DMEA Form 9
Rev. 6/57

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

OFFICIAL DOCKET FILE Idm-E NO. 247 DMEA NO. 2292

Application
- [ ] Denied
- [ ] Withdrawn

Contract
- [ ] Terminated - Not Certified
- [x] Terminated - Certified
- [ ] Cancelled
- [ ] Royalty Agreement

The records contained in this file are marked (x) and arranged in this order:

Folder No. 1:

Left Side

- [ ] Royalty Audits
- [x] Certification of Discovery
- [ ] Closing Letter
- [x] Cost Audits
- [x] Termination Notice or Agreement
- [ ] Recision Notice
- [ ] Assignment of Contract
- [x] Contract Amendments
- [x] Contract with all exhibits and annexes
- [ ] Owner's Consent to Lien and Subordination Agreement
- [x] Application and attachments

Right Side

- [x] Project summary (final)
- [ ] Work Comoleted analysis (final)

All other material filed in chronological order including the following reports if checked:

- [ ] Field Team Semi-Annual Report for Certified Project
- [x] Final Field Team Report (Tab)
- [x] Operator's Final Report (Tab)
- [ ] Interim Field Team Reports
- [ ] Operator's monthly reports and all attachments
- [x] On-site Exam Report (Tab)
- [ ] Settlement Sheets
- [ ] Drill Logs

Additional Folders:

Left Side

Folders No. 2 : Reports
- [x] Analysis of Semi-Annual Inspection Reports
- [ ] Project Summary (Interim) by DMEA Engineers

Right Side

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

Folders No. 4 : Maps (Use pocket folder or envelope)

Folders No. _____ : Settlement Sheets

Folders No. _____ : Drill Logs

Folders No. 3 : Royalty material

17963

GOVERNMENT COPY

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

To: American Alloy Metals, Inc., a Nevada corporation, with principal offices at 1 Montgomery Street, San Francisco, California

Pursuant to the provisions of Exploration Project Contract No. Idm E247, dated January 29, 1952, as amended, (Docket No. DMEA 2292), hereinafter called the "contract" between you and the United States of America, hereinafter called the "Government"; to establish and fix the Government's percentage royalty on production and its lien thereon and on the land described in the contract, the Government considers and therefore certifies that a discovery or development from which production may be made has resulted from the exploration work.

The nature of said discovery or development is described broadly or indicated as follows:

Diamond drilling and underground workings at the Brown's Lake tungsten deposit have partially explored favorable tactite and indicated the presence of tungsten of ore grade. The tungsten occurs in the form of scheelite-powellite in a series of tactite members in a body of metamorphic rocks underlain by igneous intrusives.

THE UNITED STATES OF AMERICA

Dated NOV 1 7 1954

By C. M. Theodore
Administrator, Defense Minerals
Exploration Administration

cc: DOCKET
CODE 400-- Mr. Martin
CODE 800-- Mr. Chambers
CODE 110-- Mr. Johnson
FINANCE OFFICER
THOR KIILSGAARD, USGS
MINERALS ENGINEERING CO.,
801 4th Ave., Grand Junction, Colo.

cc: FT, REG. II
ADM. READ. FILE
OPERATING COMMITTEE
J. H. HEDGES, USBM
R. W. GEEHAN, USBM
IRVING GUMBEL, Act.Dir., EPS,GSA

FARutledge/ls 11/1/54

DOCKET
Surname:

Rutledge
Hoffman
Martin
Chambers
Johnson
Selfridge

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

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Grand Junction, Colo.

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OPERATING COMMITTEE
J. H. HEDGES, USBM
R. W. GEEHAN, USBM
IRVING GUMBEL, Act.Dir., EPS,GSA

FARutledge/ls 11/1/54

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

REPORT OF REVIEW

SEP 17 1954

I have reviewed the Monthly Reports of:

American Alloy Metals, Inc.
One Montgomery Street
San Francisco, California

pertaining to Exploration Project Contract No. Idm-E247, Docket No. DMEA 2292, dated January 29, 1952, with Amendments Nos. 1 to 5 inclusive, and Amended Exploration Project Contract No. Idm-E247, Docket No. DMEA 2292, dated January 12, 1953, with Amendment No. 6, for the period of January 29, 1952 to June 11, 1954, covering a project for the exploration of tungsten on property known as the Ivanhoe Claim, located in Beaverhead County, State of Montana.

My review included an examination of the Monthly Reports (Forms MF-104) and supporting documents attached thereto, comparison of the costs claimed with the contract and pertinent schedules, consultation with the Government representative who visited and examined the project, and a determination of the reasonableness and propriety of the costs.

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

> The accepted costs ($61,420.23) of all work were covered by an interim Audit Report and Audit Certificate, dated August 10, 1953, issued by B. J. Brekhus, DMEA Auditor.

The review disclosed the following facts in regard to the amount paid or to be paid the Contractor.

Total Cost as billed by Contractor		$68,020.10
Less Salvage proceeds from property disposition		3,120.00
Net Cost as claimed by Contractor		$64,900.10
Exceptions		
By Prior Audit	$6,599.87	
By DMEA Finance Officer	None	
Herewith	None	6,599.87
Total Accepted Cost		$58,300.23

The contract calls for a 75 percent participation of exploration expense by the United States Government. Therefore, payment to the Contractor by the Government in the amount of Forty three thousand seven hundred twenty five and 17/100 Dollars

--$43,725.17--

is considered valid and proper, provided 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.

C. A. Turner, Auditor

September 14, 1954

Schedule of Salvage Proceeds on Property

American Alloy Metals, Inc. Idm-E247 DMEA 2292

The Minerals Engineering Co. on behalf of the American Alloy Metals, Inc. made an offer by letter dated June 8, 1954, to purchase the remaining supplies and equipment to be salvaged in the amount of $2,340.00 for the Government's equity, which was accepted by the Field Team, Region II, by letter June 11, 1954.

Original Accepted Cost		Total
1	300 gallon water tank	$ 70.00
1	Evanoil Burner Heater	55.00
1	Servel Gas Refrigerator	70.25
1	Disston Chain Saw	383.50
1	Duotherm Oil Heater	84.95
2	Atlas Rock Drills and Legs	1,046.00
1	Rotary Grinder	190.90
3	Rocker Dump Mine Cars	1,200.00
1	Air Receiver	158.40
1	Eimco Rocker Shovel	2,287.20
1	Single Drum 5 H.P. Hoist	778.00
1	Raising Feed for Rock Drill	210.00
1	Compressor - Warehouse Bldg.	1,679.08
1	Camp Water System	1,707.25
1	Mine Water System	677.43
1	Tramway	2,387.54
	Camp Furnishings	291.88
		$13,277.38
Salvage Proceeds		3,120.00
Net Cost to Project		$10,157.38

C. A. Turner, Auditor

September 14, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
SEP 3 - 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION
CONTRACT ADMINISTRATION AND AUDIT DIVISION

INTERIM AUDIT CERTIFICATE

I have examined the records and transactions of:

American Alloy Metals, Inc.
1 Montgomery Street
San Francisco, California

pertaining to Exploration Project Contract Idm-E-247, Docket No. DMEA 2292, including Amendments 1, 2, 3, 4 and 5, and Amended Exploration Project Contract Idm-E-247, Docket No. DMEA 2292, including Amendment 6, for the period January 29, 1952 to April 30, 1953, covering a project for exploration for Tungsten.

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		$68,020.10	67,365.98
Exceptions previously taken	$6,932.52	6,932.52	1,276.00
Net amount approved prior to audit		$61,087.58	
Reinstatement of exceptions previously taken	332.65	332.65	
Net exceptions (per audit report)	$6,599.87		
Total accepted cost		$61,420.23	

The contract calls for a 75 per cent participation of exploration expenses by the United States Government. Therefore, payment to the contractor by the Government in the amount of Forty six thousand sixty-five and 17/100 dollars

-- $46,065.17 --

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.

B. J. BREKHUS
Auditor

August 10, 1953

DEPART
Defense M

AUDIT REPORT

I INTRODUCTION

On July 10 to 17, 1953, an interim audit (covering the period January 29, 1952 to April 30, 1953) was made of the records and accounts of operations pertaining to Contract No. Idm-E-247, Docket No. DMEA 2292, as amended by the DMEA Executive Officer of Region II by Amendments 1, 2, 3, 4, 5 and 6, and an amended contract with the same number amended January 12, 1953, with the

American Alloy Metals, Inc.
1 Montgomery Street
San Francisco, California

covering a project of exploration for Tungsten.

The accounting records under this contract are located at the Company's office at the lower end of Browns Lake in Beaverhead County, Montana. The exploration work is conducted beyond the upper end of Browns Lake about two miles from the office.

During the course of the audit Mr. Robert N. Roby, engineer and project manager was consulted as required, and his cooperation and assistance greatly facilitated the audit.

II GENERAL INFORMATION ON RECORDS

The accounting records for the exploration project consisted of distribution schedules covering expenditures, supported by time books, payroll sheets, invoices for purchases and carbon copies of check vouchers issued in payment of expenditures. Cost ledgers or a general ledger were not maintained. The lack of adequate cost records, presenting distributions of cost to the many phases of work called for in the contract, increased the detailed volume of the audit work to a substantial degree.

The distribution schedules formed the basis for preparation of the monthly MF-104 reports. The audit involved, in addition to a check of source documents against the monthly work sheets, a detailed analysis of all items of cost sufficient to provide cost of performing the many work items called for in the contract wherein there were maximums of allowable cost established.

The burden imposed upon the operator to present costs in the manner apparently contemplated by the contract was so great that he failed at the outset. Consequently, an attempt was made by the certifying officer for the Government to reclassify costs to conform to the items of work. The results were delays in vouchering and classifications of costs not in conformity with facts. Continuity in balances of items of work as shown on the MF-104s were not maintained by the operator.

The latest MF-104 received (April 1953) contains the total cost as per the operator's latest classifications with the total of the items "previously reported", and "totals to date" exceeding the items themselves. The operator apparently taking the path of least resistance submitted his December 1952, MF-104 using for his previous balance the amounts approved by the certifying officer, thereby dropping $2,082.75 from his amount claimed without knowing what the differences were for.

The large volume of correspondence in the DMEA files reflects the struggle to maintain accounting control and at the same time expedite payments to the operator with reasonable assurance that they were proper. After considerable preliminary study it was decided to perform this audit by determining what the total costs were, and then to classify and distribute them under the proper item of work. As the certifying officer making disallowances after reclassification during February to June 1952 inclusive, made only partial explanations for disallowances taken, no attempt is made to relate the audit disallowances with those previously made.

The checks issued in payment of all costs on this project are mailed directly from the bank in Dillon, Montana, to the company's office in San Francisco, and consequently were not examined. However, the invoices and payrolls contained the serial numbers of checks issued which were found to correspond whenever reference was made to the duplicate check vouchers.

III SCOPE OF AUDIT AND FINDINGS

The audit was not limited to ascertaining the costs as shown on the "Totals to Date" column of the April 1953, MF-104, Operators Monthly Report and Voucher, but involved determining the accuracy, propriety and validity of the costs shown in the "Monthly Total" column of each MF-104 issued during the period under review. It also involved sufficient examination of each item of cost to determine what item under Exhibit A of the contract or the various amendments, it was applicable to, and the independent summarization of these costs. In addition certain items of expense, such as Payroll Taxes, Liability Insurance and Office and Travel, were prorated in accordance with accepted methods of cost accounting. The extent of the audit and the findings under each of the "Items of Cost" follow:

(1) Agreed Unit Cost Items $14,556.64

Exploration work specified under Amendment 5 effective September 1, 1952, and the Amended Contract dated January 12, 1953, contains drifting and diamond drilling at a maximum or fixed price per foot. The operator submitted MF-104s billing for actual costs on the portion identified as Stage II, covered by Amendment 5. The certifying officer made his calculations of costs and disallowed the portion which exceeded the sum calculated allowable at a fixed price per foot. Upon performance of this audit the costs were verified and analyzed, and are set forth in Column 2 of Exhibit A. The costs exceeded the allowable maximums in Stage II.

It was found that the total costs properly chargeable and allowable under this item were:

			Cost	Not Allowable	Allowable
Stage II					
Drifting	175'	@ $37.20	$ 6,978.94	$ 468.94	$ 6,510.00
Slusher Drifting	100'	@ $33.80	4,334.82	954.82	3,380.00
Stage III					
Slusher Drifting	110.2'	@ $33.20	3,694.79	36.15	3,658.64
Diamond Drilling	126'	@ $ 8.00	1,008.00		1,008.00
Totals			$16,016.55	$1,459.91	$14,556.64

Of the amounts not allowable in Stage II the certifying officer has disallowed $1,666.25. As the above disallowance is $1,423.76, it reinstates $242.49 of this amount. The disallowance of $36.15 in Stage III is for cost in excess of $33.20 per foot on 9 feet billed in January 1953 on a cost basis. The billing for January 1953 in the sum of $3,272.42 covered 85 feet of Slusher Drifting on an actual cost basis. As 24 feet of a total of 100 feet of Slusher Drifting called for in Stage II was completed in the previous month, this resulted in 9 feet in excess of footage specified in Stage II. Therefore, 9/85ths of the actual cost of $3,272.42, or $338.95, was transferred to Stage III, resulting in excess cost of $40.15 for the 9 feet. However, in the 9 feet is included $4.00 for the prorated cost of 1 assay, which is separately allowable, resulting in a net disallowance of $36.15.

(2) Labor and Supervision $13,298.20

All charges under this item were checked against the monthly distributions and an analysis prepared, the information summarized for verification of labor costs and payroll taxes, and calculation of liability insurance. Spot checks were made to time books and payrolls and carbon copies of voucher checks prepared at time pay checks were drawn. Rates of pay were compared with rates authorized under Exhibit A of the contract. Supervision and salary of the cook were allocated to the various operations on a direct labor basis. All labor, supervision and cooks salary allocable to Stage II and III have been allocated to the items therein. Further allocations of labor and supervision have also been made to the specific items outlined under (5) Initial Rehabilitation and Repairs, and (6) New Buildings, Improvements, etc.

The balance of labor and supervision is shown as captioned, covering operations designated as follows:

	Direct Labor	Supervision	Total
Stage I			
Enlarging Adit	$ 4,589.35	$ 1,256.88	$ 5,846.23
130' Raise	4,098.40	1,048.31	5,146.71
Diamond Drilling 75'	196.38	31.80	228.18
Stage II			
Diamond Drilling 160'	1,300.79	299.52	1,600.31
Preparing Slusher Station	314.99	161.78	476.77
Totals	$10,499.91	$ 2,798.29	$13,298.20

Supervision charged to the project was for the salary of $600.00 per month paid to Mr. Robert N. Roby. The rate is authorized in Exhibit A of the contract. During the months of July, August, September and October 1952, while other work not covered by the contract was being performed, the project was billed for those months $595.47, $163.80, $300.00 and $312.03 respectively. While Exhibit A of the contract contained an estimated amount of $800.00 for Geologic Consultant, no expenditures were noted for this type of service.

(3) Operating Materials and Supplies $7,188.20

All charges in this category were checked in detail and analysis prepared for presentation as shown on Exhibit A. Considerable supplies were purchased and billed on the MF-104s as "Equipment Purchased". These were reclassified and allocated under their proper captions. The supplies allocable to the work items under (1) Agreed Unit Cost Items, above, were transferred to the proper operation. A few adjustments were also made transferring costs to (6) New Buildings, Improvements, etc. The balance of the Materials and Supplies approved and allowable are as follows:

	Cost	Not Allowable	Allowable Stage I	Allowable Stage II
Timber	$ 222.04	$	$ 221.39	$ .65
Explosives	2,051.85		2,038.61	13.24
Pipe	714.48	391.86	322.62	
Track	416.08	(43.46)	459.54	
Drill Steel	1,241.61		1,017.62	223.99
Gasoline and Diesel Fuel	1,258.97	47.50	1,167.28	44.19
Small Eqpt. and Hand Tools	776.07		776.07	
Miscellaneous	903.00		764.51	138.49
Totals	$7,584.10	$395.90	$6,767.64	$420.56

Cost of pipe shown above is for 4" air pipe and connections. Calculation was made of cost of 2" as allowed in the contract, and the difference was disallowed. Likewise the cost of 20# rail was determined and as the operator was using 40# rail the excess cost was disallowed. This is as authorized by Exhibit A of the contract as well as paragraphs 4 and 5 of

Amendment 1 thereto. The specific estimated allowances in Exhibit A are not used in the above. Actual calculations of unit costs are presented. As the operator had charged only the estimated amount for 20# rail shown in Exhibit A in the initial charges for rail in February 1952, an additional allowance is made to correct this cost to the true cost as determined by actual calculation.

The disallowance under Gasoline and Diesel Fuel is for kerosene used in boarding house operations having been erroneously included under Materials and Supplies. No provision is made in the contract for the Government to participate in the cost of running the boarding house, except paying for salary of the cook.

(4) Operating Equipment $11,263.85

(a) Rental

All charges for Operating Equipment rented were analyzed and compared with approved rental rates as specified in Exhibit A. No time logs were maintained. The 365 c f m Diesel-driven air compressor was in use continuously from time the work started on the contract at a rental rate of $414.00 per month. However, this item of equipment as well as the Eimco Rocker Shovel were used on work not covered by the contract and the charge against the contract reduced correspondingly. As the monthly rental payments on the Eimco Rocker Shovel were converted to payments against the purchase of this item of equipment, the total charges of $2,287.20 which ended with the month of November 1942, are reclassified and included under Equipment Purchased.

Equipment Rental properly charged under this contract were found to consist of the following:

Jasper 365 c f m Air Compressor	@ $414.00 Mo.	$4,757.96
Worth 105 c f m Air Compressor	@ $164.00 Mo.	164.00
C P 32 Rock Drill	@ $ 52.90 Mo.	112.85
		$5,034.81

These rental charges are properly allocated against the contract as follows:

	Amount	Stage 1	Stage II	Stage III
365 c f m Compressor	$4,757.96	$2,890.31	$1,823.82	$ 43.83
105 c f m Compressor	164.00	164.00		
Rock Drill	112.85	112.85		
	$5,034.81	$3,167.16	$1,823.82	$ 43.83
Disallowed as included in unit billing rate	43.83			43.83
Net Total	$4,990.98	$3,167.16	$1,823.82	$ -0-

(b) Purchased

Equipment purchased and approved by the representative of the Executive Officer of the field team are as follows:

		Cost	Not Allowed	Allowable
1 Duotherm Oil Heater		$ 84.95	$	$ 84.95
1 Disston 26" Chain Saw		383.50		383.50
1-300 gallon Steel Water Tank		70.00		70.00
1 Evanoil Burner Heater		55.00		55.00
1 Servel Gas Refrigerator		70.25		70.25
3-40 Cu. ft. Rocker Dump Cars	(1)	1,250.00	50.00	1,200.00
2 Atlas Rock Drills and Legs		1,046.00		1,046.00
1 Rotary Grinder		190.90		190.90
1 Air Receiver 36" x 72"		158.40		158.40
1 Raising Feed for Rock Drill		210.00		210.00
1 Eimco 21 Rocker Shovel	(2)	2,287.20		2,287.20
1 Air Receiver	(3)	70.00	70.00	-0-
Duplicate Billings	(4)	1,083.81	1,083.81	-0-
Total		$6,960.01	$1,203.81	$5,756.20

(1) Contract estimate of $400.00 per unit for 28 cu. ft. size allowed. Operator billed for $450.00 for 1 car purchased in March 1952, of which $50.00 is not allowed.

(2) Cost shown represents amount in which the Government has participated. Total cost to operator is $4,435.00.

(3) This represents disallowance for payment in January 1953 on Air Receiver, which purchase is not authorized.

(4) May and June 1952 billings duplicated in July $1,013.81. Aug. billing for 1/3 of cost of Raising feed for Rock Drill $70.00, which was billed for full amount in June 1952.

The above equipment was purchased during period when work was being performed on Stage I, and has been approved as properly chargeable to the work thereunder.

(c) Depreciation

Depreciation allocated was found to cover the following company owned equipment:

2 Trucks	Feb. 1952 to Jan. 1953	@ $30.00 mo. ea.	$720.00
1 Ventilator Fan	Nov. & Dec. 1952 & Jan. 1953	@ $8.00 mo.	24.00
1 Air Trammer	Nov. & Dec. 1952 & Jan. 1953	@ $38.00 mo.	114.00
1 Slusher	Dec. 1952 and Jan. 1953	@ $30.00 mo.	60.00
Total			$918.00

The above charges were found to be properly allocable by Stages as follows:

	Total	Stage I	Stage II	Stage III
Trucks	$720.00	$480.00	$233.65	$ 6.35
Ventilator Fan	24.00		23.15	.85
Air Trammer	114.00		109.98	4.02
Slusher	60.00		56.82	3.18
	$918.00	$480.00	$423.60	$ 14.40
Disallowed as included in unit billing rate	401.33		386.93	14.40
Net Total	$516.67	$480.00	(1)$ 36.67	$ -0-

(1) Applicable to Slusher Station

(5) Initial Rehabilitation and Repairs $3,632.98

The total costs properly chargeable and allowable under this item were found to consist of the following:

	Access Road	Winterize Cabins	Total
Labor	$ 890.58	$298.55	$1,189.13
Supervision	366.94	129.65	496.59
Lumber		127.25	127.25
Gasoline	41.24		41.24
Hardware, nails and steel	1.80	13.40	15.20
Small Tools	4.19	18.90	23.09
Payroll Taxes	56.59	19.27	75.86
Liability Insurance	70.42	23.98	94.40
Office and Travel	324.57	109.65	434.22
Bulldozing 142 hrs. @ $8.00	1,136.00		1,136.00
Totals	$2,892.33	$740.65	$3,632.98

(6) New Buildings, Improvements, etc. $7,229.30

The total costs properly chargeable and allowable under this item were found to consist of the following:

	Camp Water System	Mine Water System	Compressor House	Tramway	Total
Direct Labor	$ 691.66	$ 99.91	$1218.74	$ 952.35	$2962.66
Cook	125.17	16.00	* 112.53	* 161.61	415.31
Supervision	287.08	36.69	* 258.09	* 370.67	952.53
Lumber			906.49		906.49
Rail and Ties				304.74	304.74
Pipe	180.48	443.24			623.72
Hardware and steel	4.22		39.22	104.07	147.51
Small tools	18.95	47.83	7.15		73.93
Mechanical Service	12.00			(2) 8.00	20.00
Air Hoist				(4)778.00	778.00
Payroll Taxes-Direct Labor	31.12	4.50	54.84	42.86	133.32
Payroll Taxes-Cook & Supt.	18.56	2.37	* 16.68	* 23.95	61.56
Liability Ins.-Direct Labor	38.73	5.59	68.25	53.33	165.90
Liability Ins.-Cook & Supt.	23.09	2.96	* 20.75	* 29.81	76.61
Office and Travel	276.19	18.34	* 271.03	* 379.50	945.06
Amendment No. 4			(1)898.43		898.43
Total Cost Billed	$1707.25	$677.43	$3872.20	$3208.89	$9465.77
Auditors disallowance			(898.43)	(4.00)	(902.43)
Deduct costs not included in setting allowable maximums *			(679.08)	(965.54)	(1644.62)
Disallowed			(1294.69)	(39.35)	(1334.04)
	$1707.25	$677.43	$1000.00	$2200.00	$5584.68
Add back items deducted under * above			679.08	965.54	1644.62
Net allowable cost	(3)$1707.25	$677.43	$1679.08	$3165.54	$7229.30

(1) Amendment 4 provided for an additional amount of $898.43 for the Compressor House and Warehouse Building. This was billed in the October 1952 MF-104 and paid. The Amended Contract dated January 12, 1953 cancelled Amendment 4. As there were no specific costs allocated to this amendment, the total amount is removed from costs as well as disallowed for reimbursement.

(2) Disallowance of $4.00 for duplication of billing from Preston Chevrolet Co. for labor on car wheels billed in both March and April 1952.

(3) A 300 gallon steel water tank which cost $70.00 is also part of the "Camp Water System". However, as the tank is the only item in the Camp Water System which has a residual value as a piece of equipment, it is transferred to the Equipment Purchased classification.

(4) The air hoist is included here as it represents a portion of a unit cost covered by an allowable maximum.

It is the opinion of the representative of the executive officer of the DMEA Field Team that the Compressor House and the Air Hoist portion of the Tramway represent equipment to be added to the items in Operating Equipment Purchased

to be accounted for and disposed of when the exploration work called for has been completed. The Government's equity will be its pro rata contribution in the amount approved above.

* Exhibit A and Amendment 1 of the contract which covers construction of the Compressor House and Tramway with an allowable maximum of $1,000.00 and $2,200.00 respectively do not specify clearly the exact costs that are to be included in the allowable maximum for these items. After joint consultation with the representative of the Executive Officer of the DMEA field team, and the Assistant Chief of the Washington, D. C. office of the Contract Administration and Audit Division, it was determined that as supervision, the salary of the cook, and Office and Travel are provided for under other sections of Exhibit A, they are not to be included within the amounts applicable to "allowable maximums".

(7) Miscellaneous $4,791.06

All costs of items presented under this category have been analyzed in detail and the portions properly allocable to the work items under (1),(5) and (6) above have been transferred to their proper items. Payroll taxes, Public Liability insurance and Office and travel have been prorated over direct labor monthly to the items of work being accomplished during the month. Likewise repairs have been allocated on direct labor basis and then reallocated on a footage basis where such allocation was indicated. Sampling and analysis have also been allocated to the work item being performed within the months when the charges were made. The operator has prepared and submitted schedules covering the major portion of these allocations.

The amounts properly chargeable to the work items previously outlined have been submitted under their respective sections above. The Miscellaneous items remaining under these classifications are chargeable primarily to Stage I. Items shown on Exhibit A as chargeable to Stage II are for the Slusher Station and 160 feet of Diamond Drilling specified in Amendment 5. Sampling and Analysis shown under Stage III are for $336.00 as billed plus 1 analysis at a cost of $4.00 allocated against the 9 feet of slusher drifting performed at the end of January 1953.

The total costs properly chargeable and allowable under this item were found to consist of the following:

	Stage I Cost	Stage I Not Allowable	Stage II	Stage III	Total Allowable
Repairs to Equipment	$ 906.49	$	$ 19.74	$	$ 926.23
Sampling and Analysis	210.00			340.00	550.00
Payroll Taxes	491.08		67.90		558.98
Liability Insurance	559.62		147.51		707.13
Office and Travel	1700.81	(1)318.62	275.46		1657.65
Freight	97.92		1.27		99.19
Furnishings for Cabins	291.88				291.88
	$4257.80	$318.62			
Less item not allowable	318.62				
Net allowable	$3939.18		$511.88	$340.00	$4791.06

(1) Disallowance for cost of Mineralite, which item was not approved as equipment $ 63.59
Duplicate billing of June expenses in July 255.03
Total not allowable $318.62

(8) Contingencies Credit $540.00

This represents a disallowance made by the executive officer of the DMEA Field Team for driving the new section of the Adit 139 feet at a size 8 x 9 feet in lieu of 6 x 8 feet as called for in Exhibit A. The amount is calculated primarily for excess explosives, drill steel and fuel for compressor.

IV CONCLUSIONS AND RECOMMENDATIONS

This audit has disclosed that all costs charged to this project, with the exception of disallowances itemised under (1) Agreed Unit Cost, (3) Operating Materials and Supplies, (4) Operating Equipment, (6) New Buildings, Improvements, etc., (7) Miscellaneous and (8) Contingencies of the preceding section of this report are reasonable and proper under the terms of the contract, including the Exhibit A, with Amendments 1 to 6 inclusive, and the Amended Contract, and except for the formality on the part of the Government of executing an amendment to the contract to confirm the change in the location of the diamond drill hole called for under Amendment 5 wherein the last 100 feet of a total of 160 feet of diamond drilling was made from the entrance of the Granite Adit in lieu of continuing the hole at the old No. 4 adit.

The executive officer of the DMEA field team indicated oral approval was given to change the location of the diamond drill hole at the time the work was to be performed. A confirming amendment appears necessary. The disallowance of $540.00 for driving an adit 8 x 9 feet in lieu of the 6 x 8 feet adit as called for in the contract is for excess cost as calculated by a representative of the executive of the DMEA field team, and approved at time the allowances and disallowances reflected in this audit were presented to the executive officer of the DMEA field term for approval.

As detailed information as to what disallowances were made by the certifying officer are not available, this audit report does not take any position of concurring or disagreeing with previous disallowances made by the certifying officer. Likewise as continuity of balances by items were not maintained by the operator, no attempt is made to reconcile to, or accept deductions of former amounts claimed. Because of this condition a completed detailed audit by months was made.

The Items of Costs as shown on the April 1953 MF-104, the adjusted total of items of costs summarized from monthly MF-104s submitted, the recommended disallowances and approved amounts are summarized as follows:

Item of Cost	Totals Apr. MF-104	Distribution Corrected	Disallowed by Audit	Accepted Costs
(1) Agreed Unit Cost	$	$	$	$
Drifting 175' @ $37.20		6,978.94	468.94	6,510.00
Slusher Drifting 100' @ $33.80		4,334.82	954.82	3,380.00
Slusher Drifting 110.2' @ $33.20	3,715.51	3,694.79	36.15	3,658.64
Diamond Drilling 126' @ $8.00	1,008.00	1,008.00		1,008.00
(2) Labor and Supervision				
Labor	15,980.22	10,499.91		10,499.91
Supervision	6,061.83	2,798.29		2,798.29
(3) Operating Material & Supplies	10,325.26			
Timber		222.04		222.04
Explosives		2,051.85		2,051.85
Pipe		714.48	391.86	322.62
Track		416.08	(43.46)	459.54
Drill Steel		1,241.61		1,241.61
Gasoline & Diesel Fuel		1,258.97	47.50	1,211.47
Small Eqpt. & Hand Tools		776.07		776.07
Miscellaneous		903.00		903.00
(4) Operating Equipment				
Rental	6,638.21	5,034.81	43.83	4,990.98
Purchase	3,877.89	6,960.01	1,203.81	5,756.20
Depreciation	810.00	918.00	401.33	516.67
(5) Initial Rehabilitation and Repairs	3,366.89			
Access Road		2,892.33		2,892.33
Winterize Cabins		740.65		740.65
(6) New Bldgs., Improvements	6,630.82			
Camp Water System		1,707.25		1,707.25
Mine Water System		677.43		677.43
Compressor House & Whse.		3,872.20	(2,193.12)	1,679.08
Tramway		3,208.89	43.35	3,165.54
(7) Miscellaneous				
Repairs to Equipment	944.26	926.23		926.23
Sampling and Analysis	634.00	550.00		550.00
Payroll Taxes	1,039.00	558.98		558.98
Liability Insurance	1,564.21	707.13		707.13
Office and Travel	1,780.13	1,976.27	318.62	1,657.65
Freight		99.19		99.19
Furnishings for Cabins		291.88		291.88
(8) Contingencies				
Excess Drift Costs	(1,955.78)			
Error in MF-104 total	(56.87)			
Excess cost of Oversize Adit			540.00	(540.00)
Totals	$62,363.58	$68,020.10	$6,599.87	$61,420.23

The audit also disclosed that the status, as of April 30, 1953 of the "allowable maximums" under this contract was as follows:

	Allowable Maximum	Total Approved Costs	Balance
Stage I			
Compressor House	$1,000.00	$1,000.00	$ -0-
Tramway	$2,200.00	$2,200.00	-0-
Stage II			
Drifting on Adit Level	$6,510.00	$6,510.00	-0-
Inclined Slusher Drifting	$3,380.00	$3,380.00	-0-
Stage III			
Diamond Drilling	$6,000.00	$1,008.00	4,992.00
Inclined Slusher Drifting	$3,818.00	$3,658.64	159.36
Tungsten Analysis	512.00	340.00	172.00
			$5,323.36

Total of Stage III ($10,330.00) is an allowable maximum.

At the conclusion of the audit, the findings were discussed with Mr. Robert N. Roby, manager of the exploration project.

B. J. BREKHUS
Auditor

Audit accepted
JH 9/3/53

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 3 - 1953

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

Juneau, Alaska
August 24, 1953

Mr. Jay L. Chambers, Chief
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Department of the Interior - Room 4542
Washington, D. C.

Dear Mr. Chambers:

Transmitted herewith are three copies of the Audit Certificate and two copies of the Interim Audit Report covering American Alloy Metals Inc., Contract Idm E-247.

An unsigned advance copy has been forwarded to Mr. A. E. Weissenborn, Executive Officer of the D. M. E. A. Field Team, Region II.

Sincerely yours,

B. J. Brekhus

B. J. BREKHUS
Auditor

JB

Brekhus advised by TWX 9-9-53.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 9 - 1953

Juneau, Alaska
August 24, 1953

To: Mr. A. E. Weissenborn, Executive Officer
DMEA Field Team, Region II
South 157 Howard St., Spokane, Wash.

From: B. J. Brekhus, Auditor

Subj: Transmittal of Audit Report

Transmitted herewith is an unsigned advance copy of an Interim Audit Report dated August 10, 1953, covering Contract Idm E-247, Docket No. DMEA 2292 for American Alloy Metals, Inc. covering the period January 29, 1952 to April 30, 1953.

The issuance of this copy of the report to you in advance of official release is in accordance with the new operating procedure outlined by Mr. E. D. Talbert in his visit to you earlier this month. A signed copy will be forwarded as soon as my office in Washington has approved the report.

B. J. BREKHUS

COPY

GOVERNMENT COPY

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 5 - 1954

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

It is agreed this 19th day of November, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and American Alloy Metals, Inc., 1 Montgomery Street, San Francisco, California, hereinafter called the "Operator," parties to that certain Exploration Project Contract Idm-E 247, Docket No. DMEA- 2292, dated January 12, 1953, 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

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

AMERICAN ALLOY METALS, INC.

By Frank Richelhuzer

DOCKET COPY

AGREEMENT COMBINING TWO EXPLORATION
PROJECT CONTRACTS AND
TERMINATING THEM

This Agreement entered into this 1 day of October, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government" and American Alloy Metals, Inc., hereinafter called the "Operator",

WITNESSETH THAT:

WHEREAS, these parties are parties to three Exploration Project Contracts, as follows:

1. Docket No. 148, Idm-E105, dated August 1, 1951;

2. Docket No. 1951, Idm-E127, dated August 24, 1951;

3. Docket No. 2292, Idm-E247, dated January 29, 1952; and

WHEREAS, the land which is the subject of the first contract includes 16 mining claims one of which is designated as the "Fox"; and

WHEREAS, the land which is the subject of the second contract includes the same 16 claims and in addition a claim designated as the "Ivanhoe Lode Mining Claim," upon which the work referred to in the second contract is to be performed; and

WHEREAS, the land which is the subject of the third contract is the same "Ivanhoe Lode Mining Claim" referred to in the second contract; and

WHEREAS, the said "Fox" claim and the said "Ivanhoe Lode Mining Claim" cover practically identical ground, as was discovered after said two contracts had been entered into; and

WHEREAS, the work described in contracts Nos. 1 and 2 has not been completed, but is suspended in favor of work being prosecuted under contract No. 3; and may not be resumed; and

WHEREAS, under date of April 28, 1952, a "Certification of Discovery or Development" was made by the Government with reference to the second contract, Idm-E127; and

WHEREAS, for purposes of accounting and to resolve any confusion in the descriptions of overlying claims, and for terminating and winding

up the first two contracts, without prejudice to the possibility of entering into a further contract at some subsequent date for a resumption of the work therein described;

NOW THEREFORE, it is understood and agreed as follows:

1. The first two contracts above described, Idm-X105 and Idm-X127, for purposes of accounting, terminating, and winding up, shall be treated as one contract.

2. The Certificate of Discovery or Development dated April 28, 1952, above referred to, shall apply to all three contracts and shall subject the land described in all three contracts and the production therefrom to the Government's percentage royalty and lien for the payment thereof, as provided in these contracts.

3. The Operator's guarantee in lieu of a Landlord's Subordination Agreement attached to the second and third contracts, Idm-X127 and Idm-X247, shall apply equally to the two contracts here combined, Idm-X105 and Idm-X127, with the same force and effect as if they had been made and entered into with reference to these two contracts.

4. The work under the first two contracts, Idm-X105 and Idm-X127, shall be and is hereby terminated as of January 1, 1952. Any work prosecuted or costs incurred by the Operator after the date here fixed for the termination of these two contracts 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 cost of any reports, accounts, and winding-up and settlement actions provided for in these contracts. The Operator hereby releases and agrees to save harmless the Government from all claims and demands under or arising out of said first two contracts, Idm-X105 and Idm-X127, except as herein expressly otherwise provided.

5. The third contract, Idm-X247, remains in full force and effect, according to the terms thereof, subject, as above provided, to the Certificate of Discovery or Development above referred to. Except that the Certificate of Discovery or Development above referred to is made applicable to said third contract, Idm-X247, and to any and all work performed or to be performed under the terms thereof, the work and the accounting under said Contract Idm-X247 is readily severable and distinguishable from the work and accounting under the first two contracts hereby combined and terminated, and said Contract Idm-X247 is here mentioned only for the purpose of explaining the relationship between the three contracts, and for the purpose of applying the

Certification of Discovery or Development to the third contract. The third contract, Idm-E247, is not amended, terminated, or otherwise affected by this agreement.

IN WITNESS WHEREOF, this Agreement has been made and entered into the day and year first above written.

THE UNITED STATES OF AMERICA

By Frank E. Johnson
Acting Administrator
Defense Minerals Exploration
Administration

Holland Talbot

AMERICAN ALLOY METALS, INC.

By Frank Richelberger

GOVERNMENT'S COPY

AMENDMENT NO. 6

Docket No. DMEA 2292
(tungsten)

It is agreed this 18th day of March 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, and American Alloy Metals, Inc.

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Amended Exploration Project Contract Idm-E 247 of January 12 1953 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 March 1 1953.

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.

AMERICAN ALLOY METALS
(Operator)

By Frank Schelburg VP

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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APR 3 1953

AMERICAN ALLOY METALS, INC.
Exploration Project Contract (Amended)
Idm-E247
Docket No. DMEA 2292 (tungsten)

AMENDMENT NO. 6

EXHIBIT "F"

Changes and modifications

Exhibit "A" amended is further amended as follows:

1. Change Item 2 under Description of Work to read:

"Diamond drill an approximate aggregate of 470 feet at the locations, bearings, inclinations and the approximate depths as shown:

Location	Bearing	Inclination	Depth - Feet
Face, west heading		Plus 90°	85
West heading, intermediate between face and raise		Plus 90°	85
Slusher drift, intermediate between raise and face of completed working		Plus 90° - 90°	60 25
Face of completed slusher drift	N. 25° E.	- 60°	55
Surface, from a point on coordinate line N. 30,300 at or near the hanging of the ore zone, located so that the hole will completely cross the zone		Vert. or near vert.	80
Surface, from a point on coordinate line N. 30,400 at or near the hanging wall of the ore zone, located so that the hole will completely cross the zone		Vert. or near vert.	80

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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APR 3 1953

American Alloy Metals, Inc.
Exploration Contract Amended Idm-E247
Docket No. DMEA-2292 (Tungsten)

Justification for Amendment No. 6

Results from the inclined raise driven under terms of the amended contract are quite promising and indicate that it may not be necessary to drill all of the diamond drill holes outlined in the amended contract. Therefore, it seems that some of these holes can be eliminated without serious loss of information. Since the grade of the ore appears to be increasing somewhat toward the east, it seems desirable to drill two more holes from the surface to attempt to determine the extension to the east as provided for in Amendment No. 6. Drilling is on a unit cost basis and based on underground drilling costs. Should the surface holes cost more, this additional cost will be borne by the Operator. Both the footage and the cost of the revised drilling program are well within the allowances permitted in the amended contract.

Amended
Contract
1/12/53

DEPARTMENT OF THE INTERIOR
Bureau Mines Administration
RECEIVED
APR 3 1953

MF-200
(June 1951)
(Revised Feb. 1952)

DOCKET NO. DMEA 2292

COMMODITY Tungsten

Government's Copy

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

IDM-E 247

AMENDED
EXPLORATION PROJECT CONTRACT[1]

IT IS AGREED this 12th day of January, 1953, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, hereinafter called the "Government," and[2] American Alloy Metals, Inc. a corporation duly organized and existing under and by virtue of the laws of the State of Nevada, having an office and place of business at 1 Montgomery Street, San Francisco, California, hereinafter called the "Operator" as provided in Annex I as follows:

~~hereinafter called the "Operator" as follows:~~

ARTICLE 1. *Authority for contract.*—This agreement is entered into under the authority of the Defense Production Act of 1950, as amended, pursuant to DMEA Order 1 entitled "Government Aid in Defense Exploration Projects."

ARTICLE 2. *Operator's property rights.*—With respect to that certain land situated in the State of Montana, County of Beaverhead, described as follows:[3] The Ivanhoe patented claim, Lot 37, Township 4 South, Range 10 West

the Operator represents and undertakes:[4]

(*a*) ~~That the Operator is the owner, in possession and entitled to possession and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~

lessee's guaranty is attached to the prior contract & made a part hereof

(*b*) That the Operator is a lessee, in possession and entitled to possession, and the ~~owner's consent to lease is attached~~

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.

ARTICLE 3. *Exploration project.*—The Operator, ~~within~~ has ~~days from the date of this contract shall~~ commenced work on a project of exploration for[5] Tungsten

in or upon the described land; and shall bring the project to completion ~~within the time fixed from the date of this contract~~ prior to July 1, 1953. The work to be performed is more fully described in Exhibit "A" attached hereto, which, with any maps or drawings thereto attached, are made a part of this contract. The Government will contribute to the cost of this work as hereafter provided.

ARTICLE 4. *Performance of the work.*—(*a*) *Operator's responsibility.* The work shall be performed efficiently, expertly, in a workmanlike manner, in accordance with good mining standards and State regulations for health and safety and for workmens' compensation and employers' liability insurance, with suitable and adequate equipment, materials, and labor, to bring the project to completion within the time fixed. To the extent specified in Exhibit "A," attached hereto, the work may be performed by independent contractor or contractors; and work not specified in Exhibit "A" for performance by independent contractor may nevertheless be so performed upon amendment of Exhibit "A," as agreed to by the parties, to state the work to be so performed and the estimated unit costs thereof, as provided hereafter.

(*b*) *Independent contracts.*—Any independent contract for the performance of work shall be on a unit-price basis (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved), or on some basis that will indicate the amount due for work performed at any stage of the work to be performed under such independent contract. The Government shall not be nor be considered to be a party to any such independent contract, and the Government's right to terminate the exploration project contract under any of its provisions shall not in any manner be affected by reason of any such independent contract. If the reference in Exhibit "A" to any such independent contract states that the Government's approval thereof is required, the Government may refuse to participate in the cost thereof unless and until it has given its written approval of the independent contract.

(*c*) *Government may inspect.*—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.

ARTICLE 5. *Estimated costs of the project.*—A statement of the estimated cost of the project is set forth in Exhibit "A," attached hereto. Except insofar as any item of requirement or the estimated cost thereof set forth in Exhibit "A" is there or elsewhere designated as an "allowable maximum," such items of requirement and of related cost are estimates only, and may be exceeded to the extent that the Government may from time to time approve for the most economic and beneficial performance of the work within the limitation of the total aggregate estimate of costs. The Government's approval of any such excess over the estimate for an item of requirement or related cost will be signified by its approval and payment of any invoice or voucher for payment which expressly calls attention to such excess. Items expressly designated in Exhibit "A" or elsewhere as "allowable maximum," and the total aggregate estimated cost are limitations, and any excess therein will be for the sole account of the Operator in which the Government will not participate.

ARTICLE 6. *Allowable costs of the project.*—(*a*) The costs of the project in which the Government will participate are limited to the following:

(1) *Independent contracts.*—Payments to independent contractors under independent contracts listed in Exhibit "A." The estimated cost of any work to be performed under an independent contract is or shall be included in the estimate of costs in Exhibit "A" in terms of the estimated numbers of units of work to be performed, the estimated amount to be paid per unit, and the estimated total amount to be paid to the independent contractor, and such estimates shall be allowable maximums above which the Government will not contribute. Regardless of the provisions of any such independent contract, the Government will participate in the payments to the independent contractor only on account of work actually performed and that conforms with the provisions of the exploration project contract, and only to the extent that the Government deems the unit prices for the work under the independent contract to be reasonable and necessary. No such independent contract shall have the effect of increasing the estimated total cost of the exploration project contract nor the maximum amount which the Government will pay as provided in the exploration project contract.

(2) *Labor, supervision, consultants.*—Labor, supervision and technical services (including engineering and geological consultants), a schedule of which is included in the estimate of costs set forth in Exhibit "A." The requirements and related estimated costs for supervision and technical services are allowable maximums.

(3) *Operating materials and supplies.*—Necessary materials and supplies including items of equipment costing less than $50.00 each, and power, water, and fuel, a schedule of which is included in the estimate of costs in Exhibit "A."

(4) *Operating equipment.*—Any operating equipment to be rented or purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or the allowable depreciation, as the case may be, a schedule of which is included in Exhibit "A." Any items listed as owned and to be furnished by the Operator, and related ~~initial~~ allowable depreciation, are allowable maximums.

(5) *Rehabilitation and repairs.*—Any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and to be devoted to the purposes of the exploration contract, a schedule of which is included in the estimate of costs set forth in Exhibit "A." These items are allowable maximums.

(6) *New buildings, improvements, installations.*—Any necessary buildings, fixed improvements, or installations to be purchased, installed, or constructed for the purposes of the exploration work, with the estimated cost of each, a schedule of which is included in the estimate of costs in Exhibit "A." All of these items are allowable maximums.

(7) *Miscellaneous.*—Repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance and payroll taxes.

(8) *Contingencies.*—Such other necessary, reasonable direct costs of performing the exploration work, within the limit of the total aggregate estimate of costs, whether or not included in any schedule of costs in Exhibit "A," as may be approved by the Government in the course of the work, as indicated by its approval and payment of invoices and vouchers.

[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, particularly excluding any land or interest therein to which the Government's lien is not to attach or the production from which is not to be subject to the Government's percentage royalty.
[4] Strike out the provision not applicable.
[5] Name of mineral or minerals.

(*b*) The Government's payments in all cases will be based on actual, necessary costs (including contract unit prices) incurred not in excess of any "allowable maximum," and not in excess of the fixed percentage of the total aggregate estimated cost. Costs will be considered to be incurred only as they are or become due and payable.

(*c*) No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes) or any other indirect costs, or work performed or costs incurred before the date of this contract, shall be allowed as costs of the project in which the Government will participate.

ARTICLE 7. *Reports, accounts, audits.*—(*a*) *Progress reports.* The Operators shall provide the Government with monthly reports of work performed and costs (including contract unit prices) incurred under the contract, in quintuplicate (five copies), upon forms provided by the Government. These progress reports shall be certified by the Operator, and shall constitute both the Operator's invoice of costs incurred on the project during the period covered by the report and his voucher for repayment by the Government, unless the Government requires the use of a standard voucher form with invoice attached. Progress reports shall include surface and/or underground engineering-geological maps or sketches showing the progress of the exploration, with assay-reports on samples taken concurrently with the advance in mineralized ground.

(*b*) *Final report.*—Upon completion of the exploration work or termination of the contract the Operator shall provide the Government with an adequate geological and engineering report, in quintuplicate (five copies), including an estimate of ore reserves resulting from the exploration work.

(*c*) Compliance with requirements.—If, in the opinion of the Government, any of the Operator's reports are insufficient or incomplete, the Government may procure the making or completion of such reports and attachments as an expense of the exploration work; and the Government may withhold approval and payment of any vouchers depending upon insufficient or incomplete reports.

(*d*) *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. Upon the completion of the project or termination of the contract the Operator shall render a final account as provided in Article 12.

ARTICLE 8. *Payments by the Government.*—(*a*) The Government will pay 75 percent of the allowable costs incurred, as they accrue, in an aggregate total amount not in excess of $50,185.50, which is 75 percent of $66,914.00, the agreed, estimated total cost of the project in which the Government will participate; *Provided,* that until the Operator's final report and final accounting have been rendered to the Government, and any final auditing required by the Government has been made, and a final settlement of the contract has been made, the Government may withhold from the last voucher or vouchers such sums as it sees fit not in excess of ten (10) percent of the maximum total which the Government might have been called upon to pay under the terms of the contract.

(*b*) The Government may make any payment or payments direct to independent contractors and to suppliers, for the account of the Operator, rather than to the Operator.

ARTICLE 9. *Repayment by Operator.*—(*a*) If, at any time, the Government considers that a discovery or a development from which production may be made has resulted from the exploration work, the Government, at any time not later than 6 months after the Operator has rendered the required final report and final account, may so certify in writing to the Operator. The certification shall describe broadly or indicate the nature of the discovery or development. In the event of such certification, any minerals mined or produced from the land described in Article 2 within 10 years from the date of this contract, including any mined or produced before the certification, shall be subject to a percentage royalty which the Operator or his successor in interest shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates, or metal, until the total amount contributed by the Government, without interest, is fully repaid, or said 10 years have elapsed, whichever occurs first, as follows:

(1) One and one-half (1½) percent of any such net amounts not in excess of eight dollars ($8.00) per ton.

(2) One and one-half (1½) percent of any such net amounts, plus one-half (½) percent of such net amounts for each additional full fifty cents ($0.50) by which such net amounts exceed eight dollars ($8.00) per ton, but not in excess of five (5) percent of such net amounts.

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

(*b*) As here used, "net smelter returns," "net concentrator returns," and "other net amounts realized from the sale or other disposition," mean gross revenue from sales; or if not sold, the market value of the material after it is mined in the form in which and the place where it is held. In the case of integrated operations in which the material is not disposed of as such, these terms mean what is or would be gross income from mining operations for percentage depletion purposes in income-tax determination.

(*c*) To secure the payment of its percentage royalty, the Government shall have and is hereby granted a lien upon the land described in Article 2 and upon any production of minerals therefrom, until the royalty claim is extinguished by lapse of time or is fully paid.

(*d*) This article is not to be construed as imposing any obligation on the Operator or the Operator's successor in interest to engage in any mining or production operations.

ARTICLE 10. *Assignment, transfer, or loss of Operator's interest.*—Without the written consent of the Government, the Operator shall not assign or otherwise transfer or hypothecate this contract or any rights thereunder. The Operator shall not make any voluntary nor permit any involuntary transfer or conveyance of the Operator's rights in the land described in Article 2, without making suitable provision for the preservation of the Government's right to a percentage royalty on production and lien for the payment thereof; *Provided,* that mere failure by the Operator to maintain the Operator's rights in the land, without any consideration running to the Operator other than relief from the cost of maintaining such rights (as by surrender of a leasehold, failure to perform assessment work, or failure to exercise an option), coupled with complete abandonment by the Operator of all interest in or operations on the land for a period of 10 years from the date of this contract, shall not constitute such a transfer or conveyance. Should the Operator make or permit any transfer or conveyance in violation of this provision, the Operator shall be and remain liable for payment to the Government of the same amounts, at the same times, as would have been paid under the terms of the percentage royalty on production. If for any reason the net smelter returns, net concentrator returns, or other net amounts realized from the sale or other disposition of such production are not available as a means of measuring the amount of the Operator's liability, the amount thereof shall be estimated as well as may be, and in the event of dispute as to such estimates, the determination thereof by the Administrator of Defense Minerals Exploration Administration or by his successor shall be final and binding upon the Operator.

ARTICLE 11. *Title to and disposition of property.*—All facilities, buildings, fixtures, equipment, or other items costing more than $50.00 each, paid for or purchased with funds contributed jointly by the Operator and the Government, although title may be taken in the name of the Operator, shall belong to the Operator and the Government jointly, in proportion to their respective contributions, and upon the completion of the work or the termination of the contract shall be disposed of promptly by the Operator for the joint account of the Government and the Operator, either by return to the vendor, by sale to others, or purchase by the Operator at a price at least as high as could otherwise be obtained, as may appear to be for the best interest of the Government, unless the Government, in writing, waives its interest in any such item. If necessary to accomplish such disposition, the Operator shall dismantle, sever from the land, and remove any such item, the cost thereof to be for the joint account of the parties in proportion to their respective interests. If the Operator, within 90 days after the receipt of written notice from the Government, fails, neglects, or refuses to dispose of such property, the Government may itself enter upon the land, take possession of, and remove and dispose of any such property as above provided.

ARTICLE 12. *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 worth while 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 dispose of any remaining materials, supplies, facilities, buildings, fixtures, and equipment in which the Government has an interest, for the joint account of the Operator and the Government in the proportion of their respective interests; shall render to the Government a full and final accounting of his operations under the contract and his expenditures of money; and shall pay to the Government its pro rata share of any money remaining.

ARTICLE 13. *Changes and added provisions.* _____

Executed in sextuplicate the day and year first above written.

THE UNITED STATES OF AMERICA

By O. Mitteudorf
Administrator, Defense Minerals Exploration Administration

American Alloy Metals, Inc.
(Operator)

By Estey A. Julian, Pres.

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

_____

[CORPORATE SEAL]

U. S. GOVERNMENT PRINTING OFFICE 16—66328-1

AMERICAN ALLOY METALS, INC.
EXPLORATION PROJECT CONTRACT
DOCKET NO. DMEA-2292

ANNEX I

WHEREAS, the parties heretofore entered into an exploration project contract dated January 29, 1952 (Idm-247) and some five amendments thereto, the last of which is dated November 24, 1952, hereinafter referred to as the "Prior Contract"; and

WHEREAS, the parties desire further to alter and add to the work outlined in Exhibit "A", and to change the basis for the payment of part of the added work to be done, to a unit cost rather than an actual cost basis; and

WHEREAS, the parties desire to restate their agreement on the new contract form, MF-200 (revised Feb. 1952);

NOW, THEREFORE, it is mutually agreed as follows:

1. This agreement shall be effective as of January 29, 1952.

2. The Prior Contract is hereby amended and superseded by this Amended Exploration Project Contract which shall govern the Government's claim and lien for percentage royalty, and in which the rights and obligations of both parties are fully merged except that vouchers and claims for the Government's contribution to the work performed under the Prior Contract and payment thereof by the Government shall be as provided in the Prior Contract.

3. The Operator hereby releases and agrees to save harmless the Government from all claims and demands arising out of the Prior Contract except as otherewise herein provided.

4. All and any description of or specifications for exploration work set forth in the Prior Contract as amended are preserved and are for performance under this contract. The additional work to be performed and the estimated cost of all the work now provided for is set forth in Exhibit "A" Amended attached hereto and made a part hereof.

5. The provisions of Amendment No. 4 to the prior contract, dated October 23, 1952, are hereby voided and of no effect.

6. The provisions of the agreement between the parties hereto dated October 1, 1952, are specifically incorporated into this amended exploration project contract.

AMERICAN ALLOY METALS, INC.
EXPLORATION PROJECT CONTRACT
DOCKET NO. DMEA-2292

EXHIBIT "A" AMENDED

Description of the Work

The work to be performed shall be that stated in Exhibit "A" of the Prior Contract as amended by Amendments No.1,2, 3 and 5.

The additional work to be performed is as follows:

In Exhibit "A" under "Description of the Work" add:

1. Extend the 100 foot slusher drift specified under Amendment No. 5 an additional 115 feet.

2. Diamond drill a maximum of 750 feet at the locations, bearings, inclinations, and approximate depths shown:

Location	Bearing	Inclination	Depth Feet
Face, west heading	S. 40° W	plus 2° plus 90°	50 85
West heading, intermediate between face and raise		plus 90°	85
Raise, middle of ore zone	S. 25° W N. 25° E	plus 20° - 20°	60 50
Slusher drift, intermediate between raise and face of completed working	S. 25° W N. 25° E	plus 90° - 90° plus 20° - 20°	60 25 55 40
Face of completed slusher drift	S. 25° W N. 25° E S. 82° E	- 65° - 60° - 30°	75 55 85

Estimated Costs of the Project

Agreed Unit Cost of Additional Work to be Performed

115 ft. of slusher drift including all costs except assaying @ $33.20/ft.	$3,818.00	
750 ft. of diamond drilling including all costs except assaying @ $8.00/ft.	6,000.00	
128 tungsten analyses @ $4.00 per assay	512.00	
		$10,330.00

The Government will contribute to the costs of the above additional work on the basis of the above agreed estimated costs as they accrue, for units of work actually performed in lieu of actual costs. These unit costs include all costs of the work including supervision, consultants, accounting, assaying, surveying, and all other necessary technical work involved.

S U M M A R Y

Estimated Cost of Stage I 1/	$42,795.00	
Estimated Cost of Stage II (as set forth in Amendment 5)	13,789.00	
Agreed Unit Cost - Additional Work	10,330.00	
Estimated Total Cost of Project		$66,914.00
Government Participation @ 75%		$50,185.50

1/ The cost of Stage I was originally estimated at $31,826.00 as set forth in Exhibit "A", but actual costs have approximated $42,795.00.

GOVERNMENT COPY

Docket No. DMEA 2292
(tungsten)

AMENDMENT NO. 5

It is agreed this 24th day of November 195 2, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, and American Alloy Metals, Inc., One Montgomery Street, San Francisco, Calif.

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E 247 of January 29 195 2 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 September 1 195 2.

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.

AMERICAN ALLOY METALS, INC.
(Operator)

By Frank Schelbergen

THE UNITED STATES OF AMERICA

By Thor H. Kiilsgaard
~~Exec. Officer~~, Exec. Officer
DMEA Field Team, Region II
Thor H. Kiilsgaard, Acting

AMERICAN ALLOY METALS, INC.
Docket No. DMEA 2292 (tungsten)
Exploration Project Contract Idm-E247

Amendment No. 5

Exhibit "F"

Exhibit "A" of the contract, as amended, is further amended as follows:

1. The description of the work to be done in Stages II and III as shown on page 2 is deleted and the following is substituted therefor:

"Stage II

"(1) In order to adequately plan the course of the southeasterly exploration drift to be driven from the raise, a diamond drill hole shall be drilled from the main adit of the old workings to determine the position of the quartz monzonite. The hole shall be drilled a maximum of 190 feet on a bearing of S. 02° W. and inclined at -51°.

"(2) Drift a maximum of 175 feet in a northwesterly direction on the new adit level, from a point near the bottom of the raise, to intersect and drift in the ore zone on that level.

