallurgy we expect to obtain on our average grade ore. This metallurgy is shown on the Metallurgical and Financial Summary (Sheet B), attached. Liquidation of these concentrates under our present smelter schedules is shown for each concentrate on the attached Ore and Concentrate Liquidation Sheet, (C).

Liquidation of the average grade ore shown on the Metallurgical and Financial Summary (B) under Schedule DMEA-1 before mill treatment cost, checks very closely to the crude ore net smelter value on Liquidation Sheet (C). Metallurgy on this average grade ore is better than on the lower grade material of Lot D-1; however, the amount of overpayment of royalty is small, and it is considerably less complicated to just have one schedule.

No!

You will note that Schedule DMEA-1 allows for a mill treatment charge of $3.50, which is slightly less than our actual mill costs. This treatment charge has been deducted from the value of the ore on the theory that this is a legitimate deduction for a mine that would have its ore treated at a custom mill and would be necessary at Keystone, even though we have a mill, in order to keep the base for calculation of royalty on an equitable basis.

Mr. John F. Shaw March 27, 1956

It should be pointed out that Schedule DMEA-1 is based on certain metallurgy, metal prices, smelter schedules, freight rates, and mill costs, and if any of these factors change, we would reserve the right to change schedule DMEA-1.

Our smelter schedules are available for inspection at the Keystone Unit by yourself and any DMEA personnel you authorize to see them.

Mr. Probst will mail directly to your office any subsequent royalty payments, together with a supporting liquidation based on Schedule DMEA-1 or such revised schedules as may subsequently be necessary.

Very truly yours,

F. V. Richard

F. V. RICHARD

FVR:bm
Encls.
cc: N. Probst, w/encls.

A

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APR 5 - 1956

	Per Ton Crude Ore
Ag 3.5 oz. x [illegible].776 = 2.716 oz. x $0.90901 =	$2.47
Pb 0.4% = 8 lb. x ($[illegible].16 - [illegible].066) =	0.75
Cu 0.5% = 1[illegible] lb. x ($[illegible].44588 - [illegible].23) =	2.16
Zn 2.5% = 5[illegible] lb. x ($[illegible].135 - [illegible].093) =	2.10
Total	$7.48
Less Milling Cost	3.50
Net Value	$3.98

Royalty

$3.98 x [illegible] = $[illegible]/ton

256 x $[illegible] = $15.36

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AMERICAN SMELTING AND REFINING COMPANY

METALLURGICAL AND FINANCIAL SUMMARY

ORE Keystone Unit

PROCESS Calculation for DMEA Royalty.
Docket: DMEA-3866
Contract: Idm-E403

DATE: 3/12/56.
REF.:
SUPPORTING DATA: Based on Average Heads and expected recoveries

METALLURGICAL RESULTS – BASED ON

PRODUCTS	DRY WEIGHTS TOTAL	ASSAYS Au	ASSAYS Ag	PER CENT Pb	PER CENT Cu	PER CENT Zn	PER CENT Fe	RECOVERIES PERCENT OF FEED CONTENT THUS REPRESENTED Pb	Fe	Cu	Zn	TONS RATIO OF CONCENTRATION
Heads	100.00		6.5	2.0	1.0	5.5						
Pb Concent.	6.56		89.4	32.0	11.7	9.0		76.5	89.0	65.1	9.1	17.99:1
Zn Concent.	9.06		4.5	0.3	1.2	51.0	10.8	6.3	1.4	10.9	84.0	11.04:1
Tailing	85.38		1.31	0.22	0.28	0.44		17.2	9.4	23.9	6.8	
	100.00							100.0	99.8	99.9	99.9	

FINANCIAL STATEMENT

METAL PRICES	PRICE BASIS "A"	"B"	"C"
GOLD - PER TROY OZ.			
SILVER - PER TROY OZ.	90.901		
LEAD - PER LB.	16.		
COPPER - PER LB.	44.582		
ZINC - PER LB.	12.5		

NET VALUE CRUDE ORE LESS COSTS

NET SMELTER VALUE	17.33
COSTS Mining	3.50
COSTS	
NET LESS ABOVE COST	13.83

U. S. CY.

PRODUCTS	NET SMELTER VALUE PER TON OF CONCT	CRUDE ORE
BASIS "A"		
Pb Concent	$ 216.18	$ 12.13
Zn Concent.	57.37	5.20
Total		17.33
BASIS "B"		
BASIS "C"		

JOHN S. L. 19 12-22-47

B

B

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FORM H-22

ORE AND CONCENTRATE LIQUIDATION SHEET

Mill Lot No.
Mine Lot No.
Class
Date 3/17/56

Mine Keystone Unit Royalty Concentrator for DMEP

METAL PRICES

METAL	UNIT	LEAD OR COPPER CONCTS. OR CRUDE Quotation	Deduction	Net	ZINC CONCENTRATES Quotation	Deduction	Net
Gold	Dollars Oz.						
Silver	Cents/Oz.	90.901	-	90.901	90.901	-	90.901
Lead	Cents/lb.	16	2.1	13.9			
Copper	Cents/lb	44.588	6.725	37.863	44.588	6.125	38.463
Zinc	Cents lb.				13.5	0.5356	12.9644

WEIGHTS CRUDE ORE

Wet Weight		lbs.
Moist 10 %		lbs.
Dry Weight		lbs.
Dry Weight		Tons

LEAD OR COPPER CONCENTRATES ~~CRUDE~~ Lead

Ratio of Concentration Mill Ore

METAL	ASSAY		DEDUCT.	NET ASSAY	EQUIVALENT in LBS. or OZS.	PER CENT PAID FOR	NET PAID FOR		RATE	VALUE PER TON CONC.	PER TON CRUDE	TOTAL AMT. FOR LOT
Gold		Oz.						Oz.	$	$	$	$
Silver	89.4	Oz	-	89.4	89.4	95	84.93	Oz	0.90901	77.20		
Lead	32.0	%	1.0	31.0	620.	90	558.	lbs	0.139	77.56		
Copper	11.7	%	0.75	10.95	219	100	219	lbs	0.37863	82.92		
TOTAL PAYMENTS FOR METALS										237.68		

DEDUCTIONS	DR.	CR.
Base Treatment Charge	$ 8.00	$
Lead Assay Adjustment (50-32.) $0.10	1.80	
~~Zinc Penalty~~ Labor (82.179-1.948)6	1.39	
Bismuth Penalty		
Special Pb Payment 32.(15-10) $0.015		2.40
Bullion Tax 777 × $0.00036	0.28	
Freight: [($8.74 + 3%) ÷ 0.90] + Switch $0.20	10.43	
TOTAL TO DEDUCT	21.90	2.40

	19.50	
NET RETURN PER TON OF CONCENTRATE	218.18	
NET RETURN PER TON OF CRUDE ORE @ 5.56%		$ 12.13
TOTAL NET RETURN		

ZINC CONCENTRATE Zinc

Ratio of Concentration Mill Ore:

METAL	ASSAY		DEDUCT.	NET ASSAY	EQUIVALENT in LBS. or OZS.	PER CENT PAID FOR	NET PAID FOR		RATE	VALUE PER TON CONC.	PER TON CRUDE	TOTAL AMT. FOR LOT
Gold		Oz.						Oz.	$	$	$	$
Silver	4.5	Oz.	-	4.5	4.5	80	3.60	Oz.	0.90901	3.27		
Lead	0.3	%	1.5	-			-	lbs		-		
Copper	1.2	%	-	1.2	24.	65	15.6	lbs	0.38463	6.00		
Zinc	51.0	%	-	51.0	1020.	83.5	851.7	lbs	0.129644	110.42		
TOTAL PAYMENTS FOR METALS										119.69		

DEDUCTIONS	DR.	CR.
Base Treatment Charge	$ 37.50	$
Labor Adjustment ($2.153 - 2.000) × 15	2.30	
Spelter Price Adjustment (13.5 - 8.0) × $1.25	6.88	
TOTAL BASE CHARGE		
Spelter Tax included in R.B.U.		
Fe (10.8 - 7.5) × $0.50	1.65	
Freight To Salada ($6.30 + 3%) ÷ 0.90	7.21	
To Amarillo ($5.15 + 15% + 3%) ÷ 0.90	6.78	
TOTAL TO DEDUCT	62.32	

	62.32	
NET RETURN PER TON OF CONCENTRATE	57.37	
NET RETURN PER TON OF CRUDE ORE @ 9.06%		5.20
TOTAL NET RETURN		
TOTAL RETURN PER TON CRUDE ORE FROM ALL CONCENTRATES AND FOR LOT		17.33

Orig cc Correct (signature)

D.

RECEIVED APR 5 - 1956

AMERICAN SMELTING AND REFINING COMPANY

KEYSTONE ~~MINING~~ UNIT

SCHEDULE No. DMEA-1

EFFECTIVE DATE Feb. 1, 1956

ALL SCHEDULES ON ORE NOT UNDER CONTRACT FOR A DEFINITE PERIOD OF TIME ARE SUBJECT TO CHANGE OR TERMINATION WITHOUT NOTICE.

SCHEDULE FOR THE ~~PURCHASE~~ VALUATION OF CRUDE LEAD-ZINC SULPHIDE ORES FROM:

MINE: Keystone for DMEA Contract No. Idn-5903

SHIPPER: Docket No. 3866

PAYMENTS

GOLD: If - oz. per dry ton or more, pay for - % of content at $ - per oz.

SILVER: If - oz. per dry ton or more, deduct - oz. from assay and pay for 77.6 % of the balance at the "Mint price" as defined in the Silver Schedule hereto attached and expressly made a part hereof, except as therein otherwise provided.

LEAD: No pay if - % or under. If over - %, deduct - % from assay and pay for 100 % of the remainder at the E. & M. J. New York quotation for common desilverized domestic lead less 6.6¢ per pound.

COPPER: No pay if - % or under. If over - %, deduct - % from assay and pay for 100 % of the remainder at the E. & M. J. Refinery ~~Producers Desilverized~~ domestic ~~lead~~ Cu less 23 ¢ per pound. (~~Copper cathodes~~).

ZINC: No pay if - % or under. If over - %, deduct - % from assay and pay for % of the remainder at the E. & M. J. East St. Louis quotation for prime western zinc less 9.3 ¢ per pound.

NO PAYMENT WILL BE MADE FOR ANY METAL OR CONTENT EXCEPT AS ABOVE SPECIFIED.

QUOTATIONAL PERIOD: For the purpose of determining metal payments, each quotation specified for silver, lead, copper and zinc shall be the ~~average published~~ published quotation for the calendar ~~week~~ month including the date of delivery at buyer's mill.

DEDUCTIONS

BASE CHARGE: $ [illegible] per net dry ton of 2000 pounds of ore.

DELIVERY: F. O. B. mill bins of buyer's mill.

[illegible] ADDITIONAL CLAUSES ON THE BACK OF THIS [illegible]

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APR 5 - 1956

GENERAL CLAUSES COVERING ALL SCHEDULES

DEFINITIONS: A ton is 2000 pounds avoirdupois. As applied to gold and silver, an ounce means a Troy ounce. A unit is 1% of a ton, or 20 pounds. The date of delivery is the date of arrival of the last car or truckload of each lot.

CHARACTER OF ORES: The schedule issued is based on ores of character received in the past, these being clean sulphide ores averaging about:

Number	Au oz.	Ag oz.	Pb %	Cu %	Zn %
		6.5	2.0	1.0	5.5

~~Buyer reserves the right to refuse to accept any lot of ore which, in its opinion, after careful inspection, differs greatly from the above either in assay or physical properties and to hold such lot for such disposition as shipper may indicate, unless some mutually agreeable arrangement is made in regard to such lot. Maximum size of any one piece of ore must be such size that it will pass through a 10" grizzly.~~

WEIGHING, SAMPLING AND ASSAYING: Weighing and sampling (at which Seller or a representative may be present) as done by Buyer according to standard practice, promptly after receipt of product, will be accepted as final. ~~The absence of Seller or a representative shall be deemed a waiver of the right in each instance. After sampling, the product may be placed in process, commingled, or otherwise disposed of by Buyer. In case of disagreement on assays, an umpire shall be selected in rotation from a list mutually agreed upon, whose assays shall be final if within the limits of the assays of the two parties, and if not, the assay of the party nearer to the umpire shall prevail. Losing party shall pay cost of umpire. In case of Seller's failure to make or submit assay, Buyer's assay shall govern.~~

FREIGHT AND HAULING: ~~In order that delivery of the ore to our plant may not be unnecessarily delayed, we make it a general rule that unless other arrangements have been previously made, the freight and/or hauling charges on shipments to us must either be prepaid or guaranteed by the shipper.~~

TAXES: ~~Federal or State taxes, if any, in respect to ores or metals purchased hereunder shall be for the account of the shipper and may be charged as a deduction from the purchase price payable on the schedule.~~

EXPIRATION: If no shipments are made within 90 days from effective date of this schedule, this schedule is automatically cancelled.

FORCE MAJEURE: Cessation of operation of Buyer's Mill caused by act of nature, strike, fire, flood, traffic interruption, delay in transportation, war, insurrection or mob violence, requirement or regulation of Government, financial crisis, failure of ore supply or other operating requirement, or any disabling cause, without regard to the foregoing enumeration, beyond Buyer's control, shall entitle the Buyer to suspend or terminate this schedule.

SUSPENSION OF QUOTATIONS: In case any firm or publication whose quotations are the basis for pricing any metal under the principal agreement shall go out of business, cease publication, or discontinue the making of quotations, then the Buyer shall establish a quotation or quotations which shall be used in making settlement in respect of the metal or metals in question.

SILVER SCHEDULE: ~~Notwithstanding~~, the price payable for the silver content of ~~Seller's~~ product shall be based on the average of the Handy & Harman New York quotations for silver for the calendar month ~~preceding the month~~ of delivery at the plant of the Buyer;* ~~provided, however, that written notice of such election shall be given to the Buyer prior to said date of delivery, and further, that if during said calendar week, in the judgment of the Buyer, the market for silver for three months' forward delivery shall be inadequate, and the Buyer shall so notify the Seller, said price shall be based on the average of the Handy & Harman New York quotations for silver for the calendar week including the sixteenth day following said date of delivery.~~ In case Handy & Harman shall discontinue publishing quotations for silver then the New York quotations for silver as published by the Engineering and Mining Journal shall govern.

* or Mint price, whichever is higher.

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

ARCHIVED
APR 2 - 1993

224 New Customhouse
Denver 2, Colorado

March 28, 1956

Memorandum

To: Chairman, Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA 3866 (Lead-Zinc-Copper), Contract Idm-E903, American Smelting and Refining Company on its own behalf and as agent for Park City Consolidated Mines Company, Keystone mine, Gunnison County, Colorado

Enclosed are four copies of approval issued by the DMEA Field Team, Region III, dated March 26, 1956, for the Operator to use part of the assaying authorized under Stage II on Stage I work.

Also attached to each copy of the approval is a copy of a memorandum from R. L. Bolmer, Mining Engineer, Bureau of Mines, dated March 22, 1956, relative to the matter.

W. M. Traver

W. M. Traver

Enclosures

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

224 New Customhouse
Denver 2, Colorado

March 26, 1956

Mr. F. V. Richard
American Smelting and Refining Company
Crandall Building
Salt Lake City, Utah

Re: Docket DMEA 3866
(Lead - Zinc - Copper),
Contract Idm-2903,
American Smelting and
Refining Company on its
own behalf and as agent
for Park City Consolidated
Mines Company, Keystone
mine, Gunnison Co., Colo.

Dear Mr. Richard:

Consistent with the provisions in the contract, and to correct an inequity between the cost estimate of the work under Stages I and II, this constitutes the Government's approval for you to take and assay on the work under Stage I not to exceed 130 of the 400 samples listed under Stage II, thereby leaving at least 270 samples to be taken and assayed on the work which may or may not be approved for performance under Stage II.

Nothing in this work approval shall be construed to increase the estimated total cost of the project, the aggregate total 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

W. M. Traver

E. N. Harshman

JWT:prl
cc: Chairman, Oper. Comm. (4)
Finance Office, Region III
Amendment File, Region III
Harshman
Shaw
Townsend
cc: Mr. Knowland Probst
Box J
Crested Butte, Colo.

Corres. file
Chron.

DMEA
Date Rec'd.
MAR 23 1956
BUREAU OF MINES
Denver, Colorado

REGION III

Building 20
Denver Federal Center
Denver 2, Colorado
March 22, 1956

Memorandum

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

Through: John F. Shaw
Supervising Mining Engineer

From: R. L. Bolmer

Subject: DMEA 3866, Contract Idm-E903 (Lead-zinc-copper), American Smelting and Refining Co. (Keystone mine), Gunnison County, Colorado -- Reallocation of assaying authorized under Stage II of project.

The assaying of samples is not included with the other work authorized under Stage I of the subject project. A total of 400 assays, however, are allowed under Stage II. It is believed that this inequity should be corrected.

The 650 feet of combined drifting, crosscutting, and raising that is to be performed under the first stage of the project ordinarily would require the same proportionate amount of sampling and assaying as would the 2000 feet of combined drifting and crosscutting and 2000 feet of core drilling allotted to the second stage. It is recommended, therefore, that approximately 130 of the 400 assays presently authorized under Stage II exploration be allocated to the work under Stage I.

R. L. Bolmer
Mining Engineer

RLB/mw cc: 9
Idm-E903
Chron

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

RECEIVED
FEB 13 1956

224 New Customhouse
Denver 2, Colorado

February 10, 1956

Mr. F. V. Richard, Manager
American Smelting and Refining Company
Western Mining Department
600 Pacific National Life Building
Salt Lake City, 1, Utah

Re: Docket DMEA 3866
Contract Idm-E903

Dear Mr. Richard:

Thank you for your letter of February 8, 1956, calling our attention to an error in a date in the first paragraph of our letter of January 26, 1956.

Please change the date of July 24, 1956, to read January 24, 1956.

Very truly yours,

W. M. TRAVER

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

cc Mr. N. Probst
Box "J"
Crested Butte, Colorado

JWT:prl
cc: Chairman, Oper. Comm. (2)
Harshman
Shaw
Townsend
Corres. file
Chron.

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

RECEIVED
JAN 30 1956

224 New Customhouse
Denver 2, Colorado

January 26, 1956

Mr. F. V. Richard, Manager
Western Mining Department
American Smelting and Refining Co.
600 Pacific National Life Building
Salt Lake City 1, Utah

Re: Docket DMEA 3866
Contract Idm-E903

Dear Mr. Richard:

Thank you for your letter of January 25, 1956, wherein you advise that preparatory work in conjunction with Contract Idm-E903 was started July 24, 1956.

Regarding your rendering of an accounting report for the month of January, 1956, if only a minor amount of work was completed during January, if you prefer you may defer the report for that month and combine the work with the progress for the month of February.

Very truly yours,

W. M. TRAVER

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

cc: Mr. N. Probst
Box "J"
Crested Butte, Colo.

JWT:prl
cc: Chairman, Oper. Comm. (2)
Mareinman
Shaw
Townsend
Corres. file
Chron.

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

RECEIVED
JAN 12 1956

224 New Customhouse
Denver 2, Colorado

January 10, 1956

Mr. F. V. Richard
c/o American Smelting and Refining Company
Crandall Building
Salt Lake City, Utah

Re: Docket DMEA 3866 (Lead-Zinc-Copper)
Contract Idm-E903,
American Smelting and Refining Company
on its own behalf and as agent for
Park City Consolidated Mines Company

Dear Mr. Richard:

Enclosed are six copies of form MF-104, "Operator's Monthly Report and Voucher," and six copies of form MF-104A, "Operator's Unit Cost and Progress Report." At the completion of the first calendar month of operation and monthly thereafter you are required to submit five copies of the forms to Mr. John F. Shaw, U. S. Bureau of Mines, Room 137, Building 20, Denver Federal Center, Denver 2, Colorado. The sixth form is for your records.

