UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE

Terminated (or cancelled) without certification. DMEA No. 208X

This is the official contract file containing all official records of the project. Duplicate material has been removed. The records contained in the files are checked and are arranged in this manner:

Left Side

- ✓ 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.
- no - Application and attachments.
- Schedule of Collections.
- ✓ Operator's monthly reports and all attachments (latest on top).

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.
  - ✓ Interim Reports.
  - ✓ On-site Exam Report(s). (Tab)
  - ✓ Settlement Sheets.

If additional folders are required because of volume of records, show folder numbers and contents below:

Maps in folder number _____

Operator's Monthly Reports in folder number _____

wb
Reviewer's Initials

7973

RECEIVED
5-1954

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

AUDIT CERTIFICATE

I have examined the records and transactions of

Linton Mines,
A special partnership composed of
Alton L. Collins — Howard Raser
O. H. Halstead — F. J. Cardinal
Frank Dallam — W. M. Henry
F. J. Brown — Thomas J. Linton
Missoula Hotel, Missoula, Montana

pertaining to Exploration Contract No. Idm-E226, Docket No. DMA-208X, including Amendment No. 1, covering a project of exploration for lead located in Missoula County, Montana, commonly known as the Blacktail Mine, for the period of December 13, 1951 to March 14, 1953.

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

The audit disclosed the following facts in regard to the amount to be paid the contractor.

Total cost as billed by Contractor	$9,913.23
Exceptions	-0-
Total accepted cost	$9,913.23

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 Four Thousand Nine Hundred Fifty-six and 61/100 Dollars

-- $4,956.61 --

is valid and proper.

This certificate is issued on the provision that the Regional Executive Officer, the Administrator, or other competent official has accepted or will accept the project as having otherwise met the terms of the contract.

Robert M. Hull

Robert M. Hull
Auditor

February 25, 1954

AUDIT REPORT

I INTRODUCTION

During the month of August 1953, a final audit (covering operations for the period of December 13, 1951 to July 14th, 1953) was made of the records and accounts pertaining to Exploration Project Contract No. Idm-E226, Docket No. DMA-208X, executed on Form MF-200 (June 1951), including Amendment No. 1, with

Linton Mines,
A special partnership composed of
Alton L. Collins
Howard Raser
O. H. Halstead
F. J. Cardinal
Frank Dallam
W. M. Henry
F. J. Brown
Thomas J. Linton
Missoula Hotel, Missoula, Montana

covering a project of exploration for lead, located in Missoula County, Montana, commonly known as the Blacktail Mine.

The exploration project contract was terminated by agreement after commencement but before completion of the work on July 14, 1953. Mr. Thomas J. Linton, General Manager of the Linton Mines, was consulted and his cooperation facilitated the audit.

II GENERAL INFORMATION ON RECORDS

The accounting records covering this project consisted of the daily time records, semimonthly payroll records, cancelled checks and the supplier's invoices and State and Federal Tax returns. The payments were made by checks drawn on the First National Bank of Missoula and signed by Thomas J. Linton. A monthly work sheet consolidating the charges to the project forms the basis for the preparation of the Monthly Form MF-104, Operator's Monthly Report and Voucher.

III SCOPE OF AUDIT AND FINDINGS

The audit was limited to ascertaining the accuracy, propriety, and validity of the costs shown in the "Totals to Date" column of Form MF-104, Operator's Monthly Report and Voucher, for March 1953, the final voucher submitted. The project was suspended from February 1, 1952 to November 14, 1952, as the Operator was engaged in other work. The costs claimed covered only that portion of completed work as outlined under Stage 1, Exhibit "A" of the exploration contract. The findings, after correction of the distribution, follow:

(1) Independent Contracts

This item is not applicable to the contract as there were no subcontracts; however, the Operator claimed bulldozing in the amount of $589.95. This sum has been distributed to the appropriate headings.

(2) Labor and Supervision

A detailed analysis of the payrolls were made and the computations were checked for the period of December 13, 1951 and January, November, and December 1952, and January, February, and March 1953. A spot audit of the cancelled checks was made to verify the payments. The audit disclosed that the rates paid for labor were not in excess of the prevailing wage rate in the region.

Supervision consisted of the salary paid the mine superintendent, Walter Chandler, which was in accordance with and not in excess of the maximum specified in Exhibit "A" of the contract. The time was prorated to

the actual time devoted to the project. The audit has determined that the following charges are applicable and allowable under this item of cost:

Labor						$4,589.93
Supervision:						
Dec. 13, 1951-Jan. 31, 1952	(19 working days @ $20.00)				$380.00	
November 1952	6¼	"	"	"	125.00	
December 1952	12½	"	"	"	250.00	
January 1953	12½	"	"	"	250.00	
February 1953	6¼	"	"	"	125.00	
March 1953	6¼	"	"	"	125.00	1,255.00
Total						$5,844.83

(3) Operating Materials and Supplies

The costs chargeable to this category were determined by an analysis of the vendor's invoices and proof of payment ascertained by a review of the cancelled checks.

	Claimed	Transferred from (1)	Allowable
Explosives	$1,003.64		$1,003.64
Other	1,046.33		-0-
Drill steel and bits			466.70
Lubricants (Gas and Oil)		$85.82	665.45
	$2,049.97	$85.82	$2,135.79

The total accepted cost for Operating Materials and Supplies is $2,135.79.

(4) Operating Equipment

This item of cost consisted of depreciation on equipment furnished by the Operator in accordance with Exhibit "A" of the contract. The Operator has claimed depreciation only for the time the equipment was actually in use on the project and at no time did it exceed the monthly allowance:

Air compressor (4 months 5-1/3 days @ $166.67/mo.)	$696.11
Stoper (5 months 22-1/3 days @ $11.25/mo.)	64.61
Tractor (23 days @ $183.33/mo. - $6.11/day)	140.53
	$901.25

The audit allows the sum of $901.25 for depreciation.

(5) Initial Rehabilitation and Repairs

This item is not applicable to the contract.

(6) New Buildings, Improvements, etc.

This item is not applicable to the contract.

(7) Miscellaneous

The findings of the audit as to the costs acceptable and allowable under this item are:

	Costs Claimed	Transferred From (1)* & (8)	Accepted Costs
Repairs to Equipment	$ 231.17		$ 231.17
Payroll taxes	180.97	$14.54*	195.51
Liability Insurance	328.82	25.86*	354.68
Auditing		250.00	250.00
	$740.96	$290.40	$1,031.36

Repairs to Equipment consisted of necessary parts and repairs to the compressor motor and stoper. The audit allows the sum of $231.17 for this item.

Payroll Taxes cover Federal Old Age Benefit, Federal Unemployment Compensation, State Unemployment Compensation and Liability Insurance, at the following rates which were verified by reference to the company's records:

Federal Old Age Benefit	1.5%
Federal Unemployment Compensation	.3%
State Unemployment Compensation	2.7%
Liability Insurance:	
December 1951 to November 30, 1952	5.6%
December 1952 to March 1953	8.0%

Taxes and Liability Insurance were not applicable on the entire payroll. The audit allows payroll taxes in the amount of

$195.51 and Liability Insurance in the amount of $354.68.

Payroll Taxes			
Social Security	$4,344.66	1.5%	$ 65.17
Federal Unemployment Comp.	4,344.66	.3%	13.03
State Unemployment Comp.	4,344.66	2.7%	117.31
			$195.51

Liability Insurance			
December 1951-November 1952	1,788.00	5.6%	$100.13
December 1952 - March 1953	3,181.83	8.0%	254.55
			$354.68

Accounting Fees consist of $250.00 paid to W. M. Henry, C.P.A., Wilma Building, Missoula, Montana, for the period of:

December 13, 1951-January 31, 1952	$ 80.60
November 1952-March 1953	169.40
	$250.00

The audit allows the sum of $250.00 for this item, which the Operator had erroneously classified under (8) Contingencies.

(8) Contingencies

This item is not applicable to the contract.

IV CONCLUSIONS

This audit has disclosed that all costs, as charged to this project, are reasonable and proper under the terms of the contract.

The audit disclosed the status of the allowable maximums to be:

	Allowable Maximums	Accepted Costs	Balance
Depreciation	$901.25	$901.25	-0-

The rates for wages were discussed under Item (2) Labor and Supervision, and Depreciation under Item (4), Operating Equipment, of Section III of this report. The allowable monthly amount for Depreciation was charged only for the actual time the equipment was in use and at the rates specified.

The adjustments between "Items of Costs" as shown on the March 1953 Form MF-104, the disallowances, and the accepted costs are summarized as follows:

		Totals MF-104 March 1953	Corrected Distribution	Allowed By Audit
(1)	Independent Contracts			
	Bulldozing	$ 589.95	-0-	-0-
(2)	Labor & Supervision			
	Labor	4,266.63	$4,589.83	$4,589.83
	Supervision	1,255.00	1,255.00	1,255.00
(3)	Operating Materials and Supplies			
	Explosives	1,003.64	1,003.64	1,003.64
	Other	1,046.33		
	Drill Steel & Bits		466.70	466.70
	Lubricants (Gas & Oil)		665.45	665.45
(4)	Operating Equipment			
	Depreciation	760.72	901.25	901.25
(7)	Miscellaneous			
	Repairs to Equipment	231.17	231.17	231.17
	Payroll taxes	180.97	195.51	195.51
	Liability Insurance	328.82	354.68	354.68
	Accounting fees		250.00	250.00
(8)	Contingencies			
	Accounting fees	250.00	-0-	-0-
		$9,913.23	$9,913.23	$9,913.23

At the conclusion of the audit the findings were discussed in detail with the Executive Officer of the DMEA Field Team.

Robert M. Hull

Robert M. Hull
Auditor

February 25, 1954

GOVERNMENT'S COPY

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
SEP 14 1953

TERMINATION OF EXPLORATION PROJECT CONTRACT BY AGREEMENT
AFTER COMMENCEMENT BUT BEFORE COMPLETION OF THE WORK

It is agreed this 14th day of July, 1953, between the United States of America, acting through the Depatment of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and Linton Mines, Thomas J. Linton - General Manager, Missoula Hotel, Missoula, Montana, a special partnership composed of Alton L. Collins, Howard Raser, O. H. Halstead, F. J. Cardinal, Frank Dallam, W. M. Henry, F. J. Brown and Thomas J. Linton, operating under the laws of Montana, hereinafter called the "Operator," parties to that certain Exploration Project Contract I-dm-E 226, Docket No. DMEA- 208X, dated December 13, 1951, that the said contract shall be and is hereby terminated as of the first date above written.

Any work prosecuted or costs incurred by the Operator after the date first above written shall be for the sole account of the Operator, except for (a) such necessary and reasonable costs and expenses as may be incurred in preserving and disposing of any facilities, buildings, fixtures, equipment, or other items, to the cost of which the Government has contributed and in which the Government has an equity, and (b) the costs of any reports, accounts, and winding-up and settlement actions provided for in the contract.

The undersigned Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said Exploration Project Contract, except as herein expressly otherwise provided.

Witness the following signatures as of the day and year first above written.

UNITED STATES OF AMERICA

Thomas E Howard

By Thomas E. Howard, Acting Executive Officer
DMEA Field Team, Region II

LINTON MINES (Blacktail Mine)
(Operator)

By Thomas J. Linton
Thomas J. Linton, General Manager

GOVERNMENT'S COPY

AMENDMENT NO. 1 Docket No. 208X (lead)

It is agreed this 11th day of March 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, and Linton Mines Missoula, Montana

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E 226 of December 13 1951 between the parties hereto be modified and amended as described in Exhibit "F" attached hereto, which, with any maps or drawings attached thereto, is made a part of this agreement. The effective date of this amendment shall be December 13 1951.

This amendment is made by authority granted the Executive Officer, DMEA Field Team, Region II, in Order No. 2684 by the Acting Secretary of the Interior.

This amendment shall not be construed to increase the estimated total cost of the project, the amount of the Government's contribution, or any item of allowable cost which is expressly designated "Allowable Maximum."

Executed in sextuplicate the day and year first above written.

LINTON MINES
(Operator)

By Thos. J. Linton

THE UNITED STATES OF AMERICA

By A. E. Weissenborn
A. E. Weissenborn, Exec. Officer
DMEA Field Team, Region II

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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LINTON MINES (BLACKTAIL MINE)

Contract Idm-E226
Docket No. DMEA 208 (lead)

AMENDMENT NO. 1

Exhibit "F"

Exhibit "A" is amended as follows, in order that the prevailing wage rate in the region may be provided under the contract.

Under Labor and Supervision, Stage I

Delete: From 5 to 8 laborers per shift consisting of miners, muckers, trammers, and unclassified at $14.00 each per 8 hour shift.

Add: From 5 to 8 laborers per shift consisting of miners, muckers, trammers, and unclassified shall be paid according to the prevailing wage rate in the region.

LINTON MINES (BLACKTAIL MINE)

Contract Idm-E226
Docket No. DMEA 208 (lead)

Justification for Amendment No. 1

The contract states that "From 5 to 8 laborers per shift consisting of miners, muckers, trammers, and unclassified at $14.00 each per 8 hour shift." It is in the interest of the Government that the Operator be allowed to pay the prevailing wage rate in the region in order that the present mining personnel will remain working under the contract.

E. W. Buel

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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APR 14 1953

MF-206
(June 1951)

Docket No. DMA -208X
Commodity Lead
Idm-E226

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

EXPLORATION PROJECT CONTRACT [1]

It is agreed this 13 day of December, 1951, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] Linton Mines, Thomas J. Linton - General Manager, Missoula Hotel, Missoula, Montana, a special partnership composed of Alton L. Collins, Howard Raser, O. H. Halstead, F. J. Cardinal, Frank Dallam, W. M. Henry, F. J. Brown and Thomas J. Linton, operating under the laws of Montana, hereinafter called the "Operator," as follows:

1. *Authority for contract.* This agreement is entered into under the authority of the Defense Production Act of 1950, pursuant to Mineral Order 5, entitled "Regulations Governing Government Aid in Defense Exploration Projects."

2. *Operator's property rights.* The exploration project shall be conducted on that certain property situated in the State of Montana, County of Missoula described as follows: The Blacktail Mine situated in Section 30, T. 12 N., R. 15 W., Montana Meridian, approximately 30 miles by car east of Missoula, Montana. The property is comprised of the following unpatented claims: Fawn Nos. 1 to 7, the Whitetail and the Blacktail, recorded in Volumne "Q" of Miscellaneous Records, pages 374, 385, 381, 379, 375, and 377, and in Volumne 7 of Quartz Location Records, pp. 303, 304 respectively, in the office of the County Clerk and Recorder of Missoula County, Montana, with respect to which the Operator represents and undertakes:

(*a*) ~~That he is the owner in possession and entitled to possession, and the property covered by the following claims, mines, or mineral rights and of which the subordination agreement of the lessor is attached:~~

Subordination agreement attached

(*b*) That he is a lessee, in possession and entitled to possession, and the subordination agreement of the lessor is attached.

3. *Exploration project.* The Operator, within thirty (30) days from the date of this contract shall commence work on a project of exploration for [5] Lead; shall prosecute the work efficiently, expertly, in a workmanlike manner, in accordance with good mining standards, with suitable and adequate equipment, materials, and labor, all properly designed to bring the project to completion within a period of [6] Eighteen (18) months from the date of this contract. The exploration project and the work to be performed are more fully described on Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, is made a part of this contract.

4. *Performance of the work.* The work shall be performed by the Operator, under his sole direction and control: *Provided,* That with the consent of the Government and its written approval of the contract or contracts, all or any part of the work may be performed by the Operator through contract or contracts with independent contractors. The Government shall have the right to enter and observe and inspect the work at all reasonable times, and the Operator shall provide the Government with all available means for doing so. The Government may consult with and advise the Operator on all phases of the work.

5. *Fixtures and improvements.* The Operator shall devote the land and all existing improvements, facilities, buildings, installations, and appurtenances to the purposes of the exploration project without any allowance for the use, rental value, depreciation, depletion, or other cost of acquiring, owning, or holding possession thereof. Any additional facilities, buildings, and fixtures, to be purchased, installed, or erected by the Operator, with the estimated cost of each, to which the Government will contribute currently its agreed pro rata share, are listed in Exhibit "A" attached hereto. The difference between the cost of such additional facilities, buildings, or fixtures, and the salvage value thereof at the conclusion of the work, shall be charged as a cost of the project to which the Government has contributed its pro rata share.

6. *Operating equipment.* Any operating equipment to be rented, purchased, or furnished by the Operator, with the allowable rental, purchase price, or depreciation, as the case may be, is listed under appropriate headings in Exhibit "A" attached hereto. As to equipment purchased for the project, the Government will contribute its agreed pro rata share of the cost thereof, and the difference between the cost and the salvage value at the conclusion of the work shall be charged as a cost of the project to which the Government has contributed its pro rata share.

[1] If sufficient space is not provided in any blank, use an extra sheet of paper and refer to it in the blank.
[2] State name, address, and nature of organization if any.
[3] Give legal description or enough to identify the property.
[4] Strike out the provision not applicable.
[5] Name of mineral.
[6] Not in excess of 2 years.

7. *Title to and disposition of property.* All facilities, buildings, fixtures, equipment, or other items costing more than $50 each, paid for or purchased with funds contributed jointly by the Operator and the Government, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the termination of the contract, if they have any salvage value, shall be disposed of for their joint account unless the Government, in writing, waives its interest in any such items. The Government may require the dismantling, severance from land, and removal of any such items in order to realize its interest in the salvage value thereof, and the cost of any such removal and of the disposal of the items shall be for the joint account of the parties in proportion to their respective interests.

8. *Labor and supervision.* An itemized schedule of labor, by numbers and classes (miners, muckers, millmen, etc.), and of supervisors, by numbers and positions, with the maximum wages or salaries that may be paid to each as an allowable cost of the project is set forth in Exhibit "A" attached hereto.

9. *Rehabilitation and repairs.* A statement of the cost of any necessary rehabilitation or repairs to put existing facilities, buildings, installations, and fixtures into useful and operable condition and which are to be allowed as costs of the project is included in Exhibit "A."

10. *Allowable costs of the project.* The costs of the project in which the Government will participate are limited to the necessary, reasonable, direct costs of performing the exploration work, including the costs of materials, supplies, engineering, power, water, analytical work, accounting, and utilities, including items of equipment costing less than $50 each; and the costs referred to in Articles 5, 6, 8, and 9, and the exhibits annexed to and referred to in this contract. Although the Government may pay part of the cost of new or additional facilities, structures, buildings, and equipment, only the depreciation on such items, computed as indicated in Articles 5 and 6, will be charged as a cost of the project. No items of general overhead, corporate management, interest, taxes, or any other indirect costs not expressly allowed by these provisions, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

11. *Accounts and audits.* The Operator shall keep suitable records and accounts of operations, which the Government may inspect and audit at any time. The Government may at any time require an audit of the Operator's records and accounts by a certified public accountant, the cost thereof to be treated as a cost of the project. The Operator shall keep and preserve said records and accounts for at least 3 years after the completion of the project or the termination of this contract.

12. *Progress reports.* The Operator shall provide the Government with monthly reports of work performed under the contract upon forms to be provided by the Government. Each monthly progress report shall bear the certification of the Operator and shall constitute the Operator's invoice of costs incurred on the project during the period covered by the report.

13. *Payment to the Operator.* The monthly progress report (invoice), to the extent approved by the Government, shall be processed for payment by the Government. Payment shall be made in the amount of 50 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $26,270.00, which is 50 percent of the agreed estimated total cost of this project, $52,540.00.

14. *Final reports by Operator.* Upon completion of the project or termination of this contract, the Operator shall provide the Government with a comprehensive geologic and engineering report, including an estimate of ore reserves, to the best of his ability. Four copies of all reports shall be furnished to the Government.

15. *Repayment by Operator.* If, upon the completion of the exploration project or termination of the contract, the Government considers that a discovery or development has resulted from the work from which commercial production of ore may be made, the Government, within 6 months thereafter, shall so certify to the Operator, particularly describing and delimiting its estimate of the discovery or the development. Thereafter, if and as ore is produced as a result of such discovery or development, the Operator and his successor in interest shall be and become obligated to pay to the Government a percentage royalty on the net smelter returns or other net proceeds realized from such ore, concentrates, or metal produced within ten (10) years from the date of this contract, until the total amount contributed by the Government, without interest, is fully repaid or said 10 years have elapsed, whichever occurs first, as follows:

Of net smelter returns or other net proceeds not in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent.

Of net smelter returns or other net proceeds in excess of eight dollars ($8.00) per ton of ore: One and one-half (1½) percent, plus one-half (½) percent for each additional full fifty cents ($0.50) in excess of eight dollars ($8.00) per ton of ore, but not in excess of a maximum of five (5) percent.

This obligation to repay from net returns or proceeds shall be and remain a claim and lien upon the mineral deposit which is the subject of the exploration project and upon any production resulting from such discovery or development, in favor of the Government, until fully paid, or until said 10-year period has elapsed; and this claim and lien and the Government's right to repayment shall survive any termination of the contract, whether by completion of the exploration project or otherwise. This article is not to be construed as imposing any obligation on the Operator or his successor in interest to produce ore from any such discovery or development.

16. *No assignment of contract.* Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder.

17. *Termination and completion.* The Government may, at any time, by written notice to the Operator, terminate this contract: (*a*) If the Operator fails to provide his share of the money necessary to prosecute operations pursuant to the terms of the contract; (*b*) if the Operator, in the opinion of the Government, fails to prosecute operations pursuant to the terms of the contract; or (*c*) if in the opinion of the Government, operations up to the time of the notice have not indicated the probability of making any worthwhile discovery and in the opinion of the Government further operations are not justified. Upon the completion of the project or any termination of the contract the Operator shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; shall dispose of any unused materials, supplies, and equipment for the joint account of the Operator and the Government in the proportion of their respective interests; and shall pay to the Government its pro-rata share of any money remaining.

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

Linton Mines
(Operator)

By Thos. J. Linton
Thomas J. Linton, General Manager.

By C O Mitteudorf
Acting Administrator,
Defense Minerals Exploration
Administration.

U. S. GOVERNMENT PRINTING OFFICE 16—64066-2

Linton Mines

Exploration Project Contract

Blacktail Mine

Exhibit "A"

Exploration Project

Time Schedule - Month		Stage I *
0 - 1½	1.	Extend the present Hecla crosscut northeasterly for approximately 150 feet to cut the eastward extension of the ore zone exposed in the glory hole at a vertical depth of 110 feet lower than the upper adit (see attached map).
1½ - 7	2.	Drift on ore structure at most favorable point 300 and 150 feet to northwest and southeast respectively.
	3.	Drive one crosscut normal to the above drift on each side of the main crosscut to explore the width of the ore zone. The exact position of the crosscuts will be determined by the Operator upon the basis of the results of the drifting, subject to the approval of the Government. The length of the two crosscuts shall be mutually agreeable to both the Operator and the Government but their total length shall not exceed 100 feet.
8 - 9	4.	Raise approximately 120 feet from the Hecla level to the workings above.
Concurrent	5.	Bulldoze a maximum of 400 feet of trenches on the extension of the outcrop to the southeast The position and the size of trench shall be mutually satisfactory to the Operator and the Government.
		Stage II*
10 - 14	1.	Crosscut 600 feet to cut the ore structure at a vertical depth of approximately 200 feet below the elevation of the Hecla adit. This work to be undertaken only after completion of Stage I to the satisfaction of the Government. The exact location of the crosscut will be determined by the Operator upon the basis of the results obtained in Stage I, subject to approval by the Government.

* As indicated in Section 4 of the contract, all sub-contracts are subject to approval by the Government.

The proposed work and the estimated cost thereof is as follows:

Stage I

1.	Crosscut 150 feet*	@ $25.00 per foot	$ 3,750.00
2.	Drifting 450 feet*	@ $25.00 per foot	11,250.00
3.	Crosscut 100 feet*	@ $25.00 per foot	2,500.00
4.	Raise 120 feet*	@ $25.00 per foot	3,000.00
5.	Bulldoze 400 feet of trench, 15 days at $30.00 per day for fuel and operator when actually employed, plus depreciation		590.00
		Sub-total	$ 21,090.00

* The crosscuts and drifts are to be of sufficient size for mucking machine operation but are not to exceed 6.0 X 7.5 feet in the clear, Crosscutting, drifting and raising footage costs include all operating costs such as air, pipe, track, powder, fuse, caps, labor, supervision, timber, steel, repairs, depreciation, etc.

Stage II

1. Crosscut 600 feet @ $25.00 per foot. The crosscut is to be of sufficient size for mucking machine operation but shall not exceed 6.0 X 7.5 feet in the clear.

   The footage cost includes all operating costs such as air, pipe, track, steel, powder, fuse, caps, labor, supervision, timber, repairs, etc. $ 15,000.00

Sub-total	$ 15,000.00

Summary of Estimated Costs

Stage I	$ 21,090.00
Stage II	15,000.00
Fixtures and improvements	- - - - -
Operating Equipment	16,450.00
Labor and supervision	- - - - -
Rehabilitation and repairs	- - - - -
Total	$ 52,540.00
Government participation one half of above	26,270.00

Fixtures and Improvements

None. Any additional facilities, including buildings to be purchased, rented, installed, or erected by the Operator are not to be charged as a cost of the project.

Operating Equipment

Equipment to be rented

None

Equipment to be purchased

1.- Mucking machine, Eimco 12B or equivalent	$ 3,000.00
1 - Air trammer	1,800.00
8 - 1½ ton cars at $250.00 each	2,000.00
1 - Drifter, automatic feed with column and bar	900.00
1 - Portable air compressor, 315 cfm-Diesel*[1]	8,250.00
Miscellaneous tools	500.00
Sub-total	$ 16,450.00

Equipment to be furnished by the Operator on a depreciation basis

	Cost	Monthly Allowance*
1 - Air compressor, 500 cfm Diesel[1]	$10,000.00	$ 166.67
1 - Jackhammer 55#	250.00	4.17
1 - Stoper, heavy duty	675.00	11.25
1 - Air tugger	350.00	5.83
1 - Caterpillar tractor, crawler with dozer	11,000.00	183.33
		$ 371.25

* The allowable monthly amount is chargeable only for the months in which the equipment is actually used for the benefit of the project.

1. The 315 cfm air compressor may be purchased at the discretion of the Operator but subject to approval by the Government. If the compressor is purchased, it is to be purchased not later than three months after work on the project actually is started. In case of purchase, no rental is to be allowed on the 500 cfm compressor after delivery of the 315 cfm one.

Labor and Supervision

1. The following labor will be employed at the rates shown:*

Stage I

From 5 to 8 laborers per shift consisting of miners, muckers, trammers, and unclassified @ $14.00 each per 8 hour shift.

Stage II

The crosscut will be started with 5 laborers per shift of the same types as those employed in Stage I and at the same daily wage.

* The number of laborers employed per shift will be mutually satisfactory to the Operator and the Government.

2. The following supervision will be employed:

1 - Mine superintendent @ $500.00 per month who will devote only part of his time to the exploration project. His time shall be proportioned equitably to the project but is not to exceed $250.00 a month $ 250.00

The above rates are subject to lawful overtime increases and revisions of pay scale under Union Contracts.

Rehabilitation and Repairs

Not applicable

MF-202

LANDLORD'S SUBORDINATION AGREEMENT

KNOW ALL MEN BY THESE PRESENTS:

WHEREAS, the undersigned is the owner in fee simple of that certain parcel of ground in the county of Missoula, State of Montana, described in a certain Exploration Project Contract dated December 13, 1951, between Thomas J. Linton, the Lessee of said property, and the United States of America;

NOW, THEREFORE, the undersigned, as Lessor of said property under lease dated Jan. 12, 1949, does by these presents subordinate all of his right, title, and interest under the provisions of said lease to the right, title, and interest of the United States of America under the provisions of said Exploration Project Contract, and agrees that the lien and claim of the United States of America under the provisions of said contract shall be prior to the undersigned's rights to rentals or royalties under the terms of said lease; and

The undersigned further agrees that if said leasehold interest should be surrendered or if said lease should terminate at any time prior to the expiration of the rights of the United States of America under said Exploration Project Contract, the undersigned shall assume and does hereby assume all of the obligations of the Lessee under said Exploration Project Contract to make repayment to the United States of America according to the terms of said contract; and

The undersigned agrees to commit no act, nor assert any claim under judicial process or otherwise that may contravene or conflict with the prior lien and claim of the United States of America under the provisions of said Exploration Project Contract.

This undertaking and covenant shall be binding upon the heirs, successors, and assigns of the undersigned.

Dated this 22nd day of August, 1951.

WESTMONT TRACTOR & EQUIPMENT CO.

BY: W. J. Gallagher
President

U. S. GOVERNMENT PRINTING OFFICE 940768

Mrs Roy B Hughes

SEP 1951 5

Idaho E 226

Conv. copy
Court copy

STATE OF MONTANA)
: ss.
County of Missoula)

AFFIDAVIT OF IDENTITY

Nellie May Hughes being first duly sworn deposes and says:

That she is one and the same person as Mrs. Roy B. Hughes, Roy B. Hughes being the name of her husband, now deceased, and Mrs. Roy B. Hughes being the name which she used during the lifetime of said Roy B. Hughes.

Nellie May Hughes

Subscribed and sworn to before me
this 10th day of December, 1951.

M. E. Hatt
Notary Public for the State of Montana.
Residing at Missoula, Montana. My commission expires Dec. 22, 1953

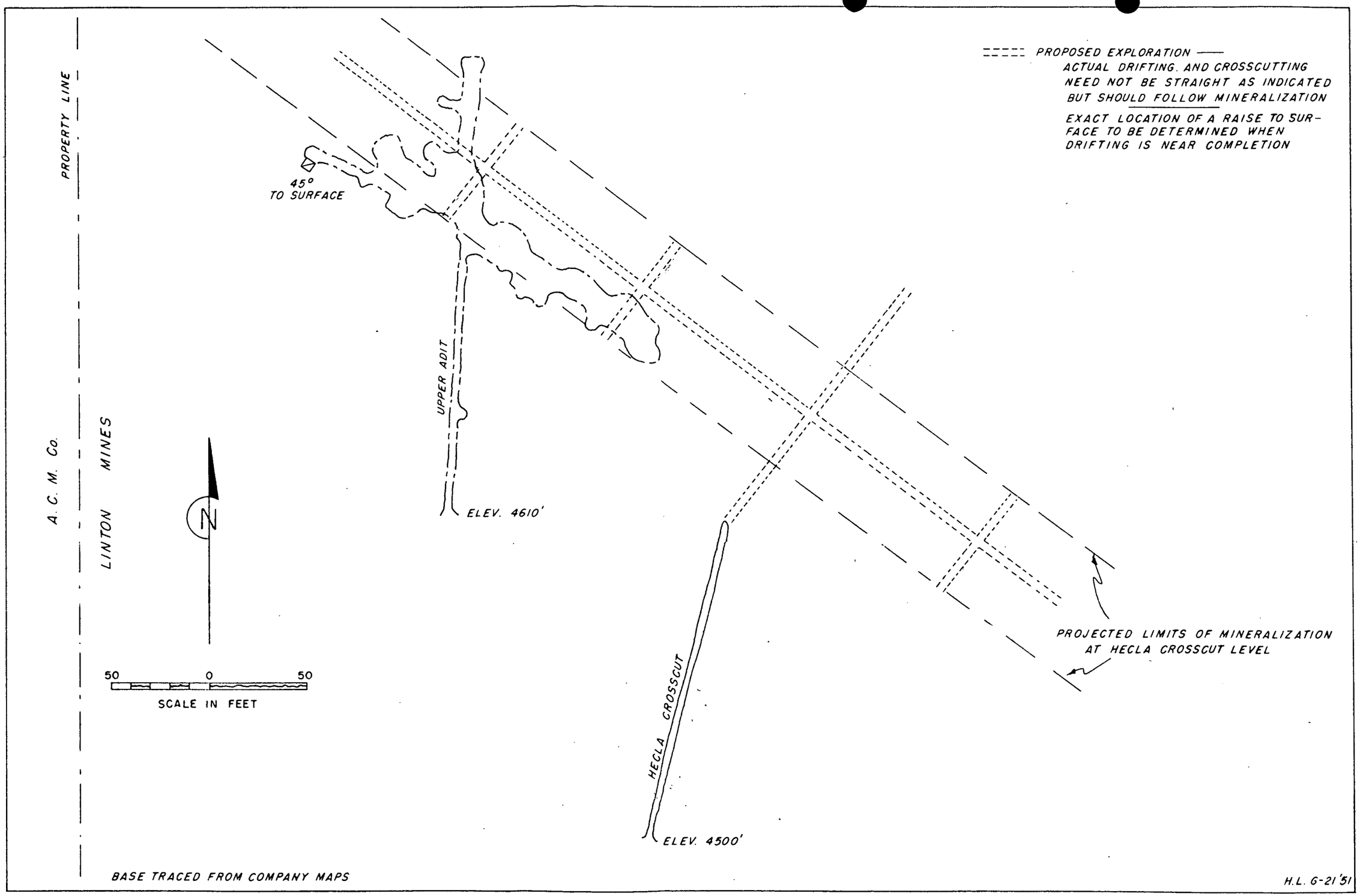


Exhibit "A". — Blacktail Mine, Missoula County, Montana.

Missoula HOTEL MISSOULA MONTANA TELEPHONE 2188

DEPARTMENT OF THE INTERIOR
RECEIVED
NOV 9 1951
Defense Minerals Administration,
Production Expansion Division.

Linton Mine

Nov. 5 - 1951

United States Dept Interior
Mr. C. O. Mittendorf. Director
Production Expansion Division
Defence Minerals Administration
Washington 25 D.C.

Ref. Docket. DMA-208X
Lead

Dear Sir:

As requested by the Acting Director on Oct. 25 I am enclosing herewith the assignment of Lease and Option and the Names of Special Partners Linton Mines

General partner - Thos J. Linton

Special Partners:

Alton L. Collins Portland, Ore.
Howard Reser Missoula, Montana
O.N. Halstead Spokane Wash
F.J. Cardinal Spokane Wash

cont

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D.C.
NOV 8 8 52 AM '51

Missoula HOTEL

MISSOULA MONTANA TELEPHONE 2188

Ref. Docket DMA-208X
Lead.

Frank Dallam - Seattle, Wash.

W. W. Henry - Missoula Montana

F. J. Brown - Polson Montana

Very truly yours

Lawton Mining

By Thos. J. Lawton

ASSIGNMENT OF LEASE AND OPTION

KNOW ALL MEN BY THESE PRESENTS, That we, Thomas J. Linton and Eva M. Linton, husband and wife, for and in consideration of the sum of Ten Dollars ($10.00) and other good and valuable considerations in hand paid, do hereby grant, bargain, sell, assign and transfer unto Linton Mines, a special partnership, certificate of which is recorded in the office of the Clerk and Recorder of Missoula County, Montana, that certain lease and option heretofore granted by Roy B. Hughes and Nelle Mae Hughes, his wife, and Lawrence W. Shaubut and Pearl J. Shaubut, his wife, as Lessors, unto said Thomas J. Linton, as Lessee. Said lease describes those certain mining claims situated in Section Thirty (30), Township Twelve (12) North, Range Fifteen (15) West, Montana Meridian, and are more particularly described as follows:

> Those certain Quartz or Lode Mining Claims named and known as FAWN NO. 1, FAWN NO. 2, FAWN NO. 3, FAWN NO. 4, FAWN NO. 5, FAWN NO. 6, FAWN NO. 7, WHITE TAIL and BLACK TAIL, all as described in the recorded location certificate filed and of record in the office of the County Clerk and Recorder of Missoula County, Montana, the first seven of which were recorded June 2, 1947, and the other two of which were recorded September 6, 1946, said Location Certificates for said claims being recorded, respectively, in Volume "Q" of Miscellaneous Records, Pages 374, 385, 383, 381, 379, 375, and 377, and Volume 7 of Quartz Location Records, Pages 303 and 304.

Together with all of their right, title and interest in and to the option given in said lease and option and in and to the personal property described in the lists attached thereto.

It is the intention of the assignors herein to make this assignment effective as of the date of the creation of Linton Mines, a special partnership, and the assignors herein

do hereby ratify and confirm all of the acts done by Linton Mines, a special partnership, with respect to the property described in said lease and option since the date of the organization of said special partnership.

Dated this 5th day of November, 1951.

Thos. J. Linton

Eva M. Linton

STATE OF MONTANA)
: ss.
County of Missoula)

On this 5th day of November, 1951, before me, the undersigned, a Notary Public for the State aforesaid, personally appeared Thomas J. Linton, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year last above written.

Montana E Watt
Notary Public for the State of Montana. Residing at Missoula, Montana.
My Commission expires 2-15-1952

STATE OF WASHINGTON)
: ss.
County of Spokane)

On this 3rd day of November, 1951, before me, the undersigned, a Notary Public for the State aforesaid, personally appeared Eva M. Linton, known to me to be the person whose name is subscribed to the within instrument, and acknowledged to me that she executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year last above written.

Joseph M. Cooney
Notary Public for the State of ~~Montana~~ Washington. Residing at ~~Missoula, Montana~~ Spokane, Washington
My Commission expires Jan. 7, 1954

A S S I G N M E N T

FOR VALUE RECEIVED, the undersigned hereby assign, transfer and convey to Westmont Tractor & Equipment Company, a corporation, its successors and assigns, all of the right, title and interest of the undersigned in and to that certain Lease and Option, dated January 12, 1949, between Roy B. Hughes and Nelle Mae Hughes and the undersigned as lessors, and Thomas J. Linton as lessee, together with the full and complete right to receive all proceeds, rentals, royalties and payments which the undersigned might receive pursuant thereto, and together with all rights to enforce the terms and conditions of said Lease and Option, the same as though Westmont Tractor & Equipment Company were substituted for the undersigned as co-lessor therein.

Dated this 2 day of April, 1951.

Lawrence W. Shaubut

Pearl J. Shaubut

STATE OF MONTANA)
: ss.
County of Missoula)

On this 2 day of April, 1951, before me, the undersigned, a Notary Public for the State of Montana, residing at Missoula, Montana, personally appeared LAWRENCE W. SHAUBUT and PEARL J. SHAUBUT, husband and wife, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

R. H. Leonard

NOTARY PUBLIC for the State of Montana.
Residing at Missoula, Montana.
My Commission expires 8-8-53

RECEIVED IN ROUTING
N. P. A.

DEC 5 9 38 AM '51

LEASE AND OPTION

THIS AGREEMENT, made and executed this 12th day of January, 1949, by and between ROY B. HUGHES and NELLE MAE HUGHES, husband and wife, and LAWRENCE W. SHAUBUT and PEARL J. SHAUBUT, husband and wife, of Clinton, Montana, hereinafter called Lessors, and THOMAS J. LINTON, of Missoula, Montana, hereinafter called Lessee, WITNESSETH:

That for and in consideration of the sums herein stipulated to be paid, and the covenants herein contained, the Lessors hereby lease and mine-let unto the Lessee the following described mining property situated in Section Thirty (30), Township Twelve (12) North, Range Fifteen (15), West of the Montana Meridian, in Missoula County, Montana, to-wit:

> Those certain Quartz or Lode Mining Claims named and known as FAWN NO. 1, FAWN NO. 2; FAWN NO, 3, FAWN NO. 4, FAWN NO. 5, FAWN NO. 6, FAWN NO. 7, WHITE TAIL and BLACK TAIL, all as described in the recorded location certificates filed and of record in the office of the County Clerk and Recorder of Missoula County, Montana, the first seven of which were recorded June 2, 1947, and the other two of which were recorded September 6, 1946, said Location Certificates for said claims being recorded, respectively, in Volume "Q" of Miscellaneous Records, Pages 374, 385, 383, 381, 379, 375, and 377, and Volume 7 of Quartz Location Records, Pages 303 and 304,

together with all mining rights attaching thereto, and all the metals and minerals and mineral-bearing rock and earth therein, and all the rights, privileges and franchises incident or appurtenant thereto, and together also with all those certain tools, equipment and

supplies listed upon "List No. 1", which is attached hereto and made a part hereof, together with any other tools and equipment thereon not herein specified nor listed upon any list attached hereto.

TO HAVE AND TO HOLD the said property upon the terms herein stated for the period of TEN (10) YEARS from the date hereof, and as much longer as the said Lessee can produce minerals therefrom.

The said Lessee shall pay to the Lessors as consideration for the execution of this lease and option the sum of THREE THOUSAND DOLLARS ($3,000.00), the same to be paid upon the execution thereof, and the receipt of which is hereby acknowledged.

As further consideration and compensation for the rights herein granted to the Lessee, the Lessee shall pay each month during the life of this lease the sum of THREE HUNDRED DOLLARS ($300.00), which sum shall be paid monthly in advance, the first payment to be made upon the date hereof, and subsequent payments to be made each month hereafter upon the 12th day of each month, or within ten (10) days thereafter, and until this lease shall have terminated or the option hereinafter provided for shall have been exercised. One-half of each of said monthly payments shall be paid to Roy B. Hughes, and the other half shall be paid to Lawrence W. Shaubut.