"(3) Drive an inclined slusher drift 100 feet in a southeasterly direction from raise. The drift shall be started from a point in the raise about 40 feet above the sill of the new adit and shall be inclined about 27° above the horizontal."

2. In the "Estimated Cost of the Project" delete everything pertaining to Stages II and III and substitute the following:

"Stage II

"Estimated Costs

"(1) Independent contracts - none.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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"(2) Labor, Supervision and Consultants

Classification	Rate
Laborer	$13.20/shift
Miner	14.00/shift 1/
Cook	12.00/day
Engineer-Geologist	600.00/mo.

1/ Miners may be paid at the shift rates shown above or at unit contract rates not to exceed going rates for like work in the district in which the project is located. The rates are subject to change for legal overtime and changes made to make the wage scale conform to wages paid for like work in the district.

"(3) Operating materials and supplies

Schedule waived - included in estimated unit costs set forth below.

"(4) Operating equipment

To be purchased - none

To be furnished:

Item	Value	Monthly depre. allowance	Period of use	Total
1 Air trammer	$2350	$38.00	2-1/2 mo.	$95.00
1 Vent fan	450	8.00	"	20.00
1 Auto-car truck with snow blade	1800	30.00	"	75.00
1 Chev Pickup	1800	30.00	"	75.00
1 Slusher with bucket	1800	30.00	1-1/2 mo.	45.00
				$310.00

To be rented:

	Monthly rental	Rental period	Total
1 Eimco mucking machine	$275	1 mo.	$275.00
1 Compressor - 365 cfm	414	3-1/2 "	1449.00
			$1724.00

"(5) Rehabilitation and repairs - none

"(6) New buildings, improvements, installations - none

"(7) Miscellaneous -

Schedule waived - (included in estimated unit costs set forth below)

"Summary of Estimated Costs of Stage II

*Indicates allowable maximum

1.	190 feet of diamond drilling @ $7.50 1/	$ 1,425.00
2.	175 feet of drifting on adit level @ $37.20* per foot 1/	6,510.00
3.	100 feet of intermediate drifting @ $33.80* per foot 1/	3,380.00
4.	Equipment rental	1,724.00
5.	Excavating slusher station in raise 1/	750.00
	Total Stage II	$13,789.00"

1/ Includes all costs of labor, supervision, equipment depreciation, operating supplies and all other costs except equipment rental. Although the costs of the work are estimated in terms of units the Government will contribute only on the basis of actual costs.

American Alloy Metals, Inc.
Docket No. DMEA 2292 (Tungsten)
Exploration Project Contract Idm-E247

Justification for Amendment No. 5

Amendment No. 5 describes only that portion of an amended program which can be completed with the remaining balance of contract funds. A subsequent amendment requesting additional funds will propose the work necessary to complete the amended program. This program, if executed, will substantially duplicate the results which might have been obtained by the original program.

The amended program differs from the original in two respects. The intermediate drift which was to have been driven westward from the raise was abandoned in favor of a similar drift which has been driven on the main crosscut level, resulting in exposure of the main tactite zone at a substantially lower altitude. This change was made because new geologic data gained in the crosscut, the raise, and in drill holes suggested that the tactite would extend down to the crosscut level west of the raise. The original specification calling for an intermediate drift to the east has been modified somewhat to provide for an inclined slusher drift which under Amendment No. 5 would be driven a length of 100 feet. This inclined working, if carried to completion (by additional funds included in those which will subsequently be requested) would obliquely cut the main tactite zone from footwall to hanging wall. From a point in the raise about 40 feet above the crosscut the working would incline upwards towards the east and at the eastern end be connected by 10 feet of vertical raise with the western inclined drift of the old #4 working. This inclined slusher working, about 212 feet in length, would be driven between two points of known geology--from the footwall of the tactite in the raise to a point in the inclined drift of the old #4 working about 10 feet above the hanging wall of the main tactite zone.

This inclined working, driven between known points and well north of the projected position of the roughly planar quartz monzonite contact, does not risk passing out of the tactite zone somewhere along its course, in contrast to the diagonal drift specified in the original program. This original diagonal drift would also have been a slusher drift and its predetermined heading could not have been changed to stay within the tactite zone. These remarks concerning the original diagonal drift also apply to several interim schemes for drifting to the southeast, some of which also ran the risk of encountering the quartz monzonite before completion of the specified footage.

The amended program, if completed, would, like the original program, test the tactite zone by diamond drilling at the raise and at two stations in both the west and east workings.

W. Bradley Myers
Geologist

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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AMENDMENT NO. 4

It is agreed this 23rd day of October 195 2, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, and American Alloys Metals, Inc., 1 Montgomery Street, San Francisco, California.

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E 247 of January 29, 195 2 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 January 29, 195 2.

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.

AMERICAN ALLOY METALS, INC.
(Operator)

By Frank Schulberger

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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AMERICAN ALLOY METALS, INC.
BEAVERHEAD COUNTY, MONTANA

EXPLORATION PROJECT CONTRACT IDM-E247
DOCKET NO. DMEA 2292

Amendment No. 4

Exhibit "F"

Changes and Modifications

1. In Exhibit "A" of the contract, page 1, Item 3, change the estimated cost of construction of a combination compressor and warehouse building from $1,000.00 to $1,898.43.

AMERICAN ALLOY METALS, INC.
BEAVERHEAD COUNTY, MONTANA

EXPLORATION PROJECT CONTRACT IDM-E247
Docket No. DMEA 2292

Justification for Amendment No. 4

This amendment increases the estimated cost of construction of a combination compressor house and warehouse building allowed in Stage I of the project from $1,000 to $1,898.43.

The amendment is necessary because of the increase in material and labor cost over that anticipated and it is considered of benefit to both the Government and the Operator in that an adequate building will allow for more efficient winter operation.

Thomas E Howard

Thomas E. Howard

AMENDMENT NO. 3

It is agreed this 25th day of Sept. 195 2, between the the United States of America, acting through the Department of the Interior, Defense Minerals Administration and American Alloy Metals, Inc. (Docket No. DMEA 2292 - tungsten)

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E247 of Jan. 29 195 2 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 September 25 195 2.

This amendment is made by authority granted the Executive Office, DMA 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.

AMERICAN ALLOYS CORPORATION
(Operator)

By Frank Schellberg VP.

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
Received
OCT 2 . 1952

AMERICAN ALLOY METALS, INC.
Docket No. DMEA 2292 (tungsten)
Contract Idm-E247

Amendment No. 3

Exhibit "F"

In Exhibit "A" of the contract, under section "Statement of Work" the following substitution and change shall be made in the schedule of diamond drilling as outlined in Stage III:

Diamond drill hole #2, Contract Idm-E247, shall be incorporated in Stage II of the Statement of Work. Diamond drill hole #2 shall be collared at the portal of the main adit in the old No. 4 workings. The diamond drill hole shall have a bearing of S. 02° W., dip - 51°, a maximum length of 190 feet, and shall be drilled in the EX size.

Diamond drill hole #2 shall replace the S. 10° E. horizontal drill hole that was to be drilled from the face of the new crosscut under Stage III of the contract. This hole was to have been drilled a maximum of 375 feet. (See attached map accompanying contract.)

The above outlined diamond drill hole is for the purpose of determining the position of the quartz monzonite in order to adequately plan the course of the southeasterly exploration drift off the new raise.

The estimated cost of the work outlined above is $1,352.50.

It is understood that the fund allowable for the original diamond drilling as outlined in Stage III of the contract shall be reduced by an amount equal to the total cost of diamond drill hole #2. It is also understood that the footage and costs listed above are maximums, and that geologic evidence will govern the actual depth of the diamond drill hole.

GEOLOGICAL JUSTIFICATION FOR AMENDMENT NO. 3
American Alloy Metals, Inc.
Contract Idm-E247

Recent diamond drilling from the face of the new crosscut, coupled with further geologic examination and study by the writer, indicate that careful planning of further exploration is necessary. The quartz monzonite that is exposed on the surface southwest of the Ivanhoe tactite outcrops has been recognized in the face of the new crosscut and is cut by the diamond drill hole extending 75 feet S. 25° W. from the face. In addition, silicified and epitotized quartz monzonite has been identified in the lower part of drill holes #10 and #11 and rather similar intrusive from the southeast face of the old #4 workings. Study of this information suggests that the quartz monzonite contact may be roughtly planar, with a strike of about N. 85° W. and a north dip of about 70 degrees.

Inasmuch as this quartz monzonite contact appears to form the south limit of the south-dipping ore zone, accurate determination of its location is necessary at the elevation of the proposed SE drift off the raise, in order to determine the elevation and alignment of the drift, to be driven in Stage II of the contract.

The drill hole proposed by Amendment No. 3 is intended to determine the position of the quartz monzonite contact at a location of about 170 feet southeast of the raise.

According to projections using the best available data, the quartz monzonite contact and the footwall of the ore zone might be expected to intersect in the drill hole at an altitude of about 6945 feet, the approximate contemplated altitude of the southeast drift. This intersection is expected at about 135 feet in the drill hole; the maximum figure of 190 feet allows the hole to go to the altitude of the crosscut, in the event the quartz monzonite contact is not cut above this altitude.

W. B. Myers
U. S. Geological Survey

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

GOVERNMENT'S COPY

So. 157 Howard Street
Spokane 4, Washington

July 25, 1952

Mr. Frank Eichelberger
Vice-President
American Alloy Metals, Inc.
1 Montgomery Street
San Francisco, California

Amendment No. 2
re: Docket No. DMEA 2292X - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Eichelberger:

Stage III, Articles 1 and 2, of the subject contract provides for the preparation of four diamond drill sites in the intermediate drifts and possibly one site in the face of the adit to be drilled after the completion of Stage II. From these sites a maximum of 1200 feet are to be drilled. It is further provided that this work is to be done "only after the completion of Stage II to the satisfaction and approval by the Government, this approval to be dependent upon results of Stage II".

Recent disclosures in the raise indicate the desirability of drilling a hole from the face of the drift to determine the location of the tactite zone with the thought that if the tactite zone at the tunnel level is not too far distant, the drifting provided for in Stage II of the contract might be done more efficiently from the tunnel level rather than from the raise.

In view of the above, this constitutes approval to undertake the cutting of a diamond drill station in the face of the adit and the drilling of a hole essentially horizontal and approximately normal to the strike of the beds to cut the tactite. If the tactite zone is not found in the hole within a distance of 150 feet, no further drilling is to be done on the hole without the approval of the Government.

This approval shall not be construed to increase the estimated total cost of the project, the aggregate total amount that the Government may pay, or the percentage of the costs that the Government may pay, under the provisions of Article 11 of the Contract form.

Very truly yours,

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

cc: DMEA (3)
USBM (2)
Brad Myers

gd

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

So. 157 Howard Street
Spokane 4, Washington

July 25, 1952

Mr. F. E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration Administration
Department of the Interior
Washington, D. C.

Re: Docket No. DMEA 2292X-Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Johnson:

Enclosed is an approval of a diamond drill hole on the subject project. According to the contract this hole was to be drilled only after the completion of Stage II which consists of driving some drifts from a station in the raise. Recent developments in the raise, however, indicate that the tactite contact may lie at no great distance ahead of the present adit face. If this be the case, it might be more expeditious, efficient, and cheaper, and therefore to the Government's advantage, to do the drifting of Stage II from the tunnel level rather than from the raise. Not only would the cost be less but scraper equipment which was planned for use in the raise would not be required. Existing equipment already on the property can be used, and there will be greater flexibility in locating the best course for the tunnel.

In view of the above, therefore, it is deemed to the Government's advantage to give approval to the drilling of this hole, which is already provided for in Stage III, ahead of the time for which it was scheduled.

By DMEA Field Team, Region II

A. E. Weissenborn

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

M. E. Volin

M. E. Volin, Member
(U. S. Bureau of Mines)

Enclosure 1 (in trip.)

cc: USBM (1)
Brad Myers

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AUG 7 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

DMEA-2292

AMENDMENT NO. 1

It is agreed this 20th day of March 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration and American Alloy Metals, Inc., 1 Montgomery Street, San Francisco, Calif.

each acting in consideration of the agreement of the other to the terms hereinafter set forth, that the Exploration Project Contract Idm-E247 of January 29 1952 between the parties hereto be modified and amended as described in Exhibit "F", attached hereto, which, with any maps or drawings attached therto, is made a part of this aggrement. The effective date of this amendment shall be January 29 1952.

This amendment is made by authority granted the Executive Office, DMA Field Team, Region II in Order No. 2653 by the Acting Secretary of the Interior.

This amendment shall not be constued to increase the estimated total cost of the project, the aggregate total amount which the Government may be obligated to pay, or the percentage of costs which the Government may be obligated to pay, under the provisions of Article 13 of the contract form.

Executed in sextuplicate the day and year first above written.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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APR 7 1952

AMERICAN ALLOY METALS, INC.
(Operator)

By Frank Schulberger VP

The United States of America

By A. E. Weissenborn

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

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AMERICAN ALLOY METALS, INC.
Docket No. 2292
DMEA CONTRACT IDM-E247

Amendment No. 1

EXHIBIT "F" - Revised

Exhibit "A" of the contract, under the title "Fixtures and Improvements", is amended by the following additions of items and revisions of the items:

1. Inclined surface tramway - length 250 feet - complete with hoist and skip. Total cost including all labor, materials, supplies, and hoisting equipment to be purchased shall not exceed $2,200.00.

This amount shall be considered to be withdrawn from the contingency fund and from funds remaining from portal site rehabilitation and road improvement.

2. Mine water pressure system shall be installed in lieu of gravity flow system originally specified. Total cost including all labor, materials, supplies, storage tank, pressure tank, and pump and engine shall not exceed $775.00.

3. Construction of a 12' x 14' combined shop-storage building near the adit portal shall be allowed in addition to the compressor house originally specified. Aggregate costs of construction of the two buildings in excess of $1,000 specified for the compressor house will be paid in full by the Operator.

4. The Operator shall, at his discretion, purchase and install 450 feet of 4-inch pipe and fittings for the air line, provided the cost differential between the 2-inch installation originally specified and the 4-inch line is borne entirely by him. This cost differential will be computed on a unit basis.

5. The Operator shall, at his discretion, purchase and install 40-lb. rail, provided the cost differential between the 20-lb. rail installation originally specified is borne entirely by him. This cost differential will be computed on a unit basis.

DEPARTMENT OF THE [illegible]
Defense [illegible]
[illegible]
MAY 2[illegible] 1952

AMERICAN ALLOY METALS, INC.
Docket No. 2292
DMEA CONTRACT IDM-E247

Amendment No. 1

EXHIBIT "F" - Revised

Exhibit "A", under the title "Operating Equipment — to be purchased" is amended by adding thereto the following:

The Operator shall, at his discretion, purchase three 40-cu. ft. mine cars in lieu of the three 28-cu. ft. cars originally specified, provided the cost differential between the 28-cu. ft. cars and the 40-cu. ft. cars is borne entirely by him. This cost differential will be computed on a unit basis.

Exhibit "A", under the title "Operating Equipment — to be rented" is revised by adding thereto the following item:

Pneumatic rock drill complete with air hose and 2 drill rods - 2 months @ $52.90/mo. $105.80

In Exhibit "A", under the title "Operating Equipment — to be rented", the item:

"1 mucking machine, Eimco at $275.00/mo.,
4 months . . . . . $1,100.00"

shall be an "allowable maximum" item regardless of size of equipment Operator chooses to rent.

GCS

MF-206
(June 1951)

DMEA 2292

Docket No. DMA _____
Commodity Tungsten

Idm-E 247

UNITED STATES OF AMERICA
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Orig. Contr
1/29/52

GOVERNMENT'S COPY

EXPLORATION PROJECT CONTRACT [1]

It is agreed this 29th day of January, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Administration, hereinafter called the "Government," and [2] American Alloy Metals, a corporation organized and existing under the laws of the State of Nevada, 1 Montgomery Street, San Francisco, California

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 Beaverhead described as follows: [3] The Ivanhoe patented claim, Lot 37, Township 4 South, Range 10 West

with respect to which the Operator represents and undertakes: [4]

(*a*) ~~That he is the sole owner, in possession and entitled to possession, and that the property is subject only to the following claims, liens, or encumbrances as to each of which the subordination agreement of the holder is attached:~~

The guaranty of the lessee is attached hereto as Annex I.

(*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] Tungsten; 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] one (1) year 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 75 percent of the approved costs incurred; *Provided,* That the aggregate total of all sums paid by the Government under this agreement shall not exceed $42,438.00, which is 75 percent of the agreed estimated total cost of this project, $56,584.00.

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.

American Alloy Metals
(Operator)

By Frank Schellberger V.P.

THE UNITED STATES OF AMERICA

By O. Whitenday
Acting Administrator
Defense Minerals Exploration Administration

U. S. GOVERNMENT PRINTING OFFICE 16—84066-2

AMERICAN ALLOY METALS
EXPLORATION PROJECT CONTRACT
IVANHOE CLAIM
DOCKET NO. DMEA-2292

EXHIBIT "A"

Statement of the Work

Stage I 1/

Time Schedule: 0 - 5 months

1. Rehabilitate four small cabins, now on the property, for winter use at an estimated cost of $100.00 each for all necessary labor, materials and supplies.

2. Rehabilitate, widening where necessary, an old wagon road 6,700 feet in length from Brown's Lake to near the portal of an adit and then prepare a switchback and extend the road approximately 400 feet to the portal site. Rehabilitate the portal site. The estimated cost of this work is $3,092.00 for contract bulldozing and road labor. The contract price per hour for the bulldozing includes all costs as the wages of the operator, fuel, lubricants, repairs, transportation, etc.

3. Construct a 16' x 30' combination compressor and warehouse building, with paper or corrugated iron roof and including stove, at an estimated cost of $1,000.00 for all necessary labor, materials and supplies.

4. Provide a water system at the Brown's Lake Camp at an estimated cost of $1,200.00 for all necessary labor, materials and supplies.

5. Lay 800 feet of 1-1/2" pipe from Agnes Creek to adit portal site.

6. Enlarge by slabbing the present 90 foot adit in granite to 6' x 8' in cross section and then extend it approximately 160 feet southward as indicated on the attached map.

1/ As indicated in section 4 of the contract, all subcontracts are subject to approval by the Government in writing.

7. Drive from a point near the adit face a vertical raise approximately 100 feet in length and 6' x 8' in cross section to explore the overlying granite contact and the tactite beds above it as indicated in the cross section of the attached map.

Stage II 2/

Time Schedule: 6 - 7 months

1. Drive, from the raise and near the bottom of the tactite zone, diagonal intermediate drifts easterly and westerly to crosscut and explore the tactite as indicated on the attached map. Each drift is to be approximately 200 feet in length and 5' x 7' in cross section.

Stage III 2/

Time Schedule: 8 - 9 months

Stage III will be undertaken only after the completion of Stage II to the satisfaction of and approval by the Government, this approval to be dependent upon the results of Stage II.

1. Prepare four diamond drill sites in the intermediate drifts and possibly one site in the face of the adit as indicated on the attached map at an estimated cost of $200.00 for all labor, material and supplies.

2. Drill by contract, at the prepared drill sites, a maximum of 9 AX diamond drill holes, not to exceed 1,200 feet in aggregate length to explore the tactite as shown on the attached map at an estimated cost of $9,000.00. The

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2/ See footnote 1

contract price of $7.50 a foot includes all costs, with the exception of power costs, necessarily incurred for the satisfactory completion of the drilling.

Estimated Cost of the Project

Fixtures and Improvements

Stage I

450'--2" pipe for air line @ $0.44/ft.	$ 198.00	
450'--1" pipe for water line @ $0.21/ft.	94.50	
800'--1½" pipe for water line to adit @ $0.32 per ft.	256.00	
750'--Mine rail, 20# new, 2.5 tons @ $165.00/ton complete with fish plates, bolts, etc.	247.50	412.50
Pipe fittings	100.00	
Construct 16' x 30' compressor building, all costs	1,000.00	
Provide water system at camp, all costs	1,200.00	$ 3,096.00
		3,261.00

Stage II

400'--2" pipe for air line @ $0.44/ft.	$ 176.00	
400'--1" pipe for water line @ $0.21/ft.	84.00	
Pipe fittings	50.00	$ 310.00

Operating Equipment

To be purchased

Stage I

3--Mine cars, 28 cu. ft. @ $400.00 each	$1,200.00
1--Chain saw	380.00
1--Air receiver, 30" x 7'	250.00

2--Atlas rock drills, with hoses, parts, bit grinding equipment, etc.	$ 1,660.00	
5--Oil heating stoves and tanks @ $80.00 each	400.00	
		$ 3,890.00

To be rented

Stage I

1--Compressor, 105 cfm. Diesel-driven for road work @ $164.00/mo., 1 month	164.00	
1--Compressor, 315 cfm, Diesel-driven for underground work @ $470.00/mo., 4 months	1,880.00	
1--Mucking machine, Eimco @ $275.00/mo., 4 months	1,100.00	
		3,144.00

Stage II

1--Compressor, 315 cfm, Diesel-driven for underground work @ $470.00/mo., 2 months	940.00	
1--Slusher hoist and scraper @ $125.00 per mo., 2 months	250.00	1,190.00

Stage III

1--Compressor, 315 cfm, Diesel-driven for diamond drilling @ $470/mo., 1 month		470.00
		4804.00

To be furnished by Operator

Stage I

1--Truck with snowplow attachment valued at $1,800.00, depreciation @ $30.00/mo., 5 months	150.00	
1--Pickup truck valued at $1,800.00, depreciation @ $30.00/mo., 5 months	150.00	300.00

Stage II		
1--Truck with snowplow attachment valued at $1,800.00, depreciation @ $30.00/mo., 2 months	$ 60.00	
1--Pickup truck valued at $1,800.00, depreciation @ $30.00/mo., 2 months	60.00	$ 120.00
Stage III		
1--Truck with snowplow attachment valued at $1,800.00, depreciation @ $30.00/mo., 1 month	30.00	
1--Pickup truck valued at $1,800.00, depreciation @ $30.00/mo., 1 month	30.00	60.00
		480.00
Labor and Supervision 3/		
Stage I		
2--Miners @ $14.00/day, $91.00/week, 6 weeks on road work and preparation of adit site	1,092.00	
4--Miners @ $14.00/day, $91.00/week, 13 weeks	4,732.00	
1--Laborer @ $13.20/day, $85.80/week, 19 weeks	1,630.20	
1--Cook @ $12.00/day, $78.00/week, 19 weeks	1,482.00	
1--Engineer-geologist 4/ @ $600.00/mo., 5 months	3,000.00	11,936.20

3/ Wages are calculated on the basis of 6 working days per week.

4/ The engineer-geologist shall direct the operation and shall be responsible for securing representative samples of the deposit, where warranted, and their subsequent handling. He also shall prepare and keep up-to-date the mine and geologic maps ordinarily necessary for an exploration operation. Should his time be divided between the exploration project and another activity only that portion representing time spent on the project shall be considered a cost of the project.

Stage II		
4--Miners @ $14.00/day, $91.00 week, 8.5 weeks	$ 3,094.00	
1--Laborer @ $13.20/day, $85.80/week, 8.5 weeks	729.30	
1--Cook @ $12.00/day, $78.00/week, 8.5 weeks	663.00	
1--Engineer-geologist 5/ @ $600.00/mo., 2 months	1,200.00	$ 5,686.30
Stage III		
1--Laborer @ $13.20/day, $85.80/week, 4 weeks	343.20	
1--Cook @ $12.00/day, $78.00/week, 4 weeks	312.00	
1-Engineer-geologist 5/ @ $600.00/mo., 1 month	600.00	
Labor for preparing diamond drill sites	150.00	$ 1,405.20
		19,097.70
Rehabilitation and Repairs		
Stage I		
Rehabilitate four cabins	400.00	
Rehabilitate road (See under contract work and labor		
Repair parts for compressor	200.00	$ 600.00
Materials and Supplies		
Stage I		
House furnishings for cabins	700.00	

5/ See footnote 4

Drill steel, tungsten carbide tipped	$ 400.00	
Powder, 2 tons @ $420.00/ton	840.00	
Fuse, 14,000 feet @ $12.50/1000	175.00	
Blasting caps, 2,200 @ $21.60/1000	47.50	
Diesel fuel, 600 gallons/week, 15 weeks, 9,000 gallons @ $0.16/gal.	1,440.00	
Diesel lubricating oil, 5 gallons/week, 15 weeks, 75 gallons @ $1.50/gallon	112.50	
Assays, 100 @ $5.00 each	500.00	
Timber for raise	349.80	$ 4,564.80

Stage II

Powder, 2 tons @ $420.00/ton	840.00	
Fuse, 30,000 feet @ $12.50/1000	375.00	
Diesel fuel, 600 gallons/week, 8.5 weeks 5,100 gallons @ $0.16/gallon	816.00	
Diesel lubricating oil, 5 gallons/week, 8.5 weeks, 42 gallons @ $1.50 gallon	63.00	
Assays, 200 @ $5.00 each	1,000.00	
650'--3/8" Slusher cable @ $0.09/ft.	58.50	$ 3,152.50

Stage III

Materials and supplies for preparation of drill sites	50.00	
Diesel fuel, 600 gallons per week, 4 weeks, 2,400 gallons @ $0.16/gallon	384.00	
Diesel lubricating oil, 5 gallons/week, 4 weeks, 20 gallons @ $1.50/gallon	30.00	
Assays, 150 @ $5.00 each	750.00	$ 1,214.00

Contract Work

Stage I		
Bulldozer for road work, 133 hours @ $15.00/hour		$ 1,995.00
Stage III		
1,200' of diamond drilling @ $7.50/ft.		9,000.00

Miscellaneous

Stage I		
Geologic consultant	$ 300.00	
Accounting, office and traveling expenses	750.00	
Contingencies	1,250.00	$ 2,300.00
Stage II		
Geologic consultant	300.00	
Accounting, office, and traveling expenses	500.00	
Contingencies	1,000.00	$ 1,800.00
Stage III		
Geologic consultant	200.00	
Accounting, office and traveling expenses	150.00	350.00
TOTAL ESTIMATE		$ 56,584.00
Government participation 75 percent of the above		$ 42,438.00

No additional buildings, installations, fixtures, equipment or improvements to be purchased, erected, rented, repaired or rehabilitated, except as listed above, are to be allowed as costs under this contract.

Underground and/or surface maps or sketches showing the progress of the exploration, with assays of samples taken concurrently with the advance, where warranted, are to be included in the monthly reports required under section 12 of the project contract. In case such maps or sketches are not submitted, the Government at its discretion may have the necessary work performed and charge the same to the contract.

A N N E X I

G U A R A N T Y

In consideration of the waiver by the United States of America of the requirement of a landlord's subordination agreement as set forth in paragraph 2(b) of the attached Exploration Project Contract between the undersigned and the United States of America, the undersigned hereby guarantees the payment to the United States of America of royalties, as specified in paragraph 15 of said Contract, upon any and all ore discovered or developed as a result of said Contract, which is mined within 10 years from the date of said Contract, whether or not the undersigned has any interest in the property covered by the said Contract or any part in the mining operations at the time said ore is mined. If for any reason the net smelter returns from operations that would be subject under said contract to such payments to the United States of America are not available as a means of measuring the amount of such payment, then the undersigned agrees and undertakes to make such payment according to the best estimates of the amount that can reasonably be made, and in the event of dispute as to such estimate, the undersigned agrees that the determination thereof by either the Administrator of Defense Minerals Administration or by the Director of the United States Bureau of Mines shall be final and binding upon the undersigned; provided, however, that should undersigned, prior to the accrual of any obligation to pay under this guarantee, furnish to the United States the subordination agreement required by paragraph 2(b) of said contract this covenant shall thereupon become fully satisfied and of no further force or effect.

Dated this Twenty Second day of January 1952.

American Alloy Metals, Inc.

Frank Schilburg V.P.

Form MF-103
(Revised June 1951)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

Budget Bureau No. 42-R1035.1.

MF-103 Should Be Filed With General Technical Data Form MF-100

APPLICATION FOR AID FOR AN EXPLORATION PROJECT PURSUANT TO MINERAL ORDER 5, UNDER DEFENSE PRODUCTION ACT OF 1950

Not To Be Filled in by Applicant

Docket No. DMEA-2292
Metal or Mineral
Date Received 12-17-51
Amount $
Participation (Government %)

American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

Name and address of applicant

Date November 21, 1951

If you have already filed MF-100, give date filed August 22, 1951, type of assistance requested Exploration Loan,

DMA Docket Number (if available) 1951X-IDM-E127

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 17 1951

INSTRUCTIONS

Read Mineral Order 5, Regulations Governing Government Aid in Defense Projects, before completing this application. Submit four copies each, of the signed application form, General Technical Data Form MF-100, and answers to questions as specified, to Defense Minerals Administration, Department of the Interior, Washington 25, D. C., or to the nearest field executive office thereof, with your name and address on each sheet of the application and all accompanying papers. If you have previously filed MF-100, it is not necessary to file it again. However, you should indicate in space provided above the type of assistance previously applied for (loans, procurement contracts, etc.) and DMA Docket Number, if available. *When a question is inapplicable it should be so stated in the form.* Additional sheets should be attached in answering any questions or in supplying additional information. IF YOU CANNOT ANSWER A QUESTION, SO STATE.

1. (*a*) Give a description of the real property that will be in any way involved in the exploration project, including any existing mine or operating property.

   (*b*) If you are not the owner of the property, submit a copy of the lease, purchase option, or other agreements under which you are authorized to operate the property with each copy of your application.

   (*c*) Give the legal description of the exact parcel, plot, or area upon which the exploration is to be conducted.

   NOTE: (1) If both areas are the same, so state. The only obligation to repay the Government is from the net earnings from any commercial discovery made in the area specified in (*c*) above in which the exploration is to be conducted, and the expenditure of funds which may be charged as costs of the project must be limited to that area or to work necessary to perform the exploration in that area.

   (2) If applicant is not the owner of the property or if there are any liens or encumbrances against the property, copy of agreements of claimants, lienors, encumbrances, and lessors subordinating their interests in the property to the interest of the Government under the Exploration Project Contract will be required for attachment to the Contract.

2. (*a*) What metals or minerals do you expect to find? Tungsten.

   (*b*) Furnish statement of the geologic features of your property, giving type of ore deposit and reasons for expecting to find commercial ore bodies. Illustrate with maps or sketches. If you have a geologic or engineering report, or assay maps showing width and grade, please send them with application, stating whether or not you wish to have them returned.

The information requested in questions 3, 4, 5, 6, 7, 8, and 9 below should be answered specifically and in detail, as this information will be attached to and incorporated as part of the Exploration Project Contract, if such contract is entered into with you by the Government.

ANSWER EACH QUESTION ON SEPARATE SHEETS OF PAPER AND SUBMIT A COPY OF EACH ANSWER FOR EACH COPY OF YOUR APPLICATION.

3. (*a*) Describe fully the proposed work and give the total cost of the project.

   (*b*) State the time required to start the project and to complete it.

4. Submit a map or sketch of the property involved showing a plan (and cross section, if needed) of the present mine workings and the *location of the proposed exploration work* as related to geologic features, such as contacts, veins, ore-bearing beds, etc.

5. Furnish an itemized list of existing facilities, buildings, installations, and fixtures with a statement of the cost of any necessary rehabilitation or repairs to put into useful and operable condition.

6. Furnish a detailed list of additional facilities, buildings, and fixtures to be purchased, installed, or erected by you, with the estimated cost of each item.

7. Furnish a detailed list of operating equipment, separated into items to be—

   (*a*) Rented

   (*b*) Purchased

   (*c*) Furnished by you

   with the rental, purchase price, or depreciation of each item, as the case may be, to be charged as a cost of the project.

8. Furnish an itemized schedule of labor, by numbers and classes (miners, muckers, etc.) and of supervisors by numbers and positions, with the maximum wages or salaries to be paid to each.

9. Furnish a detailed list with estimated cost of each item for materials, supplies, engineering, assaying, accounting, power, water, utilities, and any other items not provided for above.

10. (*a*) How much are you prepared to invest in the proposed project?

    (*b*) Is this amount sufficient to pay your part of the cost of the project, in accordance with the regulations on Government participation (Sec. 9 of MO–5)?

11. State any conditions or circumstances regarding the property not sufficiently brought out by the foregoing questions.

CERTIFICATION

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

AMERICAN ALLOY METALS, INC.
(Name of company)

By Frank Richelberger
(Signature of authorized official)

November 21, 1951
(Date)

Vice President
(Title)

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

U. S. GOVERNMENT PRINTING OFFICE 16—64067-2

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

MF 103

1. (a) Ivanhoe Patented Claim, Lot 37, Township 4 South, Range 10 West, Beaverhead County, Montana.

   (b) See subordination agreement attached.

   (c) Both areas are the same.

REPORT ON THE TUNGSTEN OCCURRENCES - BROWNS LAKE, MONTANA

AND A PROGRAM FOR EXPLORATION AND PRODUCTION

October 31, 1951

ILLUSTRATIONS

Figure 1	Cross Section Nos. 1 and 4 Holes	Ivanhoe Claim
2	Cross Section Nos. 25 and 3 Holes	
3	Cross Section No. 10 Hole	
4	Cross Section No. 11 Hole	
5	Nos. 1 and 2 Workings	
6	No. 3 Working	
7	No. 4 Working	
8	West Side Open Cut	Lost Copper Claim
9	Geologic Map	Ivanhoe Claim
10	Diagrammatic Plan East End Orebody	

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

October 31, 1951

REPORT ON THE TUNGSTEN OCCURRENCES - BROWNS LAKE, MONTANA AND A PROGRAM FOR EXPLORATION AND PRODUCTION

INTRODUCTION

D. M. A. Loan 148 X Idm-E 105 on Fluorescent Mines Claims in the Browns Lake District was granted to American Alloy Metals, Inc., effective August 1, 1951. Fluorescent Mines Claims leased from R. C. McLaughlin cover tactite occurrences on the south and north sides of Rock Creek Valley for a distance of several miles above Browns Lake. There are 17 unpatented claims in this group in Sections 3 and 4, T 4 S, R 10 W, and Sections 32, 33 and 34, T 3 S, R 10 W.

Prior to examination on the ground the only map available was a combination geologic, topographic and claim map prepared by Walter E. Bauer, geologist of Salt Lake City. It was assumed this map was reasonably accurate in regard to claim lines, but upon examination in the field it was found to be in error between the Fox Claim of Fluorescent Mines and the adjoining Ivanhoe patented claim, thereby placing most of the exposed tactite body within the Ivanhoe Claim. On August 22, D. M. A. Loan 1951 X Idm-E 127 was granted to explore the Ivanhoe Claim in conjunction with exploration of Fluorescent Mines holdings.

LOCATION

The properties are located in Sections 3 and 4, T 4 S, R 10 W, and Sections 32, 33 and 34, T 3 S, R 10 W, Beaverhead County, Montana. The claims are in Rock Creek drainage, a tributary of the Big Hole River, eight miles west of Glen, Montana.

OWNERSHIP

The claims are under two ownerships; namely, the Fluorescent Mines, controlled by R. C. McLaughlin, Dillon, Montana, and under lease to American Alloy Metals, Inc., and the Ivanhoe Lode Mining Claim, patented and described as Lot 37, T 4 S, R 10 W, under lease and bond to purchase by American Alloy Metals, Inc. The Fluorescent Mines claims consist of the Fox and Lost Copper on the south side of Rock Creek Valley and the Lonesome, Lone Eagle, Mammoth, High Boy, Star Nos. 1, 2 and 3, Trail Nos. 1 and 2, Garnet, Black Beetle, Red Raspberry, Red Metal, Granite and Tin Horn, all unpatented.

PHYSICAL FEATURES

Rock Creek, situated in a glacial valley, drains a considerable area of the east-central portion of the Pioneer Range and flows abundantly the year around. It is interrupted in its course to the Big Hole River by Browns Lake, now owned by American Alloy Metals, Inc.

The former resort on the lake makes an ideal site for a mining camp, being only a mile from the principal tactite bodies.

The climate is typical of the west-central mountain area of Montana, Precipitation occurs largely as thunder showers in summer and snow flurries in winter. No deep snows are recorded and little effort would be required to keep the roads open.

Access to the area is by good county and forest road, eight miles from Glen, Montana, on U. S. Highway No. 91 in the Big Hole Valley. The Butte-Salt Lake branch of the Union Pacific Railroad parallels the highway at this point.

The altitude at Glen is 5,000 feet and at Browns Lake, 6,500 feet.

Abundant fir, pine and spruce is available on the claims and a small sawmill capable of making mine timber is at Browns Lake.

GEOLOGY

The country rock along Rock Creek Valley is of both sedimentary and igneous origin. Exposed high on the flanks of the valley and forming the ridges is the Quadrant quartzite formation. Between the quartzite and the granitic rock in the lower portion of the valley is limestone. The limestone, containing reddish, shaly, and yellowish, sandy beds is the Amsden formation. These rocks on the south side of the valley, and as exposed on the Fox, Ivanhoe and Lost Copper Claims trend northwest-southeast and dip from 20° to 40° to the south. As shown in the drill holes the top of the underlying granite is relatively flat. The sediments on the north side of the valley also trend northwest-southeast. In places they are almost flat, but toward the east end of the exposures above Browns Lake dip to the northeast quite rapidly, giving the impression of an eastward plunging anticline. However, the limestone bodies on the south side are several hundred feet lower than the north exposures and are possibly roof pendants in the granite.

Very little faulting is to be noted. Occasionally minor faulting, accompanied by brecciation of the limestone is seen in some of the old underground workings. A good example may be seen in No. 1 working, where a displacement of one foot occurs.

Ancient landsliding is responsible for certain configurations of the landscape. Browns Lake has been formed by damming of Rock Creek Valley from landsliding. A landslide on the north side of the valley occurred in the vicinity of Star No. 2 Claim and brought large segments of sediments from an elevation of 8,500 feet down to about the 7,000-foot elevation. The Garnet Claim covers this down slump.

THE TACTITE

Numerous tactite bodies are exposed along the valley walls and vary in thickness from a foot to as much as 62 feet. The largest exposure explored to date is on the Ivanhoe Claim. Here it averages about 55 feet and may be followed along the cliffs for 1,200 feet. It is bounded on the west by granite, but the east end extension on the Lost Copper Claim is unknown, as it disappears under a cover of glacial debris.

The extent of the tactite bodies on the north side are for the most part unknown. Several pits and one underground working indicate they are extensive, but early snows on the higher elevations precluded stripping operations this year. A previously unknown body was uncovered on Star No. 3 during construction of the unfinished north side road. The largest visible deposit occurs on the east end of the High Boy Claim and the west end of the Mammoth Claim. Here it is 20 feet thick in a draw near the mouth of an old 80-foot tunnel driven on the hanging wall. Two old pits on the High Boy indicate it may have a thickness of 40 feet.

The term "tactite" here is used to include both garnet rock and hornfels.

In each occurrence of tactite both materials are found usually in alternating beds, but sometimes the hornfels occurs in pods or lenses. An occasional lens or pod of crystalline limestone remains in the tactite.

The predominate minerals are garnet and epidote, with lesser amounts of other contact metamorphic minerals. In addition to the scheelite, chalcopyrite, bornite, pyrite and pyrrhotite are found for the most part sparingly, but in places chalcopyrite and bornite occur in appreciable amounts near the hanging wall. There appears to be a relationship between the copper mineralization and higher WO_3 content. This has been found to be true on the Ivanhoe Claim. The old tunnel on the Mammoth was driven on copper mineralization and the tactite orebody lamps exceptionally well.

Favorable horizons in the Amsden formation were apparently responsible for the tactite bodies, but it will be noted from the drill hole logs these horizons may or may not be continuous over great distances and underground drilling in conjunction with mining should be in order. It is of interest that the hard, tough hornfels members usually carry but little WO_3, whereas the softer pulverulent members often contain large crystals of scheelite and assay higher.

Lower grade of ore was encountered in the west end of the Ivanhoe, although one assay of eight feet-nine inches in No. 5 Hole returned 0.50 WO_3. For the most part, the assays in Holes No. 1, 2 and 5 were 0.10 WO_3 or less. No. 1 Hole was 50 feet back from the outcrop; No. 2, 100 feet; and No. 5, 150 feet. No. 3, 250 feet back, and No. 4, 200 feet back, did not encounter tactite. Two channel samples were taken across the face of the outcrop on the west end and showed better values. An average of 55 feet went 0.19 WO_3.

Assays of surface croppings and underground workings of the large east tactite body showed it to contain 0.50 WO_3 or better, so the drills were moved to this area as rapidly as possible to probe the tactite 150 feet down dip before cold weather set in. The race was lost and Holes No. 10 and 11 lacked about 10 feet on a projection of reaching the main tactite bed. Hole No. 10 passed through 16 feet of tactite, which crops on the surface above the main bed. This checks closely with a projection on its dip. The core assayed 0.59 WO_3. No. 11 Hole, which is 100 feet east of No. 10 and 7.5 feet lower in elevation did not penetrate the 16-foot bed. In its place was a quartz-epidote rock containing copper mineralization but no scheelite. However, this hole encountered two horizons of high-grade tactite. One was high stratigraphically and concealed on the surface. From 36-43 feet it assayed 1.45 WO_3. The other horizon was even better, with 2.21 WO_3. Although the main tactite horizon was not penetrated, these assays support the belief of higher WO_3 content to the east and with associated copper minerals.

All assaying was done by Union Assay Office, Salt Lake City, and it is interesting to observe how much lower their assays are than the Bureau of Mines. In sampling by the Bureau and U. S. G. S. last spring, Union was 0.13 lower on underground samples and 0.05 on surface. The pulps from our assays are being re-run by the Bureau of Mines.

Samples were taken underground at various workings. The 16-foot bed was sampled in four places in Nos. 1 and 2 workings, but the average was low. It was difficult to get much thickness, as little is exposed. The upper six feet of the main bed was sampled in No. 1 working and returned 0.57 WO_3. Eleven samples of the top of the main bed in No. 4 working, which is the largest area exposed underground, average 0.53 WO_3.

A 2,200-pound bulk sample was taken at the point on the outcrop channel sampled by the Government field team earlier in the year. The channel sample returned 0.50 WO_3 by U. S. Bureau of Mines assay and 0.45 WO_3 by Union Assay. The bulk sample was assayed by the U. S. Bureau of Mines at their Albany, Oregon station and the returns are as follows: 0.39 WO_3; .005 Au; .05 Ag; .037 Cu; .05 Mo; 0.1 Pb; and 1.4 $CaCO_3$.

CONCLUSION

The granting of loans for exploration of these properties was made about one month too late in the year for this type of country. The rough, rugged, precipitous terrain was too much to conquer for access in a short time. The road to drilling sites, which took a month to complete, was of no use, for the first holes and the rigs had to negotiate the mountain under their own power. For later drilling, it proved invaluable. Although we encountered considerable tactite down dip from the outcrop on the west end, only one eight-foot, nine-inch bed showed commercial ore. We cannot say the drilling was of no value; we now know our ore is on the east side of the claim and a possibility of it extending 1,000 feet from the granitic dike to the east end of the claim. Because of the Lake Agnes moraine there is no way of telling what happens to the eastern extension, but small pits have exposed tactite on the Lost Copper Claim about 1,200 feet to the east.

On the north side the best area to date is believed to be on the Mammoth and High Boy Claims, although with further work, additional large bodies may be found on the Star, Lone Eagle and Lonesome Claims.

In regard to tonnage on the east side orebody, we can compute to date more than the 750,000 tons estimated by the U. S. Geological Survey, which was based on an average thickness of 50 feet over a length of 1,000 feet and down dip 150 feet as exposed in No. 4 working. The bed is 60 feet thick, and now we can compute additional tonnage as shown by beds encountered in No. 10 and 11 Holes. In No. 11 the 16-foot bed is 120 feet down dip, and if continuous for 1,000 feet would give an additional 192,000 tons. In No. 10 the two seven-foot are an unknown quantity, as they were not found in No. 11. On a 35° dip, the upper seven-foot bed is 25 feet down the dip and the lower seven-foot bed 90 feet down dip. These beds are covered on the surface and their lateral extent is not known. A striking thing about these newly found upper beds is their high WO_3 content.

In any event, we can raise our estimate to 900,000 tons without considering the west orebody, but we must assume the grade will hold throughout. Everywhere the tactite is exposed on the east side it lamps exceptionally well.

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

2. (a) Tungsten

(b) Report by J. W. Melrose, Geologist, attached.

Maps and drawings in attached envelope:

1. Cross Section, No. 1 & 4 Holes, Ivanhoe Claim.
2. Cross Section, No. 2, 5 & 3 Holes, Ivanhoe Claim.
3. Cross Section, No. 10 Hole, Ivanhoe Claim.
4. Cross Section, No. 11,Hole, Ivanhoe Claim.
5. No. 1 & 2 Workings, Ivanhoe Claim.
6. No. 3 Working, Ivanhoe Claim.
7. No. 4 Working, Ivanhoe Claim.
8. West Side Open Cut, Lost Copper Claim.
9. Ivanhoe Claim.
10. Diagrammatic Plan, East End Ore Body, Ivanhoe Claim.

AMERICAN ALLOY METALS, INC.
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SAN FRANCISCO 4, CALIFORNIA

3. (a) Diamond drilling was started on this deposit but because of the lateness of the year the drilling did not reach the favorable tactite bed. The work proposed is to drive a crosscut tunnel into and through the tactite bed and do sufficient drifting and raising to determine the extent and value in terms of WO_3 content of the ore bed.

A crosscut will be started in the granite below the bed (there is already a very small tunnel driven approximately one half the distance estimated to reach the footwall of the ore bed) and driven to the hanging wall of the tactite (see maps attached), and drifting 100 ft. each way from this crosscut. Two raises will be driven to the outcrop, starting from the footwall and reaching the hanging wall, at or very near the outcrop. These raises should give an excellent sample of the ore bed.

The total cost of this project is estimated to be $79,800.

(b) Start in 30 days. Complete in 6 months from starting date.

5. No facilities exist on the property for mining. There are five small cabins and a cook house. These cabins are log construction and need more rehabilitation to make them habitable for winter.

The repair of these cabins and equipment is as follows:

a.	Repairing by lining with Celotex, or equivalent, 4 @ $100	$400
b.	Oil heating stoves and tanks, 5 @ $80	400
c.	Water system from lake, with pump and pressure tank, and small house for pump, 300 ft. of 2" pipe, covering and protecting pipe line	900
d.	Furnishings for houses: beds and mattresses for houses; refrigerator, dishes, stove and cooking utensils for cook house (second hand)	700
e.	Repair of road and culverts, 267 hours @ $15	4,000
		$6,400

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

6. (a)	Compressor house, rough lumber construction with paper or corrugated iron roof, 16' x 50', with stove and one partition for small warehouse, 800 sq.ft. @ $6	$4,800
(b)	Piping (for water), and wiring	1,400
		$6,200

AMERICAN ALLOY METALS, INC.
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7. (a) 1.	Compressor, 600 cfm, Diesel driven, 6 months @ $700	$ 4,200
2.	Mucking Machine, Eimco, 22", 6 months @ $400	2,400
3.	Locomotive, Diesel or battery with charging set and extra battery, 6 months @ $500	3,000
4.	Generating set, 10 KW, Diesel electric, with transformer for lighting circuit, 6 months @ $300	1,800
5.	2 Air Drills, Copco, hose, steel, etc., 6 months @ $150	900
6.	3 Mine Cars, 50 cu.ft., side dump, 6 months @ $150	900
7.	Freight on equipment, to and from property	400
	Sub total	$13,600
(b) 1.	Pipe, 500 ft. 4", 300 ft. 3", 400 ft. 2", and 500 ft. 1", including freight	1,200
2.	Rail, 30 lb., with fishplates; 6 tons @ $166, incl. frt.	1,000
3.	Truck, 4 wheel drive, with snowplow attached, to be depreciated @ $500 per month; 6 months	3,000
	Total	$18,800

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

MF 103

8.

1.	1 Superintendent	@ 25.00 per day, 750.00 per month, for six months	$4,500
2.	1 Foreman	15.00 per day, 450.00 per month, for six months	2,700
3.	4 Miners	@ 1.75/hr., 14.00 per day, 91.00 per week*, for 20 weeks	7,280
4.	2 Muckers	1.65/hr., 13.20 per day, 85.80 per week*, for 20 weeks	3,440
5.	2 Compressor men	1.50/hr., 12.00 per day, 78.00 per week*, for 20 weeks	3,120
6.	2 Motor men	1.75/hr., 14.00 per day, 91.00 per week* for 20 weeks	3,640
7.	2 Muck.Mach.Oprs.	1.75/hr., 14.00 per day, 91.00 per week*, for 20 weeks	3,640
			$28,320

*(Calculated on 6 working days per week)

AMERICAN ALLOY METALS, INC.
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SAN FRANCISCO 4, CALIFORNIA

9.	Drill steel, with bits; for job	$800
	Powder, 5 tons @ $420	2,100
	Air drill parts, 6 months	700
	Diesel fuel and lubricating oil; 6 months @ $900	5,400
	Caps, fuse and incidental supplies	260
	Repair parts for compressor, mucking machine and generating set	720
	Sampling and assaying @ $5.00	5,000
	Accounting, office, and traveling expenses @ $250 per month	1,500
	Unforeseen expenses for supplies and materials	3,600
		$20,080

AMERICAN ALLOY METALS, INC.
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11. This is potentially a very large tactite deposit of Scheelite and Powellite and the only questions to be answered are

    a. The assay value in percentage of WO_3.

    b. Continuity of the mineralization throughout the exposed ore body. The proposed work will answer the questions definitely and finally, as well as furnishing the knowledge of the best method of exploitation and mining.

K+E

PREFIX 4H1

KEUFFEL & ESSER COMPANY

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INVOICE DATE 3/21/79

CUSTOMER'S ORDER NO.

DATE 3/15/79

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DIAZO PRINTS BLUE ☐ BLACK ☐ BLUE PRINT ☐ VAN DYKE ☐		96								
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ELECTROSTATIC ☐ 914 ☐ 2400 ☐ 1824 ☐ 1860 Bond		52 / 26	11 / 26	1 / 1	11 / 26			Lot	22	30
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FORM #1226

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PLANT — RECEIPT COPY

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PROJECT SUMMARY REPORT

January 5, 1955

By: A. G. Keating

1. DMEA No. 2292 (Tungsten)
   Contract No. Idm-E247
   Ivanhoe Claim (Browns Lake Tungsten Mine)
   Beaverhead County, Montana

   American Alloy Metals, Inc.
   1 Montgomery Street
   San Francisco, California

   Operator's Property Rights: - Lessee

   Operator's Guarantee - Dated 1/22/52

   Equipment Rental Agreement approved by Field Team - 2/5/52

2. Contract: Dated 1/29/52

   Work Authorized: Stage I

Fixtures and improvements	$ 3,096.00
Equipment (purchased)	3,890.00
" (rented)	3,144.00
" (furnished by operator)	300.00
Labor	8,936.20
Engineer - Geologist	3,000.00
Rehabilitation and repair	600.00
Materials and supplies	4,564.80
Contract work (bulldozing - 133 hrs. @ $15.00 per hr.	1,995.00
Miscellaneous	2,300.00
Sub-total	$ 31,826.00

Stage II

Fixtures and improvements	$ 310.00
Equipment (rented)	1,190.00
" (furnished by operator)	120.00
Labor	4,486.30
Engineer - Geologist	1,200.00
Materials and supplies	3,152.50
Miscellaneous	1,800.00
Sub-total	$ 12,258.80

Contract continued:

Work Authorized: Stage III

Equipment (Rented)	$ 470.00
" (Furnished by operator)	60.00
Labor	805.20
Engineer-Geologist	600.00
Materials and supplies	1,214.00
Contract work - Diamond Drilling - 1,200 ft. @ $7.50 per ft.	9,000.00
Miscellaneous	350.00
Sub-total	$12,499.20
Government's participation $42,438.00 Grand total	$56,584.00

Amendments:

No. 1 - 3/20/52. Changes schedules for equipment, fixtures and improvements, and contingencies at no increase in total cost of project.

No. 2 - 7/25/52. Permits change in location and time of drilling diamond drill hole provided for under Stage II of the contract.

No. 3 - 9/25/52. Permits change in location of diamond drill holes.

No. 4 - 10/23/52. Allows increase in cost of compressor house from $1,000 to $1,898.43. (No change in total cost of contract) (Increase not allowed)

No. 5 - 11/24/52. Work schedules under Stages II and III changed. (No increase in total cost of project).

Amended Contract - 1/12/53. Changes work schedules, increases cost and adds more work as follows:

Stage I - Prior work		$42,795.00
Stage II - Prior work		13,789.00
Additional work		
115 ft. slusher drift @ $33.20 per ft.	$3,818.00	
750 ft. D. D. @ $8.00 per ft.	6,000.00	
128 tungsten assays @ $4.00 per assay	512.00	10,330.00
Government's participation $50,185.50	Total	$66,914.00

Contract continued:

Amendments continued:

No. 6 - 3/18/53. Permits changes in description of work at no increase in total cost.

10-18-52 - Agreement with Operator, party to three Exploration Project Contracts, Idm-E105 dated 8/1/51, Idm-E127 dated 8/24/51 and Idm-E247 dated 1/29/52. Contracts Idm-E105 and Idm-E127 on January 1, 1952 were combined and treated as one for the purposes of accounting and terminating. Subordination Agreements and Certification of Discovery 4/28/52 applied to all three projects. Contract Idm-E247 to remain in full force and effect.

Work Completed:

Drifting - 176 ft. @ $37.20 per ft.	$ 6,547.20
Crosscutting - 229 ft. @ $70.31 per ft.	16,103.25
Raising - 130 ft. @ $93.90 per ft.	12,206.41
Incline - 100 ft. @ $33.23 per ft.	3,323.13
Drilling - 235 ft. @ $11.85 per ft.	2,783.88
Winzing - 9 ft. @ $33.20 per ft.	298.80
Incline preparation	750.00
Equipment (purchased)	3,877.89
Repairs and rehabilitation	3,366.89
New buildings, improvements, etc.	6,630.82
Equipment rental	1,714.60
Total	$57,602.87

Agreed Unit Costs: Stage I

Labor	$ 8,884.13
Supervision	2,336.99
Materials and supplies	6,767.64
Equipment (rented)	3,167.16
" (purchased)	5,756.20
" (furnished by operator)	480.00
Rehabilitation and repairs	3,632.98
New buildings, improvements, etc.	7,229.30
Miscellaneous	3,939.18
Sub-total	$42,193.58

Contract continued:

Agreed Unit Costs: Stage II

Slusher drifting - 100 ft. @ $33.80 per ft.	$3,380.00	
Drifting - 175 ft. @ $37.20 per ft.	6,510.00	$ 9,890.00
Labor		1,615.78
Supervision		461.30
Materials and supplies		420.56
Equipment (rented		1,823.82
" (furnished by operator)		36.67
Miscellaneous		511.88
Sub-total		$14,760.01

Agreed Unit Costs: Stage III

Slusher drifting - 110.2 ft. @ $33.20 per ft.	$3,658.64	
Diamond drilling - 126 ft. @ $8.00 per ft.	1,008.00	$ 4,666.64
Miscellaneous		$ 340.00
Sub-total		$ 5,006.64
Grand-total		$61,960.23
Disallowed		540.00
Government's participation $46,065.17 — Total		$61,420.23

Project completed and terminated November 19, 1953.
Operator's final report dated November 8, 1954.
Final report from the field later.

3. Audit Certificate:

Accepted costs ($61,420.23) of all work were covered by Interim Audit Report and Certificate dated 8-10-53.

Final report of review as follows:

Total cost as billed by contractor	$68,020.00
Less salvage proceeds from property disposition	3,120.00
Net cost as claimed by contractor	$64,900.00
Exceptions - by prior audit	6,599.00
Total accepted Costs	$58,300.23
Government's participation at 75%	$43,725.17

4. Certification of Discovery: Dated 11/17/54. Under agreement of 10/11/52 combining contracts Idm-E105 and Idm-E127.

Ore Estimates to June 1, 1954 -

Tactite ore body - indicated and inferred	-	642,812 tons
West of main cut exposed by road cuts	-	300,000 "
Average grade 0.315% WO_3	Total	942,812 tons

Production - April to September 1954 -

Tons milled - 63,173 - average recovered value 0.426% WO_3 - producing 26,595 units WO_3.

Royalties paid to 12/1/54 - $50,225.70, which completes repayment of $43,725.17 on Idm-E247 with balance applied on repayment on Idm-E105 and Idm-E127. Balance due $66,853.80, to be repaid at rate of $12,500.00 monthly, and in full by or before January 30, 1955.

5. Comments:

The operation has been workmanlike, efficient and the engineering has been good.

There has been no production from the property other than that reported above.

The tactite, host rock for the tungsten, was found exposed as a pendant forming a pronounced block in the granite canyon wall. The canyon is large, some 2,000 feet deep, with walls at a steep pitch.

The tactite block is perched about midway between the bottom of the canyon and top of the canyon wall. Bureau of Mines had previously drilled the property but not in the tactite. Later, as a result of application for exploration assistance the examining engineers were impressed by irregular beds of scheelite showing in the tactite block. The question then became one of whether the ore was too spotted and irregular or could the whole block be mined successfully. The results of the exploration have been extremely favorable. It is probable that the present estimates of reserves will prove to be much greater. Stripping, and additional underground work have shown the orebody to extend eastward over the line of the Ivanhoe Claim some 240 feet into the Lost Copper No. 2 Claim of the Florescent Mining Company ground. No ore on the north side of the valley in the Lost Copper No. 2 Claim has been included in the present estimates nor a small tonnage of high grade ore in the two upper beds on the Ivanhoe Claim. Future possibilities appear to be unusually bright.

cc to: Docket (original)
Admr. Reading File
Mr. Martin
Mr. Keating
Mr. Johnson

A. G. Keating
A. G. Keating

Docket No. DMEA 2
2092. Including 1951

Code 400
Martin

RESULTS OF A DMEA EXPLORATION PROJECT FOR TUNGSTEN

An experienced Pacific Coast Mining Company entered into a DMEA contract on August 1, 1951, for exploration at a tungsten prospect in one of the Rocky Mountain states.

The property covered 16 unpatented claims and one patented claim of which the Operator was lessee. It was previously explored for copper ore by more than 200 feet of pits, shafts and adits.