Please note that the monthly accounting report requires a narrative report which should be accompanied by maps or sketches showing the work performed. The narrative report must be signed by the operator. The monthly report will not be processed for payment unless accompanied by a narrative report. Additional copies of forms MF-104 and MF-104A will be forwarded to you each month on receipt of your completed report for the prior month.

For your information and in reply to many questions that have been asked, after forms MF-104 and MF-104A are received an engineer will check progress and approve your accounts, after which they will be sent to the Regional Office, Region III, U. S. Bureau of Mines, 224 New Customhouse, Denver 2, Colorado, for auditing and vouchering. If the report is in order, a check will be issued by the Treasury Department for the Government's portion of the costs. If you have any difficulty in completing these forms and the reports, please call on Mr. Shaw or this office for assistance.

The contract is prepared on form MF-200A and under the provisions of Exhibit "A", which is a part of the contract, the work is to be performed at fixed unit costs which are the basis of reimbursement to you as units of work are completed and reported on forms MF-104 and MF-104A.

Your requests to this office for work approval, changes in the contract, or any other communication pertaining to operations under the contract, must be in writing, of which please supply the original and five copies, each copy complete with maps or other pertinent data.

Your attention is directed to the provision that Stage II work is contingent on the results obtained from Stage I, and performance of the work under Stage II is subject to the prior written approval of the Government.

When Stage I has been completed, you should request approval from this office for the work you propose to perform under Stage II. Your request for the work approval must be in sextuplet, each copy complete with maps and other pertinent data to show the work you propose to perform. Your request should also include an outline of the work performed under Stage I and the results thereof, including such pertinent data as maps, assay returns, and any other data of value to the Government in evaluating the work performed.

You should anticipate a suspension of operation between stages of work to enable the Government geologist and engineer to evaluate the results of the work performed and make their recommendations to this office relative to the additional work you propose.

To eliminate as much delay to operations as possible, if that is of serious consideration, you should expedite forwarding of the results of the work completed and your request for the Government's approval of the additional work you propose.

No oral statement of any person shall be construed to modify or change the terms of the contract. Field representatives of the Government are not authorized to approve any changes in the work program or contract provisions. Such approval can only be given by the Washington office, DMEA, or by the DMEA Field Team, Region III.

It is a regulation that reimbursement for the cost of work accomplished prior to the date of the contract will not be allowed.

It is a requirement and imperative that you notify this office in writing the date work actually commences under the contract, with a copy of your letter to Mr. Shaw.

Very truly yours,

W. M. TRAVER

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

Enclosures

JWT:prl
cc: Chairman, Oper. Comm. (2)
Amendment file
Harshman
Shaw
Townsend
Corres. file
Chron.

File Copy
Surname
Griswold
Kjorsvik
Kiilsgaard
Geehan
Selfridge
Faichat

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

JAN 6 1956

Mr. D. J. Pope
Assistant to Vice President
Mining Department
American Smelting and Refining Company
120 Broadway
New York 5, New York

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

Dear Mr. Pope:

Referring to your December 29, 1955 letter covering the cited contract, we are enclosing your copy of the contract, with the changes initialled.

The starting date of February 1, 1956 is satisfactory.

Sincerely yours,

Administrator

Enclosure

WRGriswold/bjl (1/5/56)

Copy to: Administrator's R. File
Docket
Operating Committee
Base Metals
Mr. Bishop
Mr. Kiilsgaard
Region III (2)
Chron.

File Copy
Surname
Griswold
H. Johnson
Talbert

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

JAN 6 1956

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

Enclosed are the executed Field Team and Finance Office copies of a contract covering the cited property.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

Enclosures 2

APPROVED:

/s/ Robert W. Gechan (GCS)
Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)
Member, Geological Survey

WRGriswold/bjl (1/5/56)

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

P. S. In this particular case we are sending you only the extra copy of the contract.

File Copy
Surname
Griswold
Selfridge

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

JAN 5 1956

WRGriswold/bjl, Rm. 4444, Ext. 3669

Base Metals Div., Interior

[redacted]

14X4401(01)Revolving Fund,
Defense Production Act, Interior (allo-
cated Working Fund to Office of Secy.)

T E L E T Y P E

Date:

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

Reurtt January 4, 1956, Docket DMEA-3866, American Smelting and Refining Company, Contract Idm-E903. Contract has been signed by Operator and your copies will be sent to you.

George C. Selfridge
Chairman, Operating Committee

WRGriswold/bjl (written 1/5/56)

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

Chairman, Operating Committee, D.M.E.A.

RECEIVED

JAN 5 1956

DN 235 BUR MINES 1-4-55 4-14

CHAIRMAN, OPEAATING COMMITTEE, DMEA

RE DOCKET DMEA 3866, AMERICAN SMELTING AND REFINING COMPANY, KEYSTONE MINE, GUNNISON COUNTY, COLORADO. PLEASE TELETYPE ADVICE AS TO STATUS OF CONTRACT FORWARDED BY YOU TO APPLICANT FOR SIGNATURE 12-5-55.

W M TRAVER

Denver, Color

JAN 5 8 28 AM '56
BUREAU OF MINES
MAIL ROOM
WASHINGTON, D. C.

AMERICAN SMELTING AND REFINING COMPANY
MINING DEPARTMENT
120 BROADWAY, NEW YORK 5

RECEIVED
JAN 3 1956

D. J. POPE
ASSISTANT TO VICE PRESIDENT

December 29, 1955

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

Re: Docket No. DMEA 3866 - Lead, Zinc, and Copper
Keystone (Union Extension) Mine
Gunnison County, Colorado.

Dear Sir:

I am returning to you herewith the original and five (5) copies of the contract for an exploration program at the property referred to above, which were sent to us with your letter of December 5, 1955.

In accordance with your letter, all six (6) copies have been executed for this Company. There was one change which we wished to make in connection with the size of the drifts and raises. As suggested by Mr. Griswold, the change has been made on page two of Exhibit "A" and initialed. I understand that you will also initial the change, which occurs in two places, before returning our copy of the contract to us.

Under Article three (3) we have inserted as the starting date, February 1, 1956, which I trust is satisfactory.

Sincerely yours,

D. J. Pope

Enclosures.

500

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

December 15, 1955

Memorandum for the Files

From: Chief, Base Metals Division

Subject: Docket No. DMEA-3866, American Smelting & Refining Company, Gunnison County, Colorado

On December 15 the undersigned had a phone conversation with Mr. Darwin Pope of the Applicant company's New York office.

Mr. Pope brought up various points in connection with the contract, which had been left at their office for signature. He questioned the item which stated timbered drifts should be 7 x 7 feet in the clear, stating that they wished to use timber sets with the posts battered (tilted inward). He requested that therefore the width specification be changed to five feet, measured at centers of the posts. He also objected to the specified raise dimension of 5 x 10 feet in rock section, stating that they would prefer a dimension of 4 x 8 feet, usable section inside of timber.

I advised Mr. Pope that I could see no objection and that he could make such changes in the contract copies, such changes to be initialed by whoever signed the contract.

Mr. Pope also was not clear regarding the break between Stages I and II, nor why the Field Team had modified the Applicant's proposal. According to the field report, such matters had been cleared with the Applicant's representatives, but apparently Mr. Pope had no knowledge of this.

W. R. Griswold

W. R. GRISWOLD

WRGriswold/bjl

Copy to: Docket
Base Metals
Chron.

DOCKET
Surname: Holt
Martin
Griswold
Selfridge
Fellman

40

N.S. Ch R.R.

DEC - 5 1955

American Smelting and Refining Company
Mining Department
120 Broadway
New York 5, New York

Re: Docket No. DMEA 3866 - Lead, Zinc, and Copper
Keystone (Union Extension) Mine
Gunnison County, Colorado

Gentlemen:

Enclosed are the signed original and five copies of the proposed contract for an exploration program at the above-referenced property, together with Annex I (2 pages), Exhibit "A" (3 pages), and three maps.

If the terms and conditions of this proposed contract are satisfactory to you, all six copies should be executed and returned to this office. If any part of this proposed contract does not have your approval, the original and all copies are to be returned unsigned to this office, together with the proposed changes for consideration.

Under Article 3 the starting date has been left blank and is to be filled in when the contract is executed.

Sincerely yours,

D. O. Mittendorf by ESH

Administrator

Enclosures

cc: Docket
Code 400-Mr. Martin
Code 500-Mr. Griswold
Adm. Reading File
Thor Kiilsgaard, USGS
O. M. Bishop, USBM
Field Team, Region 3

ESHolt/ls 12/5/55

Mr. Mittendorf looks
Ltr to N.Y. with him
To deliver personally
if possible.

Please do
not use
this letter

See new one

WSM
12/5/55

MF-500

UNITED STA[illegible]
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

REFERENCE SLIP

DATE 11/28/55

REFERRED TO:

1. ~~Mr. Griswold~~
2. ~~Mr. Bishop, USPM~~ OMB
3. ~~Mr. Killsgaard, U SGS~~
4. ~~Mr. Chambers, 4448~~
5. Operating Comm. - Johnson
6. Mr. Mittendorf - [illegible]
7. Mail Room

FOR:

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

REMARKS: 1 - [illegible]
2 - [illegible]
[illegible] . [illegible]
[illegible]
3. One [illegible]

Check (X) before the items needing attention.

[illegible]

SPHolt/ls

Initials of sender.

GPO 16—63815-1

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

not used

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

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

Dear Mr. Traver:

Enclosed are the original and five copies of a proposed contract for an exploration program at the above-referenced property, signed by the Administrator for the Government, together with Annex I (2 pages), Exhibit "A" (3 pages), and 3 maps. Two extra copies of Exhibit "A" and of the annex and maps are enclosed for the use of the Field Team.

If the terms and conditions of this proposed contract are satisfactory to you and the operator, all six copies should be signed and the usual distribution made.

If any part of this proposed contract does not have either your approval or that of the operator and can not be amended within your delegated authority, the original and all copies of the proposed contract are to be returned to this office, together with the proposed changes for consideration.

Under Article 3, the starting date has been left blank and is to be filled in when the contract is signed by the operator.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Enclosures

DO NOT USE

APPROVED:

Robert W. Lechan
Member, Bureau of Mines

Victor H. Gilsgaard
Member, Geological Survey

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

DEC - 5 1955

Memorandum

To: The Administrator, DMEA
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

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

As a result of conferences with Mr. Martin, the attached proposed contract has been rewritten in several respects.

We have been advised by Mr. Martin that it has been administratively determined that American Smelting and Refining Company alone will sign the contract and that Consent to Lien has been waived.

The maps attached to the contract show a 3-stage operation, whereas the contract is for a 2-stage operation. Hence, the discrepancy should be corrected on the maps.

This memorandum supersedes that previously written November 22, 1955.

Robert P. Dwyer

Attachments

1)

Raise 200 feet on the new exposure of the Union Vein and connect with the existing 2,000 level drift on that structure, provided, however, if Stage II work is approved and it is the opinion of the Government that there is no question as to the identity of the Union vein on the 2,160 level and that conditions warrant its continued exploration on the 2160 level, the Government will, in writing, authorize the Operator to raise from a point below the face of the existing 2,000 level Union drift.

2)

Raise 200 feet on the Union vein exposed by Stage I work; ~~provided~~, however, if exploration on the 2160 level is approved in Stage II, the Government ~~will~~ may at its option in writing authorize the Operator to raise from a point approximately below the face of the existing 2000 level Union drift.

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

EXHIBIT "A"

Description of the Work

The maps attached to and made a part of the contract are as follows:

Figure 2 - Map of the Keystone-Park City group of claims, Gunnison County, Colorado, showing boundaries of property that will be subject to the provisions of an exploration project contract, DMEA-3866.

Figure 5 - Plan of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration, DMEA-3866.

Figure 6 - Longitudinal section of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration, DMEA-3866.

The work shall consist of two stages, as set forth below. The Operator shall perform the work described in Stage I, and shall perform as much of the work described in Stage II as the Government approves in advance in writing.

Stage I

Extend the 2,160 adit level of the Keystone mine northwesterly as a drift along the Keystone or the Keystone-Union, or the Union vein for a total distance of 450 feet. It is expected that the Keystone vein will join the Union vein within 350 feet. Should the Keystone vein die out or not join the Union vein within 350 feet the remainder of the alletted footage of 450 feet may be expended in crosscutting for and drifting along the Union vein.

Raise 200 feet on the new exposure of the Union vein ~~and con-~~ nect with the existing 2,000 level drift on that structure, ~~IF~~ provided however, if Stage II work is approved and it is the opinion of the Government that there is no question as to the identity of the Union vein on the 2,160 level and that conditions warrant its continued exploration on the 2160 level, the Government will, in writing, authorize the Operator to ~~delay the work on the connecting raise until the Stage II exploration heading has reached a point below the face of the existing 2,000 level Union drift, provided that if the Government does not authorize such drifting or crosscutting the raising shall not be done.)~~ raise from a point below the face

Docket

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

NOV 22 1955

Memorandum

To: The Administrator, DMEA
Attention: Chief, Iron and Ferro-Alloys Division

From: Associate Solicitor, Division of Mineral Resources

Subject: Docket No. DMEA-3866, American Smelting and Refining Company

Pursuant to Mr. Martin's request, we have prepared the attached proposed contract for Docket No. DMEA-3866.

Although American Smelting & Refining Company will act under this contract both on its own behalf and as agent for Park City Consolidated Mines Company, the whole operation is essentially a joint venture. Therefore, in order to avoid any possible doubt as to the efficacy of the Government's lien on the land, we have prepared the signature page of the contract so as to require signature by both companies.

The maps attached to the contract show a 3-stage operation, whereas the contract is for a 2-stage operation. Hence, the discrepancy should be corrected on the maps.

Robert P. Dwyer

Attachments

400 DOCKET
SURNAME
Holt
Martin

November 8, 1955

MEMORANDUM

To: Associate Solicitor, Division of Mineral Resources

From: Iron and Ferro-Alloys Division, DMEA

Subject: Preparation of Contract
Docket No. DMEA 3866
American Smelting and Refining Company
Union Extension (Keystone) Mine
Gunnison County, Colorado

Transmitted herewith is a rough draft for your use in preparing the final draft of a proposed contract.

Eight copies each of three maps referred to in the draft are attached hereto.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Transmittal

SPHelt:foc
11-8-55
cc to: Docket
Code 400
Code 500

File Copy
Surname

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

October 25, 1955

Memorandum

To: Chief, Iron and Ferro-Alloys Division

From: W. P. Klugescheid, Base Metals Division

Subject: Docket No. DMEA-3866, American Smelting and Refining Company, Union Extension Mine, Gunnison County, Colorado

I have examined the cost estimates of the American Smelting and Refining Company and also those revisions made by the Field Team, Region III, and have come to the following conclusions:

UNTIMBERED DRIFTS AND CROSSCUTS: The cost of driving an untimbered drift with a cross section of 6' x 7' is nearly the same in both estimates. The ASARCO cost is $36.30 per foot whereas the other is $36.66 due to a larger percentage allowance for indirect payroll costs, such as insurance etc. The weighted average cost of untimbered drifts and crosscuts in 22 actual cost projects located in the same general area was $39.18 per foot and I would say that the estimated costs for this project are very reasonable.

The details compare more or less as follows:

Labor costs for 22 projects were $19.41 per foot as compared with $14.14 for the estimates. Supervision and Technical Services were $3.67 for 22 projects as against $3.62 for the estimates. Explosives averaged $3.02 for 16 projects and for the present project is placed at $3.78 per foot. This higher cost is understandable, however, as costs have risen since many of the projects have been finished. I consider $3.78 as a very fair cost. Pipe and track costs are reasonable. The cost of compressed air I consider low and doubt if they can supply it at that price. Bits and steel may be a little high but are probably pretty close to correct. The average cost of a number of projects for repairs and parts and small tools combined was $2.[illegible] per foot and that for the project in question is $2.40. Insurance, pensions and fringe benefits are all fixed for each particular locality and are dependent

upon the total cost of labor and supervision so there cannot be much room for error here. Contingencies at 5% are reasonable. The Field Team deducted $1.87 per foot as a salvage value for pipe, track and ventilation pipe which would be 40% of the new value and is a reasonable figure. All items considered, I would say that $35.00 per foot, as calculated by the Field Team, is a good low figure.

TIMBERED DRIFTS AND CROSSCUTS: The Field Team revised the ASARCO estimate for the timbering and I agree with their estimate. During their inspection of the property, staff personnel told them that the cost of timbering was $10.00 per set for material and $15.00 for labor. Assuming the timber to be on five-foot centres, the labor cost per foot would be $3.00 and the material cost would be $2.00. The $6.00 per foot for materials estimated by the Operator I consider excessive. All other costs were more or less the same as for the untimbered headings and the final cost of $41.00 which the Field Team estimated is a good cost. This figure allows $6.00 per foot for the timber work and we consider that a very fair cost for light timbering.

RAISING: There will be only one 200-foot raise in this project. The Operator will run this as a 3-compartment, 5' x 15' raise and all costs over those estimated for a 5' x 10' opening will be borne by the comapny. The ASARCO estimate was reduced by the Field Team to conform with the smaller dimensions. Explosive costs are probably low as, in my opinion, a face having a cross-sectional area of 50 sq. ft., such as would be the case in this raise, would require as much dynamite as an advance face having and area of 42 sq. ft. such as the drifts and crosscuts have. Compressed air is low as in the case of the drifts. Timber costs for three projects, having a size of 6' x 10', in the same general area were $7.16 per foot. A rough estimate of my own would be more or less $5.50, while the Field Team cost is only $3.08 per foot. The weighted average of the total cost per foot of four projects having raises that were somewhat smaller in size was $43.12.

DIAMOND DRILLING: The average cost of six projects in the same general area for AX size bits was $5.93 per foot and, as there have been some increases in wage and costs of materials since these projects were completed, I would say that $6.10 per foot is a very good cost.

W. P. Klugescheid

W. P. Klugescheid

WPK/er

Copy to: Docket
Admr R File
Chron.

File Copy
Surname

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

October 14, 1955

Memorandum

To: Chief, Iron and Ferro-Alloys Division

From: Chief, Base Metals Division

Subject: Docket No. DMEA-3866, American Smelting and Refining Company, Union Extension Mine, Gunnison County, Colorado

I am forwarding you the cited docket with the recommendations of the commodity members.

Up to a couple of years ago I was an employee of the Applicant company. Actually, I now have no connection with this concern, nor do I anticipate having any future connection, but naturally I do have friends within the organization. Hence, it might possibly be difficult for me to appraise this application in a completely impartial manner.

Since you were kind enough to offer to process this application, I therefore believe that it would be better policy for me to disqualify myself and take advantage of your services.

W. R. Griswold

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Mr. F. Johnson
Chron.

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

RECEIVED
OCT 12 1955

October 12, 1955

Re: DMEA-3866
(Lead-Zinc-Copper,
$107,220)
American Smelting &
Refining Co.
Keystone Mine
Gunnison County, Colo.

Memorandum

To: W. R. Griswold, DMEA

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

Subject: Field Team report transmitted October 4, 1955;
received October 11, 1955

I have reviewed the application for exploration and assistance, and the Field Team report based upon it, also the letter of August 8, 1955 from L. H. Hart of American Smelting and Refining Company on the subject of revisions. I concur with the field examiners and Field Team in recommending that the 3-stage exploration program outlined by the field examiners be approved.

Costs outlined are reasonable as is the agreement that the company bear the cost difference between exploration-size and production-size openings. I consider the exploration potential to be most excellent; I also consider Mr. Nolan Probst an excellent mine manager.

O. M. Bishop

O. M. Bishop

Copy to - Division of Minerals
Mr. Kiilsgaard, Room 5222
O. M. Bishop
Files

IN REPLY REFER TO:

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

RECEIVED
OCT 12 1955

October 12, 1955

Memorandum

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

From: T. H. Kiilsgaard, U. S. Geological Survey

Subject: Review of Field Team report on a DMEA application submitted by American Smelting and Refining Company, Docket No. 3866, Union Extension Mine, Gunnison County, Colorado.