IT IS UNDERSTOOD AND AGREED, however, that there shall be paid to the said Roy B. Hughes and Lawrence W. Shaubut ten per cent (10%) of the net smelter returns upon all ores or concentrates shipped from said premises during the life of this lease or until the option shall

have been exercised. By "net smelter returns" is meant the amount paid for the minerals by the smelter less the treatment and reduction charges of the smelter and the railroad freight charges for shipment of ore or concentrates to the smelter, it being agreed that said payments last mentioned, which shall be by way of royalty, shall be made directly by the smelter to the said Hughes and Shaubut. The amount of any such royalty payments shall be credited upon the monthly installment of rental for the month next succeeding the month in which said royalty payments shall be made, it being understood that if the royalty thus received in any month shall exceed the sum of $300.00 in any month, the said Hughes and Shaubut may nevertheless retain the same. If in any month the payments on account of royalty shall be less than $300.00, the Lessee will in the ensuing month pay a sufficient additional amount to make a total of $300.00 in that month, it being the agreement of the parties that at all times and in any event the Lessors shall together receive not less than $300.00 in any single month, and that they shall receive more than that for months when the royalties aggregate a greater amount.

Any and all work which the Lessee shall perform in or upon said mining claims shall be performed in a good and minerlike manner, and the Lessee shall at all times fully comply with the Montana Workmen's Compensation Law, and with all state and federal laws relating to social security, unemployment compensation, wages, and hours of employment, and other like subjects.

Lessee shall promptly pay the wages of all men employed by the Lessee, and all material and supply bills incurred by him, and shall at all times keep said mining claims free from liens, attachments, or other encumbrances arising out of any wrongful or unauthorized act or omission on the part of the Lessee. And so long as the Lessee shall be in possession of said mining claims under this lease, the Lessee shall in due time cause to be performed all necessary assessment work upon the same, and shall cause to be filed affidavits and proof of performance of the same in order to protect said claims against attempted relocation by other parties. The Lessee shall also promptly pay any and all taxes which may be legally assessed against said mining claims, or against the equipment or other personal property thereon.

The Lessors shall have the privilege at any reasonable time of going upon and inspecting said property and the workings thereon, but only when accompanied by and in the presence of the Lessee or someone designated by him. Should the Lessee at any time surrender said premises and this lease to the Lessors, then the Lessee will furnish and deliver to the Lessors copies of any assay reports, examination reports, diamond drill logs, and other geological or mining data relating to said mining claims which he may have prepared in connection with his work upon said claims.

IT IS UNDERSTOOD that as a part consideration for the execution of this lease by the Lessors, the Lessee has undertaken to pay and discharge a certain mortgage held by Reconstruction Finance Corporation

upon said property, or a portion thereof, and that in consideration thereof the Lessee shall forthwith acquire as his own absolute property certain items of personal property and certain equipment, tools and supplies which have been acquired with funds advanced by said Reconstruction Finance Corporation, A list of said items is attached hereto, marked "List No. 2", but it is understood that there is to be included therewith any other similar items thus acquired which may not be listed upon said list.

IT IS FURTHER UNDERSTOOD AND AGREED that at any time during the life of this lease, providing the Lessee shall not be in default hereunder, the Lessee may at his option purchase and acquire all of said property herein described for the purchase price of FIFTY THOUSAND DOLLARS ($50,000.00), and that upon the exercise of the option herein stated the Lessors will convey, or cause to be conveyed, said mining claims to the Lessee, by good and sufficient deed or deeds of conveyance, and free and clear of all encumbrance other than the paramount title of the United States. All sums theretofore paid on account of advance payment, monthly payments, royalty payments or otherwise under this lease shall be credited upon said purchase price. For the purpose of effectuating this option, the Lessors shall, upon demand of the Lessee, execute and cause to be deposited in escrow a suitable mining deed or deeds, with instructions to the escrow agent to make delivery thereof upon exercise of this option by the Lessee, and the payment of the required purchase price.

IT IS FURTHER UNDERSTOOD AND AGREED that with respect to this lease that, notwithstanding the term thereof, the Lessee may at any time terminate this agreement and deliver the possession of said mining claims back to the Lessors upon thirty (30) days' notice in writing of his intention so to do. Any such notice may be given by the Lessee by registered mail addressed to the said Roy B. Hughes or Lawrence B. Shaubut, at Clinton, Montana.

This lease and option and the provisions thereof shall extend to the successors and assigns of the respective parties hereto.

WITNESS THE SIGNATURES of the parties hereto the day and year first above written.

Roy B Hughes

Nellie Mae Hughes

Lawrence B Shaubut

Pearl J Shaubut

Lessors

Thomas J Linton

Lessee

STATE OF MONTANA,)
) ss
County of Missoula.)

On this 12th day of January, 1949, before the undersigned, a Notary Public for the State of Montana, residing at Missoula, Montana, personally appeared ROY B. HUGHES, NELLE MAE HUGHES, his wife, LAWRENCE W. SHAUBUT and PEARL J. SHAUBUT, his wife, and THOMAS J. LINTON, known to me to be the persons whose names are subscribed to the foregoing instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

Noreen L. Pope

Notary Public for the State of Montana, residing at Missoula, Montana. My Commission expires October 13, 1950.

LIST NO. 1

Chain Blocks
One Vise
One one-man Saw
Two dry Stopers
One Air Receiver
One 8 lb. Hammer
One Single Bit Ax
One Cook Stove
One Oil Drum Heater
Two Steel Beds
One Canvas Cot
Four Chairs
Dishes, Pots and Pans
One Heavy Bar
Hoist with old Dodge Motor
One piece ½" or 5/8" pull line on Hoist
952 Feet of Rail
Two Picks
Three Muck Sheets
Miscellaneous Dry Stoper Steel
Two cans on tram line (bottom dump)can formerly on/ tram line
Two galvanized buckets
Ten oil drums with heads out out.
Two Mattresses
Oil Drum Stove in Pump House
Fuse Reel
Air line from Compressor to Tunnel
(All 2") - 400 feet.

LIST NO. 2

30 lbs 80d Spikes
20 gallons Motor Oil
5 gallons rock drill oil
25 lbs grease
10 lbs small nails
2 rolls roofing paper
700 caps
2400 feet fuse
220 lbs Dupont 40% special gelatin
Worthington Compressor 110 cfm
1 piece 1" wire rope over 1000 feet long
24 dull timken bits
52 feet 7/8" hex. jackhammer steel
3" by 6' column
Column Clamp
3" saddle
JB-5 mounted hackhammer
30 lbs track spikes
3 dozen track bolts
Air line from compressor to tunnel
(all 2") 300 feet.
Crow bar
Air Hose
Water hose
Pressure Tank
Double end Wrehch 15/16" - 1 1/16"
Blow Pipe
2 Chuck Wrenches
Fan Belt and parts for Compressor
Parts Lists and instructions for
Compressor and Jackhammer
Crusher
Ball mill.

CERTIFIED COPY

STATE OF MONTANA,
County of Missoula, } ss.

I, Joe D. Brown, County Clerk and ex-officio Recorder for the County of Missoula, State of Montana, do hereby certify the attached to be a full, true and correct copy of the Original Deed of Mining Claim from Lawrence W. and Pearl J. Shaubut to Westmont Tractor & Equipt. Co.

as the same appears on record in this office. File No. ..... Doc. No. 97319

Witness my hand and official seal of said county this 3rd day of December, 1951.

Joe D. Brown
County Clerk and ex-officio Recorder, County of Missoula, State of Montana.

By Lucille Murray, Deputy.

MISSOULIAN
1M—9-51

DEED OF MINING CLAIM

THIS INDENTURE, Made the 2nd day of April in the year of our Lord one thousand nine hundred and fifty-one, Between LAWRENCE W. SHAUBUT and PEARL J. SHAUBUT, husband and wife, of Clinton, Montana, parties of the first part, and WESTMONT TRACTOR & EQUIPMENT COMPANY, a Montana Corporation, having its principal place of business at Missoula, Montana, the party of the second part, WITNESSETH, that the said parties of the first part, for and in consideration of the sum of TEN Dollars, of the United States of America, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have Granted, Bargained, Sold, Remised, Released and Forever Quitclaimed, and by these Presents do grant, bargain, sell, remise, release and forever quitclaim unto the said party of the second part, and to its successors and assigns all of the undivided one-half interest of the parties of the first part in and to:

The mining property situated in Section Thirty (30), Township Twelve (12) North, Range Fifteen (15) West, of the Montana Meridian, in Missoula, County, Montana, and described as follows:

Those certain Quartz or Lode Mining Claims named and known as FAWN NO.1, FAWN NO. 2, FAWN NO. 3, FAWN NO. 4, FAWN NO. 5, FAWN NO. 6, FAWN NO. 7, WHITE TAIL and BLACK TAIL, all as described in the recorded location certificates filed and of record in the office of the County Clerk and Recorder of Missoula County, Montana, the first seven of which were recorded June 2, 1947, and the other two of which were recorded September 6, 1946, said Location Certificates for said claims being recorded, respectively in Volume "Q" of Miscellaneous Records, Pages 374, 385, 383, 381, 379, 375, and 377, and Volume 7 of Quartz Location Records, Pages 303 and 304. TOGETHER WITH all mining fixtures, equipment, tools and appliances situated on the above property or used in connection therewith.

TOGETHER with all the dips, spurs and angles, and also all the metals, ores, gold and silver bearing quartz, rock and earth therein; and all the rights, privileges and franchises thereto incident, appendant and appurtenant, or therewith usually had and enjoyed; and also, all and singular the tenements, hereditaments and appurtenances thereto belonging, or in any wise appertaining, and the rents, issues and profits thereof; and, also, all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of said parties of the first part, of, in or to said premises, and every part or parcel thereof, with the appurtenances.

TO HAVE AND TO HOLD, all and singular, the said premises, together with the appurtenances and privileges thereto incident; unto the said party of the second part, its successors and assigns forever. It is expressly covenanted that it is intended hereby to convey any and all right, title, interest and estate which may hereafter be acquired to said premises, or any part thereof, by virtue of any patent which may hereafter be issued by the United States Government therefor, under proceedings heretofore instituted in that behalf.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hand and seal the day and year first above written.

Signed, sealed and delivered in the presence of)
/s/ Earl R. Smith)
/s/ John A. Kok)

/s/ Lawrence W. Shaubut (Seal)
/s/ Pearl J. Shaubut (Seal)

ACKNOWLEDGMENT

STATE OF MONTANA)
) ss.
County of Missoula)

On this 2nd day of April nineteen hundred and fifty-one before me _____, a Notary Public in and for said County of Missoula, State of Montana, personally appeared LAWRENCE W. SHAUBUT and PEARL J. SHAUBUT, husband and wife, known to me (or proved to me on the oath of) to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year in this certificate first above written.

/s/ R. H. Leland

(Notarial Seal.)

Notary Public in and for Missoula County, State of Montana. Residing at Missoula, Montana.
My commission expires 8-8-53.

97319

DEED OF MINING CLAIM

To

STATE OF MONTANA)
) ss.
County of Missoula)

I hereby certify that the within Deed was received for record this 9th day of April A.D. 1951, at 9:55 A.M. and is duly recorded in Volume 164 of Deeds, page 247.

Joe D. Brown
County Recorder

By Mary E. Greenfield
Deputy

Fee $1.25
Return to Westmont Tractor & Equipt. Co.

Missoula HOTEL

MISSOULA MONTANA TELEPHONE 2188

DEFENSE ADMINISTRATION WASHINGTON

Lin Mines

NOV 21 8 AM

November 18-1951

Re: Docket No. DMA-208X
Lead

Mr C.O. Mittendorf
Production Expansion Division
Dept of Interior
Washington 25 D.C.

DEPARTMENT OF THE INTERIOR
RECEIVED
NOV 27 1951
Defense Minerals Administration,
Production Expansion Division.

Dear Mr. Mittendorf

Your letter postmarked the 14th of November minus date and ref. number arrived today requesting written evidence of my athority to sign for the other partners.

I am enclosing a copy of such athority which is

Missoula HOTEL
MISSOULA MONTANA TELEPHONE 2188

recorded in County Courthouse at Missoula.

I hope this meets with your approval. Bad weather will soon force us to shut down our mill since it is not winterized and if we could start this project we could retain our men on job.

Very truly yours
Thos. J. Linton

Linton

AMENDED CERTIFICATE OF SPECIAL PARTNERSHIP

STATE OF MONTANA, }
COUNTY OF MISSOULA. } ss

We, the undersigned, for the purpose of amending that certain Certificate of Special Partnership heretofore executed by certain parties on the _____ day of April, 1950, do hereby file the following Amended Articles of Special Partnership, and do hereby certify and agree as follows:

1. The name of this partnership shall be "LINTON MINES".

2. The business of the partnership shall consist of the acquisition of lands valuable for mining and minerals, and the development and exploration of such properties, and the extraction of ore and minerals therefrom, and the milling and refining of said ores or minerals.

3. The principal place of business of said partnership shall be located at Missoula, Missoula County, Montana.

4. The names and places of residence of each member of the partnership are as follows:

General Partner

THOMAS J. LINTON	Spokane, Washington

SPECIAL PARTNERS

ALTON L. COLLINS	Portland, Oregon
HOWARD RASER	Missoula, Montana
C. H. Halstead	Spokane, Washington

F. J. CARDINAL,	Spokane, Washington
FRANK DALLAM,	Spokane, Washington
W. M. HENRY,	Missoula, Montana
F. J. BROWN,	Polson, Montana.

5. This partnership shall exist for a period of FIFTEEN (15) YEARS from the date of the execution of the certificate of partnership, of which this is amendatory.

6. The amount of cash, and a description of the agreed value of the other property contributed by each limited partner is as follows:

Alton L. Collins has contributed the whole of his interest in Linton Mines, a Special Partnership heretofore existing between Alton L. Collins as a special partner, and Thomas J. Linton as a general partner. The value of said assets as of the 22nd day of February, 1950, is sixty-five per cent (65%) of $59,284.51. The said assets in the total amount of $59,284.61 were chargeable with liabilities in the amount of $17,372.84, less the Thomas J. Linton drawings in the amount of $4,575.31, so that the actual value of said assets, less the obligation of the special partnership was $41,911.67, of which 65% thereof was owned by said Alton L. Collins. Therefore, the agreed value of the Alton L. Collins contribution is $27,242.59

Howard Raser	12,000.00
C. H. Halstead,	1,000.00
F. J. Cardinal	1,000.00
Frank Dallam	1,000.00

W. M. Henry $1,000.00

F. J. BROWN $5,000.00

The F. J. Brown interest arises out of a purchase by F. J. Brown of a share of the Thomas J. Linton interest, and such share has the agreed value of $5,000.00.

W. M. Henry has purchased a share of the Thomas J. Linton interest, and such share has the agreed value of $1,000.00.

The amounts shown as cash contributions and the agreed values of contributions as herein set forth are and shall be deemed to be the contributions of the limited partners.

The assets of Linton Mines consists of a mining lease on certain real property located near Clinton, Montana, described as follows:

> Those certain Quartz or Lode Mining Claims named and known as FAWN NO. 1, FAWN NO. 2, FAWN NO. 3, FAWN NO. 4, FAWN NO. 5, FAWN NO. 6, FAWN NO. 7 WHITE TAIL and BLACK TAIL, all as described in the recorded location certificates filed and of record in the office of the County Clerk and Recorder of Missoula County, Montana, the first seven of which were recorded June 2, 1947, and the other two of which were recorded September 6, 1946, said Location Certificates for said claims being recorded, respectively, in Volume "Q" of Miscellaneous Records, Pages 374, 385, 383, 381, 379, 375, and 377, and Volume 7 of Quartz Location Records, Pages 303 and 304, said mining property being situated in Section 30, Township 12 North, Range 15 West of the Mon tana Meridian, in Missoula County, Montana,

Together with certain easements appurtenant thereto, and the following personal property: Mining

machinery of various kinds, character and description, trucks, bulldozers, tractors, and miscellaneous mining equipment, all located on the real property above described. Said property is more fully described in a mortgage heretofore given by Linton Mines to Westmont Tractor Company, of Missoula, Montana, which said mortgage is recorded in the office of the County Clerk and Recorder of Missoula County, Montana.

7. The limited partners have no obligation to make any additional contributions to this partnership.

8. There are no agreements as to the return of the contribution of the limited partners.

9. The limited partners shall share in the profits of the business of the partnership in the following proportions, to-wit:

Alton L. Collins	44%
Howard Raser	24%
C. H. Halstead	4%
F. J. Cardinal	2%
Frank Dallam	2%
F. J. Brown	10%
W. M. Henry	2%
Thomas J. Linton (General Partner)	12%

10. Any limited partner may sell his interest in the partnership to an assignee as a contributpr in his place, providing that he shall first offer to the partnership his interest at the same price at which he proposed to sell to some third person. The partnership

shall, upon such notice, have ten (10) days within which to accept said offer by paying said limited partner in cash the amount for which he proposes to sell to such third person.

11. The partners may, by the consent of all of the limited and general partners, admit additional limited partners, but in the absence of such consent no additional limited partners may be admitted.

12. There shall be no priority in any respect as between the limited partners.

13. Inasmuch as there is but one General Partner, the partnership shall be dissolved upon the death of the General Partner.

14. In the absence of an agreement by all the partners, no limited partner shall have a right to demand any property other than cash in return for his contribution.

15. This certificate is filed for the purpose of amending the Certificate of Partnership heretofore filed, and this amended certificate states the rights and obligations of the parties, it being the intention of all of the partners to continue the business of Linton Mines as the same has been heretofore operated.

16. For his services in managing the business of the partnership, Thomas J. Linton shall be entitled to a base salary of $300.00 per month, and a maximum expense account of $200.00 per month. Further increase in salary shall be approved by all the partners.

IN WITNESS WHEREOF, the parties hereto have subscribed their names hereto this _____ day of February, 1951.

_____
General Partner

_____

_____

_____

_____

_____

_____

_____

Special Partners

STATE OF MONTANA, }
County of Missoula. } ss

On this _____ day of _____, 1951, before the undersigned, a Notary Public for the State of Montana, personally appeared THOMAS J. LINTON, F. J. BROWN, HOWARD RASER and W. M. HENRY, known to me to be the persons whose names are subscribed to the within instrument, who thereupon after being each first duly sworn, subscribed their names to the foregoing certificate, and did each thereupon acknowledge to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

_____
Notary Public for the State of Montana, residing at Missoula, Montana. My Commission expires
_____

STATE OF OREGON,)
) ss
County of Multnomah.)

On this _____ day of March, 1951, before the undersigned, a Notary Public for the State of Oregon, personally appeared ALTON L. COLLINS, known to me to be the person whose name is subscribed to the within instrument, who thereupon after being first duly sworn subscribed his name to the foregoing certificate, and did thereupon acknowledge to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

_____
Notary Public for the State of Oregon, residing at Portland, Oregon. My Commission expires _____.

STATE OF WASHINGTON,)
) ss
County of Spokane.)

On this _____ day of March, 1951, before the undersigned, a Notary Public for the State of Washington, personally appeared C. H. HALSTEAD and F. J. CARDINAL, known to me to be the persons whose names are subscribed to the within instrument, who thereupon after being each first duly sworn, subscribed their names tp the foregoing certificate, and did each thereupon acknowledge to me that he executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

_____
Notary Public for the State of Washington, Residing at Spokane, Washington. My Commission expires _____

STATE OF WASHINGTON.)
) ss
County of Snohomish.)

On this _____ day of March, 1951, before the undersigned, a Notary Public for the State of Washington, personally appeared FRANK DALLAM, known to me to be the person whose name is subscribed to the within instrument, who thereupon after being first duly sworn subscribed his name to the foregoing certificate, and did thereupon acknowledge to me that he executed the same.

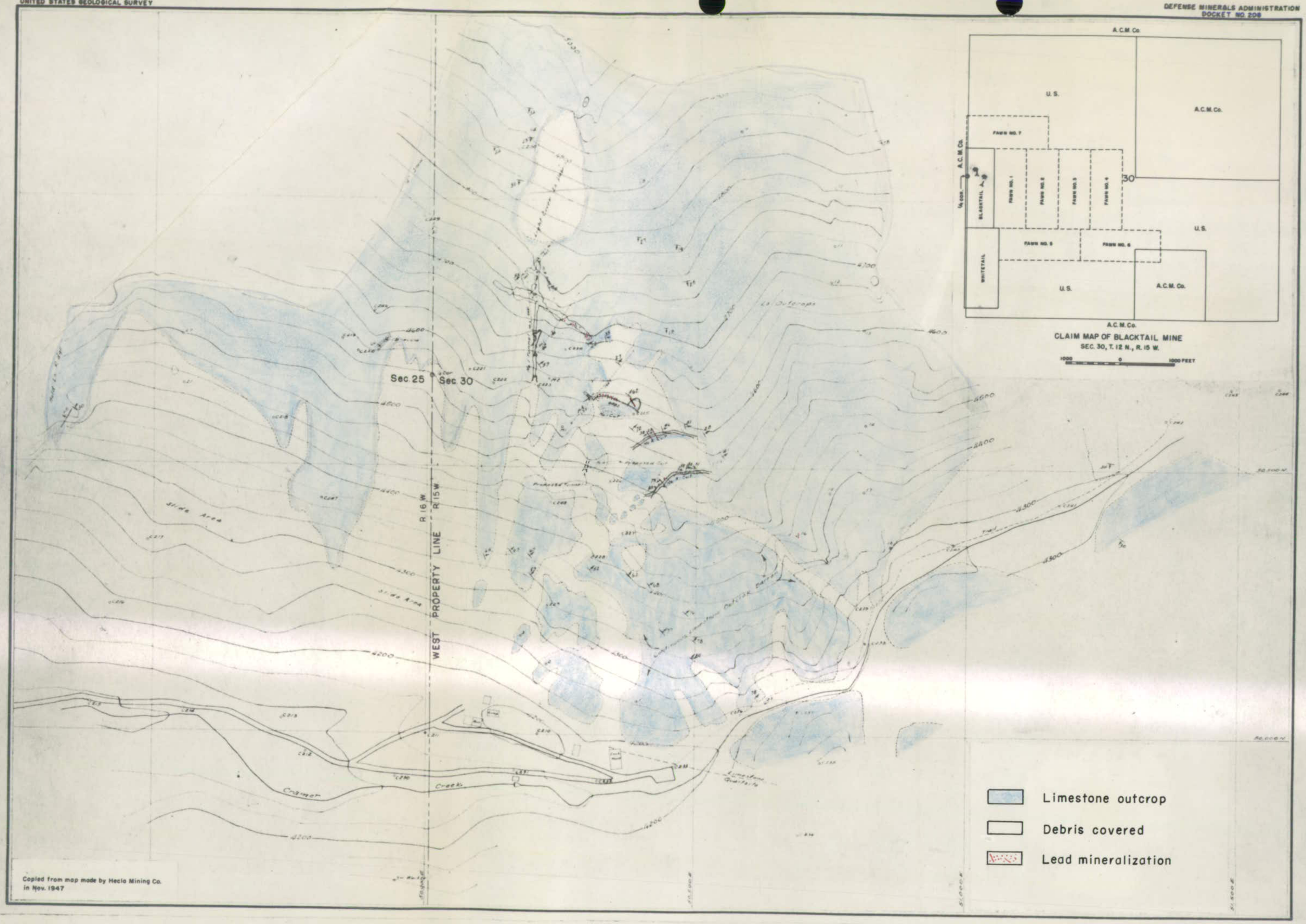
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.

_____
Notary Public for the State
of Washington, Residing at
_____, Washington.
My Commission expires
_____.

LARGE FORMAT DOCUMENTS AT END OF FILE

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

DEFENSE MINERALS ADMINISTRATION
DOCKET NO. 209



GEOLOGIC MAP OF BLACKTAIL MINE AND VICINITY, MISSOULA COUNTY, MONTANA

TRUE NORTH
MAGNETIC NORTH
19½°

100 0 100 200 300 400 500 FEET

Contour Interval 25 feet
Datum is mean sea level

NO APPLICATION

Form MF-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 13 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1953 Docket No. DMEA 208 X Contract No. 10th - E - 226
Operator's Name Linton Mines Minerals Lead
Address Missoula Hotel Missoula, Montana
Contract Amount, $ 52,540.00 Government Participation: 50 % Amount, $ 26,270.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing	-0-	589.95	589.95			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	840.00	3,426.63	4,266.63			
Supervision	125.00	1,130.00	1,255.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives	123.59	880.05	1,003.64			
Pipe						
Track						
Other	120.38	925.95	1,046.33			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	94.59	666.13	760.72			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	54.70	176.47	231.17			
Sampling and Analysis						
Payroll Taxes	37.80	143.17	180.97			
Liability Insurance	67.20	261.62	328.82			
(8) Contingencies (specify):						
Auditing	50.00	200.00	250.00			
TOTALS	1,513.26	8,399.97	9,913.23	1513.26	8399.97	9913.23

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 4-2-53 *Payee Linton Mines

Per Thos. J. Linton Title General Manager

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 756.63

Signature [illegible]
(Authorized Certifying Officer)

Date 4/8/53 Vou. No. 717
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 2 2 6 in accordance with the terms of the contract.

Signature /s/ Edward W. Buck Title Mining Engr. Date 4/8/53

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /s/ Thomas E. Howard Title Mining Engr. Date 4/8/53

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53

Defense Minerals Administration
RECEIVED
APR 13 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1953 Docket No. DMEA 208 X Contract No. Idn E-226

Operator's Name Linton Mines Minerals Lead

Address Missoula Hotel Missoula, Montana

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	None	None	3,968.34	170	23.34	450	25.00
Crosscutting	Feet	1,513.26	45	3,903.10	171	22.83	850	25.00
Raising	Feet	None	None	1,451.84	74	19.62	120	25.00
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching	Feet	None	None	589.95	400	14.75	400	14.75
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1,513.26	45	9,913.23				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1,513.26		9,913.23				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date April 2, 1953 Operator Linton Mines

Per Thos. J. Linton Title General Manager

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

LINTON MINES
MISSOULA, HOTEL
MISSOULA, MONTANA

March 31, 1953

United States
Department of the Interior
1201 North Division Street
Spokane 2, Washington

Re: Contract Idm--E 226
Docket No. DMEA 208X

Gentlemen:

We advanced only 45 feet during the month of March. This advance was in the North and South cross cuts of the "East Drift" at stations 125 and 120 respectively. These cross cuts are now 25 feet each.

We encountered much harder drilling than we were accustomed to in this formation as indicated by numbers of bits used. Also as efficent as the slusher has proved to be here, slushing around two right angles is not too satisfactory.

We are laying out a drilling program that will be submitted to the Field Team for their consideration.

Yours very truly,
Linton Mines

Thos. J. Linton

By: Thomas J. Linton
General Manager

LINTON MINES
MISSOULA, HOTEL
MISSOULA, MONTANA

March 31, 1953

Docket No. DMA 208 X

Contract No. Idn-E 226

United States Department of the Interior
Defense Minerals Administration
1201 North Division
Spokane 2, Washington

Labor 60 man days	@	14.00		$ 840.00
Supervision ½ mo.	@	250.00	per month	125.00
Explosives				
Powder 430 lbs.	@	22.10	per Cwt	95.03
Fuse--Safety 1890 ft.	@	.013		24.57
Caps Blasting 190	@	.021		3.99
Materials and Supplies				
Bits, Steel 118	@	.50		59.00
Gasoline 80 gal.	@	.216		17.28
Oil, Fuel 252	@	.175		44.10
Depreciation				
Compressor ½	@	166.67	per mo.	83.34
Stoper--H D				11.25
Repairs Compressor ½	@	109.40		54.70
F.I.C.A. Taxes				12.60
Federal Excise Taxes				2.52
State U.C.C. Taxes				22.68
Industrial Accident Insurance				67.20
				$ 1,463.26

Thos. J. Linton

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.

MAR 16 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1953 Docket No. DMEA 208 X Contract No. Idn - E- 226
Operator's Name Linton Mines Minerals Lead
Address Missoula Hotel, Missoula, Montana
Contract Amount, $ 52,540.00 Government Participation: 50% Amount, $ 26,270.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing	-0-	589.95	589.95			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	730.63	2,696.00	3,426.63			
Supervision	125.00	1,005.00	1,130.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives	209.72	670.33	880.05			
Pipe						
Track						
Other	229.75	696.20	925.95			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	177.92	488.21	666.13			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	37.25	139.22	176.47			
Sampling and Analysis						
Payroll Taxes	32.88	110.29	143.17			
Liability Insurance	58.45	203.17	261.62			
(8) Contingencies (specify): Auditing	50.00	150.00	200.00			
TOTALS	1,651.60	6,748.37	8,399.97	1657.60	6748.37	8399.97

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 3-3-53 *Payee Linton Mines

Per Thos. J. Linton Title General Manager

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 825-80

Signature [signature]
(Authorized Certifying Officer)

Date 3/10/53 Vou. No. 687
(See other side)

Audit Basis

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 226 in accordance with the terms of the contract.

Signature /S/ Edward W Buel Title Mining Engr Date 3/6/53

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Thomas E Howard Title Mining Eng. Date 3/6/53

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(*a*) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(*b*) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(*c*) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 16 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 1953 Docket No. DMEA 208X Contract No. Idm E-226
Operator's Name Linton Mines Minerals Lead
Address Missoula, Hotel, Missoula, Montana

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	825.80	38	3,968.34	170	23.34	450	25.00
Crosscutting	Feet	825.80	23	2,389.84	126	18.97	850	25.00
Raising	Feet	None	None	1,451.84	74	19.62	120	25.00
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching	Feet	None	None	589.95	400	14.75	400	14.75
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1,651.60	61	8,399.97				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1,651.60		8,399.97				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date March 3, 1953 Operator Linton Mines

Per Thos. J. Lyons Title General Manager

NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF-104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF-104A has been designed to tie in with Form MF-104 for both monthly and cumulative costs. The "Total Costs" on Form MF-104A for each month should equal the monthly "Total Costs" as reported on Form MF-104. This is also true of the "Total Costs To Date".

In preparing Form MF-104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

LINTON MINES
MISSOULA HOTEL
MISSOULA, MONTANA

March 3, 1953

United States Department of the Interior
Defense Minerals Administration

Re: Docket No. DMA 208 X
Contract Idm-E 226

Gentlemen:

During the month of February we advanced the "East Drift" thirty eight (38) feet making a total of one hundred forty eight (148) feet. This is two feet less than the total allowed under contract. We also drove a cross cut of twenty three (23) feet in length, five (5) degrees NE at Station 125 from same "East Drift". The back of this cross cut was cut on approximately thirty five (35) degrees. This was done to get a better perspective of the structure. Considerable galena was exposed.

The prospecting has not progressed far enough to give a clear picture of the ore potential of the East Area. However, since a fair showing of galena appears in the North cross cut and the total allowable cross cutting is one hundred (100) feet on both the East and West Drifts, I would suggest this North drift be continued until the ore structure is crossed or at least fifty(50) feet is consumed.

Yours very truly,
Linton Mines

Thomas J. Linton

By Thomas J. Linton
General Manager

Form [redacted]-164 (Rev. [redacted] 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53
Defense Minerals Administration

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of January, 1953 Docket No. DMEA 208 X Contract No. Idm-E 226

Operator's Name Linton Mines Minerals Lead

Address Missoula Hotel Missoula, Montana

Contract Amount, $ 52,540.00 Government Participation: 50% Amount, $ 26,270.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing	-0-	589.95	589.95			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	910.00	1,786.00	2,696.00			
Supervision	250.00	755.00	1,005.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives	222.97	447.36	670.33			
Pipe						
Track						
Others	240.60	455.60	696.20			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	177.92	310.29	488.21			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	81.65	57.57	139.22			
Sampling and Analysis						
Payroll Taxes	40.95	69.34	110.29			
Liability Insurance	72.80	130.37	203.17			
(8) Contingencies (specify):						
Auditing	50.00	100.00	150.00			
TOTALS	2,046.89	4,701.48	6,748.37	2046.89	4701.48	6748.37

I certify that the above bill is correct and just and that payment therefor has not been received.

Date Feb. 4, 1953 *Payee Linton Mines

Per Thos. J. Linton Title General Manager

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 1023 45

Signature [illegible] (Authorized Certifying Officer)

Date 2/10/53 Vou. No. 654

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E-226 in accordance with the terms of the contract.

Signature /s/ Edward W Buel Title Mining Engr. Date 2/7/53

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /s/ Thomas E Howard Title Mining Engr. Date 2/9/53

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
FEB 10 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 1953 Docket No. DMEA 208 X Contract No. Idm- E 226
Operator's Name Linton Mines Minerals Lead
Address Missoula Hotel Missoula, Montana

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	1,739.86	66	3,142.54	132	23.81	450	25.00
Crosscutting	Feet	None	None	1,564.04	103	15.18	850	25.00
Raising	Feet	307.03	12	1,451.84	74	19.62	120	25.00
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching	Feet	None	None	589.95	400	14.75	400	14.75
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		2,046.89	78	6,748.37				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		2,046.89		6,748.37				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date February 3, 1953 Operator Linton Mines

Per Thos. J. Linton Title General Manager

NOTE.—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.

REMARKS:

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

LINTON MINES
MISSOULA HOTEL
MISSOULA, MONTANA

February 4, 1953

United States Department of the Interior
Defense Minerals Administration

Re: Contract Idm-E 226
Docket No. DMEA 208X

Gentlemen:

During January 1953 we continued to drive eastward on "East Drift". We extended this sixty-eight (68) feet. There was a fracture dipping South at about thirty (30) degrees for a distance of about fifty-five (55) feet, then it began to change and it is now dipping South about seventy (70) degrees. The last round has some fair Galena showing.

We also completed the Hecla Cross cut Raise of twleve (12) feet to open pit above. The completion of this raise was necessary for better air.

We think that we should continue driving the "East Drift" the full one hundred fifty (150) feet allowed in the contract.

Our costs per foot had increased during the month of January because we added one more man to the payroll. We believe that our unit cost should drop some during the month of February.

Yours very truly
Linton Mines

Thos. J. Linton

By: Thomas J. Linton
General Manager

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
Budget Bureau No. 42-R1036.3.
Approval expires 6-30-53.
RECEIVED
JAN 20 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of ~~January~~ December, 1952 Docket No. DMEA 208X Contract No. Idm-B 226
Operator's Name Linton Mines Minerals
Address Missoula, Hotel Missoula, Montana
Contract Amount, $ 52,540.00 Government Participation: 50 % Amount, $ 26,270.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling						
Bulldozing Item #5	353.97	235.98	589.95			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	378.00 ✓	1,408.00	1,786.00			
Supervision	250.00 ✓	505.00	755.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives	111.65 ✓	335.71	447.36			
Pipe						
Track						
Others	143.72 ✓	311.88	455.60			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	114.42 ✓	195.87	310.29			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	20.45	37.12	57.57			
Sampling and Analysis						
Payroll Taxes	7.89	61.45	69.34			
Liability Insurance	30.24	100.13	130.37			
(8) Contingencies (specify): Auditing	50.00	50.00	100.00			
TOTALS	1,460.34	3,241.14	4,701.48	1460.34	3241.14	4701.48

I certify that the above bill is correct and just and that payment therefor has not been received.
Date January 6 *Payee Linton Mines
Per Thos. J. Linton Title General Manager

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 730.17

Signature (Authorized Certifying Officer)
Date 1/13/53 Vou. No. (See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E226 in accordance with the terms of the contract.

/s/ Signature Edward W Buel Title Mining Engr Date 1/12/53

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

/s/ Signature E. A. Magill Title Mining Engr Date 1/12/53

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of ~~January~~ December 195 2 Docket No. DMEA 208 X Contract No. Idm-E 226

Operator's Name Linton Mines Minerals

Address Missoula Hotel Missoula, Montana

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	1,106.37	44	1,402.68	66	21.25	450	25.00
Crosscutting	Feet	None	None	1,564.04	103	15.18	850	25.00
Raising	Feet	None	None	1,144.81	62	18.46	120	25.00
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching	Feet	353.97	240	589.95	400	14.75	400	14.75
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1,460.34	284	4,701.48				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1,460.34		4,701.48				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date January 6, 1953 Operator Linton Mines

Per Thos. J. Linton Title General Manager

REMARKS:

→ NOTE.—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.

(Instructions on reverse)

(For Government use only)

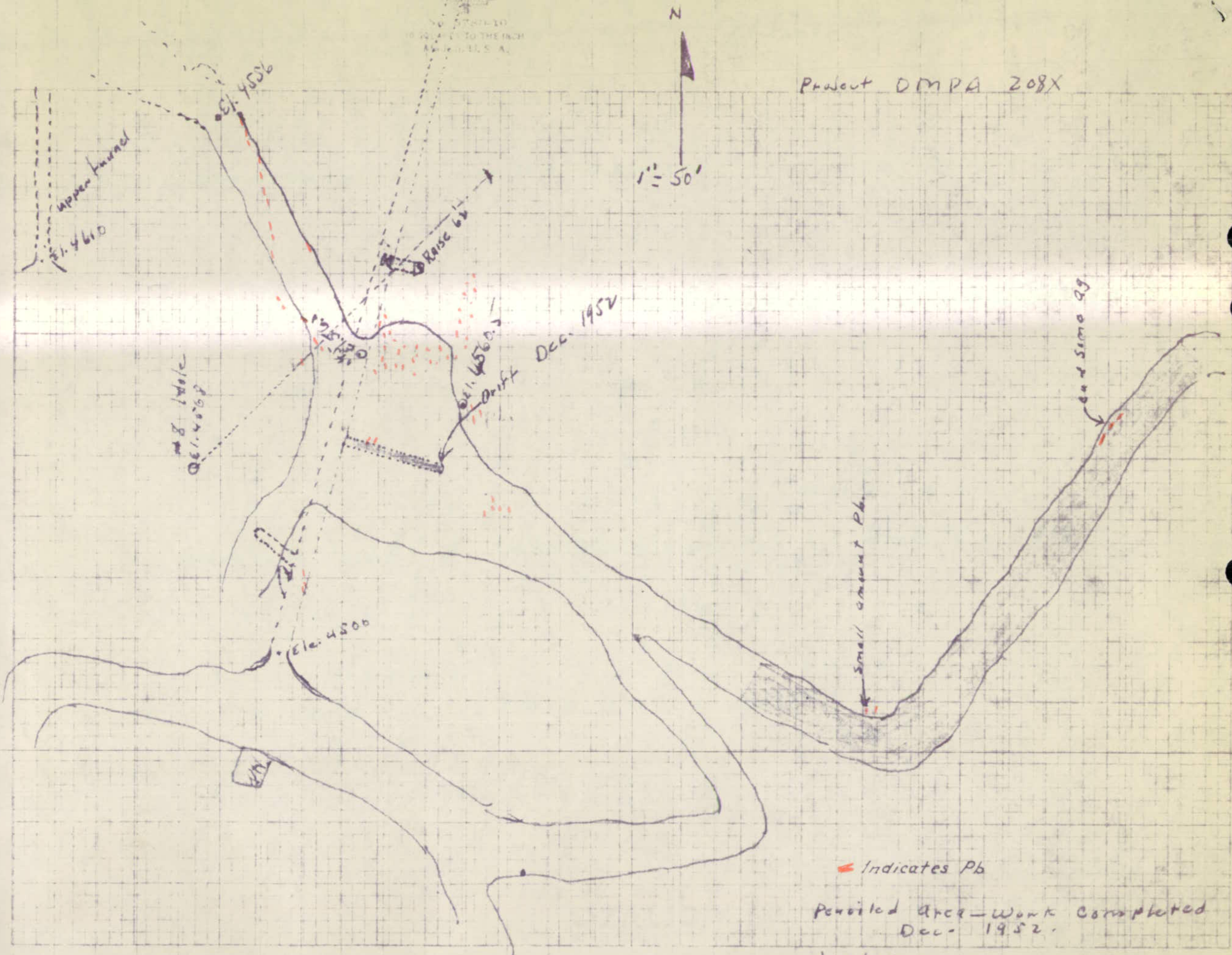
INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475



Penciled area — Work completed Dec. 1952.

Linton Mines
Jan. 5 - 1953

T.J.L.

C O P Y

NARRATIVE REPORT

For the Month of December - 1952

Jan. 5, 1953

United States Department of the Interior
Defense Minerals Administration

Re: contract Idm-E226
Docket No. DMEA 208X

Gentlemen:

During the month of December Item #5 was completed. Considerable faulting was exposed on the East End of Structure. Some ore was uncovered which is shown on progress map enclosed herewith.

The drift west was discontinued due to tightening of formation and until further consultation with DMPA officials.

In the meantime "East Drift" was started which progressed 44 Feet. Some Pb was encountered which also is indicated on the progress map.

The take off of "East Drift" was arrived at on the assumption that the excellent ore showing in the bottom of the pit above, dips to the South and East. It is suggested this drift be continued until the East faulty area is encountered or original distance in contract completed.

As soon as the East Drift has progressed far enough ahead so that there would be enough room for an additional crew to start longhole probing, I would suggest this be done. This ought to be considered for the West Drift as well.