The presence of tungsten mineralization contributed to the evidence justifying this contract. In 1942 the U. S. Bureau of Mines had bulldozed two trenches on one of the claims. No commercial production resulted from this work. Two additional bulldozer cuts were made by the Operator in May, 1951, prior to the date of the first contract.

As originally planned the prospect contemplated exploration of tactite masses in two areas on opposite sides of a canyon. As carried out, however, all the exploration except for some access roads was completed on a single patented claim on one side of the canyon. This exploration program included 2,012 feet of surface diamond drilling followed by 744 feet of under-ground crosscutting, drifting and raising, with 279 feet of short hole diamond drilling from underground stations. The original contract amount was increased to a total of $122,197.80 of which the Government's contribution at 75% would have been $91,648.35. Total expenditure under the contract, however, was $89,138.40, with Government participation at 75%, $66,853.80. Repayment of the total amount of the DMEA contribution to the project was completed on January 27, 1955, and represented net sales of tungsten concentrates totaling about $1,337,000.

The project was successful in finding a substantial tonnage of low grade tungsten ore. Subsequent work performed by the Operator added materially to the ore found by DMEA work.

In the spring of 1953, construction began on a mill designed to treat 250-300 tons per day in 1955. The capacity was increased to 700-800 tons per day. Production continued at about this rate into the spring of 1956, when production ceased to be saleable under the Government's tungsten buying program. Production was resumed in July, 1956, with the resumption of the Government's buying program, but ceased about December, 1956, when funds for this program were exhausted.

Development of this single property in a new area was responsible for changing the state in which it was located from a very minor producer of tungsten prior to 1954, to one of the leading tungsten producing states in 1955-56.

Results of a DMEA Exploration Project for Tungsten

Martin Page 1

COMPANY X, an experienced Pacific Coast Mining Company ~~with earlier mining experience~~ entered into a DMEA contract on August 1, 1951, ~~by~~ for exploration at a tungsten prospect in one of the Rocky Mountain states. It was previously explored for copper by more than 2 [illegible]

The property covered 16 unpatented claims and one patented claim of which the Operator was lessee. ~~Something over~~ 200 feet of pits, shafts and addits ~~had been driven earlier to explore for copper ore.~~ The presence of tungsten mineralization contributed to the evidence justifying this contract. In 1942 the U. S. Bureau of Mines had bulldozed 2 trenches on one of the claims. No commercial production resulted from this work. Two additional bulldozer cuts were made by the Operator in May, 1951, prior to the date of the first contract. As originally planned the prospect contemplated exploration of tactite masses in two areas on opposite sides of a canyon. As carried out, however, all the exploration except for some access roads was completed on a single patented claim on one side of the canyon. This exploration program included 2,012 feet of surface diamond drilling followed by 744 feet of under-ground crosscutting, drifting and raising, with 279 feet of short hole diamond drilling from underground stations. The original contract amount was increased ~~by combination and by amendment~~ to a total ~~amount~~ of $122,197.80 of which the Government's contribution at 75% would have been ~~$91,~~ $91,648.35. Total expenditure~~s~~ under the contract, however, ~~were~~ was $89,138.40, ~~of which~~ with Government participation at 75% ~~was~~ is $66,853.80. Repayment of the total amount of the DMEA contribution to the project was completed on January 27, 1955, and upon net sales of tungsten concentrates. The project was successful in proving a substantial tonnage of low grade tungsten ore. ~~Measured and indicated reserves as of June 1, 1954, were 642,812 tons averaging 0.351% WO_3, to which may be added 3,000 tons of indicated ore exposed by road work. There is also a small tonnage of high grade ore in two upper beds estimated as 16,500 tons averaging 1.88% WO_3.~~ 300,000?

$1,337,000.

Martin
Page 2

Subsequent work performed by the Operator added materially to the ore found by previous work. ~~added 170,347 tons to the above estimates. Production of DMEA ore was 132,292 tons of 0.48% WO_3 with subsequent production of Operator's ore of 492,815 tons of 0.38% WO_3. The estimated reserve is now 188,052 tons of 0.23% WO_3.~~

Development of this single property in a new area was responsible for changing the State's in which it was located from a very minor ~~production for~~ producing tungsten prior to 1954, to one of the leading tungsten producing states in 1955-56.

Construction began in the spring of 1953 on ~~of~~ a mill designed to treat 250-300 tons per day in 1955. The capacity was increased to 700-800 tons per day. Production continued at about this rate into the spring of 1956, when production ceased to be saleable under the Government's tungsten buying program. Production was resumed in July, 1956, with the resumption of the Government's buying program, but ceased about December 1956, when funds for this project ~~was~~ were exhausted.

IN REPLY REFER TO:

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

June 24, 1957

Re: DMEA 2292 Idm-E247, E105, E127
American Alloy Metals, Inc.
Browne's Lake Deposit
Beaverhead County, Montana
Tungsten

Memorandum

To: W. S. Martin, Defense Minerals Exploration Administration

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

Subject: Review of Field Team Final Report

The first contract, Idm-E105, awarded August 1, 1951, approved the expenditure of $33,290.00 on diamond drilling. Contract Idm-E127, dated August 20, 1951, applied to the Ivanhoe claim only and approved the expenditure of $21,993.80, and Idm-E247, awarded January 29, 1952, called for the spending of $56,584.00. The total of the three contracts is $111,867.80, of which $89,138.40 was spent.

The work outlined substantial ore grade material, a mill was built, production was attained, and the accrued royalty of $66,853.80 was paid off by January 27, 1955. As of May 31, 1956, total production had been

Tons mined (dry)	472,348
Tons milled (dry)	471,400
Tons in stockpile	948
Units of WO_3 (low grade)	80,373
Units of WO_3 (hi grade)	63,584
Total units	143,957

No up-to-date estimate of reserves is immediately available, but as of June 1, 1954, they were:-

Class	Tons	% WO_3	Units WO_3
Measured	356,687	0.364	129,730
Probable	286,125	0.335	95,811
Exposed in road work	300,000	0.351	105,300
Ore from upper beds Ivanhoe	16,500	1.880	31,050
Total	959,312	0.377	361,891

If no additions have been made to the reserves since the above estimate was made, the reserves as of May 31, 1956 would roughly equal the depleted tonnage, about 470,000 tons.

In the opinion of the examiners, work on other claims is warranted.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
So. 157 Howard Street
Spokane 4, Washington

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June 13, 1957

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

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Browne's Lake Deposit (Ivanhoe Claim)
Beaverhead County, Montana
Amended Contract No. Idm-E247
(and E105 and E127)

Dear Mr. Selfridge:

Enclosed are four copies of the Field Team final report on the American Alloy Metals, Inc. exploration project at the Browne's Lake Deposit.

A Certification of Discovery or Development was made on April 28, 1952, on the results of diamond drilling done under Contract No. Idm-E127. Under the terms of the combined agreement of October 1, 1952, this certificatication applies to later contracts as well. On November 17, 1954, a Certification of Discovery or Development was issued for the results of the work performed under Amended Contract No. Idm-E247.

The amount contributed by the Government to the project was completely repaid on January 27, 1955.

The authors state that further exploration in the Browne's Lake area is warranted as several attractive possibilities for exploration exist well away from the known ore body on the Ivanhoe claim.

By Field Team, Region I, NW District

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

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

Reviewed by
DMEA OPERATING COMMITTEE
6-21-57
(date)

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

FINAL F.T. Rpt

DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

FIELD TEAM, REGION I
Northwest District

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FINAL REPORT

Amended Contract Idm-E247
(and E105 and E127)

by

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

W. Bradley Myers
Geologist
U. S. Geological Survey

AMERICAN ALLOY METALS, INC.
One Montgomery Street
San Francisco 4, California

Docket No.:	DMEA-2292
Commodity:	Tungsten
Prior Contract date:	January 29, 1952
Amended Contract date:	January 12, 1953
Termination date:	November 19, 1953

Reviewed by
DMEA OPERATING COMMITTEE
6-21-57
(date)

BROWNE'S LAKE DEPOSIT
(Ivanhoe Claim)
Vipond Mining District
Beaverhead County, Montana

Spokane, Washington

May 1957

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ILLUSTRATIONS
(In pocket)

Plate 1 - Claim Map, Browne's Lake Tungsten Deposit, Beaverhead County, Montana

Plate 2 - Geologic Sketch Map of Browne's Lake Area, Beaverhead County, Montana

Plate 3 - Geologic Sketch Map of the Ivanhoe Tungsten Deposit, Beaverhead County, Montana, August 1955

Plate 4 - Geologic Map of the Open Pit Ivanhoe Tungsten Deposit, Beaverhead County, Montana

Plate 5 - Detail Structure Section of Ivanhoe Open Pit Along Line A-A', Beaverhead County, Montana

Plate 6 - Detail Structure Section of Ivanhoe Open Pit Along Line B-B', Beaverhead County, Montana

Plate 7 - Detailed Longitudinal Structure Section of Ivanhoe Open Pit Along Line C-C', Beaverhead County, Montana

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DATE	INITIALS	CODE

FINAL REPORT

AMERICAN ALLOY METALS, INC.
Browne's Lake Deposit
(Ivanhoe Claim)
Vipond Mining District
Beaverhead County, Montana

Amended Contract Idm-E247
(and E105 and E127)

* * * * * *

INTRODUCTION

This report describes a tungsten exploration project conducted jointly by American Alloy Metals, Inc., and the Defense Minerals Exploration Administration in the Browne's Lake area, Beaverhead County, Montana.

Summary

As originally planned, the project was to consist of exploration of tactite masses in two areas on opposite sides of Rock Creek Canyon, in which Browne's Lake is located. As carried out, all project exploration was conducted on a single patented claim, the Ivanhoe, on the south wall of Rock Creek Canyon except for the building of some access roads on the north side of the canyon. Exploration consisted of 2,012 feet of surface diamond drilling followed by 744 feet of underground crosscutting, drifting, and raising. Two hundred and seventy nine feet of short-hole diamond drilling was done from underground stations.

Measured and indicated reserves of the Ivanhoe deposit, according to company estimates, were 640,000 tons as of June 1, 1954. As of June 1, 1956, 472,348 tons had been milled from which a total of 143,957 short ton units of tungsten oxide had been produced in the form of low-grade and high-grade tungsten concentrates.

Repayment of the total amount of the DMEA contribution to the project was completed on January 27, 1955.

Recommendation

A Certification of Discovery or Development was made on April 28, 1952, on the results of diamond drilling done under Contract No. Idm-E127. Under the terms of the combining agreement of October 1, 1952, this certification applies to later contracts as well.

On November 17, 1954, a Certification of Discovery or Development was issued for the results of the work performed under Amended Contract No. Idm-E247.

Further exploration in the Browne's Lake area is warranted. Several attractive possibilities for exploration exist well away from the known ore body on the Ivanhoe claim.

LOCATION AND ACCESSIBILITY

The claims under contract are in secs. 3 and 4, T. 4 S., R. 10 W. and secs. 32, 33, and 34, T. 3 S., R. 10 W. M.P.M., Beaverhead County, Montana. These claims are at altitudes of from 7,000 to 8,000 feet along the steep rocky walls of a major easterly trending glaciated canyon now occupied by Rock Creek and Browne's Lake. The village of Glen, Montana, 11½ miles by road southeast of the property, at an altitude of 5,000 feet, is on U. S. Highway 91 and on the Oregon Short Line of the Union Pacific Railroad. A graded Forest Service road located near the floor of the canyon connects the claims with the highway at a point 3½ miles north of Glen. Except for short periods after heavy winter snows the road is passable to a passenger car equipped with chains.

The area is one of high relief with precipitous slopes densely covered by fir and pine.

The climate is typical of the west-central mountain area of Montana where precipitation occurs as rain in summer and snow in winter. During the winter months sub-zero temperatures occur frequently and snow covers the ground much of the time.

THE PROPERTY

Two properties were included in the exploration project (pl. 1). The first was a group of 16 unpatented claims that were leased January 17, 1951, to E. L. Cleveland by Fluorescent Mines, a corporation controlled by R. C. McLaughlin, Dillon, Montana. Mr. Cleveland assigned this lease to Brown's Lake Tungsten, a partnership composed of E. A. Julian, Frank Eichelberger, and himself. Brown's Lake Tungsten entered into DMEA Contract No. Idm-E105 on August 1, 1951, and on August 20 following, assigned all interest under the contract to American Alloy Metals, a Nevada corporation.

Of the 16 unpatented claims included in this contract, particular reference was made therein to those bearing index numbers assigned by the County clerk and recorder, as follows:

Claim	Index Nos.
Star No. 1	66802
Star No. 2	66803
Star No. 3	66804
High Boy	65989
Mammoth	65990
Fox	65923

The second property included in the project was the patented Ivanhoe Lode Mining claim, located on Lot 37 in the Vipond Mining District. This claim was leased to E. L. Cleveland with an option to purchase by George W. Farlin on May 26, 1951, and was subject to a 1 percent overriding royalty to Roscoe C. McLaughlin until the sum of $5,000 was paid. Mr. Cleveland assigned the Ivanhoe lease to American Alloy Metals, Inc. During the summer of 1954 American Alloy Metals, Inc., exercised its option to purchase the Ivanhoe and is reported to have paid for the claim out of profits of the operation.

Old workings on the property consist of 60 feet of shafts and 8 pits of varying sizes and depths, none in usable condition. There are also about 180 feet of adit and prospect holes of minimum size, one of which, called the "Granite Tunnel," was enlarged and lengthened during the project to become the main exploration adit.

The old workings were driven to explore for and mine copper ore. Although the significant copper mineralization is restricted to a single horizon in the hanging wall of the main tungsten ore zone, some of the old copper workings, particularly No. 4 adit, showed tungsten mineralization and were invaluable as locations for taking samples and obtaining geological data.

In 1942 the Federal Bureau of Mines bulldozed two trenches on the Garnet claim. At the time this was done the property was leased to John Potts of Salt Lake City, who was making preliminary tests in a small mill he had erected on the property; no commercial production of concentrates resulted from this work. Two additional bulldozer cuts were made by the Operator in May 1951, prior to the date of the first contract.

GEOLOGY

Regional Geology

The Browne's Lake tungsten deposits occur in contact-metamorphosed carbonatic sediments of upper Mississippian-lower Pennsylvanian age (the Amsden formation) along the northeastern margin of a large granodiorite 1/ pluton. For a distance of several miles each way from Browne's Lake the margin of the granodiorite pluton has a nearly linear north-northwest trend, and a steep dip and is believed to have been controlled by a pre-intrusive fault zone. The intrusive crosscuts the sediments that in general dip gently eastward (pl. 2). Thus, at the Ivanhoe deposit on the south wall of Rock Creek Canyon the granodiorite is in contact with the Amsden formation; but a mile to the south and 2,000 feet higher, on the divide between Rock Creek and Lost Creek, the granodiorite is in contact with Triassic sediments 1,500 feet higher in the stratigraphic section. North of Rock Creek, however, topography and attitude of the sediments combine to keep the Amsden formation in contact with the granodiorite to the limit of the mapped area.

The Amsden formation is exposed along both walls of Rock Creek Canyon east of the granodiorite intrusive. Here the beds trend a little west of north and dip gently eastward. A measured thickness of 480 feet of contact-metamorphosed limestone, shale, quartzite, and intermediate types is exposed below the overlying Quadrant quartzite. A 70-foot unit of fine-grained, thin-bedded quartzite, believed to be the basal unit of the Amsden, forms the accordant roof of a mass of quartz monzonite. On the west the quartz monzonite is in irregular gradational contact with the granodiorite approximately along the projected trend of the east margin of the major pluton. To the east the upper contact of the quartz monzonite, controlled by the east-dipping basal quartzite unit, descends to the floor of the canyon and passes beneath Browne's Lake (pl. 2).

From a study of a larger area than that of the district map (Myers, W. B., Geology and Mineral Deposits of the Northwest Quarter Willis Quadrangle and Adjoining Browne's Lake Area, Beaverhead County, Montana: U. S. Geol. Survey Open File Report, 45 p., 1952) it is thought that the linear eastern margin of the granodiorite pluton was controlled by a pre-intrusive fault zone. This portion of the granodiorite pluton is regarded as having lifted

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1/ In earlier reports and memoranda this rock body was termed biotite hornblende quartz monzonite. Quantitative microscopic examination indicates the rock to fall within the granodiorite field. In the same fashion a more silicic rock body exposed in the Browne's Lake area was originally termed a biotite granite but has been subsequently found to fall within the quartz monzonite field. The plutonic rock names used here are thus one grade less silicic for the same rock bodies than those used heretofore.

its roof rocks during intrusion on the western side of the early fault zone. The quartz monzonite body with an accordant roof is interpreted as being merely the top of the same pluton across the fault zone -- its more silicic composition seems rather clearly due to late, variable, addition of potash to a granodioritic rock.

Tactite, composed largely of andraditic garnet, is the host rock for tungsten mineralization. This rock, formed by additive contact metamorphism of impure limy sediments, is confined almost entirely to a stratigraphic zone perhaps 75 feet thick whose base is about 15 feet above the top of the basal quartzite unit.

The favorable stratigraphic zone is not everywhere converted to tactite although the zone is at an approximately constant distance above the quartz monzonite contact. In the Browne's Lake area the tactite bodies of any significance appear to be restricted to a north-northwest-trending belt that lies along the projected trend of the east margin of the granodiorite pluton (pl. 2).

Local Geology

Along the projected trend of the east margin of the granodiorite pluton three areas of tactite are exposed from south to north, respectively, on the Ivanhoe, the Mammoth, and the Star claims. The southernmost area, and by far the largest, is the impressive Ivanhoe body, extending nearly the whole length of the patented claim on the south wall of the canyon.

The second area is three-quarters of a mile north-northwest on the north wall of the canyon. Here the 50-foot Mammoth adit explores an 8-foot tactite layer believed to be correlative with the basal part of the tactite zone on the Ivanhoe claim (pl. 2). Though exposed only in places, the zone appears to extend at least 300 feet northwest of the adit and can be followed for about 400 feet southeast of the adit along the prominent cliffs, where it has a maximum thickness of 5 feet. The tactite contains some scheelite throughout, but the grade appears very low, especially in the portion southeast of the adit. The tactite in the adit has been estimated by "black light" examination to contain about 0.5 percent WO_3.

The third area is at the Star claims about half a mile north-northwest along the east margin of the granodiorite pluton, where scheelite-impregnated tactite is exposed in two pits about 700 feet apart. The pits are on small outcrops of tactite and marble in a large covered area along the very irregular contact of the granodiorite, whose margin here appears to be controlled in detail by northeast-trending pre-intrusive faults. No quartz monzonite is exposed, but if the accordant mass at Rock Creek continues northwestward, roofed by the basal Amsden quartz and flanked on the west by the granodiorite, the crest of the quartz monzonite would lie below the Star claims at a depth of not more than several hundred feet.

Talus and glacial moraine, which mask most of the bedrock at the Star claims, cover the entire belt of Amsden rocks as well as the contact zone for a mile to the north-northwest. No tactite nor any introduced contact-metamorphic minerals were found more than 1,000 feet beyond the Star No. 1 pit, either as float in the covered area or farther to the northwest along the exposed contact of the intrusive in the extreme northern tip of the mapped area.

The Ivanhoe tungsten deposit is in a narrow prism of Amsden sediments half way up the steep, glaciated south wall of Rock Creek Canyon. The Amsden beds, which at this locality strike west-northwest and dip moderately to the southwest, lie on the southwest limb of a minor anticlinal flexure. These rocks are underlain by the concordant quartz monzonite mass in contact with the remnant of the basal quartzite unit, now of variable thickness. The outcrop of the sediments trends almost westerly for a distance of 1,400 feet from a thick morainal cover that forms the outcrop's eastern limit (pl. 3). On the west the bedded rocks are cut off by a pre-intrusive fault zone that has controlled the emplacement of the plutonic igneous rocks. At a distance of about 450 feet south of the contact of the sediments with the quartz monzonite the margin of the granodiorite turns sharply eastward beneath a covered area to nearly parallel the trace of the quartz monzonite contact. Where exposed during development and mining, the granodiorite contact is roughly planar, with a north dip of about 50°. In the eastern part of the deposit the contact steepens abruptly to about 80° near the base of the sedimentary wedge (pls. 5 and 6). At some undetermined point east of the present development, and under a thick cover of glacial debris, the margin of the granodiorite turns to resume its general southeasterly course. Except where the sediments may continue eastward under the glacial blanket, the size and shape of the prism of sedimentary rocks, within which the deposit lies, is known with considerable accuracy.

Tactite is largely confined to the favorable stratigraphic zone a short distance above the basal quartzite. Viewed broadly, the tactite forms a continuous body with marble footwall and hanging wall, varying from 45 to as much as 75 feet in apparent stratigraphic thickness, and extending the full length of the exposed prism of sediments (pl. 3).

With development and exploitation of the deposit, the hanging wall of the tactite is seen to be composite, due to structural complications involving two overlying marble-tactite couplets, each comprising a lower marble layer and an upper tactite layer (pl. 4). Thus, along much of the eastern pit wall the marble of the lower marble-tactite couplet, which generally forms the

hanging wall of the main tactite zone, has been cut out by a pre-metamorphic bedding plane slip, and therefore the overlying tactite of the couplet is continuous with the tactite of the main zone. This results in a thickened ore zone.

A similar situation exists at the extreme western end of the pit and explains the abnormal thickness of tactite (about 73 feet) exposed in American Alloy's Trench No. 5, cut from the corresponding outcrop position in 1951. From the intervening area involving a strike length of about 600 feet, both marble-tactite couplets are present. The marble of the lower couplet is commonly 5-6 feet thick but varies from a feather edge to a maximum thickness of 7.8 feet; the overlying tactite is from 4.5 to 6.5 feet thick. The marble of the upper couplet has a minimum measured thickness of 8 feet, a maximum of a least 15 feet. The maximum may well be due to folding, for in the western end of the pit this marble and the underlying tactite layer of the lower couplet are involved in two pairs of tight folds, pre-metamorphic in age. These folds are strongly overturned to the north, trend west-northwest to west, approximately parallel to the pit wall, and have axial planes apparently parallel to the prevailing moderate south-southwest dip of the beds. Just east of the area of infolded marble, the tactite of the lower couplet, repeated by these compressed folds, attains an unbroken thickness of 24 feet.

The footwall of the main tactite zone, in contrast to the hanging wall, appears to be a continuous slip surface. Wherever exposed, this surface is marked by a variable but thin zone of green chloritic material and is underlain by marble. The chloritic zone certainly indicates post-metamorphic slip, but some earlier movement is probable. Shearing along this surface has resulted in variations in the thickness of the underlying marble, as well as local variations in the thickness of the overlying tactite (pl. 7).

The main tactite contains interbedded green and black hornfels bands several feet in thickness, commonly four or five in number, that represent original shaly beds in a more carbonatic sequence. These bands are traceable without difficulty in pit walls and underground openings (pls. 5, 6, and 7). Pre-metamorphic bedding plane slip cannot be dismissed, but the bands are in general continuous and nearly parallel; no strong internal folding is recorded.

Detailed mapping of the rocks along the stripping cuts, above the composite ore zone, reveals thickness changes that are probably due in part to bedding plane shearing; however, the units are in general continuous and no tight folds are recorded, such as those involving the marble-tactite couplets in the western end of the main pit. An isolated scheelite-bearing tactite layer is exposed in the eastern part of the stripping cuts, at a stratigraphic distance varying from 62 to 76 feet above the highest

tactite of the composite ore zone. This bed, which has been mined sporadically where stripping conditions permitted, extends for 330 feet westerly from a point near the eastern end of the 7110 bench, where it emerges from beneath the blanketing moraine. Where completely exposed on the 7110 bench, it has a total thickness of about 14 feet and encloses a medial band of hornfels. The thickness diminishes westward to 5.5 feet of solid tactite at the westernmost exposure at the toe of the 7080 bench near the probable western limit of the layer.

The western limit of the Ivanhoe tactite body is thought to have been controlled by a northeast-trending steep fault zone, largely active in a pre-intrusive period (pl. 3). The eastern blocks of the two component faults appear to have been dropped.

The eastern fault in the northwest block has offset a remnant of the basal Amsden quartzite about 60 feet to the southwest. Along this segment of the fault there has been no post-intrusive movement. Within the area of observation quartz monzonite has largely engulfed the beds above the quartzite in the northwestern block. One hundred and ten feet to the northwest, the abrupt western boundary of a band of hornfels and tactite is thought to mark the position of a second parallel fault; beyond this point only granodiorite is exposed (pl. 3).

Two hundred yards to the southwest, the northwestern edge of a prominent mass of Quadrant quartzite marks the position of the fault zone. The quartzite, stratigraphically overlying the Amsden rocks, is part of the Ivanhoe sedimentary wedge and is bounded on the northwest by granodiorite in intrusive contact. A short distance farther to the southwest, northeast-trending slickensides in the granodiorite record a later movement along the fault zone, and a quarter of a mile beyond, on strike, barren vein quartz float, along a paralleling swale west of Lake Agnes, appears to mark the extension of the zone.

The eastern limit of the tactite body is unknown. Pre-glacial erosion cut a northeast-trending canyon a short distance east of the present Ivanhoe outcrop. An early high-level period of glaciation, the first of two, mantled the canyon with a lateral moraine, burying any possible eastern remnants of the tactite under a thick accumulation of glacial debris (pl. 2).

However, the geometry displayed in the southeastern corner of the Ivanhoe pit suggests that the tactite body terminates a short distance east of the present pit face (pls. 4 and 7). The footwall of the tactite zone here dips gently southwest against the steep north-dipping margin of the granodiorite pluton. The resulting intersection, which forms the "keel" of the deposit, rises gently to the east, but the pre-glacial canyon wall dips sharply

eastward to truncate the rising "keel." The point of truncation is shifted eastward by the small fault exposed in the extreme southeast corner of the pit. This northeast-trending steep fault has dropped the rocks of the southeastern block 16 feet, thereby preserving a small additional segment of the ore body from pre-glacial erosion.

It is postulated that another fault or faults similar in attitude and direction of displacement may be present a short distance southeast of the one exposed in the pit. If so, the favorable stratigraphic zone may have been dropped sufficiently to be partially preserved beneath the pre-glacial surface. The same effect would result whether the movement on these faults was pre- or post-metamorphic in age.

If the apparent correlation between high-grade ore and the mapped northeast fault (page 11) is real, then there is reason to believe that any tactite remnants which might be preserved to the southeast would be relatively high in scheelite.

It has for several years been the opinion of Myers that a fault zone, suspected to trend northeast down the pre-glacial "Lake Agnes" Canyon and hence down the northeast course of Rock Creek, might be a major control in the location and grade variation of the Ivanhoe deposit. The uncovering of a small northeast fault in the open pit and an apparent corralation of high-grade ore with this feature lends a certain support to this view.

Mineralogy

As has been stated, the tactitization of the favorable stratigraphic zone in the Amsden formation is restricted to those areas along the margin of the main granodiorite pluton. This localization is not thought to be due to a source of metamorphosing constituents peculiar to the granodiorite and missing from the quartz monzonite -- which later rock appears to be but a late-stage modification of the original granodiorite. Neither is the restriction thought to be contingent on the slightly younger effective age of the quartz monzonite, for from evidence largely collected elsewhere in the region, the period of garnet formation is very late, definitely post-dating the consolidation and fracturing of the granodiorite. It is instead explained on a simple geometric basis: The crosscutting granodiorite had direct access to the exposed edges of the favorable beds, while the accordant quartz monzonite, restrained by the refractory basal quartzite, did not.

Tactite, whose dominant constituent is an andraditic garnet, is the end product of combined thermal and additive metamorphism of impure carbonatic rocks. With emplacement of the plutonic rocks the sediments of the Amsden formation, ranging in composition from

pure carbonate rocks through intermediate compositions to essentially noncarbonatic shale, etc., were recrystallized to marble, more or less limy hornfels, and nonlimy dark hornfels. Somewhat later the intermediate hornfels was more or less completely replaced by grossularitic garnet (calcium-aluminum garnet). In the final stage large amounts of iron were introduced, in part along fractures, to convert the earlier aggregate to a rock composed largely of andraditic garnet (calcium-iron garnet). Although this transformation has been nearly complete in rocks of intermediate composition, neither the pure marble nor the essentially nonlimy hornfels was affected. Thus, bands of dark hornfels and clear-cut marble layers persist within the compound tactite body. The detailed shapes of the pure marble layers, and to a lesser extent, those of the relict dark hornfels bands, appear to be the result of their previous deformational history rather than that of nonselective replacement.

At localities where intrusive rock is in contact with tactite, a relation limited almost exclusively to the granodiorite, the adjacent intrusive has been modified by the tactitization process. The resultant rock is composed largely of glassy quartz, preserving by faint color differences the texture of the original quartz-feldspar aggregate. The original dark minerals have been replaced by a greenish chloritic(?) aggregate or in some cases by epidote, or by mixtures of the two. This effect is strictly limited to a zone adjacent to the tactite and commonly but a few feet in thickness. However, the failure to recognize this transformed rock as intrusive, in the early part of the exploration program, delayed understanding of the geometry of the deposit.

Tungsten mineralization accompanied the last or iron garnet stage of tactitization, but persisted for some time after completion of tactite formation. High-powellite scheelite, commonly in small grains and specks is disseminated through the tactite but is generally concentrated in the outer parts of the garnet crystals. In addition, scheelite, commonly in coarse crystals, occurs scattered through certain of the steep quartz stringers that locally cut the tactite. In some cases the scheelite in quartz is molybdenum free, with a blue-white fluorescence, but in general, as in the disseminated scheelite, it contains sufficient powellite to fluoresce in yellow tints.

The copper minerals, chalcopyrite, bornite, and covellite occur in minor amounts here and there throughout the tactite. Locally, small high-grade ore shoots occur in the tactite member of the first marble-tactite couplet above the main tactite zone. The ore shoots were structurally controlled by a very sharp downward roll of a bedding plane slip along the hanging wall of the tactite member; the deflected slip surface abruptly cuts out the tactite up dip. The shoots were elongated along thetruncated up-dip margin

of the tactite layer parallel to the west north-west trend of the roll. (The nature of this abrupt roll can be seen in structure sections A-A' and C-C', plates 5 and 7.) Only a small tonnage of ore was mined; three cars of ore were shipped in 1928 and 1929.

Grade Variation in Tactite

Viewed broadly, the scheelite content of the Ivanhoe tactite body decreases from east to west. In outcrop, the easternmost trench across the full ore zone averages 0.59 percent WO_3, the westernmost averages 0.17 percent WO_3; the four intervening trenches yield intermediate WO_3 percentages, which in general dimish westwards.

The highest concentration of scheelite has been found in the southeast corner of the open pit. From information supplied by Minerals Engineering personnel the concentration is close to or along the trace of a post-ore fault (pl. 4). It is believed that an earlier period of fault movement may have guided the scheelite mineralization.

In the eastern pit area the tactite has been mined to the granodiorite contact, but farther west, at the Granite Tunnel exploration site, the tactite exposed near the granodiorite is nearly barren. In addition all but the hanging-wall portion of that exposed in the vertical raise is definitely submarginal, averaging 0.11 percent WO_3. In the inclined slusher drift, driven obliquely upward and eastward from the footwall of the ore zone in the vertical raise, the exposed tactite becomes of commercial grade within a few feet of the station (pl. 7). Eastward from this point the grade as exposed in the raise irregularly increases toward the hanging wall. The geometry of the grade variation exposed by these underground workings is unknown as only one supporting diamond drill hole was undertaken.

To the west the outcrops and pit exposures provide the only indications of minable grade. Diamond drilling accomplished in this area by August 1955 is limited to that done in the 1951 DMA program. The only holes penetrating the main tactite zone indicated submarginal grade. These, however, were located near the extreme west end of the deposit where the outcrop sampling also indicated submarginal grade.

Thus, the grade variation back from the outcrops or pit walls cannot be indicated for that portion of the deposit west of the Granite Tunnel vertical raise. The company estimates of grade, and therefore minable tonnage, west of this point are strongly inferential, and while they have been accepted for the purposes of this report, they are open to question.

THE PROJECT

Field examination of extensive tactite outcroppings and old workings on the property had revealed the probability of a commercial deposit of tungsten ore. In the contract application the Operator estimated there were 25,600 tons of measured ore averaging 0.70 percent WO_3 and 11,000 tons of indicated ore averaging 0.60 percent WO_3. A DMA examining team inspected the property during the summer of 1951 and in their report estimated 10,000 tons of measured(?) or indicated ore with the possibility of developing by further exploration from 500,000 to 1,000,000 tons of ore having an average grade of 0.50 percent WO_3.

Contract No. Idm-E105, dated August 1, 1951, and effective for 1 year, between the Government and Brown's Lake Tungsten, a partnership, was activated to explore the claims leased by the partnership from Fluorescent Mines, Inc. The work proposed was to consist of building a road to the property, cutting 8 trenches across the deposit, and drilling 3,000 feet of diamond drill hole in an estimated 14 holes. Estimated cost of the project was $33,290, of which the Government's participating share was 75 percent, or $24,967.50. All rights under DMA Contract No. Idm-E105 were assigned to and accepted by American Alloy Metals, Inc., on August 20, 1951.

Contract No. Idm-E127 was entered into between the Government and American Alloy Metals, Inc., on August 20, 1951, effective for 4 months, for exploration of the Ivanhoe Lode Mining claim. The work proposed was to consist of 2,000 feet of diamond drilling in 6 holes, repairing camp buildings at the Browne's Lake fishing camp, repairing a road to the property, and building access roads to drilling sites. The estimated cost of this project was $21,993.80, of which the Government's participating share at 75 percent was $16,495.35.

The map showing claim lines of the Fluorescent Mines lease had been considered reasonably accurate, but upon examination in the field it was found to be in error between the Fox claim of Fluorescent Mines and the adjoining Ivanhoe patented claim, the error being such that all of the exposed tactite was found to be within the Ivanhoe claim.

Work was started on these contracts in September 1951 with the bulldozing of an access road up the steep, moraine-covered south slope of Rock Creek Canyon to serve the diamond drilling and trenching sites on the Ivanhoe claim. A similar road was advanced up the north wall of the canyon, nearly to the altitude of the Mammoth and Star claims before winter weather forced suspension of operations. No sampling or trenching was accomplished on these northern claims. Two hand trenches were cut and sampled across the main tactite zone at the west end of the Ivanhoe outcrop, indicating that the deposit

was of submarginal grade in this area. Seven diamond drill holes, a total of 1,930 feet of drilling, were completed before work was suspended in November 1951. All holes were located on the Ivanhoe claim and drilled through contact-metamorphosed limy sediments and into the intrusive. Samples from outcrops and old workings as well as diamond drill cores and sludge were assayed.

Diamond drilling was done under a subcontract by R. S. McClintock Diamond Drilling Co. at a unit cost of $7.75 per foot, plus an allowance of $3.50 per foot additional for reaming and casing or cementing and redrilling.

Underground samples were taken at various locations in Nos. 1, 2, and 4 adits of the old workings, outcrops were sampled, and a 2,200-pound bulk sample was taken from the eastern part of the ore body. This sample, sent to the U. S. Bureau of Mines laboratory at Albany, Oregon, for metallurgical testing, assayed 0.39 percent WO_3 throughout a thickness of more than 57 feet.

Three of the diamond drill holes (1, 2, and 5), located on the west end of the claim, intersected the full tactite zone averaging about 0.10 percent WO_3, and only corroborated the submarginal grade of the surface trenches in that area. Two additional holes (3 and 4) drilled at the west end, but farther up hill from the outcrop band, did not encounter tactite but penetrated granodiorite that had cut out the favorable beds. The last two holes (10 and 11), located near the middle of the claim, a lesser strike distance from the better grade surface exposure, but about 100 feet up hill from the outcrops, also missed the main tactite zone. Here, however, relatively high-grade ore was encountered in several thin tactite layers stratigraphically above the main ore zones. Diamond drilling was stopped early in November because water lines could not be kept open.

J. W. Melrose, geologist and project manager for American Alloy Metals, Inc., estimated that 900,000 tons of ore could be inferred in the east ore body at the close of operations in 1951. The DMEA Field Team did not feel that evidence then available warranted this estimate but thought that a significant discovery was indicated.

On April 28, 1952, a Certification of Discovery or Development was issued by the Government on the property covered by Contract No. Idm-E127.

During the course of the 1951 project work it was found that the patented claim, the Ivanhoe, included in Contract No. Idm-E127, covered substantially the same ground as one of the unpatented claims covered by Contract No. Idm-E105. Inasmuch as all exploration took place within the area of the Ivanhoe claim, the effective subjects of the two contracts were identical. Therefore, the contracts were combined by agreement and terminated as of January 1, 1952.

Meanwhile, American Alloy Metals, Inc., had proposed an amendment to Contract No. Idm-E127 to provide for a program of underground exploration, but instead of including this proposed program as an amendment to the previous contract, it was written as a new contract, numbered Idm-E247, dated January 29, 1952, and made effective for 1 year. It made provision for additional work on the Ivanhoe claim, estimated to cost $56,584, with Government participation at 75 percent, or $42,438.

The objective of the project covered by the new contract was to explore the underground continuity of the tactite body by a total of 560 feet of crosscutting and drifting, 100 feet of raising, and a total of 1,200 feet of diamond drilling. This additional work was set up in 3 stages. Stage I included the following surface work: rehabilitation of cabins at Browne's Lake Camp for winter use, installation of a water system at the camp, rehabilitation of an old wagon road from Browne's Lake to the portal site of the old Granite Tunnel, rehabilitation of the portal site, construction of a combination compressor and warehouse building, and the laying of 800 feet of pipe from the creek to the portal. Underground work under Stage I consisted of: enlargement of the old 90-foot tunnel to 6 by 8 feet in cross section, extension of the tunnel at this size approximately 160 feet southward, and driving a 6- by 8-foot vertical raise approximately 100 feet from a point near the adit face.

The south-trending Granite Tunnel was located in quartz monzonite 90 feet vertically below the lower end of the original 57-foot outcrop sample taken by the Field Team. The proposed raise to be driven from near the face of the extended adit was to explore the tactite body overlying the quartz monzonite.

Under the provisions of Stage II of the contract two diagonal 5- by 7-foot drifts were to be driven from the raise at a suitable altitude near the midpoint of the body to crosscut obliquely and explore the tactite from footwall to hanging wall, one drift to be driven 200 feet in an easterly direction, the other to be driven 200 feet in a westerly direction.

Stage III, as planned, was to be performed only after completion and evaluation of the results of Stages I and II. Providing that the results of the crosscutting, raising, and drifting were favorable, the contract authorized a maximum of 9 AX diamond drill holes, not to exceed a total of 1,200 feet, to crosscut the tactite zone from 4 drill sites in the intermediate drifts and from 1 site at the face of the adit.

Work under the contract began on January 29, 1952, with rehabilitating the cabins for winter use, clearing the road of snow, and putting it into shape for winter use.

When it became apparent that it would not be feasible to build a road between the property and the adit dump because of the steepness of the grade, the Operator proposed that a 250-foot surface-track tram, inclined at 40°-50° be installed to provide a means of getting equipment and supplies up this slope. It was also requested that a pressure system be allowed in lieu of the gravity system as planned because of the impracticability of laying a gravity line on the steep mountain slope with the snow conditions which prevailed. A further suggestion to facilitate the operation was the allowance for a shop-storage house to be constructed at the adit portal. Other suggestions included changes in sizes of equipment to be installed and addition of other items of equipment.

Amendment No. 1, dated March 20, 1952, effective January 29, 1952, and amended May 8, 1952, specified a number of additions to and modifications of items of equipment. In addition the Operator was given the option of purchasing and installing heavier equipment and fixtures, provided the cost differential be borne entirely by him. None of the foregoing modifications and additions were to increase the total cost of the contract.

After completion of the surface-track tram, it was necessary to blast a trackway between the adit portal and the top of the tram. After this was finished, the old 90-foot Granite Tunnel was enlarged to 8 by 9 feet and extended southward to a total length of 229 feet. The tunnel was continued in the quartz monzonite body that concordantly underlies the contact-metamorphosed sediments until the face encountered the sharply gradational contact of the main granodiorite pluton, which everywhere forms the south limit of the deposit.

The difference in cost between driving this crosscut 8 by 9 feet instead of 6 by 8 feet as authorized in the contract was later estimated to be $540 and deducted from the cost claimed by the Operator.

In June 1952 a vertical raise was started in quartz monzonite 195 feet from the portal. At 12 feet the raise encountered the footwall quartzite; the base of the tactite zone was intersected at 34 feet and the raise was continued vertically upward for a distance of 110 feet. Here the raise was in the hanging-wall tactite beds, and at this point it was turned and driven upward 20 feet S. 70° W. at a 56° angle, or normal to the dip of the bedding (pl. 6). Except for one 6.5-foot sample at the top of the main ore zone the tactite in the raise was clearly submarginal.

Amendment No. 2, approved August 15, 1952, authorized drilling a 150-foot horizontal diamond drill hole from the face of the adit during Stage I, the footage to be subtracted from that specified to be done during Stage III. The purpose of the hole

was to test the possibility that additional tactite bodies might lie ahead of the face of the adit. This hole was drilled S. 14° W. +3° from the face of the adit for a distance of 75 feet, all in granodiorite. The geologic evidence then available suggested that further testing to the south was unnecessary.

Amendment No. 3, dated September 25, 1952 (effective the same date), permitted drilling a 190-foot EX diamond drill hole before completion of Stage II. This hole, specified to replace an underground hole scheduled for Stage III, was collared near the portal of the old No. 4 adit, which is in the hanging wall of the main ore zone, and was drilled downward to test the thickness of the beds. It was abandoned at 60 feet after a bit was lost in the hole.

A 100-foot hole was then drilled S. 63° E. +8° into the east wall of the Granite Tunnel near the raise and cut the quartz monzonite-granodiorite contact at 60 feet, adding to the knowledge of the south boundary of the deposit.

Hydraulic ground sluicing was employed to expose bedrock in preparation to cutting 4 trenches across the deposit during the summer of 1952. A 1½-inch line from Agnes Creek furnished water at a 200-foot head which easily removed the overburden.

In an agreement, dated October 1, 1952, the first two contracts, Idm-E105 and Idm-E127, were combined and terminated as of January 1, 1952, and for purposes of accounting, terminating, and winding up they were considered as one contract. Because the Ivanhoe Lode Mining claim was the property under contract in both Idm-E127, which was being terminated, and Idm-E247, which remained in force, the effect of this agreement was to supersede the first two contracts by the third. By the terms of the agreement the Certification of Discovery or Development that had been issued for Idm-E127 was extended to cover the lands in all three contracts.

Amendment No. 4 to Contract No. Idm-E247, dated October 23, 1952 (effective January 29, 1952), increased the allowance for construction of a combined compressor and warehouse building from $1,000 to $1,898.43. Under Amended Contract No. Idm-E247, dated January 12, 1953, Amendment No. 4 as just described was disallowed.

Amendment No. 5, dated November 24, 1952 (effective September 1, 1952), deleted the work as outlined in Stages II and III of the original contract and described only that part of an amended program that could be completed with remaining unused funds allocated under the contract. Stage 11 as amended authorized another diamond drill hole from the portal of the old No. 4 adit 190 feet S. 2° W. at -51° to determine the position of the granodiorite contact, drifting a maximum of 175 feet in a northwesterly

direction on the adit level from a point near the bottom of the raise to intersect and drift in the ore zone on that level, and driving an inclined slusher drift within the tactite zone 100 feet in a southeasterly direction from the raise, this drift to be started about 40 feet above the sill of the tunnel and inclined about 27° above the horizontal. This was estimated to cost a total of $13,789. All costs of drifting and diamond drilling were to be paid on a unit cost basis.

During October a drift was started from the adit at a point just east of the raise as authorized by Amendment No. 5. It was driven southwest in quartz monzonite for a short distance, but when the granodiorite was intersected the drift was turned and driven N. 52° W. At a distance of about 70 feet from the raise the drift passed out of the granodiorite and into tactite at the footwall of the ore zone, as anticipated. At a distance of 175 feet from the raise the drift was discontinued because all of the tactite encountered was practically barren of scheelite.

In November the inclined slusher drift was started from the raise on the footwall of the tactite zone at a point 43 feet above the sill. This was driven S. 82° E., parallel to the nearby granodiorite contact to the south, at an angle of about 25° above the horizontal, to explore along the strike of the beds while obliquely crosscutting them, and ultimately, to hole through into the old No. 4 working located in the hanging wall of the main tactite zone.

A new contract, Amended Contract No. Idm-E247, dated January 12, 1953, was made effective until July 1, 1953, and outlined the remainder of the new program as begun under Amendment No. 5 to the original contract (Idm-E247), thereby amending and superseding the former contract. Under this new contract the rights and obligations of both parties under both contracts were fully merged. Under the terms of the new contract all work of the original contract (Idm-E247) was to be performed as amended by Amendments No. 1, 2, 3, and 5; additional work was included to extend the 100-foot slusher drift, as authorized in Amendment No. 5, an additional 115 feet eastward and to drill 12 diamond drill holes varying in length from 25 to 85 feet, having a total length of 750 feet. The cost of this additional work added $10,330 to the estimated costs of Stages I and II as amended. All additional work was to be paid for at an agreed unit cost.

Driving of the inclined sublevel drift east from the raise continued throughout the winter, and on March 5, 1953, it was holed through into the west drift of the old No. 4 workings. Samples taken while driving the incline averaged 0.40 percent WO_3, with values increasing as the inclined drift progressed upward and eastward. The average of 12 samples taken from 70 feet of the incline below the hanging wall was 0.605 percent WO_3.

Amendment No. 6, dated March 18, 1953 (effective January 12, 1953), changed the position and attitude of the remaining diamond drill holes and reduced the footage to 470 feet in 7 holes. The grade of the tactite exposed in the inclined slusher drift was sufficiently encouraging to suggest that some of the originally planned drill holes could be eliminated without serious danger that the economic potential of the deposit be mininterpreted. As it was becoming apparent that the grade of the ore was increasing with distance to the east, it was decided to drill two of these seven holes from the surface, at points east of the inclined drift.

In April 1953, the first diamond drill hole under Stage III of the contract was begun. This hole, DDH 16, was drilled vertically down from the top of the incline at an elevation of 7,032 feet, but core recovery, which was never better than fair, was completely nil from 35 to 45 feet, so the hole was abandoned. Hole 16-A was collared 6 inches north of hole 16, and with extreme care 75 percent core recovery was obtained. The hole encountered the footwall of the tactite zone at 57 feet and was bottomed at 59 feet (pl. 7). One additional drill hole was started from the surface, but only 22 feet was completed when drilling was discontinued on May 4, 1953.

On April 28, 1953, American Alloy Metals, Inc., subleased their holdings under the Fluorescent and Ivanhoe leases, plus 78 acres owned by them and originally patented as Reservoir Placer Mining Claim, Surveyor General's Lot No. 4596, and the buildings and other improvements situated thereon, to Minerals Engineering Company, a Colorado corporation. Under the terms of this sublease Minerals Engineering Company agreed to erect before April 1954 a 250-ton-per-day crushing and concentrating mill at Glen, Montana, and to complete before December 31, 1953, a tungsten refinery being built at Salt Lake City, Utah, by Salt Lake Tungsten Company in which they have an interest. They further agreed to develop the subleased property for mining at the rate of 125 tons per day; to reserve half the capacity of the Glen mill for ore from lands included in the sublease; to make all payments including the royalties due DMEA; and to perform all work necessary to keep the claims in good standing.

It was agreed that monthly rental to be paid by Minerals Engineering Company under terms of the lease was to be calculated by the formula:

$$\frac{R \times I}{I + L}$$

where R is the total proceeds from sale of the month's ore minus allowable costs, I is the complete investment by American Alloy Metals, Inc., and L is the investment by Minerals Engineering Company

in developing the property and bringing it into production. After American Alloy Metals, Inc., received as rental a sum equal to I, the rental thereafter was to be reduced to R/2.

Work under the first DMEA contract was begun in August 1951, and all work was ended on May 4, 1953. Total work completed under all contracts is tabulated as follows:

Work location	Footage
Granite Tunnel	229.0
Crosscut from adit level	175.0
Raise	130.0
Sublevel drift from raise	210.2
Diamond drilling	2,291.0

Work was recessed in November 1951 and not resumed until January 1952 because no preparations had been made for working during winter weather. The Amended Contract was terminated on November 19, 1953, by mutual consent before completion of project work. At the time of termination all crosscutting, raising, and drifting called for in the Amended Contract had been completed; but diamond drilling was incomplete, with 279 feet drilled out of a total of 810 feet authorized in the final Amended Contract. Minerals Engineering Company was satisfied with the results and felt that further exploration was not required. They proceeded immediately with the construction of a mill and the preparation of the deposit for mining.

Ore Reserves

An estimate of ore reserves as of June 1, 1954, made by Minerals Engineering Company, shows measured and indicated reserves totaling 642,812 tons averaging 0.351 percent WO_3, to which may be added 300,000 tons of indicated ore exposed by road work along the strike of the ore body. In this estimate no ore is included from lands north of Rock Creek, nor any ore from the Lost Copper claims east of the Ivanhoe.

There is also a small tonnage of high-grade ore in two upper beds on the Ivanhoe claim, estimated by Minerals Engineering Company to contain 16,500 tons of ore averaging 1.88 percent WO_3.

The above estimates are based on the following data:

1/ Section 900: Grade of American Alloy Metals sample, Trench No. 1, which averaged 0.59 percent WO_3 across the full thickness of the deposit.

Section 950: Average of adjusted truck samples of ore mined in the area - 0.502 percent WO_3.

Section 1000: Average of American Alloy Metals sample, Trench No. 3, adjusted April 1954 truck assays from the area, and April 1954 mill heads - 0.433 percent WO_3.

Section 1050: Average of February and March 1954 adjusted truck assays and mill heads on ore mined in the area - 0.392 percent WO_3.

Section 1100: Average of American Alloy Metals sample, Trench No. 2, weighted average of the upper 28.5 feet in vertical raise and mine samples from the area adjusted to mill heads - 0.405 percent WO_3.

Section 1150: Average of mill heads on ore mined from the area from May 25 to 31, 1954 - 0.330 percent WO_3.

Section 1300: No data in this area. Grade of the section was taken as the average of sections 1150 and 1450 - 0.30 percent WO_3.

Section 1450: Average of December 1953 truck samples of ore mined in the area adjusted to December calculated mill heads - 0.28 percent WO_3.

Section 1550: Average of American Alloy Metals sample, Trench No. 5 - 0.28 percent WO_3.

Section 1650: Weighted average of upper 61 feet in Minerals Engineering sample, Trench No. 6 - 0.255 percent WO_3.

1/ These are sections shown on Minerals Engineering Company ore reserve map (final report transmitted by Frank L. Eichelberger, November 8, 1954). Sections are oriented N. 45° E., approximately at right angles to the strike of the beds and are numbered from southeast to northwest. Section B-B' (pl. 6) accompanying this report is equivalent to M.E. Co. Section 1000. Section A-A' (pl. 5) of this report is equivalent to M.E. Co. Section 850, 150 feet to the southeast.

It will be noted from the values given above that grade of the ore increases with distance to the east. In the above tabulation the grade increases gradually between section 1650, the westernmost section, and section 900, the easternmost section.

In calculating ore reserves a specific gravity of 3.20, or 10 cubic feet per ton, was used. This was calculated by the milling department from pulp at the classifier overflow.

The following tabulation shows the ore reserves as estimated by Minerals Engineering Company by blocks, based on the average values given above. All of the material west of the 1650 section is considered marginal or subgrade and is not included in the estimates.

Measured ore

Section "A" Blocks	Tonnage	% WO_3	Units WO_3
900	39,187	0.590	23,120
950	20,500	0.502	10,291
1000	41,875	0.433	18,132
1050	24,125	0.392	9,457
1100	22,375	0.405	9,062
1150	36,500	0.330	12,045
1300	30,000	0.300	9,000
1450	41,250	0.280	11,550
1550	54,000	0.280	15,120
1650	46,875	0.255	11,953
Total	356,687	0.364 (Aver.)	129,730

Indicated ore

Section "B" Blocks			
900	38,625	0.590	22,789
1150	57,500	0.330	18,975
1300	79,875	0.300	23,962
1450	39,375	0.280	11,025
1550	40,750	0.280	11,410
1650	30,000	0.255	7,650
Total	286,125	0.335 (Aver.)	95,811

Summary

Measured ore	356,687	0.364	129,730
Indicated ore	286,125	0.335	95,811
Total	642,812	0.351 (Aver.)	225,541

Ore Reserve

The following tabulation shows the total measured and probable ore reserves, including the tonnage inferred from ore uncovered by road work, and the high-grade ore from the upper beds on the Ivanhoe claim:

	Tons	% WO_3	Units WO_3
Measured ore	356,687	0.364	129,730
Probable ore (as above)	286,125	0.335	95,811
(exposed in road work)	300,000	1/ 0.351	105,300
Ore from upper beds of Ivanhoe claim	16,500	1.880	31,050
Total	959,312	0.377 (Aver.)	361,891

Entrance of Dec'ber 1951

1/ Estimated at average grade of measured and other probable ore. This may be low because this ore lies east of the ore used in the other averages.

Exploitation of the Deposit

Success of the Browne's Lake property depended on (a) blocking out a sufficient tonnage to return the plant investment required to treat the low-grade ore expected, and (b) developing a metallurgical process to concentrate and refine the ore at reasonable cost. Because of the high powellite content there was some skepticism as to the feasibility of developing such a method.

At the conclusion of the DMEA project around 400,000 tons were reasonably assured. Subsequent development by Minerals Engineering Company has increased this to around 643,000 tons of measured and indicated ore in the main ore body. If ore in the upper beds on the Ivanhoe claim and tonnage inferred from ore exposed in road cuts is taken into consideration (somewhat questionable as its position is near the low-grade west end of the deposit) then reserves would total around 960,000 tons. Thus, the opinion of the original examining team, who in its examination report stated that there was a possibility of developing from 500,000 to 1,000,000 tons of ore, has been confirmed.

At a price of $63 per unit and a production rate of 350 tons per day cut-off grade was about 0.20 percent WO_3; this was dropped to about 0.15 percent WO_3 when the mill capacity was increased to more than 700 tons per day. If the Government buying program were terminated, probably only the higher grade eastern part of the deposit would be minable.

Construction of a mill began in the spring of 1953 and open-pit mining was begun on the Browne's Lake ore body on October 15, 1953. During the following November the first ore was milled at Glen, Montana. During the winter of 1953-54, poor recovery in the mill kept the operation from showing a profit. The trouble was finally traced to very hard well water, which inhibited the soap flotation. The mill water source was changed and by April 1954 the mill recovery was satisfactory, the operational losses had been recovered, and the operation became highly successful.

The flotation mill at Glen, Montana, produces two products, a low-grade concentrate averaging from 5 to 10 percent WO_3 and containing about two-thirds of the tungsten recovered, and a high-grade concentrate averaging approximately 65 percent WO_3. The low-grade concentrate is sold to the refining plant of Salt Lake Tungsten Refining Company at Salt Lake City, Utah, where it is made into "synthetic scheelite." Salt Lake Tungsten Refining Company is a company owned jointly by Minerals Engineering Company and Sylvania Electric Products, Inc. The high-grade concentrate, after treatment by Minerals Engineering Company in its own up-grading plant at Salt Lake City to remove phosphorous, copper, molybdenum, and sulfur, is sold to General Services Administration.

In October 1954 the GSA permitted the commingling of natural and synthetic scheelite which made it possible to raise the grade of the combined concentrate to well over any penalty point. This increased gross returns approximately $7 per unit.

The mill at Glen was originally designed to treat 250-300 tons per day; in 1955 the capacity was increased to 700-800 tons per day. Production continued at about this rate until the spring of 1956 when production ceased because the quota under the Government tungsten buying program had been reached. Waste stripping continued in the open pit in the hope that the buying program would be resumed.

According to information given by Minerals Engineering Company, production from the start of operation to the end of May 1956 was as follows:

Tons mined (dry)	472,348
Tons milled (dry)	471,400
Tons - ore in stockpile	948
Units of tungsten produced in low-grade concentrate	80,373
Units of tungsten produced in high-grade concentrate	63,584
Total units produced	143,957

Production was resumed in July 1956 with the resumption of the tungsten buying program and ceased about December 1956 when funds for this purpose were exhausted. Production during this period is not presently known.

Summary of Factual Data

The final audit of combined Contracts No. Idm-E105 and E127 by Robert M. Hull and of Contract No. Idm-E247 by B. J. Brekhus and Report of Review of the latter by C. A. Turner are the basis for the figures given below. Total units of work completed under the three contracts were presented on page 19 of this report. Total costs are the combined totals of all three contracts.

Unit costs of the various work items have not been calculated except those shown in audits of the contracts. Remarks by Brekhus in his audit of Contract No. Idm-E247, July 1953, and a memorandum from George C. Selfridge, Chief, Iron and Ferro-Alloy Division to the Administrator, DMEA, November 18, 1952, indicate the confusion in reporting costs. It is deemed impossible to distribute costs to the proper work items accurately so as to arrive at unit costs that would have any significance.

Item	Contract No. Idm-E	Units (feet)	Unit cost	Subtotals	Total cost
Agreed unit cost items					
Diamond drilling	105 & 127	1,930.0	$ 7.75	$14,957.50	
Reaming & cementing	105 & 127	410.75	3.50	1,437.61	
Diamond drilling	247	126.0	8.00	1,008.00	
Crosscut--adit level	247	175.0	37.20	6,510.00	
Slusher drift	247	100.0	33.80	3,380.00	
Slusher drift	247	110.2	33.20	3,658.64	$30,951.75
Labor and Supervision (including payroll taxes)					18,000.84*
Equipment					
Purchase	$ 5,756.20				
Rental & Depreciation	12,181.45		$17,937.65		
Less salvage			3,120.00		14,817.65
Rehabilitation, repairs, and new buildings					11,855.77
Materials and supplies					8,645.32
Miscellaneous					
Sampling and assaying	$ 1,724.99				
Other	3,682.08				5,407.07
					$89,678.40
Less allowance for oversize adit					540.00
Total approved cost					$89,138.40

Total amount of combined contracts	$122,197.80
Government's share at 75 percent	91,648.35
Total amount expended	$ 89,138.40
Government's participation	66,853.80
Total amount unexpended	$ 33,059.40
Government's share unexpended	24,794.55
Royalty received	$ 66,853.80

*Includes $1,828.49 charged to 235 feet of diamond drilling not included in agreed unit cost items. This amount of drilling was done under the actual cost phases of the contract.