I have reviewed the cited report and find the Field Team recommends approval of a contract that would authorize Government participation in the project requested by the applicant, but with a few minor modifications. Field examiners recommend that drifting on the 2,160 level continue on the Keystone vein rather than crosscut to the Union vein from the present face as suggested in the application. This type of exploration should provide a better way of determining if the Union vein is a continuation of the Keystone vein, or if it is a separate vein and not connected. Such drifting should also provide a better means of correctly locating the proposed raise in the Keystone vein to the 2,000 level. Field examiners also recommend that exploration work be in three stages rather than in two as suggested by the applicant.

I concur with the Field Team's recommendations, except that I would recommend a two-stage project rather than three stages. I would suggest that the first stage be as recommended by the Field Team but that Stages II and III be combined into one, this work to be on the vein and level selected by the Field Team and the operator.

In the present case we are dealing with a reputable mining company that may be expected to do the exploration work to the best of their ability. No doubt, if they should find the work unrewarding, they would be agreeable to discuss terminating the contract with the Field Team. It seems reasonable to expect them to prefer such negotiations rather than commence work on a more extended stage project knowing the Government could stop the contract at the completion of any stage. Should negotiations with the company prove unsatisfactory, the Field Team can always terminate the contract if they believe such action to be to the best interests of the Government.

I recommend approval of a contract to be drawn along the lines discussed herein.

Thor H. Kiilsgaard

Thor H. Kiilsgaard

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

RECEIVED
OCT 1955

AIR MAIL

October 4, 1955

224 New Customhouse
Denver 2, Colorado

Greenwald

ON-SITE Report

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Field Team, Region III

Subject: Joint Report of Examination, DMEA Docket 3866 (Lead-Zinc-Copper), American Smelting and Refining Company, Keystone Mine, Gunnison County, Colorado

Enclosed are the original and three copies of the report pertaining to the above application.

The field examiners conclude that exploration of the Union and other veins in the area northwest of the Keystone workings is justified. They recommend a modified exploration program consisting of three stages to which the applicant has agreed. The examiners estimate that the total cost of the modified program will be $107,220.00, of which the Government's share will be $53,610.00.

We concur in this recommendation.

W. M. Traver
W. M. Traver

H. M. Fonnors
for E. N. Harshman

Enclosures

Reviewed by
DMEA OPERATING COMMITTEE
10-10-55
(Date)

IN REPLY REFER TO:

DMEA
Date Rec'd.
OCT 4 1955
BUREAU OF MINES
Denver, Colorado

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

September 30, 1955

TRANSMITTED
OCT 4 - 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: E. N. Harshman
John F. Shaw

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

Enclosed are the original and eight copies of a joint Engineering and Geologic report on the examination of the subject property by R. L. Bolmer of the U. S. Bureau of Mines and R. U. King of the U. S. Geological Survey.

The applicants propose to explore for lead, zinc, and copper at the Union Extension (Keystone) mine in the Elk Mountains near Crested Butte, Gunnison County, Colorado, by 2,450 feet of combined drifting and crosscutting, 200 feet of raising, and 2,000 feet of diamond drilling. The applicants estimate that the total cost of their proposal will be $115,000.00.

The property was examined by Bolmer and King accompanied by operating personnel of the mine July 20-22, 1955. Details of the applicant's proposals and the examiners' recommendations were subsequently discussed with officials and staff members of the applicant's Western Mining Department.

Bolmer and King conclude that exploration of the Union and other veins in the area northwest of the Keystone workings is justified. They recommend that a program slightly modified from the applicant's proposal be set up in three stages. The applicant has agreed to the modified program. The examiners estimate that the total cost of the modified program will be $107,220.00 of which the Government's share will be $53,610.00.

We recommend that the program outlined by the examining team be approved.

Reviewed by
DMEA OPERATING COMMITTEE
10-10-55 for
(date)

DRMacLaren
E. N. Harshman, Member, Field Team

John F. Shaw
John F. Shaw, Supervising Mining Engineer

Enclosures (9)
DRMacLaren:arh

KEYSTONE MINE, GUNNISON COUNTY, COLO.

American Smelting and Refining Company
120 Broadway, New York 5, N. Y.

Docket No. DMEA 3866 (Lead, zinc, copper)

Report of Examination

by

R. L. Bolmer, Mining Engineer
Bureau of Mines

R. U. King, Geologist
Geological Survey

September 22, 1955

Reviewed by
DMEA OPERATING COMMITTEE
10-10-55
(date)

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DMEA Docket 3866
AMERICAN SMELTING AND REFINING COMPANY
KEYSTONE MINE
GUNNISON COUNTY, COLORADO

INTRODUCTION

American Smelting and Refining Company, a New Jersey corporation with main offices at 120 Broadway, New York 5, N. Y., acting for itself and as agent for Park City Consolidated Mines Company, made application for aid in a project of exploration for lead, zinc, and copper at the Union Extension (Keystone) mine located in the Elk Mountains near Crested Butte, Gunnison County, Colo. The application, dated June 22, 1955, was made pursuant to DMEA Order 1, under the Defense Production Act of 1950, as amended. It was submitted to the Defense Minerals Exploration Administration, Washington, D. C., on June 24, 1955, and assigned Docket No. DMEA 3866.

In its application, the company proposed to explore for the lateral extensions and the downward projections of the Keystone, Union, West, Berrien, and other veins within relatively untested but apparently mineralized ground northwest of the presently developed sections of the Keystone and Union veins in the Keystone mine. The estimated total cost of the proposed project was $115,000.00.

The first phase of the project proposed by the company involved crosscutting some 150 feet westerly from the face of the 2,160 adit level of the Keystone mine to intersect the downward projection of the Union vein and drifting for 300 feet northwesterly along that structure. A 200-foot raise on the Union vein, to connect with an

existing drift along that vein on the 2,000 level of the mine also was proposed.

The second phase of the proposed project involved exploration of the Union and other veins in the ground northwest of the present face of the 2,000 level of the mine by means of 2,000 feet of drifting and crosscutting and 2,000 feet of core drilling. In general it was proposed to drift northwesterly along the Union vein on the 2,000 level of the mine and to explore both walls of that structure at intervals by core drilling to determine whether the Keystone or other veins were present.

The application indicated that the proposed project work would be started within 10 days and be completed within a period of 24 months from the date of an exploration project contract.

The land, within which the proposed exploration would be conducted and upon which the company agreed to a lien by the Government to secure the repayment of its exploration assistance, included the unpatented Park City Nos. 10, 11, 29, and 32 lode mining claims and the northwestern 700 feet of the patented Union lode mining claim. The ore reserves presently developed on the Union vein within these boundaries were estimated by the company at 31,440 tons averaging 4.0 oz. silver, 5.3 percent lead, 0.3 percent copper, and 7.6 percent zinc. The company agreed that, should the proposed project be approved, such reserves would be subject to Government royalty. Some 68 other contiguous mining claims controlled by the company, which surround the ground to be explored and which include the existing workings and the

developed reserves on the Keystone vein, were excluded from the proposed project.

The company's application was reviewed by members of the commodity group in Washington and, on July 13, 1955, it was referred to the DMEA Field Team, Region III, for examination and recommendations. The Keystone property, its facilities and current production operations, were inspected July 20-22, 1955, by an examining team from the Bureau of Mines and Geological Survey. The inspection was made with the operating personnel of the mine. Details of the proposed program, with which the resident personnel were unfamiliar, subsequently were discussed with officials and staff members of the company's Western Mining Department.

The examining team concluded from their inspection of the property and from other criteria that exploration of the Union and other veins in the area northwest of the present Keystone mine workings was justified and that the general program as proposed by the company was feasible and did meet the requirements and conditions for exploration assistance by the Government.

Certain minor modifications in the specific details of the proposed project, which the examining team considered warranted, were discussed with representatives of the company. The company subsequently gave its official acknowledgement and approval to such modifications of its program as had been suggested. The modified, three-stage project, which the examining team considered warranted and is recommending in this report, provides for the exploration of the Union and other veins

in ground northwest of the Keystone mine at an estimated total cost of $107,220.00 (Government participation, $53,610.00).

This report is based on the field examination of the Keystone property and upon data supplied either by the company or obtained from the files and records of the Bureau of Mines and Geological Survey. It is prepared for the purpose of aiding the DMEA Field Team and others concerned in evaluating the applicant's request for exploration assistance.

ACKNOWLEDGMENTS

The courtesy and cooperation shown and the data supplied to the examining team by members of the resident staff at the Keystone mine, particularly by Mr. Nolan Probst, manager, and Mr. M. E. Pratt, mine superintendent, is acknowledged. Additional data on the property were furnished by Mr. R. K. Kirkpatrick, resident geologist, American Smelting and Refining Co., Denver, Colo. Details regarding the proposed project were discussed with Mr. W. R. Landwehr, chief geologist, Western Mining Dept., American Smelting and Refining Co., Salt Lake City, Utah.

The maps included in this report were reproduced, either directly or in a modified form, from originals furnished by the applicant.

LOCATION AND PHYSICAL FEATURES

The Keystone mine is in the Elk Mountain mining district, about 30 miles north of Gunnison, Gunnison County, Colorado (fig. 1). The mine is about 3 miles due west of the town of Crested Butte. It is accessible by 1-1/2 miles of graded mine road that branches from the

Coal Creek road about 1-1/2 miles west of Crested Butte. The mine workings are on the south slope of Mt. Emmons at elevations ranging from 9,755 to 10,544 feet above sea level. The surface plant and the major part of the mine workings are in the NE 1/4, sec. 6, T. 14 S., R. 86 W., 6th P. M., but the workings extend into the SE 1/4 sec. 31, T. 13 S., R. 86 W. Altitudes within the area range from 8,950 feet at Crested Butte to 12,414 feet at the crest of Mt. Emmons, giving a relief of over 3,000 feet within a distance of 4 miles. Situated on the western slope of the Rocky Mountains, the climate of the district is typical of mountainous areas in that the winters are long and severe; the annual snowfall averages about 150 inches. At Crested Butte the average annual precipitation amounts to about 27 inches.

The Coal Creek road is maintained by the county. During the winter months, the county also provides snow removal for the mine access road. Electric power is transmitted to the surface plant by the Gunnison Electric Association (R.E.A.) at 24.9 Kv. The company does not provide housing at the mine for its employees; living accomodations, however, are available in Crested Butte. Crested Butte, until recently, was the center of a local coal mining industry, and an adequate supply of mine labor is yet available in the area.

HISTORY AND PRODUCTION

Silver-bearing rocks were discovered in the Elk Mountain and Ruby districts as early as 1872. Intermittent production of silver from vein deposits in sandstone and shale of the Cretaceous Mesa Verde

formation resulted in the construction of a smelter at Crested Butte in 1878, the completion of the D and RG W RR to Crested Butte in the early '80's, and the establishment of the mining towns of Gothic, Ruby, and Irwin.

The Elk Mountain district is credited with a considerable ore production consisting chiefly of silver, but some lead, zinc, and copper and small quantities of gold were also obtained. The Ruby district was credited with $100,000 production, chiefly in precious metals, by 1881. Only sporadic prospecting and mining have been conducted in the district during the period from 1890 to 1949 when Park City Consolidated Mines Company commenced exploration and development of the Keystone mine. In 1945 the mine was briefly examined by the New Jersey Zinc Company.

Deposits of silver-bearing lead-zinc ores were discovered on the south slope of Mt. Emmons in the late 1880's which resulted in the location of the Keystone group of claims. During this period the 1,920 level and 600 feet on the 2,000 level were driven. During 1914 the Emmons Mountain M. & T. Company, under the management of J. A. Goodwin, drove three drifts of 200, 700, and 750 feet each on the Keystone group. This resulted in the milling of 101 tons of lead-zinc ore during 1914. According to the U. S. Bureau of Mines, 46 tons of concentrates were produced that contained 0.38 ounce gold, 136 ounces silver, 5,256 pounds copper, 16,413 pounds zinc. Two thousand tons are reported to have been produced by leasers around 1925 from above the 1,920 level. No further production is recorded from the Keystone

mine until 1949 when 852 tons were milled, presumably as a result of 1,500 feet of development work on the 2,000 level by the Park City Consolidated Mines Company. One hundred sixty-one tons of concentrate were produced that contained 5 ounces gold, 1,857 ounces silver, 2,832 pounds copper, 59,551 pounds lead, and 113,846 pounds zinc. From 1950 to 1953 the property was actively developed by American Smelting and Refining Company and Park City Consolidated Mines Company. This work has resulted in the production from development drifts and raises of some 31,000 tons of silver-lead-copper-zinc ore.

The recorded production of ore and concentrates from the Keystone mine is summarized below.

Year	Crude Ore		Concentrates						
	Tons mined	Tons milled	Tons	Class	Metal Content				
					Ounces		Pounds		
					Au	Ag	Cu	Pb	Zn
1914	--	101	46	--	0.38	136	--	5,526	16,413
1925	2,000	--	--	--	--	--	--	--	--
1949	--	852	53	Pb	3.0	1,360	1,034	54,588	7,115
			108	Zn	2.0	497	1,798	4,963	106,731
1950	--	102	7	Pb	1.0	781	--	6,949	1,812
1953	31,000	--	14	Zn	--	264	--	312	12,685
Total	33,000	1,055	228	Pb-Zn	6.38	3,038	2,832	72,338	144,756

OWNERSHIP AND EXTENT

American Smelting and Refining Co., the applicant for exploration assistance, owns an undivided 60 percent interest in some 1,200 acres of mining property in the Elk Mountain and Ruby Mining Districts, Gunnison County, Colo. Park City Consolidated Mines Company, a Utah corporation of 39 Broadway, New York 6, N. Y., for whom the applicant also is acting as agent, owns the remaining undivided 40 percent interest in the property.

The property consists of a contiguous group of 73 patented and unpatented lode and placer claims and mill sites. It includes the workings of the Keystone mine and that block of ground northwest of the workings on the Keystone and Union veins within which the proposed exploration would occur. The relative locations of most of the individual claims in the group with respect to township and section boundaries, to the present mine development, and to the proposed exploration are indicated on figure 2.

The ownership of the group was consolidated during 1949. Park City Consolidated Mines initially purchased or obtained options to purchase some 15 of the existing claims in the area. One of the patented groups of claims, which it acquired under option from the Keystone Lead-Zinc Co., included the old Keystone mine. The additional 53 new claims, which comprise the remainder of the present ownership group, were staked subsequently by this company on unlocated ground in the area surrounding the Keystone mine.

3816

On October 18, 1950, Park City Consolidated Mines Co. entered into an agreement with American Smelting and Refining Co., under which the latter company would obtain possession, control, and management of the property for periods of 1, 2, or 3 years upon its expenditure yearly of certain stipulated amounts for the improvement and development of the property. At the end of three years and upon its total expenditure of a minimum of $250,000, including the construction of a 100-ton mill, the American Smelting and Refining Co. would be granted an undivided 55 percent interest in the property. Upon its payment of an additional $50,000, mainly for the purpose of discharging the indebtedness due and owing by Park City Consolidated Mines on its original options to purchase certain of the claims, American Smelting and Refining would be granted an undivided 60 percent interest in the property. This latter option of the agreement was exercised. A copy of a warranty deed, dated December 2, 1953, conveying an undivided 60 percent interest in the described property to the American Smelting and Refining Co., is attached to and made part of the application for exploration assistance.

In its original application for exploration assistance, the American Smelting and Refining Co. indicated that only the ground occurring within the following described boundaries would be benefited by the proposed exploration and, therefore, should be subject to the provisions of an exploration project contract:

Unpatented lode claims -

	Certificate of Location recorded in Office of Clerk and Recorder of Gunnison County in Book	at page
Park City No. 10	255	518
Park City No. 11	255	518
Park City No. 29	255	527
Park City No. 32	255	529

Patented lode claims -

That part of the patented Union lode claim (U. S. Mineral Survey No. 6523) lying northwest of a line running N. 44° E. from a point on the southwest side line 700 feet from the northwest corner of the claim.

The remainder of the land owned by the company, including that which contains the developed reserves on the Keystone vein, was inferred from its omission in the original application as being reserved from the provisions of any exploration contract. The exclusion of the developed reserves on the Keystone vein from the royalty provisions of an exploration contract is justified. These reserves were discovered and developed previously and will not benefit from any portion of the proposed project.

The Union vein already has been explored for a distance of some 800 feet along the 2,000 level of the Keystone mine. The ore reserves indicated on this structure both above and below its present exposure along the level occur on the Park City No. 11 and the NW 1/2 of the Union claims and thus fall within the boundaries of the block of ground

which the company has included with its application. The company apparently is in agreement that these reserves would benefit from the proposed exploration work on the 2,160 level and should be subject to Government royalty provisions. An estimated 31,440 tons of lead, zinc, and copper ore is indicated for the Union vein within ground which will be subject to the provisions of an exploration contract. The royalties accruing on the eventual production from these reserves should be sufficient to repay most, if not all, of the exploration assistance being sought by the company.

The examining team concluded that the block of ground, which the company originally proposed for inclusion in the project, was, in certain instances, somewhat limited in extent and that other adjacent ground conceivably could benefit from the exploration program. The exact details of the latter phases of the project were indefinite. Some portions of proposed drilling and the anticipated crosscutting possibly might fall outside the stipulated block of ground or might intersect veins which would extend beyond the proposed boundaries. The matter was discussed with representatives of the company. The company, in a letter dated August 8, 1955, agreed to extend the boundaries of the land subject to the contract so as to include the following additional claims:

Unpatented lode claims -

	Location Certificate recorded	
	in Book	at page
Approximate northwest one-half of Park City No. 1	255	513
Park City No. 7	255	516
Park City No. 9	255	517
Park City No. 15	255	520
Park City No. 16	255	521
Park City No. 17	255	521

Patented lode claims -

Berrien	U. S. Mineral Survey No. 3738
Furniture Boy	U. S. Mineral Survey No. 3739

The revised boundaries of the property, which the company has agreed to include with its application and which will be subject to all the provisions of an exploration project contract, have been indicated on figure 2. The revised boundaries include all of the land within which the proposed exploration will occur and all of the ground that conceivably might benefit therefrom. The property that will be subject to the contract is considered ample for the protection of the Government.

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 (fig. 4). 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 important 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. Farther north near the top of Mt. Emmons and in Redwell Basin the beds strike north-northwest and dip from 10° to 20° W.

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 dimension; 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 2,000 level it has been followed for 2,200 feet at which point the vein narrows to a width of less than 1 inch. On the 2,160 level the Keystone vein has been followed for a distance of over 2,200 feet and is 4 feet wide at the present face. A 4-foot channel sample across the vein at the face assayed 4.3 oz/ton silver, 0.8 percent lead, 1.8 percent copper, and 4.1 percent zinc.

A sub-parallel vein, called the Union vein, discovered by core drill exploration on the 2,000 level, is about 150 feet southwest of the Keystone vein. The Union vein is en echelon to the Keystone vein, but its relationship to the Keystone is not understood at this time. The Union vein may be a northwesterly branch of the Keystone vein or it may be a faulted segment of the Keystone vein; 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.

Company's Estimated Ore Reserves

According to the applicant's estimate, the total reserves in the Keystone mine (blocks 1 to 53, fig. 6), are about 300,000 tons containing 6.9 oz/ton silver, 3.2 percent lead, 0.9 percent copper, and 6.5 percent zinc. In addition to this total there is an indicated reserve in blocks 1-8 on the Union vein of 31,440 tons of ore in widths

ranging from 4.3 to 9 feet that contain 4.0 oz/ton silver, 5.3 percent lead, 0.3 percent copper, and 7.6 percent zinc.

The gold content of the Keystone and Union veins amounts to 0.02 to 0.03 ounce per ton.

PRESENT STATUS OF THE PROPERTY

Exploration and Development

The initial exploration of the Keystone vein and the primary development of the ore reserves discovered thereon has been carried out by means of more than 8,000 feet of drifting along the five main laterals of the Keystone mine. The five main adit levels of the mine were started at various intervals along the outcrop of the vein on the steep southern slope of Mt. Emmons and were extended northwesterly as both exploration and development drifts on the structure. Secondary exploration and development of the vein has been by means of several raises driven to connect the various adit levels and by three sub-level drifts extended from certain of these raises. The existing workings in the Keystone mine and the present extent of the exploration and development of the Keystone vein are shown on figures 5 and 6.