Yours very truly,

Linton Mines.

/s/ Thomas J. Linton
General Manager

Form MF-104 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R036.3.
Approval Expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED 1953
JAN 2 1952

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November, 1952 Docket No. DMEA 208 Contract No. Idm-E226
Operator's Name Linton Mines Minerals Lead
Address Missoula Hotel, Missoula, Montana
Contract Amount, $ 52,540.00 Government Participation: 50 % Amount, $ 26,270.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						~~Corbett~~ ~~Hearing~~ Betty
Drilling						
Bulldozing Item #5	235.98	None	235.98			
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	476.00	932.00	1,408.00			
Supervision	125.00	380.00	505.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives	87.39	248.32	335.71			
Pipe						
Track						
Others	124.85	187.03	311.88			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	88.97	106.90	195.87			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	2.12	35.00	37.12			
Sampling and Analysis						
Payroll Taxes	8.82	52.63	61.45			
Liability Insurance	26.66	73.47	100.13			
(8) Contingencies (specify):						
Auditing	50.00	None	50.00			
Totals	1225.79	2,015.35	3,241.14	1225.79	2015.35	3241.14

I certify that the above bill is correct and just and that payment therefor has not been received.

Date 12/17/52 *Payee Linton Mines

Per Thos. J. Linton Title Gen. Mngr

*When a voucher is signed or receipted in the name of a company or corporation, the name of the person writing the company or corporate name, as well as the capacity in which he signs, must appear. For example: "John Doe Company, per John Smith, Secretary," or "Treasurer," as the case may be.

NOTE.—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.

(Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:

$ 612.89

Signature (Authorized Certifying Officer)

Date 12/22/52 Vou. No. (See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 226 in accordance with the terms of the contract.

/s/ Signature Edward W Buel Title Min Engr Date 12/22/52

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

/s/ Signature Thomas E Howard Title Min Engr Date 12/22/52

MONTHLY REPORT OF OPERATOR

The Operator (Contractor) of an exploration project is required to make a monthly report to the Government through the Regional Executive Officer. This report consists of three parts as follows:

(a) *Form MF-104—Operator's Monthly Report and Voucher.*—This form details expenditures and constitutes a voucher for reimbursing the Operator for the Government's share of costs;

(b) *Form MF-104A—Operator's Unit Cost and Progress Report.*—This is a statistical report of expenditures which shows costs for the various types of operation; and

(c) *Narrative.*—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered must be furnished as an attachment to this Report and Voucher. Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

The Monthly Report of Operator should be prepared in an original and four copies all of which must be sent to the Executive Officer of the Region not later than the 15th of the month following.

Preparation of Form MF-104—Operator's Monthly Report and Voucher.—All the applicable spaces in Form MF-104 should be filled in by the Operator, and the Operator or his agent should sign the certification in the lower left corner of the form.

The items of costs are arranged in the order they appear in Article 6 (a) of Form MF-200 (Revised February 1952), however, this form is readily adaptable for use in reporting activities under other contract forms.

Under Item (1) delete words "Short Form" if the contract is a sub-contract under Form MF-200; and delete word "Independent" if the contract reported is on Form MF-200 (A). Also, report work paid for on a unit basis under contract Form MF-200 as though it were performed under an independent contract.

Under Item (2) include labor, supervision and technical services incurred for the exploratory operations. Do not include labor, supervision and technical services used for work performed under items (5) and (6).

Under Item (3) include the costs of material and supplies used in the project other than that used under items (5) and (6).

Under Item (4) appear the three types of operating equipment expenditures, that is, rental, purchase and depreciation. The expenditures made for renting equipment belonging to a third party will be reported under "Rental". The amount paid or duly obligated for payment for the purchase of equipment will be reported under "Purchase". The amount of expenditures due the Operator to reimburse him for depreciation of equipment owned will be reported under "Depreciation".

Item (5) comprises costs of labor, supervision, technical services, materials, etc., which are used in the initial rehabilitation and repair of existing buildings, installations, fixtures, and equipment. These costs, therefore, should not be reported under items (2) and (3).

Item (6) includes the labor, supervision, technical services, materials, etc., used in the installation or construction of new buildings, fixed improvements, etc., necessary for the project. These costs, therefore, should not be reported under items (2) and (3).

Item (7) covers miscellaneous types of expenditure such as payroll taxes, liability insurance, workmen's compensation insurance, repairs to equipment and sampling and analysis. Only that part of payroll taxes, liability insurance and workmen's compensation which are paid by the operator should be reported under item (7). The share paid by the employee as a payroll deduction is to be included under item (2) as labor costs.

Item (8) includes any unforeseen costs not included in the other seven categories.

The original of Form MF-104 when submitted for reimbursable expenses incurred under contract Form MF-200 must be supported by original documentation or by certified copies of purchase orders, payrolls or transcripts of payrolls, unless such documentation has been waived by the Regional Executive Officer. This certification may be stated thus, "Certified True Copy (or Transcript)", followed by appropriate signature. If the Executive Officer of the Region determines that a contract under Form MF-200 should have an "on-site" audit, that is, a Government auditor should make an audit of the Operator's books and records of account, the Operator need not support his monthly voucher with original or certified documents except in cases of equipment purchases whose individual costs exceed $50.00. In these cases the original or a certified copy of the purchase order or invoice should be attached to the Monthly Voucher. N. B.—Only the *original* of Form MF-104 is required to be documented. The four copies of Form MF-104 are not to be thus supported.

Form MF-104 submitted for reimbursement under fixed price contracts on Form MF-200 (A), however, are not required to be supported by documentation of any kind. The Operator will submit his claim under item (1) of Form MF-104 by deleting as stated above the word "Independent" and by showing the number of feet or other units immediately after the appropriate descriptive word, such as, drilling, bulldozing, crosscutting, drifting, etc., and giving the "Monthly Total" amount due. "Totals Previously Reported", and "Totals to Date" columns should also be filled in.

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 2 1952

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 2 195

Docket No. DMEA Idm-E226

Contract No.

Operator's Name Linton Mines

Minerals Lead

Address Missoula Hotel, Missoula, Montana

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	296.31	22	296.31	22	13.47		
Crosscutting	Feet	None	None	1564.04	103	15.28		
Raising	Feet	693.50	34	1144.81	62	18.46		
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping	Feet	235.98	160	235.98	160	9.83		
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		1225.79	216	3241.14				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		1225.79		3241.14				

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Date 12/17/52 Operator Linton Mines

Per Thos. J. Linton Title General Manager

REMARKS:

NOTE.—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.

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

Preparation of Form MF–104A—Operator's Unit Cost and Progress Report.—Applicable places on Form 104A should be filled in by the Operator. The purpose of this form is twofold as follows: (1) to furnish the supervising engineers and other administrators with statistical information necessary to better determine the progress of the project; and (2) to furnish more permanent information on mining costs for future use. The more important phases of operation on which permanent information is desired have been outlined in the form. There are blank lines, however, for those unusual phases which may need to be reported for a particular project. It will be necessary for the Operator to distribute his costs among the applicable phases reported with the exception of three items the costs of which are not to be distributed by the Operator. These three items are: "Operating Equipment Purchased", "Initial Rehabilitation and Repairs", and "New Buildings, Improvements, etc." The reason for not distributing these items on a monthly basis is doubtless clear to the Operator, since such distribution might well overstate the cost for any one month or period short of the entire contract period.

Form MF–104A has been designed to tie in with Form MF–104 for both monthly and cumulative costs. The "Total Costs" on Form MF–104A for each month should equal the monthly "Total Costs" as reported on Form MF–104. This is also true of the "Total Costs To Date".

In preparing Form MF–104A, it will be necessary frequently to distribute certain costs over a number of items. For instance, supervisory and engineering costs may have to be distributed over several phases, such as, drifting, crosscutting, raising, etc., provided that these items were reported active for the month. Such distributions should be made on the basis of time spent on the various phases, on man days of labor charged to such phases, or on some other equitable basis. "Operating Equipment", "Initial Rehabilitation and Repairs", and "New Buildings Improvements, etc.", will be distributed to the several phases of the project by the Washington Office of DMEA at the close of the project if determined necessary. The last two columns headed "Authorized by Contract" will be filled in by the Operator if such information is found in the contract. This information is usually a part of Exhibit "A" of the contract. A space for remarks has been provided for the use of the Operator to call attention to any unusual circumstances causing excessive or disproportionate unit costs.

GPO 83-38475

December 17, 1952

NARRATIVE REPORT

MONTH of NOVEMBER, 1952

Linton suspended operations on Contract Idm-E226 on February 1, 1952, due to interference to mining program. Started again on November 15, 1952, and have continued since.

Advanced raise as reported in last report 34 feet, but did not break through to surface because of waste material in old open pit above. The joint which is exposed in pit was cut by last round but there was no visible ore at any place in raise, so evidently the raise was too far to the north.

We also completed 22 feet of drift to NW at Station 34' from portal of Hecla crosscut. No visible ore showing.

We completed 6 days of trenching on Item 5, which has a total of 15 days of bulldozing. There was some copper and silver ore exposed, but there will have to be considerable more work done before an analysis can be made of this findings.

We are continuing on the contract.

Thos. J. Linton
Thomas J. Linton

Still mineralization in open cut (Cu, Ag)
No ore in raise
Assays to follow

MF-104
(August 1951)

Budget Bureau No. 42-R1036.2.
Approval Expires 6-30-52.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Contract No.
Idm-E 226

Name of Operator Linton Mines
Docket No. DMA 208 X
Total Contract Amount $ 52,400.00
Government Participation: 50 % Amount, $ 26,270.00
Distribution of Expenditures for Month of December 1951 and January 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 25 1952

STRATEGIC AND CRITICAL MINERAL EXPLORATION PROGRAM
OPERATOR'S MONTHLY PROGRESS REPORT

Operators are to submit monthly reports to the designated field representative of the Defense Minerals Administration. Reports are to be submitted in quadruplicate prior to the 15th day of the month following the reporting period.

Narrative.—A concise narrative description of progress made, results accomplished, and any unusual difficulties encountered is to be furnished.

Maps.—Wherever possible, the narrative is to be illustrated with maps or sketches showing formations penetrated and location and assays of samples taken as well as advances in workings. In the case of diamond drilling or churn drilling, the location and inclination of holes is to be shown on a map; logs and assays also are to be submitted.

Cost Accounts.—All applicable parts of this form are to be filled in. This report will form the basis for payments of the Government's participating share of expenses. Audits of accounts may be made from time to time.

CERTIFICATION

The undersigned company, and the official executing this certification on its behalf, hereby certify that the information contained in this report is correct and complete to the best of their knowledge and belief.

Linton Mines
(Name of Company)

By Thos. J. Linton
(Signature of Authorized Official)

February 20 - 1952
(Date)

General Manager
(Title)

NOTE.—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.

16—64068-3

MONTHLY SUMMARY COST STATEMENT

List as Shown on Exhibits Attached to Contract

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only		
				Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
1. Fixtures and Improvements:						
(a) Facilities						
(b) Buildings						
(c) Fixtures						
2. Operating Equipment:						
(a) Purchased[1]						
(b) Rented[2]						
(c) Furnished by operator						
Air Compressor	88.90	None	88.90			
Stoper H.D.	18.00	None	18.00			
3. Rehabilitation and Repairs:						
(a) Facilities						
(b) Buildings						
(c) Installations						

Linton Mines Company
Missoula, Montana

February 20, 1952

Ref: D M A 209X
Contract # Idm-8226

United States
Department of the Interior
Defense Minerals Administration

Gentlemen:

Linton Mines Company started advancing the Hecla Crosscut (Stage 1-item #1 of Contract Idm-8226) on December 4 of 1951 and had advanced 32 feet when United States Government signed exploration contract on December 13, 1951. From December 13th to January 21, 1952 the Crosscut was advanced 103 feet which, with Linton Mines advance of 32 feet makes a total of 135 feet extention of the Hecla Crosscut. The total length of Hecla Crosscut is now 297 feet. This work was extended on same bearing as Hecla Crosscut.

The formation changed after 50 feet of advance from a dolomitic appearance to a lighter color and with considerable variations of hardness. There was no copper staining or galena at any point, in fact, the further the funnel was advanced, the less indication of mineralization.

We dicided to, on January 21st to start a raise at Station 166 feet for two reasons:

(1) To check dip of bedding planes if any.
(2) To see how far ore extended downward from pit above.

The raise was 28 feet by January 31, 1952.

Yours truly,

Linton Mines Company

Thos. J. Linton

T. J. Linton

Linton Mines Company
Missoula, Montana

February 1, 1952

United States
Department of the Interior
Defense Minerals Administration

Materials, Supplies, Labor and Services furnished on Contract #Idm-E226 by Linton Mines from December 13, 1951 to January 31, 1952 inclusive.

Powder	950 lbs.	@	21.75 cwt.	$ 206.63	Exb
Fuses - Safety	2,120 ft.	@	.0136	83.22	
Caps- Blasting	612	@	.021	12.86	
Bits - Timkin	135	@	.50	67.50	
Rods - Drill	1"-QOx66"	3 @	7.65	22.95	
Rods - Drill	1"-QOx48"	3 @	6.50	19.50	supplies
Rods - Drill	1"-QOx32"	3 @	5.35	16.05	
Oil-Fuel	275 gal	@	.175	48.13	
Oil-Motor	11 gal.	@	.90	9.90	
Wedges-Wood	5 bundles	@	.60	3.00	
Repairs I R Stoper				35.00	
Depreciation compressor				88.90	
Depreciation I R Stoper				18.00	
Accounting				80.60	
Labor				932.00	
Supervision				380.00	
Workmens Compensation				73.47	
Social Security				17.55	
U.C.C. Taxes				31.57	
Excise Taxes				3.51	
				$ 2,150.34	

Thos. J. Linton

MONTHLY SUMMARY COST STATEMENT—Continued

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(d) Fixtures						
4. Labor[3]	932.00	None	932.00			
5. Supervision	380.00	None	380.00			
6. Supplies						
(a) Timber						
(b) Explosives	302.71	None	302.71			
(c) Repair Parts	35.00	None	35.00			
(d) Other	187.03	None	187.03			
7. Power						
8. Transportation						
9. Insurance						
(a) Fire						
(b) Public Liability						
(c) Workmen's Compensation	73.47	None	73.47			
10. Contract Work						
11. Other (specify)						
Accounting	80.60	None	80.60			
Social Security	17.55	None	17.55			
U.C.C. Taxes	31.57	None	31.57			
Excise Taxes	3.51	None	3.51			
Total	2,150.34	None	2,150.34			
Deletions						
Adjusted totals	2,150.34	None	2,150.34			
Totals previously reported	None	None	None			
Totals to date	2,150.34	None	2,150.34			

[1] Enter amount paid during month toward total purchase price.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.
[3] Submit copy of the Social Security form filed under the Old Age Insurance system showing complete wage and salary data or furnish copy of payroll sheet giving same data.

NOTE.—Indicate that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by Horace T. Reno
Amount approved for payment
Remarks

16—64068-3

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF December 1951 ~~and January 1952~~

(Supply Data Below Applicable Only to Your Operations)

Item	Costs					Progress [4]				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract (Exhibit A)
Drifting	None	None	None	None	None	Feet	None	None	None	450
Crosscutting	989.41	80.69	441.94	155.94	1,667.98	Feet	103	None	103	850
Raising	322.59	26.21	82.80	50.76	482.36	Feet	28	None	28	120
Shafts										
Winzes										
Drill holes										
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching	None	None	None	None	None	Feet	None	None	None	400
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	1,312.00	106.90	524.74	206.70	2,150.34	Feet	131	None	131	1820

[1] Prorate supervisory, engineering, and office salaries in proportion to man-shifts of direct labor.
[2] Prorate charges for equipment that is not exclusively for one type of job (such as compressors) against authorized units of work in each category.
[3] Where entries in the "Other" column (above) are more than 25 percent of the total expenditures, a breakdown of this item should be made.
[4] Specify whether feet, cubic feet, acres, miles, etc.

16—64068-3 U. S. GOVERNMENT PRINTING OFFICE

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

PROJECT SUMMARY REPORT

By: W. R. Griswold March 15, 1956

1. Docket No. DMA-208 (Lead)
   Contract No. Idm-E226
   Property: Blacktail Mine
   Location: Missoula County, Montana

   Operator: Linton Mines (A partnership)
   Thomas J. Linton, General Manager
   Missoula Hotel
   Missoula, Montana

   Operator's Property Rights: Lessee - Landlord's Subordination Agreement dated August 21, 1951.

2. Contract dated December 13, 1951

Work Authorized

1,300 ft. crosscutting & drifting @$25.00/ft.		$32,500.00
15 days bulldozing		590.00
120 ft. raising @ $25.00/ft.		3,000.00
Equipment purchase:		
Mucking machine	$3,000.00	
Air trammer	1,800.00	
8 minecars	2,000.00	
Rock drill	900.00	
Air compressor	8,250.00	
Miscellaneous tools	500.00	16,450.00
Total cost of project		$52,540.00
Government's share @ 50%		$26,270.00

Amendments

No. 1 Dated December 13, 1951.

Adjusts wage rates. Project termination dated July 14, 1953.

Work Completed

170 ft. Drifting @ $23.343/ft.	$3,968.34
171 ft. Crosscutting @ $22.825/ft.	3,903.10
74 ft. Raising @ $19.619/ft.	1,451.84
400 ft. Trenching @ $1.475/ft.	589.95
Total cost of project	$9,913.23
Government's share @ 50%	$4,956.61

Work terminated in July 1953.

3. Audit Certificate dated February 25, 1954.

Final Field Team Report October 1955.

4. Certification of Discovery. None

5. Comments:

The project was undertaken to determine if the lead ore mined near the surface at the Blacktail mine persists at depth below the immediate mine area.

The project was unsuccessful in finding ore at depth below the mine area, and no Certification of Discovery or Development was issued.

Government participation in further exploration is not warranted at this time.

The Blacktail deposit outcrops on a steep hillside about 400 feet above the floor of Cramer Creek. It has been exploited for about 500 feet along its strike through two open pits and a large open stope (pl.1). The open stope, 270 feet long, 50 to 100 feet wide, and about 60 feet high, was enlarged from the original Upper Hecla adit working within the ore zone (pls. 1 and 2). The Lower Hecla adit is 50 to 150 feet below the main mine workings. Underground DMEA work was conducted from the Lower Hecla adit and, on completion of the DMEA program, crosscutting and drifting on this level totaled about 500 feet. No ore was found.

W. R. Griswold

WRG/er

Copy to: Docket
Base Metals
Chron.

☒ Audited

☐ Certified

WORK ANALYSIS SHEET - DMEA PROJECT

Analysis as of 12/9/54.
Incl. Voucher for Quarter 1953.

☒ Actual Cost

☐ Agreed Unit Costs

Name Linton Mines

Docket No. DMEA-208X

State Montana

Commodity Lead.

Idm-E No. 226

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting	1300'	$32,500.00	341'	$7,871.44	$7,871.44
Raising	120'	3,000.00	74'	1,451.84	1,451.84
Shafts					
Winzes					
Drilling (Specify)					
Surface Excavation Trenching		590.00		589.95	589.95
Underground Excavation					
Roads and Trails					
Operating Equipment Purchased		16,450.00			
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify)					
Totals		$52,540.00		$9,913.23	$9,913.23

Prepared by A. P. Klugescheid.

IN REPLY REFER TO:

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

RECEIVED
DEC - 5 1955

December 2, 1955

Re: DMEA 208X, Idm-E226
Linton Mines
Blacktail Mine
Missoula County, Montana
$52,540.00 - Lead

Memorandum

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

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

Subject: Review of Final Field Team report.

The contract was approved for the expenditure of $52,540.00. Work completed consisted of:--

Drifting	170 feet at	$23.343/ft.	$3,968.34
Crosscutting	171 feet at	22.825/ft.	3,903.10
Raising	74 feet at	19.619/ft.	1,451.84
Trenching	400 feet at	1.475/ft.	589.95
			$9,913.23

As no ore was found where expected, the contract was cancelled by mutual agreement.

No certificate of discovery was issued and further work is not recommended. I concur with the findings of the examiners.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

November 2, 1955

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMA-208X (Lead)
Linton Mines
Blacktail Mine
Missoula County, Montana
Contract No. Idm-E226

Dear Mr. Selfridge:

Enclosed are four copies of a Field Team final report on the Blacktail mine written by Margaret R. Lickes, Mining Engineer, Bureau of Mines, and James J. Quinlan, Geologist, Geological Survey.

Has this author been on the project by 72?

The authors state that the project was unsuccessful in finding ore at depth below the mine area and that no Certification of Discovery or Development was issued. They also state that Government participation in further exploration is not warranted at this time.

By Field Team, Region I, NW District

A. E. Weissenborn

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey

Wing G. Agnew

Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosures
cc: USBM(2)
USGS(SRO)
Quinlan

Reviewed by
DMEA OPERATING COMMITTEE
11/14/55
(date)

DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
NOV - 7 1955

FIELD TEAM, REGION I
Northwest District

FINAL REPORT

Contract Idm-E226

by

Margaret R. Lickes
Mining Engineer
U. S. Bureau of Mines

James J. Quinlan
Geologist
U. S. Geological Survey

LINTON MINES
Missoula Hotel
Missoula, Montana

Docket No.:	DMA 203X
Commodity:	Lead
Contract date:	December 13, 1951
Termination date:	July 14, 1953

BLACKTAIL MINE
Copper Cliff Mining District
Missoula County, Montana

Reviewed by
DMEA OPERATING COMMITTEE
11/14/55
(date)

Spokane, Washington

October 1955

FINAL
F.T. REP.

FINAL REPORT

LINTON MINES
Blacktail Mine
Copper Cliff Mining District
Missoula County, Montana

Contract Idm-E226

* * * * *

INTRODUCTION

This report describes an exploration project for lead at the Blacktail mine, Missoula County, Montana. The project was conducted by Linton Mines, a special partnership, under Defense Minerals Exploration Administration Project Contract No. Idm-E226.

Summary

The project was undertaken to determine if the lead ore mined near the surface at the Blacktail mine persists at depth below the immediate mine area.

A total of 170 feet of drifting, 171 feet of crosscutting, 74 feet of raising, and 400 linear feet of surface trenching was completed under the contract. This work failed to find ore at depth below the mine workings. Information gained from the project, coupled with information obtained from stoping operations during the project, showed the ore body to be pipelike in character. The ore body trends about N. 50° W. and plunges 8°-15° SE.

Further exploration was not considered warranted under the Defense Minerals Exploration Administration program, and the contract was terminated by mutual agreement after commencement but before completion of the work outlined in the contract.

Recommendations

The project was unsuccessful in finding ore at depth below the mine area, and no Certification of Discovery or Development was issued.

Government participation in further exploration is not warranted at this time.

LOCATION AND ACCESSIBILITY

The Blacktail mine is in sec. 30, T. 12 N., R. 15 W., M.P.M., Copper Cliff Mining District, Missoula County, Montana. It is on Cramer Creek within the northwestern part of the Garnet Range, about 30 miles west of Missoula, Montana, a city of 20,000 population.

The property is reached from Missoula by following U. S. Highway 10, 26.5 miles east to the dirt road leading up Cramer Creek, thence 4 miles north over the Cramer Creek road from the highway to the property.

The property is in a narrow valley with precipitous sides. The valley is drained (or traversed) by a perennial creek. The region is covered with a sparse growth of timber, most of which is coniferous.

The climate of the region is one of moderately severe winters; the summer days are hot and dry, but the nights are cool. Most of the precipitation falls in the winter.

THE PROPERTY

The property is composed of nine unpatented claims: Fawn Nos. 1 to 7, Whitetail, and Blacktail (pl. 1). These claims are recorded in Volume "Q" of Miscellaneous Records, pages 374, 385, 381, 379, 375, and 377, and in Volume 7 of Quartz Location Records, pages 303 and 304, respectively, in the office of the County Clerk and Recorder of Missoula County, Montana.

The claims are owned by Linton Mines, a special partnership under the laws of the State of Montana. Members of the partnership are Thomas J. Linton, Alton L. Collins, Howard Raser, O. H. Halstead, F. J. Cardinal, Frank Dallam, W. M. Henry, and F. J. Brown. Thomas J. Linton, 1902 S. Keller, Spokane, Washington, is general manager for the partnership.

The Blacktail claims were located in 1946 by Roy B. Hughes and Lawrance Staubert, both of Clinton, Montana. Little is known about the history of the deposit prior to the time these claims were located, but several old pits and a short caved adit, a few hundred feet northwest of the main Blacktail workings, attest to early work in the area. These early workings are not, however, on the Blacktail claims but on land owned by the Anaconda Company.

In 1947 the Hecla Mining Company of Wallace, Idaho, obtained a lease and option on the property. They explored the property by several deep dozer trenches; eight diamond drill holes, totaling 1,250 feet; and two adits, consisting of about 500 feet of drifts and crosscuts. Upon completion of this program the Hecla Mining Company relinquished its lease on the property.

Linton Mines obtained a lease and option on the property in January 1949 and are the present owners and Operators under the DMEA contract. The property was obtained from Mrs. Roy B. Hughes, the widow of one of the locators, and from the Westmont Tractor and Equipment Company. The lease and option agreement provided for a purchase price of $50,000.00 to be paid as royalty from production. At the time the DMEA contract was negotiated, Linton Mines had paid about half the purchase price and by the time the contract work was finished they had completed payment.

The Blacktail deposit outcrops on a steep hillside about 400 feet above the floor of Cramer Creek. It has been exploited for about 500 feet along its strike through two open pits and a large open stope (pl. 1). The open stope, 270 feet long, 50 to 100 feet wide, and about 60 feet high, was enlarged from the original Upper Hecla adit working within the ore zone (pls. 1 and 2). The Lower Hecla adit is 50 to 150 feet below the main mine workings. Underground DMEA work was conducted from the Lower Hecla adit and, on completion of the DMEA program, crosscutting and drifting on this level totaled about 500 feet.

The deposit was first exploited by open-pit methods; a bulldozer and scraper were used to move the broken rock. Dangerously high pit walls, however, soon forced the Operator to mine parts of the deposit by underground methods. Both the bulldozer and scraper were used in the large open stope; in the open pits only the bulldozer was used. Ore was moved from the mine to the mill near the bottom of Cramer Creek by using a small gully immediately west of the Lower Hecla adit for an ore pass. Ore was bulldozed from the workings to the ore pass. Although a large percentage of ore would roll down the steep gully to the storage area at the mill, a scraper was used to aid in keeping the ore pass open.

Except for winter shutdowns, Linton Mines operated the property until the summer of 1953, when the price of lead decreased and the operation became unprofitable.

Some time after Linton Mines obtained the property in 1949, a heavy media mill was installed. The mill consisted of a 10- by 20-inch jaw crusher set to crush to minus 2-inch, a screen to make a separation at 6-mesh, and a 12-inch Denver Duplex jig, in addition to the Wemco heavy media separation concentrator. The latter had 15 to 25 tons per hour capacity and used ferro-silicon as the media. About 20 percent of the total tonnage was minus 6-mesh that went directly to the jig; the plus 6-mesh material went to the sink-float section of the mill. The Operator reported over-all recovery to be more than 90 percent of the contained lead, and

concentrates averaged as high as 68 percent lead. These concentrates commanded a premium for their purity at the American Smelting and Refining Company smelter at East Helena, Montana. The heavy media plant was removed from the property in the fall of 1953.

During the 4-1/2-year period the property was operated by Linton Mines, 3,243,713 pounds of lead were marketed. Adequate records were never kept by the Operator on the grade and tonnage of ore mined; the Operator estimated, however, that the grade of ore averaged somewhere between 2 and 3 percent lead. Smelter return records indicate that the ore carries 1 ounce of silver for each 600 pounds of lead and about 1 pound of zinc for each 65 pounds of lead.

The limestone walls and back of the stope stand well unsupported when reasonable care is taken that openings are not too wide. The northwestern part of the large open stope was ordered closed by the Montana State Mine Inspector when it had been widened and deepened to a point where it became unsafe.

Adequate natural ventilation is provided by openings connecting with the surface.

The mine workings make no water.

GEOLOGY

The Blacktail deposit is within the area described by J. T. Pardee in U. S. Geol. Survey Bulletin 660F, 1918, "Ore Deposits of the Northwestern Part of the Garnet Range, Montana." Although the Blacktail deposit is not described in Bulletin 660F, the bulletin does provide information on the general geology of the area and its ore deposits.

The northwestern part of the Garnet Range is described by Pardee as being a part of the borderland between the province of Precambrian Belt rocks in northwestern Montana and a province of Paleozoic and later sediments found along the main axis of the Rocky Mountains. The Belt rocks occupy about two-thirds of the area and are mostly shales and quartzites. A large part of the remaining area is occupied by Paleozoic limestones. In several localities plutons, chiefly granodiorite, intrude the sediments. The largest of these plutons occupies an area of about 12 square miles near the old mining camp of Garnet.

The lode deposits in the northwestern part of the Garnet Range have been valuable for their gold, copper, silver and lead. Pardee describes several types of lode deposits: contact metamorphic

deposits in limestones, simple and multiple quartz veins, filled fissures, and replacement deposits in limestone not directly related to igneous contacts.

The Blacktail deposit is a small disseminated limestone replacement deposit that is not directly related to an igneous contact. The limestones in the vicinity of the deposit are dolomitic, massive, and bluish gray in color and are probably a part of either the Jefferson (Devonian) or Madison (Mississippian) formations. Locally the formation contains some thin shale lenses and siliceous beds.

The Blacktail deposits appear to be confined to a massive dolomitic limestone bed about 50 feet thick in or near the trough of an asymmetrical syncline. Although it is difficult to recognize bedding in the immediate mine area, the beds north of the mine area strike east and dip 16°-34° S., whereas the beds south of the mine area strike northwest and dip 52°-90° NE.

The core of the deposit is an irregular pipelike body that apparently follows the zone of shattering and fracturing in the trough of the syncline. The core of the deposit trends N. 45° W. and plunges 8°-15° SE. It has been mined for about 500 feet along the plunge and, where mined, it ranges in width from 20 to 40 feet and is about 50 feet thick. In places ore appears to follow a short distance up the limbs of the fold, thus also forming a marginal ore zone (see pl. 1 and in particular section A-A').

The ore occurs in stringers and as discrete irregular lenses ranging in size from a fraction of an inch to several feet in diameter. Most of the ore lenses are elongated parallel to the general trend of the deposit. The ore stringers appear to follow two prominent sets of fractures. One set strikes N. 55° W. and dips 30°-55° SW; this set is believed to represent tension fractures in the trough of the syncline. The other set strikes N. 45°-55° W. and dips 60°-90° NE; this set is best developed in the upper pit area, and the marginal zone probably represents bedding on the steep southwest limb of the syncline.

The principal primary ore mineral is galena that has a steely schistose appearance. Small grains of tetrahedrite have also been identified, and some sphalerite is probably present as the concentrates contain 1 to 2 percent zinc. Although oxidation is shallow and relatively unimportant, the following secondary minerals have been identified: malachite, azurite, pyromorphite, and cerussite.

The grade of ore within the zone is extremely variable. In some places the zone is barren; in the barren areas the rocks are less shattered and usually composed of light-gray silicified limestone. The Operator reports that the richer portions of the ore zone are in the vicinity of small transverse faults and fractures (pl. 1). The Operator estimates that in those areas the ore averages perhaps 5 to 6 percent lead whereas he estimates the average grade of the entire deposit at 2 to 3 percent lead.

THE PROJECT

Prior to the contract, Linton Mines carried on a profitable operation for 2-1/2 years by the simple expedient of mining ore as it was found, with little or no exploration or development work. At the time the project was approved, ore was known to occur in a northwest-striking shattered and sheared zone. It was believed that the ore zone, 25 to 75 feet wide, followed the axis of a tight anticlinal fold; it was postulated that the ore zone dipped 60° NE.

A two-stage exploration was planned to test the ore zone at depth and for its extension southeast of the main workings. Stage I of the program included:

(1) Extension of the Lower Hecla adit approximately 150 feet to intersect the ore zone 110 feet below the Upper Hecla adit level.

(2) Drifting within the ore zone 300 feet northwest and 150 feet southeast of the Lower Hecla adit crosscut.

(3) Crosscutting from the drift along the ore zone to test the zone's width; total amount of crosscutting not to exceed 100 feet.

(4) Raising 120 feet from the Lower Hecla adit level to the workings above.

(5) Bulldozing to test for extension of the ore zone southeast of the mine workings; maximum of 400 feet of trenches to be allowed.

Stage II was to be done only in the event that Stage I proved successful in finding ore below the Upper Hecla adit level. If Stage I were successful, then it was proposed to explore 200 feet deeper than the Lower Hecla adit by another crosscut so portaled

that it would be possible to dump ore from it directly into the natural ore chute to the mill. If this lower crosscut encountered ore, the Operator proposed to do further exploration and development at his own expense.

Only one amendment was made to the contract. This amendment, dated March 11, 1953 (effective December 13, 1951), permitted the Operator to pay laborers the prevailing wage rate in the district instead of $14.00 per day provided in the original contract.

The contract was signed December 13, 1951. The Operator, however, started work on the program 9 days before that date and had completed 32 feet of crosscutting in the adit before the contract was signed. On the date of the contract the face of the adit crosscut was 194 feet north of the portal. Under the contract the crosscut was advanced 103 feet, making the total length 297 feet. This phase of the work proved disappointing because no downward extension of the ore zone was encountered.

A raise was started January 21, 1952 at a point 168 feet from the adit portal to the Lower pit area in which good ore was exposed. It was hoped that this raise would provide valuable geologic information regarding the downward extension of the ore zone or its lower limit. The raise had been advanced 50 feet when the project was recessed in February 1952. When work was resumed in November 1952, the raise was extended an additional 24 feet to the Lower pit, perhaps more for ventilation than for geologic purposes. The raising also proved disappointing in that no ore was encountered; however, fractures similar to those found in the ore zone were found in the raise from a point 40 feet above the Lower Hecla adit level to the Lower pit.

The project was re-evaluated in February 1952 after the Lower Hecla adit crosscut and first 50 feet of raise failed to find ore or bear out the hypothesis on which the original program was planned. Careful study showed that the anticline postulated as controlling the ore did not exist. Instead the deposit appeared to be controlled by jointing in massive dolomitic limestone beds. Primary control appeared to be exercised by a joint system striking N. 55° W. and dipping 30°-50° SW., and secondary control by a joint system striking N. 45°-55° W. and dipping 60°-90° NE. It was noted that the ore appeared to follow up along the secondary set from the intersection with the primary set. The study also indicated that the joint systems were best developed in the block of ground northwest of a cross fault near the portal of the large open stope. This fault strikes N. 25° E. and dips 60°-80° NW. as shown on plate 1.

The exploration was revised taking this concept of controlling features into account. The revised program called for: (1) drifting 180 feet northwest along the indicated ore zone to cut the downward projection of the fault exposed near the stope portal, the drift to be started at a point about 40 feet from the Lower Hecla adit portal; and (2) crosscutting 100 feet north from the end of this drift for the downward extension of the ore zone in the block of ground northwest of the fault. Work outlined in the revised program was within the scope of work outlined in the original contract, and no contract amendment was required to undertake it.

Because the Operator found it necessary to employ available miners on production during the summer months, work on the revised project was not started until November 1952. After completing 22 feet of drift to the northwest under the revised program the Operator discontinued work on it. The reason for this was that the structure being drifted on showed no ore and appeared to tighten as it was followed to the northwest. In the meantime the Operator on his own initiative started a drift east from the Lower Hecla adit crosscut 95 feet in from the portal. The Operator by this work hoped to find the downward extension of a high-grade ore lens that had recently been uncovered in the Lower pit area. He believed that the lens dipped to the "south and east." By the time the east drift work was inspected by a member of the DMEA staff, 75 feet of drift had been completed. Although this work failed to locate the high-grade ore lens, it did disclose small but interesting amounts of galena, malachite, and azurite. These minerals appeared to be controlled by an east-striking, flat (16°-35°), south-dipping fracture. It was believed that this work was within the ore zone and that further work was warranted in this area before continuing with drifting northwest of the adit crosscut. The contract provided for work within the ore zone southeast of the Hecla adit crosscut, so this work was considered to be within the scope of the contract. The Operator continued the drift to a point 148 feet east of the Hecla adit crosscut. No ore was found, but the drift continued to show some galena, malachite, and azurite. A 25-feet crosscut was driven into the south wall of the drift 115 feet east of the Hecla adit crosscut. This work exposed no ore. A dogholo-type combination raise and crosscut was driven into the north wall of the drift 125 feet east of the Hecla adit crosscut. The raise portion of this working was driven approximately 25 feet up the flat fracture that appeared to control the ore. This work showed that the galena pods continued up along the fracture and became more numerous near the top of the raise. The crosscut portion of this working was driven 25 feet into the footwall of the drift. No additional pods of galena were exposed by this work.

In addition to the contract work on the Hecla adit level, the Operator drove a raise from the adit crosscut to intersect the high-grade ore lens in the bottom of the Lower pit. This raise was driven at the sole expense of the Operator, although he did request that the DMEA share in its expense. The raise was started 113 feet from the adit portal and encountered pods of galena about 25 feet above the level.

The trenching program, undertaken in December 1952, consisted of deepening an old road cut located 230 feet southeast of the Lower pit area. Because of the rugged nature of the terrain immediately southeast of the Lower pit area, this was the only feasible place to dose for the possible southeastward extension of the ore zone. Approximately 450 feet of trench was deepened (contract provided for 400 feet); this involved the removal of about 3,500 cubic yards of material. Small amounts of galena, tetrahedrite, malachite, and azurite were noted in the trench near the axis of the syncline.

In May 1953, on completion of the work previously described, the project was again reviewed. Mining of the deposit and project work completed since the project was reviewed in February 1952 indicated that the deposit was a pipelike body confined to a massive dolomitic limestone bed in or near the trough of an asymmetrical syncline. Details of this interpretation are presented in the "Geology" section of this report.

It was clear that the whole project would have to be revised if exploration were to continue. Consideration could not be given to testing of the deposit northwest of the main workings because of the close proximity of the property sidelines; however, consideration was given to a small program to test the apparent pipelike body by underground openings in the area southeast of the Lower pit. The target southeast of the main workings was limited by the fact that the pipelike body would be eroded several hundred feet southeast of the Lower pit. Because of the limited target involved and because the work under the project had accomplished the main objective, i.e., the testing of the deposit at depth, it was decided to terminate the contract. This was done by mutual agreement, effective July 14, 1953.

The Operator suspended all operations at the property soon after the DMEA contract was terminated.

Summary of Factual Data

Work completed:

Item	Units	Unit Cost	Total Cost
Drifting	170 feet	$23.343/ft.	$3,968.34
Crosscutting	171 "	22.825/ft.	3,903.10
Raising	74 "	19.619/ft.	1,451.84
Trenching	400 "	1.475/ft.	589.95
Total			$9,913.23

Total cost allowed	$ 9,913.23
Government participation--50 percent	$ 4,956.61
Total contract amount	$52,540.00
Government's share of total contract amount	$26,270.00
Total amount unexpended	$42,626.77
Government's share of unexpended funds	$21,313.39

There was no production from the mine during the project except on levels other than those being explored under the contract from which no royalty was due.

No equipment was purchased under the contract.

Discussion of Conclusions

Continuous performance of project work was hindered by lack of labor; during the summer of 1952 no work was done under the contract because all available labor was employed by the company to carry on mining operations.

Contract work was done in a workmanlike manner. Costs for driving all openings were less than those authorized. The low costs can be attributed to the use of a hi-speed slusher for mucking.

No administrative or financial difficulties were encountered with the Operator.

Additional prospecting in the area might find other similar small replacement deposits. The writers would suggest prospecting along the strike of the asymmetrical syncline that appears to control the Linten deposit. It would also be well to look at several of the small limestone replacement deposits described by J. T. Pardee in U. S. Geol. Survey Bulletin 660F.

Enclosures

Distribution:
- DMEA (4)
- USBM (5)
- USGS (SRO)
- Docket
- Quinlan

500

File Copy
Sorname

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

February 9, 1955

Memorandum

To: Chief, Contract Administration and Audit Division

From: Chief, Base Metals Division

Subject: Contracts for which no closing letters will be prepared

We have been advised not to prepare closing letters for the following contracts as too long a period has passed since the completion or termination of these contracts.

Docket No.	Contract No.	Operator
1522	[illegible]-113	Ambassador Mines Corporation
1836	[illegible]140	Sun Valley Lead-Silver Mines, Inc.
2037	[illegible]159	Wonder Nugget
1630	[illegible]	American [illegible], Lead [illegible] Smelting Co.
[illegible]	[illegible]	Linton Mines
[illegible]	[illegible]72	[illegible]
[illegible]	[illegible]	Durable Mines, Inc.
[illegible]	[illegible]	[illegible] Carlson
2475	[illegible]	[illegible] Mines, Inc.

W. R. Griswold

WRGriswold/bjl

W. R. Griswold

Copy to: Docket (9)
Base Metals (9)
Chron.