High costs of enlarging and lengthening the Granite Tunnel and driving the raise therefrom, which were paid on the basis of actual costs incurred, were due to several factors. Access to the property was difficult, the ground was hard, and there was a large labor turnover. Errors of design added to the difficulty of performing the work and thereby added to the costs. As an example of design error, the raise was driven from a stub opening where no chute jaws were installed because it would have been impossible to get a car under the chute. The ore was dropped to the sill, then mucked into cars, adding appreciably to the cost of the operation.

Accounts were indifferently kept by the Operator. This caused confusion in auditing and added to the perplexity of administering the contracts.

At first, royalty payments were extremely difficult to collect. There were many misunderstandings about the basis on which royalty payments were to be calculated -- whether this was to be based on the value of the ore or of the concentrates, and what deductions would be allowable on the different classes of concentrates, each of which was processed differently and sold separately. By late 1954, $25,225.70 in royalties had been received, and payment was due on essentially the remainder of the $66,853.80 contributed by the Government. After lengthy correspondence and a trip to Grand Junction by T. E. Howard representing the Field Team, Minerals Engineering Company agreed to pay the balance due in monthly installments of $12,500 beginning on or before October 30, 1954, and making a final payment of $4,128.10 on or before January 30, 1955. This schedule was followed, and with receipt of a final check from Minerals Engineering Company received on January 21, 1955, the royalty account was closed.

	Equipment purchased	Accepted cost	
1	300-gal. water tank	$ 70.00	
1	Evanoil burner heater	55.00	
1	Servel gas refrigerator	70.25	
1	Disston chain saw	383.50	
1	Duotherm oil heater	84.95	
2	Atlas rock drills and legs	1,046.00	
1	Rotary grinder	190.90	
3	Rocker-dump mine cars	1,200.00	
1	Air receiver	158.40	
1	Eimco rocker shovel	2,287.20	
1	Raising feed for rock drill	210.00	
	Total equipment purchased		$ 5,756.20

	Other items included in salvage		
1	Single drum 5 HP hoist	$ 778.00	
1	Compressor-warehouse building	1,679.08	
1	Camp water system	1,707.25	
1	Mine water system	677.43	
1	Tramway	2,387.54	
	Camp furnishings	291.88	
	Total other items in salvage		$ 7,521.18
	Total accepted cost of items included in salvage		$13,277.38
	Amount of salvage		3,120.00
	Net cost to project		$10,157.38
	Government's equity in salvage - 75 percent		$ 2,340.00

Minerals engineering Company on behalf of the American Alloy Metals, Inc., made an offer by letter, dated June 8, 1954, to purchase the salvageable equipment and other items for $3,120. This offer was accepted by the Field Team, by letter of June 11, 1954, and $2,340 was paid to the Government for its equity in these items.

Discussion of Conclusions

The contracts were involved and difficult to administer, other than work performed on a unit cost basis.

American Alloy Metals, Inc., was a financially qualified Operator and furnished to the project two competent project managers, J. W. Melrose, who was in charge of exploration under the DMA contracts in effect until work was recessed in November 1951, and R. N. Roby, who was in charge during the remainder of the project.

Project work was incomplete in the matter of diamond drilling proposed in Stage III of Amended Contract No. Idm-E247 because Minerals Engineering Company, who had subleased the property and were mining ore, felt that sufficient exploration had been completed, and further diamond drilling would not provide information commensurate with the cost and time involved.

The Lost Copper No. 2 claim east of the Ivanhoe and the claims north of Rock Creek warrant further exploration, but it is believed that surface exploration and diamond drilling by the company will be provided in these areas.

The exploration of the Browne's Lake property has resulted in a highly profitable operation which repaid the Government's participating share of the exploration costs by January 1955.

Development of this single property was responsible for Montana's rise from a very minor producer of tungsten prior to 1954 to one of the leading tungsten producing states in 1955-56.

Enclosures
Distribution:
DMEA(4)
USBM(5)
USGS(SRO)
Docket
Myers

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
5/6	Nutterdog	100
		225
5/8	C	220

file: [illegible] 89-2292

MAY - 7 1957

Mr. Blair Burwell, President
Minerals Engineering Company — [Operator fund Amer. Metals]
P. O. Box 1951
Grand Junction, Colorado

Dear Mr. Burwell:

I have had an exchange of correspondence recently with Mr. George O. Argall, Jr., Editor of the Mining World, who desires to publish an article in the nature of a review of some significant achievements of the DMEA program. He expresses his thoughts as follows:

> "I am thinking that a series of five or six case histories might prove exceptionally interesting to the entire geological and mining world. The examples should be carefully selected, perhaps one from each of the major regions, to illustrate how good geologic mapping or careful company analysis of structures, or an interpretation of geology on a district basis and applied to one deposit, contributed to major ore discoveries.
>
> "The purpose of this article would be to indicate that the DMEA has been worthwhile, that properly directed exploration is warranted, and that opportunity for exploration continues."

Mr. Argall hoped that my staff, together with a key engineer and key geologist in each of the regions, would cooperate with him in writing the article.

I have explained to Mr. Argall that it would be contrary to our policy to disclose any information about individual participants in the DMEA program. We do, of course, disclose the identity of a contract recipient at the time the contract is executed. After a contract is executed we conceal the percentage of committed funds actually spent, the results of the work accomplished, and whether a certification of discovery or development was issued. Likewise, we do not reveal the identity of those who have been denied DMEA assistance or of the applicants generally. I know you will readily appreciate the wisdom of this policy.

I also told Mr. Argall that we of DMEA would like to see more articles of the type he has in mind, but that they must be initiated by the publishing medium and the individual operator working in cooperation with each other. He has expressed his willingness to proceed on that basis and appears anxious to get started as soon as possible.

One approach to the project would be to have Mr. Argall send out a fairly lengthy questionnaire to all of the 1013 operators who have received DMEA contracts, requesting certain specific information. The names, as you know, have already been made public through our regular press releases issued over the years. Such an approach would entail a long and tedious screening expedition with doubtful end results.

The general idea could be more effectively implemented if I furnished the Mining World with the names of several operators who have participated with DMEA in projects which I thought might provide interesting subject matter for case histories. In this connection it occurs to me that your project, DMEA-2292, Browns Lake Tungsten Deposit, might be of special interest to the mining industry, but, of course, I would not even suggest your name without your prior approval. If granted, then I would expect the editorial staff of Mining World to assume responsibility for working up the details of the story, in cooperation with you or your representatives. I should appreciate your early reactions to this idea, and if favorable I will do no more than mention your name to Mr. Argall as one whom he might contact. If you do not approve, your reply will be kept confidential in my personal files.

Incidentally, Mr. Argall indicates to me that he will keep the name of the operator and the identity of the property confidential, by referring to case "A" or case "B", if the operator so desires.

With kindest personal regards,

Sincerely yours,

C. O. Mittendorf

Administrator

COMittendorf/fw/bih
5/6/57

cc to: Mails & Files
Admr. Reading File
Administrator
Field Team, Reg. I N.W. (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 North Division Street
Spokane 2, Washington
February 23, 1956

RECEIVED
FEB 27 1956

Mr. Jay L. Chambers, Chief
Contract Administration and Audit Division
Defense Minerals Exploration Administration
Department of the Interior
Washington 25, D.C.

Re: Royalty receipts
American Alloys Metals, Inc.
Contracts Idm-E105, Idm-E127
and Idm-E247.

Dear Mr. Chambers:

It looks as though we were in error in crediting all of the royalty payments received to Idm-E247. While the Certificate of Discovery covers all three contracts, I think only Idm-E105 and Idm-E127 were actually combined. I have transferred $23,128.63 from the repayments previously credited to Idm-E247 to Idm-E127 to correct this error. This leaves a total of $43,725.17 in the repayment account of Idm-E247.

Yours very truly,

Myrtle Purdy

Myrtle Purdy
Authorized Certifying Officer
Region I, NW District

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

So. 157 Howard Street
Spokane 4, Washington

January 6, 1956

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

2292

Dear Mr. Selfridge:

Enclosed are semiannual reports on 46 certified projects prepared by engineers of the Bureau of Mines, for the period July 1, 1955 to December 31, 1955.

We thought we should also say that royalties are being received from several projects that have not yet been certified and which consequently are not included in the semiannual reports. In addition, the Brown's Lake project (Idm-E247, Docket DMEA-2292) has made complete repayment. The mine is producing at the rate of 800 tons a day and we understand is making a net profit on the order of $225,000 a month.

The total of royalties received in this region to December 31, 1955, is $240,442.79.

Sincerely yours,

A. E. Weissenborn

A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region I, NW Dist.

Enclosures 46 (in quad.)

cc: USBM (2)
USBM (AD)

RECEIVED
JAN 9 1956

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

FEB 25 1955

American Alloy Metals, Inc.
One Montgomery Street
San Francisco, California

Re: Docket No. DMA-1951X (Tungsten)
Ivanhoe Lode Mining Claim
Beaverhead County, Montana
Contract No. Idm-E127
and
Docket No. DMEA-2292 (Tungsten)
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Gentlemen:

Under contract Idm-E127, as amended by an agreement dated October 1, 1952, the Government allotted a total of $55,283.80 for exploration for tungsten and agreed to share 75 percent of the cost as approved and accepted by this Administration. The Contract Administration and Audit Division of this Administration in its final audit report of January 18, 1953, determined the total allowable cost of the project to be $30,838.17, and the Government's share at 75 percent participation to be $23,128.63.

Under amended contract Idm-E247 the Government allotted a total of $66,914.00 for exploration for tungsten and agreed to share 75 percent of the cost as approved and accepted by this Administration. The Contract Administration and Audit Division of this Administration in its final audit report of September 14, 1954, determined the total allowable cost of the project to be $58,300.23, and the Government's share at 75 percent participation to be $43,725.17.

If the exploration work resulted in a discovery, the Company was to pay to the Government a royalty at the rate of 5 percent over a period of 10 years from the dates of the contracts, or until the amount advanced by the Government was liquidated, whichever occurred first. The production from land under these contracts enabled the Company to repay the Government's total advance ($66,853.80) in a comparatively short time.

I wish to congratulate you for a successful exploration and also to thank you for the payment of your account under the contract. It has been a pleasure to participate in this very fine undertaking.

JLChambers/wb 2-24-55

Sincerely yours,

/s/ C. O. Mittendorf
Administrator

cc: Docket
Admr. Reading File
F.T. Region I NWD (2)
Administrator
Messrs. Kiilsgaard, Geehan,
Johnson, Martin, Chambers

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
December 9, 1954

Mr. Glen P. Wilson, Asst. Secy.
Minerals Engineering Company
P. O. Box 1951
Grand Junction, Colorado

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-8247

Dear Mr. Wilson:

This will acknowledge receipt of your November 24, 1954 letter concerning your claim for salvage credits on equipment used at the cited project.

In exploration project contracts the Government contributes its prorata share of the costs specified in the contract. In the case of salvageable equipment, materials, and supplies the amount that the Government contributes is reduced, at the close of the project, by the amount of its prorata share of the salvage proceeds, as then only the difference between the accepted cost of the equipment and the salvage proceeds becomes a cost of the project. Consequently, you are in error in believing that the Operator's indebtedness to the Government should be reduced by an additional $7,616.54; it has been reduced in the amount of $2,340.00, which is the Government's prorata share of the salvage proceeds.

If this is not clear to you, then please consult with Mr. Sullivan who discussed this matter in some detail with Mr. Tom Howard on October 4, 1954.

In the case of certified projects the Government does not "write off" anything, and the entire amount of the Government's contribution is subject to repayment under the terms of Article 9 of the contract.

By Field Team, Region II

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

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

cc: DMEA, Wash. (2)
USGS (2)
Certifying Officer
American Alloys, San Francisco

MINERALS ENGINEERING COMPANY
P. O. BOX 957
GRAND JUNCTION, COLORADO

November 24, 1954

Defense Minerals Exploration Administration
South 157 Howard Street
Spokane 4, Washington

Attention: Mr. A. E. Weissenborn
Director

Gentlemen:

On June 18, we submitted our check in the amount of $2340.00 as a payment for our bid on equipment which you had purchased under Docket No. DMEA 2292 Tungsten, American Alloy Metals, Inc. Contract No. DMI-E-247.

In reviewing the file on this transaction, I get the impression that the bid was placed in order that we might obtain some of the machinery at a salvage value and that your organization would gain in that you were selling machinery, part of which had been destroyed by a rock slide, and recovering a part of its value.

In a summary of the account presented by Mr. Tom Howard while in Grand Junction on October 4, the total loan is in the amount of $66,853.80, which includes a credit of $2,340.00, our payment.

Inasmuch as this payment of $2,340.00 represents the salvage recovered on equipment purchased and included in your initial payments to the operator, then it would seem to follow that credit for the full value of the equipment originally purchased should be reflected as a credit against the loan rather than just the amount that was paid.

If we pay the $2340.00, then pay the balance of the value of the machinery anyway, you will recover the full original value of the equipment rather than just salvage value; and we will not have gained in any way.

Taking the original value of the equipment you have written off as salvage at $13,275.38, then taking 75 per cent of this as your equity, the actual amount of the loan retirement should be $9,956.34. Of this amount, the loan has been reduced by the payment we made of $2340.00, leaving a balance by which the loan should still be reduced of $7,616.54.

RECEIVED
NOV 29 1954
U. S. G. S.
SPOKANE, WASH.

Please advise if this is not correct.

Yours very truly,

MINERALS ENGINEERING COMPANY

Glen P. Wilson

Glen P. Wilson
Assistant Secretary

GPW/hr

XXXXXXXXXXXXXXXXXXX
1201 N. Division Street
Spokane 2, Washington

December 8, 1954

Mrs. Myrtle Purdy, Certifying Officer
DMEA Field Team, Region II
1201 North Division Street
Spokane 2, Washington

Re: American Alloy Metals, Inc.
Docket No. DMEA 2292
Contract Idm-E247

Dear Mrs. Purdy:

All work under the subject contract has been completed to the satisfaction of the Government. A final report evaluating the results of the exploration program has been presented by the Operator and accepted by the Executive Officer.

The Operator offered to purchase the Government's equity in jointly-owned equipment for $2,340.00. This offer was accepted by the Executive Officer, DMEA Field Team, Region II, in a letter to the Operator dated June 11, 1954. Form A, "Disposal of Government's Interest in Property", dated June 23, 1954, has been issued.

A Certification of Discovery or Development covering this project was issued under date of November 17, 1954.

A final Report of Review dated September 14, 1954, has been received from DMEA Auditor, C. A. Turner.

As all contract requirements have been met, it is requested that final settlement of our account with the Operator be made.

Sincerely yours,

cc: DMEA (2)
USGS (2)

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

COPY

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

Log DD Hole No. 16
Coordinates 30,152.7 E., 9,817.2 N.
Alt. of Collar 7,032.2 ft.

Interval drilled	Material	Fluorescence	Interval Sampled	Percent WO_3
0 2.0	Fractured marble	None		
2.0- 2.3	Crumbly fine grained tactite	Good		
2.3- 4.5	Fine grained tactite	Good		
4.5- 7.3	Medium grained tactite	Good	2.0- 7.3	0.72
7.3 - 8.1	Fine grained crumbly tactite	Good		
8.1- 9.4	Fine grained crumbly tactite	Good	7.3-11.7	0.62
9.4-11.7	Fine to medium grained tactite	Good		
11.7-14.1	Fine grained greenish tactite considerable quartz	Good	11.7-14.1	0.11
14.1-15.2	Medium grained tactite	Med. to good		
15.2-17.0	Medium grained tactite	Med. to good		
17.0-18.2	Medium grained tactite	Med. to good	14.1-18.2	0.06
18.2-20.6	Fine grained glassy tactite considerable quartz	Medium (scattered coarse crystals)	18.2-20.6	0.12
20.6-22.1	Hornfels	Poor		
22.1-23.4	Fine grained tactite	Poor	20.6-23.3	0.03
23.4-24.5	Fine grained tactite	Medium	23.4-24.5	0.15
24.5-27.0	Hornfels	Poor	24.5-27.0	
27.0-32.0	Medium grained tactite	Fair	27.0-32.0	
32.0-36.2	Hornfels	N.G.	32.0-36.2	
36.2-40.1	Medium grained tactite	Fair	36.2-40.1	
40.1-44.2	Medium grained tactite	Good	40.1-44.2	
44.2-47.9	Hornfels and altered marble	Poor	44.2-47.9	
47.9-51.3	Fine grained tactite	Fair	47.9-51.3	
51.3-56.3	Crumbly, partly replaced marble	Good	51.3-56.3	
56.3-59.0	Marble footwall (?)	N. G.	56.3-59.0	

Bottom of hole at 59.0 ft.

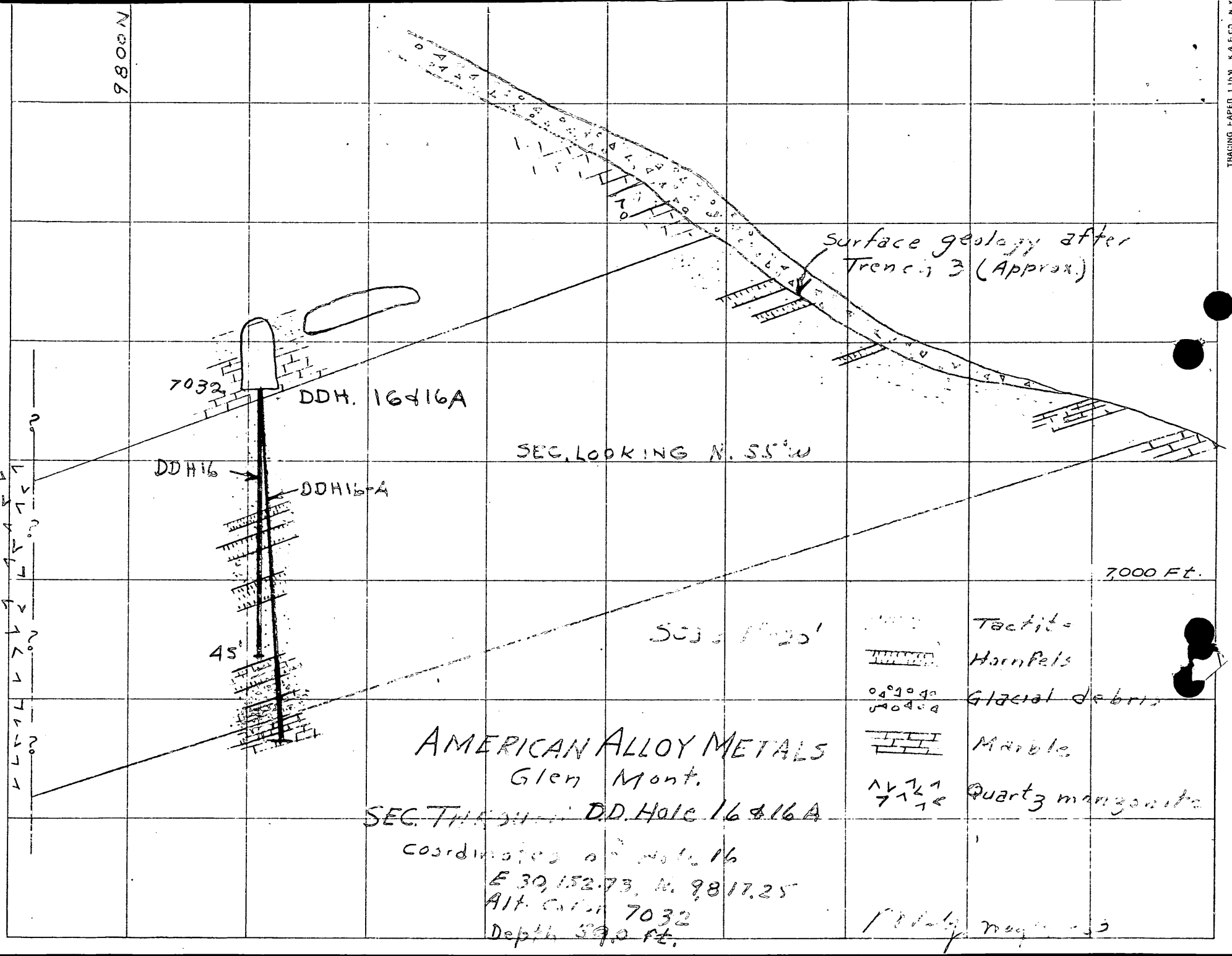
Hole 16 was drilled to 45.0 feet but no core was obtained between 35 and 45 ft. Hole 16-A was started six inches north of 16. Between 35 and 45 feet runs were shortened to 15 to 24 inches. Each run was dry blocked. Approximately 75 percent of the core was recovered from hole 16-A.

Log 39 Hole No. 16
Coordinates 39,152.7 E., 9,817.2 N.
Alt. of Collar 7,092.2 ft.

Interval drilled	Material	Fluorescence	Interval Sampled	Percent WO_3
0 2.0	Fractured marble	None		
2.0- 2.3	Crumbly fine grained tactite	Good		
2.3- 4.5	Fine grained tactite	Good		
4.5- 7.3	Medium grained tactite	Good	2.0- 7.3	0.72
7.3 - 8.1	Fine grained crumbly tactite	Good		
8.1- 9.4	Fine grained crumbly tactite	Good	7.3-11.7	0.62
9.4-11.7	Fine to medium grained tactite	Good		
11.7-14.1	Fine grained greenish tactite			
	considerable quartz	Good	11.7-14.1	0.11
14.1-15.2	Medium grained tactite	Med. to good		
15.2-17.0	Medium grained tactite	Med. to good		
17.0-18.2	Medium grained tactite	Med. to good	14.1-18.2	0.08
18.2-20.6	Fine grained glassy tactite	Medium (moderate coarse crystals)	18.2-20.6	0.12
	considerable quartz			
20.6-22.1	Scarcelite	Poor		
22.1-23.4	Fine grained tactite	Poor	20.6-23.3	0.03
23.4-24.3	Fine grained tactite	Medium	23.4-24.3	0.15
24.3-27.0	Scarcelite	Poor	24.3-27.0	
27.0-32.0	Medium grained tactite	Fair	27.0-32.0	
32.0-36.2	Scarcelite	N.G.	32.0-36.2	
36.2-40.1	Medium grained tactite	Fair	36.2-40.1	
40.1-44.2	Medium grained tactite	Good	40.1-44.2	
44.2-47.9	Scarcelite and altered marble	Poor	44.2-47.9	
47.9-51.3	Fine grained tactite	Fair	47.9-51.3	
51.3-56.3	Crumbly, partly replaced marble	Good	51.3-56.3	
56.3-59.0	Marble footwall (?)	N. G.	56.3-59.0	

Bottom of hole at 59.0 ft.

Hole 16 was drilled to 45.0 feet but no core was obtained between 35 and 45 ft. Hole 16-A was started six inches north of 16. Between 35 and 45 feet runs were shortened to 15 to 24 inches. Each run was dry blasted. Approximately 75 percent of the core was recovered from hole 16-A.


N 9800
Surface geology after Trench 3 (Approx.)
7032
DDH. 16&16A
SEC. LOOKING N. 55° W
DDH16
DDH16&A
7000 Ft.
45'
Tactite
Hornfels
Glacial debris
Marble
Quartz monzonite
AMERICAN ALLOY METALS
Glen Mont.
SEC. THROUGH D.D. Hole 16&16A
Coordinates of Hole 16
E 30,152.73, N. 9817.25
Alt. Collar 7032
Depth 59.0 ft.

FRANK EICHELBERGER & ASSOCIATES
CONSULTING ENGINEERS & GEOLOGISTS
401 SYMONS BUILDING • SPOKANE 4, WASHINGTON
MA. 2756

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 22 1954

November 8, 1954

REFER TO	ACTION	NOTED	DATE
al			
Jack			

Mr. A.E. Weissenborn
Executive Officer, DMEA
Field Team, Region II
U.S. Department of the Interior
S. 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

Attached hereto is a report on the Ivanhoe and Fluorescent Group of Claims, written by Mr. J.W. Melrose.

This covers the history, description, geology and location of the properties and the exploration work done to the end of 1951. Since this report was written, a great deal of work was done on the Ivanhoe Claim, consisting of continuing the granite adit until it struck the monzonite, a raise to the bottom of the tactite orebody and then a 400 foot raise cutting diagonally across the strike of the orebody. Also, a road was constructed across the width and along the strike of the orebody to permit quarrying and open pit mining to be carried on. This road work cut the orebody for over 1200 feet and increased the proved and probable ore very greatly.

Some diamond drilling was done to further prove up the orebody.

In April 1953, an agreement was made with the Minerals Engineering Company, whereby they were to continue the development work and build a road to the property, build a mill near Glen, Montana for the treatment of the ore and build a refinery for treating the low grade concentrates.

All this has been accomplished and the mill started late in November 1953, but the flotation and recovery of the scheelite and powellite was beset by many vicissitudes, and it was not until April 1st, that the recoveries of the values was satisfactory and the operational losses were all recovered and the operation became highly profitable.

The recovered values in the mill and refinery have exceeded the assays obtained by sampling. To date, the recovered saleable values have exceeded 0.42% WO_3.

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U. S. G. S.
SPOKANE, WASH.

AMERICAN ALLOY METALS, INC.

REPORT ON THE TUNGSTEN OCCURRENCES - BROWNS LAKE, MONTANA

INTRODUCTION

D. M. A. Loan 148 X Idm-E 105 on Fluorescent Mines Claims in the Browns Lake District was granted to American Alloy Metals, Inc., effective August 1, 1951. Fluorescent Mines Claims leased from R. C. McLaughlin cover tactite occurrences on the south and north sides of Rock Creek Valley for a distance of several miles above Browns Lake. There are 17 unpatented claims in this group in Sections 3 and 4, T 4 S, R 10 W, and Sections 32, 33 and 34, T 3 S, R 10 W.

Prior to examination on the ground the only map available was a combination geologic, topographic and claim map prepared by Walter E. Bauer, geologist of Salt Lake City. It was assumed this map was reasonably accurate in regard to claim lines, but upon examination in the field it was found to be in error between the Fox Claim of Fluorescent Mines and the adjoining Ivanhoe patented claim, thereby placing most of the exposed tactite body within the Ivanhoe Claim. On August 22, D. M. A. Loan 1951 X Idm-E 127 was granted to explore the Ivanhoe Claim in conjunction with exploration of Fluorescent Mines holdings.

LOCATION

The properties are located in Sections 3 and 4, T 4 S, R 10 W, and Sections 32, 33 and 34, T 3 S, R 10 W, Beaverhead County, Montana. The claims are in Rock Creek drainage, a tributary of the Big Hole River, eight miles west of Glen, Montana.

OWNERSHIP

The claims are under two ownerships; namely, the Fluorescent Mines, controlled by R. C. McLaughlin, Dillon, Montana, and under lease to American Alloy Metals, Inc., and the Ivanhoe Lode Mining Claim, patented and described as Lot 37, T 4 S, R 10 W, under lease and bond to purchase by American Alloy Metals, Inc. The Fluorescent Mines claims consist of the Fox and Lost Copper on the south side of Rock Creek Valley and the Lonesome, Lone Eagle, Mammoth, High Boy, Star Nos. 1, 2 and 3, Trail Nos. 1 and 2, Garnet, Black Beetle, Red Raspberry, Red Metal, Granite and Tin Horn, all unpatented.

PHYSICAL FEATURES

Rock Creek, situated in a glacial valley, drains a considerable area of the east-central portion of the Pioneer Range and flows abundantly the year around. It is interrupted in its course to the Big Hole River by Browns Lake, now owned by American Alloy Metals, Inc.

The former resort on the lake makes an ideal site for a mining camp, being only a mile from the principal tactite bodies.

The climate is typical of the west-central mountain area of Montana, Precipitation occurs largely as thunder showers in summer and snow flurries in winter. No deep snows are recorded and little effort would be required to keep the roads open.

Access to the area is by good county and forest road, eight miles from Glen, Montana, on the U. S. Highway No. 91 in the Big Hole Valley. The Butte-Sale Lake branch of the Union Pacific Railroad parallels the highway at this point.

The altitude at Glen is 5,000 feet and at Browns Lake, 6,500 feet.

Abundant fir, pine and spruce is available on the claims and a small sawmill capable of making mine timber is at Browns Lake.

GEOLOGY

The country rock along Rock Creek Valley is of both sedimentary and igneous origin. Exposed high on the flanks of the valley and forming the ridges is the Quadrant quartzite formation. Between the quartzite and the granitic rock in the lower portion of the valley is limestone. The limestone, containing reddish, shaly, and yellowish, sandy beds is the Amsden formation. These rocks on the south side of the valley, and as exposed on the Fox, Ivanhoe and Lost Copper Claims trend northwest-southeast and dip from 20° to 40° to the south. As shown in the drill holes the top of the underlying granite is relatively flat. The sediments on the north side of the valley also trend northwest-southeast. In places they are almost flat, but toward the east end of the exposures above Browns Lake dip to the northeast quite rapidly, giving the impression of an eastward plunging anticline. However, the limestone bodies on the south side are several hundred feet lower than the north exposures and are possibly roof pendants in the granite.

Very little faulting is to be noted. Occasionally minor faulting, accompanied by brecciation of the limestone is seen in some of the old underground workings. A good example may be seen in No. 1 working, where a displacement of one foot occurs.

Ancient landsliding is responsible for certain configurations of the landscape. Browns Lake has been formed by damming of Rock Creek Valley from landsliding. A landslide on the north side of the valley occurred in the vicinity of Star No. 2 Claim and brought large segments of sediments from an elevation of 8,500 feet down to about the 7,000-foot elevation. The Garnet Claim covers this down slump.

THE TACTITE

Numerous tactite bodies are exposed along the valley walls and vary in thickness from a foot to as much as 62 feet. The largest exposure explored to date is on the Ivanhoe Claim. Here it averages about 55 feet and may be followed along the cliffs for 1,200 feet. It is bounded on the west by granite, but the east and extension on the Lost Copper Claim is unknown, as it disappears under a cover of glacial debris.

The extent of the tactite bodies on the north side are for the most part unknown. Several pits and one underground working indicate they are extensive, but early snows on the higher elevations precluded stripping operations this year. A previously unknown body was uncovered on Star No. 3 during construction of the unfinished north side road. The largest visible deposit occurs on the east end of the High Boy Claim and the west end of the Mammoth Claim. Here it is 20 feet thick in a draw near the mouth of an old 80-foot tunnel driven on the hanging wall. Two old pits on the High Boy indicate it may have a thickness of 40 feet.

The term "tactite" here is used to include both garnet rock and hornfels.

In each occurrence of tactite both materials are found usually in alternating beds, but sometimes the hornfels occurs in pods or lenses. An occasional lens or pod of crystalline limestone remains in the tactite.

The predominate minerals are garnet and epidote, with lesser amounts of other contact metamorphic minerals. In addition to the scheelite, chalcopyrite, bornite, pyrite and pyrrhotite are found for the most part sparingly, but in places chalcopyrite and bornite occur in appreciable amounts near the hanging wall. There appears to be a relationship between the copper mineralization and higher WO_3 content. This has been found to be true on the Ivanhoe Claim. The old tunnel on the Mammoth was driven on copper mineralization and the tactite orebody lamps exceptionally well.

Favorable horizons in the Amsden formation were apparently responsible for the tactite bodies, but it will be noted from the drill hole logs these horizons may or may not be continuous over great distances and underground drilling in conjunction with mining should be in order. It is of interest that the hard, tough hornfels members usually carry but little WO_3, whereas the softer pulverulent members often contain large crystals of scheelite and assay higher.

Lower grade of ore was encountered in the west end of the Ivanhoe, although one assay of eight feet-nine inches in No. 5 Hole returned 0.50 WO_3. For the most part, the assays in Holes No. 1, 2 and 5 were 0.10 WO_3 or less. No. 1 Hole was 50 feet back from the outcrop; No. 2, 100 feet; and No. 5, 150 feet. No. 3, 250 feet back, and No. 4, 200 feet back, did not encounter tactite. Two channel samples were taken across the face of the outcrop on the west end and showed better values. An average of 55 feet went 0.19 WO_3.

Assays of surface croppings and underground workings of the large east tactite body showed it to contain o.50 WO_3 or better, so the drills were moved to this area as rapidly as possible to probe the tactite 150 feet down dip before cold weather set in. The race was lost and Holes No. 10 and 11 lacked about 10 feet on a projection of reaching the main tactite bed. Hole No. 10 passed through 16 feet of tactite, which crops on the surface above the main bed. This checks closely with a projection on its dip. The core assayed 0.59 WO_3. No. 11 Hole, which is 100 feet east of No. 10 and 7.5 feet lower in elevation did not penetrate the 16-foot bed. In its place was a quartz-epidote rock containing copper mineralization but no scheelite. However, this hole encountered two horizons of high-grade tactite. One was high stratigraphically and concealed on the surface. From 36-43 feet it assayed 1.45 WO_3. The other horizon was even better, with 2.21 WO_3. Although the main tactite horizon was not penetrated, these assays support the belief of higher WO_3 content to the east and with associated copper minerals.

All assaying was done by Union Assay Office, Salt Lake City, and it is interesting to observe how much lower their assays are than the Bureau of Mines. In sampling by the Bureau and U. S. G. S. last spring, Union was 0.13 lower on underground samples and 0.05 on surface.

Samples were taken underground at various workings. The 16-foot bed was sampled in four places in Nos. 1 and 2 workings, but the average was low. It was difficult to get much thickness, as little is exposed. The upper six feet of the main bed was sampled in No. 1 working and returned 0.57 WO_3. Eleven samples of the top of the main bed in No. 4 working, which is the largest area exposed underground, average 0.53 WO_3.

A 2,200-pound bulk sample was taken at the point on the outcrop channel sampled by the Government field team earlier in the year. The channel sample returned 0.50 WO_3 by U. S. Bureau of Mines assay and 0.45 WO_3 by Union Assay. The bulk sample was assayed by the U. S. Bureau of Mines at their Albany, Oregon station and the returns are as follows: 0.39 WO_3; .005 Au; .05 Ag; .037 Cu; .05 Mo; 0.1 Pb; and 1.4 $CaCO_3$.

CONCLUSION

The granting of loans for exploration of these properties was made about one month too late in the year for this type of country. The rough, rugged, precipitous terrain was too much to conquer for access in a short time. The road to drilling sites, which took a month to complete, was of no use, for the first holes and the rigs had to negotiate the mountain under their own power. For later drilling, it proved invaluable. Although we encountered considerable tactite down dip from the outcrop on the west end, only one eight-foot, nine-inch bed showed commercial ore. We cannot say the drilling was of no value; we now know our ore is on the east side of the claim and a possibility of it extending 1,000 feet from the granitic dike to the east end of the claim. Because of the Lake Agnes morains there is no way of telling what happens to the eastern extension, but small pits have exposed tactite on the Lost Copper Claim about 1,200 feet to the east.

On the north side the best area to date is believed to be on the Mammoth and High Bo. Claims, although with further work, additional large bodies may be found on the Star, Lone Eagle and Lonesome Claims.

In regard to tonnage on the east side orebody, we can compute to date more than the 750,000 tons estimated by the U. S. Geological Survey, which was based on an average thickness of 50 feet over a length of 1,000 feet and down dip 150 feet as exposed in No. 4 working. The bed is 60 feet thick, and now we can compute additional tonnage as shown by beds encountered in No. 10 and 11 Holes. In No. 11 the 16-foot bed is 120 feet down dip, and if continuous for 1,000 feet would give an additional 192,000 tons. In No. 10 the two seven-foot are an unknown quantity, as they were not found in No. 11. On a 35° dip, the upper seven-foot bed is 25 feet down the dip and the lower seven-foot bed 90 feet down dip. These beds are covered on the surface and their lateral extent is not known. A striking thing about these newly found upper beds is their high WO_3 content.

In any event, we can raise our estimate to 900,000 tons without considering the west orebody, but we must assume the grade will hold throughout.

It was unfortunate work could not have started on the Ivanhoe Claim first, but the owner would not sign a subordination agreement and it was not until August 22 that exploration could begin. By that time drilling was in progress on what we assumed was the Fox Claim to the west and by the time we were able to move to the east orebody, severe weather was setting in.

In light of experience gained from the project in 1951, it is recommended that before any exploration is planned for claims of Fluorescent Mines situated on the valleys north wall, detailed sampling and mapping be done. Numerous channel samples should be taken along the tactite croppings and in the old prospect workings. Eyeball assaying by use of the ultra-violet lamp should be discouraged.

Provided favorable results are obtained on the north side sampling, it is also recommended that personnel of the U. S. G. S. and U. S. B. M. be on the ground in an advisory capacity at the finish of the preliminary sampling and mapping to expedite the rewriting of Fluorescent Mines contract.

J. W. Melrose Dec. 12-1951

Mr. A.E. Weissenborn 11/8/54

Since that time milling has been conducted with the following results:

	Tons Milled	Assay of Heads	Assay of Tails	Units WO_3* Recovered	Net Profit
April	9,700	0.411	0.086	3567	$ 62,792
May	10,443	0.466	0.057	4773	116,257
June	10,522	0.400	0.053	4363	80,205
July	10,014	0.418	0.046	4953	115,220
August	11,575	0.413	0.037	4564	39,563
September	10,919	0.476	0.039	4375	87,644
	63,173			26595	$501,681

*based on gross returns from GSA divided by $63.

Average grade of 63,173, based on units actually recovered is 0.426% WO_3.

Note that in all cases the units of WO_3 recovered and sent to GSA are appreciably greater than indicated by the head assay minus the tail assay.

Profits to the American Alloy Metals, Inc. alone to September 30 (on accrual basis) have amounted to $205,000.16, during which time there has been repaid to the DMEA $37,725.70, on their loan of approximately $69,000, and the Ivanhoe claim has been purchased from the owners and title now reposes in American Alloy Metals, Inc. All this was from gross profits. An equal profit accrued to Minerals Engineering Company. From gross, $1.50 a ton is written off to amortize the cost of the mill at Glen, Montana.

The low net profits for August were due to the purchase of heavy stripping equipment and the stockpiling of an excess tonnage of ore at the mill. Likewise, in September profits were down because of the excessive amount of stripping which was done ahead of winter, which costs amounted to over $40,000.

In October the GSA permitted the co-mingling of the natural and synthetic scheelite which made it possible to raise the grade of the combined concentrate to well over any penalty point for phosphorous, copper, molybdenum and sulphur. This increases gross return approximately $7.00 per unit.

Mr. A.E. Weissenborn 11/8/54

It is expected that monthly profits beginning in October, will exceed $100,000 each month.

The stripping of the orebody and underground work have extended the orebody eastward off the east end line of the Ivanhoe Claim some 240 feet into the claim of the Lost Copper No. 2 of the Fluorescent Mining Company.

Attached is an ore reserve estimate prepared by Minerals Engineering Company showing the condition of the reserves as of June 1, 1954. This estimate shows proved and probable ore reserves totaling 642,812 tons, averaging 0.351% WO_3. To this may be added another 300,000 tons of possible ore, west of the main cut that has been exposed by the road work along the orebody.

It is to be noted that the grade of the ore treated to date has run significantly higher than the estimated grade of the reserves.

The average assay of 63,173 tons milled to September 30, gives actually recovered 0.426% WO_3, contrasting to the sampling assay of the estimated ore reserves 0.351% WO_3 -- a difference of .075% or 1.5 pounds per ton -- a gross value difference of $4.75 per ton or $3,000,000, in the proven tonnage alone.

No ore on the north side of the valley where the principal Fluorescent Mining Company's claims are located has been considered in the above estimate -- nor has any ore which is on the Lost Copper No. 2 Claim been considered.

Ore which is improving in grade to the east has been exposed on the Lost Copper No. 2 Claim since June 1, 1954, the date of the ore estimate. It is believed this ore will average better than 0.6% WO_3.

There is also a small tonnage of high grade ore in two upper beds on the Ivanhoe Claim. Ore from these two beds is shown on the last page of the Minerals Engineering Company's estimate but not included in the totals cited above.

Very truly yours,

Frank Eichelberger

Frank Eichelberger

FE/kvg
Enc.

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REPORT ON THE TUNGSTEN OCCURRENCES - BROWNS LAKE, MONTANA

AMERICAN ALLOY METALS, INC.

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SPOKANE, WASH.

Division of Mines
Bureau Mineral Administration
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CALCULATION OF ORE RESERVES

AS OF JUNE 1, 1954

IVANHOE MINE

Grade of ore reserves was based upon all available data. A description of the method used in calculating grade at individual blocks is as follows:

Section 900 - Grade of American Alloy Metals sample trench No. 1, which averaged 0.59 percent WO_3 across full thickness of deposit. Assay was by Union.

Section 950 - Average of adjusted truck samples of ore mined in area 0.502 percent WO_3.

Section 1000- Average of American Alloy Metals sample trench No. 3, adjusted April, 1954 truck assays from area, and April, 1954 mill heads. 0.433 percent WO_3.

Section 1050- Average of February and March, 1954 adjusted truck assays and mill heads on ore mined in area. 0.392 percent WO_3.

Section 1100- Average of American Alloy Metals sample trench No. 2, weighted average of the upper 28.5 feet in vertical raise and mine samples from area adjusted to mill heads. 0.405 percent WO_3.

Section 1150- Average of mill heads on ore mined from area from May 25 to 31, 1954. 0.330 percent WO_3.

Section 1300- No data in area. Grade of section was taken as average of section 1150 and 1450. 0.30 percent WO_3.

Section 1450- Average of December, 1953 truck samples of ore mined in area adjusted to December calculated mill heads. 0.28 percent WO_3.

Section 1550- Average of American Alloy Metals sample trench No. 5 assayed by Union. 0.28 percent WO_3.

Section 1650- Weighted average of upper 61 feet in Minerals Engineering sample trench No. 6. 0.255 percent WO_3.

In calculating ore reserves a specific gravity of 3.20 was used. This figure was calculated by the milling department on pulp at the classifier overflow. This specific gravity gives a figure of 10 cubic feet per ton of ore in place which was used in calculating reserves. The above specific gravity and resulting unit weight per ton being made on ore actually milled accounts for any waste, such as hornfels or limestone, that may be included in the ore.

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NOV 8 1954
U. S. G. S.
SPOKANE, WASH.

MINERALS ENGINEERING COMPANY
Montana Tungsten Division

Ivanhoe Mine

Proved Ore

Section "A" Blocks	Tonnage	Average Grade % WO_3	Units WO_3
900	39,187	0.590	23,120
950	20,500	0.502	10,291
1000	41,875	0.433	18,132
1050	24,125	0.392	9,457
1100	22,375	0.405	9,062
1150	36,500	0.330	12,045
1300	30,000	0.300	9,000
1450	41,250	0.280	11,550
1550	54,000	0.280	15,120
1650	46,875	0.255	11,953
Total	356,687		129,730

Average Grade 0.364 % WO_3

Probable Ore

Section "B" Blocks	Tonnage	Average Grade % WO_3	Units WO_3
900	38,625	0.590	22,789
950	No "B" Block		
1000	" " "		
1050	" " "		
1100	" " "		
1150	57,500	0.330	18,975
1300	79,875	0.300	23,962
1450	39,375	0.280	11,025
1550	40,750	0.280	11,410
1650	30,000	0.255	7,650
Total	286,125		95,811

Average Grade 0.335 % WO_3

Prospective Ore

Section "C" Blocks	Tonnage	Average Grade % WO_3	Units Tonnage x % WO_3
1050	5,500	2.21	12,155
1100	3,875	2.21	8,564
Sub Total	9,375		20,719
		Average Grade 2.21 % WO_3	

Section "D" Block	Tonnage	Average Grade % WO_3	Units Tonnage x % WO_3
1050	4,625	1.45	6,706
1100	2,500	1.45	3,625
Sub Total	7,125		10,331
		Average Grade 1.45 % WO_3	
TOTAL	16,500		31,050
		Average Grade 1.88 % WO_3	

Summary

	Tonnage	Average Grade % WO_3	Units
Proved Ore	356,687	0.364	129,730
Probable Ore	286,125	0.335	95,811
Sub Total	642,812	0.351	225,541
Prospective Ore	16,500	1.88	31,050
TOTAL	659,312	0.389	256,591

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
NOV 22 1954

November 18, 1954

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Browns Lake property (Ivanhoe)
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

Enclosed are the following documents which constitute the final report presented by Mr. Frank Eichelberger, vice president of American Alloy Metals, Inc.:

(1) letter dated November 8, 1954, from Mr. Eichelberger to the Executive Officer to supplement

(2) report by J. W. Melrose dated December 12, 1951;

(3) ore reserve estimate prepared by Minerals Engineering Company; and

(4) an ore reserve map prepared by Minerals Engineering Company.

We think you will find Mr. Eichelberger's report of much interest as it contains a considerable amount of data on the operation of a property which was explored with DMEA assistance and which has subsequently developed into a successful enterprise.

With the receipt of the Operator's final report all his obligations under the contract have been fulfilled with the exception of the payment of the remaining royalties.

The final Field Team report is in preparation.

By Field Team, Region II

A. E. Weissenborn

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

Wing G. Agnew

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

Enclosures
cc: USBM (2)
USBM(AD)
Myers

Operators transmittal ltr. & Final Report.

DOCKET
Surname:
Rutledge
Martin
Chamberlin
Newcomb
Gehon
Feldman
Hedges
Newcomb
Selfridge

400

NOV 18 1954

American Alloy Metals, Inc.
1 Montgomery Street
San Francisco, California

Re: Docket No. DMEA 2292 - Tungsten
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Gentlemen:

Transmitted herewith as a matter of record is a certification of discovery or development under contract No. Idm-E247 on the Brown's Lake deposit leased by the American Alloy Metals, Inc., and now being operated by the Minerals Engineering Company.

By the terms of the exploration project contract and of the certification, all production from the aforesaid lands from the date of the exploration project contract is subject to the Government's percentage royalty as set forth in the contract until the sum of $43,725.17 is paid or until January 12, 1963, whichever occurs first.

This $43,725.17 added to the $23,128.63 due under the certification of discovery or development issued April 28, 1952, under contract No. Idm-E127, dated August 24, 1951 (Docket No. DMA 1951X), and the agreement dated October 1, 1952, combining contracts Nos. Idm-E105 and Idm-E127 and terminating them, makes the total amount of the Government's participation under the three referenced contracts $66,853.80.

Payments should be made to Mr. A. E. Weissenborn, Executive Officer, DMEA Field Team, Region II, South 157 Howard Street, Spokane 4, Washington. Checks should be payable to the Defense Minerals Exploration Administration.

R.C.S.

The present operator of the Brown's Lake tungsten deposit, the Minerals Engineering Company, by letter dated October 4, 1954, proposed a method of payment by which the total amount of the DMEA loan, $66,853.80, would be repaid on or before January 30, 1955. On October 19, 1954, the Administration acknowledged the payment of $25,225.70 by Minerals Engineering Company toward that due as royalty under contracts Nos. Idm-E105, Idm-E127, and Idm-E247 and accepted that company's offer to pay the remainder as follows: $12,500.00 on or before October 30, 1954; $12,500.00 on or before November 30, 1954; $12,500.00 on or before December 30, 1954; and $4,128.10 on or before January 30, 1955. Such acceptance, however, was made without releasing the Minerals Engineering Company of its obligation under the referenced contracts to furnish complete metallurgical and related data on the corresponding production from the lands set forth in the contract.

Sincerely yours,

C. O. Mittendorf

Administrator

Enclosure

cc: DOCKET
CODE 400
CODE 800-Mr.Chambers
CODE 110-Mr. Johnson
THOR KIILSGAARD, USGS

cc: FIELD TEAM, REG. II
ADMIN. READ. FILE
OPERATING COMMITTEE
J. H. HEDGES, USBM
R. W. GEEHAN, USBM

MINERALS ENGR. CO., 801 4th Ave., Grand Junction, Colo.

FARutledge/ls
11-1-54

DOCKET
SURNAME

400 Rutledge
Martin
Chambers
Newcomb
Geehan
Johnson
Hedges
Selfridge

NOV 1 8 1954

Mr. Irving Gumbel, Acting Director
Materials Division
Emergency Procurement Service
General Services Administration
Washington 25, D. C.

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Gumbel:

Enclosed is a copy of a certification of discovery or development for the above-noted project.

As soon as we receive the field team's report and the operator's final report, we shall supply you with a summary of the results obtained under the referenced contract.

Sincerely yours,

C. O. Mittendorf

Administrator

FARutledge:foc
10-29-54

Enclosure

cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
J. H. Hedges, USBM
R. W. Geehan, USBM
Thor H. Kiilsgaard, USGS
Code 800 - Mr. Chambers
Code 110 - Mr. Johnson

R.C.J.

DOCKET
SURNAME

400 Rutledge
Martin
Newcomb
Geehan
H. Johnson
Hedges
Selfridge

NOV 1 8 1954

Minerals Engineering Company
801 4th Avenue
Grand Junction, Colorado

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Ida-8247

Gentlemen:

Transmitted herewith for your information is a copy of the certification of discovery or development issued as a result of the exploration program under the above-referenced contract.

Also enclosed is a copy of our letter to American Alloy Metals, Inc.

Sincerely yours,

C. O. Mittendorf (for)

Administrator

Enclosures

FARutledge:foc
10-29-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
J. H. Hedges, USBM
R. W. Geehan, USBM
Thor H. Kiilsgaard, USGS
Code 800 - Mr. Chambers
Code 110 - Mr. Johnson

R.C.A.

DOCKET
Surname:
Rutledge
Martin
Chambers
Newcomb
Geehan
Johnson
Hedges
Selfridge

NOV 18 1954

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

Re: Docket No. DMEA 2292-Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

Enclosed are copies of a certification of discovery or development on the above-noted property and of related correspondence.

Sincerely yours,

George C. Selfridge By ESS

Chairman, Operating Committee

Enclosures

APPROVED:

J. H. Hedges By ESS

Member, Bureau of Mines

E. L. Newcomb By ESS

Member, Geological Survey

cc: Docket
Code 400 - Mr. Martin
Code 800 - Mr. Chambers
Code 110 - Mr. Johnson
Adm. Read. File
Oper. Committee
Thor Kiilsgaard, USGS
J. H. Hedges, USBM
R. W. Geehan, USBM
FT, Region 2

FARutledge/ls 11/1/54

R.C.

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

November 1, 1954

Mrs. Myrtle Purdy, Certifying Officer
DMEA Field Team, Region II
1201 North Division Street
Spokane 2, Washington

WSM

Re: Docket No. DMEA-2292
American Alloy Metals, Inc.
Contract Idm-5247

Dear Mrs. Purdy:

Attached is Check No. A 6277 received from Minerals Engineering Company dated October 26, 1954, in the amount of $12,500.00. This represents DMEA royalty due for the month of October 1954. This is in accordance with their letter of October 4, 1954.

Sincerely yours,

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

Attachment

cc: American Alloy Metals
One Montgomery Street
San Francisco, California

Minerals Engineering Co.
Grand Junction, Colorado

DMEA w/encl. ✓

Royalty

Received attachments _____
date

Myrtle Purdy

MINERALS ENGINEERING COMPANY
P. O. BOX 957
GRAND JUNCTION, COLORADO

October 28, 1954

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 5 1954

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

Re: Docket No. DMEA-2292
Contract Idm-E247
American Alloy Metals, Inc.

Dear Mr. Weissenborn:

We are transmitting herewith our October 30 payment in the amount of $12,500.00 in accordance with your letter of October 19 to Mr. Blair Burwell.

Yours very truly,

MINERALS ENGINEERING COMPANY

F R Ellsbury

F. R. Ellsbury
Assistant Treasurer

FRE/lr
Encl.

RECEIVED
NOV 1 1954
U. S. D. S.
SPOKANE, WASH.

DOCKET SURNAME
Rutledge
Martin
Chamberlin
Newcomb
Gechan

100

October 29, 1954

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division

Subject: Review of contract upon completion of project
Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-K247

Operator: American Alloy Metals, Inc.
One Montgomery Street
San Francisco, California

Estey A. Julian, President
Frank Eichelberger, Vice President

Operator's property rights:

Ivanhoe lode mining claim

However, by an agreement dated October 1, 1952, contracts Nos. Idm-K105 and Idm-K127 were combined, certified, and terminated in favor of contract No. Idm-K247. By the terms of the referenced agreement, the certification was applied to all three contracts and the production from the lands set forth in these contracts was subject to the Government's percentage royalty until the funds contributed by the Government were repaid. A listing of the claims covered by each contract follow:

Idm-K105 & Idm-K127 Claim	Filing No.	Idm-K247 Claim
Star No. 1	66802	
Star No. 2	66803	
Star No. 3	66804	
Black Bottle	66014	
Lost Copper	65924	
Tin Horn	65986	
Lone Eagle	66012	
Granite	65988	
Red Raspberry	66015	
Red Metal	65987	
Trail No. 1	66011	
High Boy	65989	

R.C.G.

Idm-E105 & Idm-E127 Claim	Filing No.	Idm-E247 Claim
Lonesome	66013	
Mammoth	65990	
Garnet	65974	
Fox	65923	Ivanhoe

Contract No. Idm-E247: Dated January 29, 1952

(a) Work authorized:

Stage I

Rehabilitate four small cabins	$ 400.00
Rehabilitate old wagon road	3,087.00
Construct combination compressor and warehouse building	1,000.00
Provide water system at Brown's Lake camp	1,200.00
Enlarge present 90-foot adit to 6-by 8-feet)	
Lay 800 feet of pipe for water system at mine)	
Extend adit approximately 160 feet)	
Raise approximately 100 feet)	26,139.00
	$31,826.00

Stage II

Drive two intermediate drifts, 200 feet each	$12,258.80

Stage III

Prepare four diamond drill sites Drill nine diamond drill holes not to exceed 1,200 feet in aggregate length	$12,499.20

Total cost of project $56,584.00
Government participation @ 75%. $42,438.00

(b) Amendment No. 1, dated March 20, 1952, added an inclined tramway to Stage I, Stages II and III were deleted and a new revised Stage II authorized by Amendment No. 5, dated November 24, 1952, as follows:

190 feet of diamond drilling @ $7.00/ft.
175 feet of drifting on adit level @ $37.20/ft.
100 feet of intermediate drifting @ $33.80/ft.

Total cost of revised Stage II. $13,789.00

The expenditures under Stage I totaled approximately $42,795.00. Original estimate was $31,826.00.

(c) A new amended contract was signed January 12, 1953, that contained Stage I, the revised Stage II, and additional work under a Stage III as follows:

115 feet slusher drift @ $33.20/ft.	$3,818.00
750 feet of diamond drilling @ $8.00/ft.	6,000.00
128 tungsten analyses @ $4.00 each	512.00
	$10,330.00
Total of amended contract	$66,914.00

(d) Work completed:

Drifting	176 feet
Crosscutting	229 feet
Raising	130 feet
Incline	209 feet
Diamond drilling	235 feet

(e)

Total cost of project	$61,420.23
Salvage	3,120.00
Accepted cost	$58,300.23
Government's share @ 75 percent	$43,725.17

Comments:

Final reports have not been received from the Operator and the Field Team. However, the royalty due from the production to date should repay the Government's share of the accepted costs under all three contracts. Total gross value of the production through August 1954 was reported as $1,624,201.95.

The Government's total contribution under all three contracts was $66,853.80.

Minerals Engineering Company, now operating the property, has repaid the Government $25,225.70. In addition, this company has agreed to pay the remainder as follows: $12,500.00 on or before October 30, 1954; $12,500.00 on or before November 30, 1954; $12,500.00 on or before December 30, 1954; and $4,128.10 on or before January 30, 1955. This offer has been accepted by the Government.

A supplemental certification is attached. A certificate of discovery or development dated April 28, 1952, applied to the subject contract as well as contracts Nos. Idm-E105 and Idm-E127 as set forth in the "Agreement Combining Two Exploration Project Contracts and Terminating Them", between the United States of America and American Alloy Metals, Inc., dated October 1, 1952.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

Enclosure

FARutledge:foc
10-29-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.

XXXXXXXXXXXXXXXXXX
So. 157 Howard Street
Spokane 4, Washington

Division of the
Defense Minerals Administration
RECEIVED
NOV 8 - 1954

October 27, 1954

Mr. Blair Burwell, President
Minerals Engineering Company
P. O. Box 1951
Grand Junction, Colorado

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-2247 (Terminated)

Dear Mr. Burwell:

Your letter of October 4, 1954, proposing a method of repayment by Minerals Engineering Company of American Alloys' indebtedness to the Government under Contracts Idm-2246 and Idm-2127 was referred to our Washington office. We have received the following reply:

> "This Administration acknowledges the payment of $25,225.70 by Minerals Engineering Company toward that due as royalty under the above-referenced contracts and accepts that Company's offer to pay the remainder as follows: $12,500.00 on or before October 30, 1954; $12,500.00 on or before November 30, 1954; $12,500.00 on or before December 30, 1954; and $4,128.10 on or before January 30, 1955. Such acceptance, however, is made without releasing the Minerals Engineering Company of its obligation under the referenced contracts to furnish complete metallurgical and related data on the corresponding production from the lands set forth in the contracts."

In accordance with the above, we would appreciate receiving from you a statement of the metallurgical results from the operations of the Glen mill.

By Field Team, Region II

W. E. Weissenborn, Executive Officer
U. S. Geological Survey

cc: American Alloy Metals
1 Montgomery Street
San Francisco, California

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

; DMEA (2); USBM (2); USBM (AD)

Docket

XXXXXXXXXXXXXXXXXX
1201 N. Division Street
Spokane 2, Washington

October 19, 1954

Mr. Blair Burwell, President
Minerals Engineering Company
P. O. Box 957
Grand Junction, Colorado

Re: Docket No. DMEA-2292
Contract Idm-E247
American Alloy Metals, Inc.