The main adit levels and sublevels of the mine, their lengths and portal elevations are tabulated below.

Level	Approximate length driven on Keystone vein	Portal elevation
1,370 level	600'	10,544'
1,470 sublevel	200'	10,456'
1,570 sublevel	400'	10,357'
1,670 level	1,650'	10,246'
1,850 sublevel	850'	10,095'
1,920 level	700'	9,996'
2,000 level	2,550'	9,916'
2,160 level	3,000'	9,755'

The 1,920 level and the first 600 feet of the 2,000 level was driven by early day operators of the property. The 1,920 level, long since caved, has never been reopened. In 1949, Park City Consolidated Mines reopened the 2,000 level and extended it for some 1,500 feet. The original sections of this level were never enlarged so as to permit the use of modern haulage equipment. American Smelting and Refining Co. took over operation of the property in October 1950 and, since that time, have completed all of the other existing development of the mine, all of which presently is accessible.

The lowest and most recently completed 2,160 level was driven to an 8- by 8-foot cross section so as to serve as a main haulage level for future mining operations. Its portal is at the same elevation as the head of the mill. Due to the surface topography, this level is the lowest elevation at which lateral development of the veins is practical. Any deeper development of the vein in the future probably will

be by sinking. The newer sections of the 2,000 and the other higher levels were driven to a 6- by 7-foot cross section.

The Keystone vein has been extensively explored and developed for an overall length of some 3,000 feet and to depths ranging up to 1,100 feet below its surface outcrop. The structure, as exposed throughout most of its developed sections in the mine, is strong and continuous; its mineral content, however, is not uniformly distributed. Mineralization of ore grade and width occurs in three distinct shoots. The three ore shoots discovered to date on the Keystone vein and their present state of development are indicated on figure 6.

The largest and northwesternmost ore shoot on the vein has been explored and developed from the 2,160 level to the surface, a vertical distance of some 1,000 feet. The lateral limits of the ore in this shoot are irregular and range from 150 to 450 feet in length. A second shoot of intermediate size and location extends some 500 feet vertically from the 2,160 level and ranges from 80 to 410 feet in length. The third, smallest, and southeasternmost shoot on the vein extends about 200 feet vertically above the lower level and averages about 250 feet in length. The width of the ore in all three bodies ranges from 1 to 11 feet. All three shoots appear to extend into unexplored ground below the 2,160 level. The reserves in the three ore bodies discovered and developed to date on the Keystone vein (Keystone ore blocks 1-53, fig. 6) are estimated by the company to aggregate some 300,000 tons averaging 6.9 oz. silver, 3.2 percent lead, 0.9 percent copper, and 6.5 percent zinc.

Both the foot and hanging walls of the Keystone vein have been tested at irregular intervals along the various upper levels of the mine by means of short crosscuts. In general, no significant new structures, or splits or branches of the Keystone vein were picked up by such work.

The Keystone vein narrowed and became barren along the northwesternmost sections of the 2,000 level and the heading ultimately was stopped. A subsequent diamond drill hole from this location (DDH 20-2) disclosed a good showing of sulfide ore in the hanging wall of the Keystone vein. A crosscut driven westerly into the hanging wall from near the face of the 2,000 level (20-54 Xc W.) intersected the mineralized Union vein within a distance of 200 feet. To date the Union vein has been explored along the 2,000 level for a distance of some 700 feet northwest (20-55 Dr.N.) and 100 feet southeast (20-55 Dr.S.) from the crosscut. Two raises (20-58 Rs and 20-55 Rs) were driven on the vein for short distances above the level. The assay map of the 2,000 level, which the company has included with its application, indicates the widths and tenor of the ore encountered along the drifts on the Union vein. The mineralized sections of the vein ranged from 4 to 9 feet in width. The reserves indicated on the Union vein for distances of 50 feet above and 50 feet below the 2,000 level (Union ore blocks 1-8, fig. 6) are estimated to contain 31,440 tons averaging 4.0 oz. silver, 5.3 percent lead, 0.3 percent copper, and 7.6 percent zinc.

One hole that was drilled from the 2,000 level Union drift into the footwall of the Union vein (DDH 20-8) failed to pick up the extension of the Keystone vein in the area immediately northwest of the present breast of the main 2,000 level. Subsequent diamond drilling into the hanging wall of the Keystone vein from the 1,670, 2,000, and 2,160 levels, within the general area southeast of the Union crosscut, failed to pick up the Union vein. One hole drilled from the present breast of the 2,160 level (DDH 21-4) did cut an unmineralized structure that may represent the extension of the Union vein.

Much of the surface area of the property is covered by deep moraine and talus and the outcrops of the Keystone and the Union veins are not exposed. The extensions of these veins into the area northwest of the mine workings apparently have not been verified by surface drilling.

The outcrop of a quartz-sulfide vein is exposed at one point on the northwesterly projection of the Union vein about 1,000 feet ahead of the present limits of drifting on the 2,000 level (figs. 5 and 6). The company refers to this exposure as the West vein but concedes that the structure may represent the surface outcrop of the Union vein.

Farther towards the northwest, the north-south trending Berrien vein outcrops on the Berrien and Furniture Boy claims (figs. 5 and 6). The southernmost exposure of this structure is over the general northwesterly projection of the Union vein some 1,500 feet beyond the surface exposure of the West vein and about 2,500 feet ahead of the breast of the Union 2,000 level drift. The Berrien vein dips steeply west and its projected intersection with the apparent extension of the Union vein,

at the elevation of the 2,000 level, would be some 3,000 feet ahead of the Union 2,000 level drift. One hole drilled from the surface of the Furniture Boy claim (DDH FB-1) cut the Berrien vein 250 feet vertically below its outcrop. The vein material recovered from this hole assayed 0.015 oz. gold, 5.0 oz. silver, no lead, 2.0 percent copper, and no zinc.

Operating Methods and Costs

Mining and milling operations currently are in progress at the Keystone mine. Development work in the mine, which had been curtailed early in 1953 due to the low metal market, was resumed in June 1955; and the 200-ton flotation mill, which had been completed during the shut-down was put into operation for the first time.

The present labor force for both the mining and milling operations, excluding staff personnel, is 37 men. Ultimately about 100 men will be employed. Operations are being carried out six days per week. The mine currently is being worked one 8-hour shift per day; the mill is operated three shifts.

The current rate of production is 5,000-6,000 tons of crude ore per month. About 210 tons of crude ore is milled daily. Before the mill was constructed, the ore recovered from the various development headings was stockpiled on the surface. Some 30,000 tons of development ore eventually was stockpiled. About 75 percent of the current mill feed is obtained from this reserve; the remainder is derived from current development headings and stope preparation work.

Although considerable lateral development, mainly the extension of intermediate sublevel drifts, is yet to be performed in the mine, most of the principal raises have been completed. The raises are driven in the vein to a 5- by 15-foot cross section. They are 3-compartment and comprise an ore pass compartment on either side of a central manway and material handling compartment. The manway compartment is provided with a ladderway and timber slide. Compressed air generally is carried up the manway compartment through 2-1/2 inch bull hose. The raises are timbered with 8- by 8-inch framed raise sets and are lagged tightly.

Although a certain amount of stope preparation work, such as the construction of draw chutes along the levels and the extension of panel raises, is in progress, actual stoping operations, as yet, have not started. The company expects to extract about 90 percent of the ore by a shrinkage method of stoping; the remainder will be mined by cut and fill methods. Stope panels between the service raises will range from 35 to 40 feet in length. No pillars will be left unmined.

The foot and hanging walls of the veins are Mesa Verde sandstone, a fairly competent rock, which, in most sections of the mine, will stand over moderate spans without excessive support. Dilution of the ore in the stopes is not expected to be excessive. The vein material is both hard and soft and certain sections along the laterals, especially those through the ore bodies, require timber support.

The 1,370 and 1,670 levels and the new sections of the 2,000 level were driven to a 6- by 7-foot cross section inside of the timber. These

levels are equipped with 20-pound rail for secondary haulage by means of 1-ton battery locomotives. The 2,160 or lower adit level was driven to an 8- by 8-foot cross section inside of the timber. The ore gathered from the stopes along the upper levels of the mine will be dropped through ore passes to the 2,160 level and hauled out this level to the mill storage pockets on the surface. The 2,160 level is equipped with 30-pound rail for haulage by means of 3-1/2 ton battery locomotives. The level is provided with a 4-inch Victaulic-coupled compressed air line and 12-inch ventilation pipe.

Where needed, the levels are timbered with standard 8- by 8-inch drift sets on 5-foot centers. The sets generally are lagged only on the top. Track ties, 4- by 6- by 40-inch, are laid at intervals of about 30 inches. All of the rough-cut, native timber used in the mine is obtained from local sawmills at a delivered price of $70.00 per M.b.f. It is framed at the mine as needed. It was reported that the timber for a standard 5-foot drift set costs approximately $10.00, and the labor to install the set, $15.00.

The main workings on the Keystone vein are ventilated by natural means. The dead end 2,000 level drift on the Union vein requires mechanical ventilation. Although the mine workings make considerable water, it drains readily from the various levels and creates no serious problem. Much of the mine water is stored on the surface for use in the mill. Water for drilling purposes is not piped into the mine. The small water pressure tanks that are used for this purpose are refilled with mine water.

Drift rounds are drilled either with column-mounted drifters or with hand-held drills equipped with pneumatic feed legs. Generally 32 six-foot holes are drilled per round. The average advance per round is about 5-1/2 feet. All rounds are blasted electrically. The gelatine dynamite used in the mine is purchased in carload lots at a cost of $18.75 per cwt., delivered. Rock broken in the headings is loaded mechanically into mine cars which may be hand trammed for short distances but generally are hauled by battery locomotives.

The 200-ton selective lead-zinc flotation mill that recently was put into operation at the property was designed and constructed under contract by the Western-Knapp Engineering Co. of Los Angeles, Calif. The overall costs of the installation reportedly were about $400,000.00. The mill buildings, equipment, and facilities are modern and up-to-date and the current milling practices and procedures are standard for the type of ore being treated. Most of the circuits in the plant are controlled automatically and only two or three employees per shift are required for its operation.

Crude ore from the pocket at the head of the mill is crushed in two stages and then stored in a fine-ore surge bin. The ore is transported through the crushing section on conveyor belts and, in turn, passes through an automatic feeder at the mill pocket, a shaking grizzly in open circuit with a primary jaw crusher, and a vibrating screen in open circuit with a secondary cone crusher.

Fine ore from the surge bin is weighed, mixed with conditioning reagents, and fed automatically to a standard ball mill in closed circuit with a rake-type classifier.

The pulp from the grinding section is pumped to lead rougher cells in the flotation section where the lead and most of the silver and copper minerals in the pulp are floated and the zinc and gangue minerals depressed. The tails from the lead cells are reconditioned and then pumped to zinc rougher cells where the zinc is floated from the gangue. Both the lead and zinc concentrates are cleaned and upgraded further in additional stages of flotation. The concentrates subsequently are washed, thickened, dewatered, and ultimately stored, without drying, in bins located above the loading dock at the lower end of the mill.

The lead concentrates are trucked a distance of 144 miles to the company-owned Arkansas Valley Smelter near Leadville, Colo. The zinc concentrates are trucked 95 miles to Salida, Colo., for subsequent rail shipment to the company-owned smelter at El Paso, Texas. The current costs of transporting the concentrates to the smelter were not available.

The mines owned by the American Smelting and Refining Co. are operated as individual economic units within the company organization. Wherever feasible, they market their production with company-owned smelters and receive payment thereon under the same current price schedule that the smelter has established for all custom shippers. This procedure may effect the method of computing royalties due the Government on ore produced under theterms of the exploration project contract.

The mill had been in operation for about one month preceding the inspection. Due to labor strikes throughout the smelting industry, the settlements on only the first lots of concentrates produced in the mill had been received. These results (tabulated below) are not representative

of those that may be expected during future operations after initial milling tests are completed and operational procedures are established.

	Grade			
	Ag (oz/ton)	Pb (%)	Cu (%)	Zn (%)
Average mill feed:	9.0 to 10.0	3.5	07 to 1.0	5.1
Concentrates produced:				
(lead)	50.0	38.6	3.0	12.0
(zinc)	5.5	2.2	1.3	41.0
	Ag	Pb	Cu	Zn
Percent overall recovery:	74	84	35	50

Overall operational costs at the property, once full scale production has been reached, are estimated by the company as follows:

Operation	Cost per ton of crude ore produced
Mining (including development)	$ 9.00
Milling	3.50
Indirect labor	3.00
Total	$15.50

Mining and Milling Equipment and Other Facilities

The mine, mill, and surface plant are fully equipped and have ample facilities for an integrated mining and milling operation of the size contemplated by the company. Most of the surface construction has been completed and most of the plant equipment has been installed.

The various structures and other facilities that make up the surface plant include the mill, office, assay laboratory, blacksmith

shop, warehouse, compressor house, powerhouse, garage, timber framing shed, snow shed, and water storage tanks.

The mill building has concrete foundations and floors, structural steel framework, and corrugated steel roof and siding. Most of the other surface buildings are similarly constructed.

The blacksmith shop contains a forge, lathe, chargers for battery locomotives, and other facilities for the repair and maintenance of operating equipment. The compressor building houses two Ingersoll-rand Type 40, Model 90, 2-stage 8- by 6-1/4- by 5-inch air compressors. Each compressor is belt-driven by a 75 horsepower 440-volt induction motor. The rated capacity of each unit is 515 cubic feet per minute. Four steel air receivers are installed on the surface adjacent to the compressor building. The building also contains two M.S.A. 250-volt 2A battery chargers and racks for 40 Edison, Model R4, electric cap lamps.

The powerhouse contains two Caterpillar D-17000 Diesel Electric Units each having a rated output of 100 k.w. The units are kept in standby condition and have not been in use since R.E.A. power lines were extended to the property. The garage houses bulldozing equipment, trucks, and other types of automative equipment. The timber sheds contain power saws and racks for framing mine timbers. The snow shed covers the main haulage track and extends from the portal of the lower adit, across the mine yard past the mine shops and the mill storage pockets, to the waste disposal dump. Two wooden water tanks, each with a storage capacity of about 10,000 gallons, are located on the slope above the mine yard.

The milling equipment and facilities at the property have been discussed in a preceding section of this report. The other major items of equipment observed during the inspection, which relate principally to underground mining operations, are summarized below.

Mine locomotives:

1 - 3-1/2 ton Mancha battery locomotive
1 - 1-ton " " "
2 - 1-ton Atlas " "

Mine cars:

30 - 32-cu. ft. rocker bottom, side dump cars
20 - 22-cu. ft. end dump cars
12 - 20-cu. ft. " " "
12 - 52-cu. ft. Granby-type, side dump cars

Mucking machines:

4 - Eimco 12B overhead loaders

Rock drills:

2 - Gardner-Denver D73 drifting drills
1 - " " D79 drifting drill
2 - " " D89 drifting drills
4 - Ingersoll-Rand J40 Jackhammers with JR-4 Jacklegs
2 - Atlas RH-656 rock drills with pneumatic pushers
3 - Cleveland sinker-type drills with pneumatic-feed legs
4 - Gardner-Denver R94S stoping drills
2 - Ingersoll-Rand R48 Stopehammer drills

Fans:

1 - Coppus Ventair TM-8 Centrifugal blower with 15 h.p. electric motor.

Timber hoists:

5 - Single drum, compressed air hoists of various manufacture

All of the major equipment listed above appeared to be in serviceable condition. Spare parts for most of the items are carried in the warehouse.

PROJECT PROPOSALS WITH COSTS

The exploration program proposed by the company has been summarized in previous sections of this report. Although the general program as proposed by the company is considered feasible, certain minor modifications in its specific details are warranted.

The initial work proposed by the company - crosscutting westerly to the Union vein from the breast of the 2,160 level - is not the most feasible means of exploration in this section and should be modified. The applicant's proposed crosscut would follow diamond drill hole 21-4 which intersected the Union vein within a barren area. The Keystone vein exposed along this section of the level is strong and well mineralized. (A 4-foot channel sample across the Keystone vein exposed in the breast of the 2,160 level assayed 4.3 oz. Ag, 0.8 percent Pb, 1.8 percent Cu, and 4.1 percent Zn.) It would appear more feasible to extend the 2,160 level for a distance of some 350 feet northwesterly along the present trend of the Keystone vein because it is trending toward the Union vein and at least the first part of the work will be in ore. Should the Keystone vein die out or not junction with the Union vein within a distance of about 350 feet, then a hanging wall crosscut, similar to the applicant's proposal, to locate the Union vein would be in order. One hundred feet of drifting on the Union vein should then be done. A raise connection to the Union 2,000 level drift may be advisable both to explore and to identify the structure. Such a connection also may be necessary for ventilation purposes before any

additional lateral exploration of the vein, along either the 2,160 or the 2,000 levels, is undertaken.

The continued lateral exploration of the Union vein toward the northwest could be carried out on either the 2,160 or 2,000 levels. Exploration on the lower level of the mine would appear somewhat more feasible in the light of the present development of the mine. The interference of the exploration work with the current mining operations along these levels might have some bearing on the selection. The level on which the second phase of the program is carried out will be dependent upon the conditions encountered by the initial work on the 2,160 level. If the Union vein along the 2,160 level proves unpromising, then the latter phases of the work would necessarily be shifted to the higher level. If the structure encountered on the 2,160 level proves strong and well mineralized, then its continued exploration along that level would appear more feasible. Should the latter phases of the program be continued on the lower level, then a raise connection nearer to the northwestern end of the Union 2,000 level drift would be of more value for the ventilation of the subsequent project headings.

It is believed that the project should be divided into at least three stages. The initial work on the 2,160 level would comprise the first stage; 1,000 feet of drifting and crosscutting and 1,000 feet of diamond drilling on either the 2,160 or the 2,000 level will be allotted to each of two subsequent stages, but all the work under the second and third stages must be done on the same level. The results accomplished should be reviewed and appraised following the completion

of each stage. The location and the performance of all or any part of the work allotted to the two final stages would be dependent upon the conditions encountered and the results accomplished during the preceding stage or stages and should have the prior approval of the Government.

The details of the modified, three-stage exploration project, which the examining team considers justified and is recommending for approval, are summarized in Table II. The probable locations of the recommended work are indicated on figures 5 and 6. The modifications recommended in the program as originally proposed have been discussed with and are acceptable to the applicant company. The company, apparently fearful of undue delays in the carrying out of its program, does not especially favor the division of project work into more than the two stages originally proposed. Nonetheless, it is felt that the Government should retain reasonable control and not give the company a free hand over a project of such magnitude, particularly in this case where the details of the latter phases of the program, the conditions that will be encountered, and even the exact objectives, are indefinite.

Never has a free hand & can always stop it in interest of Govt.

The overall costs of the proposed project work, as estimated in the cost schedule submitted with the company application, total $115,000.00. The company's schedule of estimated project costs (Table I of this report) has been carefully reviewed. The schedule is complete and comprehensive and only its more pertinent details will be discussed. Except as noted, the project costs estimated by the company are considered reasonable and are accepted.

The overall unit costs for the various classes of project work have been computed on the company cost schedule. It is noted that state unemployment taxes have been estimated incorrectly as 0.9 percent in the schedule. This tax actually is 2.7 percent of the gross payroll and the various totals in the schedule have been adjusted so as to reflect this increase. The schedule also does not make allowance for the salvage value of any unexpended materials and supplies. A salvage value of 40 percent of the costs listed in the schedule for such items as pipe, track and ventilation line, therefore, have been deducted from the various overall unit costs completed by the company.