FILE COPY
SURNAME:

Chambers

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

MAR 1 0 1954

Mr. Robert M. Hull
DMEA Auditor
1201 North Division Street
Spokane 2, Washington

Re: Docket No. DMEA-208 (Lead)
Linton Mines
Missoula County, Missoula, Mont.
Contract No. Idm-E226

Dear Mr. Hull:

Reference is made to your letter of March 3, 1954 transmitting three copies of Audit Certificate and two copies of Audit Report pertaining to the above-cited contract.

The Report and Certificate have been reviewed and accepted and normal distribution may be effected.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Chief
Contract Administration
and Audit Division

WBorovies/wb
March 9, 1954

Copy to: Docket
Admr. Reading File
Mr. Chambers

R.C.G.
3-10-54

XXXXXXXXXXXXXXXXX
So. 157 Howard Street
Spokane 4, Washington

March 1, 1954

Mr. R. J. Hindman, DMEA Certifying Officer
DMEA Field Team, Region II
1201 North Division
Spokane, Washington

Re: Docket No. DMEA-208 (lead)
Linton Mines
Thomas J. Linton
Missoula County, Missoula, Mont.
Contract No. Idm-E226

Dear Mr. Hindman:

The subject contract was terminated by mutual agreement on July 14, 1953. A final report on project work has not been received. However, as we already have available an adequate amount of technical information concerning the results of the exploration from field engineers, this final technical report from the Operator is hereby waived. There was no equipment purchased for this project.

Inasmuch as there was no equipment purchased and no supplies remain in which the Government has an equity, and inasmuch as all final reports from the Operator are hereby waived, it is recommended that final audit and settlement of the Operator's account be effected.

Sincerely yours,

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cc: DMEA (2)
USBM (2)
R. M. Hull
Con. Adm. & Aud. Div., Wash. D. C.

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

DEPARTMENT OF THE INTERIOR
Minerals Administration
RECEIVED
NOV 10 1953

1201 N. Division St.
Spokane 2, Washington
November 4, 1953

Memorandum

To: DMEA Auditors, Region II

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

Subject: Docket No. DMEA 208 (lead), Contract No. Idm-E226, Linton Mines, Missoula County, Montana - Final audit

Your final audit in connection with the subject contract reveals that the Operator claimed a charge for bulldozer trenching in the amount of $589.95 that is not adequately supported.

The contract calls for bulldozing 400 feet of trench at an estimated cost of $30 per day, including wages of the operator, fuel and oil. An item of $183.33 was set up to cover the monthly depreciation of the bulldozer. The Operator apparently used this estimated cost plus a proration of the monthly allowance for depreciation in the amount of $9.33 per day in arriving at the daily charge of $39.33 that he claimed and was paid. He included this charge under the item of costs (1) Independent Contracts, whereas actually the bulldozer work was done by the Operator for the DMEA account rather than by independent contract.

Rather than request the Operator to resubmit his monthly reports and vouchers to show the actual costs of bulldozing with adequate supporting data properly distributed to items of labor, operating materials and supplies, and operating equipment, it is justifiable in this case to accept the claims of the Operator because it is very evident that the actual cost of the work exceeded the claims as actually paid.

M. E. Volin

cc: DMEA, Wash. (2)
Contr. Admin. & Audit Div.
Certifying Officer
USGS (2)

FILE COPY
SURNAME:

500

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

N.S. in R.R.

September 28, 1953

Memroandum

To: G. C. Selfridge

From: Chief, Base Metals Division

Subject: Linton Mines, Docket No. DMEL-208, Contract No. Idm-F226, Missoula County, Montana

Just as a matter of casual interest I wish to draw your attention to the Field Team final inspection report by John D. Bardill, dated August 21, 1953. The description of simplified milling is interesting. Probably the reported recovery of 96% is acutally about 85%, but even so, it is a good deal. It is rare to get a lead ore so zinc free and with the galena so concentrated in blebs in the ore that this can be done.

W. R. Griswold

W. R. Griswold

WRGriswold/bjl

9/28/53

Copy to: Docket
Base Metals
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
So. 157 Howard Street
Spokane 4, Washington

September 10, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 208X (lead)
Linton Mines Co., Blacktail Mine
Missoula County, Montana
Contract Idm-E226 (terminated)

Dear Sir:

Enclosed for your files are the Government, Docket and Division copies of "Termination of exploration project contract by agreement after commencement but before completion of the work," concerning the subject contract.

By copy of this letter, the Finance Officer's copy is being distributed.

Very truly yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)
Certifying Officer
Quinlan

9-14

RECEIVED
SEP 17 1953
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

FILE COPY
SURNAME: 500

Martin

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

AUG 24 1953

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region II
So. 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-208 (Lead)
Linton Mines
Blacktail Mine
Missoula County, Montana
Contract No. Idm-8226

Dear Mr. Weissenborn:

In response to the request contained in your letter dated August 12, 1953, we are enclosing a group of maps which are believed to be those submitted by the Operator with his application.

Sincerely yours,

W. S. Martin
ACTING Chairman, Operating Committee

Enclosures

APPROVED:

C. H. Johnson
Member, Bureau of Mines

D. M. Larrabee
Member, Geological Survey

Copy to: Docket
Admr. R. File
Operating Committee
Base Metals
Mr. Bishop
Mr. Kinkel
Chron.

HHK 8-24-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 North Division St.
Spokane 2, Washington
August 21, 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: John D. Bardill, Metallurgist, Bureau of Mines

Subject: Final inspection, Linton Mines (Blacktail Mine) Missoula County, Montana. Docket No. DMEA-208 (Lead) Contract Idm-E226.

Termination of the captioned contract was discussed at the subject property with Mr. T. J. Linton, general manager, August 5, 1953. It was pointed out that the work completed under the contract adequately tested the objectives with negative results, and that no other exploration objectives appear to merit further consideration. Mr. Linton agreed to sign the agreement and submit the final geologic and engineering report and render a full accounting of expenditures on the project when his claim map and topographic map in Mr. Quinlan's possession are returned to him.

Operator advised that no equipment was purchased under the contract and that the supplies were depleted at the end of the project.

The work units approved by Mr. Buel in the March 1953 voucher are correct and final according to operator subject to the DMEA contract. Work units accomplished were 167 feet of drifting, 156 ft. of crosscutting and 97 feet of raises.

Operator is currently mining an average of about 100 tons per day of 3 percent lead ore in the open pit. The ore is bulldozed over the edge of the pit and drops into a pit at the mill site and then is slushed into the Wemco 25-40 ton per hour sink-float plant. The ferrosilican heavy media is maintained at a specific gravity of about 3.15. The ore is crushed to 2-inch and screened. The minus 6-mesh is jigged and the plus 6-mesh fed to the cone. This operation is unusual because without further treatment a 60-74 percent lead concentrate is produced with a reported overall recovery of about 96 percent. The occurrence of the lead in pods of almost pure galena makes this possible.

John D. Bardill

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

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

August 12, 1953

Mr. Thomas J. Linton
Missoula Hotel
Missoula, Montana

Re: Docket No. DMEA-208 (lead)
Linton Mines (Blacktail mine)
Missoula County, Montana
Contract No. Idm-E226

Dear Mr. Linton:

During the course of a recent conversation with Mr. John D. Bardill, U. S. Bureau of Mines, you informed him that before you would sign the agreement mutually terminating the subject contract, it would be necessary for the Government to return copies of maps submitted with the original application.

Our files do not contain a copy of the original application nor maps submitted with it. We are writing Washington today to have them check their files and return the maps to us for forwarding to you at the earliest possible time.

Sincerely yours,

James J. Quinlan
For: Thor H. Kiilsgaard
Acting Executive Officer
DMEA Field Team, Region II

cc: USBM (2)
DMEA (2)
Quinlan

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
AUG 17 1953

August 12, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-208 (lead)
Linton Mines
Blacktail Mine
Missoula County, Montana
Contract No. Idm-E226

Dear Mr. Selfridge:

Reference is made to your letter of July 9, 1953, to Mr. Weissenborn recommending termination of the subject exploration project contract. We have written the Operator requesting that he sign an agreement mutually terminating the subject contract.

On a recent visit to Missoula, Mr. John D. Bardill, U. S. Bureau of Mines, contacted Mr. Linton, general manager for Linton Mines. Mr. Linton informed Mr. Bardill that before he would sign this agreement it would be necessary for the Government to return all maps submitted with the original application. Apparently the map or maps submitted with the application were the only copies that the Operator had and he wishes them returned. Our files do not contain a copy of the original application nor maps submitted with it. Would you please have a check made of your files and return any maps submitted with the original application to this office for forwarding to the Operator.

Sincerely yours,

James J. Quinlan
James J. Quinlan
For: Thor H. Kiilsgaard
Acting Executive Officer
DMEA Field Team, Region II

cc: USBM (2)
Quinlan

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~XXXXXXXXXXXXXXXX~~
WASHINGTON 25, D.C.
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 23 1953

July 19, 1953
Registered
Return Receipt Requested

Mr. Thomas J. Linton, General Mgr.
Linton Mines
Missoula Hotel
Missoula, Montana

Re: Docket No. DMA-208 (Lead)
Linton Mines
Blacktail Mine
Missoula County, Montana
Contract Idm-1226

Dear Mr. Linton:

We regret to inform you that Washington has advised that Government participation in the proposed revised exploration program is not considered to be warranted. It is believed that the proposed work revision to test the ore zone southeast of the present mine area is not within the intent of the contract, the intent being to test the ore zone at depth below the immediate mine area. Furthermore, the limited exploration target southeast of the mine area is not the type of target that the Government is interested in exploring.

Work completed under the contract indicates that the ore zone does not persist at depth below the immediate mine area. This being the case, we must consider that the contract objectives have been adequately tested with negative results. Inasmuch as the contract objectives have been tested and there are no other exploration targets which appear to merit Government consideration, it will be necessary to terminate the contract.

Enclosed are 7 copies of an agreement terminating the exploration contract by the mutual agreement of the Operator and the Government. Would you please sign all copies of this agreement, retain the copy marked Operator's Copy for your files, and return the original and 5 copies to this office.

We would like to call your attention to Articles 14 and 17 of the contract. Article 14 provides that you furnish the Government

with a comprehensive geologic and engineering report on the work completed. Article 17 provides that you shall render to the Government a full and final accounting of your operations under the contract and your expenditure of money. You should also dispose of any unused materials supplies, and equipment in which the Government has an equity for the joint account of yourself and the Government.

We sincerely regret that exploration was not successful. If we can be of any further assistance, please feel free to call on us.

By Field Team, Region II

Thomas E. Howard, Acting Exec. Officer
(Bureau of Mines)

James J. Quinlan, Acting Member
(Geological Survey)

Enclosure
cc: DMEA (2)
USBM (2)
Quinlan
Hindman
Hull

FILE COPY
SURNAME:
Docket
Grismold
Selfridge
Weissenborn
Re

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

JUL 9 1953

Mr. A. E. Weissenborn
Executive Officer
DMEA Field Team, Region II
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. MF-208 (Lead)
Linton Mines, Blacktail Mine
Missoula County, Montana
Contract No. Idm-6226

Dear Mr. Weissenborn:

We have your letter of June 23, 1953, regarding the above project.

The purpose of the exploration project, as stated in the original contract, was to explore for ore at the Hecla adit level by crosscutting and drifting. If ore was found at this elevation the work of Stage II would then be done, of again crosscutting at an elevation 200 feet lower than the Hecla adit into the projected ore zone.

From the fact that no ore has been found as a result of the apparently adequate amount of Hecla level crosscutting and drifting, we must assume that the project has been a failure, and the premise that the sub-surface ores would persist to at least moderate depth has been disproven. We see little merit in now altering the target to probe for shallow ores already indicated by the Operator's work in its open pit, especially since such a target, at best, could only be of a relatively insignificant character.

We note in the March MF-1.4 report (last received) that $9,913.23 has been expended of a total authorized sum of $2,540.00. Therefore, since the original project target has been reached, with disappointing results, and since it appears there is no other possible target available of a truly exploratory or significant nature, it is our feeling that the contract should be terminated without further dissipation of Government funds.

WRGriswold/jh
7/6/53
cc. to: Docket
Adm. Reading File
Operating Committee
Base Metals
Chron.
Messrs. Bishop
Kinkel

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB) R.C.S. 7-9-53

APPROVED:

J. H. Hedges (JHB)
Member, Bureau of Mines

A. R. Kinkel, Jr. (JHB)
Member, Geological Survey

FILE COPY
500 SURNAME:

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

pc

N.S. in R.R.

June 30, 1953

Memorandum

To: Mr. George C. Selfridge

From: Mr. J. R. Griswold, Chief
Base Metals Division

Subject: Amendment No. 2 for Docket No. DMEA 208 (Lead)
Linton Mines, Blacktail Mine, Missoula County, Montana
Contract No. Idm-E226

You will recall that we discussed this proposed work together. We have now received the Field Team's explanatory material which you might look over. Essentially, it boils down to the statement that ore control is not clear and hence, the program is to "follow the ore," which, after all, at times is pretty good logic.

I feel that we can now accept the proposed work program as delineated.

You will note that, while Stage II will undoubtedly never be done, the Field wishes to leave it in so that funds might be on hand for possible future work, as delineated in the last paragraph of Field's letter dated June 23.

May I have your comments.

W. R. Griswold

W. R. Griswold

Attachment

WRGriswold/hmj

(6/30/53)

CC to: Docket
Adm. R. File
Op. Committee
Base Metals
Chron.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

JUN 29 1953

June 23, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-208 (Lead)
Linton Mines (Blacktail Mine)
Missoula County, Montana
Contract Idm-E226

Dear Mr. Selfridge:

This is in reply to your letter of June 9, 1953, regarding the subject contract.

We regret that you found it difficult to evaluate the proposed work revision or to fully understand it from the information previously submitted. We have, therefore, prepared a diagrammatic sketch map and sections illustrating the probable nature and shape of the deposit. Copies of the map and sections are enclosed, and it is hoped that they will more clearly portray our interpretation of the complex geology of the deposit and also give a clearer understanding of our reasons for recommending the proposed exploration.

The Blacktail deposit can be classified as a small disseminated limestone replacement deposit. As is often the case with such deposits, it is irregular and difficult to recognize ore control. However, it is believed that the diagrammatic map and sections prepared from available information clearly illustrates the probable pipe-like nature of the deposit. The bedding shown on the map indicates a close relationship between the ore body and the axis of a syncline. This is diagrammatically illustrated in section A-A' where probable bedding is indicated in relation to the ore zone. It will be noted that the deposit appears to be confined to a definite stratigraphic horizon and is at least in part controlled by the syncline. The heart of the deposit is considered to be in the trough of the syncline, especially where this is cut by transverse fractures, with a marginal zone extending up the limbs for short distances. Section C-C' illustrates the plunge to the southeast of the trough of the syncline or heart of the ore zone. These relations are obscure and difficult to determine, but they seem reasonable based on present

information. Failure to recognize these controls is, in our opinion, why previous exploration on the property has failed to find ore at depth.

The foregoing presents a generalized description of the control of the ore zone. The grade of the ore within the zone is extremely variable. Mining of the deposit indicated that it has an over-all grade of about 3 percent lead. There has been a noticeable increase in the grade of ore in the near vicinity of transverse faults and fractures; the Operator estimates that ore from these areas had averaged approximately 5 to 6 percent lead. On the other hand, some portions of the zone are barren.

In the past, the Operator has made little effort to develop ore reserves. He has followed ore enlarging the open pits and the stope in whatever direction the ore might lead. Today, as yesterday, one cannot consider any ore as being blocked out. In the past, there has always been enough faces of ore to carry on an operation; however, this is not the case at the present. The Operator is unable to stope ore from the northwest end of the stope because the stope in that area has grown so large and is so lacking in proper support that it is unsafe to work. There is a small showing of ore in the lower pit area which the Operator is mining in a limited way attempting to follow ore. However, the southeast portion of the lower pit area appears to be in one of the barren sections of the ore gone. Undoubtedly, the Operator will keep working in the area gouging here and there, and there is every likelihood that he will open up more ore.

The No. 2 raise (see map for location), 50 feet in length, connects the Hecla adit level with the lower pit area in which the Operator is carrying on the limited operation. The Operator has requested that this raise be made a part of contract work. It is believed that this is a legitimate request, and it is recommended that it be granted. Ore was cut in the raise 25 feet above the level. Undoubtedly, the Operator will attempt to follow the ore exposed in the raise by stoping, which will, in effect, explore and mine the deposit at the same time. It is quite possible that this work will result in tracing the ore zone immediately southeast of the lower pit area.

Submarginal ore has been encountered in the No. 3 raise off the Hecla adit level (see accompanying map and sections for location). The proposed revised exploration program will, in essence, attempt to follow this ore. The relation of the proposed exploration to the projected extension of the assumed pipe-like body is shown on the diagrammatic sketch map and sections.

Small pods of ore were noted on the Hecla adit level in the vicinity of the No. 3 raise. These pods appeared to be controlled by a sharp fracture which strikes E-W and dips 16° to 35° S. (See

geologic map previously submitted.) Two short crosscuts (25 feet each) were driven to prospect the foot and hanging walls of this structure. These crosscuts did not reveal any additional ore. A 25-foot raise (No. 3 raise) was driven up the fracture with a noted improvement in the grade of the ore as the raise advanced. It appears that this ore is near the keel of the deposit.

A study of the sketch map and sections will show that there are several ways of testing the zone in the vicinity of the No. 3 raise if our interpretation of the geology is correct. One would be to extend the Hecla adit level east drift to cut projected ore zone. Another would be to drift from the surface northwestward from the projected outcrop of the zone. It should be noted that several small showings of ore are found on the surface near the projected outcrop of the zone and some dozing has been done; however, none of the showings are considered strong enough to merit underground exploration at this time. We do not favor either of these exploration plans as both are based on a more or less theoretical projection of the ore zone.

Past operations have shown that the best exploration is to follow ore. Since submarginal ore (0.77 percent lead) is exposed in the No. 3 raise and the grade of the ore improved as the raise was advanced, it is believed that it is best to follow the ore from this exposure. Therefore, the following program is recommended which, in essence, will attempt to follow ore. This can be done by advancing the No. 3 raise an additional 50 feet. The raise should be advanced along the sharp fracture until it definitely intersects the heart of zone, then, it may be steepened so as to better crosscut the ore zone. It is proposed to drive a 50-foot crosscut southwest from the raise in order to crosscut the ore zone. If this is successful in finding ore, an additional 60 feet of crosscutting is requested at this time. This additional crosscutting would further test the area and permit connection of the workings with the surface for ventilation. This is discussed below. From the raise or crosscut it is proposed to drift 120 feet to the southeast in the ore zone to test its intersection with a transverse fault (see plan map). At this intersection, it is proposed to drift 50 feet along the fault to crosscut the ore zone.

Reference is made to paragraph four of your letter regarding ventilation of the proposed workings. When the revised program was worked out, we had planned to use a small gasoline blower and vent pipe for ventilation. We had planned to prepare the necessary amendment in the field when these items were needed. Such a blower would cost about $500.00 and vent pipe about $1.00 per foot. Approximately 425 feet of vent pipe would be needed if the project was carried to completion. Your suggestion of holing the working to the surface appears feasible and could serve the dual purpose of testing the ore

zone and providing ventilation. Therefore, we have modified the program as originally submitted in order to allow an additional 60 feet of crosscutting for this purpose. From an operating standpoint, it appears that the raise should first be advanced and a short crosscut driven off the raise. If this work indicated that the program should be continued, a crosscut could then be driven from the surface to intersect the short crosscut off the raise and the revised program carried on from this crosscut.

Your letter questions the reporting of the north crosscut from the east drift for both the months of February and March. The Operator first started a crosscut in the footwall of the sharp fracture which controls the ore pods in this area. The purpose of this crosscut was to test the footwall of the fracture. Noting an improvement in the number of pods of ore in the back of the crosscut, the Operator changed the crosscut to a low-angle raise (No. 3 raise) in order to follow the ore. This work was reported as crosscutting in the Operator's February report. After the combination crosscut-raise had been advanced 25 feet, crosscutting was continued under the raise in order to explore the footwall. This work was reported as crosscutting in the Operator's March report, thus, the apparent double reporting of work. Both the low angle raise and crosscut are considered legitimate exploration as the Operator was attempting to follow ore and also prospect the footwall of the fracture for additional ore. It is apparent that this exploration is more or less of a dog hole nature, and it is difficult to report it as units of work completed. However, it was all reported as crosscutting and paid for as such because the workings more or less crosscut the area in the vicinity of the keel of the deposit. When these vouchers were paid, we were not too concerned with the manner in which the crosscutting was reported as work is on an actual cost basis and all costs were substantiated. However, as the proposed revised program provides for continuation of the low angle raise (No. 3 raise), we believe that in the interest of clarity it would be advisable to specifically allow for 25 feet of raising to cover that portion of the dog hole workings which can actually be interpreted as a low angle raise and allow the rest of it as crosscutting (approximately 25 feet). This raising has been included in the proposed amendment and we will have the Operator amend his reports to more accurately describe the work if the proposed amendment is made a part of the contract. However, if the proposed amendment is not made a part of the contract, we plan to allow the dog hole working as submitted.

In review, the proposed amendment should allow the No. 2 raise (50 feet) and the low-angle No. 3 raise (25 feet). This work has been completed, and if it is allowed as such, the amendment should be made retroactive to February 1, 1953. In addition, the amendment should allow the revised exploration program, i.e., advance

the No. 3 raise an additional 50 feet, crosscutting from the raise or surface to test the ore zone and provide ventilation (110 feet of crosscutting required), drift 120 feet southwest in the ore zone from the raise or crosscut to a projected fault intersection and crosscut the ore zone by drifting 50 feet along this fault.

Although work allowed under Stage II of the contract does not appear feasible at the present time, we do not wish to withdraw funds allotted for such work. If the proposed revised exploration program proves successful, it might then be well to consider a mapping and trenching program in an attempt to find the ore zone approximately 700 feet southeast and across the gulch from the present mine workings. It also appears possible that the zone could be traced northwest of the present workings, but such a program cannot be recommended as the property's end line is immediately northwest of the present workings.

By DMEA Field Team, Region II

A. E. Weissenborn

A. E. Weissenborn, Executive Officer
(U. S. Geological Survey)

Thomas E Howard

Thomas E. Howard, Acting Member
(U. S. Bureau of Mines)

Enclosures
cc: USBM(2)
Quinlan

500

FILE COPY
SURNAME:

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

JUN 9 1953

Mr. A. R. Weissenborn, Executive Officer
DMEA Field Team, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMEA-208 (Lead)
Linton Mines
Blacktail Mine
Missoula County, Montana
Contract No. Idm-F226

Dear Mr. Weissenborn:

This will refer to a letter dated May 20, 1953, signed by Mr. M. R. Volin and Mr. Thor H. Kiilsgaard, regarding an amendment to the above contract, and the enclosed memorandum by Mr. J. J. Quinlan.

We find it difficult to evaluate the proposed work revision, or even to fully understand it, with the meager data available. With no illustrative geological material, either in plan or cross section, we cannot, in good conscience, profess to be in a position to make any appraisal of the proposed work.

It is not clear to us how the suggested extension of the No. 2 raise could be considered as work of exploration. Rather, it would seem to be routine work of mine preparation. If possible, we should like some estimate of the remaining tonnage and grade of pit ores which might be served by such a raise.

Likewise, we should point out that the raise in the proposed Raise No. 3 project should be carried through to the surface for the purpose of ventilation. Otherwise, the outlined drifts and crosscuts stemming out from the end of a blind raise would create dangerous gas conditions.

From the proposed Amendment No. 2, we are not sure whether or not Stage II of the original contract is to be abandoned. This would subtract available funds from the project which, of course, could not be restored later. In that Mr. Quinlan has stated, "there are several other exploration possibilities," perhaps they should be studied before available funds are withdrawn.

The statement is made that there is evidence that the pipe-like ore body has been eroded southeast of the present mine workings, but it is not stated at what distance to the southeast.

Reviewing the monthly narrative reports and the MF-104's, we note that apparently the north crosscut from the east drift has been included both for the months of February and March. This should be investigated. It may be that one so-called crosscut was actually a low angle raise and the other cut out to horizontal, but certainly both could not be classified as applicable to the project.

Will you kindly have this project reviewed and resubmitted to us in a more complete form.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

MDL 6-9-53

APPROVED:

J. H. Hedges

Member, Bureau of Mines (JHB)

A. R. Kinkel, Jr.

Member, Geological Survey (JHB)

WRGriswold/bjl 6/8/53)

Copy to: Docket
Admr. R. File
Op. Committee
Base Metals
Mr. Kinkel
Mr. Bishop
Chron.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 25 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

May 20, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-208 (lead)
Linton Mines (Blacktail Mine)
Missoula County, Montana
Contract Idm-E226

Dear Mr. Selfridge:

Enclosed are the original and three copies of a memorandum from J. J. Quinlan of the Geological Survey recommending a revision of the proposed exploration program at the Blacktail mine, as well as suggesting a manner in which royalty payment could be handled if a discovery is certified. Also enclosed are the original and three copies of a proposed amendment prepared by Ed Buel of the Bureau of Mines providing for the work outlined in Mr. Quinlan's memorandum. The proposed work will not increase the amount of the contract. The effective date of the proposed amendment 2 should be April 1, 1953.

Recent work indicates that the Blacktail deposit is pipe-like in nature and controlled by tension fracture in a definite dolomitic limestone horizon near the axis of an asymmetrical syncline. The proposed revision of the exploration program will allow for testing of this pipe-like body. It is believed that the proposed change in the exploration program could be made by the Field Team within its delegated authority; however, as the program and the objectives are somewhat different than originally outlined in the contract we believe that it is best to refer the proposed change to your office for approval. Therefore, the Field Team recommends that if you approve of the proposed changes that you have Washington prepare the proper amendment to provide for this work.

To date the project has found little ore; however, it is believed that the ore zone has been found in the east crosscut of the Hecla adit. Furthermore, it appears likely that if the revised program is approved and if the DMEA participates in the driving of the No. 2

raise as suggested in Quinlan's memorandum that a discovery can be certified. Now the problem arises as to just what ore is subject to DMEA royalty. The Operator was mining ore at the start of the project, and has continued to mine ore until the present time. This mining has lowered the pit area about 50 feet since the start of the project. None of the ore mined to date from the pit area was disclosed as a result of the DMEA exploration program, but this work has resulted in the mining of a block of ore which would have been subject to royalty had the original program been successful. It should be pointed out that the contract is an old form contract and the entire mine area is covered by the contract. In the strict interpretation of the contract all ore mined since the start of the project could be made subject to royalty; however, this would not be fair to the Operator. It is believed, as suggested in Quinlan's memorandum, that it would be well to set a date after which time all ore mined from the property would be subject to royalty until the loan is repaid. It is believed that it would be well to await the results of the proposed exploration before certification is made; however, we could advise the Operator that if a discovery is to be made any ore mined after a certain date and before certification, if such should be made, would be subject to royalty.

If this proposed arrangement is unsatisfactory to DMEA please advise as to the proper procedure to be followed.

By DMEA Field Team, Region II

M. E. Volin, Acting Exec. Officer
(U. S. Bureau of Mines)

Thor H. Kiilsgaard, Acting Member
(U. S. Geological Survey)

Enclosures as above

cc: USBM (2)
Quinlan

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 25 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

May 14, 1953

Memorandum

To: DMEA Field Team, Region II

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Docket No. DMEA-208 (Lead), Routine inspection and recommendation for contract amendment, Linton Mines Company (Blacktail Mine), Missoula County, Montana, Contract Idm-E226

The Blacktail mine was inspected in company with Mr. T. J. Linton on May 6, 1953. A second inspection was made May 10, 1953 in order to examine work being carried on in two raises from the Hecla adit level.

Two raises now being driven from the Hecla adit level indicates a need for re-evaluation of the general geologic setting of the deposit as well as changes in the exploration program. Both raises have encountered the ore zone and indicate the position of the ore zone's keel.

A geologic map of the area was prepared by the Hecla Mining Company in 1947 and is a part of the original examination report. This map, when studied in the light of recent mining, proves very revealing. The major structure of the deposit is an asymmetrical syncline which strikes northwest and plunges southeast at a moderate angle. The beds on the north limb of the syncline strike approximately east-west and dip 16° to 34° south. The beds on the southwest limb of the syncline strike northwest and dip 52° to 90° northeast; however, it should be noted that the beds on the southwest limb near the axis of the fold flatten considerably.

The ore occurs in massive dolomitic limestone and within the ore zone it has been impossible to recognize bedding. However, a study of bedding immediately adjacent to the mine area indicates that the deposit is closely related to axis of the syncline and there is a suggestion that the ore may be confined to a definite stratigraphic horizon. It appears that the ore occurs on the flat portion of the southwest limb near the axis of the syncline with some ore extending up into steeper portion of the southwest limb. It should be pointed out that the flat portion of the southwest limb would be the area in which the maximum number of tension fractures would be developed in the asymmetrical syncline.

A study of the deposit by Elton Youngberg and myself in February 1952 indicated that the ore occurred in massive dolomitic limestone and was controlled by at least two sets of joints. At that time it was noted that primary ore control was exercised by a set of joints striking N. 55° W. and dipping 30° to 50° SW., with some ore following up along a system of joints striking N. 45° to 55° W. and dipping 60° to 90° NE. It is suggested that the primary set of joints may be tension fractures in the massive dolomitic limestone bed and that at least a part of the secondary set is related to bedding.

It is possible that there might be small drag folds near the axis of the syncline, but it has been impossible to recognize these because of the massive nature of the dolomitic limestone bed in the mine area and the talus cover outside the area.

If this structural interpretation is correct, it is possible to visualize the deposit as a pipe-like body occurring in a definite dolomitic limestone horizon and controlled by tension fractures near the axis of an asymmetrical syncline. Mining of the deposit indicates that the pipe-like body has a cross-sectional area of approximately 4000 square feet and that it strikes N. 45° W. and plunges 8° to 15° SE. There is a suggestion that strike of the pipe-like body may be swinging toward the east in the lower pit area. There is reason to believe that the pipe-like body has been erroded southeast of the present mine workings.

The foregoing presents a picture of the major structural features of the deposit. Secondary features considered important are a number of northeast-striking, steep, west-dipping faults. These faults appear to offset the ore horizon; however, the amount of offset has been of such a magnitude that the Operator has been able to follow the ore from one block to another. Of much more interest than the slight offset of the ore zone by these faults is an enrichment of the grade of the ore within the ore zone in brecciated areas adjacent to these faults.

The DMEA exploration program was undertaken in order to determine if lead ore mined near the surface continued at depth. Stage I of the project was designed to explore for ore on the Hecla adit level. To date, most of the work on the level with the possible exception of a portion of the east crosscut has been outside and beneath the ore zone. Three raises (see Hecla adit map) have been driven from the adit level. The No. 1 raise, 170 feet from the adit portal, was driven with DMEA funds and appears to be northeast of the pipe-like body. The No. 2 raise, 113 feet from the adit portal, is now 45 feet above the level. The Operator is driving this raise to intersect high-grade ore in the bottom of the lower pit. Ore was encountered in the raise 25 feet above the adit; this ore is, in part, controlled by one of the northeast-striking faults. It is believed that this raise should be a part of the contract work, and would benefit the Government in that any ore found would be subject to royalty.

The No. 3 raise, 125 feet east of the main adit crosscut in the east crosscut, is following a sharp fracture (strike E-W., dip 16° to 35° S.-tension fracture?) which appears to control ore in this area. The raise has now been advanced 25 feet along the sharp fracture with an improvement in the grade of the ore and the amount of iron oxides coating the fracture. It appears that this raise was started near the keel of the deposit and as it is advanced, it is entering the ore zone. A grab sample of muck from the raise assayed 0.75 percent lead.

If the foregoing geologic interpretation is correct, it will be necessary to change the proposed exploration program. It is believed that the zone can best be explored by following it from the known exposure in the No. 3 raise. This can be accomplished by extending the No. 3 raise into the heart of the zone, if necessary, crosscutting to better delineate the zone from the raise, drifting in a southeasterly direction in the heart of the zone from the raise or crosscut to a projected intersection of the zone with a large northeast-striking fault; additional crosscutting would be allowed to test the zone near the fault intersection. To complete this program 75 feet of raising, 120 feet of drifting, and 100 feet of crosscutting would be required. When the amendment is prepared, it is believed that allowance also should be made for Government participation in the No. 2 raise. The proposed exploration is shown on the Hecla adit map attached to this memorandum. Mr. Ed Buel of the Bureau of Mines has prepared a sample amendment allowing this work. It is therefore recommended that the proposed amendment be made a part of the contract.

Funds remaining in the contract as of March 31, 1953 amounted to $42,626.77 and are more than ample to complete the proposed exploration. All units of work completed under the terms of the contract have been within the estimated cost of such units of work as provided for in the contract. Therefore, it is recommended that if the proposed contract amendment is acceptable, that the estimated unit cost of work be the same as allowed in the original contract, i.e., $25 per foot for drifting, crosscutting, and raising.

The contract expires June 13, 1953 and it will be necessary to extend the contract by three months if the proposed exploration is undertaken. If the Government is to participate in the No. 2 raise and the lower part of the No. 3 raise, the amendment should be made retroactive to April 1, 1953.

It is realized that the structural interpretation of ore control is somewhat theoretical; however, it should be pointed out that the ore showing in the No. 3 raise appears to be within the ore zone and the proposed work will consist of following this ore.

There are several other exploration possibilities if this structural interpretation proves correct, such as extension of the ore zone northwest of the present mine workings and across the gulch. However, it would take considerable more detailed mapping in the area before undertaking such programs.

If a discovery is to be certified on this project, it will be necessary to work out an agreement with the Operator on just what ore is subject to DMEA royalty. The Operator was mining ore at the start of the project, and has continued to mine ore until the present time. This mining has lowered the pit area about 50 feet since the start of the project. None of the ore mined to date from the pit area was disclosed as a result of the DMEA exploration, but this mining has resulted in the mining of a block of ore which would have been subject to royalty had the original program been successful. It should be pointed out that the contract is an old form contract and the entire mine area is covered by the contract. In the strict interpretation of the contract, all ore mined since the start of the project could be made subject to royalty; however, this would not be fair to the Operator.

The matter of royalty payment was discussed with Mr. Linton during the course of a telephone conversation on May 16, 1953. At that time Mr. Linton stated his willingness to subject all ore mined from the lower pit area to Government royalty after the car of ore now being milled is sent to the smelter, provided the DMEA participates in driving the No. 2 raise. As the only ore in sight at the present time is in the lower pit area and any ore found in the future could be interpreted as found as a result of the DMEA exploration, this would, in effect, subject all ore to be mined to DMEA royalty. It is therefore suggested that the DMEA participate in the driving of the No. 2 raise and that a date be set after which time all ore mined from the property would be subject to royalty if a discovery is certified. It is believed that it would be wise to await the results of the proposed exploration before a decision is made regarding certification. However, it would be advisable to inform the Operator of just what ore is subject to royalty in the near future so that he will be in a position to repay if a discovery is certified. This matter should be brought to Washington attention in order that they might advise as to the proper procedure to be followed in this particular case.

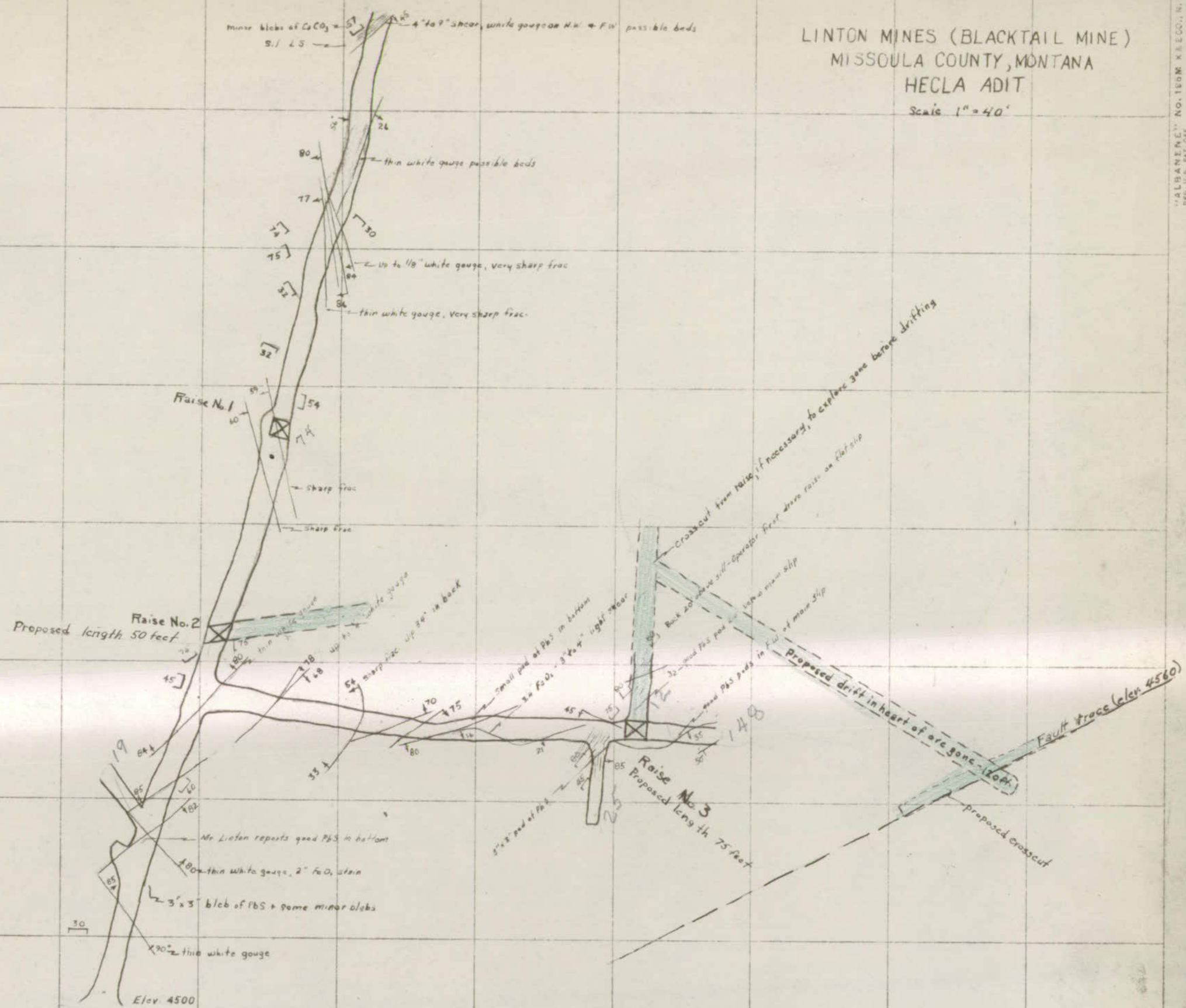
Enclosure

Distribution:
DMEA- Orig & 3
USBM (2)
Docket
Quinlan

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 25 1953

LINTON MINES (BLACKTAIL MINE)
MISSOULA COUNTY, MONTANA
HECLA ADIT

Scale 1" = 40'



"ALBANENE" NO. 1 EDM. K&E CO., N.Y. REG. U.S. PAT. OFF.

LINTON MINES (BLACKTAIL MINE)
Contract Idm-E226
Docket No. DMEA-208 (lead)

AMENDMENT NO. 2

Exhibit "F"

The contract is hereby modified and amended as follows:

1. On the contract form, Article 3, change the period specified for completion of the project from 18 months to 21 months.

2. Exhibit "A" is amended as follows:

Under Exploration Project
Stage I

A. Change: Item 2, page 1, Drift on ore structure.....

To: Drift on Hecla adit level in order to explore structure at most favorable point approximately 170 feet to the northwest and southeast, and crosscut approximately 50 feet and raise approximately 25 feet (No. 3 raise) from said drift.

Add: Raise approximately 50 feet additional from the No. 3 raise with attended crosscutting, if needed, to intersect the main portion of the ore zone. In the main portion of the ore zone, approximately 120 feet of drifting in a southeasterly direction to the large northwest-striking fault will be undertaken. From the southeaterly driven drift, approximately 100 feet of crosscutting will be accomplished to test the extent of the ore zone.

Add: Raise 50 feet (No. 2 raise) from Hecla adit level to intersect ore in low pit area.

B. Delete: Item 3, page 1.

Under The proposed work and the estimated cost.....
Stage I

D. Change: Item 1, page 2.

To: Crosscutting 275 feet * @ $25.00 per foot $6,875.00

E. Change: Item 2, page 2.

To: Drifting 300 feet * @ $25.00 per foot $7,500.00

F. Delete: Item 3, page 2.

G. Change: Item 4, page 2.

To: Raise 245 feet * @ $25.00 per foot $6,125.00

I. Under Stage I, page 2, subtotal cost should be changed to conform with the amended contract cost.

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

1201 N. Division St.
Spokane 2, Washington
April 13, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 27 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: E. W. Buel, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Linton Mines (Blacktail Mine), Missoula County, Montana, Contract Idm-E226, Docket No. DMEA 208 (lead)

A routine inspection was made of the subject property on March 31, 1953. The underground workings were examined alone. At the time of the inspection the crew was not employed on any underground work. Some of the data incorporated in this report were supplied by Messrs. Linton and Chandler, general manager and supervisor respectively.