Dear Mr. Burwell:

Referring to your letter to Mr. Howard of October 4, 1954 which lists royalty payments made to DMEA under contract Idm-E247, the following tabulation shows receipts to date according to our records:

Checks covering period Oct. 15, 1953 to January 31, 1954	$1,927.69
February and March 1954	5,660.81
Additional payment covering period prior to July 31, 1954, received by us 9/16/54	137.00
Check received September 16, 1954	5,000.00
Check received October 11, 1954	5,000.00
Check received October 11, 1954	7,500.00
Total royalty payments received to date	$25,225.70

Your letter shows payments totaling $25,088.72. If you will add to your total the check for $137.00 received by us Sept. 16, 1954, and deduct $0.02, our records will be in agreement.

Your settlement sheet shows royalties due for February 1954 under contract Idm-E247 of $1,907.27 and for March 1954, $3,753.56-- a total of $5,660.83. The amount of the check received by us was $5,660.81. This probably accounts for the $0.02 difference in our figures.

We note you plan to liquidate the indebtedness of the DMEA loan by payments. The following schedule would complete these payments by January 30, 1955.

Balance paid as of Oct. 19, 1954	$25,225.70
Payments:	
October 30, 1954	12,500.00
November 30, 1954	12,500.00
December 30, 1954	12,500.00
January 30, 1955 - balance	4,128.10
Total subject to royalty payments	$66,853.80

W. S. Martin

By Field Team, Region II

cc: DMEA (2)
USGS (2)

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

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

DOCKET
Surname:
Rutledge
Martin
Chandler
Hoffmann
Johnson
Mitchell

OCT 19 1954

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

INTERIOR DEPT.
OCT 14 1954
SOLICITOR

Re: Docket No. DMEA 2292-Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

This will acknowledge your letter of October 8, 1954, and other recent correspondence concerning Minerals Engineering Company's proposal for payment of its indebtedness to the Government under the subject contract and Contracts Nos. Idm-E105 and Idm-E127.

This Administration acknowledges the payment of $25,225.70 by Minerals Engineering Company toward that due as royalty under the above-referenced contracts and accepts that Company's offer to pay the remainder as follows: $12,500.00 on or before October 30, 1954; $12,500.00 on or before November 30, 1954; $12,500.00 on or before December 30, 1954; and $4,128.10 on or before January 30, 1955. Such acceptance, however, is made without releasing the Minerals Engineering Company of its obligation under the referenced contracts to furnish complete metallurgical and related data on the corresponding production from the lands set forth in the contracts.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JHB)

Approved:

J. H. Hedges

Member, Bureau of Mines (JHB)

Thor H. Kiilsgaard

Member, Geological Survey (JHB)

cc: DOCKET
FT, REG. II
CODE 400
OPER. COMM.
ADM. READING FILE
R. W. GEEHAN, USBM
THOR KIILSGAARD, USGS
CODE 800-Mr. Chambers

FARutledge/ls
10-14-54

R.L.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

October 13, 1954

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

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Browns Lake Deposit
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

Reference is made to your letter of October 5, 1954. Also please refer to our letter of October 8, 1954, enclosing an agreement, dated October 4 and signed by Mr. Burwell, to repay the Government at the rate of $12,500 a month, until the obligation under the contract is cleaned up, which will be in four monthly payments.

We realize that this procedure is somewhat irregular and we agree with you that we would prefer to have the royalty collected from Minerals Engineering Company just as it is collected from any other financially solvent operator under our program, as suggested in your letter of October 5, 1954. In fact, the Field Team has made rather strenuous efforts to have this done, not all of which appear in the written record. In addition to a rather lengthy correspondence on the subject, extending over a period of a number of months, the Executive Officer made a trip to the property last December shortly after production began. Mr. Burwell, Sr., was ill at the time but following our inspection of the property the matter of royalties was discussed thoroughly in the Hotel Finlen at Butte with Mr. Ray Sullivan and Mr. Blair Burwell, Jr., of the Minerals Engineering Company and Mr. Frank Eichelberger of American Alloy Metals. In addition, the Executive Officer made two other trips to the property in the spring and in August of this year he again discussed the whole matter with Mr. Burwell, Sr., in Salt Lake City, and he obtained a verbal promise that the royalties would be paid. Following receipt of a wholly unsatisfactory payment the matter was discussed verbally with Frank Eichelberger of American Alloy Metals. Heavy pressure was put on Minerals Engineering by American Alloy Metals to get payment, not only of Government royalties,

but of payments due American Alloy Metals which apparently also were delinquent. Following this, Minerals Engineering offered to repay the Government at the rate of $5,000 per month. Before committing ourselves we deemed it prudent to investigate further and accordingly in late September, Mr. Tom Howard, who was in Salt Lake on other audit business, visited the Salt Lake City tungsten plant and then went to Grand Junction. ~~with the DMEA auditor to inspect the Minerals Engineering Company records.~~ The upshot of these negotiations is an agreement signed by Burwell by which the whole obligation will be repaid shortly after the first of the year, which was forwarded with our October 8 letter.

We have no intention of defending the actions of Minerals Engineering Company in this matter because it is obvious that the Field Team should not have had to spend the time it did in arranging for the royalty payments; nevertheless, the following facts have to be considered whether or not we like it.

The first of these is that, although the contract is clear enough on the matter of repayment of royalties, there is something to Burwell's argument that because of the special conditions involved in the sale of the Browns Lake concentrates, the provisions of the contract are in some degree discriminatory. This is because although the refining of the crude concentrate is essential before the product can be sold and involves a very real cost, because of what might be considered a technicality, these costs are not deductible even though the refining is done by a different company. This, in effect, increases the percentage royalty paid the Government, and in the case of the new enterprise could place a considerable burden on the operation.

The second fact to be borne in mind is that Minerals Engineering has been under very heavy expenses in getting into production and is just now getting into the black. There was a great deal of money also spent at Lost Creek--some of it foolishly perhaps--which was not covered in the DMEA contract. The company thus has been in a difficult financial situation. All this is of course no direct concern of ours and in no sense relieves Minerals Engineering of any responsibility they may have under the contract, but it does explain their stalling tactics with respect to the payment of royalty. As a matter of fact we have reason to believe that this is not the only obligation in connection with the Browns Lake work that Minerals Engineering has been slow in meeting.

The third fact that has to be considered is that after Mr. Howard's conference at Grand Junction with the Minerals Engineering people, the Field Team is pretty well convinced that $12,500 a month is just about the maximum that Minerals Engineering will be willing to pay. Should Burwell refuse to pay any more than this, any action for faster payments would have to be taken through American Alloy Metals who, in the final analysis, has the responsibility of seeing that the Government is repaid for funds advanced under the DMEA contract at Browns Lake. Since American Alloy Metals would probably be in no position to repay until they had collected from Minerals Engineering, we would be right back where we started. In view of the above, although we realize that the proposal made by Burwell may not be completely satisfactory, we do not know of any other that would result in any faster settlement of the account. In any event, we also believe that it is wise to accept the proffered $12,500 a month while this matter is under discussion.

With regard to the last statement in your letter that obtaining the usual milling data will help to evaluate the results of exploration under Contract Idm-E300, the Lost Creek project, this information is already available in the cost sheets which we have obtained from Minerals Engineering Company. It is true that the ore from the Lost Creek project was commingled with the Browns Lake ore; however, no ore has been produced from the Lost Creek project since the first few months of mill operation.

By Field Team, Region II

A. E. Weissenborn

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

Thomas E Howard

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

cc: USBM (2)
USBM (AD)

REFER TO	ACTION	NOTED	DATE
al			
Jack			
USGS			
DMEA			
ANSWERED			

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 29 1954

October 12, 1954

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

DMEA

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals
Browns Lake deposit
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

Your letter of October 8, enclosing copy of Mr. Burwell's letter of October 4, offering to pay royalties at rate of $12,500 per month, and copies of your letters of October 8, transmitting to Mrs. Purdy payments received from Minerals Engineering Company, are received.

We appreciate your keeping us informed in this manner, and trust the arrangement now proposed by Minerals will be acceptable to your Washington office thus retiring the account early next year.

Sincerely yours,

AMERICAN ALLOY METALS, INC.

WAS/m

By
Willis A. Swan, Treasurer

cc Minerals Engineering Company

RECEIVED
air mail
OCT 13 1954
U. S. G. S.
SPOKANE, WASH.

xxxxxxxxxxxxxxxxxx
So. 157 Howard Street
Spokane 4, Washington

October 8, 1954

Mr. Willis A. Swan, Treasurer
American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals
Brown's Lake deposit
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Swan:

For your information I am enclosing a copy of a letter from Mr. Burwell in which he has offered to pay royalties in the amount of $12,500 a month until the obligation to the DMEA has been repaid. We are forwarding this letter to our Washington office and will advise you of their reaction to Mr. Burwell's proposal.

Copies of our acknowledgment of various payments made by Minerals Engineering within the last week or so have already been sent to you.

Sincerely yours,

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

cc: Minerals Engineering
Grand Junction, Colorado

DMEA (2)
USBM (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
October 8, 1954

OCT 12 1954

VIA AIR MAIL

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

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Brown's Lake Deposit
Beaverhead County, Montana
Contracts Idm-E247, E105, E127

Dear Mr. Selfridge:

Reference is made to our letter of September 17, 1954, commenting on a proposal made by Mr. Blair Burwell, Minerals Engineering Company, to repay the Government contribution in connection with the subject contracts in "twelve equal payments."

Mr. Thomas E. Howard, Bureau of Mines engineer, had occasion to be in Salt Lake City last week in connection with audits of two of our other contracts and went to Grand Junction at that time to discuss the proposal with Minerals Engineering officials. He was given a copy of their monthly operating statement for August 1954, a photostat of which is enclosed for your information. Mr. Burwell has asked that the information given thereon be held confidential by DMEA.

to code 400

A review of this statement will show that by a strict interpretation of the regulations regarding royalty repayment, the entire obligation should have been paid back by the end of August as gross receipts to date at that time were $1,374,812.25. This fact was called to Mr. Burwell's attention during the discussion but he pointed out, not without some justification, that it appeared to him that the rules were discriminatory in that they did not take into consideration the cost of transportation to the Salt Lake refineries and the cost of refining there. If Minerals Engineering sold the concentrate to the low-grade refinery, which is owned by a separate corporation, these costs would be deductible, but as Minerals retains title to the tungsten in the concentrate, which is treated on a toll basis, and sells the refined product to G.S.A. they cannot be considered in determining gross proceeds.

Mr. Burwell stated further that, in any event, because of heavy capital outlay for the mill and refinery the operation is just beginning to get on a firm basis and they cannot afford to pay off the entire obligation at the present time. He did agree, however, to make repayment on a considerably faster schedule than originally proposed. To date we have received $25,225.70.

Mr. Burwell has signed a statement agreeing to pay the remainder in four payments, $12,500 to be paid on October 30, 1954, $12,500 on November 30, $12,500 on December 30, and the balance on or before January 30, 1955, unless they are notified that this method cannot be accepted.

The Field Team recommends that this new proposal be accepted because we believe it is the maximum that Minerals Engineering will agree to, and as the contract was with American Alloys we doubt that they could be forced to do any better. Since American Alloys have the primary responsibility, legal action would have to be taken against them and it is doubtful that such action would result in repayment sooner than as proposed by Mr. Burwell.

We are enclosing for your files a copy of the statement signed by Mr. Burwell. You will note that the figures shown do not agree with those given above. In determining the royalties paid to date they neglected to include a check for $137.00 which we received during the first part of September, and the last payment will be reduced by that amount. We will inform them of this correction next week.

By Field Team, Region II

A. E. Weissenborn

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

Thomas E. Howard

Thomas E. Howard
For: Wing G. Agnew, Member
U. S. Bureau of Mines

Enclosures (2)

cc: USGS (2)

Summary

MINERALS ENGINEERING COMPANY

TUNGSTEN MILL AND MINES
GLEN, MONTANA
REFINERY
SALT LAKE CITY

ENGINEERING AND PRODUCTION OF MINERALS AND METALS
URANIUM DRILLING AND ELECTRONICS

TELEPHONE 420 801 4TH AVENUE P. O. Box 957
Grand Junction, Colorado

REFER TO	ACTION	NOTED	DATE
DMEA	a		
American Alloys			
ANSWERED			

October 4, 1954

Mr. Tom Howard
U. S. Dept. of Interior
Defense Minerals Exploration Administration
Spokane 4, Washington

Dear Mr. Howard:

In line with our discussion today, Mr. Burwell, Mr. Sullivan, Mr. Howard and Mr. Walt, it is our understanding that the total D. M. E. A. loan payable for American Alloys Docket #D. M. E. A. 2292, Tungsten Contract IDM-E-247 was $66,853.80. Through September 30, we have paid D. M. E. A. $17,588.72. We are today writing a check to D. M. E. A. for $7500.00, making a total paid of $25,088.72.

This leaves a balance of $41,765.08, and on or before October 30, Minerals Engineering agrees to pay $12,500.00, the same on or before November 30th, and the same on or before December 30th, which will leave a balance of $4265.08 to be paid on or before January 30, 1955, which will retire the D. M. E. A. loan in full.

We understand Mr. Tom Howard cannot approve this proposed method of payment as final, however, in view of the circumstances, the above proposed method of settlement appears to be reasonable to those who discussed it today, and unless we hear further, Minerals Engineering will plan to liquidate the indebtedness of the D. M. E. A. loan in this manner.

Yours very truly,

MINERALS ENGINEERING COMPANY

Tom Howard
Tom Howard
D. M. E. A.

Blair Burwell
Blair Burwell, President
Minerals Engineering Company

CAW:BB:miw

We're Building a Company - - -
ME Co.
- - - and We're In a Hurry

DOCKET
SURNAME
Rutledge
Talbot
Martin
Selfridge
Johnson
Weissenborn

OCT 5 1954

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

Reference is made to the subject docket and more specifically to your recent correspondence with Minerals Engineering Company and American Alloy Metals, Inc.

Your letters have clearly and strongly stated the DMEA position on royalties owed to the Government. We note, however, your expression of personal belief that the suggested method of payment without any metallurgical accounting would be acceptable provided payment was thus made as rapidly as if calculated in detail.

Inasmuch as the royalty would have to be calculated in detail in any event to determine the amount and timing of payments due under the repayment provisions of subject contract, we would prefer to have royalty collected from Minerals Engineering Company just as it is collected from any other financially solvent operator under our program.

Obtaining the usual milling data in this instance will also help us to evaluate the results of exploration under Contract Idm-E300 Docket No. DMEA 2440, Minerals Engineering Company. It is our understanding that ore from said project is commingled in treatment with ore from captioned project.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (JB)

APPROVED:

J. H. Hedges

Member, Bureau of Mines (JB)

Thor H. Kiilsgaard

Member, Geological Survey (JB)

WSMARTIN/fec 10-4-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. REG. II
R. W. Geehan, USBM
Thor H. Kiilsgaard, USGS

OCT 4 1954

xxxxxxxxxxxxxxxxxx
No. 15: Howard Street
Spokane 4, Washington

September 30, 1954

Air Mail

Mr. Blair Burwell, President
Minerals Engineering Company
P. O. Box 257
Grand Junction, Colorado

Re: Docket No. [illegible] (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. [illegible]

Dear Mr. Burwell:

With reference to your letter of September 27, 1954, Mr. Thomas E. Howard, a representative of the Field Team, is now in Salt Lake City, with a DMEA auditor making an audit of one of our accounts there. If this audit is completed in time, Mr. Howard will proceed to Grand Junction with the auditor and probably will be there on Monday, October 4. Mr. Howard will discuss the royalty situation with you and make an inspection of the royalty account.

If we can establish that $5,000 a month is approximately the amount due the Government, our Washington office will then be in a better position to authorize the simple royalty settlement that you propose. If the inspection shows that $5,000 is not the correct amount, then perhaps a new figure can be mutually agreed upon.

Sincerely yours,

[illegible] Weissenborn
Executive Officer, [illegible]
Field Team, Region II

cc: Frank Schneiberger, President
American Alloy Metals, Inc.
San Francisco, California
Blair Burwell, Salt Lake City, (air mail)
DMEA (2) w/2 incoming
USBM (2) " "
Certifying Officer w/1 incoming
Thomas E. Howard, Newhouse Hotel, Salt Lake City, (air mail, spec. delivery)

MINERALS ENGINEERING COMPANY
P. O. BOX 957
GRAND JUNCTION, COLORADO

September 27, 1954

Mr. A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II
U. S. Department of the Interior
Defense Minerals Exploration Administration
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-2247

Dear Mr. Weissenborn:

It is quite alright to send our cost sheet to Washington.

I am glad to hear that a fixed amount of repayment will be recommended for royalties, as the complications of figuring the usual royalty formula in operations such as we conduct are substantial. After all, we wish to repay this loan as promptly and reasonably as possible, with a minimum of accounting. Our office will continue to forward payments at the rate of $5,000. monthly, pending advice from you.

Yours very truly,

MINERALS ENGINEERING COMPANY

Blair Burwell
President

BB/rcl

cc: Frank Eichelberger, Spokane
E. A. Julian, San Francisco

RECEIVED
SEP 29 1954

Bureau Mines
RECEIVED
SEP 27 1954

So. 157 Howard Street
Spokane 4, Washington

September 24, 1954

Air Mail

Mr. Blair Burwell
Minerals Engineering Company
801 4th Avenue
Grand Junction, Colorado

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-2247

Dear Mr. Burwell:

Your letter of September 13 was awaiting me on my return from a 10 day pack trip in the Cascades. Because of the complications involved in figuring royalties my personal belief is that the method of repayment suggested by you whereby Minerals Engineering will pay a fixed amount of royalty each month at a rate so that the total amount due the Government will be repaid in a year should be acceptable as long as it assures that the amount due the Government is being paid essentially as rapidly as it would if the royalties were calculated in detail. Your proposal has been forwarded to the DMEA office in Washington and we will advise you as soon as possible of their reaction to your proposal.

We acknowledge with thanks the detailed cost sheet of your monthly operating statement and note that you request that this be held confidential "by your office." We assume that "by your office" you mean that this sheet should not be shown outside of the DMEA but that you would have no objections to our sending a copy to our Washington office with this understanding. We will, however, hold the sheet here until you clarify this point.

Sincerely yours,

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

cc: DMEA (2) (air mail)
USBM (2)
Certifying Officer

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

SEP 22 1954

Mr. Charles A. Turner
DMEA Auditor
1201 North Division Street
Spokane 2, Washington

Re: Idm-E247, DMEA-2292
American Alloy Metals, Inc.

Dear Mr. Turner:

Receipt is acknowledged of your Report of Review covering the above-cited Exploration Project Contract.

The Report is acceptable and normal distribution may be effected.

Sincerely yours,

Jay L. Chambers, Chief
Contract Administration
and Audit Division

WBorovies/wb
September 22, 1954

Copy to: Docket
Admr. Reading File
Mr. Chambers

R.C.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

September 17, 1954

Air Mail

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Brown's Lake deposit
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

With reference to Mr. Blair Burwell's letter of September 13, 1954, to A. E. Weissenborn (copies of which were mailed to you September 16), we wonder if it would not be greatly to the Government's advantage if the proposed manner of repayment of the Government's expenditure on this contract suggested in the next to the last paragraph, page 2, of his letter were accepted. The present method of repayment through royalties, as called for in the contract, has caused us considerable trouble through apparent "misunderstandings" on the part of the company, and is further complicated by the somewhat involved marketing channels, as pointed out in the cited paragraph.

If Mr. Burwell's company will sign a definite agreement to repay the net amount due the Government in "twelve equal payments so that the indebtedness could be taken care of by October 1, 1955" as proposed in the paragraph, this would not only obviate the possibility that the Government would not receive full payment (which would happen under the royalty method of repayment if the mine stopped producing), but would also make unnecessary the rather considerable expense to the Government of making a complete audit of the company's figures as to production, concentrates, sales, etc. Needless to say, we are somewhat surprised at receiving such a proposal from Mr. Burwell, and there may be something wrong with it, but it certainly looks to us that it would be advantageous to the Government.

By Field Team, Region II

John S. Vhay

John S. Vhay, Acting Exec. Officer
U. S. Geological Survey

Thomas E Howard

Thomas E. Howard, Acting Member
For: Wing G. Agnew
U. S. Bureau of Mines

cc: C. O. Mittendorf
USBM (2)

MINERALS ENGINEERING COMPANY
P. O. BOX 957
GRAND JUNCTION, COLORADO

Al
Jack
Herb
USBM 1cc
DMEA 2cc
Out Gfm 1cc
9/16/54
w/o
operating statement

September 13, 1954

Mr. A. E. Weissenborn
Executive Officer
Defense Minerals Exploration Administration
Field Team, Region II
South 157 Howard Street
Spokane 4, Washington

Re: Royalty payments
Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Brown's Lake deposit
Beaverhead County, Montana
Contract Idm-2247 (terminated)

Dear Al:

I wish to acknowledge your letter of September 9, in regard to DMEA payments on American Alloy Metals, Inc. property.

I presume that by this time you have received our letter of September 7th with check attached, from Mr. C. A. Walt, our Treasurer, which reports total net proceeds to the end of July from the American Alloy property and royalty on the same.

Referring to your letter of September 9th, in the second paragraph you state that you would require substantiating evidence of the buyer's settlement sheet showing the grade and tonnage of each lot of concentrate or ore sold. As discussed with you in Salt Lake recently, the buyer of our tungsten is the G.S.A. in Salt Lake City and the lots that they receive and settle for are concentrates delivered after refining through the Salt Lake refinery setup. Accordingly, we are sending you copies of the settlement sheets of the G.S.A. and are also sending you the detailed cost on accounting sheet of our monthly operating statement. It is requested that this attached sheet be held as confidential by your office.

As you are familiar, the Montana operation necessarily lags approximately sixty days behind in the settlements by the buyer of tungsten, and as we use the formula of total tons mined and proceeds received, this results in a varying value per ton ranging from a low value at the start to a high value at the finish.

According to our figures we have paid you $7,725.72 on a total obligation of between $55,000.00 and $65,000.00. In accordance with a

RECEIVED
air mail
SEP 15 1954

letter from the American Alloy Metals, Inc. of September 2, it is their assumption that the total indebtedness of American Alloys to the Government is $59,943.26 to date less payment already made of $7,725.72.

We have accrued and charged into the operation the amount of $5,000.00 per month to cover the DMEA royalties as an estimated amount during June and July. As the June shipments were marketed and settlements received in the last of August, our Treasurer is sending you $5,000.00 to cover the June shipments and the amount for July will be paid in the early part of October.

Following this procedure it is the suggestion of our Treasurer that we divide the net amount remaining due the Government (whatever this amount is certified to be) into twelve equal payments so that the indebtedness could be taken care of by October 1, 1955. The Government is only interested in having their loan returned at a reasonable rate, and we are only interested in accomplishing this in due proportion to the return from the sales of concentrates, but due to the somewhat involved marketing channels and time involved in the "float" it might be that a payment of the entire loan in this manner might be less troublesome than a continued accounting breakdown. Of course, at any time we would be quite agreeable to the audit of our figures by the Government, and in case the royalties would exceed the twelve equal payments we would be very glad to adjust to this figure.

It will be necessary to reproduce some of the ore settlement sheets and these will be mailed to you in a few days.

Yours very truly,

MINERALS ENGINEERING COMPANY

Blair Burwell
President

BB/rol

Encl.

cc: American Alloy Metals, Inc.
One Montgomery Street
San Francisco, California

Mr. Frank Eichelberger
401 Symons Building
Spokane, Washington

RECEIVED
SEP 20 1954
SPOKANE, WASH.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 24 1954

DMEA 2292

September 17, 1954

AIR MAIL

Mr. Flair Burwell, President
Minerals Engineering Company
P.O. Box 957
Grand Junction, Colorado

Dear Mr. Burwell:

We are in receipt of copies of Mr. Walt's letter to Mr. Weissenborn of September 7, Mr. Weissenborn's letter to you of September 9 and further letter of September 13 from Mr. Weissenborn and Mr. Agnew to Mr. Walt of September 13. We are also in receipt of your letter of September 11 to this Company, enclosing copy of your letter of September 13 to Mr. Weissenborn. These letters deal with the obligation of Minerals Engineering Company to pay currently the royalties due the Government in accordance with our DMEA Contract No. Idm-E247.

On September 9, in accordance with my request, Mr. Swan, Treasurer of this Company, phoned you with reference to a letter just then received from Mr. R. C. McLaughlin calling attention to the delinquency being experienced by Fluorescent Mines concerning ore removed from the Fluorescent Lease property beginning with the month of June, 1954. You stated the matter was then receiving attention and that you expected to clear it the early part of this week. To date we have heard nothing further except the statement in the last paragraph of your above letter of September 11 saying the shipment data and figures had been received from Dillon and a settlement was being prepared. Mr. Swan discussed with Mr. Sullivan at Glen, Montana, on August 5th necessity of reporting and settling with Fluorescent Mines and asked that copy of such data be sent us. Also we wrote your Company on September 2 concerning this matter.

We believe you will agree that the foregoing demonstrate considerable laxity on the part of your Company in handling these obligations as required by the provisions of the Sublease between Minerals Engineering and Alloy Metals. We consider it very serious that your Company is not keeping these matters current. Will you please give them your immediate personal attention and keep us fully advised as to disposition.

Yours very truly,

AMERICAN ALLOY METALS, INC.

by

Estey A. Julian, President

EAJ:bh
CC: Mr.A.E.Weissenborn
Mr.R.C.McLaughlin
Mr.Frank Eicholberger

400

XXXXXXXXXXXXXXXXXX
Rm. 137 Howard Street
Spokane 4, Washington

WSM

September 15, 1954

Mrs. Myrtle Purdy, Certifying Officer
DMEA Field Team, Region II
1201 North Division Street
Spokane 2, Washington

Re: Docket No. DMEA-2292
American Alloy Metals, Inc.
Brown's Lake deposit
Beaverhead County, Montana
Contract Idm-E247

Dear Mrs. Purdy:

Attached is Check No. A 5354 received from Minerals Engineering Company dated September 8, 1954, in the amount of $137.00, to be credited to the repayment account of the above-cited contract.

Sincerely yours,

John S. Vhay
Acting Member, DMEA
Field Team, Region II

Attachment

cc: Minerals Engineering Co.
Grand Junction, Colorado

American Alloy Metals, Inc.
San Francisco, California

DMEA w/encl. ✓

Received attachments _____
date

Myrtle Purdy

400

XXXXXXXXXXXXXXXXXX
No. 157 Howard Street
Spokane 4, Washington

September 15, 1954

Mrs. Myrtle Purdy, Certifying Officer
DMEA Field Team, Region II
1201 North Division Street
Spokane 2, Washington

WSM

Re: Docket No. DMEA-2292
American Alloy Metals, Inc.
Brown's Lake deposit
Beaverhead County, Montana
Contract Ida-8247

Dear Mrs. Purdy:

Attached is Check No. A 5536 received from Minerals Engineering Company dated September 10, 1954, in the amount of $5,000.00. Please refer to the attached copy of a letter from Minerals Engineering Company dated September 13, 1954. You will note that GSA settlement sheets are to be mailed to us in a few days. They will be mailed to you upon receipt.

Sincerely yours,

John S. Vhay
Acting Member, DMEA
Field Team, Region II

Attachments as indicated

cc: Minerals Engineering Co.
Grand Junction, Colorado

American Alloy Metals, Inc.
San Francisco, California

DMEA w/encl.

Received attachments _____
date

Myrtle Purdy

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

September 13, 1954

Air Mail

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

I am enclosing two copies of a letter dated September 7, 1954, from Minerals Engineering concerning royalty payments on the above-cited contract, together with 2 copies of my reply to Mr. C. A. Walt of September 13, 1954.

I am considerably annoyed about this whole matter, as we have in the past gone to great lengths to explain what is required and I can only reach the conclusion that Minerals Engineering is deliberately misunderstanding in order to delay payment of royalties. I thought that the matter had been settled after discussion with Mr. Burwell in Salt Lake on the eleventh of August, and I am greatly disappointed over the company's attitude. I am also greatly disappointed that this discussion apparently has been ineffectual.

Apparently the only solution would be to have an audit made of the Minerals Engineering account and I would like to have this arranged at an early date. It is important enough so that I will be glad to send Charley Turner, even though we need him badly here for other audits; but, because of the shorter distance to Grand Junction where the offices of the company are, it might be better to have one of the auditors from the Denver office make the audit if this can be arranged.

I would be glad to have any comments you may care to make on the matter.

Sincerely,

A. E. Weissenborn per T.S.U.

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

cc: C. O. Mittendorf
USBM (2)

U. S. BUREAU OF MINES
RECEIVED
SEP 15 1954
SPOKANE, WASHINGTON

No. 197 Howard Street
Spokane 4, Washington

September 13, 1954

Mr. C. A. Walt, Treasurer
Minerals Engineering Company
Box 4th Avenue
Grand Junction, Colorado

Re: Docket No. [illegible]-2292 (Tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. [illegible]

Dear Mr. Walt:

This will acknowledge your letter of September 7 enclosing a check for $137.00 which you state is the balance due on royalties from all ore produced through July 1954 from the Brown's Lake property. We are greatly disappointed that you have not seen fit to include the substantiating data which we have requested previously. In several other letters on this subject we have gone to considerable trouble to explain in very great detail the data that is required and it is difficult for us to understand why you have consistently failed to furnish this information.

You state that "net proceeds" from the Brown's Lake operation through July after refining charges have been deducted amount to $515,[illegible] from the production of [illegible] tons of ore and from this you conclude that the royalty due the Government is $7,[illegible].72. The information given does not permit us to check your figures but it does not seem that you have figured this correctly.

Article 5(a) of your contract clearly states " . . . any minerals mined or produced . . . shall be subject to a percentage royalty which the Operator . . . shall pay to the Government, upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, <u>in whatever form disposed of</u>, including ore, concentrates, or metal . . . as follows . . . "

In line with the above the royalty is based on the net returns from the sale of concentrates. Certain expenses directly connected with the cost of selling the concentrates may or may not be deductible depending upon at what point the buyer takes possession of the concentrates. Because of the lack of information which you have supplied us we cannot determine what you mean by "net proceeds from

the operation" and can only assume that you are referring to net profit which is quite a different matter from net concentrate returns. Article 9(b) of your contract states "As here used, net smelter returns, net concentrator returns, and other net amounts realized from the sale or other disposition, mean gross proceeds from sales . . ." We believe therefore that the amount due the Government is many times what you have calculated. We do not have the data to substantiate this but we would estimate from the scale of operations on the Brown's lease property that royalties should amount to at least $5,000 or $6,000 per month. Even based on your statement of "net proceeds" of $313,048.85, which we question, total royalties should amount to $65,772.48 rather than the $7,783.72 you estimate, for the concentrate you are selling surely must have a value of $18.50 per ton, or more, and therefore the 5 percent royalty would apply. As we have explained in previous letters the percent royalty is based not on the value of the ore but the value of the product sold. The fact that the Brown's Lake operation is one of the most successful of the IMMA projects but has repaid so little in royalty is a cause of great concern to the Field Team and to our Washington staff.

In order to settle this matter promptly will you please supply us at your very earliest convenience a complete statement of the concentrates sold in the manner requested in previous correspondence, together with certified copies of settlement sheets or other appropriate invoices from the buyer of the concentrates.

By Field Team, Region II

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

King E. Agnew, Member
U. S. Bureau of Mines

cc: Frank Eichelberger, Spokane
Blair Burwell, Grand Junction
V. A. Brown
American Alloy Metals, Inc.
One Montgomery Street
San Francisco, California

IMMA (2)
USGS (2)
Certifying Officer

MINERALS ENGINEERING COMPANY

TUNGSTEN MILL AND MINES
GLEN, MONTANA
REFINERY
SALT LAKE CITY

ENGINEERING AND PRODUCTION OF MINERALS AND METALS
URANIUM DRILLING AND ELECTRONICS

TELEPHONE 430 801 4TH AVENUE P. O. Box 957
Grand Junction, Colorado

September 7, 1954

Mr. A. E. Weissenborn
Executive Officer, D. M. E. A.
Field Team, Region II
Rm. 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

Mr. Burwell has outlined to me the method which you and he agreed upon at your Salt Lake meeting a short time ago, for making D. M. E. A. payments on the American Alloys property at Glen, Montana.

Net proceeds from this operation at the end of July were $515,048.03. This is after refining charges have been deducted. Tons milled at the end of this same period were 64,598.68 tons, giving a net value per ton of $7.97.

On the basis of $7.97 per ton, we understand our payment would be on the basis of 1-1/2% of the net proceeds to date, which gives an accumulative payment due of $7,725.72 under the agreement. Since we have already paid $7,588.72, this leaves a balance due of $137.00, for which our check is enclosed.

It is further understood and agreed by us, that our books are available for, and subject to, audit by you at any reasonable time, and if you have any additional comments to offer regarding this letter, we shall appreciate hearing from you.

Very truly yours,

MINERALS ENGINEERING COMPANY

C. A. Walt, Treasurer

CAW:miw

cc: Mr. Willis A. Swan

RECEIVED
SEP 11 1954
U. S. G. S.
SPOKANE, WASH.

We're Building a Company - - -
ME Co.
- - - and We're in a Hurry

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
September 10, 1954

Defense Minerals Administration
RECEIVED
SEP 13 1954

American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

Attn: Mr. Willis A. Dunn, Treas.

Re: Docket No. DMEA 2272 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-2247

Gentlemen:

Receipt is acknowledged of your letter dated September 2, 1954, concerning the obligation of American Alloy Metals, Inc. to the Government under DMEA Contract Idm-2247.

A statement of the total indebtedness of American Alloys to the Government under contracts 2169, 2127, and 2247 is enclosed. You will note that the balance due the Operator under contract 2247 is $249.90 instead of 9757.00 as stated in your letter.

Regarding the final payment to American Alloy Metals, Inc. under contract 2247, we wish to call your attention to Article 7(b) of the cited contract wherein the Operator is required to submit an acceptable final report summarizing the accomplishments of the project. To date we have not received this report.

In accordance with your instructions we will in the future send you a copy of all communications with Minerals Engineering concerning your DMEA Contract 2247.

By Field Team, Region II

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

Wing O. Agnew, Member
(U. S. Bureau of Mines)

cc: Minerals Engineering Co.
Grand Junction, Colo.

Mr. Frank Kiehelberger
Spokane, Wash.

Certifying Officer
DMEA, Wash. (2)
USGS (2)

Defense Minerals Administration
RECEIVED
SEP 13 1954

American Alloy Metals, Inc.

Contracts E105, E127, E247

Payment due under Contract I4m-E247

Amount approved for payment to Operator through April 1953 - per audit by Brekhus dated 8/10/53		$46,065.17
Less Equipment Salvage		2,340.00
Net amount approved for payment		$43,725.17
Net amount approved for payment		$43,725.17
Actual payments to Operator by Government	$45,815.67	
Less check received for salvage	2,340.00	43,475.67
Balance due Operator		$ 249.50

Indebtedness under combined contracts

Amount paid Operator under combined contracts E105 and E127		$23,128.63
Amount paid or to be paid Operator under contract E247		43,725.17
Total subject to repayment by royalties on production		$66,853.80
Royalty payments received from Minerals Engineering under contract E247:		
For period Oct. 15, 1953 through Jan. 31, 1954	$1,927.89	
For period February and March 1954	5,660.81	
Under contracts E105 and E127	none	
Total royalties received		7,588.70
Balance to be repaid by royalties on production		$59,265.10

Defense Materials Administration
RECEIVED
SEP 13 1954

So. 157 Howard Street
Spokane 4, Washington

September 10, 1954

Air Mail

Mr. Willis A. Swan, Treasurer
American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-8247

Dear Mr. Swan:

In reply to your airmail letter of September 2, 1954, it is my understanding that the Government's equity in the material, equipment and supplies remaining on the Brown's Lake project has been satisfied and the credit has been made to the account of American Alloy Metals, Inc.

I am having the figures you gave checked against ours and will write you again in a day or two.

Payment of the amount due American Alloy Metals, Inc., from this contract has been withheld pending receipt of a final report on the project. I talked to Mr. Kichelberger on the phone about this matter yesterday and he stated a report summarizing the results of the project would be submitted very shortly. As soon as this is received, the account can be closed with, of course, the exception of the royalty payments.

With regard to the repayment of royalties, our records show that we received from Minerals Engineering $1,927.89 representing payment of royalties from October 15, 1953, through January 1, 1954, and we also received a check from the same company in the amount of $5,660.81 in payment of royalties for the period February and March 1954, for a total of $7,588.70. This does not include a small amount of royalty from the Lost Creek property. No royalty payments other than these have been received.

You no doubt have received by this time a copy of a letter I wrote on September 9 to Minerals Engineering Company on this subject. We will continue to send you copies of all future correspondence on this matter, as well as advising you of any payments received. As you point out, under the provisions of your sublease, Minerals Engineering has a responsibility of making royalty payments at the time, but the primary responsibility is from American Alloy Metals, Inc., and we will see that you are completely informed on this matter in the future.

Sincerely yours,

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

cc: USBM (2)
DMEA (2) w/cy incoming
Certifying Officer

al
Jack
Jerome
Myers

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 13 1954

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

September 2, 1954

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Contract No. Idm-E247

Dear Mr. Weissenborn:

In order to reconcile and confirm our records, we would appreciate if you could have sent to us a statement of our account under the above Docket and Contract.

According to our records, and before giving effect to items mentioned below, the total amount payable to the Government by this Company under "Article 9. Repayment by Operator", is $69,901.30. (With this total of $69,901.30 due the Government, the Government should, per our accounts, pay us $957.00, being our final billing of April, 1953.)

Items which affect the account and which we would like to have treated in connection with such statement are:

1. By transactions between the Government and Minerals Engineering Company in June, 1954, there was sold to Minerals the Government's interest in jointly owned equipment as mentioned in "Article 11. Title to and disposition of property.". This sale was for $2,340, for a list of a total amount of $15,575.18. It is our understanding that this sale to Minerals was handled as it was, without notice to this Company here, pursuant to agreement between your office, Mr. Eichelberger and Minerals that the total indebtedness would be reduced as follows and that title to the equipment would then be clear in American Alloy Metals, Inc., (subject of course to the terms of the Alloy-Minerals Sublease):

Total indebtedness			$69,901.30
Total of Equipment list		$15,575.18	
Less adjustment for portion of two items not wholly jointly purchased by Operator and Government:			
$1,350 less $1,200	$ 150.00		
4,435 less 2,287.20	2,147.80	2,297.80	
		$13,277.38	
		x75%	9,958.04
Total indebtedness of American Alloys to Government			$59,943.26

RECEIVED
air mail
SEP 3 1954
U. S. G. S.
SPOKANE, WASH.

2. Under the terms of the Sublease from American Alloy Metals, Inc. to Minerals Engineering Company, pursuant to which Minerals is operating all the Alloy properties at Browns Lake, Minerals is required to make all payments to the Government required of Alloy Metals. We would like a listing of such payments made by Minerals to date.

We would appreciate, for the future, if you could so instruct your office that a copy of all communications to Minerals concerning our Docket and Contract be sent this office. While Minerals, under the provisions of our Sublease to them, has the responsibility of making re-payments under Section 8 of our Agreement with the Government, yet the primary responsibility is from American Alloy Metals, Inc. to the Government so we need an arrangement that will keep us informed at all times.

Will you also please advise as to when we may expect payment of the $957.00 April 1953 billing?

Yours very truly,

AMERICAN ALLOY METALS, INC.

By

Willis A. Swan, Treasurer

WAS/m

cc Minerals Engineering Company
(Grand Junction, Colorado)
Mr. Eichelberger
(Spokane)

Colorado Minerals Bd
RECEIVED
SEP 13 1954

[redacted]
No. 157 Howard Street
Spokane 4, Washington

September 9, 1954

Air Mail

Mr. Blair Burwell
c/o Minerals Engineering Company
P. O. Box 957
Grand Junction, Colorado

Re: Royalty payments
Docket No. IMEA-2292 (tungsten)
American Alloy Metals, Inc.
Brown's Lake deposit
Beaverhead County, Montana
Contract Ida-2247 (terminated)

Dear Blair:

The favorable reports on the operation of the Brown's Lake tungsten deposit and the Minerals Engineering mill at Glen, Montana, have come to the attention of our Washington office and have naturally given rise to the question of why, if the operation is so successful, no royalty payments have been received since the period of February and March of this year. You will recall that in our conversation regarding royalties on August 11 at Salt Lake you told me that Minerals Engineering was prepared to make complete payment of all royalties due to date, as well as to provide all the substantiating data which had been requested in previous correspondence from the Field Team, but that you thought it would require about three weeks to work up the necessary substantiating data. I realize that the three weeks you mentioned have been only slightly exceeded; nevertheless, I urge you to make settlement of this matter at the earliest possible date for our Washington office, with considerable justification, is becoming increasingly critical about this matter.

Because production was coming from both the Brown's Lake and the Lost Creek deposits during the early stages of the operation, it was necessary to maintain a metallurgical balance and prorate the royalties according to the grade and tonnage of the ore milled from each deposit. This complicated the accounting process to some degree. I understand, however, that current production is entirely from the Brown's Lake deposit. Under these circumstances the accounting will be greatly simplified for we will require as substantiating evidence merely a certified copy of the buyer's settlement sheet showing the

grade and tonnage of each lot of concentrate or ore sold, the amount and purpose of any deductions made, and the amount paid. The only exception to this would be if any considerable amount of ore or concentrate were being stockpiled, in which case we would require a record of the grade and tonnage of this also, but I do not believe that this is the case.

As I recall our conversation, there was no difficulty in calculating the royalty on the low-grade concentrate, but there was some uncertainty in your mind regarding the allowable deductions in the case of the high-grade concentrate. It was my suggestion that you calculate the royalties on the high-grade concentrate as you understand the meaning of the contract and make payment accordingly. I still believe that this is a good suggestion as it will give a specific figure for discussion in case we are not in agreement and at the same time by showing your good intent will relieve Minerals Engineering from any criticism that might arise from non-payment of the royalty.

I sincerely hope that you will be able to expedite this matter so that the royalty payments will become current.

Sincerely yours,

A. K. Weissenborn
Executive Officer, Int.
Field Team, Region II

cc: Mr. Blair Burnell
Salt Lake Tungsten Co.
2161 Indiana Avenue
Salt Lake City, Utah

American Alloy Metals, Inc.
1 Montgomery Street
San Francisco, California

Mr. Frank Eichelberger
401 Symons Building
Spokane, Washington

DMEA (2)
USBM (2)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Defense Minerals Administration
RECEIVED
AUG 2 - 1954

July 28, 1954

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Selfridge:

In answer to your letter of July 12, 1954, regarding the final Operator's and Field Team's reports on the above-cited contract, I might say that the Field Team's report is expected to be ready in three or four weeks.

The Operator, Mr. Eichelberger, has promised us a report for some time, but we do not yet know when it will be received.

Sincerely yours,

A. E. Weissenborn

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

cc: USBM(2)
Myers

400

DOCKET
SURNAME

Rutledge
Martin
Selfridge
Y.E. Nelson

JUL 12 1954

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

Reference is made to the subject contract.

It will be appreciated if you will advise us approximately when we may expect to receive the final Operater's and Field Team's reports.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

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

Philip W. Guild
Member, Geological Survey (JHB)

FARUTIEDGE:foc
7-8-54
cc to: Docket
Code 400
Adm. Reading File
Operating Comm.
FT. Reg. II
R. W. Geehan, USBM
T. P. Thayer, USGS

R.C.S.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

June 24, 1954

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

Enclosed are the original and two copies of Form A, "Disposal of Government's Interest in Property." This document assigns to Minerals Engineering Company all of the Government's interest in jointly-owned equipment purchased under the cited contract.

Distribution of Form A is being made in the usual manner.

Sincerely yours,

A. E. Weissenborn

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

Enclosure

cc: Finance Office w/encl.
USBM (2)

Government Copy

DISPOSAL OF GOVERNMENT'S INTEREST IN PROPERTY

(FORM A)

1/ To: Minerals Engineering Company

801 4th Avenue

Grand Junction, Colorado

The United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, for a valuable consideration hereby sells, assigns, transfers and sets over to you all of its right, title and interest in all property acquired under Exploration Project Contract Idm-E247, Docket No. DMEA 2292, dated January 29, 1952 (~~which is listed below~~: 2/

Dated June 23, 1954 THE UNITED STATES OF AMERICA

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

1/ Insert name of purchaser.

2/ If the Government's interest in all property is being transferred at one time, strike the words "which is listed below." If the Government's interest in less than all property is being transferred, list the property being transferred, in the space provided, or if there is insufficient space provided, write in the space on the form the words "See Exhibit 1, attached hereto and made a part hereof," and attach list entitled "Exhibit 1" to form.

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

June 24, 1954

Certifying Officer, DMEA
Field Team, Region II
1201 North Division
Spokane 2, Washington

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-5247

Dear Sir:

Attached is Check No. A 4352 received from Minerals Engineering Company dated June 18, 1954, in the amount of $2,340.00. This check is in payment of the Government's equity in all jointly-owned equipment that was purchased for the cited project.

Sincerely yours,

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

Attachment

cc: DMEA (2)
USBM (2)

Received attachment _____
Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
No. 157 Howard Street
Spokane 4, Washington

June 24, 1954

Mr. C. A. Walt, Business Manager
Minerals Engineering Company
801 Fourth Avenue
Grand Junction, Colorado

Re: Docket No. DMEA-[illegible] (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. [illegible]

Dear Mr. Walt:

Your letter of June 18, 1954, to which was attached a check in the amount of $[illegible],540, payable to the Treasurer of the United States, has been received at this office. We understand that your check is in payment for the Government's interest in jointly-owned equipment purchased for the cited project.

We are enclosing a copy of a form "Disposal of Government's Interest in Property" in which the Government sells and assigns all of the interest in all jointly-owned property to you.

Sincerely yours,

A. Z. Warsenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)
DMEA (2)
Cert. Officer
Myers

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
No. 157 Howard Street
Spokane 4, Washington

June 11, 1954

Mr. William E. Robe,
General Superintendent
Minerals Engineering Company
P. O. Box 4
Butte, Montana

Re: Contract No. DMI-[illegible] (Tungsten)
Surplus Silo, Metals, Inc.
Contract No. I[illegible]-4[illegible]

Dear Mr. Robe:

This will acknowledge receipt of your letter of June 8, 1954, in which you offer to purchase the Government's equity in all jointly-owned equipment that was purchased for the cited project. We understand that you will offer $640 for three 40-cu. foot mine cars and $1,500 for the remaining jointly-owned equipment and salvageable supplies, or a total of $2,140.

Your offer is hereby accepted. If you will forward to this office a check in the amount of $2,140, made payable to the Treasurer of the United States, we shall issue to you a receipt assigning to you all of the Government's interest in all jointly-owned equipment.

Sincerely yours,

[illegible] E. Weisenborn
Executive Officer, DMEA
Field Team, Region II

cc: DMEA (2)
USBM (2)
Cert. Officer

FRANK EICHELBERGER & ASSOCIATES
CONSULTING ENGINEERS & GEOLOGISTS
401 SYMONS BUILDING • SPOKANE 4, WASHINGTON
MA. 2756

DMEA
Info. & file
Reg. II

May 24, 1954

Defense Materials Administration
RECEIVED
JUN - 1 1954

Mr. A.E. Weissenborn
Executive Officer, DMEA
Field Team, Region II
U.S. Department of the Interior
So. 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana

Today I have gone over correspondence you have had with Ray Sullivan, as well as our telephone conversation this afternoon. I have written Mr. Sullivan to see if he won't make prompt payment to you for your share of this equipment and close the matter for once and all because I can see it is a great saving of money for us.

For one example, we spent quite a lot of money on our incline which was necessary at the time but this incline has been completely destroyed by the fall of rocks from above.

I hope both of us will receive a reply from this letter to Mr. Sullivan at an early date.

Thank you for your continued interest in our behalf.

Sincerely,

Frank Eichelberger

Frank Eichelberger

FE/kvg
cc-Mr. R.G. Sullivan
Mr. E.A. Julian

RECEIVED
MAY 26 1954
U.S.G.S.
SPOKANE, WASH.

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

April 19, 1954

Mr. G. P. Wilson, Office Manager
Minerals Engineering Company
801 - 4th Avenue
Grand Junction, Colorado

Re: Docket DMEA-2292 (Tungsten)
American Alloy Metals, Inc., E247
and
Docket DMEA-2440 (Tungsten)
Minerals Engineering Company, E300

Dear Mr. Wilson:

This will acknowledge receipt of your letter of April 8, 1954, together with enclosures. These include a revised royalty statement covering production from the subject properties between October 15, 1953, and January 31, 1954, and a check in the amount of $1,472.68, which is the balance due the Government for royalty on this production as reflected in the revised royalty statement.

There still appears to be some misunderstanding on your part as to the information required in a royalty statement and the supporting documents which should accompany the statement. The revised statement is fine as far as it goes, but as noted in our letter of March 17, 1954, it will be necessary for you to furnish copies of settlement sheets or invoices from the purchaser of the concentrates (Salt Lake Tungsten Company) and also to furnish data regarding grade and tonnage of concentrates produced each month. This material is needed as it is basic information on which your royalty payments are calculated.

Your attention is directed to the latter part of the second paragraph and the third paragraph of our letter of March 17, 1954, to Mr. W. C. Walt, business manager of your company.

> ". . . Also, we require data concerning the grade and tonnage of concentrates produced. We realize that this figure will be the same as sales if the concentrates are not stockpiled. However, it is well to record it as a separate item. Settlement sheets or invoices from the purchaser of the concentrates (Salt Lake Tungsten Company) are required as supporting document.

"We are enclosing a statement form showing the basic data we require as well as the manner in which royalty calculation should be made. If it suits your purpose you may follow this suggested form, if not, you may devise your own form, but all information shown on the suggested form will be required."

Although we believe these instructions quite clear, we are enclosing for your future guidance a copy of DMEA Order-1, Amended. Section 10(c) Article (2) of the Order explains very clearly the method of calculating the royalty and defines in unmistakable terms what is subject to Government royalty and what deductions may be made before royalty is calculated. It will be obvious to you that we must have a copy of the buyer's settlement sheet or its equivalent in order to determine what deductions have been made and what royalties are due. Your royalty statement should be signed by the appropriate official of the company and should bear the following signed certification: "I certify that this royalty statement is correct."

Your letter states that it is necessary at times to store concentrates until they can be shipped. This should not present any problem if the identity of the source of the concentrates is not lost before the concentrates are sold; in other words, if each concentrate lot is kept separate there should be no problem.

If, on the other hand, the concentrate lots are placed in a general stockpile and the individual lots lose their identity, it will be necessary to keep a stockpile inventory on a first-in first-out basis. Assume, for example, in February you stockpile 300 tons of concentrates containing 1,500 units of WO_3, of which 750 units of WO_3 are from the Ivanhoe lease, 375 from the Lost Creek lease, and 375 from non-DMEA sources. Then, in March, you stockpile 150 tons of concentrates containing 750 units of WO_3, all of which are from the Ivanhoe lease. Now assume that 2,000 units of WO_3 are sold from the stockpile in April. On a first-in first-out basis, all of February's and 500 units of the March stockpile would have been disposed of. Each source would then be assigned its prorated share of the net return on the basis of the number of units from each source contained in the concentrates sold. It will require some bookkeeping to keep a record like this but if ore comes from more than one source you will undoubtedly have to keep an equivalent record for your own use.

If your future production is all to be from the Ivanhoe lease the problem will, of course, be much simpler, but we should still have a record of how much concentrate has been produced and how much has been sold.

It is hoped that this letter will clear up any misunderstanding you may still have regarding what is required in a royalty statement and that your future statements will include this essential information. Please send us immediately the information regarding tonnage and grade of mill concentrates for the shipments to January 31, 1954, together with copies of the corresponding settlement sheets from the Salt Lake Tungsten Company.

By DMEA Field Team, Region II

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

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

Enclosure

cc: USBM (2)
DMEA (2)
Hindman

MINERALS ENGINEERING COMPANY
P. O. BOX 957
GRAND JUNCTION, COLORADO

Docket

April 17, 1954

WSM

Mr. A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

I have your letter of April 3rd, regarding our purchase of equipment paid for by the Government under DMEA Docket No. DMEA 2292. I am asking both W. B. Tobey and Neil Roby to give us their estimate of the value of these items and will answer you as soon as their reply is received here. Needless to say we will handle these matters in a mutually acceptable manner.

As our operations are now progressing very well and substantial repayments are being made to the Government each month, we feel that one way of settling it would be just to repay the entire Government Loan and this should buy any of the Government's equity in the equipment. As our repayments now appear to be approximately $3500.00 per month and may increase to $5000.00, the whole loan should be retired within two years.

Yours very truly,

MINERALS ENGINEERING COMPANY

R. G. Sullivan

R. G. Sullivan
Vice President

RGS/rol

cc: Mr. Frank Eichelberger
Mr. W. B. Tobey

RECEIVED
APR 19 1954
U. S.
SPOKANE, WASH.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

April 3, 1954

Mr. Frank Eichelberger
401 Symons Building
Spokane 4, Washington

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-2247

Dear Mr. Eichelberger:

Following our meeting with Mr. Sullivan and Blair Burwell, Jr., in Butte last winter it was my impression that the Minerals Engineering Company was going to make an offer for the equipment which remains on the Brown's Lake contract. So far we have heard nothing from them, so I have written Ray Sullivan a letter, a copy of which is enclosed, asking him whether he intends to make this offer.

We should also have bids from other possible purchasers, which you might obtain by circulating a list of the equipment, plus a statement of where it is, to various machinery dealers, either obtaining a bid from them or a statement that they are not interested in purchasing the equipment. Minerals Engineering should, of course, be willing to pay the highest price because the equipment is right on the job where it is needed, and it would be greatly to their advantage to have it. However, we should have some evidence that this is a bona fide offer, and that a real effort has been made to dispose of the equipment at the most favorable price.

Sincerely yours,

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

Enclosure

cc: USBM (2)
DMEA (2)
Hindman

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

April 3, 1954

Mr. Ray Sullivan, Vice-President
Minerals Engineering Company
P. O. Box 957
Grand Junction, Colorado

Re: Docket No. DMEA 8892 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-1247

Dear Mr. Sullivan:

At the conference between you, Blair Burwell, Jr., Frank Eichelberger, and myself in Butte last November the manner of the disposal of the equipment purchased in connection with the American Alloy Metals' contract at Brown's Lake was discussed. It was my understanding at that time that Minerals Engineering Company would make an offer for the purchase of this equipment. We have heard nothing from you about this offer. Perhaps my understanding on this point was not clear. However, as Minerals Engineering will undoubtedly want to make use of some of this equipment in operating the property, we are calling this to your attention again and enclosing a list of the equipment which was purchased under the contract and in which the Government has an equity.

Some of these items were purchased second hand and their condition may be such that they have very little value. We will be glad to discuss this with you. Mr. Neil Roby is, of course, familiar with all of this material.

We would appreciate hearing from you at your earliest convenience whether you are interested in the purchase of any of this equipment and if so how much would you offer for the equipment.

By Field Team, Region II

DMEA (2) w/encl.
USGS (2) "
Hindman "

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

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

Enclosure

cc: Mr. Frank Eichelberger
401 Symons Bldg.
Spokane, Wash. (w/encl.)

Equipment purchased under Contract Ldm-2247

Item	Serial No.	Date of Purchase	Original Value
1 300-gal. steel water tank	none	2/8/52	$ 70.00
1 Premoil burner heater	EH 1103	2/8/52	55.00
1 Servel gas refrigerator	608815	2/13/52	70.85
1 Diesten chain saw 36"	612920	2/6/52	383.50
1 Southern oil heater	2066P20	2/2/52	84.95
1 Atlas rock drill and leg	431868	2/28/52	523.00
1 Atlas rock drill and leg	432469	4/28/52	523.00
1 Rotary grinder	RS710	2/28/52	190.90
5 40-cu. ft. Kuebler dump mine cars	none	2/25/52	* 1,350.00
1 Air receiver 36" x 72"	none	3/17/52	158.40
1 Kinco 21 rocker shovel	5847	4/4/52	** 4,435.00
1 EW-11 Joy single drum 5 HP hoist	25008	3/12/52	778.00
1 Raising feed for rock drill	RRT60A	6/16/52	820.00
1 Compressor-Warehouse Bldg.	none	June '52	1,679.08
1 Camp water system	none		1,797.25
1 Mine water system	none		677.43
1 Tramway	none		2,387.54
Camp furnishings	none		832.88
			$ 15,573.18

* Government's equity applies to only 75 percent of $1,200.00

** Government's equity applies to only 75 percent of $2,287.20

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

March 30, 1954

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

Re: Docket No. DMEA-2292 (tungsten)
American Alloy Metals
Ivanho claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

We wish to thank you for your reply of March 18, 1954, to our letter of March 1 raising certain questions about the payment of royalties in connection with the Ivanho and the Lost Creek properties. This answers the questions that we have raised. Apparently the problem which we anticipated may not arise, as it now appears that the Salt Lake Tungsten Company is going to buy both the high-grade and the low-grade concentrates. However, you will note from our recent letter to the operator there is still some misunderstanding on the part of the company on the payment of the royalties. We are attempting to straighten out this misunderstanding.

Sincerely yours,

A. E. Weissenborn

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

cc: USBM(2)
Myers

DMEA 2292

Idm-E-247

See: DMEA 2440 file for following correspondence:

(1) Letter of March 17, 1954, by FT to Minerals Engr. Co. accepting $631.15 royalty - explaining amount is in error - and Operator must supply more complete detail re division of royalty between two contracts, grade and tonnage data, etc.

(2) Ltr of 3/19/54 by FT, sending the $631.15 on to Certifying Officer and telling him it represents royalty payment and FT has written Operator for more complete information.

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

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

N.S. in R.R.

March 23, 1954

Memorandum

To: Administrator

From: Jay L. Chambers, Chief (Signed) J. L. Chambers
Contract Administration and Audit Division

Subject: Audit of American Alloy Metals, Inc., Contract No. Idm-E247, Docket No. DMEA-2292, Beaverhead, Montana

At noon today you asked me some questions in regard to the audit of the above-cited project. Below is the information which I think you wanted:

1. The audit was made by Mr. B. J. Brekhus, July 10 to July 17, 1953, covering the period from January 29, 1952 to April 30, 1953.