It is understood that the costs shown in the company's schedule represent its experience at several mining operations and not exclusively at the Keystone property. The labor rates included in the schedule are those currently in effect at the Keystone mine. Indirect labor has been prorated to project operations on the basis of the estimated number of shifts it will be utilized on project work. The amount of indirect labor charged to the project is considered reasonable. No supervision, other than a part-time shift boss, has been charged to the project. Only that equipment, which actually will be used for underground exploration purposes, has been depreciated against the project. The valuation placed on the equipment is reasonable. Its depreciation has been figured on the basis of a standard, 5-year period.

The company bases its cost estimate on a drifting advance of 166 feet per month and a raising advance of about 109 feet per month. It is indicated that drift headings will be advanced an average of 3.2

feet during each of the 52 shifts worked per month. The average advance in raising will be about 2 feet per shift. Such rates of advance, while not exceptional, are about average for the type of work proposed by the company.

The difference in the company's estimated unit costs for timbered and untimbered drifts, as corrected, is $11.91 per foot. According to the schedule, this difference represents $6.00 per foot for timber and $5.91 per foot for labor, indirect payroll, and other costs. During the inspection, it was stated by staff personnel that the overall costs of installing a standard, 5-foot drift set in the mine were $25.00 ($10.00 for material and $15.00 for installation labor), an overall unit cost of only $5.00 per foot. Substituting these figures in the company's schedule, the unit cost of a timbered drift becomes $40.56 per foot, a difference of only $5.77 per foot over the unit cost of an untimbered drift.

The company's costs have been estimated on the basis of 6- by 7-foot cross sectional drift headings, 3-compartment, 5- by 15-foot cross sectional raises, and Ax core drill holes. Ax core drilling has proven satisfactory in past experience at the mine. A 6- by 7-foot cross sectional drift is not considered an excessive size for exploration purposes considering that such headings will be driven with mechanical loading and haulage equipment and will require a drainage ditch and the installation of ventilation pipe. The 3-compartment, 5- by 15-foot raise proposed by the company, however, is a development - not an exploration-size heading. The maximum size considered

necessary for exploration purposes is a 2-compartment, 5- by 10-foot cross sectional raise. Such a raise would require only about 70 percent of the timber requirements, direct labor, and other variable costs shown in the schedule. Recomputing the company's raising costs on the basis, gives an overall unit cost for the smaller exploration raise of $38.65 per foot.

To provide for its future development needs, the company probably will carry out the designated project raising by means of the larger, 3-compartment heading. The Government, however, would not participate in any costs of the larger heading that are in excess of those estimated for the smaller exploration raise. It also is probable that the exploration drifts on the 2,160 main haulage level will be driven to an 8- by 8-foot cross section. The excess costs in this case also would be borne by the company.

The specifications and the unit prices recommended for the various types of exploration headings are summarized below. In general the unit costs have been rounded to the next higher dollar value. A recapitulation of the overall costs that are being recommended for the modified project is given in Table II.

Minimum specifications recommended for proposed project work	Recommended over-all unit prices
Drifts and crosscuts: 6- by 7-foot cross sectional area in clear of timber	$35.00 per linear foot
Drift and crosscut timbering: Standard, 8- by 8-inch framed drift sets on 5-foot centers, as needed (an estimated 10 percent of the drifts and crosscuts will require timber support)	$ 6.00 per linear foot
Raises: 5- by 10-foot cross sectional area outside of standard, 2-compartment, 8- by 8-inch framed raise sets	$39.00 per linear foot
Core drilling: Ax size hole (Unit price includes the preparation of drill stations; the reaming, cementing, and casing of holes, as required; the logging of holes by company engineer; and the splitting, assaying, and storage of recovered core and sludge)	$ 6.10 per linear foot

Table II.-- Summary of modified exploration project proposed at Keystone mine, with recommended costs

Description of the work	Estimated cost
Stage I	
Extend the 2,160 adit level of the Keystone mine northwesterly as a drift along the Keystone vein for an approximate distance of 350 feet to its apparent junction with the Union vein; continue the heading northwesterly for an additional 100 feet as a drift on the Union vein. Should the Keystone vein die out or not junction with the Union vein within the prescribed distance, the remainder of the allotted footage may be expended in crosscutting to and drifting northwesterly along the Union vein.	
Raise 200 feet on the new exposure of the Union vein and make connection with the existing 2,000 level drift on that structure. (If there is no question as to the identity of the Union vein on the 2,160 level and if conditions warrant its continued exploration on that level, the connecting raise may be delayed until the Stage II exploration heading has reached a point below the breast of the existing 2,000 level Union drift.)	
450 feet of drifting and/or crosscutting at $35.00 per foot:	$15,750.00
* 45 feet of drift or crosscut timbering at $6.00 per foot:	270.00
200 feet of raising at $39.00 per foot:	7,800.00
Stage II	
Drift northwesterly along the Union vein for a total distance of 1,000 feet from the breast of the Union drift on either the 2,160 or the 2,000 level of the mine as the results of Stage I exploration indicate to be most promising. Any crosscutting necessary to pick up the anticipated offsets in the vein may be substituted in lieu of an equivalent footage of the stipulated drifting.	
From the exploration drift along the Union vein, explore the foot and hanging walls of the vein by means of 1,000 feet of core drilling. (The location, length, bearing, and inclination of the drill holes will be determined after all or part of the drifting has been completed and will require the prior approval of the Government.)	

Table II.--Summary of modified exploration project proposed at Keystone mine, with recommended costs (continued)

Description of the work	Estimated cost
Stage II (continued)	
1,000 feet of drifting and/or crosscutting at $35.00 per ft.:	$35,000.00
* 100 feet of drift and crosscut timbering at $6.00 per ft.:	600.00
**1,000 feet of core drilling at $6.10 per foot:	6,100.00
Stage III	
Continue the northwesterly exploration of the Union vein begun under Stage II by means of an additional 1,000 feet of drifting and/or crosscutting and 1,000 feet of core drilling.	
1,000 feet of drifting and/or crosscutting at $35.00 per foot:	35,000.00
100 feet of drift or crosscut timbering at $6.00 per foot:	600.00
**1,000 feet of core drilling at $6.10 per foot:	6,100.00
Total estimated costs of project:	$107,220.00
Maximum Government participation (50 percent of estimated total costs in projects of exploration for lead, zinc, or copper):	$ 53,610.00

* Any timber support not required under the particular stage for which it has been allotted, may be expended as needed under succeeding stages of the project without the approval of the Government.

** Any core drilling not expended under the stage for which it was allotted, may be applied, with the approval of the Government, to the succeeding stage of the project. If required and if approved in advance by the Government, a portion of the drilling allotted under the latter stages may be used to locate the Union vein under the first stage of the project.

The details of each succeeding stage of the project will be dependent upon the conditions encountered and the results accomplished during the preceding stage or stages. The continuation of the work under each succeeding stage of the project, either in the manner and to the extent presently outlined or as subsequently may prove more feasible, must be approved in advance by the Government.

CONCLUSIONS

The Keystone and Union veins, as developed in the Keystone mine, are strong, continuous and, for the most part, well mineralized structures. There is no reason to doubt that such structures will continue similarly mineralized into the unexplored ground immediately northwest of their present limits of development in the mine. Exploration of the veins within this ground, as proposed by the applicant, is considered warranted. That such exploration will result in the discovery of additional significant reserves of lead-zinc-copper ore along these veins, appears probable.

Except for minor modifications, the exploration project proposed by the applicant is considered both technically and economically feasible. Both the ground and the indicated reserves contained therein, which the company has agreed to include with its application and which will be subject to all the provisions of an exploration contract, are considered ample for the protection of the Government. The applicant company is a reputable and experienced mining organization and is well qualified to carry out a project of the magnitude proposed. The proposed project otherwise appears to meet the general requirements and conditions for exploration assistance under current DMEA policies.

RECOMMENDATIONS

The modified, three-stage project outlined in this report, which provides for exploration of the Union and other veins in ground northwest of the Keystone mine at an estimated total cost of $107,220.00, is recommended for approval.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

COLORADO

ROCKY MOUNTAIN REGION
FEDERAL CENTER
DENVER, COLORADO

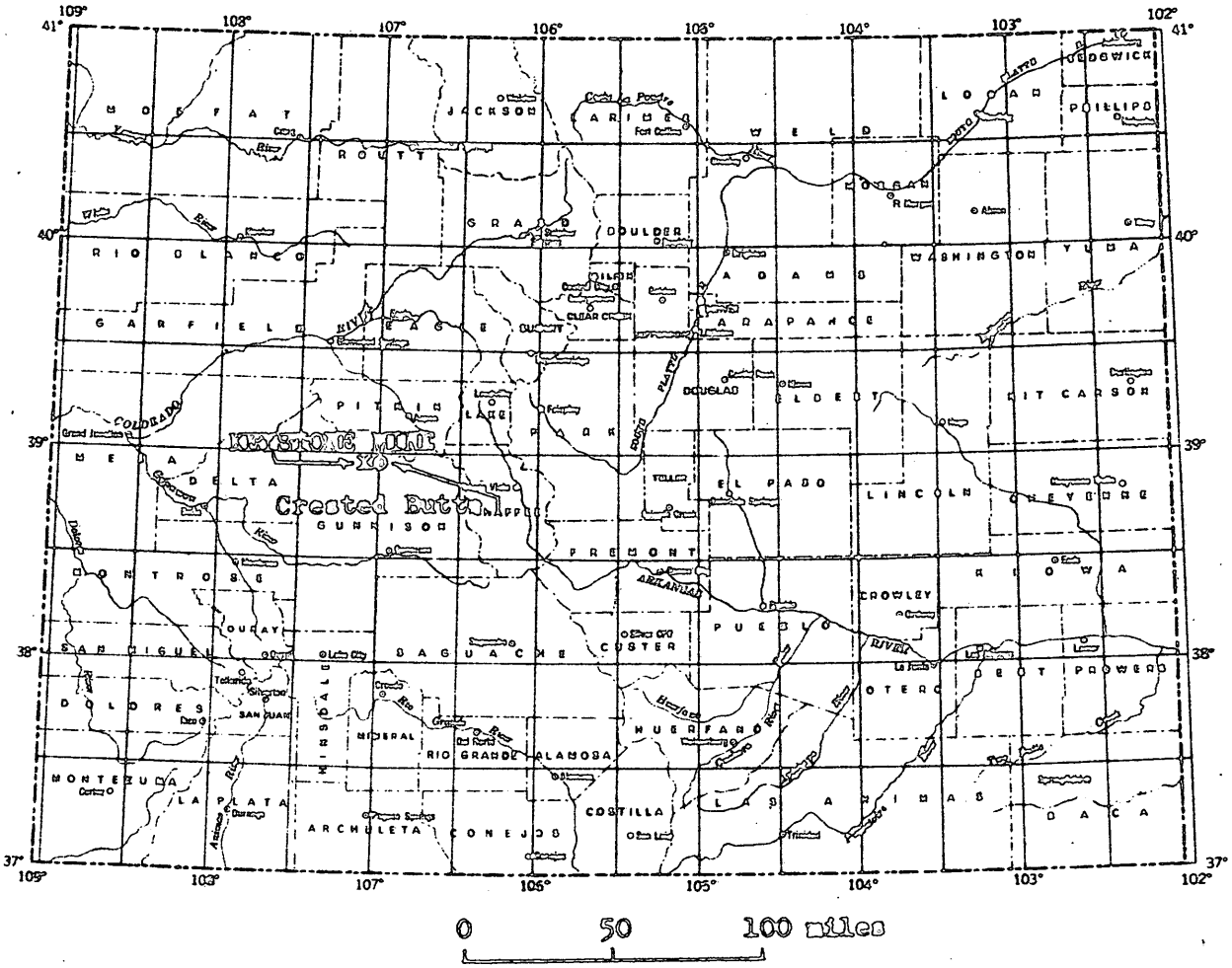

FIGURE 1. INDEX MAP OF COLORADO SHOWING THE LOCATION OF THE KEYSTONE MINE

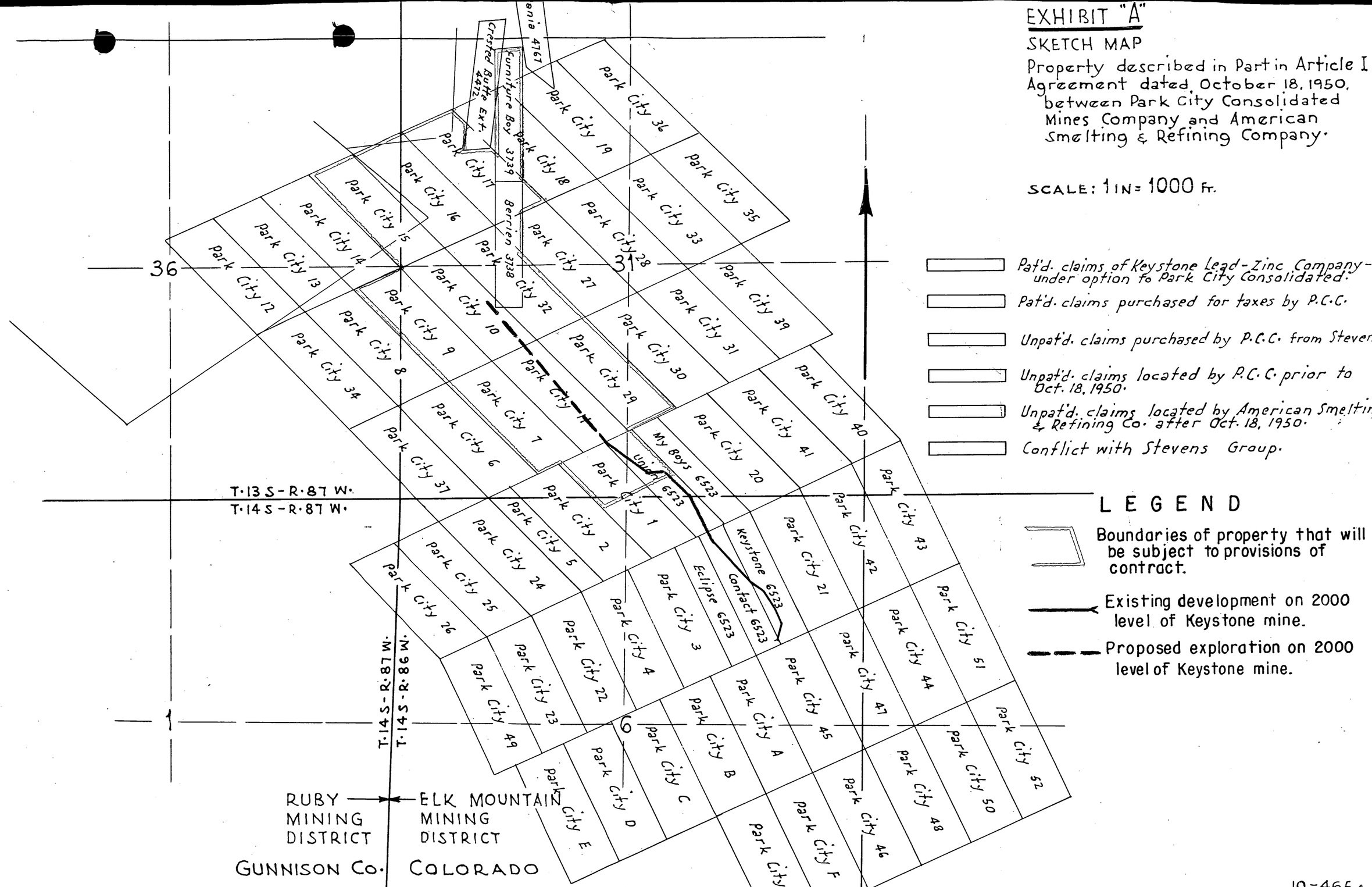

Figure 2 - Map of the Keystone-Park City group of claims, Gunnison County, Colo., showing boundaries of property that will be subject to the provisions of an exploration project contract. DMEA 3866

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Surname

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Approved
Selfridge
Matheson

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

AUG 22 1955

Mr. W. H. Traver
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 Mine
Gunnison County, Colorado

Dear Mr. Traver:

We have your memorandum of August 10, covering the cited application, together with copies of the Applicant's August 8 letter.

Apparently no action is required on our part until we receive the Field Team recommendations. We note the Applicant's request for an over-all project approval. Since we have, in very many instances, approved an equal or greater amount of drifting, in its entirety, the request appears within reason.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (GCS)

APPROVED:

/s/ Robert W. Geehan (GCS)

Member, Bureau of Mines

Thor H. Kiilsgaard (GCS)

Member, Geological Survey

WRGriswold/er 8/19/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

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

224 New Customhouse
Denver 2, Colorado

August 10, 1955

Memorandum

To: Secretary to the Operating Committee, DMEA

From: Executive Officer, DMEA Field Team, Region III

Subject: Docket DMEA-3866 (Lead-Zinc-Copper), American Smelting and Refining Company, Gunnison County, Colorado

Enclosed are two copies of a revision to the application on the subject property.

W. M. Traver

Enclosures

W. M. Traver

RECEIVED
AUG 15 1955

w.b.

DMEA
Date Rec'd.

AUG 10 1955

BUREAU OF MINES
Denver, Colorado

AMERICAN SMELTING AND REFINING COMPANY
MINING DEPARTMENT
120 BROADWAY, NEW YORK 5

L. H. HART
CHIEF GEOLOGIST

August 8, 1955

AIRMAIL

Mr. W. M. Traver, Executive Officer
Defense Minerals Exploration Administration
224 New Custom House
Denver, Colorado

RECEIVED
AUG 15 1955

DMEA LOAN (DOCKET # 3866)
KEYSTONE MINE - GUNNISON CTY, COLORADO

Dear Mr. Traver:

I am advised that Messrs. W. R. Landwehr and R. K. Kirkpatrick have conferred with Mr. R. U. King of your staff, relative to our Keystone Unit exploration project. Certain changes have been proposed by Mr. King and as I understand it, those are as follows:

The proposed work will consist of two parts as outlined in the application, but the first part will be changed so that instead of crosscutting from the present face of the 2160 level to the Union vein and drifting approximately 250 feet to the position of the proposed raise, the level will be extended as a drift on the Keystone vein for approximately 350 feet. At that point if it is still questionable whether or not the Keystone and Union are the same vein, a crosscut will be driven into the hanging wall to prospect for the latter.

A prospect raise will then be driven to the 2000 level on whichever vein is thought to be the one drifted upon on the 2000 level.

The foregoing would constitute the first "work unit" of the project. The second part will be the same as outlined in the application, namely, drifting on the Union vein to the northwest either on the 2000 or 2160 levels, whichever is selected at the completion of the first part of the program. At this time the D.M.E.A. has not expressed a preference, and when the time comes will likely agree with our selection.

In addition to drifting on the Union vein the second part will include exploration either by diamond drilling or crosscutting, as agreed upon at the time, in the east wall for the Keystone, if this is learned to be different from the Union, and for

the downward continuation of an additional vein which has been identified on the surface; and prospecting in the west wall for the downward extension of the West vein and possibly the Berrien-Furniture Boy vein.

Mr. King has apparently proposed that the second part of the work be divided into units of some agreed upon footage and upon the completion of each unit, the results would be reviewed to determine what work would be undertaken in the next unit. In advancing the drift for a total distance of 2000 feet, it would normally be assumed that certain crosscutting might be required when and if the vein is faulted, and that part of the total footage would thereby be in the form of crosscutting. Likewise, the diamond drilling to be done would be subject to the interpretation of results available, progressively, and if it is at all possible, we would prefer that this over-all program be approved in blanket form to avoid a serious loss of time in conferences to determine the course of work to be pursued.

The allowable charge under the loan for drifting and crosscutting will be the cost of an ordinary sized opening, not that for an oversized one planned for main haulage. Likewise the allowable charge for a raise would be only the cost of one suitable for prospecting. Additional cost will be for the account of Asarco.

The boundaries of the land subject to the contract will be changed so as to include approximately the northwest half of the Park City No. 1 claim, all of Park City Nos. 7, 9, 15, 16 and 17, and all of the Berrien and Furniture Boy claims.