Work units completed under the DMEA contract during the past inspection interim consisted of cutting down the crosscut/raise (see map with cross section A-A') and driving a crosscut for 25 feet in a S. 5° E. direction from the Southeast drift. The new crosscut location is shown in the enclosed map. Ore mineralization was not encountered in any of the new workings.

The Operator put two short exploratory drill holes in the face of the new crosscut driven in a southerly direction from the Southeast drift. One hole, situated in the center of the drift and 2 feet above the floor level, was drilled at an inclination of + 5°, in an approximate direction of S. 5° E., and for a distance of 12 feet. The second hole, placed 3 or 4 feet above the first hole, was drilled at an inclination of + 42°, and had the same length and direction as the first hole. These holes did not disclose any ore mineralization.

The Operator reports that the rate of progress was reduced because of the increasing hardness of the limestone which resulted in slower drilling and the use of additional bits. Work on the crosscut driven in a southerly direction necessitated slushing around two right angles which considerably slowed work progress. (The slusher was situated at the portal to the Hecla crosscut.)

The Operator has stated that a long hole drilling program will be submitted to the Field Team for their consideration. To date, no program has been received by the Field Team.

It was noted that the Operator will probably not be doing any farther drifting or crosscutting in the immediate future, as evidenced by the fact that he has removed the slusher and housing to the open cut pit situated above the Hecla crosscut. The slusher is being utilized for the removal of galena ore from the area in the open pit shown on the accompanying map.

The Operator had the mill operating at the time of the inspection. He had approximately a carload of galena concentrates in the ore bin awaiting shipment. It is believed that the concentrates will assay approximately 60 percent lead. This ore is not believed to be subject to royalty payments.

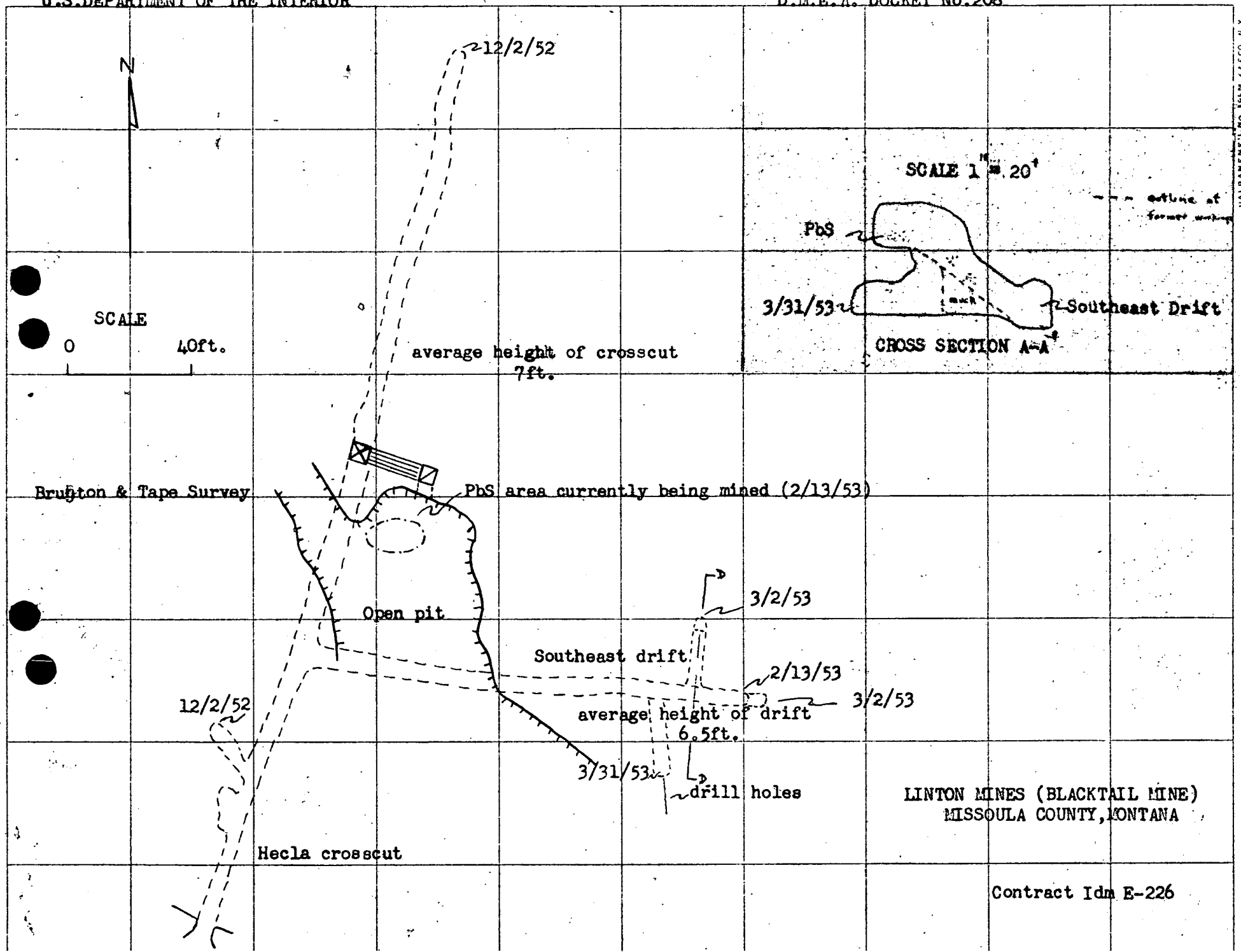
no royalty reported by Jay

The current number of men employed is as follows: 1 supervisor, 1 bulldozer operator, 4 miners, and 1 truck driver. The number of men employed under the DMEA contract varies from shift to shift, and no definite figure is available.

E. W. Buel

E. W. Buel

Orig. & 3 cys - Wash.
USGS (2)
DMEA
M/D
EWB/he


N
SCALE
0
40ft.
12/2/52
average height of crosscut
7ft.
Brugton & Tape Survey
PbS area currently being mined (2/13/53)
Open pit
Southeast drift
3/2/53
2/13/53
3/2/53
average height of drift
6.5ft.
3/31/53
drill holes
12/2/52
Hecla crosscut
SCALE 1" = 20'
outline of former workings
PbS
3/31/53
Southeast Drift
CROSS SECTION A-A'
LINTON MINES (BLACKTAIL MINE)
MISSOULA COUNTY, MONTANA
Contract Idm E-226

Docket Copy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

April 10, 1953

Mr. George C. Selfridge, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1953

Re: Docket No. DMEA-208X (Lead)
Linton Mines
Missoula County, Montana
Contract No. Idm-E226

Dear Mr. Selfridge:

Attached are the original and two signed copies of Amendment No. 1 to the subject contract, with attached justification.

Distribution of this amendment has been made in the usual manner.

Sincerely yours,

Thor H. Kiilsgaard

Thor H. Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

cal 4-14-53

Attachment

cc: USBM (2)
Quinlan

RECEIVED
APR 22 53
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

So. 157 Howard Street
Spokane 4, Washington

April 10, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 14 1953

Mr. T. J. Linton
Linton Mines
Missoula Hotel
Missoula, Montana

Subject: Amendment No. 1
Contract Idm-E226

Dear Mr. Linton:

Enclosed herewith please find your copy of Amendment No. 1 to your Exploration Project Contract Idm-E226.

Sincerely,

Thor H. Kiilsgaard
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)
DMEA (2)
Quinlan

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 27 1953

April 6, 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Routine inspection, Docket No. DMEA-208(Lead), Linton Mines Company (Blacktail Mine), Missoula County, Montana, Exploration Project Contract Idm-E226.

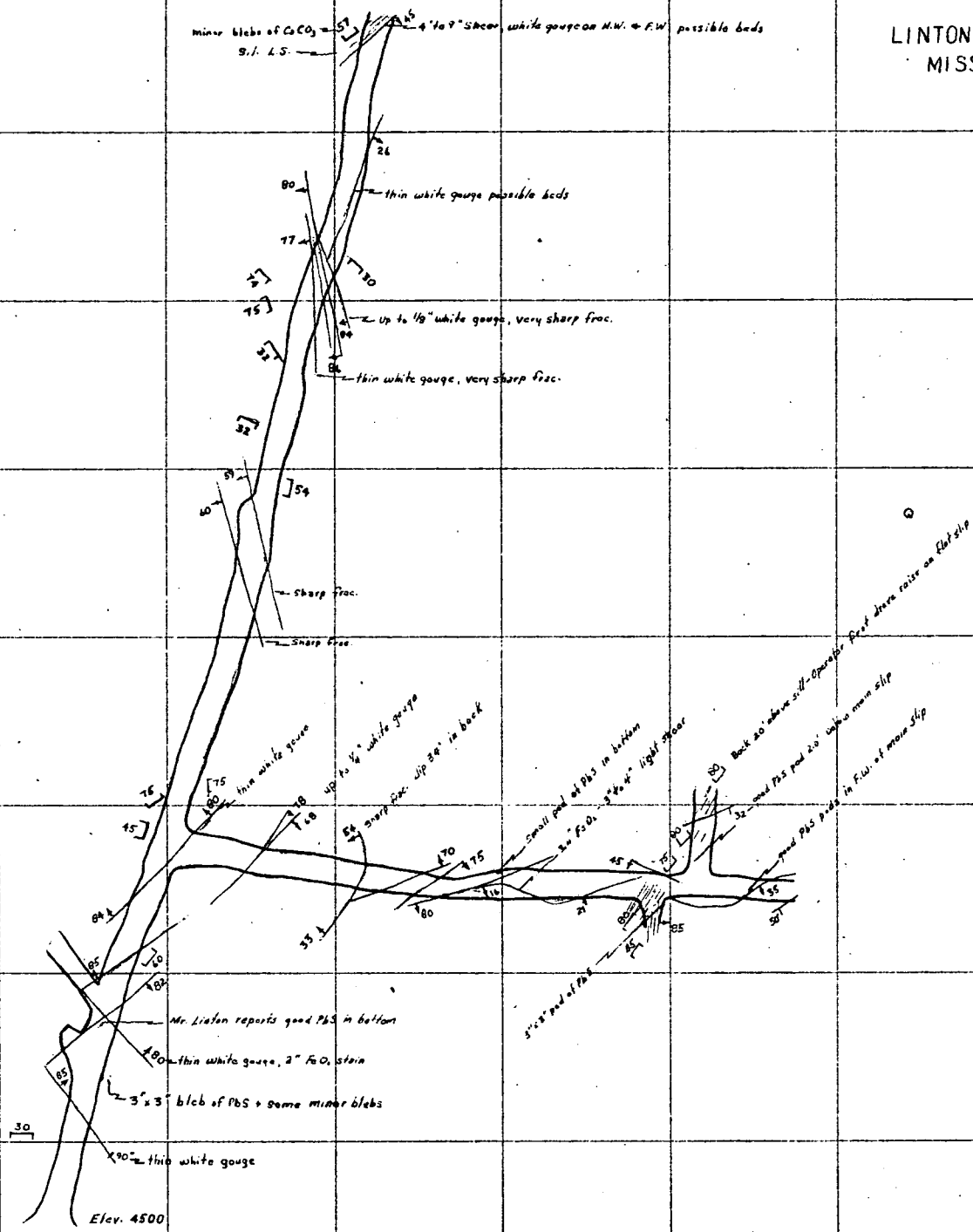
The Blacktail mine was inspected in the company of Mr. T. J. Linton on March 14, 1952. The geologic map of the Hecla adit was brought up-to-date.

The southeast drift has been extended to a point 148 feet southeast of the Hecla adit crosscut. The walls of the drift show a few specks and blebs of galena as well as some malachite and azurite. The galena in the drift appears to be controlled by an east-striking, flat (16°-35°) south-dipping fracture. A 20-foot raise driven along the fracture 125 feet southeast of the adit crosscut shows that the galena blebs continue up along the fracture. The Operator has driven a 20-foot footwall crosscut in combination with the raise. This work did not show any additional galena. A 25-foot hanging wall crosscut is to be driven in this same area. At the time of the inspection, 5 feet of this crosscut had been completed.

When the hanging wall crosscut is completed, the Operator plans to submit for our approval a long hole drilling program.

Distribution:
DMEA(Orig.&3)
USBM(2)
Docket
Quinlan

LINTON MINES (BLACKTAIL MINE)
MISSOULA COUNTY, MONTANA
HECLA ADIT



"ALBANENE" No. 10GM K&E CO., N.Y. REG. U.S. PAT. OFF.

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

1201 North Division Street
Spokane 2, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAR 19 1953

March 5, 1953

Memorandum

To: DMEA Field Team, Region II

From: E. W. Buel, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Linton Mines (Blacktail mine), Missoula County, Montana, Contract No. Idm-E226, Docket No. DMEA 208 (lead)

A routine inspection of the Blacktail mine was made March 2, 1953, in company with Mr. T. J. Linton, general manager.

The Southeast drift was extended 5 feet since the last inspection February 13, 1953. The drift measures 5 x 6-1/2 feet and is untimbered. A crosscut/raise was driven from the Southeast drift at a point 125 feet from the Hecla crosscut (see map). This working was estimated to be driven 12 feet horizontally on the level of the Southeast drift. Mr. Linton intends to extend the crosscut/raise for a distance of approximately 25 feet from the Southeast drift level. He also said that the working was driven on an incline because he wanted to stay on the galena pod zone.

Total units of DMEA work completed are as follows: (a) crosscutting - 115 feet, (b) raising - 74 feet, (c) drifting - 167 feet, and (d) trenching - 450 feet, or 3,500 cubic yards.

An encouraging showing of galena ore was exposed by the crosscut/raise. The galena occurs in small pods, 1-3 inches in diameter, in both walls of the crosscut/raise. No pronounced structural control for the pods is evident. The galena zone appears to have a dip to the south.

No samples were taken by the Operator.

No unusual or difficult working conditions were encountered during the inspection interim. The work is being carried on in an efficient manner.

It was recommended to the Operator that he crosscut about 25 feet to the south from a point near the crosscut/raise upon the completion of the work in the crosscut/raise.

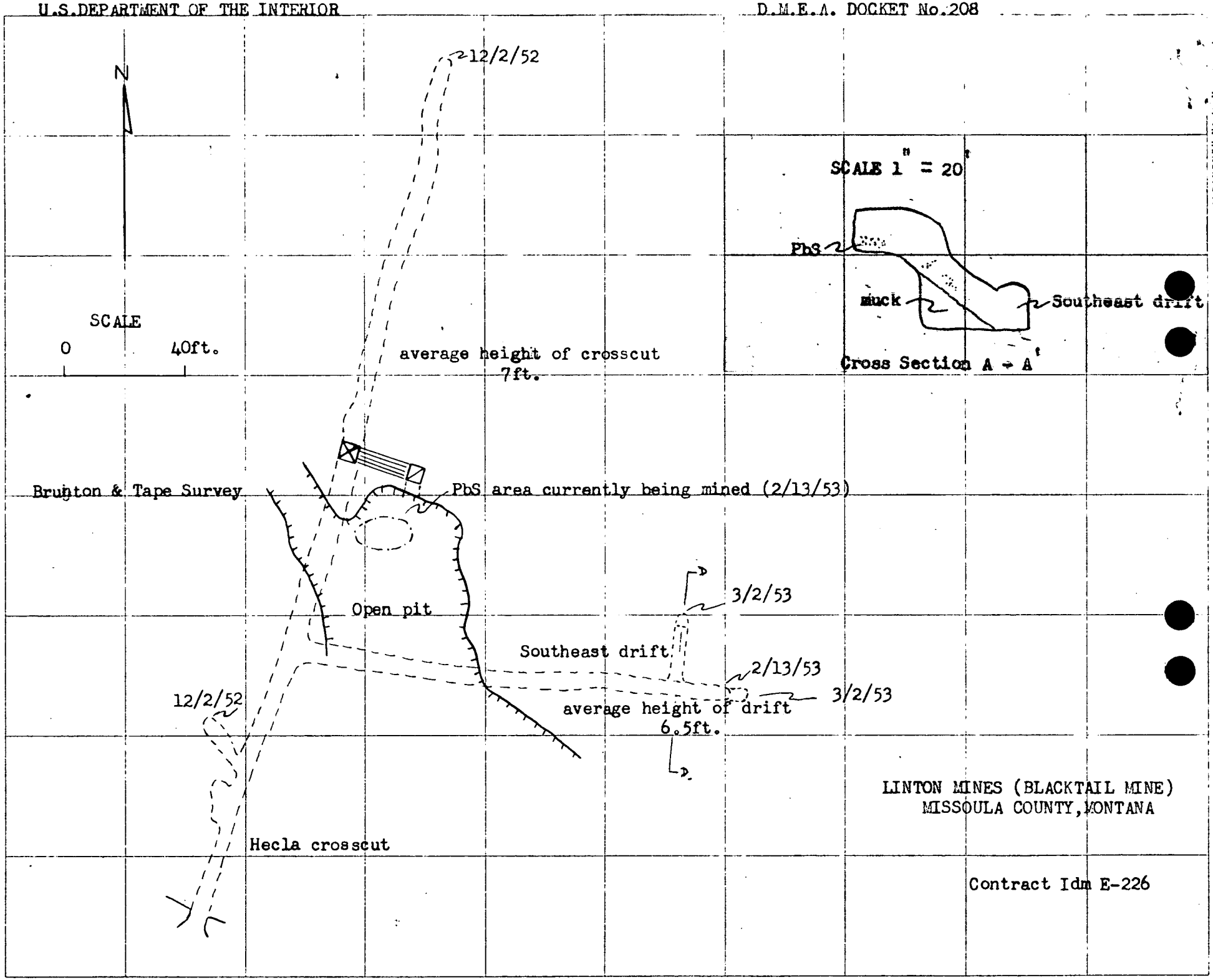
Mr. Linton stated that he would be in Spokane within a week or two, at which time he would discuss further exploration plans with the Examining Team.

E. W. Buel

E. W. Buel

Orig. & 3 - Wash.
USGS - 2
DMEA
M/D
EWB/vf

U.S.DEPARTMENT OF THE INTERIOR D.M.E.A. DOCKET No.208



208

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

1201 North Division Street
Spokane 2, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 9 1953

February 25, 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: E. W. Buel, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Linton Mines (Blacktail mine), Missoula County, Mont., Contract Idm-E226, Docket No. DMEA 208 (lead)

A routine inspection of the subject property was made February 13, 1953, in company with Mr. T. J. Linton, general manager.

Since my last inspection of December 2, 1952, a drift was driven in a southeasterly direction from a point approximately 95 feet from the portal of the Hecla crosscut. This drift was driven for 143 feet. The drift is untimbered and measures 5 x 6-1/2 feet. The maximum footage allowed on the Southeast drift is 150 feet.

The Hecla crosscut raise was driven another 12 feet to the surface of the open pit. The upper 15-20 feet of the raise was not accessible for inspection. It is reported that no ore mineralization was exposed in the raise. The top of the raise, however, lies about 20 feet in a northerly direction from a productive ore structure currently being mined by the Operator.

Total units of DMEA work completed to date of inspection are as follows: (a) crosscutting - 103 feet, (b) raising - 74 feet, (c) trenching - 450 feet, or 3,500 cubic yards, (d) drifting - 162 feet.

Several small discrete blebs of galena were exposed about 125 feet in the Southeast drift. The Operator intends to discontinue the work on the Southeast drift and drive a short crosscut (approximately 30 feet) in a northerly direction along the galena showings.

No samples were taken by the Operator.

The Operator has about 200 tons of crude galena ore stockpiled in the open cut above the Hecla crosscut and near the top of the Hecla raise. The heads are estimated to run about 10 percent lead. It is not certain whether this ore is subject to royalty payments. This is being checked by the Examining Team.

No unusual or difficult working conditions were encountered during the inspection interim.

Linton Mines has 3 miners subcontracting the exploratory work under the DMEA contract.

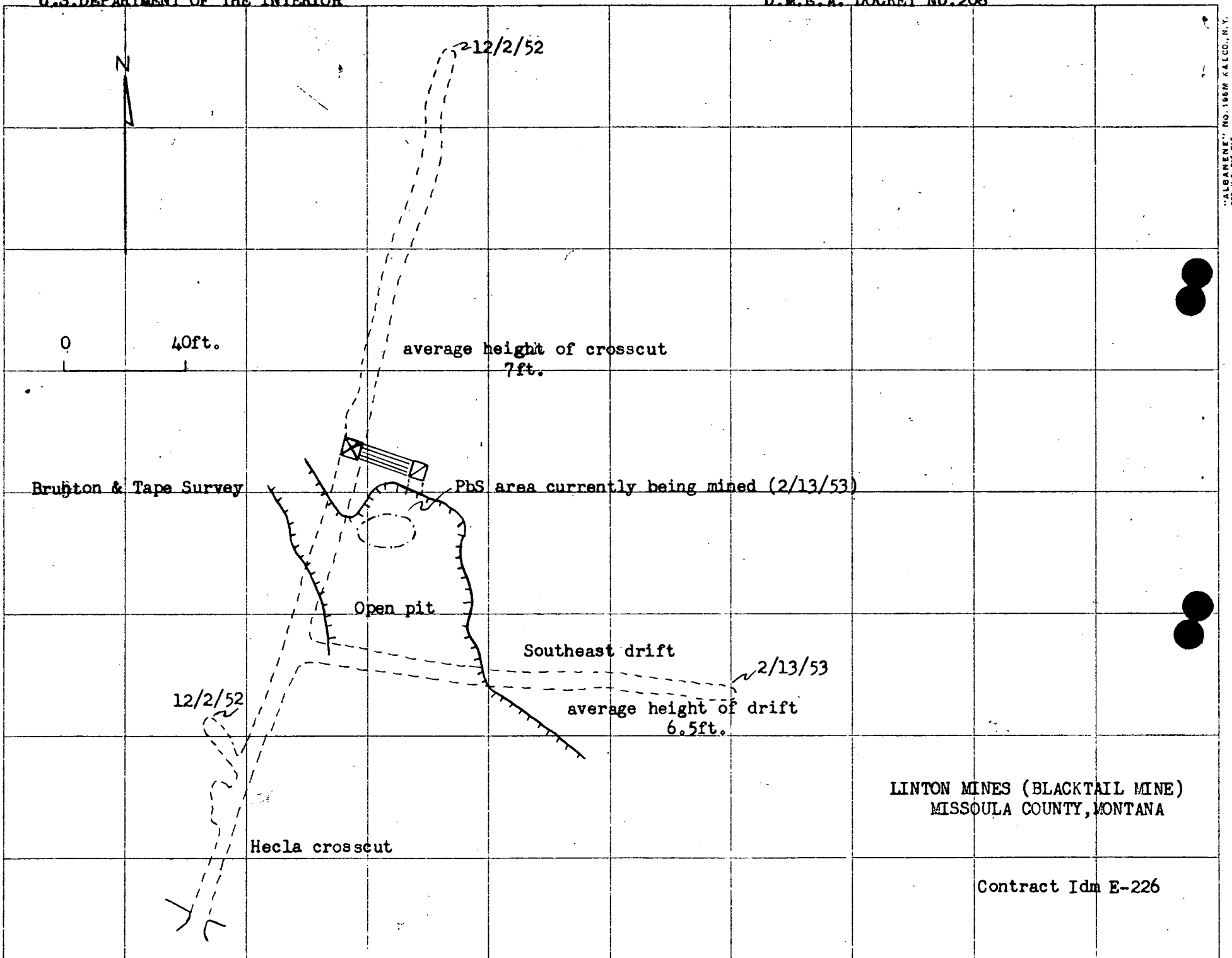
The Operator discussed with the Examining Team the feasibility of a long-hole drilling program. It was tentatively recommended that the Operator should submit his plans for the proposed long-hole drilling program. To date, he has not submitted any drilling plans.

Examinations of the property revealed that the DMEA work is being carried on in a workmanlike manner.

E. W. Buel

E. W. Buel

Orig. & 3 - Wash.
USGS - 2
DMEA
M/D
EWB/vf



LINTON MINES (BLACKTAIL MINE)
MISSOULA COUNTY, MONTANA

Contract Idm E-226

"ALBANENE" NO. 195M K&E CO., N.Y. REG. U.S. PAT. OFF.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 24 1953

January 30, 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Routine inspection, Docket No. DMEA-208 (Lead), Linton Mines Company (Blacktail Mine), Missoula County, Montana, Exploration Project Contract Idm-E226.

The Blacktail mine was inspected in the company of Mr. T. J. Linton on January 15, 1953. A geologic sketch map of the southeast portion of the stope and lower pit area was made so as to better evaluate exploration suggested by Mr. Linton (see plate I). Also, the geologic map of the Hecla adit was brought up-to-date (see plate II).

Future exploration was discussed with Mr. Linton at this office on January 19, 1953.

The Operator discontinued the drift west from the Hecla adit after 19 feet of advance "due to tightening of formation and until further consultation with DMEA officials." The drift west is a part of the proposed program discussed in J. J. Quinlan and Elton Youngberg's routine inspection memorandum of March 26, 1952. The program was designed to explore the ore zone in the northwest block of a fault exposed near the stope portal. At the time of J. J. Quinlan and Elton Youngberg's inspection most of the ore mined had come from the northwest fault block; however, since that time the Operator has mined considerable ore from the southeast block.

As of this date, the program proposed in J. J. Quinlan and Elton Youngberg's memorandum still appears to be sound exploration. It had been hoped that ore might be encountered in the southeast block, but it was not expected until the northwest block was cut. As the drift has to be extended 165 feet to cut the northwest block, the showing in the first 19 feet must not be considered disappointing.

Since the last study of the mine was made, the Operator has produced considerable ore from the southeast block. The Operator on his own initiative started a drift east from the Hecla adit to explore for the downward extension of rich ore exposed in the bottom of the lower pit in the southeast block. The contract allows for 150 feet of drifting to the southeast on the most favorable structure.

At the time of the inspection the Operator had completed 75 feet of this drift. Mr. Linton reported that several rounds of muck from this drift contained fair amounts of galena. The walls of the drift show a few specks and blebs of galena as well as some malachite and azurite. Undoubtedly, this drift is in the "ore zone" and the DMEA would be justified in participating in this work. The blebs of ore 35 feet from the adit portal are also probably within the "ore zone". Therefore, it appears that the possibility exists that the Hecla adit intersected the "ore zone" in an almost barren section.

It is proposed that the drift east be continued an additional 50 to 75 feet, at which time some short crosscuts and longhole drilling be considered to better test the deposit in the southeast block. The longhole drilling should be planned by the Operator and approved by DMEA.

The program suggested by J. J. Quinlan and Elton Youngberg should be continued. However, it might be well to await the results of the longhole drilling before resuming this work. It is believed that the additional information obtained will permit the Operator and the Government to better locate the drift to the northwest block so as to obtain the maximum information about the southeast block.

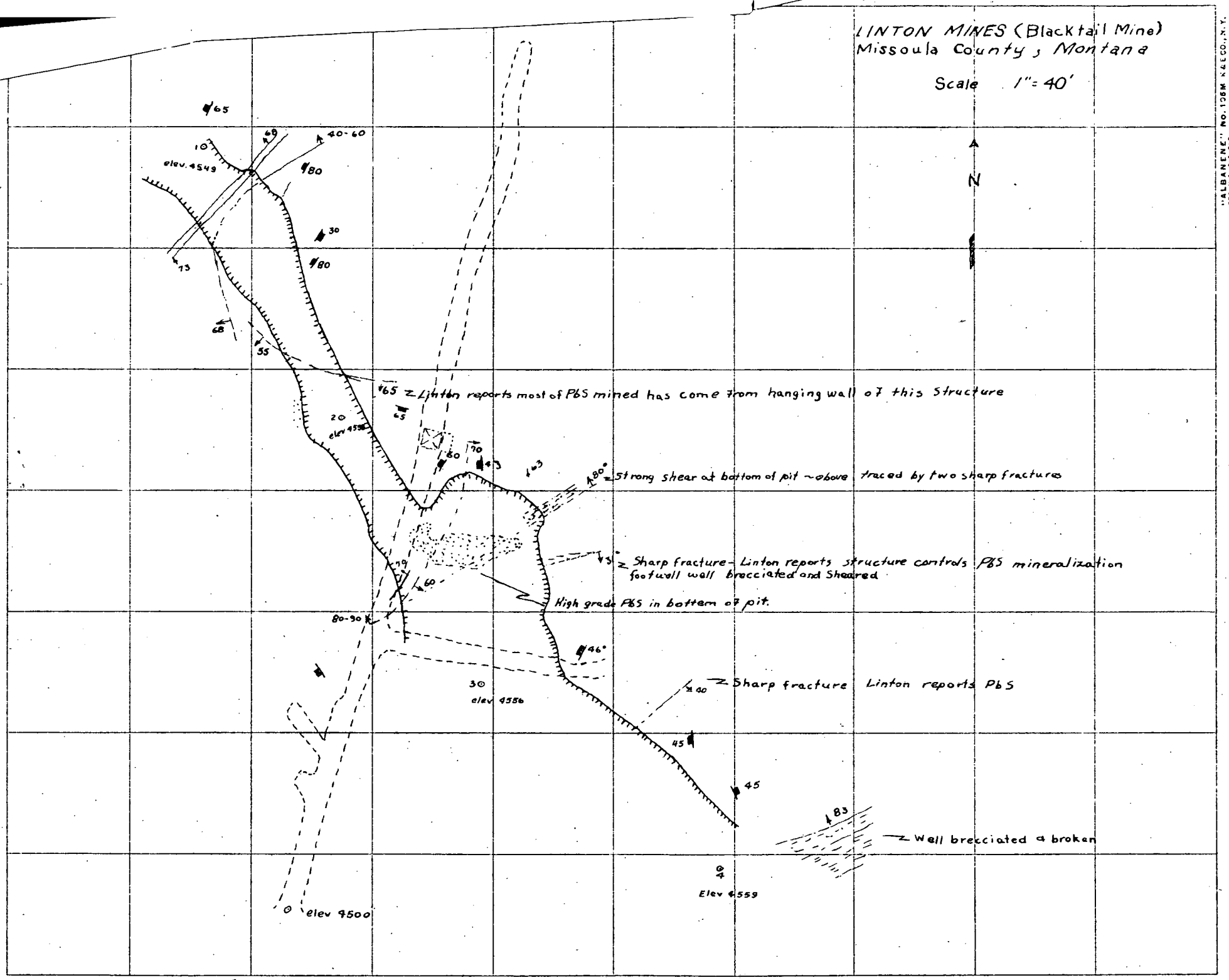
J. J. Quinlan
Geologist

Enclosures
Distribution:
DMEA(Orig.&3)
USBM(2)
Quinlan
Docket

DMEA DOCKET NO. 208

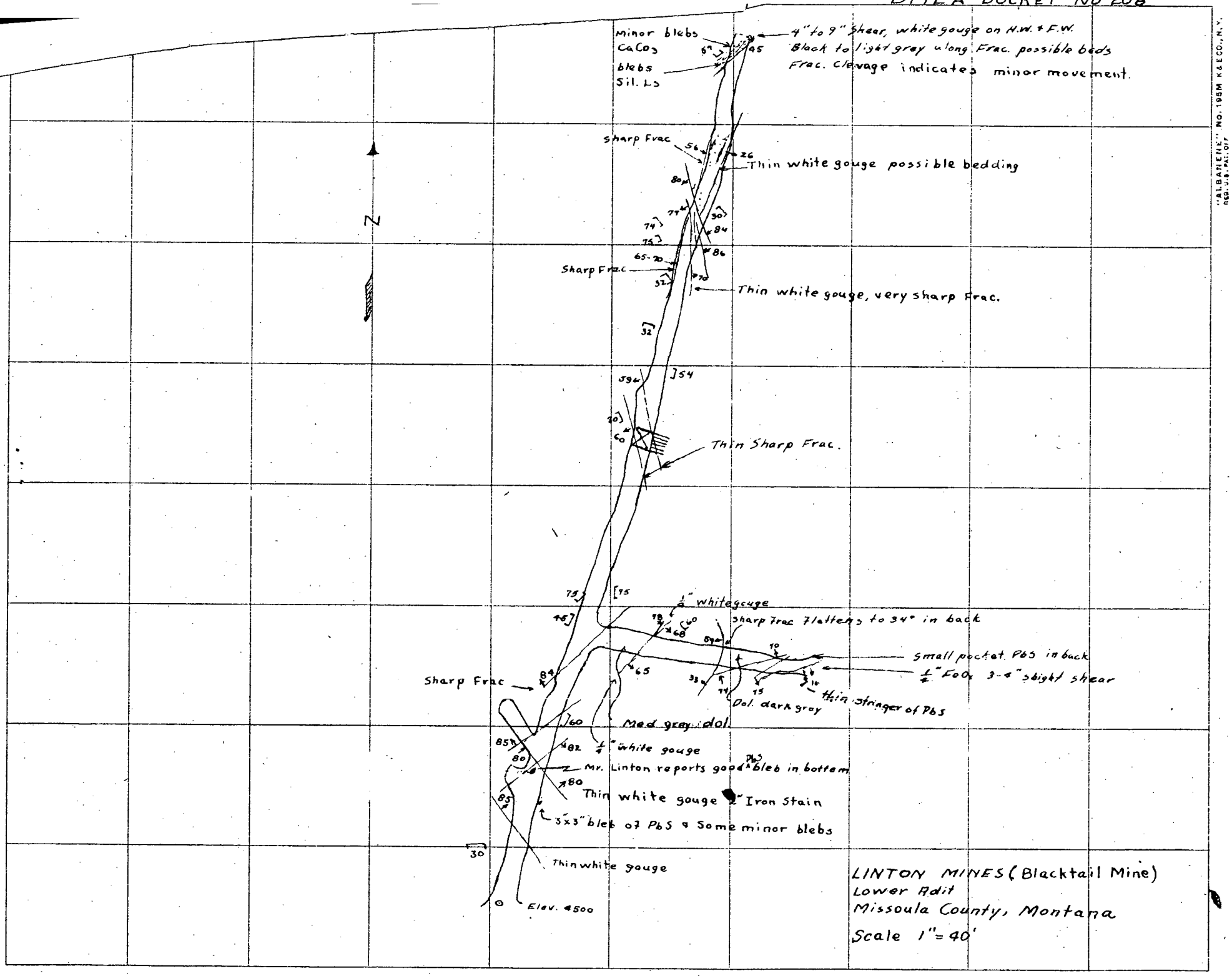
LINTON MINES (Blacktail Mine)
Missoula County, Montana

Scale 1" = 40'



"ALBANENE" NO. 105M K&E CO., N.Y. REG. U.S. PAT. OFF.

DMEA DOCKET NO 208



LINTON MINES (Blacktail Mine)
Lower Adit
Missoula County, Montana
Scale 1" = 40'

[redacted] [redacted]

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

Memorandum

To: Administrator

From: Base Metals Division

JAN 2 1 1953

Subject: Costs-comparison (November, 1952)
Snoose Mining Company, DMEA 211
Linton Mines, DMEA 208

Linton Mines 30 miles E. Missoula, Mont.			Snoose Mining Co. Hailey, Idaho		
Drifting		44'	Drifting & Raising (55'-35')		90'
Labor	$378.00 -	$8.50/ft.	Labor	$2445.83 -	$27.18/ft.*
Supervisor	250.00 -	5.70/ft.	Supervisor	560.00 -	6.22/ft.*
Explosives	111.65 -	2.50/ft.	Timber	$ 959.84 -	10.65/ft.*
Other material & Supplies	143.72 -	3.27/ft.	Explosives	266.00 -	2.95/ft.*
Repairs, Taxes etc.	58.58 -	1.33/ft.	Other material & supplies	822.27 -	9.14/ft.*
Op. Equip.	114.42 -	2.60/ft.	Repairs - Taxes	368.03 -	4.09/ft.*
			Op. Equip.	733.53 -	8.15/ft.*
		$ 23.94/ft.*			

* This includes trenching in the amount of $353.97 not separated from other costs.

Exclusive drifting costs $25.14/ft.

Estimated Costs:

Drifting - $ 25.00

* The costs not being separated, these are unit costs for both drifting and raising. The raise is 2 compartment, timbered.

Exclusive drifting costs - $59.66
" raising costs - 71.59

Estimated Costs:

Drifting - $35.00
Raising - 42.00

Base Metals

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
1201 North Division St.
Spokane 2, Washington
December 29, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 1 0 1953

MEMORANDUM

To: DMEA Field Team, Region II

From: Edward W. Buel, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Linton Mines (Blacktail Mine), Missoula County, Montana, Contract Idm-E226, Docket No. DMEA 208 (lead).

Inspection of the Blacktail Mine was made December 2, 1952, in company with Mr. T. J. Linton, general manager of Linton Mines. Since the resumption of the work under the DMEA contract the raise was extended, as reported by Linton, to a total of 62 feet, an advance of 12 feet since February 19, 1952. Actual measurement was not verified because all of the raise was not accessible. Linton further stated that another round or two would break through to the surface in the trenched area. The raise measures 4 x 4 feet in the clear and is timbered by 7 square sets at 4-1/2 foot intervals. Its inclination is 75°-80° N.W. A heading was driven 19 feet from the Hecla crosscut. This is intended to intersect the northwest ore block as discussed in J. J. Quinlan's and E. Youngberg's Routine Inspection Report, March 26, 1952. The heading is about 5 x 7 feet, untimbered.

At the time of the inspection the Operator had completed 8 days of bulldozer trenching on the extension of the outcrop to the southeast. The linear extent of the trenching is about 450 feet. Approximately 3,500 cubic yards of material were removed.

The slusher and housing were moved from the open stope area to the Hecla crosscut portal.

Total units of DMEA work completed to date of inspection are as follows: (a) crosscutting - 122 feet, (b) raising - 62 feet, and (c) trenching - 450 feet, or 3,500 cubic yards.

The Operator has reported that the trenching has uncovered some good pockets of galena. At the time of the inspection only a few small galena pockets were seen.

No shipments or stockpiling of ore were reported to the writer. Three samples were taken by the Operator from one of the trench walls. The results of the sampling were not available at the time of the examination.

No unusual or difficult conditions were noted by the writer.

Two men were employed during the last inspection period. They were engaged in trenching operations.

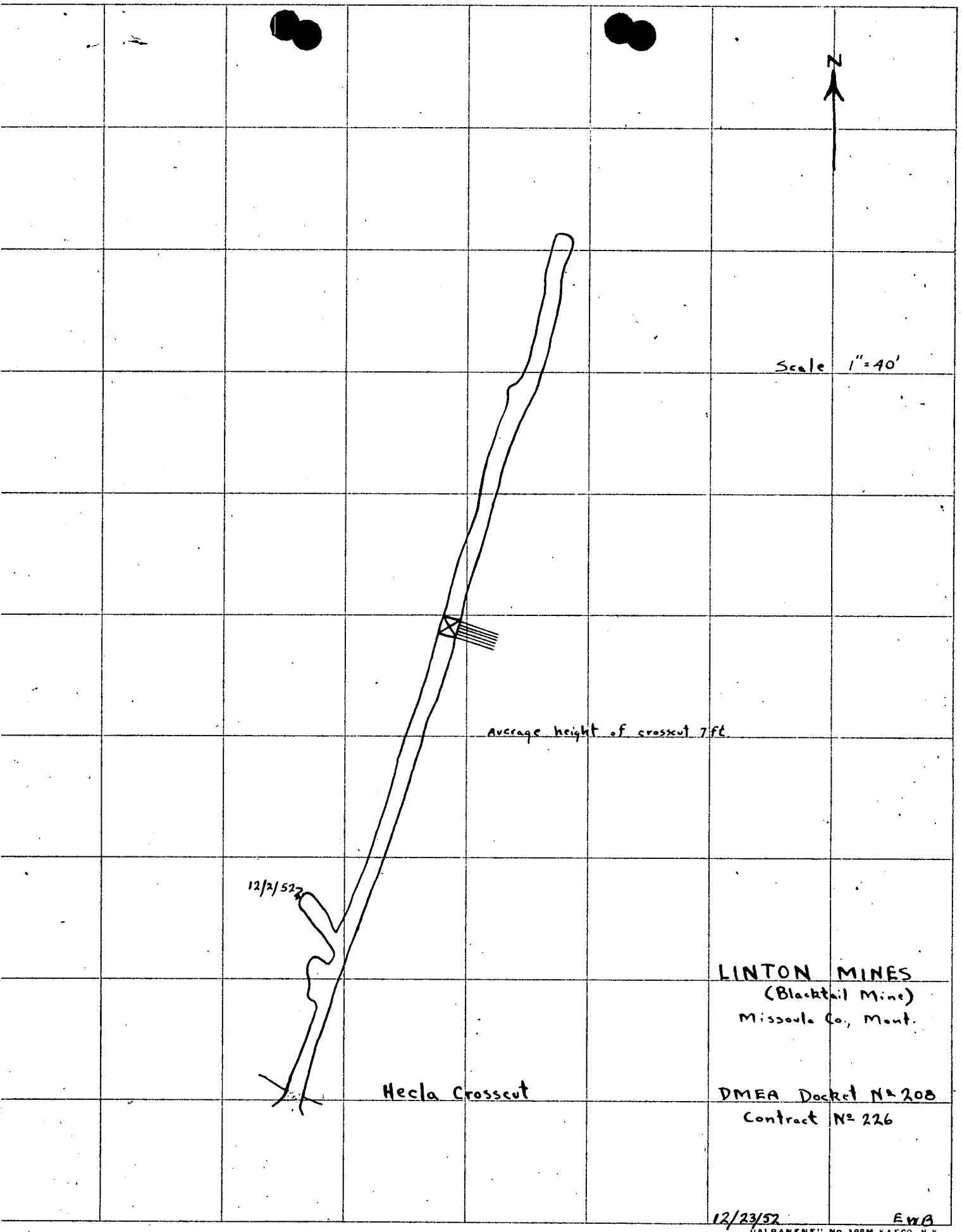
The Operator has conducted a very efficient operation under the contract. His total cost per foot of crosscutting was about $15-16. These figures are considerably lower than comparable exploratory costs of DMEA projects in the Northwest region. The low cost of exploration was accomplished by the use of a high-speed slusher in the removal of waste from the crosscut.