2. The audit took a total of $6,599.87 in exceptions detailed as follows:

a. exceeding unit cost allowable	$1,459.91
b. used 4" pipe in lieu of 2" pipe	391.86
c. billed the Government twice	1,153.81
d. exceeded depreciation allowance	401.33
e. work abolished by amended contract January 12, 1953 (probably inadvertently)	898.43
f. exceed maximum for compressor house	1,254.69
g. travel and office expenses	318.62
h. miscellaneous	681.22
	$6,599.87

JLChambers/wb
March 23, 1954

Copy to: Docket
Admr. Reading File
Mr. Chambers

400

Docket
DMEA 2292

Rutledge
Martin
Hedges
Chandler
Selfridge
Johnson
Rutledge

MAR 1 6 1954

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-5247

Dear Mr. Weissenborn:

This will acknowledge your letter of March 1, 1954, which raises certain questions about payment of royalties on production from the referenced property under the subject and prior contracts that were combined by an agreement dated October 1, 1952.

We agree with your interpretation of the method of calculation of royalty for the low-grade concentrate which will be sold at Glen, Montana, to the Salt Lake Tungsten Company in accordance with a regular published schedule. Because there is an actual transfer of ore from one company to the other, the royalties should be applied at the point where the Salt Lake Tungsten Company takes possession.

The question of the high-grade concentrate, however, is a different matter. Here there will be no transfer until sale is made by the Operator to GSA. Therefore, the treatment charge and freight charges prior to the point of delivery to GSA are, like the original milling charge, not properly deductable before calculation of the Government's royalty.

The above statements will also apply to the ore produced from the Lost Creek tungsten deposit, Docket No. DMEA 2440, Minerals Engineering Company, Contract No. Idm-5300, if the same procedure is followed in disposing of the concentrates.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

Approved:

J. H. Hedges
Member, Bureau of Mines

Philip W. Guild
Member, Geological Survey

cc: Field Team, Reg. 2
Docket DMEA 2292
Docket DMEA 2440
Oper. Comm.
Adm. Read. File
Code 400
R. W. Geehan, USBM
T. P. Thayer, USGS

FARutledge/ls 3/12/54

3-18-54

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C.
[illegible] Tower Street
[illegible] 4, [illegible]

March 17, 1954

Mr. [illegible] Salt, Business Manager
Minerals Engineering Company
[illegible]-4th Avenue
Grand Junction, Colorado

Re: Docket DMEA-2212 (tungsten)
American Alloy Metals, [illegible]
and
Docket DMEA-2440 (tungsten)
Minerals Engineering Company, [illegible]

Dear Mr. Salt:

This will acknowledge receipt of your letter of March 11, 1954 together with enclosures. These include a royalty statement and a check in the amount of $631.15 for royalty payments on ore produced from the subject properties between October 15, 1953, and January 31, 1954.

We regret to inform you that this royalty statement is incomplete and is apparently in error. We require that such statements include complete data on which royalty calculations are based as well as supporting documents. In addition to the data you have furnished, it will be necessary to provide us with basic data regarding the grade of mill heads from each source. This is needed to determine the number of units of WO_3 from each source for this is the basis for prorating concentrate production or sales back to the original source. Also, we require data concerning the grade and tonnage of concentrates produced. We realize that this figure will be the same as sales if the concentrates are not stockpiled. However, it is well to record it as a separate item. Settlement sheets or invoices from the purchaser of the concentrates (Salt Lake Tungsten Company) are required as supporting documents.

We are enclosing a statement form showing the basic data we require as well as the manner in which royalty calculations should be made. If it suits your purpose you may follow this suggested form, if not, you may devise your own form, but all information shown on the suggested form will be required.

You should also keep detailed records verifying the tonnage and grade of the mill heads originating from Ivanhoe, Lost Creek, or any other source. These need not be submitted with the monthly royalty statement but should be available for our inspection.

It is noted that you have based all your royalty calculations on a royalty rate of 1½ percent which we presume is applied to the value of the crude ore. We wish to call your attention to Article 6 of Contract Ida-E300 and Article 9 of Amended Contract Ida-E247 which specify that royalty payments are to be based "upon the net smelter returns, the net concentrator returns, or other net amounts realized from the sale or other disposition of any such production, in whatever form disposed of, including ore, concentrates or metal." In your case you are selling concentrates which have a net value greater than $11.50 per ton, thus the Government is entitled to the maximum royalty rate of 5 percent. If the ore were sold to the Salt Lake Tungsten Company before milling, then the royalty rate would be based on the value of the crude ore. These matters were discussed by Messrs. Ray Sullivan, Blair Burwell, Jr., and A. E. Weissenborn at a conference in Butte on December 1, 1953.

Your royalty statement places the value of concentrates originating from the Ivanhoe lease at $37,605.96. At 5 percent, the royalty due on this production is $1,880.30. Value of concentrates originating from the Lost Creek lease is placed at $4,478.81. At 5 percent, the royalty due on this production is $223.94 for a total royalty from both properties of $2,103.24 and not $631.15 as calculated and paid.

It would be appreciated if you would please revise your royalty statement along the lines suggested in this letter. We have credited the $631.15 to your account pending payment on the balance due.

By Field Team, Region II

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

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

Enclosure

cc: DMEA (2) w/encl.
USBM (2) w/encl.
Hindman w/encl.

MINERALS ENGINEERING COMPANY

DMEA ROYALTY STATEMENT - CONTRACTS I4m-2247 and I4m-2500
Period 10-15-55 through 11-30-55

Tonnage and Grade

Mill Heads	Tons	Percent WO_3	Units
Ivanhoe Lease (E247)	2,146.000	--	--
Lost Creek Lease (E500)	786.500	--	--
Non-MLA ore (if any)	0	--	--
Total ore milled	2,932.500	--	--
Concentrate Production			
High grade con.	--	--	--
Low grade con.	--	--	--

Sales* (Settlement sheets attached)

Date	Type	Lot No.	Tons	Percent WO_3	Units WO_3	Net Return	Net Return Per Ton	Percent royalty rate (based on net value per ton of concentrate)
--	High grade	11	72.89	--	--	4024.460	55.21	5

* Sales of concentrates produced during month should equal concentrate production if concentrates are not stockpiled.

Royalty Calculations

Proration for royalty calculation based on contained WO_3 units in mill heads

Percent from Ivanhoe Lease (Km-8267)

$$\frac{\text{Units of } WO_3 \text{ from Ivanhoe Lease in mill heads}}{\text{Total } WO_3 \text{ units contained in mill heads}}$$ = Percent of units from Ivanhoe Lease or prorated share expressed as percent assigned to Ivanhoe Lease (carry to 3rd place, i.e., 50.195 percent).

Percent from Lost Creek Lease (Km-8300)

$$\frac{\text{Units of } WO_3 \text{ from Lost Creek Lease in mill heads}}{\text{Total } WO_3 \text{ units contained in mill heads}}$$ = Percent of units from Lost Creek Lease or prorated share expressed as percent assigned to Lost Creek Lease.

Percent from Non-DMEA Sources

$$\frac{\text{Units of } WO_3 \text{ in mill heads from non-DMEA sources}}{\text{Total } WO_3 \text{ units contained in mill heads}}$$ = Percent of units from non-DMEA sources or prorated share expressed as percent assigned to non-DMEA sources.

High Grade Concentrates

Ivanhoe Lease (Idm-1947)

(Total net return) x (Percent of prorated share x assigned to Ivanhoe Lease)

(Royalty rate) = Amount of royalty due on high grade concentrates originating from Ivanhoe Lease

Lost Creek Lease (Idm-4300)

(Total net return) x (Percent of prorated share x assigned to Lost Creek Lease)

(Percent royalty rate factor) = Amount of royalty due on high grade concentrates originating from Lost Creek Lease.

Low Grade Concentrates

Ivanhoe Lease (Idm-1947)

(Total net return) x (Percent of prorated share x assigned to Ivanhoe Lease)

(Percent Royalty rate factor) = Amount of royalty due on low-grade concentrates originating from Ivanhoe Lease.

Lost Creek Lease (Idm-4300)

(Total net return) x (Percent of prorated share x assigned to Lost Creek Lease)

(Percent royalty rate factor) = Amount of royalty due on low grade concentrates originating from Lost Creek Lease.

Royalty recap:

	Net value high-grade conc.	Royalty high-grade conc.	Net value low-grade conc.	Royalty low-grade conc.	Total net Value	Total Royalty
This statement						
Ivanhoe Lease						
Lost Creek Lease						
Total to date						
Ivanhoe Lease						
Lost Creek Lease						

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

DOCKET COPY

March 1, 1954

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

Re: Docket DMEA 2292 (tungsten)
American Alloy Metals, E247
and
Docket DMEA 2440 (tungsten)
Mineral Engineering Company, E300

Dear Mr. Selfridge:

There is a problem with respect to the payment of royalties on concentrates from the Brown's Lake mill which has not arisen yet but which almost certainly will arise in the future. Therefore, we would like your opinion as to how we should proceed.

Two products will be made from the mill. The first is a low-grade concentrate which will run between 5 and 10 percent WO_3. This presents no problem because the low-grade concentrate will be sold to the Salt Lake Tungsten Company at Glen, Montana in accordance with a regular published schedule. Although some of the people interested in Minerals Engineering Company also have an interest in the Salt Lake Tungsten Company, as we understand it the ownership of the two companies is not identical and the two organizations are, in fact, separate corporate entities. There is, therefore, an actual transfer of ore from one company to the other. Royalties will be applied at the point where Salt Lake Tungsten Company takes possession.

The Brown's Lake mill will also make a high-grade concentrate running presumably somewhere around 65 percent WO_3, but containing too much sulphur, copper, and molybdenum (?) to be acceptable under the GSA program. The plan, therefore, is that the ore will be shipped to the Salt Lake refinery where the deleterious materials will be removed at an estimated charge of $4.00 per unit. After treatment the clean concentrate will be sold to the GSA and payment will be made by GSA directly to Minerals Engineering Company. What we want to know is whether the treatment charge at the Salt Lake Tungsten Company's refinery can be deducted before applying royalties. It would seem there would be

some basis for this because the treatments are a necessary expense before the ore can be sold to GSA, and, therefore, the net return is actually the amount that Minerals Engineering receives from GSA, minus the treatment charge which they must pay Salt Lake Refining Company. The same question arises with respect to the freight charges from Glen, Montana to the refinery and from the refinery to the place where GSA buys the ore.

Your advice on this matter will be much appreciated.

Sincerely yours,

A E Weissenborn

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

cc: USBM (2)
Myers

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
MAR 5 - 1954

March 1, 1954

W49

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

Re: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

With reference to your letter of February 1, I am enclosing the Government, Docket, and Division copies of a mutual termination agreement. Permission for termination was granted by Washington in a teletype dated November 16, 1953.

Distribution of the other copies is being made in the usual manner.

Sincerely yours,

A. E. Weissenborn

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

cc: USBM (2) w/encl.
Certifying Officer
Myers

RECEIVED
MAR 8 - 1954
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

docket dmea 2292

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
MAR 1 - 1954

February 24, 1954

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

Re: Semiannual Report of Certified Projects,
Region II

Dear Mr. Selfridge:

This is in reference to your letter of February 15 regarding the Semiannual Report on Certified Projects, Region II, in which you inquire why no royalty payments are reported from Dockets DMA 846-Tungsten, McRae Tungsten Corporation, DMA 700-Tungsten, Alps Mining and Milling Company, and DMEA 2292-Tungsten, American Alloy Metals and associated properties, although these properties are reported as being "In Production."

According to our information, McRae is concentrating ore from the Snowbird group, but due to winter conditions is stock piling the concentrate and will not ship until spring. Concerning Alps Mining and Milling, we have just received the first royalty check on a shipment of gold ore. As far as we know no tungsten concentrates have been shipped yet. With respect to American Alloy Metals, this property went into production in December but did not make actual shipments until sometime in January. We have just received a letter from the Minerals Engineering stating that they are now ready to make the first royalty payment and asking some details as to how this is to be done.

Sincerely yours,

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

cc: USBM (2)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 1 - 1954

February 23, 1954

Mr. C. A. Walt, Business Manager
Minerals Engineering Company
801-4th Avenue
Grand Junction, Colorado

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals
Ivanhoe Claim (Brown's Lake)
Beaverhead County, Montana
Contract No. Idm-8247

Dear Mr. Walt:

I am glad to have your letter of February 9 stating that you are preparing to make your first payments of royalties under Contract Idm-8247. Checks in payment of royalty should be made out to the Treasurer of the United States and mailed to me as Executive Officer of the DMEA Field Team, Region II.

According to the terms of the contract, royalties will be figured on the net proceeds realized from ore, concentrates, or metals produced. It is our understanding that the concentrates produced by Minerals Engineering Company for American Alloy Metals will be sold to the Salt Lake Tungsten Company which is a separate corporate entity. The royalties are to be applied at the point at which the Salt Lake Tungsten Company takes possession of the concentrates. Thus, if Salt Lake Tungsten Company takes possession at Glen, Montana, shipment charges from Glen to Salt Lake would be deducted before calculating the royalties. But if Minerals Engineering acting for American Alloy Metals ships the ore to Salt Lake at its own expense so that Salt Lake Tungsten Company takes possession at Salt Lake, shipment charges from Glen to Salt Lake would not be deductible before figuring royalties.

Along with the check we will require a statement from you showing the basis on which the royalties have been calculated. As it is probable that ore has been or will be received from two sources--Brown's Lake and Lost Creek--the calculation of the royalties will be a little more complex than normal, but it is my understanding from Mr. Sullivan that records will be available showing the grade and tonnage shipped to the mill from each of the two deposits--or from any other deposits which might contribute ore in the future. Therefore,

the total number of units going into the mill during any given period is known, as well as the units of tungsten from each contributing source. Assuming a uniform recovery in the mill, regardless of whether Brown's Lake, Last Creek or other ore is being milled--which may or may not be strictly true--if Brown's Lake contributed X percent of the units of tungsten to the millheads then X percent of the units of tungsten in the concentrates produced in the same period have been derived from Brown's Lake. If all concentrates are shipped essentially as soon as produced--which I believe will be the case--there are no further complications, but if concentrates are stockpiled it will be necessary to keep a stockpile inventory on a "first in, first out" basis. In this way royalty payments under each contract can be separated. Of course, if only Brown's Lake ore is treated the calculation becomes much simpler. Your statement should show all the essential figures so that your calculation of the royalties can be verified.

I trust that the above is clear to you. If there are any difficulties, do not hesitate to call on us.

Sincerely yours,

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

cc: DMEA (2) w/cys incoming ltr
[illegible] (2)
Myers
Hindman

MINERALS ENGINEERING COMPANY

TUNGSTEN HILL AND BIRCH
ELDON, MONTANA
REFINERY
SALT LAKE CITY

ENGINEERING AND PRODUCTION OF MINERALS AND METALS
URANIUM DRILLING AND ELECTRONICS

TELEPHONE 430 801 4TH AVENUE P. O. Box 957
Grand Junction, Colorado

February 19, 1954

Mr. A. E. Weissenborn
Executive Officer, A.M.E.A.
U. S. Department of Interior
South 157 Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

We are in production on our Brown's Lake or American Alloys Metals property and are preparing our first payments on the D.M.E.A. loan, Exploration Project Docket No. 2292 IDM-E 247 dated January 29, 1952.

I am not quite sure in my mind as to where we should send this check, and whether or not you have a report form which we should use in making payment. Mr. Sullivan has suggested I write you for this information.

Yours very truly,

MINERALS ENGINEERING COMPANY

C. A. Walt, Business Manager

CAW;mw

We're Building a Company . . .
ME Co.
. . . and We're in a Hurry

FEB - 1 1954

Docket
Surname
Rutledge
Martin
Selfridge
Bryson
Whitehead

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Ida-F2h7

Dear Mr. Weissenborn:

Reference is made to the above-docketed contract for exploration assistance at the Ivanhoe claim.

On November 16, 1953, we teletyped authority for the Field Team to terminate the referenced contract by mutual consent. Please advise what action has been taken.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee (JHB)

APPROVED:

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

s/ Philip W. Guild
Member, Geological Survey (JHB)

FARutledge:foc
1-28-54
cc to: Docket
Code 400
FT. Reg. 2
Adm. Reading File
Operating Comm.
R. W. Geehan, USBM
T. P. Thayer, USGS

HHK 2-1-54

Copied from Engineering and Mining Journal - January 1954 - page 121

MINERALS ENGINEERING CO., Grand Junction, Colo., firm, has completed its new 300-ton tungsten mill at Glen in Beaverhead County, Mont., and the plant is already in operation on a three-shift basis handling ore from both the company's Lost Creek Mine and the Brown's Lake Mine, leased from American Alloy Metals. The properties are on opposite sides of Sugarloaf Mountain in Beaverhead County and both are being mined by open-pit methods.

The $300,000 mill was built in record time, having been started early in September.

Mill concentrates are being shipped to the Salt Lake City refining plant of Salt Lake Tungsten Co., which is jointly owned by Minerals Engineering and Sylvania Electric Products Inc.

FILE CO
SURNAM

Rutledge
Martin
Hedger
Fosbrake
Fehlman
DeRose
Burin
Mitchell

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

NOV 16 1953

AGENCY: DEFENSE MINERALS EXPLORATION ADMINISTRATION

Originator: F. A. Rutledge
Ext.: 5285 Room 3538

Approp.: 14X 3923.970--Working Fund--DMEA
Date: November 16, 1953

To: A. E. Weissenborn, DMEA Executive Officer, Region II, Spokane, Washington

Heurtt November 5, 1953, requesting authority to terminate by mutual consent Contract No. Idm-E247, American Alloy Metals, Inc., Docket No. DMEA 2292. Authority granted.

W. S. Martin

ACTING Chairman, Operating Committee

CC: DOCKET
FT, REG. II, CONFIRMATION
CODE 400
OPER. COMMITTEE
ADM. READ. FILE
AUDITS DIV., BUR. MINES
R. W. GEEHAN, USBM
T. P. THAYER, USGS

FARutledge/ls
11/13/53

R.C.G.
11-16-53

FILE C
SURN

Rutledge
Martin

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

November 13, 1953

MEMORANDUM

To: Administrator, DMEA

From: Iron and Ferro-Alloys Division, DMEA

Subject: Termination by mutual agreement
Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

The subject contract, executed January 29, 1953, provided for work as follows:

Stage I

Rehabilitate four small cabins	$ 400.00
Rehabilitate old wagon road	3,092.00
Construct combination compressor and warehouse building	1,000.00
Provide water system at Brown's Lake camp	1,200.00
Lay 800 feet of pipe for water system at mine	
Enlarge present 90-foot adit to 6 by 8 feet	
Extend adit approximately 160 feet	
Raise approximately 100 feet	

Stage II

Drive two intermediate drifts, 200 feet each

Stage III

Prepare four diamond drill sites
Drill nine diamond drill holes not to exceed 1,200 feet in aggregate length

Total cost of project $56,584.00
Government participation at 75 percent $42,438.00

R. C. G.
11-16-53

By amendment an inclined surface tramway was added under Stage I; Stages II and III deleted; and a new revised Stage II added which consisted of the following:

190 feet of diamond drilling @ $7.50 per foot
175 feet of drifting on adit level @ $37.20 per foot
100 feet of intermediate drifting @ $33.80 per foot

Total cost of revised State II $13,789.00

The expenditures under Stage I totaled approximately $42,795.00. The original estimate was $31,826.00.

A new amended contract was signed January 12, 1953, that contained Stage I, the revised Stage II, and additional work under Stage III as follows:

115 feet slusher drift @ $33.20 per ft.	$3,818.00
750 feet diamond drilling @ $8.00 per ft.	6,000.00
128 tungsten analyses @ $4.00 each	512.00
	$10,330.00

Grand total of the amended contract . . . $66,914.00

Work under the contract was temporarily suspended in May 1953 after completion of all work except the diamond drilling under Stage III. Because the Operator, feeling that the remainder of the drilling will not develop sufficient information to justify its cost, has constructed a mill and is now planning on mining the deposit from the surface, this Division concurs with the Field Team's recommendation that the subject contract be terminated by mutual consent.

A Certification of Discovery or Development was made under Contract No. Idm-E127 on the property that was the object of the referenced and two other contracts. On October 1, 1952, the Operator signed an agreement combining Contracts Nos. Idm-E105, E127, and E247, and applying said certification to all three contracts.

W. S. Martin, Chief
Iron and Ferro-Alloys Division

cc: DOCKET
FT. REG. II
OPER. COMM.
CODE 400
ADM. READ. FILE
R. W. GEEHAN, USBM
T. P. THAYER, USGS

FARutledge/ls
11/13/53

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
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NOV 6 1953

470 WA SP /I-BOM/

SPOKANE WASH 11-5-53 326

GEORGE C SELFRIDGE CHAIRMANDMEA OPERATING COMMITTEE

DEPT OF INTERIOR WA

RECEIVED
NOV 6 1953
GENERAL SERVICES ADMIN
PUBLIC BLDGS. SERVICE
WASH. 25, D.C.

RE DOCKET DMEA-2292 AMERICAN ALLOY METALS CONTRACT IDM-E247 REQUEST AUTHORITY TO TERMINATE CONTRACT BY MUTUAL AGREEMENT AS PER REQUEST TO THIS OFFICE BY FRANK EICHELBERGER. MINERALS ENGINEERING COMPANY SUBLESSEE IS STRIPPING OVERBURDEN PREPATORY TO OPEN PIT MINING. OPERATOR FEELS REMAINDER OF DRILLING WILL NOT DEVELOP SUFFICIENT INFORMATION TO JUSTIFY ITS COST. WE RECOMMEND EARLIEST ACTION ON THIS REQUEST FOR TERMINATION SO THAT CONTRACT WHICH EXPIRED JULY 1, 1953 CAN BE SETTLED FINALLY.

M E VOLIN ACTING EXECUTIVE OFFICER BOM SP

DMEA-2292 IDM-E247 1 1953

AC 328

Nov 6 11 16 AM '53

BUREAU OF MINES
MAIL ROOM
WASHINGTON D C.

FILE COPY
SURNAME:
800

Brekhus

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

OCT 28 1953

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

Re: Idm-F247, DMEA-2292
American Alloy Metals, Inc.
Beaverhead County, Montana

Dear Mr. Hull:

Upon review of my Interim Audit Report covering American Alloy Metals, Inc., I find that the two top items shown on my summary (Page 11 of the report) are not agreed unit cost items but actual cost subject to an allowable maximum. I have therefore reclassified the costs represented and am forwarding you a corrected summary for your use at the time of final audit.

I am also including a special schedule showing the costs which have been reclassified. These costs cover 175 feet of drifting and 100 feet of shusher drifting as called for under Amendment No. 5 of the contract.

Receipt of the above requires no further action on your part at the present time, but you should give it consideration at the time of final audit. This action has the concurrence of the Contract Administration and Audit Division.

Sincerely yours,

SIGNED
B. J. Brekhus
DMEA Auditor

Enclosure

BJBrekhus/wb
October 28, 1953

Copy to: Docket
Admr. Reading File
Mr. Brekhus
Mr. Chambers

R.C.A.
10-28-53

AMERICAN ALLOY METALS, INC., Idm-E247, DMEA-2292

The Items of Costs as shown on the April 1953 MF-104, the adjusted total of items of costs summarized from monthly MF-104s submitted, the recommended disallowances and approved amounts are summarized as follows:

Item of Cost	Apr.MF-104 Totals	Distribution Corrected	Disallowed by Audit	Accepted Cost
(1) Agreed Unit Cost				
Slusher Drifting 110.2' @ $33.20	$ 3,715.51	$ 3,694.79	$ 36.15	$ 3,658.64
Diamond Drilling 126' @ $8	1,008.00	1,008.00		1,008.00
(2) Labor and Supervision				
Labor	15,980.22	15,637.38		15,637.38
Supervision	6,061.83	4,549.18		4,549.18
(3) Operating Mat'ls & Supplies	10,325.26			
Timber		223.79		223.79
Explosives		2,963.03		2,963.03
Pipe		850.58	391.86	458.72
Track		677.15	(43.46)	720.61
Drill Steel		1,442.80		1,442.80
Gasoline & Diesel Fuel		1,658.08	47.50	1,610.58
Small Eqpt. & Hard Tools		776.07		776.07
Miscellaneous		1,464.97		1,464.97
(4) Operating Equipment				
Rental	6,638.21	5,034.81	43.83	4,990.98
Purchase	3,877.89	6,960.01	1,203.81	5,756.20
Depreciation	810.00	1,304.93	401.33	903.60
(5) Initial Rehab. & Repairs	3,366.89			
Access Road		2,892.33		2,892.33
Winterize Cabins		740.65		740.65
(6) New Bldgs.,Improvements,etc.	6,630.82			
Camp Water System		1,707.25		1,707.25
Mine Water System		677.43		677.43
Compressor House & Whse.		3,872.20	2,193.12	1,679.08
Tramway		3,208.89	43.35	3,165.54
(7) Miscellaneous				
Repairs to Equipment	944.26	1,176.26		1,176.26
Sampling & Analysis	634.00	634.00		634.00
Payroll Taxes	1,039.00	762.39		762.39
Liability Insurance	1,564.21	1,213.00		1,213.00
Office and Travel	1,780.13	2,495.63	318.62	2,177.01
Freight		102.62		102.62
Furnishings for Cabins		291.88		291.88

Item of Cost	Apr.MF-104 Totals	Distribution Corrected	Disallowed by Audit	Accepted Cost
(8) Contingencies				
Excess Drift Costs	(1,955.78)			
Error in MF-104 Total	(56.87)			
Sub-Totals	$62,363.58	$68,020.10	$4,636.11	$63,383.99
Less Auditors Disallowances for costs in excess of Unit Costs specified in the contract:				
Drifting 175' at allowance of $37.20 per foot			$ 468.94	$(468.94)
Slusher Drifting 180' at allowance $33.80 per ft.			954.82	(954.82)
And disallowance for excess cost of overcuts adit			540.00	(540.00)
			$6,599.87	$61,420.23

AMERICAN ALLOY METALS, INC., ID4-8267, DMA-2292

Summary of Costs of Drifting 175' and Slusher Drifting 100'

Item of Cost	Drifting 175 Feet	Slusher Drifting 100 Feet	Total
(2) Labor and Supervision			
Labor	$3,239.58	$1,897.89	$ 5,137.47
Supervision	776.20	974.69	1,750.89
(3) Operating Materials & Supplies			
Timber		1.75	1.75
Explosives	656.20	254.98	911.18
Pipe	136.10		136.10
Track	261.07		261.07
Drill Steel	139.79	61.40	201.19
Gasoline and Diesel Fuel	269.83	129.28	399.11
Miscellaneous	419.60	142.37	561.97
(4) Operating Equipment			
Depreciation	166.00	220.93	386.93
(7) Miscellaneous			
Repairs to Equipment	187.89	62.14	250.03
Sampling and Analysis	49.00	35.00	84.00
Payroll Taxes	131.03	72.38	203.41
Liability Insurance	290.42	215.45	505.87
Office and Travel	256.23	263.13	519.36
Freight		3.43	3.43
Totals	$6,978.94	$4,334.82	$11,313.76

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

1201 N. Division St.
Spokane 2, Washington
October 23, 1953

Mr. Frank Eichelberger
401 Symons Building
Spokane 4, Washington

Subject: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-K247

Dear Mr. Eichelberger:

The Chairman, DMEA Operating Committee, Washington, D.C., has advised the Field Team of certain aspects of the sublease agreement dated April 29, 1953, between American Alloy Metals, Inc. and Minerals Engineering Co., bearing on the subject DMEA contract.

We quote from the letter of October 16, 1953, from the DMEA Operating Committee Chairman:

"In an Agreement entitled 'Sublease' and dated April 29, 1953, the Operator subleased to the Minerals Engineering Company the Ivanhoe claim, which land is the subject of exploration under the above-identified project (as well as leasing and subleasing other lands). The Operator reserved the right to possession of the land to complete the exploration project work by May 31, 1953 (paragraph 7 of the Agreement). The Minerals Engineering Company agreed to pay the royalty due the Government under the exploration project contract (paragraph 9 of the Agreement). Of course, the Operator's Guaranty of royalty payments, which is a part of the exploration project contract, is not affected by the Sublease Agreement.

"In these circumstances, the Operator does not have a sufficient interest in the land for the purposes of the exploration project contract because the date to which it reserved the right to complete the work, May 31, 1953, has passed. However, if the Sublease Agreement is amended to allow the Operator sufficient time to complete the exploration work, this default will be cured. We should be furnished with a copy of this amendment, and a copy of the Sublease Agreement."

Please furnish this office with a copy of a proper amendment to the Sublease Agreement, extending the time from May 31, 1953 to a date necessary for completion of the DMEA project.

We are holding the copy of the Sublease Agreement furnished this office by you. This copy can be sent back to Washington, D.C. in compliance with the request for a copy of the Sublease Agreement or you can furnish another copy, as you desire.

Sincerely yours,

M. E. Volin
Acting Executive Officer
DMEA Field Team, Region II

cc: DMEA, Wash. (2)
USGS (2)

FILE COPY
SURNAME:

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

Routing
Martin
Johnson

OCT 16 1953

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

Re: Docket No. DMEA-2292 - Tungsten
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

This responds to your letters dated August 28, and October 2, 1953, concerning the above-identified project.

The exploration project contract provides for the completion of the work prior to July 1, 1953, but the work is not completed.

In an Agreement entitled "Sublease" and dated April 29, 1953, the Operator subleased to the Minerals Engineering Company the Ivanhoe claim, which land is the subject of exploration under the above-identified project (as well as leasing and subleasing other lands). The Operator reserved the right to possession of the land to complete the exploration project work by May 31, 1953 (paragraph 7 of the Agreement). The Minerals Engineering Company agreed to pay the royalty due the Government under the exploration project contract (paragraph 9 of the Agreement). Of course, the Operator's Guaranty of royalty payments, which is a part of the exploration project contract, is not affected by the Sublease Agreement.

In these circumstances, the Operator does not have a sufficient interest in the land for the purposes of the exploration project contract because the date to which it reserved the right to complete the work, May 31, 1953, has passed. However, if the Sublease Agreement is amended to allow the Operator sufficient time to complete the exploration work, this default will be cured. We should be furnished with a copy of this amendment, and a copy of the Sublease Agreement. We are enclosing the copy of the Sublease Agreement which you sent to us, as you requested.

R.C.J.
10-16-53

Your letter of August 28 also raised the question whether Government approval of subcontracts is necessary if the exploration work is performed by independent contractors. You will note that the Amended Contract provided that the cost of the additional work be contributed to by the Government on an agreed unit cost basis. Therefore, the Government's approval of independent contracts was not contemplated. This formal omission can be readily cured by including in an Amendment extending the time for performance (after you receive the amendment of the sublease referred to above) the following provision:

> In Exhibit "A" Amended, under the heading "Estimated Costs of the Project," add the following sentence at the end of the paragraph preceding the word "Summary":
>
> > The additional work may be performed by independent contractor without reference to the provisions relating to independent contracts and contractors in Articles 4(a) and (b) and 6(a) (1) of the contract form.
>
> You are authorized to execute the Amendment.

Sincerely yours,

George C. Selfridge

Chairman, Operating Committee (2HB)

Enclosures

HCRubin/ema/10-13-53

cc: Mails & Files
Adm. R. File
Op. Comm.
Mr. Thayer
Mr. Hedges
Mr. Martin
H. C. Rubin
J. L. Hofflund
Chron.
Pending

Approved:

J. H. Hedges

Member, Bureau of Mines (2HB)

T. P. Thayer

Member, Geological Survey (2HB)

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

Department of the Interior
Defense Minerals Administration
RECEIVED
OCT 5 1953

1201 N. Division St.
Spokane 2, Washington
October 2, 1953

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

Subject: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

This is in reply to your letter of September 9, 1953, requesting our action on three items in connection with continuation of the subject contract and interpretation of relationship between American Alloy Metals, Inc. and Minerals Engineering Company as sub-lessee of properties covered by the contract. We will answer your requirements in the order of their enumeration.

Herewith are two copies of the Field Team letter of July 16, 1953, to Mr. Eichelberger, requesting a copy of the lease agreement between American Alloy Metals, Inc. and Minerals Engineering Co. We cannot understand why you do not have copies of this letter in your files because distribution thereon shows that copies were sent to you. This letter was not answered by Mr. Eichelberger because of his absence from his office until late in August, and then it was answered by a telephone call to Mr. Volin.

After receipt of your letter of September 9 we contacted Mr. Eichelberger for the sublease of April 29, 1953 between American Alloy Metals, Inc. and Minerals Engineering Co. He had to write to his San Francisco office for this and in reply received a copy just a few days ago. This copy is forwarded herewith. You will note that it includes a few penciled additions in appropriate blank spaces and that there are proper signatures for American Alloy Metals, Inc. but not for Minerals Engineering Co.; furthermore, the corporate seal does not appear on this copy. We are sure this is a true copy and to save time are forwarding it without further request to Mr. Eichelberger. We believe that it will serve the purpose for determination of relationship between the Operator, Minerals Engineering Co. and DMEA.

At the conference between Eichelberger and Volin on August 25, the results of which were set forth in our letter to you of August 28, notes were not taken by Volin. Our letter simply gave Eichelberger's statements as understood by Volin. We considered this to be normal procedure and did not see the possibility of misrepresentation or misunderstanding on the part of anyone. On review of the enclosed copy of the sublease our understanding of it is essentially the same as stated by Eichelberger in the conference on August 25. The situation, however, clearly has aspects which we agree should have legal interpretation.

Mr. Eichelberger has requested that the sublease sent herewith be returned to him at an early date.

By Field Team, Region II

A. E. Weissenborn

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

M. E. Volin

M. E. Volin, Member
(U. S. Bureau of Mines)

Enclosure

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT - 6 1953

1201 N. Division St.
Spokane 2, Washington
July 16, 1953

Mr. Frank Michelberger
American Alloy Metals, Inc.
401 Symons Building
Spokane, Washington

Subject: Docket No. DMEA 2292 (tungsten)
Contract Idn-R247
American Alloy Metals, Inc.

Dear Mr. Michelberger:

It has come to our attention that the subject contract provides for completion of the work prior to July 1, and therefore an amendment to extend the time limit will be required if the project is to be completed. Before such an amendment can be prepared, however, it will be necessary for us to know when the remaining drilling is planned and when it will be completed.

Recent correspondence indicates that the drilling will be done by Minerals Engineering Company with whom your company has entered into an agreement to continue development and mining at the Brown's Lake property. Depending on the type of agreement, an assignment of the DMEA contract to Minerals Engineering may be required. In order that it may be determined if such an assignment is necessary it is requested that we be furnished with a copy of the agreement.

Mr. McLabb, DMEA Field Engineer, recently visited the Brown's Lake property. At that time he and Mr. Roby jointly inventoried all pieces of equipment purchased under the DMEA program at Brown's Lake and in which the Government possesses an equity. A tabulation listing all pertinent facts regarding the present value of the equipment and the present amount of the DMEA equity based on standard OPS depreciation rates has been prepared. Since the subject equipment is no longer needed for the remaining DMEA exploration at the property, it might be desirable to acquaint you with the equipment disposition proceedings and perhaps work out a suitable arrangement for the transfer of the Government's equity as soon as possible, if you elect to retain it.

Enclosed is a copy of DMEA instructions to the Operators covering equipment disposal. In the event that your company should wish to purchase the DMEA equity in the subject items, the formality

of obtaining bids could be dispensed with by reimbursing the Government for any or all pieces of equipment in the amounts shown in the enclosed tabulation under "MEA equity". At such time as you have arrived at a decision regarding the equipment, please inform this office of your plans for handling the disposition thereof.

By Field Team, Region II

M. B. Volin, Acting Exec. Officer
U. S. Bureau of Mines

J. J. Quinlan, Acting Member
U. S. Geological Survey

Enclosure

cc: Mr. Blair Burwell
Mr. W. N. Roby
DMEA, Wash. (2)
USGS (2)
DMEA
AD
JSM
DF

TEH/he

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 1953

DISPOSITION OF EQUIPMENT
Contract Idm-E247

Item	Serial No.	Date of purchase	Age in months	Original value	DMEA contrib. @ 75%	Rate of deprec. per mo.	Present value	DMEA equity
1 300-gal. steel water tank	none	2/6/52	18	$ 70.00	$ 52.50	1%	$ 57.40	$ 43.05
1 Evanoil Burner heater	EH 1103	2/8/52	18	55.00	41.25	1%	45.10	33.82
1 Servel gas refrigerator	608815	2/15/52	16	70.25	52.69	1%	57.60	43.20
1 Disston chain saw 26"	612920	2/6/52	18	383.50	287.62	2%	245.44	184.08
1 Duotherm oil heater	2066P20	2/2/52	18	84.95	63.71	1%	69.66	52.25
1 Atlas rock drill and leg	431868	2/28/52	17	523.00	392.25	2½%	303.34	227.51
1 Atlas rock drill and leg	432469	4/28/52	15	523.00	392.25	2½%	329.49	247.12
1 Rotary grinder	RS710	2/28/52	17	190.90	143.18	1%	158.45	118.84
*3 40-cu.ft. Rocker dump mine cars	none	2/25/52	17	1,350.00	900.00	1%	1,120.50	747.04
1 Air receiver 36"x72"	none	3/17/52	16	158.40	118.80	1%	133.05	99.80
*1 Eimco 21 rocker shovel	5847	4/4/52	16	4,435.00	1,856.25	2%	3,015.80	1,262.11
1 EW-11 Joy single drum 5 HP hoist	23008	3/12/52	17	776.00	583.50	2%	513.48	385.11
1 Raising feed for rock drill	EMT62A	6/16/52	13	210.00	157.50	2½%	140.70	105.53
1 Compressor-Warehouse bldg.	none	June '52	13	1,898.43	1,423.82	2%	1,404.84	1,053.63
Totals				$10,730.43	$6,465.32		$7,594.26	$4,603.09

*DMEA contribution less than 75% of original value.

FILE COPY
SURNAME:

Rutledge
Selfridge

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

SEP 9 - 1953

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

Reference is made to your letter of August 28, 1953, on the subject docket requesting our interpretation of the ownership of the claim and the possible need for an amendment to the contract.

Before we can give a decision in this matter, it is necessary that we receive copies of the following:

1. Field Team letter of July 16, 1953, to Mr. Eichelberger

2. Sublease dated April 29, 1953, from American Alloy Metals, Inc., to Minerals Engineering Company

3. Any notes taken during the conference between Mr. Eichelberger and Mr. M. E. Volin, Bureau of Mines, on August 25, 1953.

Sincerely yours,

George C. Selfridge
Chairman, Operating Committee

APPROVED:

J. H. Hedges
Member, Bureau of Mines

A. R. Kinkel, Jr.
Member, Geological Survey

Copy to: DOCKET
FIELD TEAM, REG. II
AIM. READ. FILE
CODE 400
OPER. COMMITTEE
R. W. GEEHAN, USBM
MARY MILLER, USGS

FARutledge/ls
9/4/53

R.C.S.

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 2 - 1953

1201 N. Division St.
Spokane 2, Washington
August 28, 1953

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

Subject: Docket No. DMEA 2292 (tungsten)
American Alloy Metals Co., Inc.
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

The Field Team letter of July 16, 1953, to Mr. Eichelberger requesting a copy of the lease or other arrangement between American Alloy Metals, Inc. and Minerals Engineering Co., along with other information concerning plans to resume work under the contract, was answered on August 25 by personal interview between Mr. Eichelberger and M. E. Volin, Field Team member.

Mr. Eichelberger stated that a sublease dated April 29, 1953 from American Alloy Metals, Inc. to Minerals Engineering Co. provides that DMEA Contract Idm-E247 is to be completed by Alloys but that the actual work will be performed by Minerals Engineering. Presumably, this will place Minerals Engineering Co. in the position of a subcontractor and may require an amendment to the contract. Your interpretation on this point is requested.

The above mentioned sublease is stated by Mr. Eichelberger to provide a basis of division of receipts from operation of the Brown's Lake tungsten deposit such that Alloys will take care of repayment to the Government of its DMEA contract obligations. In other words, American Alloy Metals, Inc. does not lose its identity with respect to control and operation of the property.

As you know, exploration work under the subject contract has been very costly because of the difficult access problem. DMEA work was closed down to correct this problem, and Minerals Engineering Co. is building a road to the property. This road is to be completed by September 10, 1953, according to Mr. Eichelberger.

Diamond drilling under the DMEA contract will be resumed as soon as the road is open. It has not yet been decided whether the drilling will be done by Minerals Engineering or by subcontract to the Diamond Drill Contracting Company of Spokane. A representative of this latter company has been on the property for the purpose of submitting a cost estimate.

Unless you recommend that an amendment will be required in connection with performance of the DMEA contract work by Minerals Engineering Co. it seems to us that the only action required on the part of the Field Team is to make an amendment to the contract extending the completion date from July 1, 1953 for a period long enough to cover the rest of the diamond drilling set up under the contract. An extension of six months should be ample. Your approval for an amendment covering this extension of time is requested.

By Field Team, Region II

Thor Kiilsgaard

Thor Kiilsgaard, Acting Exec. Officer
U. S. Geological Survey

Thomas E Howard

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

400

C
O
P
Y

MINERALS ENGINEERING COMPANY
P. O. Box 957
Grand Junction, Colorado

July 25, 1953

DMEA(c)

Mr. W. Bradley Myers
U. S. Department of the Interior
Defense Minerals Exploration Administration
South 157 Howard Street
Spokane 4, Washington

(not Brown's Lake)

Re: Docket No. DMEA-2440 (Tungsten)
Lost Creek Mine (Brown's Lake)
Contract Idm-E300

Amer. Alloys 2292
Idm E 247
WSM

Minerals Eng. contract

Dear Brad:

I wish to acknowledge your letter outlining the drilling plan proposed at Browns Lake.

We would like to assume this drilling as soon as possible, but understand there is some question as to whether the Contract Idm-E300 should be assigned to Minerals Engineering Company or not. As soon as possible, and as soon as this can be determined, we will arrange to proceed as outlined.

We have now roughed out an access road which is scheduled to reach the Ivanhoe outcrop about August 1st, which will greatly expedite the exploration work outlined.

Sincerely yours,

/s/ Blair Burwell

Blair Burwell

BB/rol

cc: Mr. Frank Eichelberger
Mr. E. A. Julian
Mr. W. B. Tobey
Mr. Earl Roby

FRANK EICHELBERGER & ASSOCIATES
CONSULTING ENGINEERS & GEOLOGISTS
401 SYMONS BUILDING • SPOKANE 4, WASHINGTON
MA. 2756

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 14 1953

RECEIVED
BUREAU OF MINES
JUN 2 1953
SPOKANE, WASH.

June 1, 1953

Mr. M.E. Volin, Acting Exec. Officer
U.S. Bureau of Mines
1201 N. Division Street
Spokane 2, Washington

Subject: Docket No. DMEA 2292
Contract Idm-E247
April 1953 Operator's Report
and Voucher

Dear Mr. Volin:

This acknowledges your letter of May 21st received this morning on my return to the office from the east.

Answering your specific question, the reason we suspended work at present, was that we could not service the drills and work under the terrifically difficult hardships which we encountered and would continue to encounter until we were able to build a road to the property which road is now either started, or will shortly be started — and it is expected this road will be a production truck road so that all supplies to the drills, as well as drills themselves can be hauled directly on to the property.

The reason for sending the compressor and drills back to their owner, is that Minerals Engineering Company has their own equipment and did not wish to pay rental. We found that the drilling which we did cost us between $15.00 and $20.00 a foot which was out of all proportion to the amount of information we were receiving from this drilling. It is certain that the cost of drilling could be cut in half if we had the road finished to service them as explained above.

I trust you will send a letter to the Washington office of DMEA, explaining to them why we have taken the course we did and for the reasons outlined above.

Very truly yours,

Frank Eichelberger

Frank Eichelberger

FE/kvg
(dictated but not
signed by F.E.)
cc-Mr. E.A. Julian
Mr. Blair Burwell
Mr. R.N. Roby

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

1201 N. Division St.
Spokane 2, Washington
May 21, 1953

Mr. Frank Kichelberger
American Alloy Metals, Inc.
401 Symons Building
Spokane, Washington

Subject: Docket No. DMEA 2292
Contract Idm-K247
April 1953 Operator's Report and Voucher

Dear Mr. Kichelberger:

The subject invoice has been received and approved by the inspecting engineer. Payment must be withheld, however, pending clarification of your reasons for suspending work under the contract.

The narrative accompanying your report indicates that drilling has been temporarily suspended. Though the length of the recess was not stated we have learned from Mr. McNabb, Field Team inspecting engineer, that the compressor has been removed from the property and that some road work is planned prior to resumption of work under the contract.

Your attention is directed to Article 3 of the contract form which states that the project shall be brought to completion prior to July 1, 1953. Any suspension of work is likely to delay completion past that date, which would be in violation of the contract. The Field Team no longer has the authority to approve a recess of activities or extend the time of a contract. Requests for such action must be referred to the decision of the Washington, D.C. office of DMEA.

It is suggested, therefore, that you submit to this office a letter explaining your temporary recess of activities and requesting an extension of the contract time so that these matters can be referred to the Washington, D. C. office.

By Field Team, Region II

Thor Kiilsgaard, Acting Member
U. S. Geological Survey

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

cc: M. N. Roby, Glen, Mont.
DMEA, Wash. (2)

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

March 31, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 3 1953

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

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Selfridge:

Attached are the original and two signed copies of Amendment No. 6 to the subject contract, with attached justification.

A copy of the amendment has been retained by the Operator, a copy is being placed in our files, and by a carbon copy of this letter we are distributing the Finance Officer's copy.

Sincerely yours,

A. E. Weissenborn

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

Enclosure

cc: Finance Officer w/encl.
USBM (2)
Myers

cc 4/3

ltr
Copy retained 400

COPY

From "The Mining Record" --- Thursday, March 12, 1953.

TUNGSTEN STRIKE
MADE IN MONTANA

Grand Junction, Colo.---The Minerals Engineering Co. has announced plans for construction of a $225,000 tungsten ore concentrating plant near, Glen, Montana, and a refining mill at Salt Lake City. The Minerals Engineering Co., of which Blair Burwell, Grand Junction, is president and the American Alloy Metals, Inc., of which E. A. Julian, San Francisco, is president, have been developing large deposits of low grade tungsten ore containing molybdenum in the Brown's Lake and Birch Creek districts west of Glen and south of Butte.

DMEA 2292

400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

March 11, 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
MAR 16 1953

WSM

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead Co., Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

This will acknowledge your letter of March 6 in which you express the policy of the DMEA regarding the removal of the allowable maximums. We shall accept your dictum and will consider the matter closed.

Sincerely yours,

A. E. Weissenborn

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

cc: C. O. Mittendorf
USBM(2)

No answer necessary
WSM

FILE COPY
SURNAME:

Martin
McKay
Hollimel
Fl Ogman
Lindge
Mattendorf

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

WAR 6 1953

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-1247

Dear Mr. Weissenborn:

Reference is made to your letter of February 14, 1953, giving your reason for believing that the Government should contribute a proportion of the costs incurred by the Operator over and above the $1,000 for construction of a 12' x 14' combined shop-storage building allowed by the subject contract, as amended.

We note you feel that since the Field Team put the limitation into the contract, the Field Team can also remove the limitation. In the Field Team's opinion, the shop-storage building is suitably constructed for an exploration project. You believe the charges claimed were actually incurred. Finally, you advise us that as you "understand it, the Government's intention is to bear its due proportion of the actual cost of exploration."

It seems to us that the above reasoning indicates a fundamental misapprehension of the order setting forth procedures and regulations for obtaining Government aid in financing the cost of exploration projects. As stated in DMEA Order-1, Sec. 7, Ratio of contributions, "The Government, upon the terms specified in the contract, will contribute a percentage of the total cost of a project * * * ." (Underlining is ours.) The same order states in Sec. 9, Allowable costs: "(a) The Government, to the extent provided in the exploration project contract, will contribute to the necessary, reasonable, direct costs of performing the exploration work, including labor * * * and such other necessary, reasonable, direct costs as may be approved by the Government in the course of the work." (Underlining is ours.)

You add that "In those instances where the cost of various items has been underestimated, it seems logical to amend the contract thus making those items payable. This, however, is a matter of policy," and you leave it to us for an interpretation.

Only in the most exceptional circumstances would we be inclined to approve a retroactive amendment increasing the allowable cost of an item the cost of which was restricted by contract phraseology similar to that used in this instance: "Construction of a 12' x 14' combined shop-storage building near the adit portal shall be allowed in addition to the compressor house originally specified. Aggregate costs of construction of the two buildings in excess of $1,000 specified for the compressor house will be paid in full by the Operator."

Under the circumstances, we do not agree that the Operator is necessarily being penalized, and we cannot assist you to justify an amendment on the basis of the information submitted to date.

Sincerely yours,

George C. Selfridge (WB)

Chairman, Operating Committee

S.H.
3/6/53

Approved:

C. N. Johnson (WB)

Member, Bureau of Mines

D. M. Lemmon (WB)

Member, Geological Survey

WSMartin/ls
3/2/53

cc: Docket ✓
Admn. Read. File
Code 400
Oper. Committee
Field Team, Reg. 2
D. M. Lemmon, USGS
R. W. Geehan, USBM

February 19, 1953

BZW.

Memorandum

To: Miss Lanahan, Statistics and Control Division, DMEA

From: Hazel Berry, Operating Committee, DMEA (HB)

Subject: Amendment to Contract.

Attached is the docket copy of Amendment No. 4 to DMEA-2292, Idm-E247, AMERICAN ALLOY METALS. The amended contract, which has been executed covers the provisions of this amendment.

Attachment.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

Docket Copy

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 24 1953

February 14, 1953

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

Re: Amendment No. 4
Cocket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Selfridge:

Please refer to Mr. Ellis' letter of December 15, 1952, as Acting Chairman of the Operating Committee regarding the amendment to the American Alloy Metals, Inc. contract to increase the cost of the compressor and warehouse building.

Mr. Ellis is correct in the statement that Item 3 of Amendment No. 1, which was drawn in our office, stated that any excess over the $1,000.00 allowed for the construction of the combined shop and storage building was to be paid by the Operator. Since the Field Team put this limitation on, we felt that we could also remove it if conditions were such that removal was justified.

In the opinion of the Field Team, the combination compressor and warehouse building and the shop-storage building is the type of construction suitable for an exploration project and one that lends to more efficient winter operation.

We also believe that the charges against the construction of these buildings were legitimate and honest, in other words, this is what the building actually cost and the $1,000.00 estimate which, although agreed upon by both the Operator and the Field Team, was in error. As we understand it, the Government's intention is to bear its due proportion of the actual cost of exploration. In those instances where the cost of various items has been underestimated, it seems logical to amend the contract thus making those items payable. This, however, is a matter of policy, and we leave it to you for an interpretation.

Copy retained 400

If you agree that the Operator should not necessarily be penalized because he made a poor estimate, will you please advise us how an amendment can be prepared that will make this payment legitimate.

Sincerely yours,

A. E. Weissenborn ;T.H.K.

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

cc: USBM(2)
Myers

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

February 13, 1953

WSM

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 16 1953

Re: Docket No. DMEA 2292 (Tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Selfridge:

Enclosed are two copies of a progress map submitted by R. N. Roby of American Alloy Metals, Inc. in connection with Contract Idm-E247. These are preliminary chip samples, not channel samples.

Please note that all of the assays shown on the map were made by McCarthy in Butte. We have not had much experience with McCarthy for tungsten assays, but our experience with other assays has shown that the low-grade tungsten assays are subject to considerable variation. Mr. Roby says he will send subsequent samples to Union Assay Company in Salt Lake City whose assays, although slightly lower than the Bureau of Mines assays, in the past have been reasonably consistent. It is Roby's intention to do a more complete and thorough sampling job at the termination of the project when the walls can be washed and the beds then sampled in detail.

Sincerely yours,

A. E. Weissenborn

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

Enclosure 1 (in duplicate)
cc: USBM(2)
Myers

Copy retained 400

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

OFFICIAL BUSINESS

PENALTY FOR PRIVATE USE TO AVOID
PAYMENT OF POSTAGE, $300,
(PMGG)

Dockets

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

January 22, 1953

WSM

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 23 1953

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

Re: Docket DMEA-2292 (Tungsten)
Ivanhoe Claim
Contract Idm-E247

Dear Mr. Selfridge:

Enclosed are four copies of a topographic map of part of the American Alloy Metals Property. This map was prepared by Mr. R. N. Roby and is forwarded for your information.

Sincerely yours

A. E. Weissenborn

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

Enclosure 1 (in quad.)
cc: USBM (2)
Myers

Copy retained 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

January 14, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
JAN 20 1953

Mr. Robert N. Roby
American Alloy Metals, Inc.
Olen, Montana

Re: Docket No. DMEA-2292 (Tungsten)
Ivanhoe Claim
Beaverhead Co., Montana
Contract Ids-E247

Dear Bob:

I was glad to get your letter of January 12 enclosing a sketch of the new raise. In compliance with your request, I am enclosing three ozalid copies of this sketch for your use. I will appreciate it greatly if you would telephone me as soon as you receive the assays for samples 59, 60, and 61 as these probably will be very significant. I am glad that the latest developments look somewhat encouraging.

The amendment to increase the American Alloy Metals Contract so that the incline raise can be completed was received this morning and is now being checked by the Bureau of Mines. We will send it to Mr. Julian for signature as soon as the Bureau has checked and approved it.

Sincerely yours,

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

Enclosure 1 (in trip.)
cc: USBM(2)
DMEA(2)
Myers

Docket

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

January 14, 1953

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 23 1953

Mr. F. E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead Co., Montana
Contract No. Idm-E247

Dear Mr. Johnson:

Enclosed is a copy of a self-explanatory letter from Mr. Roby of the American Alloy Metals, Inc., giving cover to a section through the new inclined raise on the Brown's Lake property.

Sincerely yours,

A. E. Weissenborn

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

Enclosure
cc: USBM(2)
Myers

No reply necessary
WSM

Copy retained 400

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

Jan. 12, 1953

Mr. A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II
157 South Howard St.
Spokane, Wash.

Dear Al:

Enclosed herewith is a section showing the incline and the geology therein per my miserable mapping.

The most consistent thing about the deposit is its inconsistency! The strike is still much more to the south than it should be. Somewhere between the present heading and the point where we will hit the hanging wall the strike must turn almost east.

The tactite lamps nicely in the heading—better than it did at the lower end of the incline. I'm hoping that the last three samples will run considerably higher than the other underground samples. Nos. 59 and 60 are in Butte now and No. 61 will go in today. They will be assayed at McCarthy's Laboratory. I had samples 57 and 58 turned around when I talked to you over the phone. No. 57 east of the raise run best you will notice. I will call the other returns in to you when they arrive, which will be the later part of the week.

Will you please have three copies of the enclosed sketch returned to me so that I can send one each to Mr. Julian and Mr. Eichelberger.

We are making good progress in the incline now when the crew is in the heading. I have only 3 men and with water troubles and various and sundry other troubles we miss shifts in the heading.

It is like spring over here now and has been for the last three or four days. It will put a little moisture into the ground and will help our road a lot.

Yours very truly

AMERICAN ALLOY METALS, INC.
Robert N. Roby, Proj. Mgr.

cc-Mr. Julian
Mr. Eichelberger

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 22 1953

January 14, 1953

Mr. Estey A. Julian
American Alloy Metals, Inc.
1 Montgomery Street
San Francisco 4, California

Re: Docket No. DMEA-2292(Tungsten)
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Julian:

Enclosed is an amended contract for the Brown's Lake Project which will permit the finishing of the inclined raise which is now being driven. This is being done on a unit cost basis. Our Washington Office has made a few monor changes on the price of some items, raising some and lowering others. The net effect has been negligible as it has decreased the amended funds only from $10,356.94 to $10,330.00.

If the amended contract meets with your approval, will you please sign all of the copies, retain the one marked "Operator's Copy" for your files and return the rest to me.

I am sending this to you for your signature as I understand that Mr. Eichelberger is not yet in condition to be concerned with business matters.

I was glad to receive today a report from Neil Roby showing very good progress on the new inclined raise and some reasonably encouraging results.

Sincerely yours,

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

Enclosure 1 (in sextuplicate)
cc: DMEA(2)
USBM(2)
Myers

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

Jan. 12, 1953

Mr. A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II
157 South Howard St.
Spokane, Wash.

File

Dear Al:

Enclosed herewith is a section showing the incline and the geology therein per my miserable mapping.

The most consistent thing about the deposit is its inconsistency! The strike is still much more to the south than it should be. Somewhere between the present heading and the point where we will hit the hanging wall the strike must turn almost east.