Very truly yours,

L. H. Hart

L. H. HART

Approximation of PC27 bounded by
PC.32 on S
PC 17 on NW
Berrien on NE

WSM
10/17/55

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

RECEIVED
JUL 21 1955

224 New Customhouse
Denver 2, Colorado

July 18, 1955

Grswold
Betty

Memorandum

Docket

To: J. F. Shaw (w/brochure)
E. N. Harshman

From: Field Team, Region III

Subject: Docket DMEA-3866 (Lead-Zinc), American Smelting and Refining Company, Keystone mine, Gunnison County, Colorado

Enclosed is the subject application in the amount of $115,000.00.

Attached is a copy of a letter from the Chairman of the Operating Committee and memoranda from two members of the Branch of Base Metals.

A field examination and suitable report are required.

W. M. TRAVER,

W. M. Traver

Enclosures

HMC:pw

cc: Subject
Chron
Sec.Op.Comm. (2)

E. N. Harshman

E. N. Harshman

DMEA Field Team, Region III

File Copy
Surname
Miscowski
Selfridge
Johnson

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

500

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

JUL 13 1955

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

Dear Mr. Traver:

Referring to the cited application, we are enclosing copies of the memorandums of Mr. O. M. Bishop, USBM, dated July 8 and Mr. Thor H. Kiilsgaard, USGS, dated July 7.

We are in accord with Mr. Kiilsgaard's contention that the ground to be included in the contract should include a portion of the Park City No. 1 claim. This could be done by prolonging the dividing line which has been drawn through the Union claim, as he suggests.

Likewise, as he points out, it would be desirable to have the Park City 7 and 9 claims included in the contract. We would not stipulate this as an absolute necessity toward the granting of a contract at this time, but it does seem likely that the west vein may be southwesterly in the hanging wall of the Union vein on the 2000 level. Likewise, since the Applicant proposes diamond drilling northeasterly and southwesterly from the proposed Union vein drift, the included land parcel should not be too tight.

Regarding Mr. Kiilsgaard's comments on royalty payments on the ore blocks already developed on the part of the Union claim included in the contract, the Applicant company's representatives have advised us verbally that they accept the fact that such blocks should be subject to royalty payments.

Will you please arrange for a field examination for the property in question as soon as is feasible to do so.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (GHB)

Enclosures

APPROVED:

/s/ Robert W. Geehan (GHB)
Member, Bureau of Mines

Thor H. Kiilsgaard (GHB)
Member, Geological Survey

Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

WRGriswold/er 7/12/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals

R.G.

File Copy
Surname
Griswold
Gehan
Kiilsgaard
Selfridge
Johnson

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

JUL 13 1955

Mr. R. F. Goodwin, Vice President
Mining Department
American Smelting & Refining Co.
120 Broadway
New York 5, New York

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

Dear Mr. Goodwin:

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

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

The Regional Office will contact you at an early date as to when an examination is to be made. Any assistance that you may give the members of the Field Team during the examination will be appreciated.

Sincerely yours,

C. O. Mittendorf

Administrator

WRGriswold/er 7/12/55
Copy to: Docket
Admr R File
Op. Committee
Base Metals
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Region III (2)
Chron.

R.C.G.

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

RECEIVED
JUL 12 1955

July 8, 1955

Re: DMEA-3866
American Smelting & Refining Co.
Union Extension Mine
Elk Mt. Mining Dist.
Gunnison County, Colo.

Memorandum

To: W. R. Griswold, DMEA

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

Subject: Recommendation for field referral of the subject application

American Smelting and Refining Company, acting for itself and the Park City Consolidated Mines Company, propose (a) to cross-cut westerly about 150 feet from the existing face of the 2,160 level of the Keystone mine to intersect the Union vein on that level, (b) to drift about 300 feet on the vein, and (c) to raise about 200 feet on the Union vein to the 2,000-foot level thus establishing ventilation within about 500 feet of the 2,000 level northwest face, as well as exploring the continuity of the Union vein. The above described work would constitute the first phase of the proposed work. The second phase is to consist of 2,000 feet of drifting and cross-cuts and 2,000 feet of diamond drilling directed toward exploring the Union vein on the 2,000-foot level. The work done to date on the Union vein in the Keystone mine and Union Extension justify the continuation of exploration on the Union vein and diamond drilling of both walls to determine if the Keystone or other ore structures are present to the northwest.

The work outlined appears to be soundly conceived. I recommend that the application be referred to the field team for review and field examination. Cost items appear in line with recent experience, but data are needed on drift and raise dimensions.

O. M. Bishop

O. M. Bishop

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

1 cl. taken by Div.

IN REPLY REFER TO:

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

RECEIVED
JUL - 8 1955

July 7, 1955

Memorandum

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

From: Thor H. Kiilsgaard, U. S. Geological Survey

Subject: Review of American Smelting and Refining Company application, Keystone Mine, Gunnison County, Colorado, DMEA Docket 3866.

The applicant proposes to explore the Keystone mine by extending the 2160 level 450 feet, by raising from the 2160 level to the 2000 level -- a distance of 200 feet --, and by 2000 feet of drifting and crosscutting and 2000 feet of diamond drilling on the 2000 level. Estimated cost of the project is $115,000.

The application is well prepared and proposes what appears to be a logical and deserving exploration project. The geologic and assay map indicates the Keystone and Union veins are narrow but well mineralized, and as there are both mineralized outcrops and actual producers to the northwest it would appear that either these two veins, or companion en-echelon veins, should continue into the area to be explored.

The property warrants a prompt field examination to determine the course to be taken in further processing of the application. In this respect, I have noted certain items of the application that might be called to the attention of field examiners and perhaps discussed with company officials. These are as follows:

1. The ground to be subjected to contract terms could be adequate but as a preventative measure it is suggested the southern boundary of the project area be extended to the south. Proposed drifting on the 2160 level is close to the southern side line of the Union claim and if drifting is extended beyond the amount proposed -- assuming the applicant might favor such drifting if exploration results are good -- the drift could pass south of the Union side line. Even if drifting stays within the claim the vein will pass south of the claim boundary about 175 feet below the level at a point south of the proposed raise, assuming the vein maintains a dip of 75 degrees. It is my understanding that DMEA prefers vertical boundaries on ground covered by contracts; therefore, to accomplish this I suggest the northeastern boundary across the Union claim be extended to the southwest across the Park City No. 1 claim, and that all of the Park City No. 1 claim northwest of the line be included.

On the Areal Geology map, about 1000 feet northwest of the face of the 2000 level, the West vein is shown about 880 feet southwest of the Keystone vein. On the level map of the Keystone mine there appears to be reason to suspect the West vein represents the surface projection of the Union vein. Assuming the veins are more or less parallel, as evidenced on the geologic map of the 2000 level, the West vein could very well be in the hanging wall of the Union vein and if it is 880 feet in the hanging wall of the Keystone vein on the 2000 level it well be south of the Park City 10 and 11 side lines. It is therefore suggested that the Park City 7 and 9 claims be included as these claims could be explored by the proposed project.

2. To prevent a possible future misunderstanding on royalty payments the applicant should be clearly advised that ore blocks 1 through 8 on the Union claim will be subject to payments if mined during the contract period or if the project is certified. If there is an objection to this commitment there should be an agreement reached on the blocks to be exempted.

3. As Park City Consolidated is a partial owner of the mine, it would seem they should sign an agreement subordinating their interests to the Government.

Thor H. Kiilsgaard

Thor H. Kiilsgaard

June 27, 1955
Subject: DMEA-3866
Re: Exploration Assistance
Union Extension

American Smelting & Refining Co.
Mining Dept.
120 Broadway
New York 5, New York

Gentlemen:

The receipt of your application dated June 22, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA-3866 and referred to the Base Metals Division.

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

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

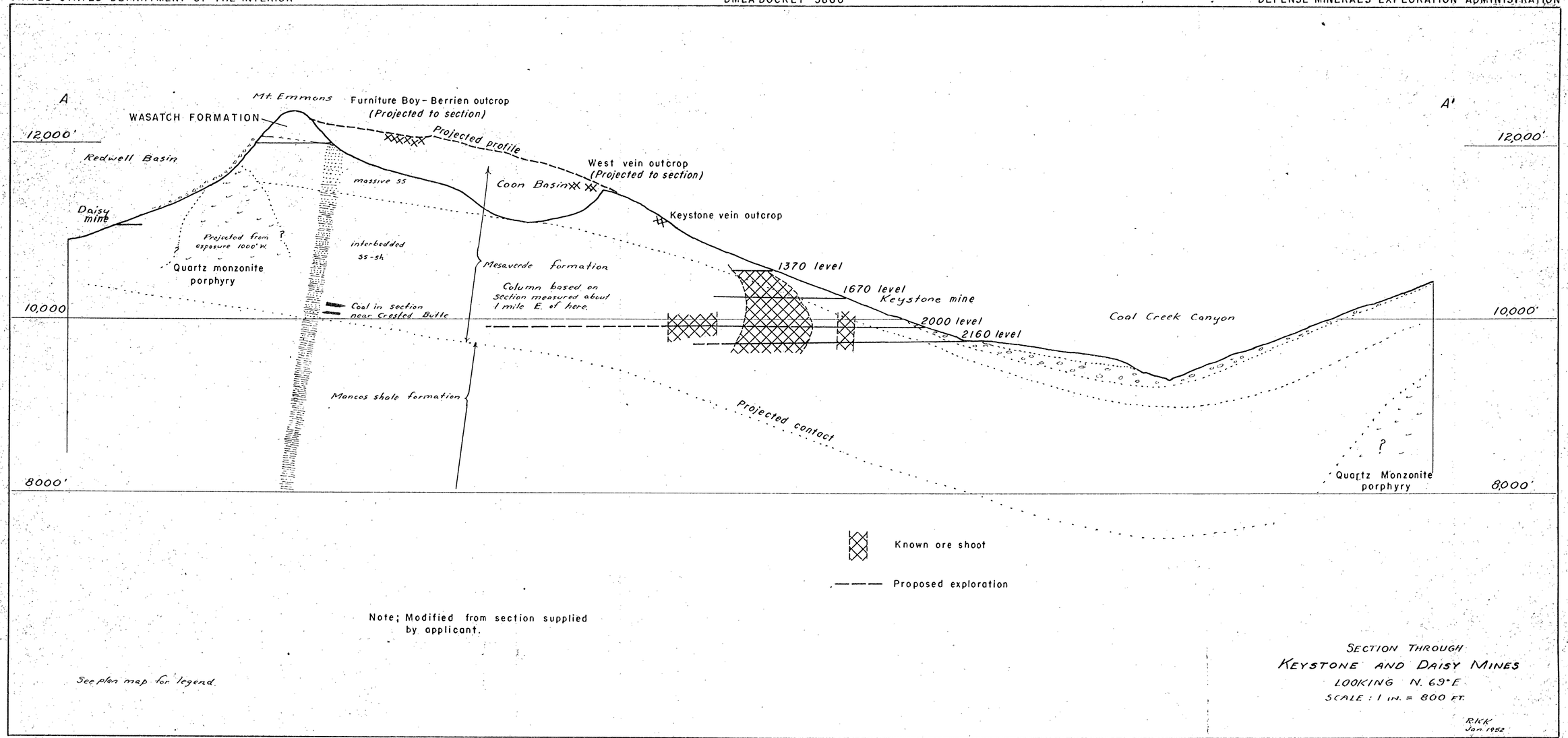
60932

6. ESTIMATE OF COSTS

American Smelting & Refining Company
120 Broadway
New York 5, New York

UNION EXTENSION PROJECT

	Daily Wage Rate	Wages/Shift Including Overtime	Untimbered Drift & X-Cut, 90% of 2450' = 2205' Shifts/Month	Total Month	Cost Per Foot	Total Untimbered Drifts & X-Cuts	Timbered Drift & X-Cut, 10% of 2450' = 245' Shifts/Month	Total Month	Cost Per Foot	Total Timbered Drifts & X-Cuts	Raising, 200 Feet Shifts/Month	Total Month	Cost Per Foot	Total Raising	Diamond Drilling, 2900 Feet Shifts/Month	Total Month	Total Diamond Drilling	Total Project
(a) Independent Contracts																		
Drilling Contract as per attached proposal with estimates of "extras"																	$10,064	
(b) Labor, Supervision, Consultants																		
Miner	$13.60	$14.73	104	$1,532			156	$2,298			160	$2,357			6	$88		
Mucker	12.00	13.00	4	52			4	52			1	13						
Motorman	13.60	14.73	13	191			13	191			6	88			1	15		
Motorman Helper	12.40	13.43	13	175			13	175			6	81			1	13		
Pipe and Trackman	13.60	14.73	4	59			4	59			1	15						
Nipper	12.80	13.86	5	69			5	69			3	42						
Journeyman, 1st Class	14.40	15.60	5	78			5	78			2	31						
Journeyman, 2nd Class	13.60	14.73	7	103			7	103			5	74			2	29		
Journeyman Helper	12.40	13.43	5	67			5	67			2	27			2	27		
Assay Helper	12.40	13.43	2	27			2	27			2	27			1	13		
Shift Boss	450/mo.		5	87			5	87			5	87						
Engineer-Geologist	475/mo.		7	128			7	128			3	55			3	55		
Accountant-Timekeeper	460/mo.		13	251			13	251			13	251			1	19		
Stenographer	345/mo.		7	101			7	101			7	101			1	14		
Assayer	450/mo.		2	35			2	35			1	17			1	17		
Sub-Total				$2,955	$17.76			$3,721	$22.36			$3,266	$29.96			$290		
(c) Operating Materials & Supplies																		
Explosives				$ 629	$ 3.78			$ 629	$ 3.78			$ 412	$ 3.78			$ 50		
Pipe (comp. air & water)				277	1.66			277	1.66			27	0.25					
Track				213	1.28			213	1.28			-	-					
Compressed Air				104	0.63			104	0.63			69	0.63			220		
Steel				416	2.50			416	2.50			273	2.50					
Repair Parts & Shop Expense				233	1.40			240	1.44			120	1.10					
Ventilation, Pipe & Operation				290	1.74			290	1.74			130	1.19			290		
Timber & Rock Bolts, Wedges, etc.				-	-			998	6.00			480	4.40					
(d) Operating Equipment																		
2 Rock Drills @ $ 500																		
Locomotive (Prorata) 300																		
Fan and Motor 500																		
Loader 1,500																		
Cars 1,000																		
Total Equip. $3,800																		
$3,800 ÷ 60 months				63	0.38			63	0.38									
2 Rock Drills @ $ 500																		
Locomotive (Prorata) 150																		
Fan and Motor 500																		
Cars 500																		
Timber Hoist 250																		
Total $1,900																		
$1,900 ÷ 60 months												32	0.30					
(e) Rehabilitation and Repairs																		
None required.																		
(f) New Buildings, Improvements, Installations																		
None required.																		
(g) Miscellaneous																		
Misc. Supplies & Small Tools				166	1.00			166	1.00			150	1.38			12		
Payroll Indirect:																		
Insurance - Life 0.19%																		
F.O.A.B. 2.00																		
Fed. Unemployment 0.30																		
State Unemployment 0.90																		
State Comp. 2.33																		
State Occ. 0.46																		
Holiday & Vac. 3.12																		
Pensions 3.50																		
Health Ins. 1.00																		
Total 13.80%				408	2.45			513	3.08			451	4.14			40		
(h) Contingencies																		
Add approx. 5%				286	1.72			370	2.23			290	2.66			48		
Total Each Type of Working				$6,040	$36.30	$80,042		$8,000	$48.08	$11,780		$5,700	$52.29	$10,458		$950 for 2½ mos.	$2,375 $12,439	
TOTAL ENTIRE PROJECT																		$114,719
																		Say $115,000