On December 16, 1952, Mr. Linton discussed future exploration plans with J. J. Quinlan, geologist, U. S. Geological Survey, and the writer. It was tentatively agreed by all that future work should be primarily concentrated in the northwest mineralized ore zone, previously referred to in Quinlan's and Youngberg's report. Mr. Linton, however, proposed that some additional work should be done in the form of crosscutting and drilling from the Hecla crosscut. Consideration of this proposed work has been postponed pending a visit to the property by J. J. Quinlan for further geological study.

E. W. Buel

E. W. Buel

Orig. & 3 - Wash.
USGS - 2
DMEA
M/D
EWB/vf



"ALBANENE" No. 195M K&E CO., N.Y.
REG. U.S. PAT. OFF

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration
RECEIVED
NOV 17 1952

November 14, 1952

Memorandum

To: DMEA Field Team, Region II

From: James J. Quinlan, Geologist, U. S. Geological Survey

Subject: Routine Inspection, Docket No. DMEA-208 (Lead)
Exploration Project Contract Idm-E226, Linton Mines,
Blacktail Mine, Missoula County, Montana

I contacted Mr. Linton at the Blacktail Mine, November 6, 1952.

The state mine inspector has forced the company to stop mining in the large open stope because of the unsafe condition of the stope.

At the time of the inspection the company was cleaning ore from the stope. As soon as this is completed, the Operator will resume work on the exploration project.

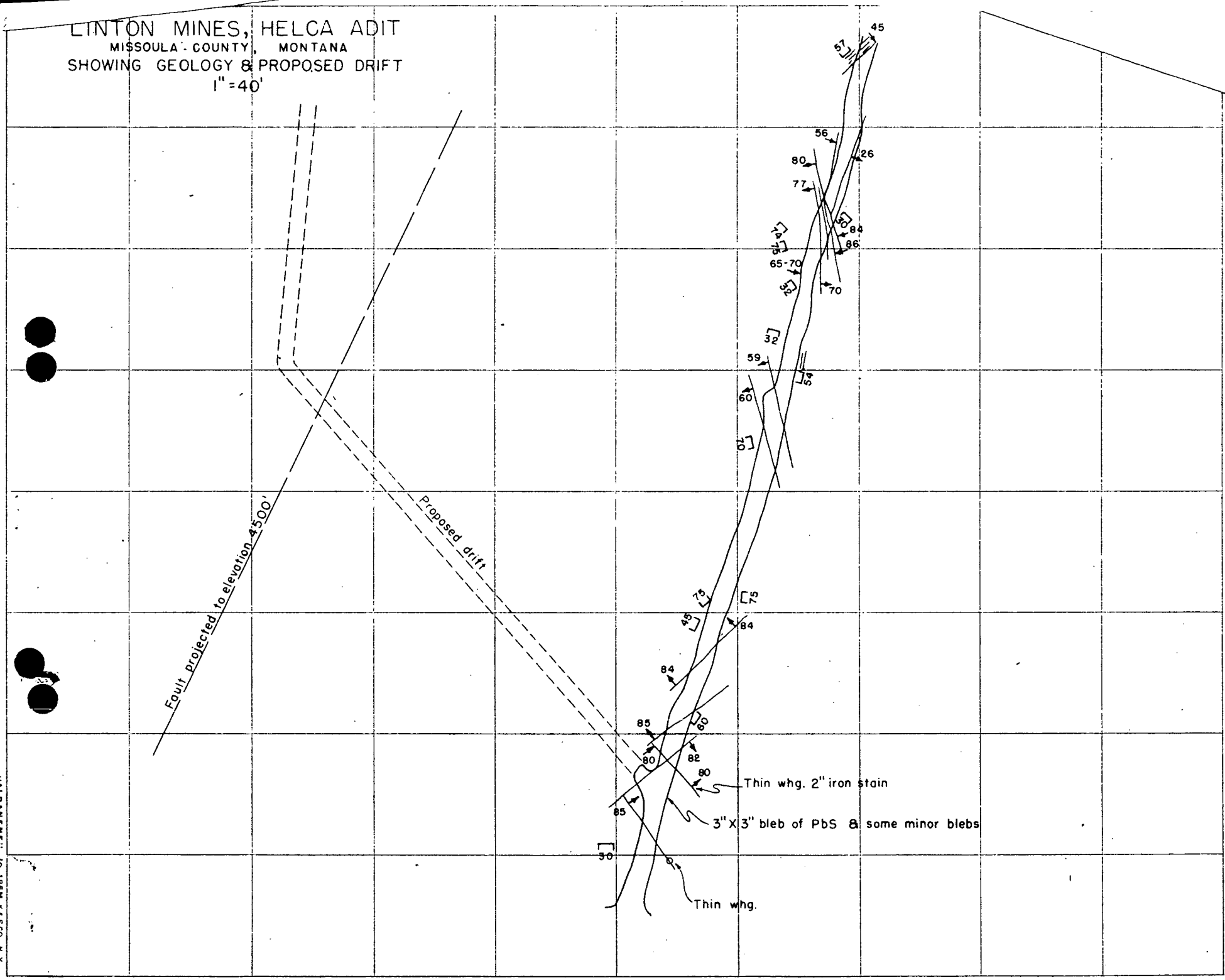
Dist: Orig. & 3-DMEA
USBM (2)
Docket
Quinlan

LINTON MINES, HELCA ADIT

MISSOULA COUNTY, MONTANA

SHOWING GEOLOGY & PROPOSED DRIFT

1" = 40'



"ALBANENE" NO. 185M K&E CO., N.Y. REG. U.S. PAT. OFF.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
So. 157 Howard Street
Spokane 4, Washington

September 30, 1952

Memorandum

To: DMEA Field Team, Region II

From: J. J. Quinlan, Geologist, U. S. Geological Survey

Subject: Routine Inspection, Docket No. DMEA-208 (Lead), Exploration Project Contract Idm-E226, Linton Mines, Blacktail Mine, Missoula County, Montana

I contacted Mr. Linton at Missoula, Montana September 12, 1952 in regard to resuming work on the exploration project.

Mr. Linton reported that work on the project would be resumed before December 1, 1952. Plans are to stop stoping operation and close the mill for the winter before December 1. The limited underground crew now being used for stoping will be transferred to the exploration project.

The Operator has until June 13, 1953 to complete work under the present contract. If work is resumed by December 1, 1952, there will be sufficient time to complete Stage I of the project. If Stage I of the project is successful it will probably be necessary to extend the termination date of the contract 6 months in order to complete Stage II.

If work is not resumed on the project by December 1, 1952, it is recommended that the contract be terminated.

J. J. Quinlan

cc: DMEA (4)
USBM (2)
Quinlan

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

No. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
Spokane
JUL 28 1952

July 24, 1952

Memorandum

To: A. L. Weissenborn, Executive Officer, DMA Field Team, Region II

From: J. J. Quinlan and L. H. Roseboom, Geologists, USGS

Subject: Routine inspection, DMA Docket No. 203, Linton Mines, Exploration Project Contract Ida-2226, Blacktail Mine, Missoula County, Montana, (Lead).

A routine inspection of the Blacktail exploration project was made July 9, 1952.

The Operator has failed to resume work on the exploration project since stoppage of work in February 1952. Mr. Linton, manager of the operations stated that he planned to resume work on the project in the near future as the lead market has materially improved.

It is recommended that Mr. Linton be given an additional month to set a definite date for resumption of work under the contract. If Mr. Linton fails to set a definite date by that time, I believe the contract should be terminated.

The large open stope was inspected. Recent stoping operation adds more credence to the theory that ore is controlled by joint systems developed in massive dolomitic limestone bed. This theory is discussed in J. J. Quinlan's and Alton Youngberg's routine inspection report of March 26, 1952.

J. J. Quinlan

cc: USBM
DMA ✓
USGS (DMD)

M. E. Volin, Member, DMEA Field Team, Region II July 22, 1952

John S. McNabb, Mining Engineer, Bureau of Mines

Routine inspection of Linton Lead, Contract Idm-E226
Missoula County, Montana, Docket No. DMEA 208 (lead)

This property is idle at the present time, and no new exploration is planned until the lead market improves.

John S. McNabb

cc: Our Files (1)
USGS (2)
Wash. (2)

JUL 28 1952

M. E. Volin, Member, DMEA Field Team, Region II. May 1, 1952

H. T. Reno, Mining Engineer, Mining Division, Region II.

Periodic Inspection, Contract Idm E208, Docket No. 208, (lead)
Linton Lead Mines, Missoula County, Mont.

I contacted Mr. Linton in Missoula April 14, 1952 in regard to work on this project. He has not been able to obtain a crew for the project since it was shut down in February, but believes that he will be able to resume work the first of May by rearranging the work schedules of the operating crew.

H. T. Reno

Orig. to files
cc: USGS
2 Washington ✓
HTR

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

No. 137 Howard Street
Spokane 4, Washington

March 26, 1952

Memorandum

To: A.E. Weissenborn, Exec. Officer, DMA Field Team, Region II

From: J.J. Quinlan and Elton Youngberg, Geologists, U.S.G.S.

Subject: Linton Mines (Blacktail Mine) Routine Inspection Report
DMA Docket No. 208X (Lead)
Exploration Contract No. Idm-1226

An examination of Linton mines, Exploration Project Contract Idm-1226 was made February 19, 1952. The purpose of this examination was twofold: (1) to study the general geologic setting of the deposit as past interpretation of the geology appeared to be in error; (2) recommend further exploration.

The present exploration program is designed to determine if lead ore mined near the surface continues at depth. The proposed program was planned on the hypothesis that the ore zone trends N. 45-55° W., dips 60° N.E., and is controlled by a shattered and sheared zone 75 to 100 feet wide along a small sharp anticlinal fold.

The first step of the exploration program was to advance the Hecla crosscut 150 feet northeast to cut the projected downward extension of the ore zone. Linton mines advanced the face 32 feet before the contract was signed and 103 feet after signing the contract. This work proved disappointing; the projected downward extension of the shattered and sheared zone which contained ore was not encountered. The total length of the Hecla crosscut is now 297 feet, the geology of which is shown on the accompanying sketch.

It was decided to drive a raise from the Hecla crosscut to the lower pit in which ore is exposed. The raise is located 168 feet from the Hecla crosscut portal. At the time of the examination the raise had been advanced 50 feet; no ore minerals had been encountered, however, the last 10 feet of raise exposed a fracture system similar to that found in the ore zone immediately above.

Field evidence indicates that the sharp anticlinal fold postulated as controlling the shattered and sheared zone containing ore does not exist.

The ore deposit appears to be controlled by joint systems developed in massive dolomitic limestone beds. The joint systems are best developed northwest of a fault exposed at the stope portal, which is believed to be pre-mineral. The fault strikes N. 25° E. and dips 60°-80° N.W., displacement appears to be considerable as the lithology and structure on each side of the fault are different. Most of the ore mined to date has come from the block of ground northwest of the fault; a small amount has come from the southeast block adjacent to the fault.

The northwest block in the immediate vicinity of the mine consists of a massive dolomitic limestone bed, locally silicified. Bedding is indistinct, and several prominent sets of joints are developed. Ore mineralization is controlled by at least two sets of joints, one set striking N. 55° W. and dipping 30°-50° S.W., the other striking N. 45°-55° W. and dipping 60°-90° N.E. Stoping operations this past year indicate that primary control is exercised by the N. 55° W. 30°-50° S.W. system, with some mineralization following up along the N. 45°-55° W. 60°-90° N.E. system from the intersection with the primary set.

The southwest block in the immediate vicinity of the mine consists of a massive dolomitic limestone bed locally silicified, capped by thin bedded dolomitic limestone with an occasional shale bed. The thin bedded dolomitic limestone strikes N. to N.W. and dips 18°-30° E. and N.E. The joint systems which control ore deposition in the northwest block are not nearly as well developed in the massive dolomitic limestone bed southeast of the fault, however, some ore has been mined from this block in the immediate vicinity of the fault.

As exploration at depth to date has been confined to the southeast block and as production has largely come from the northwest block, it appears advisable to extend the underground exploration from the Hecla crosscut into this area. The exploration program below proposes to accomplish this by drifting northwest from the Hecla crosscut.

(1) Drift approximately 180 feet northwest along the ore showing exposed in the Hecla crosscut 40 feet from the portal to cut the downward project of the fault exposed at stope portal.

(2) Crosscut 100 feet north to explore for downward extension of ore zone in northwest block.

This proposed program is designed to cut and explore the ore zone in the northwest block, taking into account information gained by the mining operation during the past year.

The above program has been checked by the Bureau of Mines. They believe it falls within the scope of the present contract and that no amendment is required.

cc: USBM, Spokane

208

MONTANA

MISSOULA COUNTY

February 1, 1952

Linton Mines, Idm-E226, Pb

50-50 of $52,540.00

18 months

The exploration is divided into two stages. Stage one includes extending the Hecla crosscut 150 feet to intersect the downward extension of the ore zone; drift 450 feet along the ore zone; crosscuts from the drift to determine the width of the ore zone, lengths not to exceed 100 feet; raise 120 feet from Hecla level; and bulldoze 400 feet of trenches. Stage two calls for 600 feet of crosscutting 200 feet below the Hecla level.

The Hecla crosscut has been extended 150 feet with negative results. Further geologic work is necessary before additional exploration can be planned.

Missoula HOTEL

MISSOULA MONTANA TELEPHONE 2188

Ref - Docket No. DM-208X
Lead

Jan. 6-1952

Linton Mines

Mr. C.O. Mittendorf, Director
Production Expansion Division
United States Dept. of the Interior
Washington 25 D.C.

Dear Mr. Mittendorf:

Enclosed Affidavit of Identity of One Nellie May Hughes as requested by legal Dept.

Sincerely yours
Linton Mines
By Thos. J. Linton

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 9 1952

FILE COPY
SURNAME:

Moulds
Mittendorf

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

not stripped in R.R.

Acting Administrator

Defense Minerals Exploration
Administration
1420137 Salaries & Expenses
Defense Production Activities, Interior
1952, "100(100)"

December 27, 1951

A. E. WEISENBORN
SOUTH 157 HOWARD STREET
SPOKANE 8, WASHINGTON

RE YOUR WIRE LIMPOX MINES NO 208X. CONTRACT MAILED TO YOUR OFFICE DECEMBER 18.

(signed) (MEA)

D. E. MOULDS, ACTING CHIEF
BASE-METALS DIVISION

DEMoulds/hmj
12-27-51
cc to: Mails and Files
Mr. Mittendorf
Mr. Moulds
Docket

Contracts & Audit Division
DMEA

UNITED STATES
DEPARTMENT OF THE INTERIOR Idm-E226
GEOLOGICAL SURVEY
157 So. Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 2 - 1952

December 26, 1951

Mr. C. O. Mittendorf
Chairman, Operating Committee
Defense Minerals Exploration Administration
Washington 25, D. C.

Re: Docket No. 208X-Lead
Linton Mines
Blacktail Mine
Missoula, Montana

Dear Mr. Mittendorf:

Returned herewith are the original and three copies of the above referenced exploration contract, which have been signed by the operator. One copy was given to the operator, and one copy is being retained by this office.

Yours truly,

J. J. Quinlan
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosures

CC: U.S.B.M.

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

1201

W. P. MARSHALL, PRESIDENT

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=Int'l Letter Telegram

VLT=Int'l Victory Ltr.

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

PRA237 PR SKA009 GOVT NL PD=SPOKANE WASH 19= 1951 DEC 19 PM 8 32

CHAIRMAN, OPERATING COMMITTEE DMEA (DEFENSE MINERALS EXPLORATION ADMIN)=DEPARTMENT OF INTERIOR WASHDC=

RE: DMA DOCKET NO. 208-X HAVE BEEN REQUESTED INFORMATION ON LINTON MINES, DMA DOCKET NO. 208-X EXPLORATION CONTRAC REPORTEDLY READY FOR FORWARDING TO FIELD TEAM. ADVISE AS TO CURRENT STATUS=

THOR KIILSGAARD FOR A E WEISSENBORN EXECUTIVE OFFICER DMEA FIELD TEAM REGION II=

Contract sent to DMEA Field Team Dec 18. Monopolizing uranium

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 20 1951

DEC 20 7 57 AM '51
BUREAU OF MINES
WASHINGTON, D.C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 20 1951

400

FILE COPY
SURNAME:

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

Sellinger
McWright
Thayer
O. Merrill (2)
Mutterdy

DEC 18 1951

Mr. A. E. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. 208X - Lead
Linton Mines
Blacktail Mine
Missoula County, Montana
Exploration Contract Ida-2226

Dear Mr. Weissenborn:

We are enclosing the original and five copies of the above referenced exploration contract signed by this office for the Government, together with Exhibit "A" (4 pages), a subordination agreement and one map.

If the terms and conditions of this contract are satisfactory to you and the Operator, all six copies should be signed by him. One copy is to be given to the Operator, one copy retained by your office and the original and three copies returned to this office.

If any part of this contract does not have either your approval or that of the Operator and cannot be amended within your delegated authority, then the original and all copies of the contract are to be returned to this office together with the proposed changes for consideration.

Please note that the following major changes have been made in the contract as originally outlined:

1. Only one crosscut was allowed on either side of the adit as the program, in part, is development rather than exploration. The sum for crosscuts is increased as the cost of 150 feet of same was omitted in the original contract.

2. Depreciation was allowed on the equipment furnished by the Operator instead of rental.

Bt

3. The item on miscellaneous tools was cut from $1,000 to $500 as it was so high, amounting to $0.70 per foot or $3.40 per day.

The above changes have increased the amount of the loan from $50,910.00 to $52,540.00.

Please note the restricting clauses on the purchase of a compressor and the number of men employed per shift. The former clause is to avoid buying a compressor near the end of the contract. The latter is a check on manpower. We are enclosing two copies of a letter from Mr. Linton who states that 5 men will be used per shift in the adits. He has only one Leyner, the one to be purchased. We can't see why he needs 5 men per shift when he has only one machine for drifting.

Sincerely yours,

(signed) FRANK E. JOHNSON (fw)

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures

Approved:

_____
Member, Bureau of Mines

_____
Member, Geological Survey

GCSelfridge'lm
12/13/51

cc: Admn. Reading File
Mails and Files Br.
C. O. Mittendorf
E. T. McKnight, USGS
O. M. Bishop, USBM
Field Team Reg. II
Docket
G. C. Selfridge

SCD 12-18-51

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

December 12, 1951

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 1 2 1951
Defense Minerals Administration,
Production Expansion Division.

Memorandum

To: Director, Production Expansion Division

From: Chief Counsel

Subject: Linton Mines exploration contract — DMA-208X

We are still unable to approve the draft of the exploration project contract in this case, resubmitted to us on December 10, 1951, because the requirements of our memorandum of December 3, 1951 have not been fully met.

The difficulty has been the discrepancy between the parties to the subordination agreement and the grantors in the lease. The grantors in the lease are Roy B. Hughes, Nellie Mae Hughes, his wife, Lawrence W. Shaubut and Pearl J. Shaubut, his wife. The signors of the subordination agreement are the Westmont Tractor & Equipment Co. and Mrs. Roy B. Hughes. The deed and assignment from the Shaubuts to the Westmont Tractor & Equipment Co. explains the substitution of the company for those individuals in the subordination. There is no explanation, however, of the absence of Roy B. Hughes' signature on the subordination. If he has died and Mrs. Hughes now has his interest that fact should be stated in an affidavit. The affidavit should also state that the Mrs. Roy B. Hughes who has signed the subordination is the Nellie Mae Hughes who signed the lease.

Your file on the case is returned herewith.

J. L. Hofflund

J. L. Hofflund
Chief, Counsel

Attachment

By telephone Linton says Mr. Hughes died and Mrs. Hughes acquired interest. He will send the two requested affidavits. Legal advises Selfridge further delay.

Called his Spokane Home 12/13/51.

FILE COPY
SURNAME:

Guthrie

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

December 3, 1951

Memorandum

To: Director, Production Expansion Division

From: General Counsel

Subject: Linton Mines exploration contract — DMA-208X

The proposed exploration contract in this case, resubmitted to us on November 28, 1951, is again returned to you unapproved inasmuch as the objection of item 2 of our memorandum of October 19, 1951 has not been fully met.

The subordination now attached is signed by the Westmont Tractor & Equipment Co. and Mrs. Roy B. Hughes, but the lessors, according to the copy of the Lease and Option attached to the file, are Roy B. Hughes, Nellie Mae Hughes, Lawrence W. Shaubut and Pearl J. Shaubut. The subordination agreement should be signed by these latter four individuals as their names appear in the Lease and Option, unless there has been an assignment of some or all of their interests, in which case the documents covering the change should be included in the file.

Your file is returned herewith.

Hofflund

J. L. Hofflund
General Counsel

N.S
R+R

Attachment

RRGuthrie/bjl

Copy to: Repts. & Records
J. L. Hofflund
R. R. Guthrie
Chron.

BL

Mr. Dalfridge

Missoula HOTEL

Linton Mines

MISSOULA MONTANA TELEPHONE 2188

Dec. 3 — 1951

DEPT. OF THE INTERIOR
RECEIVED
DEC 6 - 1951
PETROLEUM ADMIN. FOR DEFENSE

Ref: Docket No. 208X Lead

DEPARTMENT OF THE INTERIOR
RECEIVED
DEC 7 1951
Defense Minerals Administration,
Production Expansion Division.

Mr. C. O. Mittendorf
Production Expansion Division
Dept. of The Interior
Washington 25 D.C.

Dear Mr. Mittendorf:

Enclosed copy of mining Claim Deed and assignment of lease as requested today by telephone from your Dept.

Very truly yours
Linton Mines
By Thos. J. Linton

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.
DEC 6 4 00 AM '51

FILE COPY
SURNAME:
400

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

Selfridge
Mittendorf

NOV 16 1951

Mr. Thomas J. Linton
Missoula Hotel
Missoula, Montana

Dear Mr. Linton:

In connection with your application for an Exploration Project Contract, it is to be noted that you will operate as a partnership under the trade name "Linton Mines", and that the partnership is composed of eight individuals. It will be necessary to obtain the signature of all eight partners to the contract unless you can furnish us with written evidence of your authority to execute the contract on behalf of the other partners. It is noted in the Assignment of Lease Agreement that a certificate covering the partnership is of record in Missoula County. Perhaps this certificate will furnish the evidence needed to show your authorization to sign on behalf of the other partners. If not, perhaps there is available articles of agreement which will show such authority.

Please furnish such evidence or advise that there is none in existence, and the contract will be prepared for the signature of all eight partners.

Sincerely yours,

C. O. Mittendorf (for)

C. O. Mittendorf, Director
Production Expansion Division

GCSelfridge/CJKoontz/meh
11/16/51
cc to: Adm. Reading File
Reports and Records
PED
Mr. Koontz
Mr. Selfridge
Docket

BL

400

FILE COPY
SURNAME:

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

AIR MAIL

OCT 25 1951

Selfridge
Johnson

Mr. Thomas J. Linton, Gen. Mgr.
Linton Mines
Missoula Hotel
Missoula, Montana

Re: Docket No. DMA-2081, Lead

Dear Mr. Linton:

We have been advised by our legal department that it will be necessary that you furnish us an assignment of the lease from you to Linton Mines.

In addition, our information here states that Linton Mines is a special partnership operating under the laws of Montana. To complete the Exploration Contract we will need the names of the partners.

As soon as we receive the above information, we can complete the contract at once.

Sincerely yours,

(signed) FRANK E. JOHNSON (fw)

Acting Director 10/25
Production Expansion Division

GCSelfridge/jem
10-22-51
cc to: Adm. Reading File
Reports & Records
Messrs. Mittendorf, Olund
Mr. G. E. Johnson
Mr. Mote
Mr. McKnight
Mr. Selfridge
Field Team, Reg. II (2)
Docket

140

FILE COPY
SURNAME:

Guthrie

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

October 19, 1951

Memorandum

To: Director, Production Expansion Division

From: General Counsel

Subject: Linton Mines exploration project contract, DMA-208X

I am unable to approve the subject draft of a contract, which was submitted to this office on October 16, for the following defects:

1. The contract is made in the name of "Linton Mines", with no indication as to whether this is a corporation, a partnership, an individual, or some other sort of legal entity. Please refer to Note 2 of the contract form in making the necessary revisions.

2. The subordination agreement of the lessor is not attached to the contract.

3. If the operator-contractor is any entity other than Thomas J. Linton, it is necessary that the lease be assigned to whoever the operator-contractor is to be.

Your file is returned herewith.

J. L. Hofflund

J. L. Hofflund
General Counsel

not stripped in
R. R.

Attachment

RRGuthrie/JLHOfflund/bjl

Copy to: Repts. & Records
R. R. Guthrie
J. L. Hofflund
Chron.

a.e.c.

special partnership [illegible]
under [illegible]
several partners.

Lintom Mines
Missoula Hotel
Missoula, Montana.

October 8 1951

Mr. C. O. Mittendorf, Director
Production Expantion Division
United States Department of the Interior
Washington 25 D. C.

Re: Docket No. DMA-208X, Lead.

Dear Mr Mittendorf:

In compliance with your request for additional information as outlined in your letter of September the 28th I am submitting the following:

1. The number of men to be employed as outlined in Exibit "A " Stage I. Ans: 5 men to start and after the X cut is completed three more will be added so that drifting can be progressing both ways on structure . That will be 8 men to the shift. We will start with one shift.

2. Number of feet of trenching that will be done: Ans- Approxmately 400.

3. The number of men to be employed driving X cut of stage II. Ans- Start with 5 to shift.

4. The estmated market value of the D7 Caterpillar tractor, crawler with dozer. It will sell for $11,000.00

5. A copy of the lease and option is enclosed. There is $18,000.00 bal. to be paid.In other words we have paid $32,000.00 of the $50,000.00 to be paid for the property.

I hope this answers your request and if further information is required I shall be glad to furnish same.

Very truly yours,

Thomas J. Linton,Gen.Mgr.
Linton Mines

400

FILE COPY
SURNAME:

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

AIR MAIL

Selfridge
Mittendorf

Mr. Thomas J. Linton, Gen. Mgr.
Linton Mines
Missoula Hotel
Missoula, Montana

SEP 28 1951

Re: Docket No. DMA-208A, lead

Dear Mr. Linton:

In order that we may complete the processing of the subject contract will you kindly furnish us the following information at your earliest convenience:

1. The number of men that will be employed during each of the first 4 steps of the proposed program as outlined in Exhibit "A" Stage I and the number of shifts worked daily.

2. The number of feet of trenching that will be done.

3. The number of men that will be employed while driving the crosscut of Stage II of the program.

4. The estimated market value of the D7 Caterpillar tractor, crawler with dozer.

5. A copy of the lease and option.

Sincerely yours,

C. O. Mittendorf (G.W.) 9.28

C. O. Mittendorf, Director
Production Expansion Division

GCSelfridge/jem
9/28/51

cc to: Adm. Reading File
Reports & Records
Messrs. Mittendorf, Olund
Mr. Billings
Mr. Mote
Mr. McKnight
Mr. Selfridge
Field Team, Reg. II (2) Docket

Mr. Bendemore

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

1201 N. Division St.
Spokane 2, Wash.

DEPARTMENT OF THE INTERIOR
RECEIVED
SEP 27 1951
Defense Minerals Administration,
Production Expansion Division.

September 20, 1951

Lawton Miles

MEMORANDUM

To: C. O. Mittendorf, Director, Production Expansion Division, Defense Minerals Admin., Washington 25, D.C.

From: DMA Field Team, Region II

Subject: Subordination agreement, Docket DMA 208X, Lead, Blacktail Mine, Missoula County, Mont.

Through: L. F. Strobel

Enclosed please find a subordination agreement (six copies) concerning the subject mine.

A Field Team recommendation supported by an examination report and accompanied by an exploration project contract for the Blacktail property was transmitted to your office on June 29, 1951.

It is considered that all material essential to a contract approval now is in your hands.

By Field Team, Region II

OFFICIAL FILE COPY

To	Init.	Date
250	G.E.C.	9-24
210		

A. E. Weissenborn
A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

M E Volin
M. E. Volin, Member
(U. S. Bureau of Mines)

Enclosure

DEFENSE MINERALS ADMINISTRATION WASHINGTON, D.C.
SEP 24 10 24 AM '51

SEP 24 1951

FILE COPY
SURNAME:

400

Blakemore
Mittendorf

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

Q.E.C.

Linton Mines
Missoula Hotel
Missoula, Montana

SEP 12 1951

Re: Docket DMA 208X, Lead
Blacktail Mine
Missoula County, Montana

Gentlemen:

I was advised on July 28, 1951 by the DMA Field Team, Region II, that you would presently mail me the necessary Landlord's Subordination Agreements for attachment to the six copies of the subject Exploration Contract, signed by you, which are in our files.

As these subordinations have not been received by me, I would appreciate your advice in regard to them at your earliest convenience.

Sincerely yours,

C. O. Mittendorf (P.H.)

P.H. 9/12

C. O. Mittendorf, Director
Production Expansion Division

PBBLakemore/meh
cc to: Reports and Records
Adm. Reading File
Messrs. Mittendorf, Olund
Mr. Blakemore
Region II (2)
Docket

Brokered for Metalight 6/5/51 Herres

7-5-51

Defense Minerals Administration

Review of Application for Exploration Assistance

To: Director, Production-Expansion Division

From: Director, Supply Division

Docket No. 208X

Commodity Lead

Total Amount $50,910

Govt. Participation $25,455

1. Name and Address of Applicant Linton Mines, Missoula Hotel, Missoula, Montana

2. Location of Property Sec. 30, T 12 N, R 15 W, B.M. Missoula County, Montana

3. Mineral or metal Lead Is it listed in Section 9 of MO-5?

If not, application will be rejected.

4. Geologic probability of discovery—based on data in application (question #16, 17, 18, 20 and 22)*

Mines or Survey reports, etc., do you rate chances:

a) Good X

b) Poor

c) None

d) Don't know—needs field examination

e) Is there an alternative and favorable project? (If so, attach an explanation)

5. Is the applicant's right to the property clearly stated? Yes (question 5, 6, 7)*

6. If applicant is a lessee, is a copy of the lease attached? No, not necessary

Does the lease have sufficient time to run to cover a future productive period? Yes

*question numbers are those of MF-103

7. Are subordination agreements necessary? _____

a) MF-201? _____

b) MF-202 Form not attached, but will be forwarded to Washington immediately. (see covering letter from field team).

8. From the data presented, does the proposed project appear feasible from the point of view of:

a) Available manpower Adequate

b) Equipment and supplies Available in area
(Question 14 plus general knowledge of availability)*

c) Accessibility (question 12)* Good roads to mine

d) Water (question 13)* Ample for mining purposes

e) Power (question 13)* Available at mine and mill

Is a field check needed on any of these points? Field check made

9. Does the experience of the applicant appear to be adequate to assure that he can properly conduct the proposed project? (question 4)* Yes, see field team report

Is a field check needed on this point? No

10. Exhibit A. (questions 21 and 22)*

a) Is the project adequately described? Yes

If not, are there sufficient data given so that you can describe the project? See field team report attached If so, attach a draft.

b) Is there an adequate map or sketch of the proposed work? Yes

c) Is the proposed work "exploration" under the definition of Section 8, MO-5? Yes

If not, what part of it is? _____

Is this part a worthwhile exploration project?_____

d) Are the cost estimates detailed? Yes, see field team report

Can they be summarized, as on page 2 of Procedural Instruction 5-A, from the available data?_____ If so, attach a draft.

e) Are the cost estimates reasonable? Yes

f) Should more information be requested from applicant? No

g) Is a field examination necessary to complete Exhibit A? No

11. Exhibit B (question 23-d)*

a) Is it applicable? Not applicable

b) If so, are sufficient data furnished?_____ If so, attach a draft.

c) Is a field check needed?_____

12. Exhibit C (question 23-e, f and g)*

a) Is it applicable? Yes

b) Sufficient data? Yes If so, attach a draft. See exhibit "C" of attached field team report.

c) Are rents and charges reasonable? Yes, rates that prevail in area

d) Is a field check needed? No

13. Exhibit D (question 23-a, b)*

a) Are there sufficient data? Yes

b) Is the schedule adequate for the work proposed? Yes

c) Is the schedule excessive for the work proposed? No

d) Are the proposed wages and salaries reasonable? Yes

e) Is a field check needed? No

14. Exhibit E (question 23-c)*

a) Is it applicable? Not applicable

b) Sufficient data?

c) Reasonable?

d) Field check needed?

15. In your judgment, can the proposed work be done in the proposed time?

(All exploration must be completed within two years)

16. If field examination is not needed, attach your recommendation.
Lead-Zinc Branch concurs with field team report

17. If field examination is needed, do you have any special instructions for the field team not indicated by your answers to the foregoing question?

Reviewed by: A. L. Brokaw GS

Date 7-5-51

INT.-DUP. SEC., WASH., D.C. 99009

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

So. 157 Howard Street
Spokane 4, Washington

June 28, 1951

Docket No. DMA-208 X
Commodity-Lead

Memorandum

To: Tom Lyon, Chairman, Operating Committee

From: Field Team, Region II

Through: L. F. Strobel

Subject: Contract for exploration of Blacktail mine by Linton Mines, Missoula County, Montana

The Blacktail mine is a producing property which has merit and it is recommended that the contract be given favorable consideration. The deposit is a replacement type in limestone in which scattered discrete masses of galena occur within a shattered zone in a small sharp anticline. The deposit has been mined for over 100 feet from the surface and no reason can be seen why the deposit won't continue in depth, at least as far as the proposed exploration. The mine product is cheaply and easily concentrated to a good grade product in a sink-float plant at the mine.

The Examination Team's report is being typed and will be airmailed later today or tomorrow.

The Landlord's Subordination Agreements have not been returned by Mr. Linton; they will be forwarded as soon as completed. Six copies of the contract and accompanying exhibits and maps are enclosed.

By Field Team, Region II

A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

M. E. Volin, Member
(U. S. Bureau of Mines)

Enclosures

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 2 1951
LANDON F. STROBEL
Executive Secretary

cc: U.S.B.M., Spokane
U.S.B.M., Albany

JUL 3 1951

4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
1207 N. Division St.
Spokane 2, Wash.

June 28, 1951

MEMORANDUM

To: Otto Herres, Chairman, Lead--Zinc Branch, Defense Minerals Administration, Department of Interior, Washington 25, D.C.

From: Field Team, Region II

Subject: Linton Mines, Missoula County, Mont., DMA 208x

The Field Team recommends an exploration contract with Linton Mines in the amount of $50,000, with the Government furnishing $25,000.

The applicant has made a notable production of lead in high-grade concentrates during the past three years and desires to explore for extensions of mineralization mined at and near the surface. The program principally would entail crosscutting the ore structure 100 feet below the present workings, with about 600 feet of workings to determine the extent of the mineralization on that level. If ore is intersected the applicant then proposes a 600-foot crosscut to the structure 200 feet deeper. If ore is intersected on the lower level the applicant expects to continue exploration without further aid.

The applicant has ample milling capacity to increase ore treatment from 100 tons to 500 tons per day, and if the exploratory program discloses ore similar to that now mined, metal production will be raised to over 600,000 pounds of lead per month.

The Field Team believes that the applicant is capable of carrying out the proposed program and that the mine fully warrants it. The type of program recommended is much better than diamond drilling because of the irregularity of mineralization.

By Field Team, Region II

M E Volin

M. E. Volin, Member
(U. S. Bureau of Mines)

A E Weissenborn

A. E. Weissenborn, Exec. Officer
(U. S. Geological Survey)

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 2 1951
LANDON F. STROBEL
Executive Secretary

gcf
6/2/53

UNITED STATES
DEPARTMENT OF INTERIOR
OSCAR L. CHAPMAN--SECRETARY

DEFENSE MINERALS ADMINISTRATION

Report by Examination Team
Region II

DMA-208x--Linton Mines

Missoula County, Montana

Elwin A. Magill USBM
James J. Quinlan USGS
Allan B. Griggs USGS

June 25, 1951

ON-SITE
EXAM RET.

DMA EXAMINATION TEAM REPORT

DMA Docket 208x

Elwin A. Magill USBM
James J. Quinlan USGS
Allan B. Griggs USGS

Blacktail Mine (Linton Mines)
Missoula County, Montana
June 25, 1951

RECOMMENDATIONS

The Examination Team recommends that the DMA enter into an exploration contract with Linton Mines in the amount of $50,000. Linton Mines is prepared to furnish $25,000 of this amount.

APPLICANT

The applicant is Linton Mines, Missoula Hotel, Missoula, Mont. Linton Mines is a special partnership, formed September 3, 1948, operating under the laws of Montana.

Thomas J. Linton is general manager and partner.

LOCATION OF DEPOSIT

The property consists of nine unpatented mining claims in the Copper Cliff mining district, sec. 30, T. 12 N., R. 15 W., Missoula County, Mont. The names of the claims are Fawn Nos. 1, 2, 3, 4, 5, 6, and 7, White Tail, and Blacktail.

The mine is 26.5 miles by paved U. S. Highway 10, east of Missoula, Mont., and about 4 miles up Cramer Creek from the point where the highway crosses it.

OWNERSHIP

The property is owned by Mrs. Roy B. Hughes and Mr. Lawrance Staubert, both of Clinton, Mont. It is under lease and option to Linton Mines. The total purchase price was $50,000, of which over $22,000 has been paid in royalties to date.

HISTORY AND PAST PRODUCTION

The Blacktail mine was located in 1946 by Lawrance Staubert and Roy Hughes. Apparently this was an initial location although a few hundred feet to the northwest on line with the ore structure there is a short caved adit and several prospect pits that were made over 30 years ago.

In 1947 Hecla Mining Co. of Wallace, Idaho, examined and prospected the property. Eight holes were diamond drilled a total of 1,250 feet, and over 500 feet of crosscuts and drifts were driven. This option was relinquished and the property later was taken over in 1948 by T. J. Linton, who with several partners, formed Linton Mines. A heavy media separation plant was installed in 1949. The property has been in continuous production since that time except for winter shutdowns.

Production data are:

Year	Tons of concentrate	Percent Lead	Pounds of Metallic Lead
1949	584	44.10	515,088
1950	668	51.65	690,044
1951 (April 1 to May 16)	152	63.9	194,256

In a 65 percent lead concentrate the silver averages about 2.0 ounces per ton, zinc 1 percent or less, copper less than 0.10 percent, iron less than 1 percent, with only a trace of gold.

DESCRIPTION OF PROPOSAL

The applicant proposes to spend approximately $50,000 to determine if the lead mineralization which has been mined close to the surface continues to depth. This exploration would entail a continuation of the present Hecla crosscut about 150 feet to cut the ore structure some 100 feet below the present workings, with some 600 feet of drifting and crosscutting to determine the extent of the mineralization on that level. A 120-foot raise to the surface also is proposed.

If this program is successful, it is then proposed to drive a 600-foot crosscut to cut the structure again 200 feet below the Hecla crosscut. No drifting or crosscutting is proposed from this lower crosscut inasmuch as the company does not wish at the present time to enter into an exploration program costing more than $50,000. They also feel that if ore is intersected in the lower crosscut, they will be able to continue the exploratory program without further aid.

TECHNICAL FEASIBILITY

Geologic Setting

The rocks in the vicinity of the Blacktail mine are bluish-gray, massive dolomitic limestones (Madison formation ?) generally striking northwest and dipping from 20° to 50° to the southwest. Locally this formation contains thin lenses of shaley rock and some siliceous beds. Exposures in cliffs to the northeast on upper Cramer Creek show that these rocks are over 500 feet thick. The deposit is near the top of the formation.