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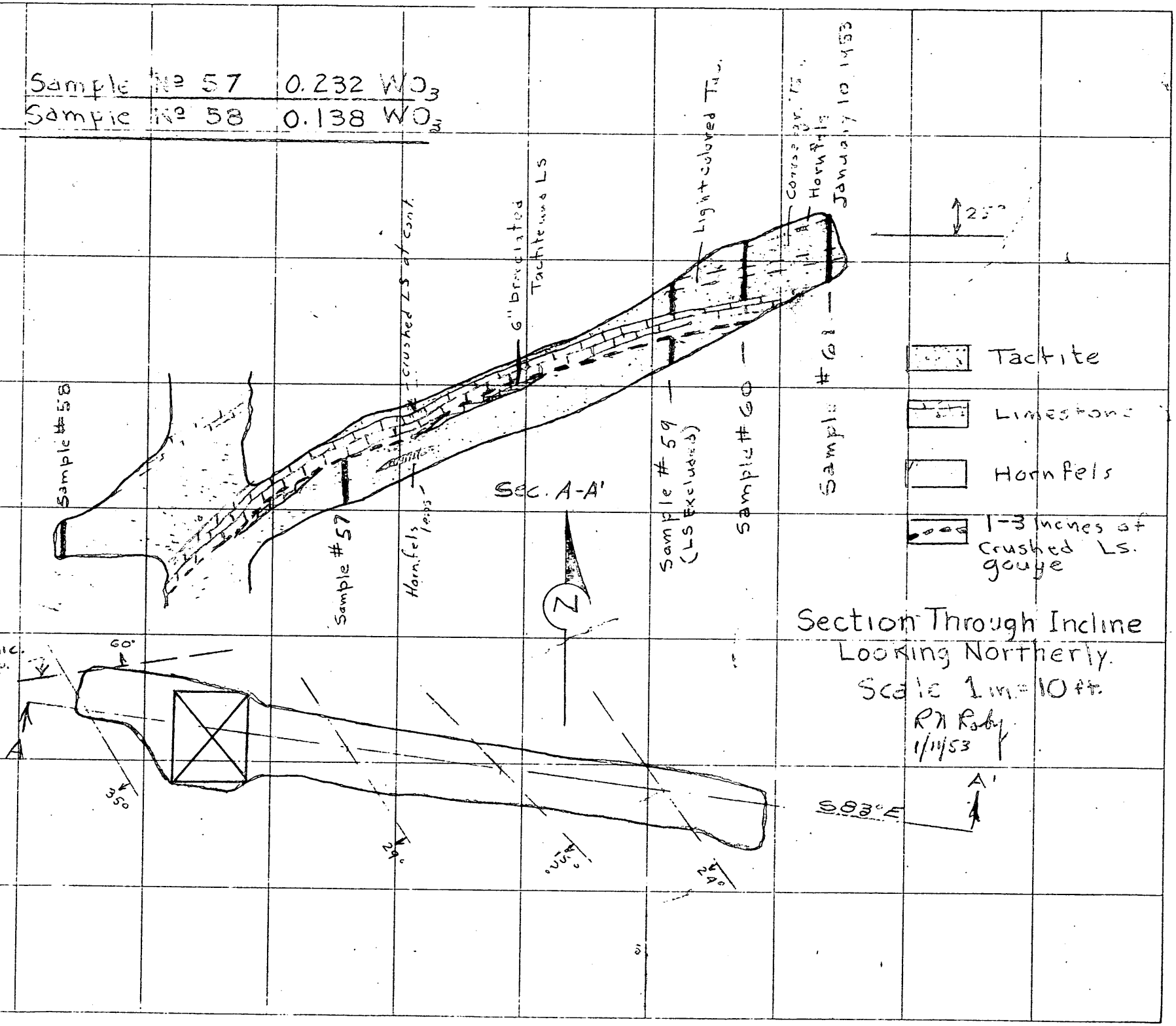
It is like spring over here now and has been for the last three or four days. It will put a little moisture into the ground and will help our road a lot.

Yours very truly

AMERICAN ALLOY METALS, INC.
Robert N. Roby, Proj. Mgr.

cc-Mr. Julian
Mr. Eichelberger

Sample № 57 0.232 WO_3
Sample № 58 0.138 WO_3



TRACING PAPER 195M K & E CO., N.Y.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 22 1953

January 14, 1953

Mr. Estey A. Julian
American Alloy Metals, Inc.
1 Montgomery Street
San Francisco 4, California

Re: Docket No. DMEA-2292(Tungsten)
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Julian:

Enclosed is an amended contract for the Brown's Lake Project which will permit the finishing of the inclined raise which is now being driven. This is being done on a unit cost basis. Our Washington Office has made a few monor changes on the price of some items, raising some and lowering others. The net effect has been negligible as it has decreased the amended funds only from $10,356.94 to $10,330.00.

If the amended contract meets with your approval, will you please sign all of the copies, retain the one marked "Operator's Copy" for your files and return the rest to me.

I am sending this to you for your signature as I understand that Mr. Eichelberger is not yet in condition to be concerned with business matters.

I was glad to receive today a report from Neil Roby showing very good progress on the new inclined raise and some reasonably encouraging results.

Sincerely yours,

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

Enclosure 1 (in sextuplicate)
cc: DMEA(2)
USBM(2)
Myers

FILE COPY
SURNAME:

Rutledge
Selfridge

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

cc: [illegible]
FT. P.O. II
CODE 400
OPER. COMMITTEE
DMA. HEAD. FILE

XXX Rutledge/ls
1/9/53

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

JAN 1 2 1953

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E247

Dear Mr. Weissenborn:

We are enclosing the original and five copies of an amended contract on the subject docket signed by this office for the Government, together with Annex 1 (2 pages) and Exhibit "A" amended (2 pages).

If the terms and conditions of this amended contract are satisfactory to you and the Operator, all six copies should be signed and the usual distribution made. If any part of this amended contract does not have either your approval or that of the Operator and cannot be amended within your delegated authority, the original and all copies of the amended 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 amended contract from that originally outlined for the proposed Amendment No. 6.

(1) The estimated cost of $5.00 a foot for assays for the slusher drift was transferred to a separate item. However, $4.40 a foot was added to cover the rental of the compressor, making the new unit cost $33.20 a foot for the slusher drift.

(2) The unit cost for diamond drilling was increased to $8.00 a foot to cover rental of compressor.

(3) A separate item was added for assays.

The above changes have decreased the amount from $10,366.94 estimated to $10,330.00.

J. C. 1/12/53

Sincerely yours,

Frank E. Johnson (JHB)
Chairman, Operating Committee

Approved:

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

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

FILE COPY
SURNAME:

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

Rutledge
Selfridge

Chief Counsel, DMEA

Dec. 29, 1958

Iron and Ferro-Alloy Division, DMEA

Review and preparation of Amendment No. 6
Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Exploration Contract No. Idm-2247

Transmitted herewith is the rough draft of a proposed amendment to the subject contract for your use in preparing the amendment in final form.

O. C. Selfridge, Chief
Iron and Ferro-Alloy Division

Attachment

FARutledge/ls

cc: Docket
Admn. Read. File
Code 400

EXPLORATION PROJECT CONTRACT NO. Idm-E247
AMERICAN ALLOY METALS, INC.
DOCKET NO. DMEA - 2292

AMENDMENT NO. 6

It is agreed this _____ day of _____, 1952, between the United States of America, acting through the Department of the Interior, Defense Minerals Exploration Administration, and American Alloy Metals, Inc., One Montgomery Street, San Francisco, California, each acting in consideration of the agreement of the other to the terms hereinafter set forth, that effective December 1, 1952, the Exploration Project Contract Idm-E247, dated January 29, 1952, between the parties hereto, as amended, be further modified and amended as follows:

In Exhibit "A" under "Description of the Work" add:

1. Extend the 100-foot slusher drift specified under Amendment No. 5 an additional 115 feet.

2. Diamond drill a maximum of 750 feet at the locations, bearings, inclinations, and approximate depths shown:

Location	Bearing	Inclination	Depth Feet
Face, west heading	S. 40° W.	plus 2°	50
do		plus 90°	85
West heading, intermediate between face and raise		plus 90°	85
Raise, middle of ore zone	S. 25° W.	plus 20°	60
do	N. 25° E.	- 20°	50
Slusher drift, intermediate between raise and face of completed working		plus 90°	60
do		- 90°	25
do	S. 25° W.	plus 20°	55
do	N. 25° E.	- 20°	40
Face of completed slusher drift	S. 25° W.	- 65°	75
do	N. 25° E.	- 60°	55
do	S. 82° E.	- 30°	85

In Exhibit "A" under "Estimated Cost of Project" add:

UNIT COSTS

115 feet of slusher drift including all costs except assaying at $33.20 per foot	$3,818.00
750 feet of diamond drilling including all costs except assaying at $8.00 per foot	6,000.00
128 tungsten analyses at $4.00 per assay	512.00
	$10,330.00

This amendment shall increase the total amount of the contract by $10,330.00. The Government's share of the increased cost is $7,747.50 or 75 percent of the above sum.

The total cost of the amended contract is $66,914.00, of which the Government's share at 75 percent is $50,185.50.

The additional exploration outlined in this amendment is necessary for a reliable evaluation of the deposit.

THE UNITED STATES OF AMERICA

By _____
Administrator, Defense Minerals
Exploration Administration

AMERICAN ALLOY METALS, INC.

By _____

Docket

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 23 1952

December 18, 1952

MEMORANDUM

To: Chairman, Operating Committee, DMEA

From: Field Team, Region II, DMEA

Subject: Proposed increase in Contract Idm-E247, American Alloy Metals, Inc., Beaverhead Co., Montana, Docket No. DMEA 2292 (tungsten)

Enclosed is a letter dated December 4 from Robert N. Roby, Project Manager, American Alloy Metals, Inc. requesting additional funds for the completion of the exploratory work necessary to a reliable evaluation of the Brown's Lake deposit, together with a memorandum from W. B. Meyers commenting on the proposal.

The general program, part of which is included in Amendment No. 5 to the contract, was worked out during conferences held in Spokane on November 21 and 24 attended by Mr. Eichelberger and Mr. Roby of American Alloys, T. H. Kiilsgaard and W. B. Myers of Geological Survey, and M. E. Volin and T. E. Howard of Bureau of Mines.

The Operator's cost estimates for the new work are based on those worked out by Bureau engineers in connection with the preparation of Amendment No. 5; these costs were agreed to by Roby at the time of the conference. While the details differ slightly, the over-all unit cost is identical and is considered reasonable. In view of high costs obtained for work accomplished to date, it is suggested that any future amendment specify these unit costs as allowable maximums.

Although we are aware that the project can be criticized for its slow progress and attendant high costs, we are in agreement with Myers that the project has enough potentiality that it should be brought to a definitive conclusion even though this means supplying

Copy retained 400

additional funds. We are also in agreement that the program developed during the conference along with the additional drilling recommended in Myer's memo should accomplish this purpose. We therefore recommend that the somewhat larger amount of work proposed by Myers be provided for so that it will not be necessary to ask again for more funds. This has been discussed with Mr. Roby, who agrees to Myers' modified proposal.

By Field Team, Region II

A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
South 157 Howard Street

M. E. Volin, Member
U. S. Bureau of Mines
1201 North Division Street

Enclosures

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

December 12, 1952

Memorandum

To: DMEA Field Team, Region II

From: W. B. Myers, Geologist, U. S. Geological Survey

Subject: Operator's proposal for contract increase, Docket DMEA-2292, Contract Idm-E247 (tungsten), American Alloy Metals, Inc. (Brown's Lake), Beaverhead County, Montana.

It is recommended that the estimated total cost of the contract be increased by $10,366.94 to an amended total of $66,950.94. This recommendation is made in order to permit completion of an amended program (Amendment No. 5) necessary to the evaluation of this potentially important tungsten deposit.

This amended program is the one referred to in the writer's justification of Amendment 5. The original contract funds will be essentially exhausted at the completion of the work specified in Amendment 5. The funds requested here would be used to finance a maximum of an additional 115 feet of inclined slusher working on the east heading and to contract a maximum of 750 feet of underground diamond drilling.

The contract increase recommended here is substantially greater than that requested by the Operator, largely because the Operator did not ask for sufficient drill footage to carry out the program. The Operator's requested footages and those here recommended are tabulated below:

Type	Cost/ft.	Requested footage	Cost	Recommended footage	Cost
Slusher working	$33.80/ft.	100	$3,380	115	$3,887
Diamond drilling	7.50	300 (minimum)	2,250	750	5,625
			$5,630		$9,512
					- 5,630
Cost of recommended increased footage					$3,882
Contract increase requested by Operator					6,484.94
Recommended contract increase					$10,366.94

The additional slusher footage is recommended because it is necessary to reach the objective. A cross section constructed from the Operator's map indicates a 212-foot length for the completed working if carried on the specified bearing and vertical angles. The Operator has only requested enough footage to complete a 200-foot working.

The 450 feet of additional diamond drilling recommended is considered by the writer to be essential to an evaluation of the deposit. Below is a tabulation of the two drilling programs:

	Operator's requested program (Details not specified)			Recommended program		
Station	Bearing	Vert. L	Est. length	Bearing	Vert. L	Est. length (Ft.)
Face, west heading	Minimum footage to crosscut ore zone			S. 40 W.	+ 2°	50
					+90°	85
West heading, intermediate between face and raise	Minimum footage to crosscut ore zone				+90°	85
Raise, middle of ore zone	No drilling			S. 25 W.	+20°	60
				N. 25 E.	-20°	50
Slusher working, intermediate between raise and face of completed working	Minimum footage to crosscut ore zone				+90°	60
					-90°	25
				S. 25 W.	+20°	55
				N. 25 E.	-20°	40
Face of completed slusher working	Minimum footage to crosscut ore zone			S. 25 W.	-65°	75
				N. 25 E.	-60°	55
				S. 82 E.	-30°	85
						725

The recommended drilling program comprehensively explores the ore zone from footwall to highest potentially minable bed over the entire strike length exposed by underground workings. East from the raise the zone is explored over a considerable width at right angles to the strike (and approximately at right angles to the bounding quartz monzonite on the south). The proposed hole eastward from the face of the completed slusher working would add 70 feet to the explored strike length, and that in an area where the ore zone is believed to be of commercial grade.

This recommendation is made solely in the belief that the further work outlined is essential to a reliable evaluation of the deposit. Such evaluation will be required in order to pass on applications for development and production loans which almost certainly will be forthcoming.

Although recent work appears to have indicated the geometry of the enclosing rocks, underground exploration has so far

encountered but a small amount of mineralization of commercial grade. No trustworthy explanation can be made for the presence of ore in surface crops and the paucity of ore underground. Because of this, ore estimates made on the basis of present information would be either very limited or highly speculative. If an intelligent appraisal of ore reserves is to be made, more information will be needed. No attempt is made here to analyze the reasons for the slow progress and attendant high costs of the operation. It is merely stated that if the needed information is to be obtained, more funds will be required.

W. B. Myers
Geologist

Dist:
DMEA- Orig. & 3
USBM (2)
Myers
Docket

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

December 4, 1952

Department of the Interior
D.M.E.A. Field Team, Region II
157 South Howard St.
Spokane, Wash.

Dear Sirs:

Consideration of the following action is requested in regard to Docket DMEA 2292, Contract Idm-E 247 (tungsten) with American alloy Metals, Inc., One Montgomery St., San Francisco, Calif.:

Amendment No. 5 to the above contract was prepared, and among other things it allows the driving of an inclined slusher drift 100 feet in a southeasterly direction from the vertical raise. The drift is to be started from a point about 40 feet above the sill of the main adit and will be inclined about 27° above the horizontal.

It is requested that permission be granted to extend this intermediate inclined drift an additional 100 feet or to a total of 200 feet and that at least 300 feet of diamond drilling from four stations be allowed.

This work will be done under the best ore exposures disclosed by surface trenching. The weighted average of the 3 trenches east of the raise is 0.47 WO_3 (Union Assay Co.) over an average thickness of 65.1 ft. U. S. Bureau of Mines assay returns for these trenches probably would be considerably higher.

This exploration including 200 feet of drift and the diamond drilling should indicate about 160,000 tons of ore.

The total amount of the present exploration contract will have to be increased to do this work. The additional amount of money needed to do the work is estimated below, based on allowances made in amendment No. 5 as follows:

	Estimated cost per shift av. 3.75 ft./round, 25 rounds per month.
Compressed air	
Diesel fuel	$3.42 = 12.83 @ 25¢ = 52 gal.
Lube. oil	1.80
Compressor repairs	1.00
Drill steel	5.40
Drill Machine parts	1.50
Ventilation	2.00
Supplies (pipe, hose, misc.)	6.50
Explosives	
Powder	10.00
Electric Caps	4.00
Supervision	24.00
Compressorman	14.00
Labor	39.00
Office and travel	4.00
Depreciation on Trammer, truck, pickup, and slusher	5.40
Assays	5.00
	$126.42 or $33.80/ ft.
	or per Amend. #5

out

add 4.40 for engineer

33.20

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

In addition to the above costs equipment rental on the compressor would be required for 2-1/2 months at $414 per month.

A summary of the estimated costs and the amount that the contract must be increased follows:

100 ft. of inclined drift per amendment 5 @ $33.80/ ft.	$3,380.00
Equipment rental per amendment 5 for drift 1-1/2 months @ $414. per month	621.00
100 ft. of inclined drift extension per present request @ $33.80 per ft.	3,380.00
Equipment rental per present request (drift ext. and diamond drilling) 2-1/2 months @ $414.	1,035.00
300 ft. of diamond drilling @ $7.50 per ft.	2,250.00
	$10,666.00
Amount remaining in Contract after paying November MF-104	4,181.06
Contract increase required for amendment No. 5, drift extension and diamond drilling	$6,484.94

I hope that favorable consideration can be given this request in the near future. Thanks.

Sincerely
AMERICAN ALLOY METALS, INC.

Robert N. Roby

Robert N. Roby, Proj. Mgr.

cc-Mr. Julian
Mr. Eichelberger
U. S. Bureau of Mines

Contract $56,584.00

Stage I 31,826.00
II 12,258.80
III 12,499.20

Stage II
400 feet drift

Stage III
Prepare 4 drill sites
Diamond drill 9 holes not to exceed 1,200 feet.

Estimated costs

	Stage II			Stage III	
Freightage & depreciation		310.00			
Operating supplies					
Rented					
Compressor	470.00 x 2	940.00		470 x 1	470.00
Shovels	125.00 x 2	250.00			
		1190.00			470.00
Furnished					
Truck	30 x 2	60.00		30 x 1	30.00
Jeep	30 x 2	60.00		30 x 1	30.00
		120.00			60.00
Labor					
4 miners	8½ week	3,094.00			
1 laborer	"	729.30		4 week	343.20
1 cook	"	663.00		4 week	312.00
1 engineer	2 month	1,200.00		1 month	600.00
		5,686.30			1,405.20
Supplies		3,152.50			1,214.00
Contract					9,000.00
Misc.		1,800.00			350.00
		12,258.80			12,499.20

Stages II + III 24,758.00

FILE COPY 400
SURNAME:

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

Selfridge
Chamberlin
Hoffman

DEC 15 1952

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

Re: Amendment No. 4
Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-X247

Dear Mr. Weissenborn:

Please refer to the above-noted amendment of the subject contract which increases the cost of a compressor and warehouse building from $1,000.00 to $1,898.43.

Item 3 of Amendment No. 1, drawn in your office and dated March 20, 1952, placed a maximum of $1,000.00 for the construction of a 12' x 14' combined shop-storage building and a 16' x 30' combination compressor and warehouse building. It also stated that any excess over the $1,000.00 was to be paid by the Operator. Consequently, this amendment would be improper since there would be no consideration to the Government for increasing its contribution to the cost of these buildings.

Sincerely yours,

Ernest Wm. Eccis (JB)
ACTING Chairman, Operating Committee

J.N. 12-15-52

Approved:

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

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

GCSelfridge & AEKane/ls/lm
12/10/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
G. C. Selfridge

Docket

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 13 1952

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

December 12, 1952

Air Mail

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket DMEA 2292 (tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

Attached are the original and two signed copies of Amendment No. 5 to the subject contract, with attached justification.

Copies of this amendment have been retained by the Operator, the Finance Officer, and the Field Team.

Sincerely yours,

Thor H. Kiilsgaard

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

RECEIVED
DEC 30 1952
GENERAL COUNSEL
DEFENSE MINERALS
ADMINISTRATION

Enclosure

cc: USBM (2)
Myers

cae
12-19

400

FILE COPY
SURNAME:

Selfridge.

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

DEC 1 1952

Mr. A. M. Weissenborn
Executive Officer, DMEA Region 3
South 157 Howard Street
Spokane 4, Washington

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-8247

Dear Mr. Weissenborn:

Enclosed herewith for your information and comment are two copies of a memorandum to the Administrator, DMEA, which was prepared by the Iron and Ferro-Alloy Division in answer to your letter of October 14 which transmitted a memorandum dated October 14 by Mr. T. M. Howard. You will note that a good part of the memorandum is historical and does not warrant comment. We are chiefly interested in the economics involved in the contract.

12-1-52

Sincerely yours,

George C. Selfridge

ACTING Chairman, Operating Committee

Enclosures

Approved:

J. H. Hedges

Member, Bureau of Mines

A. R. Kinkel, Jr.

Member, Geological Survey

GCSelfridge:ls 11/28/52

CC: Docket
Admn. Read. File
Oper. Committee
Field Team, Reg. 2
D. M. Lemmon, USGS
R. W. Geehan, USBM
G. C. Selfridge

FILE COPY
SURNAME:

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

Rutledge
Selfridge
Mitterdorf

DEC 1 1952

Mr. A. E. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMMA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-2247

Dear Mr. Weissenborn:

Your letter of November 11, 1952, on the subject contract has been received. We agree with your interpretation that no amendment will be required to cover the raise footage over 100 feet since the length was originally specified as "approximately" 100 feet. Until your letter of October 29, 1952, covering the raise section and assays was received, we had no way of knowing whether the raise was turned at right angles to the dip of the mineralized beds or up the dip. Since the raise was turned normal to the dip, it is approved without an amendment.

It now appears that there is a greater thickness of tungsten-bearing tactite than originally was indicated on the plan and section attached to the subject contract. To what do you attribute this increase in thickness?

Sincerely yours,

(signed) FRANK E. JOHNSON (JHS)

Chairman, Operating Committee

12-1-52

Approved:

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

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

FARutledge:lm
11/26/52

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
G. C. Selfridge
F. A. Rutledge

2292

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

[redacted]
So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 4 1952

December 1, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket DMEA-2292 (Tungsten)
American Alloy Metals
Ivanhoe Claim
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

Enclosed are the original and two signed copies of Amendment No. 4 to the subject contract, with attached justification.

Copies of this amendment have been retained by the Operator and the Field Team, and by a carbon copy of this letter a copy is being sent to the Finance Officer, Region II.

Sincerely yours,

Thor H. Kiilsgaard

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

Enclosure

cc: USBM (2)
Reg. Finance Officer w/encl.
Myers

cc 12-4

Docket

FILE COPY 400
SURNAME:

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

Administrator, DMEA

November 18, 1952

Selfridge

Iron and Ferro-Alloy Division, DMEA

Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract Idm-R247

A study of the subject application and contract dockets was made because of the difficulties that have been experienced in auditing this and previous contracts of the Operator and because of the criticism the writing of the contract has received at various times, both oral and written, the last of which was contained in a letter from the Field Team of Region II dated October 14 in answer to our letter of August 4, 1952.

The application, dated November 21, was received in Washington on December 17, 1951, after it had been analyzed by Region II. As a result of the analysis, the Region wrote a memorandum, dated December 11, recommending the proposed work and changes in cost as set forth in a proposed Exhibit "A" accompanying the memorandum. The changes reduced the estimated cost from $79,800.00 to $55,740.00. The changes were made because the application had been assembled with production in mind as shown by 4" pipe, 30# rail, 50 cu. ft. cars, an Eimco 21 loader and high costs.

Because the proposed work did not appear to be based on available geological data, the application was referred to the Region on December 29 for the applicant's reconsideration and possible submittal of an alternative program in view of the known facts. It was also pointed out that the application made no mention of the size of openings, and further information was requested in substantiation of proposed costs.

A revised application, dated January 9, was forwarded by the Region with its letter of January 10 which mentioned that the revised application had been carefully prepared after considerable discussion with the Field Team representatives. The revised application mentioned a 5' x 7' adit and a 6' x 8' raise. Advance was to be 2.3 and 1.7 feet per shift respectively. The former figure seemed pretty low since a loader was to be used. The new estimated cost was $55,400.00. The contract was drawn up in the form current at that time incorporating, with a little rearrangement of items, the new information in practically the form it was submitted. On January 29,

a copy of the executed contract was forwarded to Region II as the applicant, who was in Washington, signed it as soon as it had been approved. In the letter of transmittal, mention was made of minor changes and attention was called to the possibility of driving larger workings than participated in by the Government. The final paragraph of the letter reads as follows:

"The limitations of size of drifts, crosscuts and raises for exploration, participated in by the Government, have been explained to Mr. Michelberger and, incidentally, to Mr. Burwell. Both may plan to drive the advances larger for mining and so will not be eligible for Government participation on the overbreak. The proportional costs will have to be determined by the field team if advances are over broken".

Consideration of this paragraph should have prevented any future difficulties relating to oversize exploration workings.

On March 20, 1952, the contract was amended to provide for (1) a tram from the road to the adit site in the amount of $2,200.00 as a maximum; (2) a mine water pressure system, the total cost of which was not to exceed $775.00; (3) construction of a 12' x 14' shop in addition to the compressor house originally specified, the combined costs of which were not to exceed $1,000.00 under the contract; (4) the use of 4" pipe and 40# rail with the Operator paying the difference in costs on a unit basis as set forth in the contract; (5) larger cars than provided for in the contract with the Operator absorbing the difference in cost; (6) the rental of a drill; and (7) a maximum of $275.00 on the rental of a loader regardless of the size rented. On July 25, Amendment No. 2 allowed the Operator to do a limited amount of diamond drilling, footage and funds for which were transferred from Stage III.

Work under the contract was started on January 29. During February the crew worked on the camp water system, the road, the cabins, and the compressor house. Supplies were bought for a tram after someone finally realized what the actual expense would be to get a road in solid rock up a 250 foot, $\pm$ 50° slope to the portal site of the old adit.

By the end of March, the compressor house lacked only the paper. The tram had been completed to the elevation of the adit. Work was continued on the camp water system and terminated on the road.

In April, a snow slide filled the end of the road causing delay. It was also discovered that the compressor house and tram had been built too close to the adit as they were endangered by rock dumped down the hill. A trestle was completed at the adit level and 150 feet of waste track was at least started to the west which was finished by May 20 or sooner. At least, in part, this work progressed slowly as rock had to be blasted to make room for the track while exercising care not to damage the facilities below. The 93 feet of the adit was enlarged by slabbing 8-foot rounds in a little over a week at the end of the month. The camp water system and the compressor house had been completed. The time that was required prior to starting work in the adit was practically double that estimated in the contract.

During May the adit was advanced only 64 feet with a crew of 4 men and the superintendent. Part of the lack of progress was because the operator had bought large cars which were difficult to hand tram. An air trammer arrived on the last of the month. A mine water line was also laid which consisted of 1,000 feet of plastic pipe.

During June the adit was advanced 75 feet to completion. No mention was made of the crosscut from which the raise was driven. It was found that the rock was hard to pull, rounds averaging about 4 feet. Advance in this month was approximately 5.33 feet a day with a 4 man crew and superintendent. Because men moved away and efficiency was low, a labor contract was approved providing for payment at $8.64 a foot which seems low under the working conditions reported and the provisions included in the contract. A raise was started on June 18 and advanced 22 feet, or 2 feet a day, by the end of the month. The field team reported a diamond drill hole in the adit which was for the account of the Operator, trenching on the surface and the construction of a 14' x 16' shop.

The raise was advanced 60 feet, or 2.2 feet per day, during July with a crew of from 4 to 5 men and the superintendent. The tactite was cut at 34 feet above the track.

In August, the raise was advanced 22 feet in a calculated 10 days and a 75-foot hole was diamond drilled in the face of the adit under an amendment to the contract. It was thought that the raise had passed through the scheelite mineralization but further driving exposed more. The writer visited the top of the raise in early

September. He has climbed few raises that were less convenient for the passage of men and materials. In addition, instead of having a chute at the bottom of the raise all the broken rock was picked up by a mechanical shovel which added to expense.

To analyze the contract the writer drew up two different keys, incorporating the items listed under the contract, to show distribution of costs as required from the Operator when submitting his MF-104 forms. The first, Table A, lists the items under the main headings 1 to 9 with appropriate sub-headings for proposed work and cost detail. The table as prepared gives about a maximum of detail but could be modified and simplified to any degree desired. Totals in any combination can be made from the table. The distribution of wages and costs of supplies and materials can be made by marking the time slips and paid vouchers with a number or a series of numbers. For example, pipe purchased for the adit in Stage I would be credited to 1(b)3 and the labor for putting it would be credited to 5(b-1).

The contract was written on the old MF-200 form. Vouchers for the first 3 months were submitted on the old MF-104 form. To understand the MF-104 forms more easily, the Operator should also attach a sheet of explanation for distribution to the form. For the months of February, March and April, the writer carried back the items on the backs of the old MF-104 forms to the ones listed inside. On doing this, it immediately became apparent that filling in the detail of the form might have had as much to do with supervising troubles as the method in which the contract was written. The form itself carries only a minimum of instruction. On the February MF-104 form, the Operator listed $273.65 for camp water system under Fixtures and Improvements. One would take it for granted that the item pertained to supplies. In the distribution on the back of the form, the facility is charged with $869.53. Additional items had been added from some of the others listed inside the form.

On final analysis, it was learned that the two items of $476.98 and $507.42 under "6. Supplies" consisted of four units: $343.95 for the four surface jobs, $130.06 for the adit, $270.27 for the tram which was not authorized under the contract in writing until March 20 and, therefore, theoretically subject to deletion, and $240.12 for "House Furnishings". Of the $343.95 item, $64.31 was distributed to the "Camp water system" making $337.96 for supplies under that item. Just why two items of supply existed cannot be learned from the MF-104 form.

Review of the forms for March and April was easier once an idea of the system was learned. However, the writer is inclined to believe that either he would have anticipated further trouble with the Operator after the first two simply-written contracts and had a system mutually satisfactory to all concerned set up or would have sent the form back for additional information before authorizing payment, a procedure which is within the delegated authority of the Executive Officer.

Using Table A, the writer drew up Tables A-I and A-II. The former shows distribution in symbol and amount as presented by the Operator for the month of February. The sub-totals can be arranged as on the back of the NF-104. The latter table sets forth the costs of the five surface projects as shown by the records, which are incomplete, available in Washington. One fact was noted in analyzing the first 3 NF-104 forms and that was the deletion of labor items in the amount of several hundred dollars yet allowing the full amounts of attendant taxes and Workmen's Compensation. Table A-II shows that the estimated funds for the road were largely spent when the amendment for the tram was signed and, therefore, could not be drawn upon in part for the tram as mentioned in the amendment.

Starting in May, the Operator presented his vouchers on the new NF-104 form. Since it is easier to compile summation costs by the job, the writer drew up Table B based on the detail given in the contract. This table also can be modified to the extent that one wishes. A key at the top of the table provides the symbols for distribution of labor and items in paid vouchers when used with the job number accompanying the individual projects as set forth in the contract. The table shows that estimated costs of some projects were submitted as a lump sum although it was known that various items, those shown in part by (?), would make up the total cost. Others included only part of the detail involved in the total cost. From the information submitted in the application and not knowing the road condition, one could not be sure if the six weeks of labor and supervision to prepare for enlarging and driving the adit included the labor necessary to complete, in part at least, jobs Nos. 1, 3, 4 and 5. Since the amounts for labor and equipment were the only maxima under the old contract form, some audit trouble could have developed here. Supplies for the road were included with those for the adit. The amount of fuel oil was not questioned since it was reasoned that approximately one-half was for the oil stoves and road but several hundred dollars worth of oil added to the cost of driving a working does not make for representative data costs.

The Table B includes only data on the new MF-104 forms through August with the exception of April when deletions were made on the old form. The writer had to start with August and carry approved totals back to May to check deletions and approved totals. In the May form, the Operator had revised his totals from those of the old form, possibly in part for deletions made in February and March. Costs for the camp water system and tram were reduced $354.43 and $370.04 respectively. Here again he carried two items of supplies in the "Mine water system" account and didn't add one for $92.83 to the total cost. An item of $1,166.41 for mine rail and pipe originally approved was reduced to $690.57 in keeping with Amendment No. 1.

The total cost of the access road rehabilitation had been reduced from $3,223.58 to $1,939.22, a difference of $1,284.36; winterizing of the cabins from $606.53 to $388.26; and house furnishings from $619.03 to $269.48. Although the auditor deleted a $250.00 item from the "compressor house-shop" account, the Operator was still carrying a total of $1,124.96 although by Amendment No. 1 the total should not pass $1,000.00. The auditor had also deleted an item of $178.96 for 1/3 payment on a rock drill and $400.00 on a mine car although both items of equipment were authorized under the contract.

As of the end of the month of May the Operator was carrying a total of $27,338.69 and listed deletions from the months of February, March and April amounting to $202.78. The auditor carried an approved balance of only $25,086.81. He had deleted $828.96 in May, $830.70 in April and, judging from balances, $795.01 in February and March. Thus, the difference between amount claimed and amount approved was $2,251.88. The deletions amount to $2,454.67. The difference of $202.79 is that deletion mentioned by the Operator. Carrying back the auditor's totals to May showed no approved totals for steel, Diesel fuel and repairs although there should be some. They may be carried in some of the other accounts. Accounting, office and travelling expenses seem high at $305.00 a month as was carried by the Operator. These were reduced from $1,220.32 to $366.82 in June.

The June MF-104 shows deletions for equipment, new buildings and travel. July and August vouchers were approved as reported. At the end of August, the Operator was carrying a balance of $41,972.46 and the auditor of $39,889.71, a difference of $2,082.75. The August voucher was submitted with supplementary sheets showing item costs and distribution. Submittal of such sheets at the beginning of the contract would have been <u>very</u> helpful.

During PED days last year, one of the objectives of writing contracts was to try and keep exploration costs to a minimum by detailing the quantity, quality, size, capacity, estimated cost, etc. Some of the engineers even went so far as to designate the thickness of the lagging. Since the operator was expected to first tabulate his expenditures to secure data as designated on the inside of the former MF-104 form and then prorate the expenditures as instructed on the back of the form, it was taken for granted that he would set up some type of bookkeeping system which would allow him to do so with a reasonable amount of accuracy. In the simple contracts where there was only one project to consider, this would not have been necessary. It was thought that such collected information would be of aid in writing future contracts.

Since it was known that the field men were snowed under with examinations and that their time was limited for supervision, it was further thought that detail in the contract would to an extent automatically supervise expenditures by informing the Operator what he might reasonably purchase and what items had gone into the estimated costs of the contract. The detailed costs were not maxima as explained in Article 10 of the former MF-200 contract form. Only labor and equipment were so considered.

For other than the simple contracts, some suitable information based on a feasible bookkeeping system should have been required to accompany the monthly vouchers as now is done in some cases. It is believed that much of the auditing difficulty in the past has been due to the lack of proper information in the application and not to the detail contained in the contracts. If the proper detail had been supplied for the subject contract so that each question mark shown in Table B had been represented by a sum, then the Government could have followed the reported expenditures with a minimum of effort since one could tell from the table what items were being expended too fast and thereafter learn the cause. Spot checking of the time sheets and vouchers against certain items in the table would keep the Operator on his toes and most of the work would be done by him. Lack of good bookkeeping records has made it difficult to keep costs down on a number of projects after ore had been exposed and the Operator started mining.

With time it seems that the detail has been an added burden to field men and supposedly to the Operators rather than a help. The writer suspects that in some cases, at least, it has handicapped the Operator who would like to benefit more than he was supposed to under

the contract, and in others that the auditors and certifying officers have considered the detail more conservatively than the field men and have caught items overlooked in the field.

In reviewing the monthly vouchers over a period of time, it has been noted that there is a great variation in the methods of distributing the various expenditures under the items listed on the MF-104 form. The unit costs are also calculated differently by different Operators some combining concurrent drifting, crosscutting and raising, each differing in size of opening, as a single unit cost. In cases where there are two types of workings which use the same type of labor and material, wholly or in part, it is impossible to compile data for comparative costs. Since this is true and since detail in contracts appears to be a burden on the field men and apparently has not helped in too many cases with regard to efficiency, possibly DMEA should further simplify its contract and MF-104 form. The different undertakings could be described in more detail stating the type of service and material to be used and allotting a lump sum for each undertaking against which actual costs would be charged each month until the undertaking was completed.

With regard to the Field Team's letter of October 14 and attachment. The writer has already mentioned that the field men might be called upon to determine over-breaking costs relating to the underground work as mentioned in a letter dated January 29, 1952. Since the letter stated that the Government would not participate in the overbreak, the writer cannot help but wonder who was going to absorb the extra cost except the Operator. Slabbing of the adit was accomplished by the end of April and it should have been apparent at that time that the adit was larger in cross section than allowed for under the contract and if there had been any doubt in anyone's mind regarding this, at that time it should have been called to Washington's attention.

If one looks at Table B, he can see that it was impossible to apportion all of the items pertaining solely to any one individual undertaking in Stage I because the information was not included in the application in such a form that it could be segregated with certainty.

In reaching a figure on which to prorate the cost of the adit, the writer is of the opinion that it should not be found in the contract but should be determined on time element, expenditures and amount of overbreak. For example, in writing Amendment No. 1, a

maximum of $275.00 was allowed for renting a larger size shovel. This amount was allotted in the contract for a smaller shovel. Ordinarily rental items are liquidated over a period of 18 months. Thus, at the above rate, one would pay $4,950.00 for a 12 B loader that would cost in the neighborhood of $3,600.00 as a maximum. The low rate of advance estimated for driving the adit has been mentioned previously. Since contracts are not usually cut to the bone, one could say that the costs estimated for slabbing and driving the adit should have exceeded the actual costs had the work been done as specified and under reasonably efficient conditions.

The writer cannot check the $8,922.44 figure in Howard's memorandum. It is somewhat higher than he can calculate but the variation is not too great. The items of pipe, track, cars and loader are inconsequential except that the heavier cars which the men could not push helped reduce daily progress in May to 2.37 feet compared to 5.33 feet in June when a trammer was used. The writer does not agree that the labor in the driving of the 8' x 9' heading was no greater than would have been required for a 6' x 8' section. The former is 50 percent larger in cross section, while the car capacity is slightly less than 50 percent and since only one car could be filled and trammed at a time, it is doubtful that the mucking time was reduced to any appreciable extent in the short distance trammed. Since the drilling was slow, it is practically a certainty that the time saved in tramming, if any, did not offset the extra drilling time. Costs such as these could be more easily figured on the proportion of extra holes that were required to drive the larger sized adit. It is unfortunate that the field men were not cognizant of the earlier letter and thus would have been able to secure on-the-job data. As previously mentioned, the necessary data were not available to determine a unit cost for either the slabbing or driving of the adit. Since the adit was slabbed to oversize, possibly it also should be considered which was not done by Mr. Howard.

Costs prior to starting the driving of the adit amount to $4,701.71 for 90 (also reported as 93) feet of slabbing and preparation or $52.24 a foot which is pretty high when one considers that the slabbing was done in 8-foot rounds in a little over a week. Probably either a lot of the cost of the adit site preparation for the waste track or part of the tram cost is included in the item. In the April voucher, the auditor allowed $1,663.05 seemingly for the adit labor. This is approximately 80 percent of the usual monthly payroll yet the slabbing was done in a little over a week. With a little foresight, possibly several hundreds of dollars might have been saved in the placing of the facilities.

The writer has studied both the application and the monthly vouchers without coming to any definite conclusions. DMEA could accept Mr. Howard's $540.00 figure, but the writer believes it is not representative and is so small that he would just as soon charge it to experience and forget the matter. While the $37.22 figure for Western Montana Development Company might be representative of what the subject adit should have cost and is close to that estimated for the new Bradley contract in quartzite, etc., the writer will agree with Mr. Howard that the smaller adit might not have been driven at the $37.22 figure. However, he is inclined to believe that it might have been driven for an additional one-half the difference between $64.19 and $37.22 or say $51.00 a foot. On this basis, the Operator would be expected to reimburse the Government in the amount of $13.00 a foot or $1,807.00 for the advance in the adit only.

With regard to repayment, the writer cannot feel as optimistic about the property as Mr. Howard, primarily because of the type of mineralization. If the results of the raising are indicative, the better mineralization sampled in the trenches could be representative of either a skin on the cliff face or of shoots as the writer discussed with Mr. Michelberger and Mr. Julian during the preparation of the contract.

Our copy of the August voucher shows an approved balance of $39,889.71 or approximately $40,000.00. With the exception of an item of $558.24, only undertakings under Stage I are included. The contract called for 160 feet of drift and 100 feet of raise while 139 feet of drift and 104 feet of raise where driven. Thus, the actual cost exceeded the estimated cost by approximately $8,100.00. By contract and amendment, the Operator was allowed $5,175.00 for facilities, three of which carried maxima amounts. The August voucher carries an approved $5,732.39. Rehabilitation is approximately as it should be. As previously mentioned, totals were changed when new MF-104 forms were reported. The building of the tram added more than $2,000.00 to the cost. Payroll taxes and liability insurance added another $1,600.00. Table B shows that miscellaneous expenses for the months of April-August amount to $2,036.60. The approved column for August shows $3,305.48. It is not known why this amount should be so large since most materials and supplies were otherwise accounted for in the contract. Small tools and additional parts were not covered but some of these should have been available from previous work. Theoretically, at least, no boarding house loss should be charged against the contract as the Operator in his application stated that he would stand such loss.

George C. Selfridge

G. C. Selfridge, Chief
Iron and Ferro-Alloy Division

cc: Admn. Reading File
Docket
G. C. Selfridge

GCSelfridge'lm - 11/19/52

TABLE A

AMERICAN ALLOY METALS

DOCKET NO. DMEA 2292 CONTRACT NO. Idm-E247

1. FIXTURES AND IMPROVEMENTS

STAGE I

(a) 16' X 30' building (all costs)		$1,000.00	
(b) Air, water, vent lines, etc.			
1. Portable water system, including labor	$1,200.00		
2. 800' - 1½" pipe, mine water line	256.00		
3. 450' - 2" pipe, adit and raise	198.00		
450' - 1" " " " "	94.50		
Pipe fittings	100.00	$1,848.50	
(c) Trackage			
1. 750' - 20# new rail, accessories		247.50	
(d) Tram (by amendment)			

STAGE II

(b) Air, water, vent lines, etc.			
4. 400' - 2" pipe	176.00		
400' - 1" pipe	84.00		
Pipe fittings	50.00	310.00	
Total - Fixture and Improvements			$3,406.00

2. OPERATING EQUIPMENT TO BE PURCHASED

STAGE I

(a) 3 mine cars	1,200.00		
(b) 1 chain saw	380.00		
(c) 1 air receiver	250.00		
(d) 2 Atlas drills	1,660.00		
(e) 5 oil stoves	400.00	3,890.00	3,890.00

3. OPERATING EQUIPMENT TO BE RENTED

STAGE I

(a) 1 105cfm compressor for road, $164.00/mo.	164.00		
(b-1) 1 315cfm compressor for adit, $470.00/mo.	1,880.00		
(c) 1 mucking machine for adit, $275.00/mo.	1,100.00	3,144.00	
(e) 1 rock drill (by amendment)			

STAGE II

(b-2) 1 315cfm compressor for intermediate level, $470.00/mo.	940.00		
(d) 1 slusher hoist for intermediate level, $125.00/mo.	250.00	1,190.00	

STAGE III

(b-3) 1 315cfm compressor for diamond drilling, $470.00/mo.		470.00	
Total - Equipment to be Rented			4,804.00

4. EQUIPMENT TO BE FURNISHED BY OPERATOR

	STAGE I			
(a-1)	1 truck, $30.00/mo.	$ 150.00		
(b-1)	1 pickup, $30.00/mo.	150.00	$ 300.00	
	STAGE II			
(a-2)	1 truck, $30.00/mo.	60.00	120.00	
(b-2)	1 pickup, $30.00/mo.	60.00		
	STAGE III			
(a-3)	1 truck, $30.00/mo	30.00		
(b-3)	1 pickup, $30.00/mo.	30.00	60.00	
	Total depreciation			$ 480.00

5. LABOR AND SUPERVISION

	STAGE I 1/			
(a-1)	Road work, mine water line, and adit site, 6 weeks	1,092.00		
(b-1)	Miners for adit and raise, 13 weeks	4,732.00		
(c-1)	Cook, 19 weeks	1,482.00		
(d-1)	Laborer, 19 weeks. Can be carried separately or distributed in (a), (b), or (c) above.	1,630.20		
(e-1)	Supervision, 5 months. Can be carried separately or distributed.	3,000.00		
(f-1)	OAB compensation, payroll taxes, etc. (Transfer funds from 9(c-2).)	-	11,936.00	

1/ May or may not include labor and supervision for 1(a) or 1(b)1.

	STAGE II			
(b-2)	Miners for intermediate, 8.5 weeks	3,094.00		
(c-2)	Cook, 8.5 weeks	663.00		
(d-2)	Laborer, 8.5 weeks	729.30		
(e-2)	Supervision, 2 months	1,200.00	5,686.30	
(f-2)	OAB compensation, payroll, taxes, etc.	-		
	STAGE III			
(b-3)	Miners for diamond drill sites	150.00		
(c-3)	Cook, 1 month	312.00		
(d-3)	Laborer, 1 month	343.20		
(e-3)	Supervision, 1 month	600.00	1,405.20	
(f-3)	OAB compensation, payroll taxes, etc.	-		
	Total labor and supervision, less that where a unit cost was given or contract work			19,027.70

6. REHABILITATION AND REPAIRS

	STAGE I			
(a)	4 cabins	400.00		
(b)	Compressor repair parts	200.00	600.00	600.00
(c)	Road, adit site. This item carried in labor $1,092.00, and contract $1,995.00. Text states total $3,092.00.			

7. MATERIALS AND SUPPLIES

		STAGE I		
(a)	House furnishings	$ 700.00		
(b)	Steel and bits	400.00		
(c-1)	Powder, fuse, caps	1,062.50		
(d-1)	Fuel and oil	1,552.50		
(e-1)	Assays	500.00		
(f-1)	Timber, etc.	349.80	$ 4,564.80	
		STAGE II		
(c-2)	Powder and fuse (caps inadvertently omitted in writing contract)	1,215.00		
(d-2)	Fuel and oil	879.00		
(e-2)	Assays	1,000.00		
(f-2)	Cable, etc.	58.50	3,152.50	
		STAGE III		
(d-3)	Fuel and oil	414.00		
(e-3)	Assays	750.00		
(f-3)	Materials for drill sites	50.00	1,214.00	
	Total materials and supplies			$ 8,931.30

8. CONTRACT WORK

	STAGE I		
(a)	Bulldozer for road, etc. 133 hours	1,995.00	
	STAGE III		
(b)	Diamond drilling	9,000.00	
	Total contract work		10,995.00

9. MISCELLANEOUS

		STAGE I		
(a-1)	Consultant	300.00		
(b-1)	Accounting, etc.	750.00		
(c-1)	Contingencies	1,250.00	2,300.00	
		STAGE II		
(a-2)	Consultant	300.00		
(b-2)	Accounting, etc.	500.00		
(c-2)	Contingencies	1,000.00	1,800.00	
		STAGE III		
(a-3)	Consultant	200.00		
(b-3)	Accounting, etc.	150.00	350.00	
	Total miscellaneous			4,450.00
	Total contract			56,584.00

OK

TABLE A- I

AMERICAN ALLOY METALS

DOCKET NO. DMEA 2292 CONTRACT NO. Idm-E247

For the Month of February
1952

1. Fixtures and improvements

1(a)	$ 287.49
1(b)1	273.65
1(b)2-3, 1(c)1	1,063.52

2. Operating equipment to be purchased

2(b)(d)	611.61
7(a)	295.11

3. Operating equipment to be rented

3(a)[6(c)] 1/	164.00
3(b)1	414.00
3(e) [6(c)]	52.90

4. Operating equipment to be furnished by Operator

4(a-1)[1(a), 1(b)1, 2(b)2(d), 6(a), 6(c)]	30.00
4(b-1)	30.00

5. Labor - supervision

1(a) $113.01, 1(b)1 $519.57, 5(a-1)[6(c)]$719.82, 5(c-1) $258.40, 6(a)$370.82	1,981.62
5(f-1)	159.30

6. Rehabilitation and repairs

6(a)	159.55
6(b)	1.50
6(c)	47.23

7. Materials and supplies

1(a) $64.16, 1(b)1 $64.31, 1(d) $270.27, 6(a) $64.16, 6(c) $151.32, 7(a) $240.12, 1(b)3 & 1(c)1 $130.06	984.40
7(c-1)	183.20

8. Contract work

8(a)[6(c)]	864.00
Total	$7,603.08

1/ [ ]= distribution

TABLE A-II*

AMERICAN ALLOY METALS

DOCKET NO. DMEA 2292 CONTRACT NO. Idm-E247

	Labor and Supervision	Equipment	Supplies	Contract	Total
CAMP WATER SYSTEM					
Feb.	$519.57	$ 12.00	$ 337.96	-	$ 869.53
Mar.	135.93	-	12.00	-	147.93
April	307.42	-	-	-	307.42
			Total		$1,324.88
COMPRESSOR HOUSE					
Feb.	113.01	12.00	351.65	-	476.66
Mar.	446.42	-	107.50	-	553.92
April	389.90	-	9.90	-	399.90
			Total		1,430.38
			Deleted - April .		269.97
			Sub-total		1,160.41
July	155.92	-	-	-	155.92
			Total		$1,316.33
WINTERIZE CABINS					
Feb.	370.82	12.00	223.71	-	606.53
			Total		$ 606.53
ACCESS ROAD					
Feb.	719.82	228.90	198.55	864.00	2,011.27
Mar.	377.01	289.90	255.69	272.00	1,194.60
April	-	-	17.71	-	17.71
			Total		$3,223.58
TRAM					
Feb.	-	-	270.27	-	270.27
Mar.	995.16	237.00	912.76	-	2,144.92
April	308.47	259.00	5.29	-	572.76
			Total		2,987.95
			Deleted - Arpil .		481.95
					$2,506.00

* Based upon information available in Washington.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~WASHINGTON 25, D. C.~~
1201 North Division Street
Spokane 2, Washington

November 18, 1952

Department of the Interior
Defense Minerals Administration
RECEIVED
NOV 21 1952

Mr. Robert N. Roby
American Alloy Metals, Inc.
Glen, Montana

Subject: American Alloy Metals,
Contract Idm-E247,
Project No. DMEA 2292 (tungsten)

Dear Mr. Roby:

We are pleased to send herewith a chemical laboratory report on the 17 raise samples you submitted from the subject DMEA project. The assays for WO_3 vary somewhat from the returns from the Union Assay Company, but probably not enough to materially change the picture in respect to evaluation of your project.

Sincerely yours,

M. E. Volin
Member, DMEA Field Team
Region II

Enclosure

MEV/vf

cc: DMEA, Wash. - 2
DMEA
M/D
D/F
USGS

CC: Robert N. Roby
American Alloy Metals Inc
Glen, Montana

6-308
(March 1947)

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

No. JDB 18

Report to Mr. Bardill

Chemical Laboratory Report

Date received _____ Confirmation Date reported ~~November 13, 1952~~

Serial No.	DESCRIPTION	Lot No.	Mo	MoO_3			fut						
49255	American Alloy Metals	JDB 29	0.66	0.04		0.11	5.0						
6		30	0.27	0.14		0.10	2.0						
7		1	0.10	0.02		0.09	2.5						
8		2	0.05	0.20		0.14	5.5						
9		3	<.02	0.43		0.13	5.0						
49260		4	0.55	0.16		0.10	5.0						
1		5	0.33	0.12		0.07	5.0						
2		6	0.30	0.09		0.07	4.5						
3		7	0.03	0.01		0.08	2.0						
4		8	0.02	0.06		0.08	3.5						
5		9	0.03	0.16		0.09	5.0						
6		40	<.02	0.25		0.18	5.0						
7		1	<.02	0.64		0.43	6.5						
8		2	0.02	0.35		~~N.S.~~ 0.30	6.0 7.5						
9		3	<.02	0.69		0.79	3.5						
49270		4	<.02	0.23		0.29	3.5						
1		5	<.02	0.60		0.49	4.5						

U. S. GOVERNMENT PRINTING OFFICE 16—33553-3

Signed Fort Stephen R. Shelton

0.225 0.200 81.5

Docket
Ass

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
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NOV 17 1952

Gld
11/21/52

November 11, 1952

Mr. F. E. Johnson, Chairman
Operating Committee, DMEA
Dept. of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-2292 - Tungsten
American Alloy Metals Company, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

In reply to your letter of October 31, I wonder whether a contract amendment is actually required. The contract provides for a raise "approximately 100 feet in length . . . . to explore the overlying granite contact and the tactite beds above it . . . .". The raise as driven was for this purpose and explored the overlying granite contact and the tactite beds above it. It is actually about 130 feet in length rather than the 100 feet specified; we wonder whether this could not be considered as "approximately" 100 feet. The top part of the raise was not driven up the dip as you state, but normal to it. The assay section and log of the raise sent with my letter of October 29 illustrates this.

Please advise us whether, in view of the above, it will still be necessary to make another amendment to provide for the small additional length and take into account the fact that the raise was not quite vertical at its top. We will make an amendment if you think it necessary, but we have the feeling that in the past we have made too many amendments, and we are trying to restrict their number to those that are actually required because of some serious or fundamental deviation from the contract as originally outlined.

Sincerely yours,

Copy retained 400

A. E. Weissenborn

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

cc: USBM (2)
Myers

11-20

FILE COPY
SURNAME:

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

Rutledge
Selfridge
Johnson
Matthews

OCT 31 1952

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract Idm-2247

Dear Mr. Weissenborn:

Reference is made to the routine inspection memorandum on the subject contract by John S. McNabb dated October 13, 1952. In a review of this report, it was noted that the raise was carried to a total height of 130 feet. Of this amount, the first 110 feet were vertical and the last 20 feet inclined at an angle of 56 degrees. The contract called for a vertical raise of approximately 100 feet as indicated on the cross section attached to the contract. From the report, the last 20 feet of the raise are apparently up the dip of the ore body.

We feel that an amendment to the contract covering the additional footage over the first 110 feet will be required. Justification for the additional footage and extension of the raise up the dip of the ore body should be included.

Sincerely yours,

Frank E. Johnson

Chairman, Operating Committee

FARutledge:lm
10/30/52

Approved:

J. H. Hedges

Member, Bureau of Mines

A. R. Finkel, Jr.

Member, Geological Survey

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
G. C. Selfridge
F. A. Rutledge

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
OCT 31 1952

GCL 10/31/52

October 29, 1952

Air Mail

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

Enclosed are four copies of the results of assays of channel samples taken by Robert N. Roby of the subject company. In our letter to you of October 21 replying to yours of October 16, (specifically Item 3) we told you these were received and would be sent just as soon as the information was plotted.

Very truly yours,

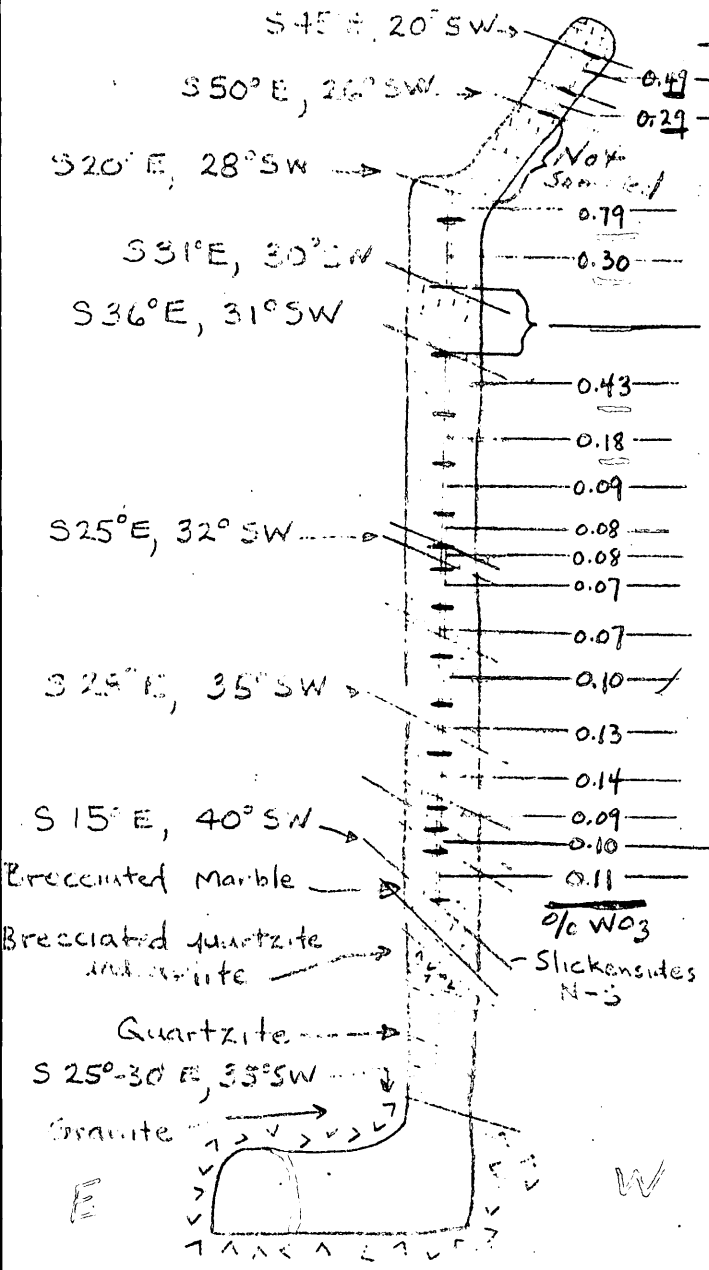
Eva M. Raymond

Eva M. Raymond
For: A. E. Weissenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure 1 (in quad.)

cc: USBM (2) w/encl.
Myers w/encl.