By R.U. King, August 1955

FIGURE 4.- SECTION THROUGH KEYSTONE AND DAISY MINES, GUNNISON COUNTY, COLORADO

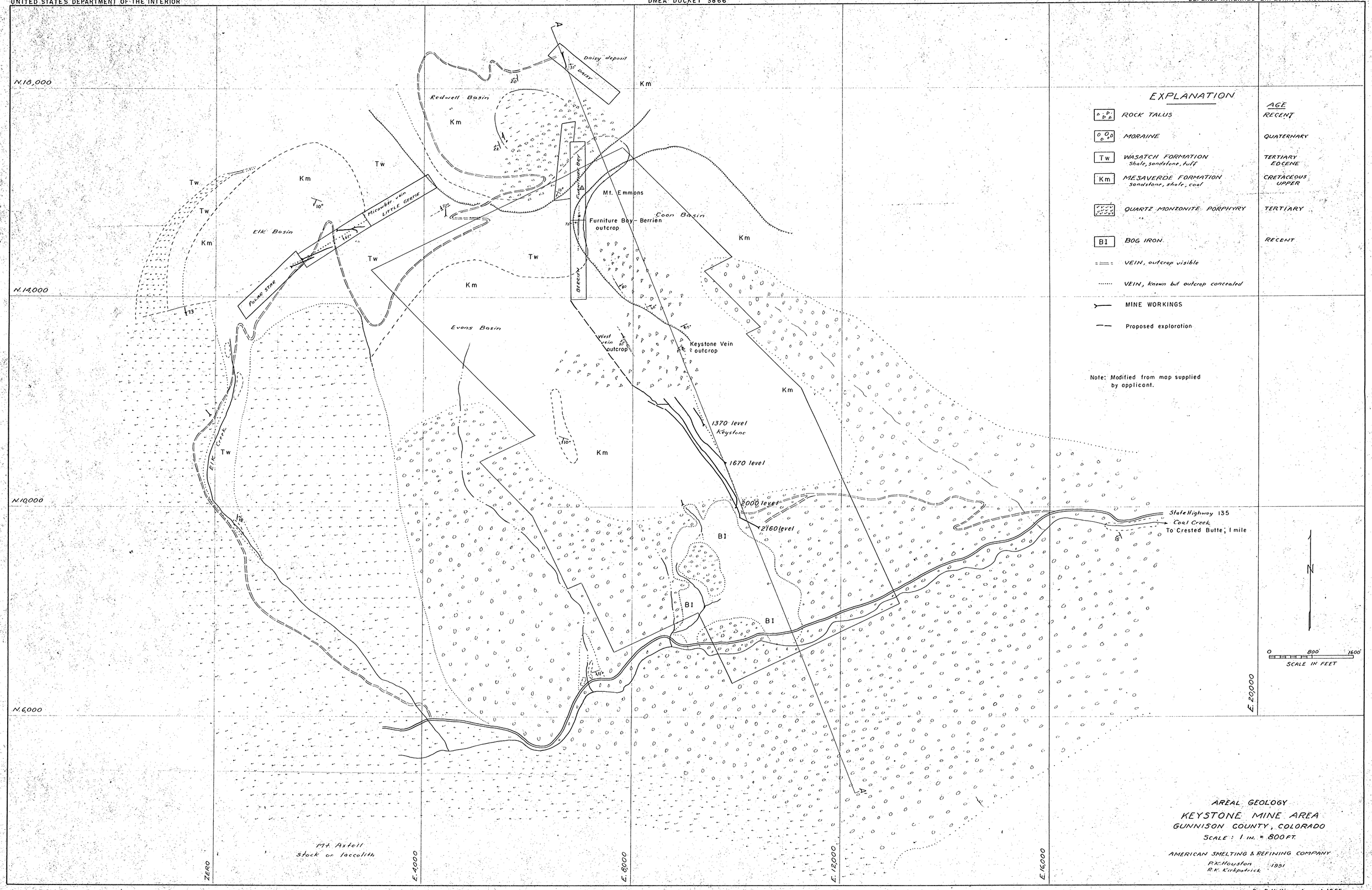


FIGURE 3.- AREAL GEOLOGY KEYSTONE MINE AREA, GUNNISON COUNTY, COLORADO

By R.U. King, August 1955

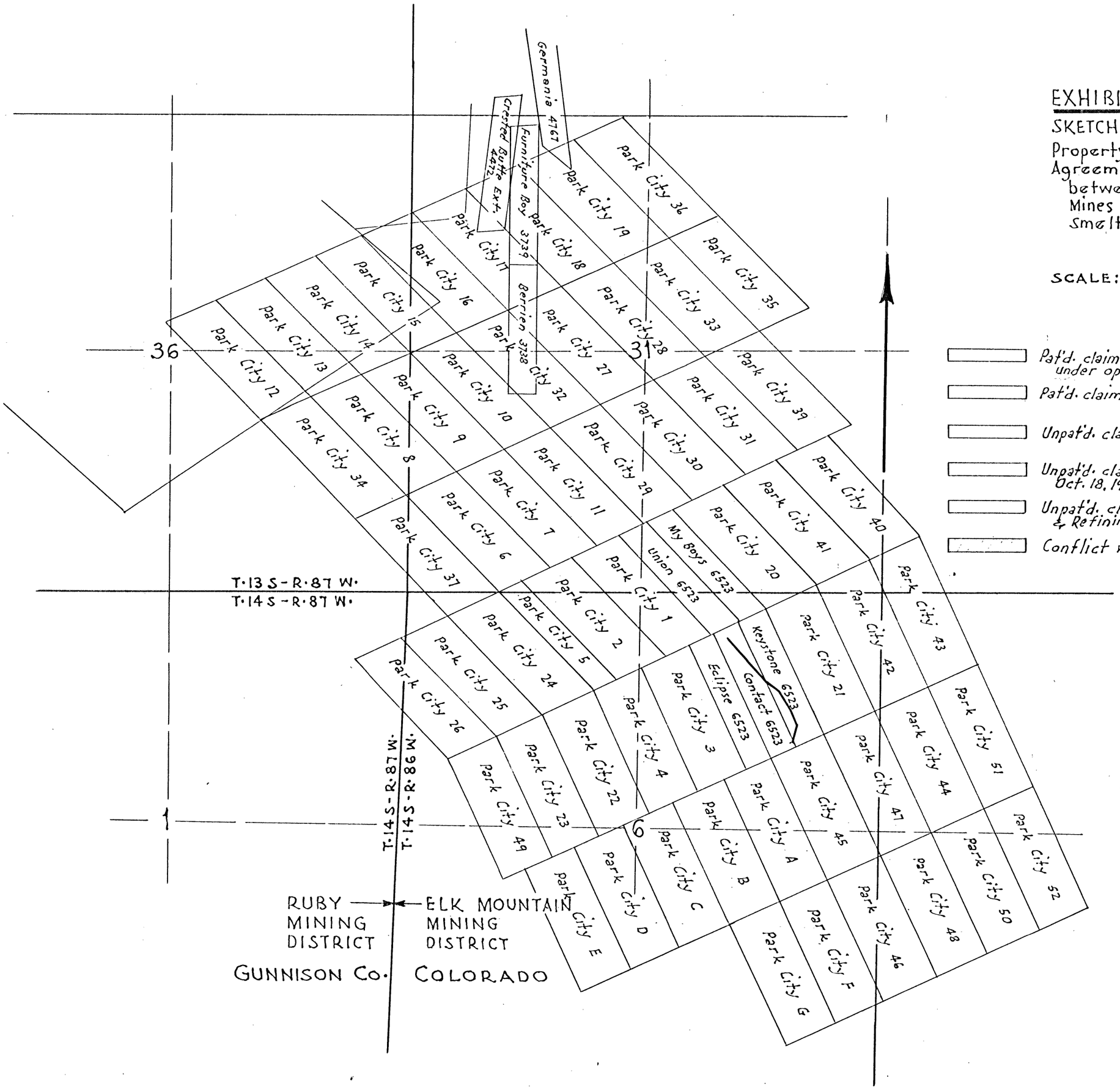


EXHIBIT "A"

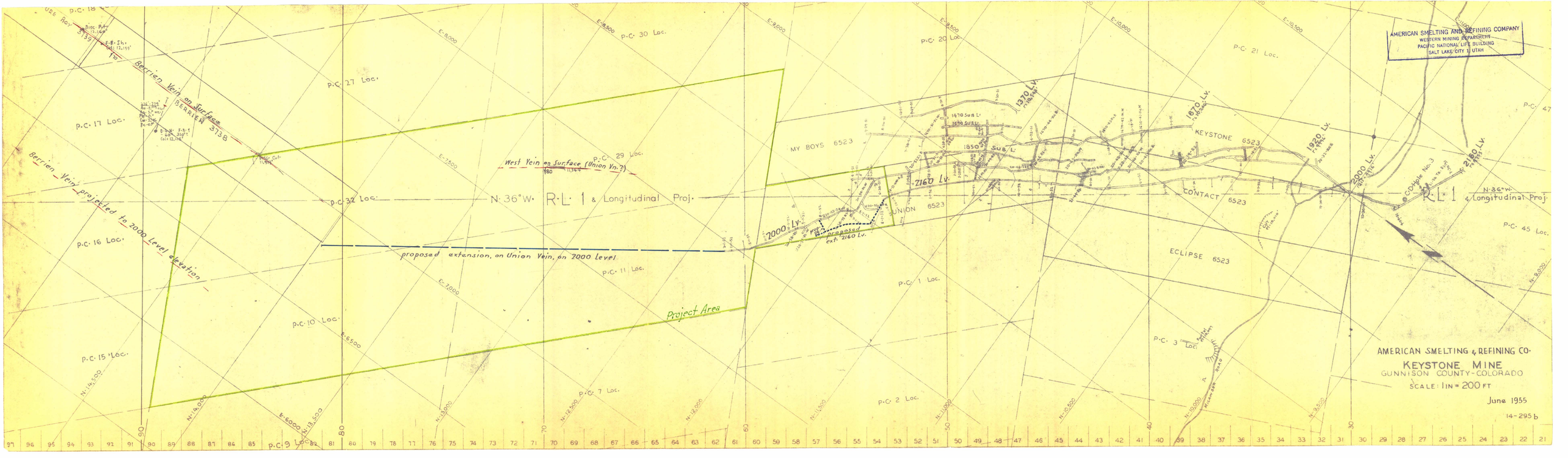
SKETCH MAP

Property described in Part in Article I, Agreement dated October 18, 1950, between Park City Consolidated Mines Company and American Smelting & Refining Company.

SCALE: 1 IN = 1000 Ft.

- Pat'd. claims of Keystone Lead-Zinc Company - under option to Park City Consolidated.
- Pat'd. claims purchased for taxes by P.C.C.
- Unpat'd. claims purchased by P.C.C. from Stevens.
- Unpat'd. claims located by P.C.C. prior to Oct. 18, 1950.
- Unpat'd. claims located by American Smelting & Refining Co. after Oct. 18, 1950.
- Conflict with Stevens Group.

10-465A


AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH
AMERICAN SMELTING & REFINING CO.
KEYSTONE MINE
GUNNISON COUNTY-COLORADO
SCALE: 1 IN = 200 FT
June 1955
14-295 b
Berrien Vein on Surface
BERRIEN 3738
Berrien Vein projected to 2000 Level elevation
West Vein on Surface (Union Vn.?)
N. 36° W. R.L. 1 & Longitudinal Proj.
proposed extension, on Union Vein, on 2000 Level
Project Area
proposed ext. 2160 Lv.
2000 Lv.
2160 Lv.
1370 Lv.
1470 Sub L.
1570 Sub L.
1850 Sub L.
1870 Lv.
1920 Lv.
MY BOYS 6523
KEYSTONE 6523
UNION 6523
CONTACT 6523
ECLIPSE 6523
Cobble No. 3
P.C. 18 Loc.
P.C. 17 Loc.
P.C. 16 Loc.
P.C. 15 Loc.
P.C. 10 Loc.
P.C. 9 Loc.
P.C. 11 Loc.
P.C. 7 Loc.
P.C. 27 Loc.
P.C. 29 Loc.
P.C. 30 Loc.
P.C. 32 Loc.
P.C. 20 Loc.
P.C. 21 Loc.
P.C. 1 Loc.
P.C. 2 Loc.
P.C. 3 Loc.
P.C. 45 Loc.
P.C. 47
E-6000
E-6500
E-7000
E-7500
E-8000
E-8500
E-9000
E-9500
E-10000
E-10500
E-11000
N-13,500
N-14,000
N-14,500
N-12,500
N-13,000
N-11,000
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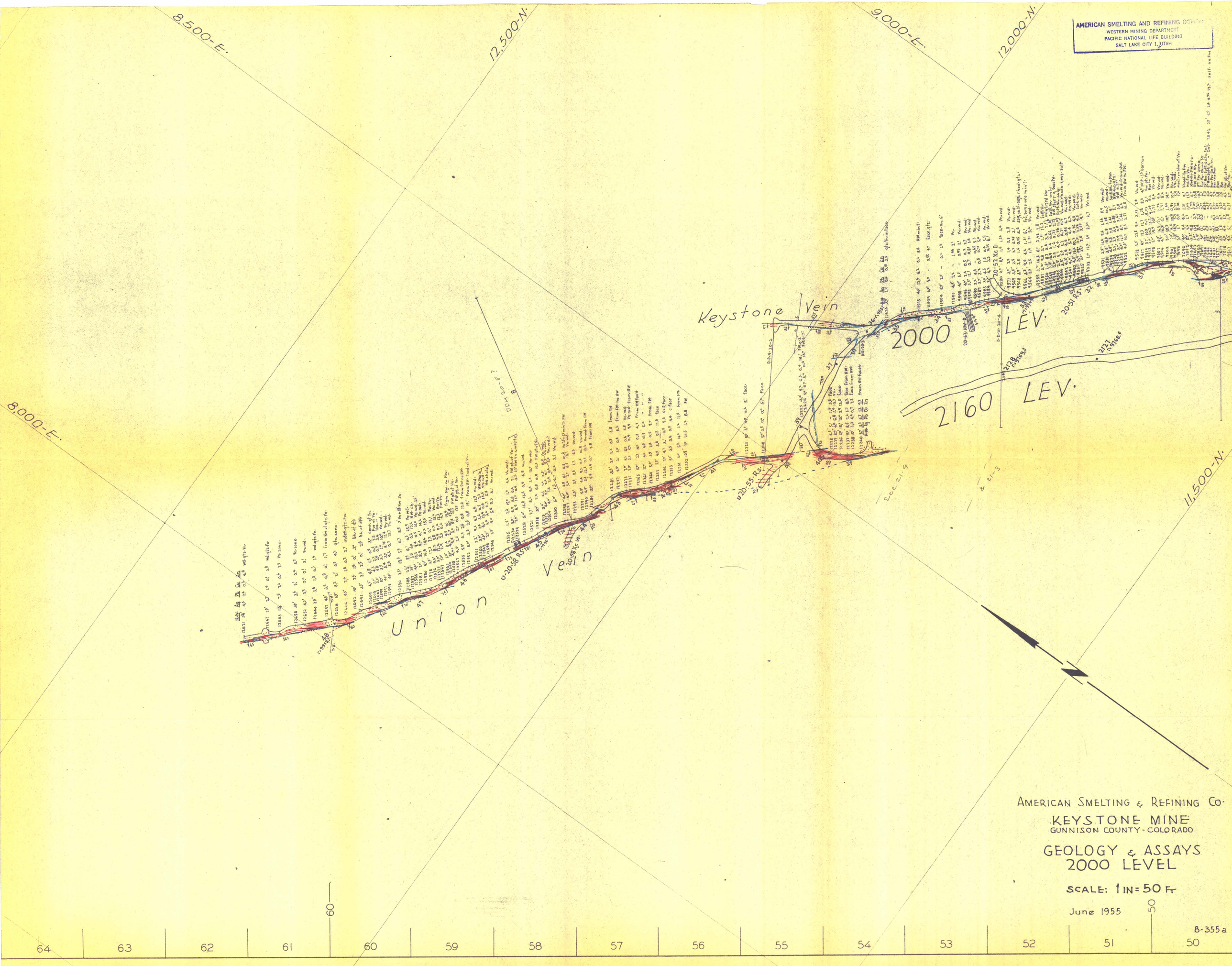
N-9,000

AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH



AMERICAN SMELTING & REFINING CO.

KEYSTONE MINE
GUNNISON COUNTY - COLORADO

GEOLOGY & ASSAYS
2000 LEVEL

SCALE: 1 IN = 50 FT

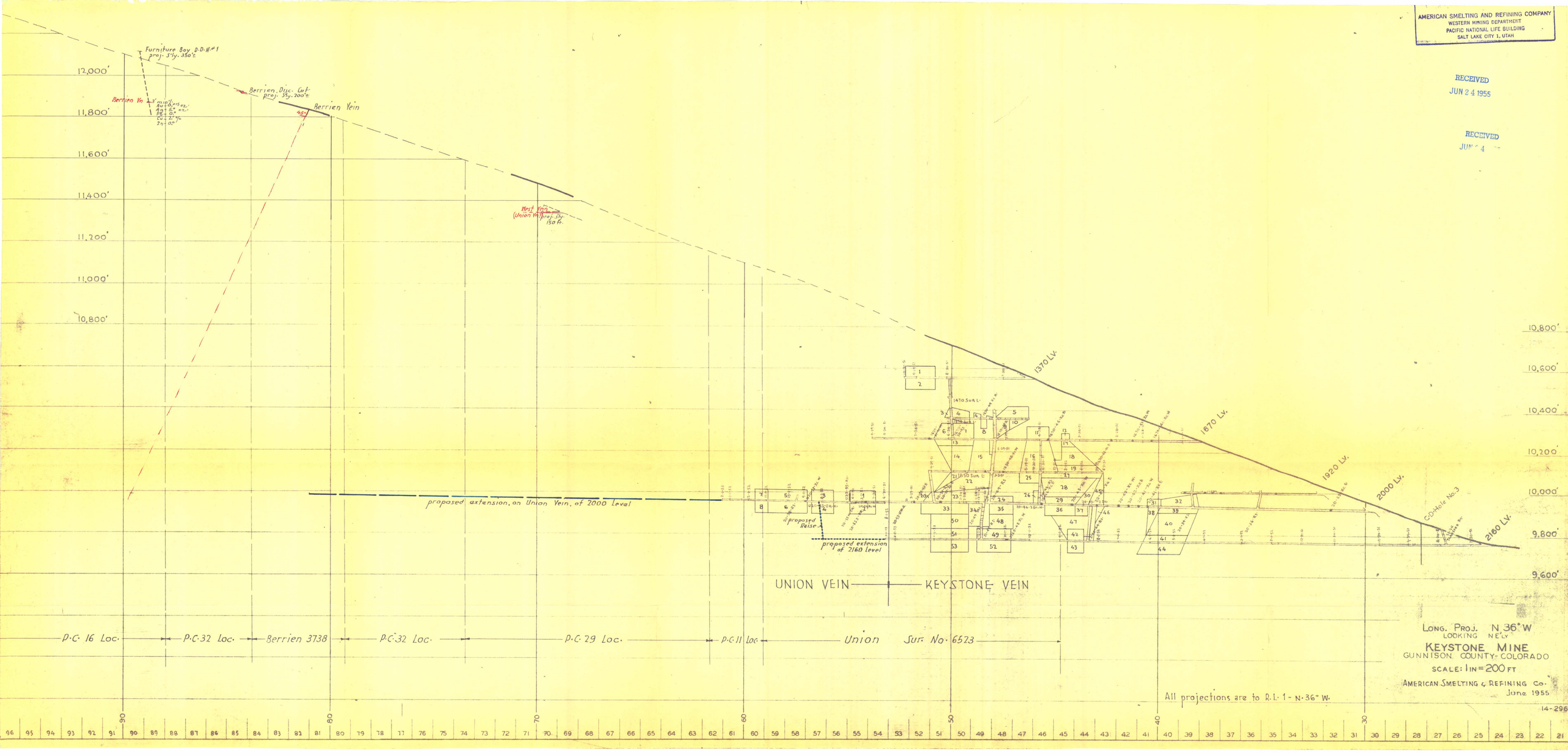
June 1955

8-355a

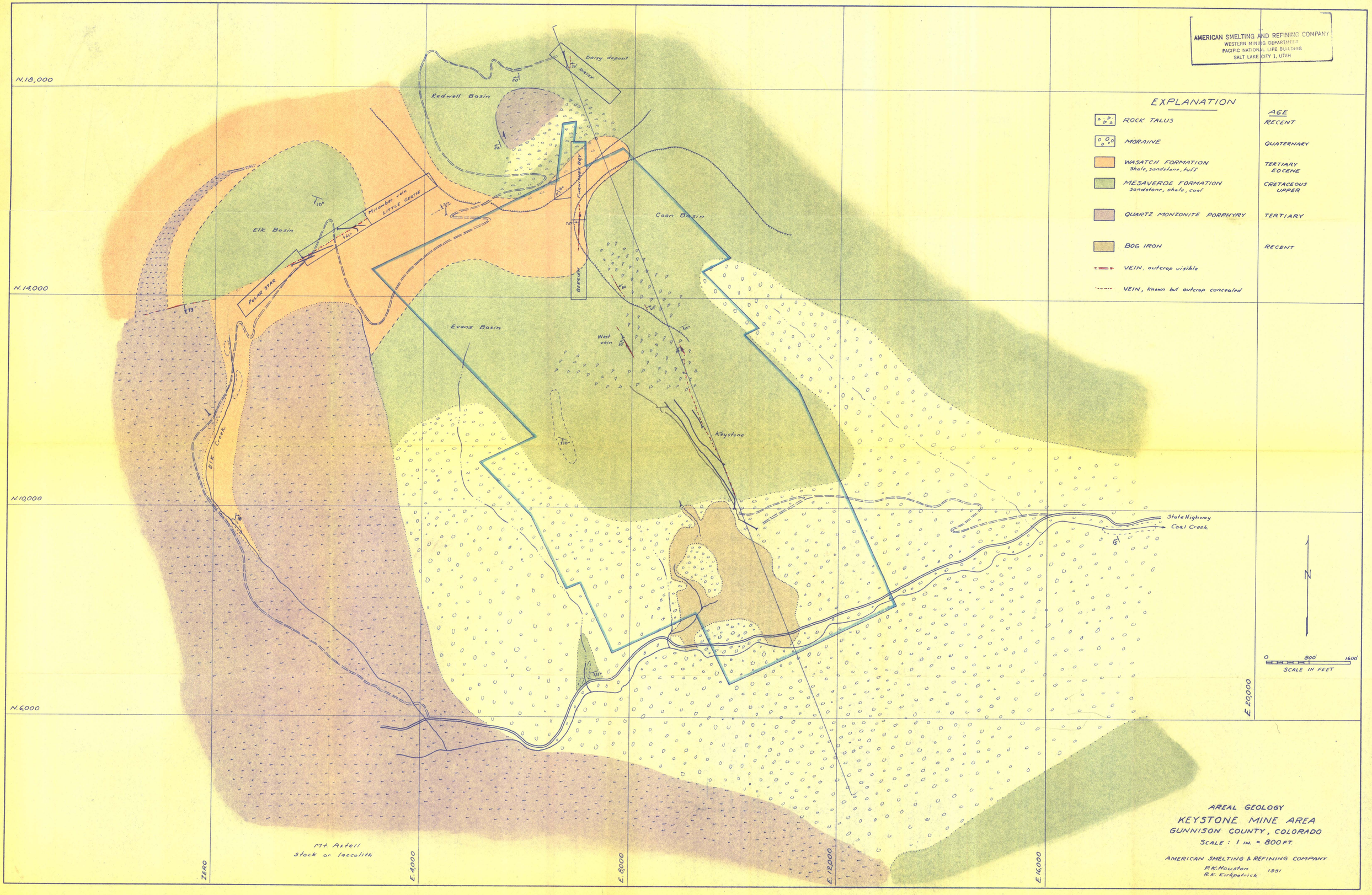
AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH

RECEIVED
JUN 24 1955

RECEIVED
JUN 4

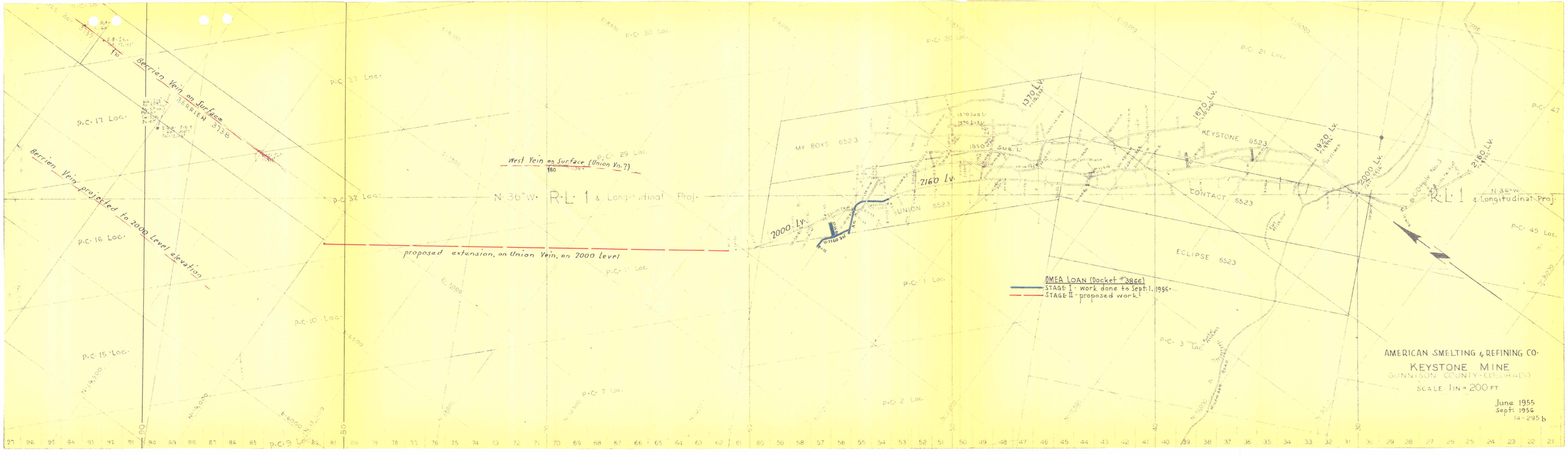


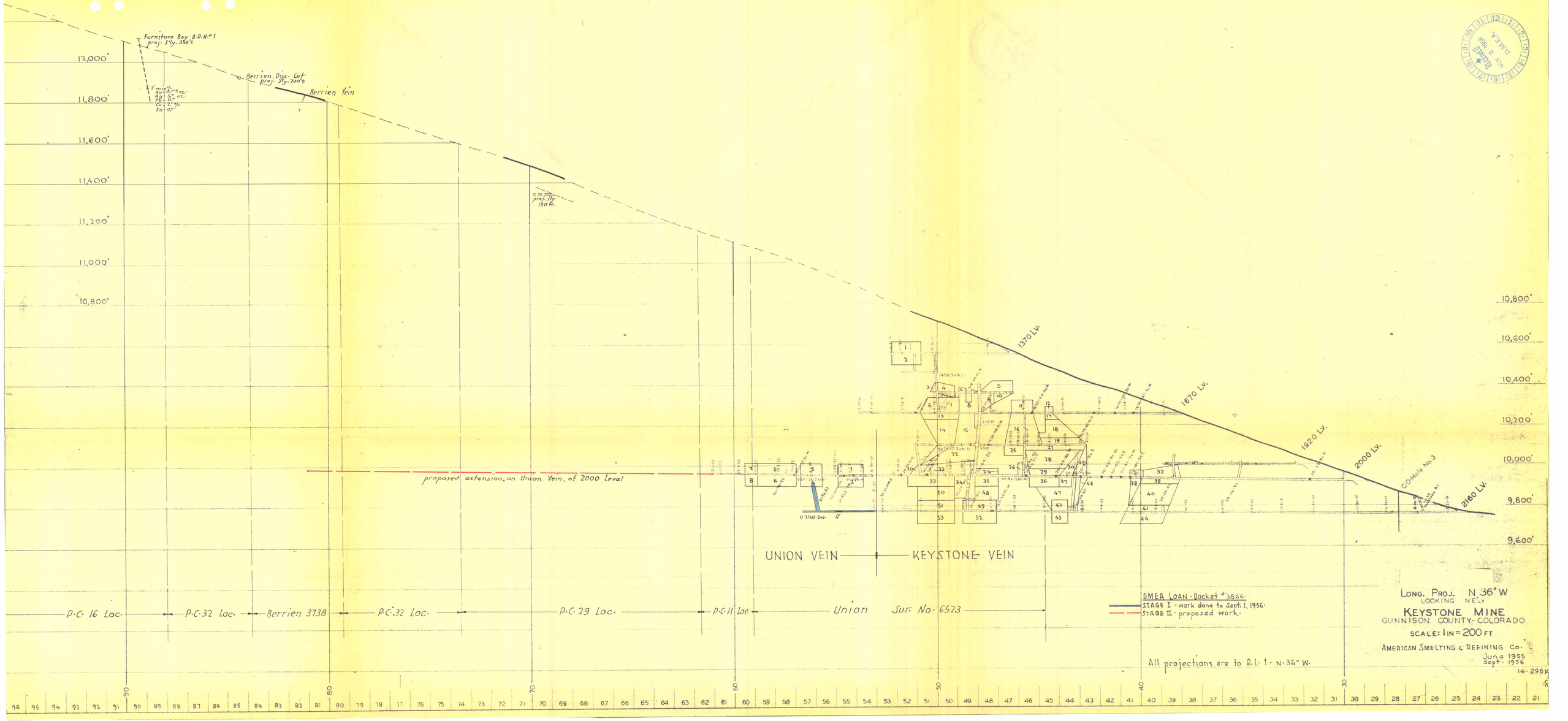
AMERICAN SMELTING AND REFINING COMPANY
WESTERN MINING DEPARTMENT
PACIFIC NATIONAL LIFE BUILDING
SALT LAKE CITY 1, UTAH



AREAL GEOLOGY
KEYSTONE MINE AREA
GUNNISON COUNTY, COLORADO
SCALE: 1 IN. = 800 FT.

AMERICAN SMELTING & REFINING COMPANY
P.K. Houston
R.K. Kirkpatrick
1931


Berrien Vein on Surface
BERRIEN 3138
Berrien Vein projected to 2000 level elevation
West Vein on Surface (Union Vn.?)
N. 36° W. R.L. 1 & Longitudinal Proj.
proposed extension, on Union Vein, on 2000 level
MY BOYS 6523
UNION 6523
KEYSTONE 6523
CONTACT 6523
ECLIPSE 6523
2160 Lv.
2000 Lv.
1370 Lv.
1850 Sub L.
1920 Lv.
2160 Lv.
OMEA LOAN (Docket #3866)
STAGE I - work done to Sept. 1, 1956.
STAGE II - proposed work.
AMERICAN SMELTING & REFINING CO.
KEYSTONE MINE
GUNNISON COUNTY - COLORADO
SCALE 1 in = 200 FT
June 1955
Sept. 1956
14-295 b


Furniture Box D.D.H.#1
proj. Sty. 350'±
Berrien Disc. Cut
proj. Sty. 200'±
Berrien Vein
proj. Sty. 150 ft.
12,000'
11,800'
11,600'
11,400'
11,200'
11,000'
10,800'
10,800'
10,600'
10,400'
10,200'
10,000'
9,800'
9,600'
1370 Lv.
1670 Lv.
1920 Lv.
2000 Lv.
2160 Lv.
C.D.Hole No.3
proposed extension, on Union Vein, of 2000 Level
U-2160-Dwn.
UNION VEIN
KEYSTONE VEIN
P.C. 16 Loc.
P.C. 32 Loc.
Berrien 3738
P.C. 32 Loc.
P.C. 29 Loc.
P.C. 11 Loc.
Union Sur. No. 6523
DMEA LOAN - Docket #3866.
STAGE I - work done to Sept. 1, 1956.
STAGE II - proposed work.
All projections are to R.L. 1 - N. 36° W.
LONG. PROJ. N 36° W
LOOKING NE'LY
KEYSTONE MINE
GUNNISON COUNTY, COLORADO
SCALE: 1 IN = 200 FT
AMERICAN SMELTING & REFINING CO.
June 1955
Sept. 1956
14-296K
RECEIVED
NOV 2 1956
DMEA

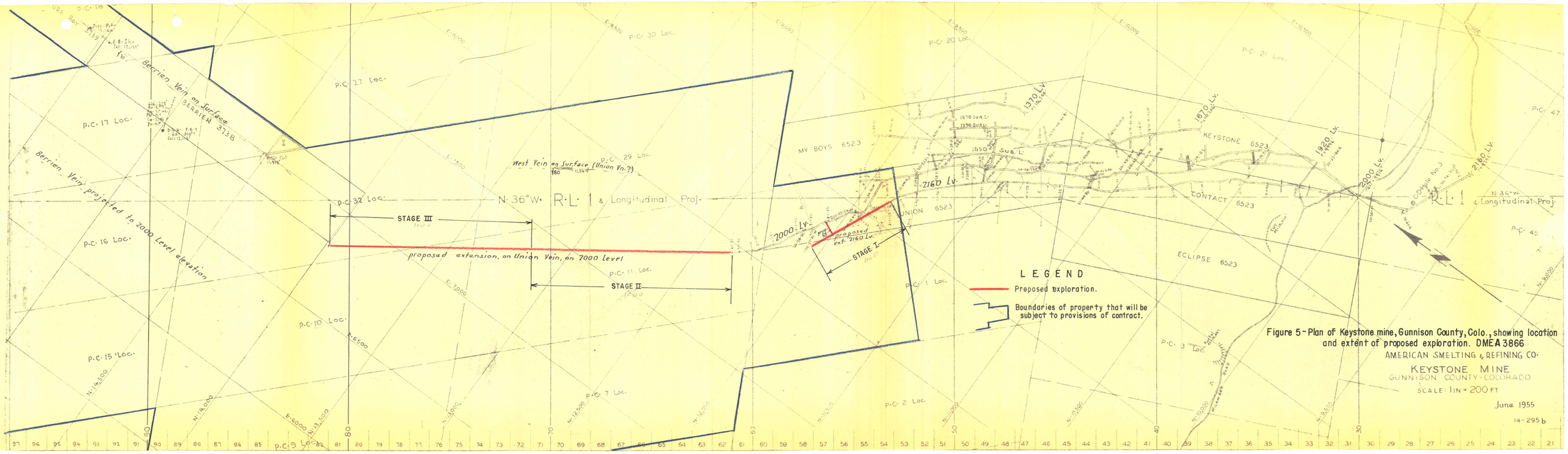


Figure 5 - Plan of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration. DMEA 3866

AMERICAN SMELTING & REFINING CO.

KEYSTONE MINE

GUNNISON COUNTY - COLORADO

SCALE: 1 IN = 200 FT

June 1955

14-295 b

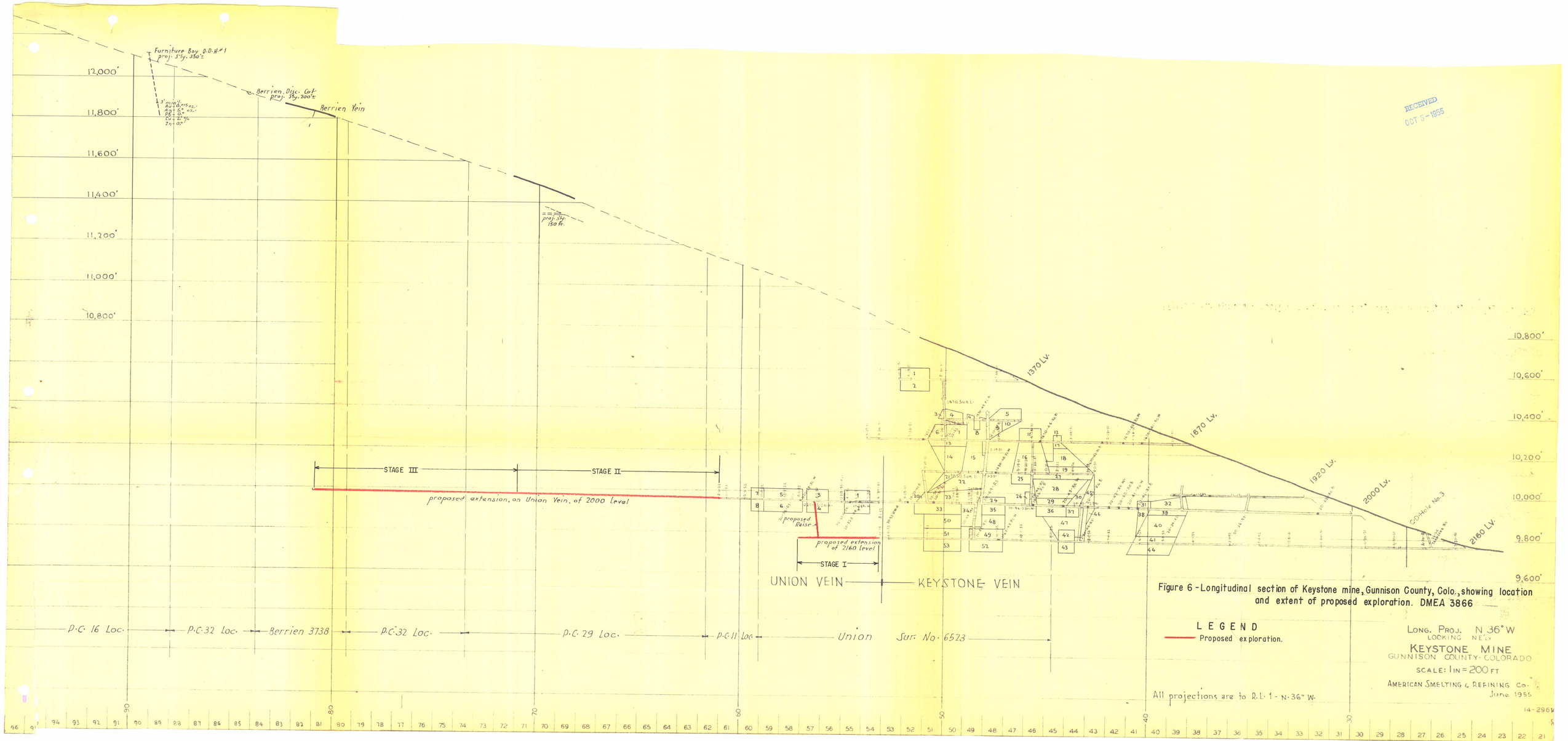


Figure 6 - Longitudinal section of Keystone mine, Gunnison County, Colo., showing location and extent of proposed exploration. DMEA 3866

RECEIVED
OCT 6 - 1955

A. ESTIMATE OF COSTS

UNION EXTENSION PROJECT

	Daily Wage Rate	Wages/Shift Including Overtime	Untimbered Drift & X-Cut, 90% of 2450' = 2205' Shifts/Month	Total Month	Cost Per Foot	Total Untimbered Drifts & X-Cuts	Timbered Drift & X-Cut, 10% of 2450' = 245' Shifts/Month	Total Month	Cost Per Foot	Total Timbered Drifts & X-Cuts	Raising, 200 Feet Shifts/Month	Total Month	Cost Per Foot	Total Raising	Diamond Drilling, 2900 Feet Shifts/Month	Total Month	Total Diamond Drilling	Total Project
(a) Independent Contracts																		
Drilling Contract as per attached proposal with estimates of "extras"																	$10,064	
(b) Labor, Supervision, Consultants																		
Miner	$13.60	$14.73	104	$1,532			156	$2,298			160	$2,357			6	$88		
Mucker	12.00	13.00	4	52			4	52			1	13						
Motorman	13.60	14.73	13	191			13	191			6	88			1	15		
Motorman Helper	12.40	13.43	13	175			13	175			6	81			1	13		
Pipe and Truckman	13.60	14.73	4	59			4	59			1	15	70% of 2728	17.52				
Nipper	12.80	13.86	5	69			5	69			3	42						
Journeyman, 1st Class	14.40	15.60	5	78			5	78			2	31						
Journeyman, 2nd Class	13.60	14.73	7	103			7	103			5	74			2	29		
Journeyman Helper	12.40	13.43	5	67			5	67			2	27			2	27		
Assay Helper	12.40	13.43	2	27			2	27			2	27			1	13		
Shift Boss	450/mo.		5	87			5	87			5	87						
Engineer-Geologist	475/mo.		7	128			7	128			3	55	100% of 538	4.94	3	55		
Accountant-Timekeeper	460/mo.		13	251			13	251			13	251			1	19		
Stenographer	345/mo.		7	101			7	101		17.76	7	101			1	14		
Assayer	450/mo.		2	35			2	35		3.00 (timbering labor)	1	17			1	17		
Sub-Total				$2,955	$17.76			$3,721	$22.36	20.76		$2,266	$29.96	22.46		$290		
(c) Operating Materials & Supplies																		
Explosives				$ 629	$ 3.78			$ 629	$ 3.78	3.78		$ 412	$ 3.78	2.65		$ 50		
Pipe (comp. air & water)				277	1.66*			277	1.66*	1.66*		27	0.25*	.25*				
Track				213	1.28*			213	1.28*	1.28*		-	-					
Compressed Air				104	0.63			104	0.63	0.63		69	0.63	0.44		220		
Steel				416	2.50			416	2.50	2.50		273	2.50	1.75				
Repair Parts & Shop Expense				233	1.40			240	1.44	1.44		120	1.10	0.77				
Ventilation, Pipe & Operation				290	1.74			290	1.74*	1.74*		130	1.19*	1.19*		290 *		
Timber & Rock Bolts, Wedges, etc.				-	-			998	6.00	2.00		480	4.40	3.08				
(d) Operating Equipment																		
2 Rock Drills @ $ 500																		
Locomotive (Prorata) 300																		
Fan and Motor 500																		
Loader 1,500																		
Cars 1,000																		
Total Equip. $3,800																		
$3,800 ÷ 60 months			63	0.38			63	0.38		0.38								
2 Rock Drills @ $ 500																		
Locomotive (Prorata) 150																		
Fan and Motor 500																		
Cars 500																		
Timber Hoist 250																		
Total $1,900																		
~~$1,900 ÷ 60 months~~											32	0.30		0.30				
(e) Rehabilitation and Repairs																		
None required.																		
(f) New Buildings, Improvements, Installations																		
None required.																		
(g) Miscellaneous																		
Misc. Supplies & Small Tools			166	1.00			166	1.00		1.00	150	1.36		0.97		12		
Payroll Indirect:																		
Insurance - Life 0.19%																		
F.O.A.B. 2.00																		
Fed. Unemployment 0.30																		
State Unemployment ~~0.90~~ 2.70																		
State Comp. 2.35																		
State Occ. 0.46																		
Holiday & Vac. 3.12																		
Pensions 3.50																		
Health Ins. 1.00																		
Total ~~13.60%~~ 15.60%			408	2.78 ~~2.45~~			513	3.49 ~~3.08~~		3.24	451	4.67 ~~4.14~~		3.50		45 ~~40~~		
(h) Contingencies																		
Add approx. 5%			286	1.75 ~~1.72~~			370	2.31 ~~2.27~~		2.02	290	2.51 ~~2.46~~		1.87		45 ~~45~~		
Total Each Type of Working			$6,040	~~$36.30~~ $36.66	~~$80,042~~		$8,000	~~$48.08~~ $48.57		$42.43 ~~$13,780~~	$5,700	~~$52.27~~ $52.67		$39.23 ~~$10,158~~		~~$950~~ $952 for 2½ mos.	2,090 ~~$2,375~~ ~~$12,139~~ $12,154	
TOTAL ENTIRE PROJECT																		~~$134,719~~ Say ~~$135,000~~
Less estimated salvage value:					-1.87*				-1.87*	-1.87*			-0.58*	-0.58*		-116*		
Corrected unit cost:					$34.79				$46.70	$40.56			$52.09	$38.65		$836		

$\frac{\$12,154}{2,000}$ = $6.08 per foot.

Table I - Schedule of estimated project costs submitted by applicant, showing corrections and revisions recommended by examining team