A small sharp anticlinal fold which in general trends parallel to the bedding is the locus of a shattered and sheared zone from 75 to 100 feet wide. Many small faults generally paralleling the trend of the fold and usually dipping 50° or more in either direction cut the fold. A few have gentler dips and some of the steeper ones curve to shallower dips. A series of cross faults generally striking about N. 20° E. and dipping from 60° NW. to vertical also are common. None of these faults appear to be persistent as they rarely can be traced through the mine workings for more than 100 feet. The greatest displacement observed on any single fault was about 12 feet. Other smaller shears trending in all directions are common; some of these appear to follow bedding planes.

It is within this sheared and shattered zone that the lead mineralization occurs as discrete, irregular masses ranging

in size from blebs a fraction of an inch in width and an inch or so in other dimensions to pods as much as a foot wide and a foot or more in length. Short stringers also are found. The only primary mineral observable is galena, which has a steely schistose appearance as though sheared since deposition. Some scattered copper minerals also must be present as malachite and azurite are found coating fractures here and there. Sphalerite is probably present in minute amounts as the lead concentrates contain 1 or 2 percent zinc.

The masses of galena are usually elongated parallel to the trend of the general zone but may finger out in any direction. They replace along shatter planes rather than shear planes. Previous mapping of the deposit by Hecla Mining Co. and American Smelting and Refining Co. show that some individual narrow zones of mineralization that parallel the general trend of the deposit dip 60° or more to the southwest. However, the deposit as a whole dips about 60° NE.

The width of the zone of mineralization, where it has been mined, is approximately 25-75 feet. Within it the blebs, pods, and stringers of galena are extremely variable. In some places embayments into the zone are barren; in these places the rock is less shattered and usually is composed of a light-gray silicified limestone. A fairly persistent zone containing the highest concentration of galena is followed in mining, and it forms more or less of a core in the deposit. It varies from 5 to 20 feet in width, and in more selective underground mining on this zone the grade of the ore has

been maintained at about 5 percent lead, whereas in mining in the open pit the ore mined averaged 2 percent lead. The deposit has been mined for a length of 330 feet, and spotty lead mineralization has been found for an additional 100 feet to the southeast. A few blebs of galena are exposed at one place along the trend of the deposit, 400 feet to the southeast and 150 feet lower than the present workings, and films of oxidized copper and lead minerals can be seen on some pieces of rock on the dump of a prospect about 500 feet to the northwest and 100 feet higher than the present workings.

Oxidation of the galena has been only partial at the surface, for galena has been found in outcrops; however, some of the shears are coated with films of pyromorphite and about 1 percent of the concentrate saved when the property was visited May 17-21, 1951, was composed of small drusy masses of cerussite and pyromorphite. It is not expected that the oxidation will extend below 50 feet, and to that depth it will be only slight.

Description of Mine Workings

In 1947 Hecla drove two crosscuts (see map); the upper one of these is under the present open pit, the other is to the southeast and about 100 feet below the upper. In 1948 Linton Mines took over the property and carried on open pit operations until 1950. Until this year it has not been necessary to go underground. The present

open pit in two trenches is some 330 feet on the strike, 30 to 60 feet wide, and about 100 feet deep.

Reserves

No ore is blocked out as the present operator has made no attempt to explore or develop the property. He has followed the ore, benefitting by the surface trenching and the upper crosscut and drift made by the Hecla Mining Co. Underground he has mined down to the drift level, and the eastern part of the pit is 20 feet below this drift level. It can be assumed that the ore extends down to the level of the floor of the pit in the west end of the deposit. Using 25 feet for the width of the ore zone and a length of 230 feet, this block would contain 9,600 short tons of ore averaging about 3 percent lead. The grade is based upon the average of the ore mined; this is considered more accurate than any results that might have been gotten by sampling because of the spotty nature of the mineralization. This block can readily be mined with the present facilities before moving down to a lower level.

Mining Methods

During the years 1947 to 1950 mining was carried on by open pit methods. A bulldozer was used to push the broken rock over the edge of the pit where a natural trough carried it down some 700 feet to the sink float plant. In 1951 the pit was several hundred feet long, 75 to 100 feet deep, and 25 to 35 feet wide. In the fall of 1950 it became necessary to go underground due to the danger of failure of the high walls of the pit.

At the time of the examining team's visit (May 1951) approximately half the production of 100 tons per day was coming from underground, and the other half from the open pit.

In the pit, benches are carried about 4 feet in height. Underground mining is carried on in a large, open, unsupported stope. A double drum gasoline-driven slusher is used to move the broken ore from the stope to a point where the bulldozer can push it over the edge of the pit.

Mr. Linton reports that his mining cost during the period when all ore came from the open pit was $1.56 per ton.

Milling Methods

The ore is concentrated in a Western Machinery Company heavy media separation concentrator of 15 to 25 tons per hour rated capacity.

The ore is crushed to minus 2 inch in a 10" x 20" jaw crusher. No other crushing or grinding is necessary. The ore then is screened, minus 6 mesh (about 20 percent of total tonnage) flowing to a 12-inch Denver Duplex jig, and plus 6 mesh going to the sink-float section of the mill. The overall recovery is better than 90 percent of the contained lead. Concentrates during the last few months have averaged better than 64 percent lead with one shipment running 68 percent. Mill heads for that period averaged 5 to 6% lead.

Mr. Linton reports that his milling cost is $1.74 per ton including $1.00 per ton amortization of the mill.

Rate of Production

Present

The present production schedule gives approximately 100 tons per day of 5-6 percent lead ore and about 250 tons per month of concentrate containing over 160,000 pounds of metallic lead.

Anticipated

The applicant has ample mill capacity to increase ore production to 500 tons per day. It is anticipated that if the exploration program discloses ore similar to that now mined, metal production will be raised to over 600,000 pounds of lead per month.

Time Schedule

It is anticipated that the proposed exploration program will be completed within 18 months. Production may be increased within 2 months.

Marketing Facilities

The concentrates are shipped by rail to the American Smelting and Refining Company's plant at East Helena, Mont., where they command a premium for their purity.

EQUIPMENT AND FACILITIES

Installed

The mine is completely equipped for present operations. This includes:

Equipment

Mobil-Mill 15 to 25 tons per hour

Electric generator 75 Kw Caterpillar Diesel

Tractor, crawler with dozer, D7 Caterpillar

Truck 4 x 4 Chevrolet dump

2 Stopers

3 Winches, double drums, gas-powered, with scrapers

Air compressor 500 cfm Worthington with caterpillar Diesel

3 Jackhammers 55#

Air slusher double drum air

All miscellaneous tools necessary

Buildings

Cookhouse 18 feet by 18 feet

Bunkhouse for 4 men

Trailer house

Tool shed

Additional equipment required will be:

1 Mucking machine	$ 3,000.00
1 Air trammer	1,800.00
8 2-1/2 ton cars @ $250 each	2,000.00
1 Drifter, automatic feed, with column and bar	900.00
1 Air compressor 315 Diesel	8,250.00
Miscellaneous tools	1,000.00
Total cost of required equipment	$16,950.00

LABOR SUPPLY

Labor supply is ample in the area to carry out the proposed program although slightly higher than average wages are paid at present.

The current wage scale for all classes of labor is $14.00 per 8-hour shift. The mine superintendent receives $500 per month.

POWER

All power is at present supplied by either Diesel or gasoline engine drive. The connected horsepower is 330.

The nearest transmission line of the Montana Power Co. is 4 miles away. In February 1950 it was estimated that a branch line to the mine would cost $7,500.

TRANSPORTATION

Most of the mining supplies are trucked 30 miles from Missoula, of which 26 miles is over a paved highway.

Concentrates are hauled in company-owned truck to the railhead at Clinton, 12 miles from the mine. Railroad freight rates on concentrates are $3.60 plus 3 percent tax to East Helena, Mont.

No access road construction is required.

ADEQUACY OF REQUESTED FUNDS

The funds requested are adequate for the proposed program.

COMPETENCE OF APPLICANT

The applicant is capable of carrying out the proposed program.

DISCUSSION OF PROPOSAL

The examining team believes that the mine fully warrants the proposed exploration program. This type of program is much better than diamond drilling because of the irregularity of mineralization within the ore zone.

If the two stage program as outlined is successful it would be advisable eventually to intersect the ore structure with a crosscut adit from creek level, 200 feet below the lowest exploration proposed.

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

June 13, 1951

Mr. Thomas J. Linton
Missoula Hotel
Missoula, Montana

Dear Mr. Linton:

In reply to your letter dated May 30, 1951, we are enclosinga copy of GSA-113 explaining the tungsten program which was recently approved.

Very truly yours,

P. R. Bradley

P. R. Bradley, Jr.
Chief, Tungsten Branch

Enclosure

TJBallard:sc

CC: Adm. Reading File
Mr. Strobel
Mr. Bradley
Files

Missoula Montana
May 30 1951.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 13 1951
LANDON F. STROBEL
Executive Secretary

United States Department Of The Interior

Defence Minerals Administration

Washington 25 D.C.

Supplimentto-
Ref: Docket-DMA 208.

Dear Sir:

The Applicant would like to inter into a $50,000.00 exploration program with the Government on a 50-50 basis. The exploration program consistsof three plans,the third plan is contingent upon the success of the first two. The three plans will Explor :

Plan #1main ore zone at an approxmate depth of 100 feet below present workings.

Plan #2 extention of the ore structure to the Southeast.

Plan #3 Main ore zone at a depth of 300 feet below the present workings.

plan #1 calls for the extention of the present Hecla X-cut up to 150 feet so as to intersect the ore structure at right angles to its strike. It may not be necessary to drive the full 150 feet to completely x-cut the structure.

After x-cutting the structure it is proposed to drift on the most favorable area in the structure approxmately 300 feet to the Northwest and 150 feet to the Southeast. To further explore this structure at least two x-cuts up to 75 feet in length is to be driven from the drifting along with a 120 feet raise to the workings above.

The cost of plan #1 is estimated as follows:

700 feet x-cutting and drifting at $25.00 pr. ft.	$18,750.
120 feet of raising at $20.00 pr. ft.	2,400.

Additional Equipment:

Mucking Machine	$3,000.00
Air Trammer	1,800.00
4 one ton Cars	1,000.00

JUL 17 1951

Plan #1 Additional Equipment Cont:

Drifter	$900.00	
4 Tons Rail	500.00	
Misc. Tools	1,000.00	
	$8,200.00	
		$8,200.00
Total for Plan #1		$29,350.00

Plan #2 calls for a Surface prospecting program on the continuation of the Structure to the Southeast in the area between the main pit and Cramer Creek. This would call for a series of bulldozer cuts and possibly trenches to determine how extensive the mineralization is to the Southeast. Up to $1,000.00 will be expended on this plan. $1,000.00

Plan #3 Calls for the exploration of the main ore structure at a depth of 200 feet below the Hecla x-cut. This would be 300 feet below the present workings. This plan is not to be undertaken until such time as plan #1 gives a favorable result and with geologic evidence that the ore shoot continues down on approxmately its present strike and dip. In this plan it is proposed to drive a 600 feot x-cut from an elevation 200 feet below the Hecla x-cut. The portal to be situated so that it will be possible to dump ore into the natural ore shute which goes to the mill. The proposed intersection of the deposit will be at a point beneath the present surface workings, its exact location to be determined after plan #1 discloses whether or not there is any rake to the ore shoot. It may be advisable to start this x-cut from a point to the Southeast of the structure rather then the Southwest. This may save some of the 600 feet of x-cutting befor the structure would be encoutered if the x-cut were to be started from the Southwest.

Plan #1 Additional Equipment Cont:

Drifter	$900.00
4 Tons Rail	500.00
Misc. Tools	1,000.00
	$8,200.00
Total for Plan #1	$8,200.00
	$29,350.00
	$29,350.00

Plan #2 calls for a surface prospecting program on the continuation of the structure to the Southeast in the area between the main pit and Cramer Creek. This would call for a series of bulldozer cuts and possibly trenches to determine how extensive the mineralization is to the Southeast. Up to $1,000.00 will be expended on this plan.

Plan #3 Calls for the exploration of the main ore structure at a depth of 200 feet below the Hecla x-cut. This would be 300 feet below the present workings. This plan is not to be undertaken until such time as plan #1 gives a favorable result and with geologic evidence that the ore shoot continues down on approximately its presentstrike and dip.In this plan it is proposed to drive a 600 foot x-cut from an elevation 200 feet below the Hecla x-cut. The portal to be situated so that it will be possible to dump ore into the natural ore chute which goes to the mill. The proposed intersection of the deposit will be at a point beneath the present surface workings,its exact location to be determined after plan #1 discloses whether or not there is any rake to the ore shoot.It may be advisable to start this x-cut from a point to the Southeast of the structure rather than the Southwest. This may save some of the 600 feet of x-cutting befor the structure would be encountered if the x-cut were to be started from the Southwest.

Since plan #3 depends on the outcome of plan #1 exploration the cost estimate at present time would be on the basis of 600 feet of x-cut and 225 feet of raises. If commercial ore is found the opperating company would be able to finance any further costs.

Costs #3 Plan:

600 feet x-cut	at $25.00 per ft.	$15,000.00	
225 ft. raise	at $20.00 per. ft.	4,500.00	
Misc.		150.00	
		$19,650.00	29350.00
Grand total			$19,650.00
			$50.000.00
			49,000.00

The above program can be completed in two years. It is estimated that x-cutting and drifting will be carried out at a minimum rate of 100 feet per month.

We are also asking for a base price on lead of 17 cents per pound for the next three years.

Encl: Proposed exploration map of blacktail Mine.

Very truly yours,
Linton Mines

By Thos, J, Linton

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 1 - 1951
LANDON F. STROBEL
Executive Secretary

LANDON F. STROBEL

Missoula HOTEL

MISSOULA MONTANA TELEPHONE 2188

March-14-1951

Ref: Docket DMA-208

U.S. Dept of The Interior
Mr. S. H. Williston
Defence Minerals Administration
Washington 25 D.C.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 23 1951
LANDON F. STROBEL
Executive Secretary

Dear Mr. Williston:

Please consider this an amended request to Docket DMA-208 for a loan on a 50-50 basis. This loan to be used for exploration and development.

The above request for loan would cover proposition #2 as set forth in my letter to Mr. Volin 14

MAR 24 1951

Missoula HOTEL MISSOULA MONTANA TELEPHONE 2188

December 1950.

The amount asked for on Proposition #2 was 27,200.00 Of This, our share would be $13,600.00 which we would put up in equipment and cash.

Very truly yours
Linton Mines
By Thos. J. Linton

DMR-208

Budget Bureau No. 42-R425.2
Approval Expires June 30, 1949

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

Mail to M. E. Volin
U. S. Bureau of Mines
Albany, Oregon

STATEMENT OF FACTS AS TO THE LOCATION AND NATURE
OF MINERAL DEPOSITS

The Bureau of Mines is directed by Sec. 7(a) of Public Law 520 - 79th Congress - to investigate domestic mineral resources with a view to developing greater reserves of those minerals which are essential to national defense or industry, and of which our present or probable future supplies are inadequate. The development program resulting from this legislation is based largely on the systematic examination of known mineral occurrences; a few carefully selected deposits are developed further by trenching, test-pitting, drilling, or other means. A development project must show promise of making a substantial contribution to the national security or economy, relative to the effort expended. The emphasis placed upon different mineral commodities will vary from time to time in accordance with changes in the trend of industrial demand and the needs of the stockpiling program.

It is not intended that the Bureau's development work shall duplicate or supplant the efforts of private industry, hence its projects are largely centered on deposits which are marginal in character or for some reason do not appear to justify private investment.

The results of preliminary examinations are not ordinarily released for publication, nor can the examination reports be made available to owners or other than Government agencies. The factual data resulting from development projects, including sampling and assaying data, are made available to owners upon conclusion of the projects, however, and are published as soon as possible afterward.

Applications for examinations or development projects are unnecessary, but initial investigation may be greatly assisted by complete factual information from interested parties. Examinations and other investigations will be made only in accord with the best judgment of the Bureau's engineers and the limitations of funds and personnel.

The following statement lists data especially desired. A supplementary sheet may be used if necessary for extended remarks.

(LINTON MINES) STATEMENT

Made by Thos. J. LINTON Address Missoula Hotel, Missoula MONTANA Date NOV. 14-1958

Name of Property Blacktail MINE Metal Pb & Ag.

Owned by Shaubit + Hughes Address CLINTON, MONTANA

Leased or optioned to LINTON MINES Address Missoula Hotel, Missoula Montana

Situated in:

Section 30 ; Township ~~T24~~ 12 N ; Range 15 W ; Missoula (County) Montana (State)

(over)

Give detailed directions for reaching property from nearest town:

11 miles East of Clinton, Montana on US Hyway #10

Then North 4 miles up Cramer Creek - Road End at mine.

Name and address of local resident who can direct to the deposit Mr. Cook

a Rancher on Cramer Creek intersecting Hyway #10

History of deposit Discovered 1888 - No commercial work done until 1947 - Hecla Mining co of Wallace Idaho shipped of sample carloads to Wallace Idaho & ~~they~~ Linton Mines has shipped 32 RR cars. Hecla Mining co shipped 4 RR cars to Wallace Idaho

Shipments of ore made Linton Mines shipped 32 RR cars concentrates.

Known dimensions of the deposit:

Length 500 feet; Width 100 feet; Depth 150 feet.

Inclination: 2 open pits one 70x100; one 200x40.

Workings upper tunnel 230 ft East drift 122 ft. ~~West drift~~ 88 Ft.

Lower tunnel 160 ft - one short drift of 12' west

Two trenches 100 ft long Each.

General description of mineral showings:

The upper Tunnel has Galena showing in most surfaces except the first 75' of tunnel and the last 50'. The two pits has Galena showing in most surfaces. The lower tunnel does not have any exposed Galena except at 30' from portal

Sampling and assays Enclosing sampling taken by Hecla Mining co of Wallace, Idaho.

Maps or sketches, especially those showing location of individual samples, their widths and values.

(If available) Engineer's report by _____ submitted (to be returned) (not to be returned)

We are interested in loan for stockpiling ore to be run through mill in spring. Also for a developing program.

Thos J. Linton

U. S. BUREAU OF MINES
RECEIVED
NOV 16 1950
ALBANY, OREGON

DMA-208

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., November 21, 1950 19

Bought of Linton Mines, Inc. Mine Blacktail Our Lot No. 2659

Class Crude Shipping Point Clinton, Montana Mine Lot No. 17

Quotations of Weeks Avg. Silver .90 Lead 17.00 Cathode Copper 24.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.4	63.7	0.05					0.5				
Goodalls	0.005	2.3	63.9										
Umpire													
Settlement	0.0025	2.35	63.8	0.05					0.5				

Car Number	Weight
50074	66700

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture 1.3 % 867

Dry Weight 65833 Pounds @ 168.39 Per Ton $ 5,542.87

VALUES PER TON

Gold @		
Silver ~~95%~~ less 1 oz. @ .90		1.22
Lead Less 1.5 90% @ 17.00-1.80		170.45
Copper, Less @		
		171.67
Less Total Deduction		3.28

DEDUCTIONS PER TON

Base for 20 % Dry Lead 7.00	
Over " " 4.23-	
Labor Diff. .51	
	3.28
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	3.28

Freight Per Wet Ton @ (Under 70.00) 3.60 & 3% tax	$ 123.66	
~~Hauling Per Wet Ton @~~ Bullion frt. on 36913# @$21.84 ton 403.09 3% Tx	$ 12.09	
~~Royalty~~ Less " " on 36913# @$19.04 ton 351.41	$ 51.68	
Royalty 10% - 1/2 Laurence Shaubut Clinton, Montana	$ 267.77	
~~Advances~~ " - 1/2 Mrs. Roy R. Hughes Clinton, Montana	$ 267.77	
~~Umpire~~ Advance 11-2-50	$ 3,500.00	
~~Sampling When Less Than 10 Tons~~ Goodalls	$ 9.00	
TOTAL	$ 4,231.97	$ 4,231.97
NET PROCEEDS		$ 1,310.84

Date of B/L
Date of Arrival 11-6-50
Checked R. McNamara
Correct

Rates except on contract, subject to change without notice.
A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 31, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2490

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 16

Quotations of Weeks Avg. Silver .90 Lead 16.00 Cathode Copper 24.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.3	63.7	0.05					0.5				
Goodalls	trace	2.4	64.3										
				Sent to Union Assay Office for Lead Umpire									
Umpire													
Settlement	trace	2.35	63.7	0.05					0.5				

Car Number	Weight
50473	76820

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.5 % 1152

Dry Weight 75668

VALUES PER TON

Gold @		
Silver 98% less 1 oz. @ .90		1.22
Lead Less 1.5 90% @ 16.00-1.80		158.98
Copper, Less @		
		160.20
Less Total Deduction		3.12

DEDUCTIONS PER TON

Base for 20 % Dry Lead 7.00	
Over " " 4.22-	
Labor Diff. .34	
	3.12
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	3.12

Pounds @ 157.08 Per Ton $ 5,942.96

Freight Per Net Ton (Under $70.00) @ 3.60 & 3% tax	$ 142.43	
Bullion tax on 42359#@$21.84 ton 462.56 & 3% tax	$ 13.88	
Less Bullion tax on 42359#@$19.04 ton 403.26	$ 59.30	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 286.37	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 286.37	
Advances 10-18-50	$ 3,500.00	
Umpire charge withheld	$ 4.00	
~~Sampling When Less Than 10 Tons~~ Goodalls	$ 9.00	
TOTAL	$ 4,301.35	$ 4,301.35
NET PROCEEDS		$ 1,641.61

Date of B/L

Date of Arrival 10-20-50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., September 20, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1993

Class Crude Shipping Point Clinton, Montana Mine Lot No. 15

Quotations of Weeks Avg. Silver .90 Lead 15.40 Cathode Copper 23.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	Trace	2.5	56.8	0.10					0.5				
Goodalls		2.6	56.9										
Umpire													
Settlement		2.55	56.85	0.10					0.5				

Car Number	Weight
50490	77140

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.2 % 926

Dry Weight 76214

VALUES PER TON

Gold	@	
Silver ~~95%~~ less 1 oz.	@ .90	1.40
Lead Less 1.5 90%	@ 15.40-1.80	135.50
Copper, Less	@	
		136.90
Less Total Deduction		3.71
Pounds	@	133.19

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.54-	
Labor Diff.	.25	
		3.71
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.71

Per Ton $ 5,075.47

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 142.22	
Hauling Per Wet Ton @	$	
Royalty 1/2 of 10% Laurence Shaubut, Clinton, Mont.	$ 243.38	
" Mrs. Roy B. Hughes, Clinton, Mont.	$ 243.39	
Advances 8/29/50	$ 2,000.00	
Bullion frt. on 37966# @ $21.84 ton 414.59 & 3% tax	$ 12.44	
" " on 37966# @ $19.04 ton 361.44	$ 53.15	
Goodalls	$ 9.00	
TOTAL	$ 2,703.58	$ 2,703.58
NET PROCEEDS		$ 2,371.89

Date of B/L

Date of Arrival 8/30/50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 30, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1845

Class Crude Shipping Point Clinton, Montana Mine Lot No. 14

Quotations of Week Following Silver .90 Lead 14.00 Cathode Copper -

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.4	58.4	0.03					0				
Goodalls	.005	2.6	58.4										
Umpire													
Settlement	.0025	2.5	58.4	0.03					0				

Car Number	Weight
50251	72260

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 2.6 % 1879

Dry Weight 70381

VALUES PER TON

Gold @		
Silver ~~58%~~ less 1 oz. @	.90	1.35
Lead Less 1.5 90% @	14.00-1.80	124.95
Copper, Less @		
		126.30
Less Total Deduction		3.57
Pounds @		122.73

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.69-	
Labor Diff.	.26	
		3.57
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.57
Per Ton		$ 4,318.93

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 133.23	
Bullion frt. on 36042#@$21.84 ton 393.58 & 3% tax	$ 11.81	
Less " " on 36042#@$19.04 ton 343.12	$ 50.46	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 206.17	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 206.17	
Advances 8-11-50	$ 2,000.00	8/11
Goodalls	$ 9.00	
Sampling When Less Than 10 Tons	$	
TOTAL	$ 2,616.84	$ 2,616.84
NET PROCEEDS		$ 1,702.09

Date of B/L

Date of Arrival 8-15-50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 16, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1721

Class Crude Shipping Point Clinton, Montana Mine Lot No. 13

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.35	57.6	0.03					1.0				
Goodalls	.005	2.40	58.0										
Umpire													
Settlement	0.0025	2.375	57.8	0.03					1.0				

Car Number	Weight
50280	70120

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.5 % 1056

Dry Weight 69364

VALUES PER TON

Gold @		
Silver ~~95%~~ less 1 oz. @	.90	1.24
Lead Less 1.5 90% @	12.00-1.80	103.37
Copper, Less @		
		104.61
Less Total Deduction		3.63

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.63-	
Labor Diff.	.26	
		3.63
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.63

Pounds @ 100.98 Per Ton $ 3,502.19

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 129.83	
~~[illegible]~~ Bullion frt. on 35147#@$21.84 ton 383.81	$ 11.51	
~~[illegible]~~ Less Bullion frt. on 35147#@$19.04 ton 334.60	$ 49.21	
~~[illegible]~~ Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 165.58	
~~[illegible]~~ 10% 1/2 Mrs. Roy B. Hughes, Clinton, Montana	$ 165.58	
~~[illegible]~~ Advances 8-3-50	$ 2,000.00	
~~[illegible]~~ Goodalls	$ 9.00	
TOTAL	$ 2,530.71	$ 2,530.71
NET PROCEEDS		$ 971.48

Date of B/L

Date of Arrival 8-1-50

Checked mc m

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., July 31, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1596

Class Crude Shipping Point Clinton, Montana Mine Lot No. 12

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	Trace	2.4	61.0	0.03					0.5				
Goodalls	0.005	2.6	60.8										
Umpire													
Settlement	0.0025	2.5	60.9	0.03					0.5				

Car Number	Weight
50263	81240

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.4 % 1137

Dry Weight 80103

VALUES PER TON

Gold @		
Silver 95% less 1 oz. @ .90		1.35
Lead Less 1.5 90% @ 12.00-1.8		109.06
Copper, Less @		
		110.41
Less Total Deduction		3.32

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.94-	
Labor Diff.	.26	
		3.32
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.32

Pounds @ 107.09 Per Ton $ 4,289.12

Freight Per Wet Ton @ (50-70) 3.60 & 3% tax	$ 150.62	
Bullion Frt. on 42823# @ 21.84 ton 467.63 & 3% tax	$ 14.03	
Less Smelting Charge @ 42823# @ 19.04 ton 407.67	$ 59.86	
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 203.23	
1/2 Mrs. Roy B. Hughes, Clinton, Montana	$ 203.22	
Advances 7/13/50	$ 2,000.00	
Umpire	$ 9.00	
Sampling When Less Than 10 Tons	$	
TOTAL	$ 2,640.06	$ 2,640.06
NET PROCEEDS		$ 1,649.06

Date of B/L

Date of Arrival 7/18/50

Checked mcn

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., July 17, 1950 19

Bought of Linton Mines, Inc. Mine Blacktail Our Lot No. 1486

Class Crude Shipping Point Clinton, Montana Mine Lot No. 11

Quotations of Weeks Avg. Silver .90 Lead 11.583 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.05	50.0	0.05					0.5				
Goodalls	trace	2.20	50.4										
Umpire Settlement	trace	2.125	50.2	0.05					0.5				

Car Number	Weight
50047	88840

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture 1.3 % 1155

VALUES PER TON

Gold @		
Silver 93% less 1 oz. @	.90	1.01
Lead Less 1.5 90% @	11.583-1.80	85.76
Copper, Less @		
		86.77
Less Total Deduction		4.39

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.87-	
Labor Diff.	.26	
		4.39
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.39

Dry Weight 87685 Pounds @ 82.38 Per Ton $ 3,611.75

Date of B/L
Date of Arrival 7-7-50
Checked Jack R. McNamara
Correct

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 163.79	
Bullion frt. on 38432# @$21.84 ton 419.68 & 3% tax	$ 12.59	
~~Less Wet Ton @ on 38432# @$19.04 ton 365.87~~	$ 53.81	
Less Royalty 10% 1/2 Laurence Shaubut Clinton, ~~Montana~~	$ 169.08	
" 10% 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 169.08	
Advances 7-3-50	$ 2,000.00	115 ✓
Umpire Goodalls	$ 9.00	
Sampling When Less Than 10 Tons	$	
TOTAL	$ 2,577.35	$ 2,577.35
NET PROCEEDS		$ 1,034.40

Rates except on contract, subject to change without notice.
A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., July 11, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1407

Class Crude Shipping Point Clinton, Montana Mine Lot No. 10

Quotations of Weeks Avg. Silver .90 Lead 11.00 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.0	48.7	0.03					0.5				
Goodalls	trace	2.4	48.7										
Umpire													
Settlement	trace	2.2	48.7	0.03					0.5				

Car Number	Weight
50492	76160

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.3 % 990

Dry Weight 75170

VALUES PER TON

Gold @		
Silver ~~95%~~ less 1 oz. @	.90	1.08
Lead Less 1.5 90% @	11.00-1.80	78.16
Copper, Less @		
		79.24
Less Total Deduction		4.56

Pounds @ 74.68 Per Ton $ 2,806.85

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.72-	
Labor Diff.	.28	
		4.56
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.56

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 140.42	
Bullion frt. on 31932# @$21.84 ton 348.70 & 3% tax	$ 10.46	
~~Haulage Per Wet Ton @~~ on 31932# @$19.04 ton 303.99	$ 44.71	
Less Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 130.57	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 130.56	
Advances 6-26-50	$ 2,000.00	
~~Umpire~~ Goodalls	$ 9.00	
Sampling When Less Than 10 Tons	$	
TOTAL	$ 2,465.72	$ 2,465.72
NET PROCEEDS		$ 341.13

Date of B/L

Date of Arrival 6-27-50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

50M—7-50

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 28, 1950 19

Bought of Linton Mines, Inc. Mine Blacktail Our Lot No. 1302

Class Crude Shipping Point Clinton, Montana Mine Lot No. 9

Quotations of Weeks Avg. Silver .90 Lead 11.833 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.1	53.0	0.03					0.5				
Goodalls	trace	2.3	53.3										
Umpire													
Settlement	trace	2.2	53.15	0.03					0.5				

Car Number	Weight
50470	96300

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture 1.7 % 1637
Dry Weight 94663

VALUES PER TON

Gold @		
Silver 95% less 1 oz. @ .90		1.08
Lead Less 1.5 90% @ 11.833-1.80		93.28
Copper, Less @		
		94.36
Less Total Deduction		4.11
Pounds	@ 90.25	Per Ton $ 4,271.67

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.17	
Labor Diff.	.28	
		4.11
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.11

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 177.55	
Bullion Frt. on 4400#@$21.84 ton 480.52& 3% tax	$ 14.42	
Less " " on 4400#@$19.04 ton 418.92	$ 61.60	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 200.91	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 200.90	
Advances 6-20-50	$ 2,000.00	
Umpire Goodalls	$ 9.00	
Due AS&RCo. advance 2-20-50 $1,4000.00 &Int.$24.56	$ 1,424.56	
TOTAL	$ 4,088.94	$ 4,088.94
NET PROCEEDS		$ 182.73

Date of B/L
Date of Arrival 6-16-50
Checked Jack R. McNamara
Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 27, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1263

Class Crude Shipping Point Clinton, Montana Mine Lot No. 8

Quotations of Weeks Avg. Silver .90 Lead 11.833 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.0	49.4	0.03					0.4				
Goodalls	trace	2.0	49.8										
Umpire													
Settlement	trace	2.0	49.6	0.03					0.4				

Car Number	Weight
50194	99660

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.5 % 1495

Dry Weight 98165

VALUES PER TON

Gold @		
Silver 95% less 1 oz. @ .90		.90
Lead Less 1.5 90% @ 11.833-1.80		86.87
Copper, Less @		
		87.77
Less Total Deduction		4.47
Pounds @		83.30

DEDUCTIONS PER TON

Base for 20 %Dry Lead	7.00	
Over " "	2.81-	
Labor Diff.	.28	
		4.47
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.47
Per Ton		$ 4,088.57

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 183.74	
Bullion frt. on 42496# @ $21.84 ton 464.66 & 3% tax	$ 13.92	
Less Bullion frt. on 42496# @ $19.04 ton 404.56	$ 59.20	
Royalty 10% 1/2 Laurence Shabbut Clinton, Montana	$ 191.57	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 191.57	
Advances 6-5-50	$ 2,000.00	
Umpire Goodalls	$ 9.00	
Sampling When Less Than 10 Tons	$	
TOTAL	$ 2,649.30	$ 2,649.30
NET PROCEEDS		$ 1,439.27

Date of B/L

Date of Arrival 6-12-50

Checked Jack R. McNamara

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 20, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1196

Class Crude Shipping Point Clinton, Montana Mine Lot No. 7

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 22.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	47.0	0.05					0.5				
Goodalls	trace	2.0	47.4										
Umpire													
Settlement	trace	1.9	47.2	0.05					0.5				

Car Number	Weight
50137	91500

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 0.6 % 549

Dry Weight 90951

VALUES PER TON

Gold @		
Silver ~~95%~~ less 1 oz. @	.90	.81
Lead Less 1.5 90% @	12.00-1.80	83.91
Copper, Less @		
		84.72
Less Total Deduction		4.71
Pounds @		80.01

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.57-	
Labor Diff.	.28	
		4.71
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.71
Per Ton		$ 3,638.49

Freight Per Wet Ton @	(35-50) 3.58 & 3% tax	$ 168.70	
Hauling @	Bullion frt. on 37408# @$21.84 ton 408.50 & 3% tax	$ 12.26	
Less	Bullion frt. on 37408# @$19.04 ton 356.12	$ 52.38	
Royalty	Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 170.26	
	" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 170.26	
Advance	Advance $2,000.00 telegram cost $10.59	$ 2,010.59	
	Goodalls	$ 9.00	
TOTAL		$ 2,593.45	$ 2,593.45
NET PROCEEDS			$ 1,045.04

Date of B/L

Date of Arrival 6-5-50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 20, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1150

Class Crude Shipping Point Clinton, Montana Mine Lot No. 6

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 21.975

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	42.2	0.08					0.5				
Goodalls	trace	2.0	42.8										
R & Simpson Umpire			42.01										
Settlement	trace	1.9	42.2	0.08					0.5				

Car Number	Weight
50604	91500

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 0.6 % 549

Dry Weight 90951

VALUES PER TON

Gold @		
Silver less 1 oz. @ .90		.81
Lead Less 1.5 90% @12.00-1.80		74.73
Copper, Less @		
		75.54
Less Total Deduction		5.19
Pounds @		70.35

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00
Over " "	2.07-
Labor Diff.	.26
	5.19
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	5.19

Per Ton $ 3,199.20

Date of B/L

Date of Arrival 5-31-50

Checked Jas. W. McNamara

Correct

Freight Per Wet Ton @ (25-35) 2.98 & 3% tax	$ 140.43	
Bullion Frt. on 33315# @$21.84 ton 363.80 & 3% tax	$ 10.91	
Less Bullion Frt. on 33315# @$19.04 ton 317.16	$ 16.64	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 150.06	
" " 1/2 Mrs. Roy B. Hughes Clinton, Montana	$ 150.06	
Advances 6-1-50 $2,500.00 telegram cost $9.84	$ 2,509.84	
Umpire	$ 4.00	
Goodalls	$ 9.00	
TOTAL	$ 3,020.94	$ 3,020.94
NET PROCEEDS		$ 178.26

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 15, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1118

Class Crude Shipping Point Clinton, Montana Mine Lot No. 5

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 20.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	40.0	0.07					0.5				
Goodalls	0.005	2.0	40.1										
Umpire													
Settlement	0.0025	1.9	40.05	0.07					0.5				

Car Number	Weight
53095	91600

VALUES PER TON

Gold	@	
Silver less 1 oz.	@ .90	.81
Lead Less 1.5 90%	@ 12.00-1.80	70.78
Copper, Less	@	
		71.59
Less Total Deduction		5.40

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	1.86-	
Labor Diff.	.26	
		5.40
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		5.40

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 0.3 % 275

Dry Weight 91325 Pounds @ 66.19 Per Ton $ 3,022.40

Freight Per Wet Ton @ (25-35) 2.98 & 3% tax	$ 140.57	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 141.35	
" " 1/2 Mrs. Roy B. Hughes, Clinton, Montana	$ 141.36	
Advances 5-24-50 Bullion frt. on 31685# @$21.84 ton 346.00 & 3% tax	$ 1,500.00	
Umpire " " on 31685# @$19.04 ton 301.64	$ 10.38	
Less Goodalls	$ 44.36	
	$ 9.00	
TOTAL	$ 1,987.02	$ 1,987.02
NET PROCEEDS		$ 1,035.38

Date of B/L

Date of Arrival 5-27-50

Checked MCM

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

56

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 5, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1092

Class Crude Shipping Point Clinton, Montana Mine Lot No. 4

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 20.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.7	43.8	0.03					0.5				
Goodalls	.005	1.8	43.8										
Umpire													
Settlement	.0025	1.75	43.8	0.03					0.5				

Car Number	Weight
50462	77540

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 0.8 % 620

Dry Weight 76920

VALUES PER TON

Gold @		
Silver 95% less 1 oz. @ .90		.68
Lead Less 1.5 90% @ 12.00-1.80		77.66
Copper, Less @		
		78.34
Less Total Deduction		5.03
Pounds @		73.31

DEDUCTIONS PER TON

Base for 20 %Dry Lead 7.00	
Over " " 2.23-	
Labor Diff. .26	
	5.03
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	5.03

Per Ton $ 2,819.50

Freight Per Wet Ton @ (25-35) 2.98 & 3% tax	$ 119.00	
Bullion frt. on 29283# @$21.84 ton 319.77 & 3% tax	9.59	
~~Hauling Per Wet Ton @ on 29283# @$19.04 ton 278.77~~	$ 41.00	
Less Bullion frt.		
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 132.49	
" " 1/2 Mrs. Roy B. Hughes, Clinton, Montana	$ 132.50	
Advances 5-22-50 $2,000.00 telegram cost 8.59	$ 2,008.59	
~~Umpire~~ Goodalls	$ 9.00	
Due AS&R Co. Lot 886-1$85.19 971-2 $76.60	$ 161.79	
~~Sampling When Less Than 10 Tons~~		
TOTAL	$ 2,613.96	$ 2,613.96
NET PROCEEDS		$ 205.54

Date of B/L

Date of Arrival 5-24-50

Checked mcn

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

56

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., June 6, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 070

Class Crude Shipping Point Clinton, Montana Mine Lot No. 3

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 20.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.7	47.2	0.03					0.5				
Goodalls	trace	2.0	47.8										
D&Nichols Umpire			47.3										
Settlement	trace	1.85	47.3	0.03					0.5				

Car Number	Weight
50013	72460

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 0.8 % 580

Dry Weight 71880

VALUES PER TON

Gold @		
Silver less 1 oz. @ .90		.77
Lead Less 1.5 90% @ 12.00-1.80		84.09
Copper, Less @		
		84.86
Less Total Deduction		4.68
Pounds @	80.18	Per Ton $ 2,881.67

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.58-	
Labor Diff.	.26	
		4.68
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.68

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 133.59	
Bullion frt. on 29629# @$21.84 ton 323.55 & 3% tax	$ 9.71	
Less on 29629# @$19.04 ton 282.07	$ 41.48	
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 134.85	
" " 1/2 Mrs Roy B. Hughes, Clinton, Montana	$ 134.84	
Advances 5-11-50	$ 2,000.00	
Umpire	$ 4.00	
Goodalls	$ 9.00	
TOTAL	$ 2,467.47	$ 2,467.47
NET PROCEEDS		$ 414.20

Date of B/L

Date of Arrival 5-22-50

Checked Jack is McV

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

67

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., May 23, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 971

Class Crude Shipping Point Clinton, Montana Mine Lot No. 2

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 19.475

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	47.2	0.10					0.5				
Goodalls	trace	2.0	47.4										
Umpire													
Settlement	trace	1.9	47.3	0.10					0.5				

Car Number	Weight
50038	58120

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.4 % 814

Dry Weight 57306 Pounds

VALUES PER TON

Gold	@	
Silver ~~90%~~ less 1 oz.	@ .90	.81
Lead Less 1.5 90%	@ 12.00-1.80	84.09
Copper, Less	@	
		84.90
Less Total Deduction		4.68
	@	80.22 Per Ton

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.58-	
Labor Diff.	.26	
		4.68
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.68

$ 2,298.54

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax (60000 Min.)	$ 110.62	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 107.36	
" " 1/2 Mrs. Roy B. Hughes, Clinton, Montana	$ 107.35	
Advances 5-1-50	$ 2,000.00	
Less Bullion frt. on 23622# @$21.84 ton 257.95 & 3% tax	$ 7.74	
" " on 23622# @$19.04 ton 224.88	$ 33.07	
~~Work~~ Sampling ~~When Less Than 10 Tons~~ Goodalls	$ 9.00	
TOTAL	$ 2,375.14	$ 2,375.14
NET PROCEEDS		$ 76.60

Date of B/L

Date of Arrival 5-9-50

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., May 8, 1950 19

Bought of Linton Mines Mine Blacktail Our Lot No. 886

Class Crude Shipping Point Clinton, Montana Mine Lot No. 1

Quotations of Weeks Avg. Silver .90 Lead 11.125 Cathode Copper 19.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.7	47.1	0.20	0.6	0.5	0.2		0.5	0.20	0.14		6.4
Goodalls	trace	1.8	47.1										
Umpire													
Settlement	trace	1.75	47.1	0.20	0.6	0.5	0.2		0.5	0.20	0.14		6.4

Car Number	Weight
50340	64260

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture 0.8 % 514
Dry Weight 63746

VALUES PER TON

Gold @		
Silver ~~90%~~ less 1oz. @ .90		.68
Lead Less 1.5 90% @ 11.125-1.80		76.54
Copper, Less @		
		77.22
Less Total Deduction		4.72

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.56-	
Labor Diff.	.28	
		4.72
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.72

Pounds @ 72.50 Per Ton $ 2,310.79

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 118.48	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut, Clinton, Montana	$ 107.35	
" " 1/2 Mrs. Roy B. Hughes, " "	$ 107.36	
Less Bullion frt. on 26161# @$21.84 ton 285.68 & 3% tax	$ 8.57	
" " on 26161# @$19.04 ton 249.05	$ 36.63	
~~Advance~~	$ 9.00	
~~Umpire~~ goodalls	$ 2,008.59	
Advance 4-20-50		
~~Sampling When Less than 10 Tons~~ $2,000.00 Telegram Cost 8.59		
TOTAL	$ 2,395.98	$ 2,395.98
NET PROCEEDS		$ 85.19

Date of B/L
Date of Arrival 4-26-50
Checked
Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., July 29, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1519

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 1

Quotations of Weeks Avg. Silver .90 Lead 14.00 Cathode Copper 17.195

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.2	29.2	0.10	2.8	1.0	0.1		0.5	0.10	0.22		19.4
Goodalls	0.015	1.05	29.4										
Umpire													
Settlement	0.0075	1.125	29.3	0.10	2.8	1.0	0.1		0.5	0.10	0.22		19.4

Car Number	Weight
50088	73860

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.8 % 1329

Dry Weight 72531

VALUES PER TON

Gold @		
Silver 98% less 1 oz. @ .90		.11
Lead Less 1.5 90% 14.00-1.80		61.05
Copper, Less @		
		61.16
Less Total Deduction		7.22
Pounds @		53.94

DEDUCTIONS PER TON

Base for 20 % Dry Lead 8.00	
Over " " .1-	
	7.22
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	7.22
Per Ton	$ 1,956.16

Date of B/L

Date of Arrival 7-18-49

Checked M.N

Correct

Freight Per Wet Ton @ 3.27 (50-100) & 3% tax	$ 141.50	
Hauling Per Wet Ton @ 10% after 1.00/ton equiv. Hlg. 1/2 Roy B. Hughes	$ 87.19	
Royalty 10% after 1.00 ton equiv. hlg. 1/2 to Laurence Shaubut	$ 87.18	
Bullion frt. on 18147# @ $21.042 ton 190.92 & 3% tax	$ 5.73	
Less " " on 18147# @ $19.04 ton 172.76	$ 18.16	
Advances		
Umpire	$	
Sampling When Less Than 10 Tons Goodalls	$ 9.00	
TOTAL	$ 348.76	$ 348.76
NET PROCEEDS		$ 1,607.40

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., July 29, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1546

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 2

Quotations of Weeks Avg. Silver .90 Lead 14.00 Cathode Copper 17.195

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.2	28.1	0.05					0.5				
Goodalls	.01	1.2	28.6										
Umpire													
Settlement	.005	1.2	28.35	0.05					0.5				

Car Number	Weight
53181	74800

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.4 % 1047

Dry Weight 73753

VALUES PER TON

Gold	@	
Silver ~~95%~~ less 1 oz.	@ .90	.18
Lead Less 1.5 90%	@ 14.00-1.80	58.96
Copper, Less	@	
		59.14
Less Total Deduction		7131
Pounds	@	51.83

DEDUCTIONS PER TON

Base for 20 % Dry Lead	8.00	
Over " "	.69-	
		7.31
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		7.31
Per Ton		$ 1,911.31

Freight Per Wet Ton	@3.72 (50-100) & 3% tax	$ 143.30
Royalty ~~Advances~~	@10% after 1.00/ton equiv.Hlg.1/2toRoyB.Hughes	$ 84.85
Royalty	10% after 1.00/ton equiv. hlg. 1/2 Laurence Shaubut	$ 84.85
	Bullion frt. on 17822# @$21.042 ton 187.51 & 3% tax	$ 5.63
Less ~~Advances~~	" " on 17822# @$19.04 ton 169.67	$ 17.84
Umpire		$
~~Sampling When Less Than 10 Tons~~	Goodalls	$ 9.00
TOTAL		$ 345.47 $ 345.47
NET PROCEEDS		$ 1,565.84

Date of B/L

Date of Arrival 7-21-49

Checked M.-N

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 19, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1684

Class Crude Shipping Point Clinton, Montana Mine Lot No. 3

Quotations of Weeks Avg. Silver .90 Lead 14.708 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.3	32.0	0.10					0.5				
Goodalls	0.01	1.4	32.3										
Umpire													
Settlement	0.005	1.35	32.15	0.10					0.5				

Car Number	Weight
52269	100300

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.1 % 1103

Dry Weight 99197

VALUES PER TON

Gold @		
Silver ~~95%~~ less 1 oz. @	.90	.32
Lead Less 1.5 90%	14.708-1.80	71.21
Copper, Less @		
		71.53
Less Total Deduction		5.93

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	1.07-	
		5.93
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		5.93

Pounds @ 65.60 Per Ton $ 3,253.66

Freight Per Wet Ton @ (50-100) 3.72 & 3% tax	$ 192.16	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 L. Shaubut (after 1.00 ton equiv. hlg.) Clinton	$ 148.24	
" " 1/2 Roy B. Hughes (" 1.00 " " ") "	$ 148.24	
Advances 8-15-49	$ 2,600.00	
Bullion Frt. on 27363# @ $21.042 ton 287.89 & 3% tax	8.64	
~~Bullion~~ " " on 27363# @ $19.04 ~~ton 260.50~~	$ 27.39	
Less ~~Sampling When Less Than 40 Tons~~ Goodalls	$ 9.00	
TOTAL	$ 3,133.67	$ 3,133.67
NET PROCEEDS		$ 119.99

Date of B/L

Date of Arrival 8-6-49

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 19, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1703

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 4

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.6	41.4	0.05					0.5				
Goodalls	0.01	1.6	41.9										
Umpire													
Settlement	0.005	1.6	41.65	0.05					0.5				

Car Number	Weight
50445	78800

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.2 % 946

Dry Weight 77854

VALUES PER TON

Gold	@	
Silver ~~95%~~ lessl oz.	@ .90	.54
Lead Less 1.5 90%	@ 15.125-1.80	96.30
Copper, Less	@	
		96.84
Less Total Deduction		4.98
Pounds	@	91.86

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.02-	
		4.98
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.98

Per Ton $ 3,575.83

Freight Per Wet Ton @ (50-100) 3.72 & 3% tax	$ 150.97	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 L. Shaubut (after 1.00 ton equiv.Hlg.) Clinton	$ 166.91	
" " 1/2 Roy B. Hughes(after 1.00 " " ") "	$ 166.91	
Advances 8-15-49	$ 2,330.00	
Bullion frt. on 28133# @$21.042 ton 295.99 & 3% tax	$ 8.88	
Less " " on 28133# @$19.04 ton 267.83	$ 28.16	
Goodalls	$ 9.00	
TOTAL	$ 2,860.83	$ 2,860.83
NET PROCEEDS		$ 715.00

Date of B/L

Date of Arrival 8-8-49

Checked Jack R. McDonald

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 19, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1749

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 5

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.5	38.8	0.10					0.5				
Goodalls	trace	1.75	39.0										
Umpire													
Settlement	trace	1.625	38.9	0.10					0.5				

Car Number	Weight
50039	77900

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.0 % 779

Dry Weight 77121

VALUES PER TON

Gold	@	
Silver ~~95%~~ less 1 oz.	@ .90	.56
Lead Less 1.5 90%	@ 15.125-1.80	89.70
Copper, Less	@	
		90.26
Less Total Deduction		5.26

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	1.74-	
		5.26
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		5.26

Pounds @ 85.00 Per Ton $ 3,277.64

Date of B/L

Date of Arrival 8-13-49

Checked

Correct

Freight Per Wet Ton @ (50-100) 3.72 & 3% tax	$ 149.24	
Hauling Per Wet Ton @	$	
Royalty 10%1/2 L. Shaubut (after 1.00 ton equiv. hlg.) Clinton	$ 152.26	
" 10%1/2 RoyB.Hughes(after 1.00 ton equiv. hlg.) "	$ 152.25	
Advances 8-18-49	$2,000.00 ✓	
Bullion frt. on 25959#@$21.042 ton 273.11 & 3% tax	8.19	
" " on 25959#@$19.04 ton 247.13	$ 25.98	
Less Samples Where Less Than 10 Tons Goodalls	$ 9.00	
TOTAL	$2,496.92	$ 2,496.92
NET PROCEEDS		$ 780.72

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., August 30, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 1816

Class Crude Shipping Point Clinton, Montana Mine Lot No. 6

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.9	44.6	0.05					1.0				
Goodalls	0.01	2.0	45.0										
Umpire													
Settlement	0.005	1.95	44.8	0.05					1.0				

Car Number	Weight
54544	80580

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.8 % 1450

Dry Weight 79130

VALUES PER TON

Gold	@	
Silver less 1 oz.	@ .90	.86
Lead Less 1.5 90%	@ 15.125-1.80	103.86
Copper, Less	@	
		104.72
Less Total Deduction		4.67
Pounds	@	100.05

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.33	
		4.67
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.67

Per Ton $ 3,958.48

Date of B/L

Date of Arrival 8-20-49

Checked

Correct

Freight Per Wet Ton @ 3.72, & 3% tax (50-100)	$ 154.38	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 LaurenceShaubut(after 1.00 ton equiv.Hlg)Clinton	$ 185.65	
" " 1/2 Roy B.Hughes (after1.00 ton equiv.hlg.) "	$ 185.65	
~~Advances~~ Bullion frt. on 30837# @$21.042ton 324.44 & 3% tax	$ 9.73	
Less " on 30837# @$19.04 ton 293.57	$ 30.87	
~~Umpire~~ ~~Sampling When Less Than 10 Tons~~ Goodalls	$ 9.00	
TOTAL	$ 575.28	$ 575.28
NET PROCEEDS		$ 3,383.00

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., September 26, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2001

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 7

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.200

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	42.1	0.05					0.5				
Goodalls	0.005	1.9	42.4										
Umpire													
Settlement	0.0025	1.85	42.25	0.05					0.5				

Car Number	Weight
500	65900
Dry	30745

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 2.5 % 1648

Dry Weight 64252

VALUES PER TON

Gold @		
Silver 35% less 1 oz. @	.90	.77
Lead Less 1.5 90% @	15.125-1.80	97.74
Copper, Less @		
		98.51
Less Total Deduction		4.92
Pounds @	93.59	Per Ton $ 3,006.67

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.00-	
		4.92
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.92

Freight Per Wet Ton (50-100) @	3.72 & 3% tax	$ 126.25
Hauling Per Wet Ton @		$
Royalty	10% 1/2 Laurence Shaubut(after equiv.1.00 tonHlg.Chg)(Clinton)	$ 139.84
" "	1/2 Roy B.Hughes(after equiv.1.00ton hlg. chg)(Clinton)	$ 139.84
Advances	9-20-49	$ 2,000.00
Umpire	Bullion frt. on 23564# @$21.84 ton 257.32 & 3% tax	$ 7.72
	" " on 23564# @$19.04 ton 224.33	$ 32.98
	Less Goodalls	$ 9.00
TOTAL		$ 2,455.64 $ 2,455.64
NET PROCEEDS		$ 551.03

Date of B/L

Date of Arrival 9-12-49

Checked MM

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—5-48

1

CORRECTION

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 6, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2021

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 8

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.			44.8										
Goodalls			45.6										
W. E. Burlingame Umpire			44.1										
Settlement			44.8										

Car Number	Weight

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture %

VALUES PER TON		
Gold @		
Silver 95% @		.90
Lead Less 1.5 90% @	15.125-1.80	103.86
Copper, Less @		
		104.76
Less Total Deduction		4.67

DEDUCTIONS PER TON		
Base for 20 % Dry Lead	7.00	
Over " "	2.33-	
		4.67
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.67

Dry Weight 76977 Pounds @ 100.09 Per Ton $ 3,852.31

Freight Per Wet Ton @	Bullion frt. on 29998# @21.84 ton 327.58 & 3% tax 9.83	$
Hauling Per Wet Ton @	Less " " on 29998# @19.04 ton 285.58 42.00	$
Royalty	Less Bullion frt.& tax prev. deducted 42.00 9.83	$
	Royalty 10% 1/2 Laurence Shaubut(afterequiv.1.00tonHlg.Chg.)	$ None
	" " 1/2 RoyB.Hughes(afterequiv.1.00ton hlg.chg.)	$ None
Advances		$
Umpire	chge. withheld on original settlement (1.00)	$
Sampling When Less Than 10 Tons	Prev. Paid	$ 3,852.31

Date of B/L
Date of Arrival 9-15-49
Checked M.N
Correct

Rates except on contract, subject to change without notice.
A minimum charge of $5.00 made on all lots under 10 dry tons.

TOTAL $ 3,852.31 $ 3,852.31
NET PROCEEDS $ None

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 4, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2094

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 9

Quotations of Weeks Avg. Silver .90 Lead 15.125 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.0	49.4	0.05					0.5				
Goodalls	trace	2.1	49.6										
Umpire													
Settlement	trace	2.05	49.5	0.05					0.5				

Car Number	Weight
50476	86740

VALUES PER TON

Gold	@	
Silver ~~95%~~ less 1 oz	@ .90	.95
Lead Less 1.5 90%	@ 15.125-1.80	115.13
Copper, Less	@	
		116.08
Less Total Deduction		4.20

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.80-	
		4.20
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.20

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 2.2 % 1908

Dry Weight 84832 Pounds @ 111.88 Per Ton $ 4,715.50

Freight Per Wet Ton @ 4.16 & 3% tax (Over 100.00)	$ 199.23	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 224.15	
" " 1/2 Roy B. Hughes, Clinton, Montana	$ 224.15	
Advances 9-20-49	$ 2,000.00 ✓	
Bullion frt. on 36647# @$21.84 ton 400.18 & 3% tax	$ 12.01	
" " on 36647# @$19.04 ton 348.88	$ 51.31	
Less Sampling When Less Than 10 Tons ~~Umpire~~ Goodalls	$ 9.00	
TOTAL	$ 2,719.85	$ 2,719.85
NET PROCEEDS		$ 2,025.65

Date of B/L

Date of Arrival 9-24-49

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 14, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2156

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 10

Quotations of Weeks Avg. Silver .90 Lead 14.75 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.2	62.3	0.10					0.5				
Goodalls	trace	2.2	62.5										
Umpire													
Settlement	trace	2.2	62.4	0.10					0.5				

Car Number	Weight
50131	82400

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.9 % 1566

Dry Weight 80834

VALUES PER TON		
Gold @		
Silver 95% less 1 oz @	.90	1.08
Lead Less 1.5 90% @	14.75-1.80	141.96
Copper, Less @		
		143.04
Less Total Deduction		2.91
Pounds @	140.13	Per Ton $ 5,663.63

DEDUCTIONS PER TON		
Base for 20 % Dry Lead	7.00	
Over " "	.09-	
		2.91
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		2.91

Freight Per Wet Ton @	(Over 100.00) 4.16 & 3% tax	$ 189.26
~~Handling Per Wet Ton @~~	AS&R Advance 10-12-49	$ 4,849.05
Royalty	10% 1/2 Laurence Shaubut Clinton, Montana	$ 269.89
"	" 1/2 Roy B. Hughes, Clinton, Montana	$ 269.89
~~Advances~~	Bullion frt. on 44305# @$21.84 ton 483.81 & 3% tax	$ 14.51
~~Umpire~~ Less	" " on 44305# @$19.04 ton 421.78	$ 62.03
~~Sampling When Less Than 10 Tons~~	Goodalls	$ 9.00
TOTAL		$ 5,663.63 $ 5,663.63
NET PROCEEDS		$ None

Date of B/L

Date of Arrival 10-1-49

Checked Jack R. McNaughton

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., October 21, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2271

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 11

Quotations of Weeks Avg. Silver .90 Lead 13.45 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	2.0	55.8	0.10					1.0				
Goodalls	trace	2.1	56.2										
Umpire													
Settlement	trace	2.05	56.0	0.10					1.0				

Car Number	Weight
53257	83140

VALUES PER TON		
Gold	@	
Silver 95% less 1 oz.	@ .90	.95
Lead Less 1.5 90%	@ 13.45-1.80	114.29
Copper, Less	@	
		115.24
Less Total Deduction		3.55

DEDUCTIONS PER TON		
Base for 20 % Dry Lead	7.00	
Over " "	3.45-	
		3.55
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.55

Weight of Lot
Weight of Sacks
Wet Weight
Less Moisture 2.0 % 1663

Dry Weight 81477 Pounds @ 111.69 Per Ton $ 4,550.08

Freight Per Wet Ton @ (Over 100.00) 4.46 & 3% tax	$ 190.96	
~~Hauling Per Wet Ton @~~ Due AS&R advance 10-12-49	$ 150.95	
Royalty 10% 1/2 Laurence Shaubut Clinton, Montana	$ 214.50	
" " 1/2 Roy B. Hughes, Clinton, Montana	$ 214.51	
~~Advances~~ Bullion frt. on 39964# @$21.84 ton 436.41 & 3% tax	$ 13.09	
Less " " on 39964# @$19.04 ton 380.46	$ 55.95	
~~Umpire~~	$ 9.00	
~~Sampling which was taken from the dump~~ Goodalls		
TOTAL	$ 848.96	$ 848.96
NET PROCEEDS		$ 3,701.12

Date of B/L
Date of Arrival 10-13-49
Checked M.N.
Correct

Rates except on contract, subject to change without notice.
A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., November 1, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2341

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 12

Quotations of Weeks Avg. Silver .90 Lead 13.00 Cathode Copper 17.20

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.8	47.8	0.10					1.0				
Goodalls	trace	1.8	48.0										
Umpire													
Settlement	trace	1.8	47.9	0.10					1.0				

Car Number	Weight
50182	76240

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.3 % 991

Dry Weight 75249

VALUES PER TON

Gold	@	
Silver ~~95%~~ less 1 oz.	@ .90	.72
Lead Less 1.5 90%	@ 13.00-1.80	93.54
Copper, Less	@	
		94.26
Less Total Deduction		4.36

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	2.64-	
		4.36
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		4.36

Pounds @ 89.90 Per Ton $ 3,382.44

(35-50)

Freight Per Wet Ton @ 3.58 & 3% tax	$ 140.56	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut Clinton	$ 159.38	
" 10% 1/2 Roy B. Hughes, Clinton	$ 159.38	
Advances Bullion frt. on 31424# @$21.84 ton 343.15 & 3% tax	$ 10.29	
Less " " on 31424# @$19.04 ton 299.16	$ 43.99	
Sampling When Less Than 10 Tons Goodalls	$ 9.00	
TOTAL	$ 522.60	$ 522.60
NET PROCEEDS		$ 2,859.84

Date of B/L 10-19-49

Date of Arrival 10-22-49

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., November 18, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2457

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 13

Quotations of Weeks Avg. Silver .90 Lead 12.875 Cathode Copper 18.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	Trace	2.0	51.7	0.05					1.0				
Goodalls	Trace	2.2	51.6										
Umpire													
Settlement	Trace	2.1	51.65	0.05					1.0				

Car Number	Weight
52165	78220

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 1.9 % 1486

Dry Weight 76734 Pounds

VALUES PER TON

Gold @		
Silver 95% xx less 1 oz. @	.90	.99
Lead Less 1.5 90% @	12.875-1.80	99.97
Copper, Less @		
		100.96
Less Total Deduction		3.98

@ 96.98 Per Ton $ 3,720.83

DEDUCTIONS PER TON

Base for 20 % Dry Lead	7.00	
Over " "	3.02-	
		3.98
Insoluble % @		
Zinc % @		
Arsenic % @		
Antimony % @		
Bismuth Lbs. @		
Debit		
Iron % @		
Total Deductions		3.98

Freight Per Wet Ton @ (35-50) 3.58 & 3% tax	$ 144.21	
Hauling Per Wet Ton @	$	
Royalty 10% 1/2 Laurence Shaubut, Clinton	$ 175.84	
" 1/2 Roy B. Hughes, Clinton	$ 175.84	
Advances 11/9/49	$ 2,800.00	
Less Bullion ft. on 34634# @ $21.84 ton 378.20 & 3% tax	$ 11.34	
" " on 34634# @ $19.04 ton 329.72	$ 48.48	
Umpire	$ 9.00	
~~Sampling When Less Than 30 Tons~~ Goodalls		
TOTAL	$ 3,364.72	$ 3,364.72
NET PROCEEDS		$ 356.11

Date of B/L

Date of Arrival 11/5/49

Checked

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., December 5, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2591

Class Conc. Shipping Point Clinton, Montana Mine Lot No. 14

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 18.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.9	43.7	0.05					1.0				
Goodalls	0.005	2.0	43.9										
Umpire													
Settlement	0.0025	1.95	43.8	0.05					1.0				

Car Number	Weight
50068	73000

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 2.2 % 1606

Dry Weight 71394

VALUES PER TON

Gold @		
Silver 95% less 1 oz. @ .90		.86
Lead Less 1.5 90% @12.00-1.80		77.66
Copper, Less @		
		78.52
Less Total Deduction		4.77

DEDUCTIONS PER TON

Base for 20 % Dry Lead 7.00	
Over " " 2.23-	
	4.77
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	4.77

Pounds @ 73.75 Per Ton $ 2,632.65

(25-35)

Freight Per Wet Ton @ 2.98 & 3% tax	$ 112.03	
Bullion frt. on 27180# @$21.84 ton 296.81 & 3% tax	$ 8.90	
Hauling Per Wet Ton @	$ 38.06	
Less Bullion frt. on 27180# @$19.04 ton 258.75	$ 123.68	
Royalty 10% 1/2 Laurence Shaubut, Clinton,	$ 123.69	
" " 1/2 Roy B. Hughes, Clinton	$ 2,800.00	
Advances 11-21-49	$ 10.14	
Umpire xxxxx Wire Charges	$ 9.00	
Sampling When Less Than 10 Tons Goodalls		
TOTAL	$ 3,225.50	$ 3,225.50
NET PROCEEDS		$ 592.85

Date of B/L

Date of Arrival 11-22-49

Checked McN

Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49

1

AMERICAN SMELTING AND REFINING CO.

EAST HELENA PLANT

East Helena, Mont., December 16, 1949 19

Bought of Linton Mines Mine Blacktail Our Lot No. 2723

Class Crude Shipping Point Clinton, Montana Mine Lot No. 15

Quotations of Weeks Avg. Silver .90 Lead 12.00 Cathode Copper 18.075

ASSAYS	GOLD Oz. per ton	SILVER Oz. per ton	Wet Lead Per Cent	COPPER Per Cent	INSOL Per Cent	IRON Per Cent	Manganese Per Cent	Sulphur Per Cent	ZINC Per Cent	ARSENIC Per Cent	Antimony Per Cent	Bismuth Per Cent	LIME Per Cent
A. S. & R. Co.	trace	1.7	47.9	0.05					1.0				
Goodalls	trace	1.9	48.2										
Umpire													
Settlement	trace	1.8	48.05	0.05					1.0				

Car Number	Weight
50001	61860

Weight of Lot

Weight of Sacks

Wet Weight

Less Moisture 2.2 % 1361

Dry Weight 60499

VALUES PER TON	
Gold @	
Silver 95% [illegible] @ [illegible] 90	.72
Lead Less [illegible]	85.47
Copper, Less [illegible]	
	86.19
Less Total Deduction	4.26
Pounds @	81.93

DEDUCTIONS PER TON	
Base for 20 % Dry Lead 7.00	
Over " " 2.36-	
Labor Diff. .08-	
	4.26
Insoluble % @	
Zinc % @	
Arsenic % @	
Antimony % @	
Bismuth Lbs. @	
Debit	
Iron % @	
Total Deductions	4.26
Per Ton	$ 2,478.34

(35-50)

Freight Per Wet Ton @	3.58 & 3% tax	$ 114.05
~~Hauling Per Wet Ton @~~	Goodalls	$ 9.00
Royalty	10% 1/2 Laurence Shaubut, Clinton,	$ 116.02
	" 1/2 Roy B. Hughes, Clinton	$ 116.02
	Bullion frt. on 25346#@$21.84 ton 276.78 & 3% tax	$ 8.30
Less	" " on 25346#@$19.04 ton 241.29	$ 35.49
Advances	12-14-49	$ 1,000.00
~~Charges~~	Wire Charge	$ 6.04
~~Sampling When Less Than 10 Tons~~	Due AS&R Co. Lot 2591-4	$ 592.85
TOTAL		$ 1,997.78 $ 1,997.78
NET PROCEEDS		$ 480.56

Date of B/L

Date of Arrival 12-9-49

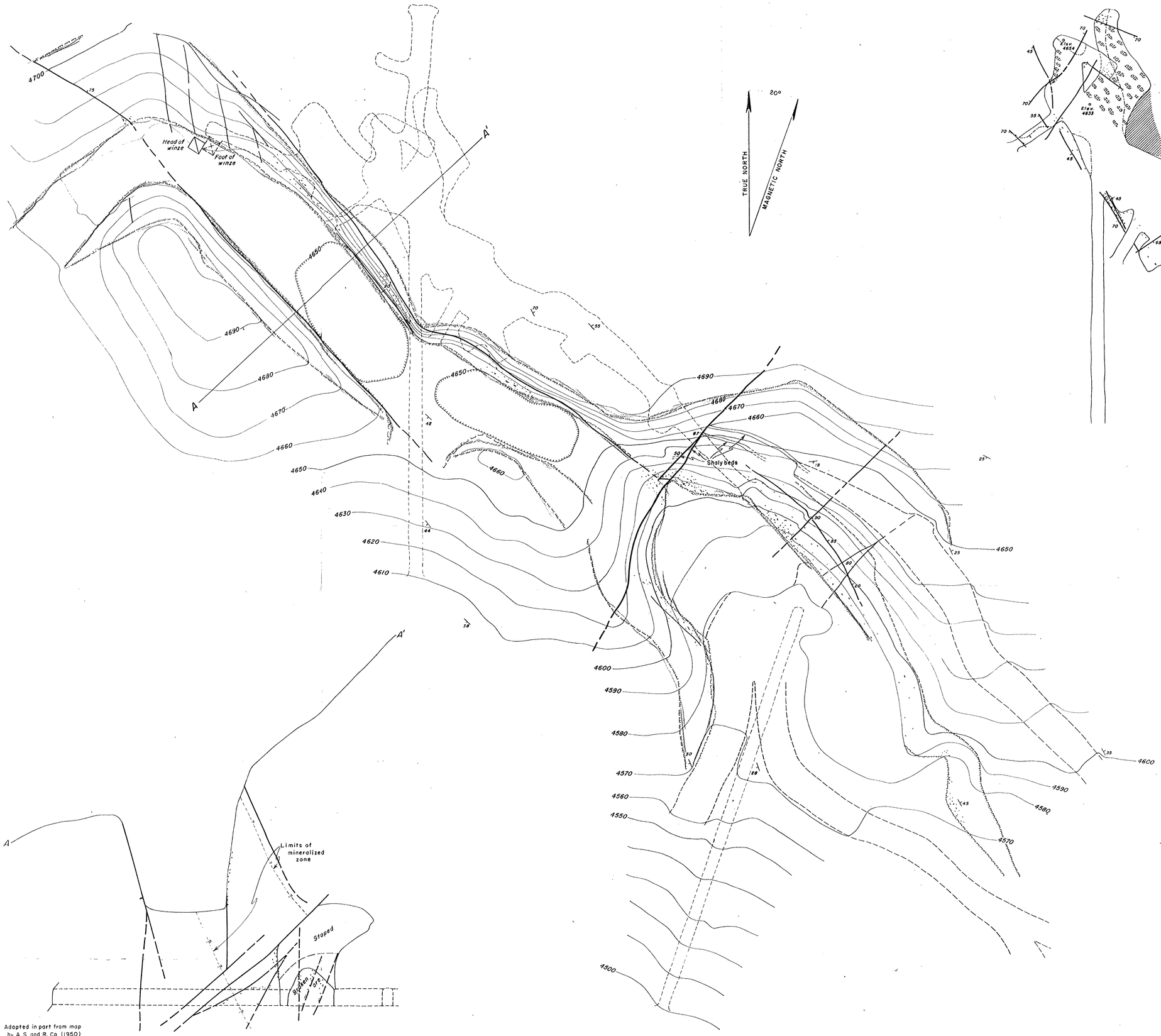
Checked

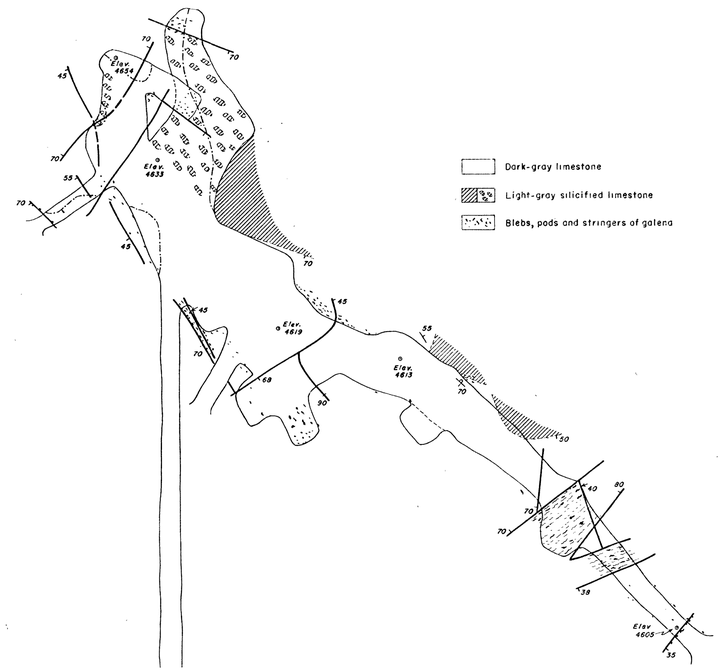
Correct

Rates except on contract, subject to change without notice.

A minimum charge of $5.00 made on all lots under 10 dry tons.

25M—8-49





GEOLOGIC MAP OF STOPE

Adapted in part from map by A S and R. Co (1950)

SECTION ALONG LINE A-A'

EXPLANATION

Blebs, pods and stringers of galena

Fault, showing dips
(Dashed where inferred)

Strike and dip of beds

Upper edge of pit

Base of face of pit

Outline of underground workings

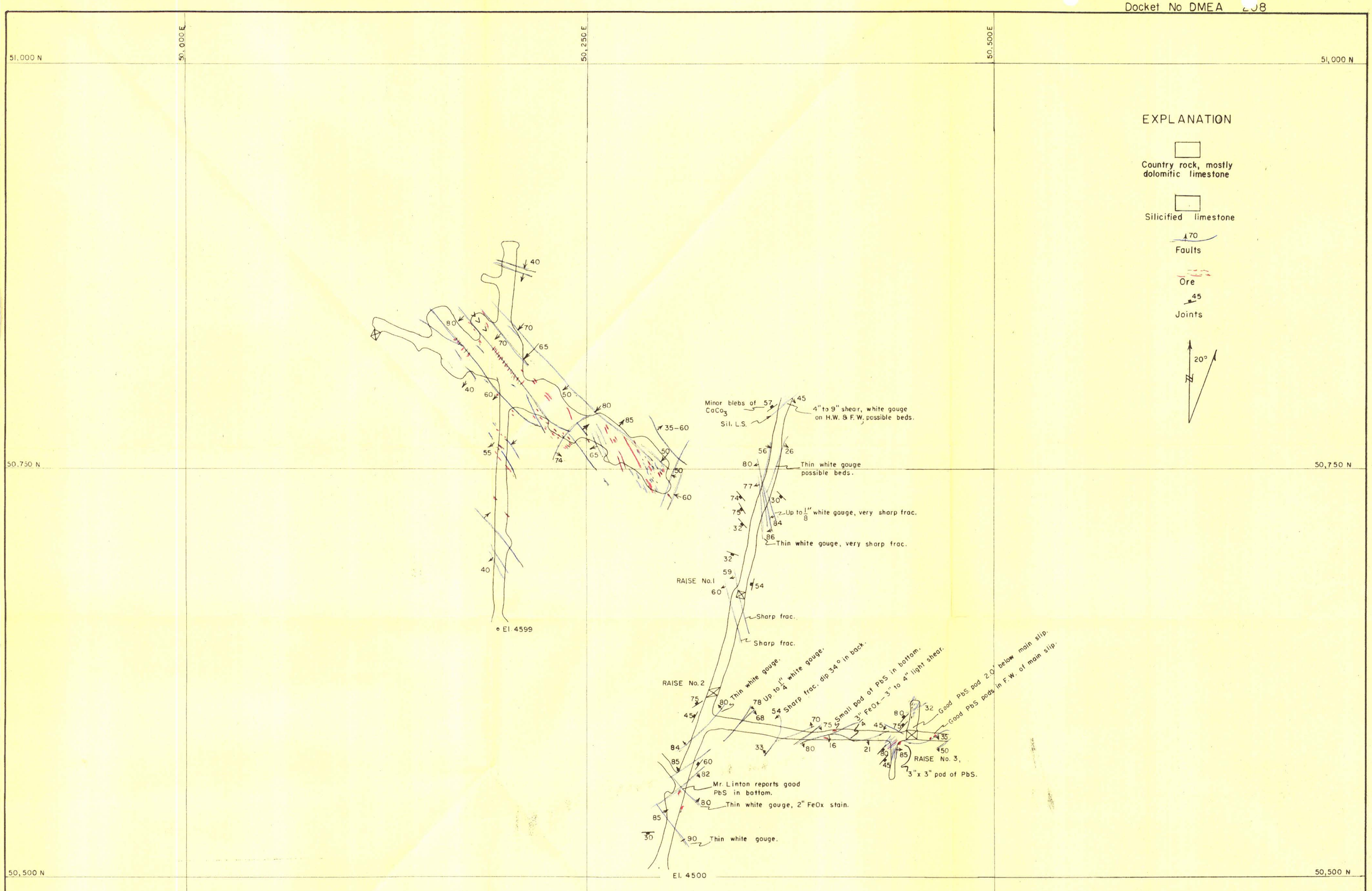
GEOLOGY OF WORKINGS, BLACKTAIL MINE, MISSOULA COUNTY, MONTANA

20 0 20 40 60 80 100 Feet

Contour interval 10 feet

Datum is mean sea level

Docket No DMEA 208



BLACKTAIL MINE

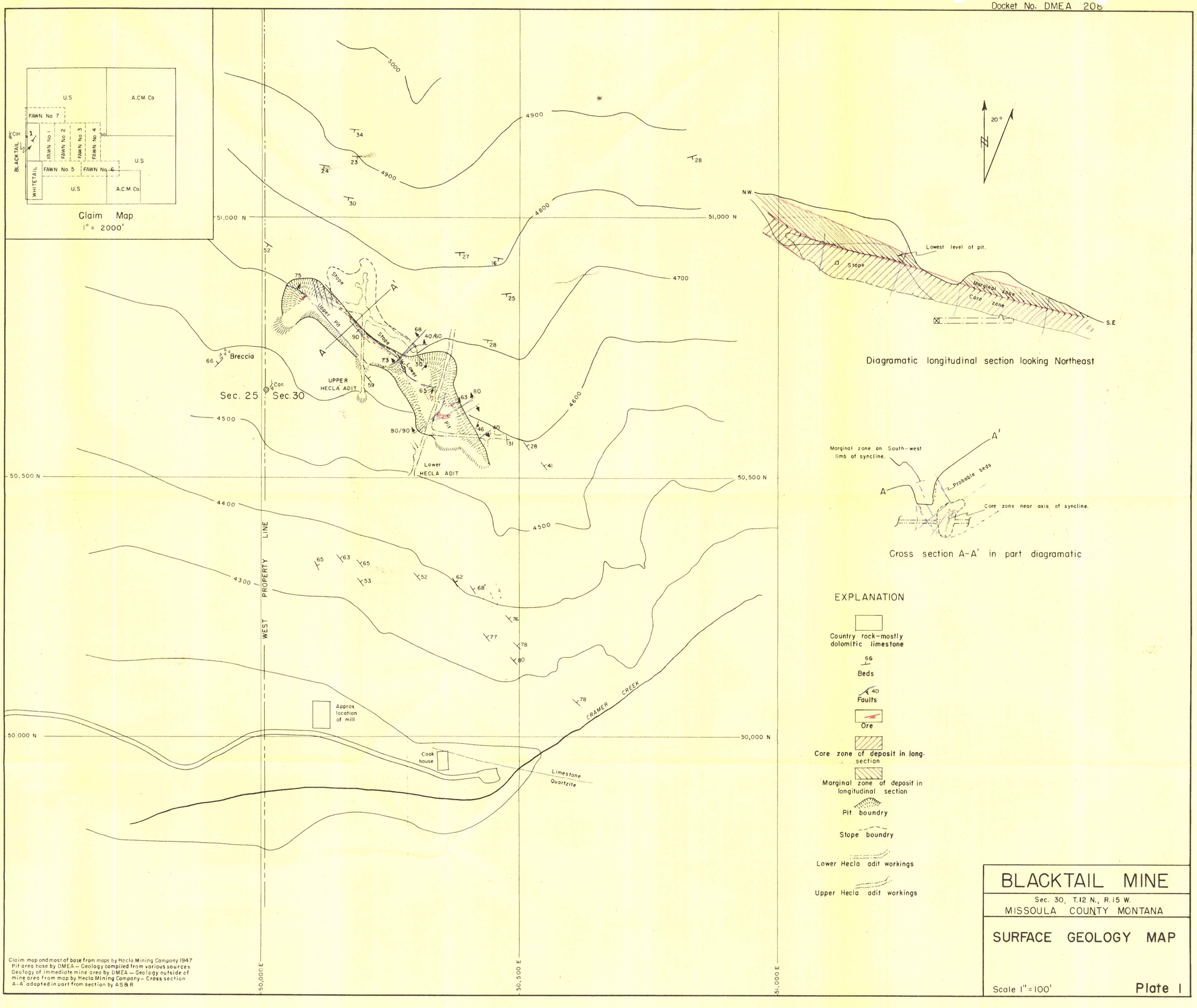
CLINTON, MONTANA

Geologic Map of Adit Workings

Scale 1" = 40'

Plate 2

Portal tie from map by Hecla Mining Co.
Upper Adit base and geology from maps by ASBR
Lower Adit base and geology from maps by DMEA


U.S
A.C.M. Co
FAWN No 7
FAWN No 1
FAWN No 2
FAWN No 3
FAWN No 4
FAWN No 5
FAWN No 6
BLACKTAIL
WHITETAIL
Claim Map
1" = 2000'
5000
4900
4800
4700
4600
4500
4400
4300
51,000 N
50,500 N
50,000 N
Sec. 25
Sec. 30
Breccia
UPPER HECLA ADIT
Lower HECLA ADIT
Upper Pit
Lower Pit
Stope
WEST PROPERTY LINE
Approx location of mill
Cook house
CRAMER CREEK
Limestone
Quartzite
50,000 E
50,500 E
51,000 E
N.W.
S.E
Lowest level of pit.
Marginal zone
Core zone
Diagramatic longitudinal section looking Northeast
Marginal zone on South-west limb of syncline.
Probable beds
Core zone near axis of syncline.
Cross section A-A' in part diagramatic
EXPLANATION
Country rock-mostly dolomitic limestone
Beds
Faults
Ore
Core zone of deposit in long. section
Marginal zone of deposit in longitudinal section
Pit boundry
Stope boundry
Lower Hecla adit workings
Upper Hecla adit workings
Claim map and most of base from maps by Hecla Mining Company 1947
Pit area base by DMEA — Geology compiled from various sources
Geology of immediate mine area by DMEA — Geology outside of mine area from map by Hecla Mining Company — Cross section A-A' adapted in part from section by AS&R
BLACKTAIL MINE
Sec. 30, T.12 N., R.15 W.
MISSOULA COUNTY MONTANA
SURFACE GEOLOGY MAP
Scale 1" = 100'
Plate 1

DIAGRAMMATIC SKETCH MAP AND SECTIONS ILLUSTRATING ORE ZONE, BLACKTAIL MINE, MISSOULA COUNTY, MONTANA

40 0 40 80 120 160 200 feet

Contour interval 100 feet

Datum is mean sea level