Copy retained 400

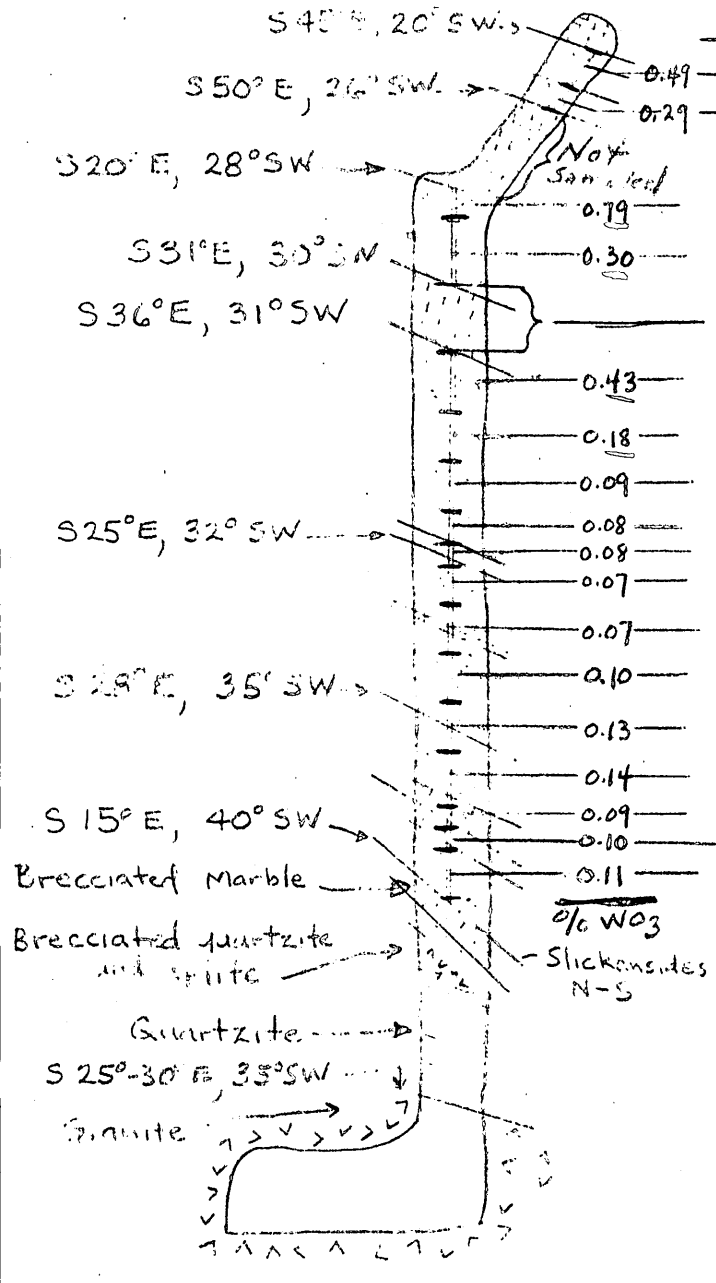


Sample No.	Sample Interval Feet	Sample Length Feet	Sample Material
45		-4.5	Fine grained tactite
44		-3.5	Limy tactite
43	105.0-108.5	3.5	Tactite
42	97.5-105	7.5	Tactite
N.S.	91.5-97.5	6.0	Marble(Not sampled)
41	85-91.5	6.5	Tactite
40	80-85	5.0	Tactite
39	75-80.5	5.0	Tactite
38	71.5-75	3.5	Tactite
37	69.5-71.5	2.0	Hornfels
36	65-69.5	4.5	Tactite
35	60-65	5.0	Coars Tac. with 10" Horn
34	55-60	5.0	Coarse tactite
33	50-55	5.0	Tactite with Horn. layers
32	44.5-50	5.5	Tactite with 1' marble
31	42-44.5	2.5	Partly replaced marble
30	40-42	2.0	Tactite
29	35-40	5.0	Horny tactite

Av. 4.5' 0.2009 % WO_3

SAMPLE LOG OF RAISE
SECTION E-W
Looking South
1": 20'
American Alloy Metals, Inc.
Glen, Montana

(Contr. Idm-E247)



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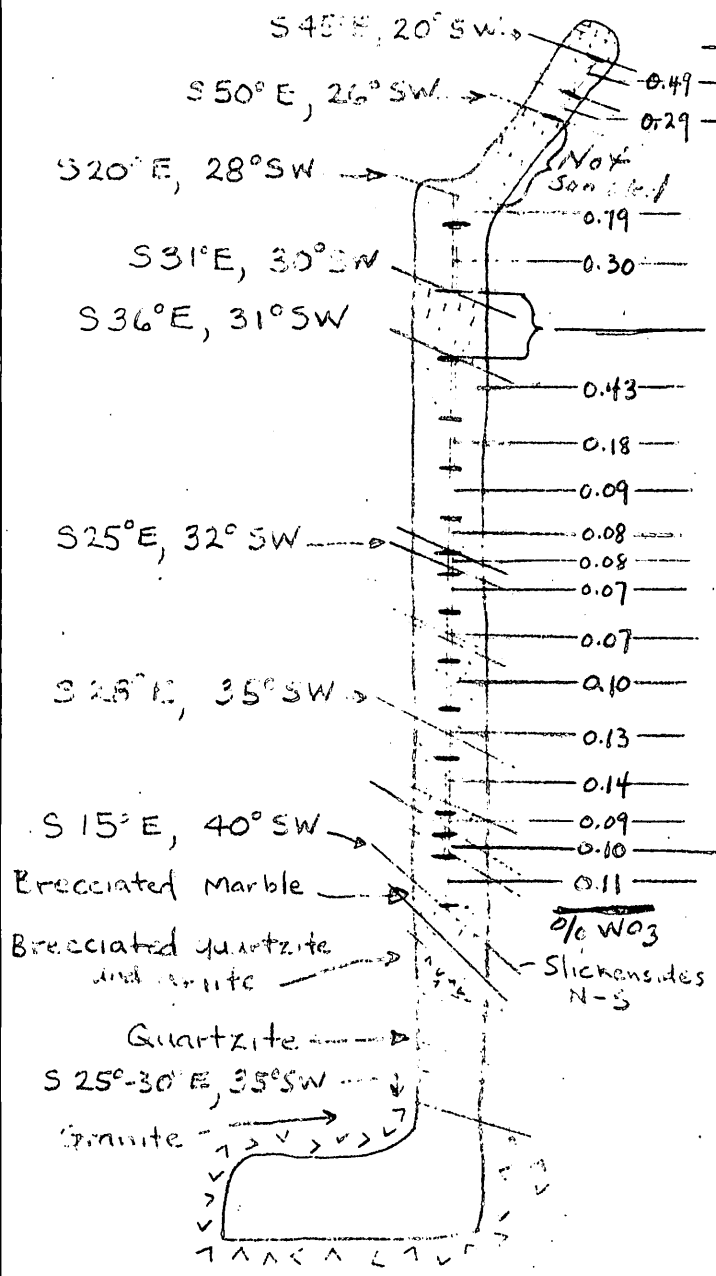
42	97.5-105	7.5	Tactite
N.S.	91.5-97.5	6.0	Marble(Not sampled)
41	85-91.5	6.5	Tactite
40	80-85	5.0	Tactite
39	75-80.5	5.0	Tactite
38	71.5-75	3.5	Tactite
37	69.5-71.5	2.0	Hornfels
36	65-69.5	4.5	Tactite
35	60-65	5.0	Coars Tac. with 10" Horn
34	55-60	5.0	Coarse tactite
33	50-55	5.0	Tactite with Horn. layers
32	44.5-50	5.5	Tactite with 1' marble
31	42-44.5	2.5	Partly replaced marble
30	40-42	2.0	Tactite
29	35-40	5.0	Horny tactite

SAMPLE LOG OF RAISE
SECTION E-W
Looking South
1": 20'
American Alloy Metals, Inc.
Glen, Montana

(Contr. Idm-E247)



Sample No.	Sample Interval Feet	Sample Length Feet	Sample Material
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N.S.	91.5-97.5	6.0	Marble(Not sampled)
41	85-91.5	6.5	Tactite
40	80-85	5.0	Tactite
39	75-80.5	5.0	Tactite
38	71.5-75	3.5	Tactite
37	69.5-71.5	2.0	Hornfels
36	65-69.5	4.5	Tactite
35	60-65	5.0	Coars Tac. with 10" Horn
34	55-60	5.0	Coarse tactite
33	50-55	5.0	Tactite with Horn. layers
32	44.5-50	5.5	Tactite with 1' marble
31	42-44.5	2.5	Partly replaced marble
30	40-42	2.0	Tactite
29	35-40	5.0	Horny tactite

SAMPLE LOG OF RAISE
SECTION E-W
Looking South
1": 20'
American Alloy Metals, Inc.
Glen, Montana

(Contr. Idm-E247)

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

[illegible]
No. 121 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 5 [illegible]

October 2[illegible] 1[illegible]2

Mr. Frank Eichelberger
American Alloy Metals, Inc.
Symons Building
Spokane, Washington

Dear Mr. Eichelberger:

Enclosed are copies of Amendment No. 4 to your Contract [illegible], Beaverhead County, Montana, Docket No. [illegible]-22[illegible]. If this amendment meets with your approval, please sign all copies, retain one copy for your files and return the original and remaining copies to this office.

Sincerely yours,

[illegible] Heinsenborn
Executive Officer, DMEA
Field Team, Region II

Enclosure

cc: USBM (2)
DMEA (2)
Myers

FILE COPY 400
SURNAME:

Selfridge
Wittenberg

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

OCT 27 1952

Mr. A. E. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Frenchee Claim
Beaverhead County, Montana
Contract Idm-2847

Dear Mr. Weissenborn:

This is in response to your letter of October 17, 1952, (actually dated July 17) transmitting a copy of a letter dated October 15 by Mr. Frank Michelberger and a copy of your reply thereto dated October 17, all relating to a change in the exploration program as set forth in the subject contract.

The present contract was drawn up to explore the Browns Lake tungsten deposit under ground and within the ore body during the last winter and spring to learn as quickly as possible of its merit. This was in lieu of waiting until this spring to do less expensive diamond drilling. Washington believes that all of the work should be done within the ore horizon as that is the only place where first hand, reliable information concerning the deposit can be obtained. However, we would not be opposed to your counterproposal which would allow for drifting on the adit level to the west if it is qualified that no further drifting should be done to the west if the footwall of the ore zone is not encountered within 50 or 60 feet as a maximum.

We believe that the work to the west should not be undertaken unless it is felt that the ore-bearing formation will be encountered within that distance. From the information at hand, it appears that the footwall of the tactite zone should reach the adit floor level at about 50 feet, however, there is one disturbing factor and that is the possibility of the quartz monzonite projecting as far north as the proposed drift at its point of intersection with the tactite bed. This is suggested by the quartz monzonite exposure in the face of the adit crosscut and the plotting of the same rock in the south 45 degree west trending diamond drill hole as shown on Roby's map of July 1, 1952.

We would be interested to know just how American Alloy Metals plans to mine the deposit. We agree with you that an intermediate drift at the base of the ore would not be wasted since a back pillar above the haulage level would have to be left anyway. We also believe that it can be done more cheaply than to drive a bigger drift from the present adit.

If the intermediate drifts should be driven as originally planned, couldn't the stub drift containing the raise be slabbed at the back on a slope and a box chute built which would allow filling a couple of cars in the crosscut. As you remember, there is some 30 feet of tail room at the face and there is less than that at the dump where a place was prepared for dumping ore.

Will you please send us at your earliest convenience a copy of the assays pertaining to the channel sampling in the raise as mentioned to Mr. Selfridge in your telephone conversation of October 21.

We shall reply to you shortly concerning your letter of October 14, 1952, which transmitted a memorandum by Mr. Howard relating to an adjustment in the cost of driving the adit crosscut.

Sincerely yours,

(signed) FRANK E. JOHNSON (FHB)

Chairman, Operating Committee

F.H. 10-27-52

GCSelfridge'lm
10/23/52

Approved:

Charles M. Merrill (FHB)
Member, Bureau of Mines

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

cc: Admn. Reading File
Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Operating Committee
G. C. Selfridge

P. S. - Please refer to memorandum dated January 11, 1952 by Mr. M. R. Klepper, (Docket No. DMEA 2292), noting especially his reference to hole #1 as logged by Myers. Compare information with map dated September 12, 1951, which shows the Ivanhoe claim and possibly the trend of the quartz monzonite, DMEA-1951.

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
OCT 27 1952

GCL 10/29/52

October 21, 1952

Mr. F. E. Johnson, Chairman
Operating Committee, DMEA
Dept. of the Interior
Washington 25, D. C.

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Brown's Lake Tungsten Deposit
Beaverhead County, Montana
Exploration Contract Idm-E247

Dear Mr. Johnson:

This will acknowledge your letter of October 17 re merit of the oversize adit on the subject contract. It is obvious that the Field Team memo of October 14 giving cover to a memo from Mr. Howard of the Bureau of Mines with the same date had not reached you at the time this letter was written. The above mentioned memo by Mr. Howard discusses how the additional costs of driving an oversize drift were calculated and the steps that were taken. If you agree with the calculations, we will instruct the Operator to make the appropriate deductions in a future voucher. You will note also that the questions that you raise in respect to the payment for pipe, rail, mine cars, etc. have been answered in Mr. Howard's memorandum.

In regard to the first paragraph of your letter, I am requesting the Bureau of Mines to furnish you a list of the deletions made on the past monthly reports.

Sincerely yours

A. E. Weissenborn

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

cc: USBM (2)
Myers

Copy retained 400

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

Must answer 10/17/52

July 17, 1952

Airmail

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Washington 25, D. C.

Re: Docket No. DMEA-2292 (Tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

Enclosed are two copies of a letter from Mr. Frank Eichelberger together with copies of our reply. I think that the correspondence is self-explanatory.

Actually we believe that the counterproposal made by us is preferable to Mr. Eichelberger's scheme. Our chief interest, however, is getting the job wound up as rapidly as possible so that we can arrive at some decision concerning the value of the deposit. Mr. Eichelberger's proposal is quite logical--our only real objection to the scheme is that it smacks rather strongly of development. If Eichelberger insists, the Field Team would be perfectly willing to yield the point with reasonably good grace provided that the Operating Committee will accept Eichelberger's east drift in the footwall under the ore body as legitimate exploration.

Yes

No

We would appreciate your appraisal of the situation at the earliest possible opportunity so that we will be better guided in our dealings with Mr. Eichelberger. He will, we understand, return from Washington very soon.

Sincerely yours,

A E Weissenborn

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

Enclosures

cc: USBM (2)
Myers

JUL 23 1952

Copy retained 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
~~XXWASHINGTON25,DXCXXX~~
Spokane, Washington

400

October 17, 1952

Special Delivery
Air Mail

Mr. Frank Eichelberger
American Alloy Metals, Inc.
Windsor Park Hotel
Washington, D. C.

Docket No. DMEA-2292 (Tungsten)
Ivanhoe Lode, Beaverhead
County, Mont., Contract No.
Idm-E247

Dear Mr. Eichelberger:

We have received your letter dated October 15, 1952, dictated in Washington requesting a change in the contract to permit driving the exploratory drifts from the adit level rather than from a point in the raise above the tunnel level. As you stated, Mr. Julian discussed this with Weissenborn during his recent visit to Spokane.

Driving the exploration drifts from the adit level undoubtedly offers a number of operating advantages and would eliminate the difficulties that can be expected in attempting to load cars from a raise located in a dead-end crosscut. Another argument for drilling from a drift below the tactite body is that the adit level drift could also be used as a main haulageway after the mine is in production. Your suggestion, at first thought, was very favorably received and therefore has received very serious consideration.

On more careful consideration there are also a number of objections to the plan. You will agree, I am sure, that the grade of the ore is the important factor. We now think that estimates of minimum tonnage can be made with a fair degree of reliability. You will also recall that the principal reason for shifting to underground exploration was to permit quick physical access to the ore to observe its grade - and equally important - the continuity (or lack of it) of the ore grade. Drifting under the ore body will necessitate grade estimates based almost wholly on diamond drill results and will not permit observation of variation in grade of the ore. The same information could have been obtained by drilling only slightly longer holes from the surface following the original plan and without the expense of driving a costly drift, which, however useful in later operations, serves during the exploration period only as a place from which to drill. This will be a little difficult for us to explain to our Washington office if and when the project is reviewed.

There is, however, a possible compromise which we believe may be acceptable to you. The reason that it was decided to explore

the ore body from a point in the raise rather than from the adit is that we were not sure that the main tactite bed would reach the adit level before being cut-off by the "granite." (We did not at that time realize the full significance of the granite-quartz monzonite relationship.) Work done recently now indicates we were half right; it is now reasonably clear that although the tactite bed east of the adit probably abuts against the quartz monzonite before reaching adit level, it probably does extend below adit level west of the adit. We therefore suggest that the west drift be driven at adit level along the footwall of the tactite bed, the full thickness of the bed to be tested by at least one crosscut and by supplementary diamond drill holes where desirable.

By extending the west crosscut past the raise, ample room will be provided for a loading chute and for tail room for a train of cars permitting easy removal of rock dumped into the raise from a scraper drift. The scraper drift would be driven in the tactite bed somewhere near the footwall. It would permit visual inspection of the ore, provide a large scale sample for test purposes and would provide a site for such supplementary drilling as seemed necessary. (Incidentally, in view of the continuity of grade indicated in the trenches dug by you this summer across the outcrop, if it can be established that the tactite zone continues to near the quartz monzonite contact without significant change in grade, it is our opinion much of the underground drilling previously planned may prove unnecessary.) We further believe that a scraper drift at the proper elevation would not be as useless as you believe. On the contrary, it would be quite as useful as your proposed drift on the haulage level, as it could be widened out to serve as the sill floor of a future stope. Furthermore, we do not believe that under the above conditions a scraper drift from the raise would cost any more than a drift on the adit level - in fact, in our opinion it should cost less. A recent estimate of about $37.00 a foot was accepted by Mr. Roby as a fair price for such a drift.

An amendment to carry out the work as outlined above could be made by the Field Team as it would not change the intent of the original contract to keep the exploration workings in ore as far as possible. A drift deliberately laid out under the ore would, we believe, require a Washington amendment as this would represent a major shift in plans.

In view of all the above, we ask you to consider the proposal set forth herein. If it is acceptable to you we will prepare the necessary amendment so that work can begin without delay. However, we do not wish to be arbitrary and so that no time be lost we suggest that the west drift be begun at once at adit level. You could then discuss with us any modification of our proposal regarding the east drift on your return to Spokane, which I understand will be soon.

Upon your return to Spokane we would also like to discuss with you the possibility of putting all the drifting, whether it be

by scraper or by mucking machine, on a unit cost basis in order to simplify bookkeeping and thus facilitate payment. Bureau of Mines engineers have made a thorough study of costs connected with the contract and we are confident that a mutually agreeable per foot price can be agreed upon.

By DMEA Field Team, Region II

A. E. Weissenborn, Executive Officer
U. S. Geological Survey
So. 157 Howard Street

M. E. Volin, Member
U. S. Bureau of Mines
1201 North Division

cc: 401 Symons Bldg.,
Spokane, Wash.
E. A. Julian, One Montgomery St.,
San Francisco, California
R. H. Roby, Glen, Montana
DMEA (2)
USBM (2)
Myers

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

October 15, 1952

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

Dictated by Frank Eichelberger in
Washington, D. C. on October 10

Address reply to 401 Symons Building
Spokane 4, Wash.

Mr. A. E. Weissenborn
U. S. Geological Survey Field Team
157 South Howard Street
Spokane 4, Washington

Dear Mr. Weissenborn:

In a telephone conversation last night with Mr. Julian, President of American Alloy Metals, Inc., he told me of his latest trip to our Browns Lake tungsten property and of his subsequent conversation with you on the future development program.

The cost of driving a slusher drift from some point in the present raise would be very expensive and in our opinion would not be the best method to prospect the orebody. The drift would have to be driven perfectly straight, could not follow the ore, in case any irregularities occurred in the hanging or foot walls, and would not even then explore the thickness of the ore, which would have to be done by diamond drilling and sampling would depend upon the drill core.

Is it not therefore much more logical to drive from the tunnel level where we have a mucker, cars, motor, etc., and the work can probably be done for half the cost, and certainly very much faster and easier.

This drift, or if we desire to drive both ways along the strike of the ore, can be driven close to, if not actually on the foot wall of the orebody, and drilling done much more easily and cheaper than from up in a raise where servicing would be a problem.

We strongly protest against this outlined development for the above reasons, as well as for ease in the future development and exploitation of the property.

Please let me have your reactions to this letter, with a copy to Mr. Estey A. Julian at No. 1 Montgomery Street, San Francisco, California.

Thanking you for your attention to this and for the many courtesies extended to us in the past.

Very truly yours,

AMERICAN ALLOY METALS, INC.

Frank Eichelberger
Vice President

fe mew
cc Messrs. E. A. Julian
R. N. Roby

400

FILE COPY
SURNAME:

Rutledge
Selfridge
Clemmer

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

OCT 17 1952

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Brown's Lake Tungsten Deposit
Beaverhead County, Montana
Exploration Contract Idm-M-247

Dear Mr. Weissenborn:

Reference is made to the subject docket. In a review of the project costs through September 30, 1952, it was noticed that numerous deletions have been made by the Government that do not appear on our copies of the monthly MF-104 forms. It would be appreciated if you would furnish us with a list of all deletions made on the past monthly reports in order that we may correct our cost data.

Your attention is also called to the payment for pipe, rail, and mine cars. The Operator stated his intention of purchasing sizes larger than those specified in the contract, and the additional cost on a unit basis was to have been paid by the Operator. Since we do not have the corrected project charges, we do not know if this was done. Please advise us if these additional costs were borne by the Operator.

The contract also specified that the adit should be 6' x 8' in cross section. It is our understanding that the adit was driven at a much larger size than that specified in the contract. If the additional cost of driving a larger size working has not been calculated and deducted from the project cost, it should be done as soon as possible. This also would apply to the raise and other underground workings.

Sincerely yours,

(signed) FRANK E. JOHNSON (2B)

Chairman, Operating Committee

FARutledge:ls 10/15/52

Approved:

J. H. Hedges (2B)

Member, Bureau of Mines

G. R. Finkel, Jr. (2B)

Member, Geological Survey

Copy to: Admn. Read. File
Docket
F. A. Rutledge
G. C. Selfridge
Op. Committee
FT, Region 2
D. M. Lemmon, USGS
R. W. Geehan, USBM

J.H. 10-17-52

BL

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

So. 157 Howard Street
Spokane 4, Washington

October 16, 1952

Mr. Frank E. Johnson, Chairman
Operating Committee, DMEA
Washington 25, D. C.

Re: Docket DMEA-22,2 (Tungsten)
American Alloy Metals, Inc.
Beaverhead County, Montana
Contract Idm-E247

Dear Mr. Johnson:

Enclosed is Amendment No. 3 (original and two signed copies) to the subject contract. The justification for this amendment is attached thereto.

We are also enclosing the original and two signed copies of the agreement combining two exploration projects (Idm-E105 and Idm-E127) and terminating them. As the agreement was consummated, we are destroying all copies of the Guaranty in accordance with your letter dated September 22, 1952.

Copies of the amendment and agreement have been retained by the Operator, copies are being retained for the files of this office, and by carbon copy of this letter, copies of the documents are being sent to the Regional Finance Officer.

Sincerely yours,

cc
11-10

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

Enclosures
cc: USBM (2)
Reg. Finance Officer w/encls.
Myers

OCT 8 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Spokane, Washington
October 14, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 17 1952

MEMORANDUM

To: Chairman, Operating Committee, DMEA, Washington, D.C.

From: DMEA Field Team, Region II

Subject: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc., Beaverhead County, Mont.
Contract Idm-E247

This in reply to Mr. Johnson's letter of August 4, 1952, concerning a possible adjustment in charges for oversize workings driven in connection with operations under the above contract.

Previous to Mr. Johnson's letter, the Field Team had not been aware that Mr. Eichelberger had agreed, at the time of contract negotiations in the Washington office, that the Operator would absorb all costs incurred in driving a larger section than that specified in the contract. This explains why we did not set up any method of determining, during the Stage I operations, the costs incurred above those that would have been chargeable in driving the 6x8 cross-section specified.

see letter of January 29, 1952

Correct distribution of costs in 104 not in contract discuss are estimates not maxima

This contract has been, for reasons obvious to anyone who would examine it in detail, a difficult instrument with respect to administration of the project. It has been confusing to the Operator, the Field Team, and the Certifying Officer, and each of us has found different determinations in attempting to understand it. Now, in trying to arrive at the information requested in Mr. Johnson's letter, we find the contract does not furnish a useful basis for arriving at an equitable adjustment because labor, supplies and other costs are detailed for each stage of the project but not split or apportioned to the individual items of work set up in any particular stage.

The attached memorandum by T. E. Howard, Bureau of Mines, gives the best solution we can come to at this time, and reflects the results of considerable discussions we have had over this matter.

The Field Team recommends that the Operator be notified to reimburse the Government for overcharges resulting from driving a larger section than specified in the contract and that the Operator be instructed to do this by showing a credit of $540 on a future voucher (MF-104) submitted for payment of costs under the contract.

By Field Team, Region II

Thomas E Howard
acting for M. E. Volin, Member
U. S. Bureau of Mines
1201 N. Division St.

A. E. Weissenborn
A. E. Weissenborn, Exec. Officer
U. S. Geological Survey
So. 157 Howard St.

Made & copy retained 400

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D. C.~~
1201 N. Division St.
Spokane 2, Washington
October 14, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 17 1952

MEMORANDUM

To: DMEA Field Team, Region II

From: T. E. Howard, Mining Engineer, Bureau of Mines

Subject: Docket No. DMEA 2292 (tungsten)
American Alloy Metals, Inc., Beaverhead County, Mont.
Contract Idm-E247

Reference is made to Mr. Frank E. Johnson's letter of August 4, 1952, concerning a possible adjustment in charges for oversize crosscutting done in connection with operations under the captioned contract.

48 The contract specifies a 6x8' cross-section for crosscutting and drifting, whereas the drift and crosscut actually driven under the contract have averaged 8x9 feet in section. Mr. Johnson's letter indicates that the Operator agreed to absorb all costs incurred in driving the larger section beyond those that would have been incurred in driving a heading of the size specified, an agreement the Field Team had not been informed about heretofore.

72 50% over-break

Jan 29, 52

As of September 1, 1952, 139 feet of crosscut had been driven at a total cost of $8,922.44, or a unit cost of $64.19 per foot. This included everything except purchase of equipment. It will be noted that these figures do not correspond with those reported on Forms MF-104 submitted to date. The discrepancy results from the Operator's reporting as crosscutting 90 feet of slabbing in the existing adit.

see Aug approvals & are cost

A review of the files and discussion with the Operator indicates that the Government has not contributed to the full cost of crosscutting accomplished to date. Cost items for which some adjustment was made while the work was in progress are listed below.

1. Pipe - 4-inch victaulic pipe has been installed but Government contributions were based on the cost of 2-inch pipe. Labor for installing the larger victaulic pipe was no greater than would have been required for installing the smaller threaded pipe.

OK if not bent

2. Track - 40# rail (20# allowed) has been used, but only the cost of an equivalent length of 16# rail has been charged to the project. The labor cost for installing the heavier rail probably was slightly higher than would have been incurred for laying lighter track, but the excess

Copy retained 400

can be considered too small to be consequential. It might be argued that time saved in track repairs and in more efficient haulage would make up for the difference, and in any case the cost of laying track is only a small portion of the total labor cost for drifting and cross-cutting.

Used estimates as maxima

3. Heavier equipment than was necessary for a 6x8' heading was rented or purchased for use in the large heading, but Government contributions were limited to that specified in the contract for smaller machines. Ore cars of 40 cu. ft. capacity were purchased instead of the 28 cu. ft. cars specified, and the difference in price was absorbed by the Operator. A large mucking machine was rented but rental in an amount equivalent to that which would have been incurred for a small machine was charged to the project.

Adjustments other than those above were not made. The fact that other supplies, in addition to pipe and rail, probably would be greater in proportion to the size of the heading was not considered. Obviously, more holes were drilled to break the larger cross-section and bit and steel costs, therefore, were higher, as was consumption of explosives. Moving the larger amount of muck required more power, so that the cost of diesel fuel was greater. It is considered, therefore, that adjustments should be made for these items. These total costs, to which the Government contributed 75 percent, are given below.

see May & June invoices

Drill steel (integral carbide bit)	$314.65
Fuel	360.71
Explosives	946.31
Total	$1,621.67
Labor, supervision, equipment rental, pipe, rail and all other costs	7,300.77
Total cost of crosscutting	$8,922.44

The amount of the adjustment can be calculated on the basis of difference in cross-section, as follows:

$$100 - \frac{(6 \times 8 \times 100)}{(8 \times 9} = 33.3\% \; ? = 50\%$$

$$.333 \times 1621.67 = \$540.$$

64' in May could depend on cut. Trammer only 1/2 June

The Operator contends that labor in driving the 8x9' heading was no greater than would have been required for a 6x8 section. He reasons that with the larger equipment the excess cost of which was borne by him, and the air trammer, purchased for the project but not charged under the contract, the work cycle for a round in and out was the same. The actual advance averaged only 4-1/2 feet per round, even though "burnt-cuts" were used. The Operator is convinced that a smaller section would have permitted a shorter round. This is problematical and cannot be argued with conviction.

Length of round depends on type of burn cut

The amount by which the actual cost of crosscutting exceeded that originally estimated cannot be determined on the basis of cost reporting as required under the contract as the total estimated cost of this item of work does not appear. Labor, supplies, etc., are detailed for each stage of the project but no split is made for the different items of work in any particular stage. In spite of the immense amount of detail set forth in Exhibit "A", the contract was not useful as a guide in administering the project, and cannot be used now to arrive at an equitable adjustment.

estimated costs are estimated and not to be used as mapping Pro-rating should be made on actual costs and data secured on drilling

If submitted information had been complete then total cost could have been estimated. see if appic can be broken down

It is recognized that adjustments already made and those recommended above do not take into account all factors which might have contributed to the cost of the larger heading by reason of its size. For example, repair parts are not considered. Operating data are not available in the detail necessary to evaluate these other items, but it is apparent from the foregoing that excessive costs incurred for crosscutting cannot be attributed altogether to the larger size of heading driven. Factors involved in the overall high cost are the remote location of the property, difficult operating conditions, overhead charged only to the one heading, and poor quality of available labor, as well as inefficiency of operations, perhaps.

Our experience on other projects with comparable operating conditions indicates that a 6x8' heading should cost between $35 and $40 per foot. During the past year, 1226.5 feet of crosscutting and drifting 6x8' in cross-section have been completed by the Western Montana Development Company under Contract Idm-E30 for an average cost of $37.22 per foot, excluding equipment purchased. If it is the wish of the Operating Committee to hold the Operator to the cost which should have been incurred for driving a 6x8' heading, this figure could be used. It is doubtful, however, if the Operator would have obtained such a cost even if the smaller heading had been driven.

In requiring any adjustment it should be borne in mind that a discovery will be certified as a result of this project, and that the chances for full repayment of the Government's contribution under this contract are as good as for any project in Region II. ???

Your attention is directed to the fact that other costs of Stage I of the project have exceeded the amount allotted in the contract. The excess for each item cannot be determined readily because of the deficiencies in Exhibit "A" of the contract, but a total of $41,000 for Stage I had been expended as of August 31, when work on it was almost complete, whereas the estimated total cost of Stage I was $31,826.00. Therefore, no matter what adjustment is made in the cost of drifting and crosscutting, additional funds will be required if the project is to be completed essentially as originally visualized.

see Table B. lack of detail

or lack of info in 104'5?

Orig. & 2 cys—Wash.
USGS (2)
DMEA
JSMcN

T. E. Howard

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

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 1952

October 1, 1952

American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

Dmea 2292

Gentlemen:

Enclosed herewith are copies of Amendment No. 3 to your Exploration Project Contract No. Ida-E247. Would you please have an authorized official of your company sign all copies, retain that copy marked "Operator's Copy" for your files and return the others to this office.

Sincerely yours,

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

Enclosure

cc: USBM (2)
DMEA (2)

AMEA 2292

MONTANA GROUP ON ROAD TO SUCCESS

American Alloy Metals, Inc., headed by E. A. Julian, San Francisco, and Frank Eichelberger, Spokane, has completed work provided by a Government exploration loan on a group of tungsten claims in Beaverhead county, south of Butte.

The work has been certified, which means that the company now is in a position to seek other federal help for development of the deposits. A compressor has been installed, a 250-foot double track driven to the adit level which has been advanced about 50 feet toward the underground extension of the orebody from outcrops on the surface.

NOTE: Excerpt from The Mining Record, Thursday, September 25, 1952.

FILE COPY
SURNAME:

Selfridge

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

September 24, 1952

Memorandum

To: Administrator, DMEA

From: G. C. Selfridge

Subject: Inspection report
Docket No. DMEA 2292 - Tungsten
American Alloy Metals
Ivanhoe claim
Beaverhead County, Montana
Contract No. Idm-F-247

The Brown's Lake project was visited on September 5. Messrs. Weissenborn, Volin, Myers, McNabb, and the writer made up the visiting party. Frank Eichelberger and Blair Burwell were also visiting the camp. An old adit has been enlarged and then extended about 150 feet. It was driven in granite, which regionally is conformable with the overlying sedimentaries. At the face the adit encountered a body of quartz monzonite and the contact between the two igneous bodies is quite steep. Partial relogging of the surface diamond drill holes suggests that the contact is steep and that the quartz monzonite limits the higher beds in depth while the granite limits the lower. Just back from the face in a short crosscut a raise has been driven for 104 feet vertically crosscutting through the ore zone. The face was still in tactite which carries fluorescent minerals. The raise first penetrated a limited thickness of granite, then quartzite and finally marble before reaching the tactite. Judging from the raise the granite crosscuts the formations, thinning the quartzite from 40 feet near the portal of the adit to 5 feet at the raise. All the broken rock from the raise must be shovelled from the floor, which seems an unnecessary procedure. The raise has been driven oversize and the cost has been high. Samples from the raise rounds have averaged only 0.13 percent WO_3. Reportedly fluorescence suggests that the grade should be higher. It was the writer's thought that possibly the intermediate level provided for in the contract should have been driven at the bottom of the ore before the raise was driven its entire distance in order to secure information more quickly and cheaply.

The question of the elevation at which to drive the intermediate level was discussed by the Operator and the DMEA members. It was thought best to drill a single diamond drill hole from an old adit to test the area of the projected face of the contemplated intermediate drift to be sure that the igneous rock did not cut out the tactite at the elevation provisionally selected for driving the level.

The Company has cut and sampled three more trenches on the surface. These, with the Bureau of Mines' trench cut last year, reportedly average 0.44 percent WO_3. It is now calculated that approximately 400,000 tons of ore is present in a block 600 feet long along the strike of the tactite. This averages 0.38 percent WO_3 including the raise figure as reported by the Company. A fourth trench has been dug 300 feet west along the strike of the block which has not been sampled. If it indicates ore, the ore reserve will be increased accordingly.

The Government has not sampled any of the new work and this was discussed with the Field Team. The entire cost of the oversized workings has been paid and it is not known if the larger pipe and heavier rail have been prorated as called for in the amendments. A decision should be made regarding the excess payments on the adit and raise.

George C. Selfridge

Chief, Iron and Ferro-Alloy Division

GCSelfridge:ls
9/23/52

Copy to: Docket
Admn. Read. File
G. C. Selfridge

400

FILE COPY
Surname:

Martin
Selfridge
AEKane
Hofflund

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

C C
O O
P P
Y

(DATE STAMPED)
Sep. 22, 1952

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

Re: Dockets Nos. 148, 1951, & 2292 - Tungsten
American Alloy Metals, Inc.
Browns Lake property
Beaverhead County, Montana
Contracts Nos. Idm-E-105, E-127, & E-247

Dear Mr. Weissenborn:

Enclosed are the original and five copies of a proposed agreement combining two exploration projects (Idm-E-105 and Idm-E-127) and terminating them. We have left blank the date of the agreement in the first line of the first page and the date of the termination under section 4, page 2, to be completed by you.

Please have the above executed by American Alloy Metals, Inc., and returned to us if the agreement is satisfactory to the Operator. If any part of the agreement does not have the Operator's approval, please return all six copies to this office, together with the proposed changes for consideration.

In addition to the foregoing, we are returning herewith all the copies of a Guaranty signed by Mr. Frank Eichelberger, which we have left undated because it will not be required if the proposed agreement is consummated.

Sincerely yours,

/s/ Frank E. Johnson

Chairman, Operating Committee

Enclosures

WSMartin:ls 9/16/52

Approved:

J. H. Hedges
Bureau of Mines

T. P. Thayer
Geological Survey

cc: Docket
Admn. Read. File
Field Team, Region 2
Operating Committee
W. S. Martin
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

C C
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P P
Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
Washington 25, D. C.

File Copy
Surname

Chambers

C C
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P P
Y

August 27, 1952

Memorandum

To: Mr. J. L. Hofflund, Chief Counsel

From: Jay L. Chambers, Chief (Stamped) (Signed) J. L. Chambers
Contract Administration

Subject: American Alloy Metals, Inc., Docket No. 148, Idm-E105; Docket No. 1951, Idm-E127; and Docket No. 2292, Idm-E247

Reference is made to your memorandum of August 26, 1952 in regard to the above-referenced projects.

I have read your proposed amendment to combine these three projects. I believe this proposed amendment will solve the difficulties which we have experienced in certifying the reimbursements on these projects.

Attachments

JLChambers/wb
August 27, 1952

Copy to; Mails & Files
Admr. Reading File
Mr. Selfridge
Mr. Chambers

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Y

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

140

File Copy
Surname

C C
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P P
Y

August 26, 1952

Memorandum

To: Mr. J. L. Chambers

From: Chief Counsel

Subject: American Alloy Metals, Inc., Docket No. 148, Idm-E105; Docket No. 1951, Idm-E127; and Docket No. 2292, Idm-E247

Attached is a rough draft of "Agreement Combining Two Exploration Project Contracts and Terminating Them," which I have made pursuant to Mr. Selfridge's request and his memorandum to me dated August 6. I underatand that this proposed contract is largely for the benefit of accounting and auditing the two contracts in question.

Mr. Selfridge left today on his trip West, and took a copy of this draft agreement with him. It has been examined by Mr. Martin of Mr. Selfridge's office, who advises me that he thinks it is in good order, but suggests that we wait uhtil we hear from Mr. Selfridge before we put it in final form. In the meantime please examine this draft agreement and see if it will accomplish the purpose.

/s/ J. L. Hofflund

J. L. Hofflund
Chief Counsel

Attachments

JLHofflund/em
Copy to: Mails and Files
W. S. Martin J.L.Hofflund chron

C
O
OP
Y

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
AUG 25 1952

August 19, 1952

Mr. Frank E. Johnson
Chairman, Operating Committee
Defense Minerals Exploration Administration
Washington 25, D. C.

Subject: Docket No. DMEA-2292X
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contr. No. Idm-E247 (Tungsten)

Dear Mr. Johnson:

This will acknowledge your letter of August 15 referring to my letter of July 25 to the Operator approving a change in the contract. In approving the change, we were somewhat puzzled how to proceed. We felt that inasmuch as the change was not a change in the work to be done, but merely a change in the order of doing the work, a formal amendment would not be necessary. In the future, however, we will take care of matters of this kind by a formal amendment, and we are informing the Operator and the Regional Fiscal Officer that my letter of July 25 to Mr. F. E. Eichelberger is to be considered as Amendment No. 2 to the contract and be so marked.

Sincerely,

A. E. Weissenborn

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

cc: USBM (2)
Fiscal Officer (DMEA) Albany (1)
W. B. Myers

Copy retained 400

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

So. 157 Howard Street
Spokane 4, Washington

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 25 1952

August 19, 1952

Mr. F. E. Eichelberger
American Alloy Metals, Incorporated
Simons Building
Spokane, Washington

Re: Docket No. DMEA-2292X
Contract Idm-E247
Ivanhoe Claim
Beaverhead County, Mont. (Tungsten)

Dear Mr. Eichelberger:

Will you please regard and so mark my letter of July 25 approving the drilling of a hole at the end of the crosscut, which was originally a part of Stage III, as Amendment No. 2 to subject contract. Thank you very much.

Sincerely yours,

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

cc: DMEA (2)
USBM (2)
Fiscal Officer (DMEA) Albany
W. B. Myers

AEW/ac

Paper rehabilitated 2000

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 25 1952

So. 157 Howard Street
Spokane 4, Washington

August 19, 1952

Mr. W. R. Lee
Regional Fiscal Officer
U. S. Bureau of Mines
Albany, Oregon

Re: Docket No. DMEA-2292X
Contract No. Idm-E247
Ivanhoe Claim
Beaverhead County, Mont. (Tungsten)

Dear Mr. Lee:

Listed below and enclosed are copies of correspondence in connection with subject contract which are self-explanatory:

1. Ltr fr Weissenborn-Johnson dtd 8-19-52
2. Ltr fr Weissenborn-Eichelberger dtd 8-19-52
3. Ltr fr Johnson-Weissenborn dtd 8-15-52
4. Ltr fr Weissenborn-Johnson dtd 7-25-52
5. Ltr fr Weissenborn-Eichelberger dtd 7-25-52 (to be marked "Amendment No. 2")

Sincerely yours,

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

cc: DMEA (2)
USBM (2)

Retained 4(b)

FILE COPY
SURNAME:

A E Kane
Hofflund
Selfridge
Chronicle

UNITED STATES 140
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

AUG 15 1952

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

Subject: American Alloy Metals, Inc.
DMEA-2292X - Contract No.
Idm-E247 (tungsten)

Dear Mr. Weissenborn:

Reference is made to your letter to me dated July 25, enclosing a copy of a letter to the Operator of the same date approving a change in the contract.

This letter is approved, but it should be marked as Amendment No. 2. In the future, I should prefer that amendments not be accomplished in this way but be signed by the Operator as well as by the Government.

S.N. 8-15-52

Sincerely yours,

(signed) FRANK E. JOHNSON (JHB)
Chairman, Operating Committee

AEKane/ema/8-12-52
cc: Mails & Files
Adm. Reading File
Operating Comm.
J. H. Hedges
T. P. Thayer
J. L. Hofflund
A. E. Kane
G. C. Selfridge
Chron.
Pending

Approved:

P. N. Johnson (JHB)
Member, Bureau of Mines

S. M. Lemmon
Member, Geological Survey

400

FILE COPY
SURNAME:
Selfridge

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

AUG 4 1952

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

Re: Docket No. DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Ivanhoe Claim
Beaverhead County, Montana
Contract No. Idm-E-247

Dear Mr. Weissenborn:

During review of the Operator's monthly report for May it was noted that the footage cost of advancing the adit was $72.69 and that the unit cost to date was $60.73.

On July 17, 1952, you forwarded a number of maps relating to the narrative contained in your letter. We note that the cross section of the adit is 10 feet by 10 feet. Under the contract the adit was to be driven 6 feet by 8 feet in maximum cross section. Thus the adit is being driven at approximately double the size allowed under the contract.

While in Washington Mr. Richelberger informed us that he was going to drive the adit over-size and that the Company would pay the difference in cost. Based on the footage cost of the adit to date, one would infer that this adjustment has not been made. May we receive your comments?

Sincerely yours,

8/4/52

(signed) FRANK E. JOHNSON

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Approved:

J. H. Hedges

Member, Bureau of Mines

D. M. Lemmon

Member, Geological Survey

GCSelfridge:ls
7/30/52

cc: Docket
Admn. Reading File
Field Team, Reg II
Operating Committee
G. C. Selfridge
D. M. Lemmon, USGS
R. W. Geehan, USBM

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

So. 157 Howard Street
Spokane 4, Washington

June 25, 1952

Memorandum

To: Operating Committee, DMEA

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

Subject: Approval of a sub-contract for crosscutting, American Alloy Metals, Inc., Contract Idm-E247, Docket DMEA-2292, tungsten.

Enclosed are the original and two copies of an approval of a sub-contract for crosscutting as specified under the provisions of the Contract Idm-E247, Docket DMEA-2292, tungsten, American Alloy Metals, Inc.

Also attached is a letter from the Project Manager, Mr. R. N. Roby, explaining why he desires to make this sub-contract.

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

Enclosures
cc: USBM, Spokane

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 30 1952

SDB
7-10-52

GOVERNMENT'S COPY

APPROVAL

Request presented in letter dated June 17, 1952, (attached) for approval of a contract rate of $8.64 per foot for labor for crosscutting as specified under the provisions of Exploration Project Contract Idm-E247 (Docket No. DMEA 2292 - tungsten) between the United States of America and American Alloy Metals, Inc., 1 Montgomery Street, San Francisco 4, California, is hereby approved.

This approval 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".

Dated June 24 19 52 THE UNITED STATES OF AMERICA

By A. E. Weissenborn
A. E. Weissenborn
Executive Officer, DMEA
Region II

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUN 30 1952

AMERICAN ALLOY METALS, INC.
ONE MONTGOMERY STREET
SAN FRANCISCO 4, CALIFORNIA

PLEASE ADDRESS REPLY TO:
GLEN, MONTANA

June 17, 1952

Mr. M. E. Volin, Chief
Mining Division, Region II
U. S. Bureau of Mines
1201 N. Division St.
Spokane, Wash.

Dear Mr. Volin:

It seems that to be able to keep miners on the job here that it is necessary to give them a contract for driving the adit. I therefor ask your permission to contract the adit at $8.64 cents per foot. This amount is to include two miners on each shift and includes drilling, loading, blasting and mucking out the round as well as laying track and air and water line. It also includes time required to transport pipe, track and supplies from their place of soborrage on the mining property to the adit. This includes the time necessary to hoist the supplies and materials up the tram.

I think that this is a reasonable contract price. The crew has agreed to the price. They will have to hustle to beat days pay. When it is necessary for them to do other work about the mine I will take them out of the heading and pay them days pay.

I don't see how I can write a formal contract with the men because we have such a turn over. Will it not be possible to just have a verbal agreement with the crew as is done in most mines?

The contract on the raise would be about the same. The timbering will take the place of the mucking in the crosscut. Hoisting timber up the tram will take considerable time.

I will wait awhile on making a price on the slusher drift. We can tell by the rock in the raise as to how it will break in the drifts. We may be able to cut the price down a bit.

Yours very truly
Robert N. Roby
American Alloy Metals, Inc.
By Robert N. Roby
Project Mgr.

cc-McNabb
Eichelberger
Julian

gcl

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION
WASHINGTON 25, D. C.
1201 N. Division St.
Spokane 2, Wash.
May 16, 1952

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

Subject: Transmittal of revised Exhibit "F", Amendment No. 1, Contract Idm-E247, American Alloy Metals, Inc. (tungsten), Docket No. DMEA 2292

Dear Sir:

Enclosed are three copies of the captioned exhibit which has been revised in accord with suggestions contained in the Acting Administrator's letter of April 29, 1952. The revised exhibit has been attached to the amendment form previously signed by the operator and the Executive Officer.

Sincerely yours,

M. E. Volin, Member
DMEA Field Team
Region II

Enclosure

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
MAY 23 1952

cc: USGS, Spokane

140

FILE COPY
SURNAME:

Hoffland
F.E. Johnson

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

Air Mail

APR 29 1954

Memorandum

To: Executive Officer, DMEA Field Team, Region II

From: Acting Administrator

Subject: American Alloy Metals, Inc., Docket No. DMEA-2292 — Contract No. Idm-F247

Reference is made to your memorandum on the above subject dated April 3, to the Operating Committee. The proposed amendment has been referred to the Chief Counsel's office.

The proposed amendment cannot be approved in its present form; our information here is not sufficient to put it in satisfactory form; but the following comments may enable you to make a suitable amendment:

1. Your amendment form, signed by yourself and the Operator, is satisfactory, but the attachment, Exhibit "F", requires revision.

2. Make a preamble to your Exhibit "F" which recites: Exhibit "A" of the contract, under the title "Fixtures and Improvements", is amended by the following additions of items and revisions of the items: (set forth five items listed on page 1 of your Exhibit "F").

3. Exhibit "A", under the title "Operating Equipment — to be purchased" is amended by adding thereto the following: The Operator shall, at his discretion, purchase three 40 cu. ft. mine cars . . . (as in your Exhibit "F").

4. Exhibit "A", under the title "Operating Equipment — to be rented" is revised by adding thereto [if that is your intention] the following item: Pneumatic rock drill complete . . . (etc. as in your Exhibit "F").

5. Exhibit "A", under the title "Operating Equipment -- to be rented" is amended by substituting /if that is your intention/ for the item "one mucking machine, etc." the following item:

Eimco Model 21 Shovel Loader, 4 months @
$275.00/mo. $1,100.00

Inasmuch as the monthly rental paid by the Operator for the shovel loader will probably exceed the $275.00 monthly rate previously estimated for the mucking machine; and the use of the larger machine is for the benefit of the Operator and of no advantage to the exploration operations, the Government's participation is limited to a rental rate of $275.00, and any rental costs in excess of that shall be for the Operator's sole account.

6. The last paragraph on page 2 of your Exhibit "F" reads: "Should the Operator realize any equity or credit from any rental agreement or payment made under Contract Idm-E247 or allowed by this amendment, he shall repay to the Government its prorata share of such equity or credit on certification of discovery at the close of the project."

I think the foregoing paragraph should be stricken out. The rental specified in the contract (from one to four months for various items to be rented) does not indicate that the Operator will acquire much of an equity in any of the equipment, assuming that the rental agreements include options to purchase. If the $275.00 a month specified for the shovel loader is so high as to include any part of the purchase price, it should be reduced accordingly. So-called rental agreements which include the options to purchase and the application of the rental paid to the purchase price, should not ordinarily be approved unless the purchase will be completed within the term of the exploration contract and the Government's equity thereby established.

C. O. Mittendorf (for) cc
Acting Administrator 4/29

JLHofflund/bjl
(written 4/24/52

Copy to: Mails & Files
Admin. Reading File
J. L. Hofflund
G. C. Selfridge
C. O. Mittendorf
Chron.
Pending

P.S. Be sure to add to your amendment the paragraph that "this amendment shall not be construed to increase the estimated total cost . . ." stated in Article 12 of DMA Circular Letter No. 8 of August 13, 1951.

OFFICE OF THE ADMINISTRATOR

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS ADMINISTRATION

WASHINGTON 25, D. C.

So. 157 Howard Street
Spokane 4, Washington

2292

April 3, 1952

Ans. 4/24/52
J L H Pyle

MEMORANDUM

To: Operating Committee, Defense Minerals Exploration Administration

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

Subject: Amendment No. 1, American Alloy Metals, Inc., Contract Idm-E247.

Enclosed are copies of Amendment No. 1 to the American Alloy Metals, Inc., Contract Idm-E247. These are considered necessary for the efficient operation of the mine. It is believed that they are all self-explanatory except Item 1, which provides for a tramway. This is considered necessary because of the difficulty of getting a road to the portal site.

A. E. Weissenborn

A. E. Weissenborn

Enclosures
cc: USBM, Spokane

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 7 1952

Docket

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

So. 157 Howard Street
Spokane 4, Washington

2292

March 4, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 7 1952

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

Dear Sir:

Enclosed please find signed copies of an approval to a subcontract to Exploration Project Contract Idm-E247, American Alloy Metals, Inc. The approval concerns a bulldozing program, which is described in the approved agreement.

Also enclosed are the original and two signed copies of Amendment No. 4, the Snoose mine, Blaine County, Idaho, Exploration Project Contract Idm-E120. The amendment allows funds for snow removal, and for pumping out and rehabilitating the shaft and mine workings which were flooded as the result of unusual winter snow conditions. It also allows for certain changes in the exploration program on the 100 and 200 levels of the Snoose mine. The amendment is believed to be in the interest and benefit of the government and has been signed by Executive Officer, DMEA, Field Team, Region II.

Very truly yours,

Thor H. Kiilsgaard

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

Enclosures.

Dmea 2292

APPROVAL

rental agreement
Contract/dated February 5 19 52, between American Alloy Metals, Inc. (lessee)

and Russel Hudson (lessor)

for carrying out certain specified work under the provisions of Exploration Project Contract Idm-E247 2292 between the United States of America and American Alloy Metals, Inc.

is hereby approved.

This approval shall not be construed to increase the estimated total cost of the project, the aggregate total amount that the Government may pay, or the percentage of the costs that the Government may pay, under the provisions of Article 13 of the Contract form.

Dated February 25 1952.

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
RECEIVED
MAR 7 1952

RENTAL AGREEMENT

Russel Hudson, Sheridan, Mont., hereinafter designated as Lessor, rents and leases to American Alloy Metals, Inc., hereinafter designated as Lessee, one HD-5 Allis-Chalmers tractor to be used At the Brown's Lake tungsten deposit, Beaverhead County, Mont., for the purpose of removing snow from roads and for excavating roadways and building sites at the above mentioned property.

Transportation charges to and from the property to be paid for by the Lessor.

The Lessor to furnish at his expense fuel, oil, repairs and a competent tractor operator.

The Lessee agrees to pay eight dollars per hour ($8.00) for actual hours of operation of the tractor at approximately 8 hours per day. Furthermore the Lessee agrees to rent said tractor for a minimum of 136 hours or approximately three weeks but not to exceed a maximum of 240 hours. Rental to start about February 5, 1952

American Alloy Metals, Inc.

By Robert N. Roby
Robert N. Roby
Lessee

By Russel Hudson
Lessor
By Elmer E Hudson

OK GCS

Docket 400
FILE COPY
SURNAME:

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

Selfridge
Thayer
Mott

JAN 29 1952

Mr. A. E. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMEA 2292X - Tungsten
American Alloy Metals
Ivanhoe Claim
Beaverhead County, Montana

Dear Mr. Weissenborn:

Enclosed herewith is your office copy of the completed exploration contract covering the subject application. The Operator's copy will be delivered to Mr. Michelberger while he is here in Washington.

A few changes increasing the estimated cost of powder, fuse, cars, rail and slusher cable were made and timber for the raise was added. These changes increased the total estimated cost of the project, as amended, from $55,400.00 to $56,584.00.

No provision was made for payroll taxes as Mr. Volin's memorandum did not reach the Iron and Ferro-Alloy Division until after the contract was drawn up and sent to the Legal Division. However, it was subsequently decided that there are sufficient contingency funds to more than cover the particular item.

We are heartily in agreement with Mr. Volin's comments on the duties that the superintendent should perform. This was discussed with you by telephone before the contract was drawn up. Part of the funds, at least, allowed for consultation should be available for the payroll taxes.

The proposed work should furnish a great deal of information concerning the grade of the mineralization if properly sampled. Any future work should include sampling of the surface where feasible.

The limitations of size of drifts, crosscuts and raises for exploration, participated in by the Government, has been explained

to Mr. Eichelberger and, incidentally, to Mr. Burwell. Both may plan to drive the advances larger for mining and so will not be eligible for Government participation on the overbreak. The proportional costs will have to be determined by the field team if the advances are over broken.

Sincerely yours,

SIGNED cc 1/29/52

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures

Approved:

_____
Member, Bureau of Mines

_____
Member, Geological Survey

GCSelfridge'lm
1/28/52

cc: Admn. Reading File
✓ Docket
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field TEam Reg. II
G. C. Selfridge

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

January 25, 1952

Memorandum

To: George Selfridge

From: R. W. Geehan

Subject: Revised Exploration Proposal
American Alloy Metals
Brown's Lake Tungsten Deposit

DMEA - 2292
Tungsten

The project as currently proposed appears to be satisfactory. I would note, however, the projected enlargement of the adit to 6'x 8' rather than 5' x7', and question whether this is an oversight or an intended change. No

Robert W. Geehan

Robert W. Geehan
Commodity Specialist
Ferrous Metals and Alloys Branch

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

January 24, 1952

Memorandum

To: Acting Administrator

From: Chief Counsel

Subject: American Alloy Metals, exploration contract--Docket No. DMEA-2292

The attached six copies of a draft of an exploration Project Contract in this case is in satisfactory legal form and is approved by this office subject to the attachment of the necessary maps.

Your file in this case is returned.

J. L. Hofflund
Chief Counsel

Attachments

STANDARD FORM NO. 64

Office Memorandum UNITED STATES GOVERNMENT

TO : George Selfridge, DMEA DATE: January 16, 1952

FROM : D. M. Lemmon, USGS

SUBJECT: Revised exploration proposal ($55,400) DMEA 2292 - Tungsten
American Alloy Metals, Inc.
Brown's Lake Tungsten deposit
Ivanhoe claim
Beaverhead County, Montana

I have read the new proposal submitted by the company, dated January 9, 1952, and the covering letter from M. R. Klepper for the Field Team, Region II. I have not yet received the memorandum from W. B. Myers of the Geological Survey describing the geologic setting of the tungsten deposits.

The revised proposals, sufficiently flexible to cope with unexpected geologic conditions, meet the objections I previously raised.

Eichelberger and Melrose of American Alloy Metals and Klepper and Myers of the Field Team appear to have vetoed my suggestion that adequate surface sampling should be undertaken as part of this project. I believe that much more sampling should be done in order to determine the content of WO_3 along the strike beyond the proposed workings, sampling that could be done early next summer. When requests for further financing are presented to DMPA or DMEA, the principal concern will be with tungsten content. Therefore, I suggest that you point out to Mr. Eichelberger the importance of surface sampling, even though it is not provided under this proposed exploration contract. I am not prepared to insist that surface sampling be included in the contract.

Mr. Eichelberger recently suggested to me that DMEA had led him to do certain work in opposition to his better judgment. My own opinion was that we had provided him with free consultation after he failed to make specific, acceptable proposals. I suggest that it be clearly understood between Eichelberger and yourself that the provisions of the new contract are mutually satisfactory.

I have not analyzed the financial aspects of the new proposal.

The geologic basis for the new proposal is sound, and I recommend that a contract be negotiated to perform the work.

Dwight M Lemmon

Eichelberger mentioned to me that field boys had been wrong twice when we were discussing the situation at which time [illegible] should be drawn [illegible]

DEFENSE MINERALS ADMINISTRATION
WASHINGTON, D. C.
JAN 15 8 39 AM '52

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 4, Washington

January 11, 1952

MEMORANDUM

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

From: M. R. Klepper

Subject: Analysis of Revised Exploration Program, Docket DMEA 2292, Brown's Lake Tungsten

The applicant on January 9 transmitted to this office a revised program for exploration on the Ivanhoe claim of the Brown's Lake Tungsten Deposit, Beaverhead County, Montana. The revised program calls for exploration in three steps, each contingent upon the success of the one preceding it. In step 1, the "Granite" adit is to be enlarged to 5 feet x 7 feet and extended 160 feet, and a vertical raise is to be driven from a point near the face of this adit through the full thickness of the main tactite zone. In step 2 a sub-level crosscutting drift is to be driven eastward and westward from the raise to the footwall and hanging wall of the main tactite zone; the vertical point at which this sub-level drift is to be driven will be determined by geological conditions in the raise. In step 3 several short holes will be diamond drilled to footwall and hanging wall of the main tactite zone from the sub-level drift and two holes will be drilled from the face of the extended "Granite" adit. It is our recommendation that at least one hole from the "Granite" adit be drilled irrespective of the results of preceding steps.

In preparing this revised program the applicant has conferred with and incorporated ideas of the staff of the Geological Survey, particularly those of W. B. Myers, who has mapped areal geology in the vicinity of the mine. We believe that the present program represents a great improvement over the one originally submitted. It recognizes the probability that the intrusive contact cuts irregularly upward across the beds and may cut out the main tactite zone, either wholly or in part, above the elevation of the "Granite" adit; it provides for crosscutting the main tactite (1) by a vertical raise, (2) by an angling drift from hanging wall to footwall at an elevation a few tens of feet above the top of the intrusive as determined by surface outcrop, drill hole 11, and the raise (to be driven), and (3) by

inclined and horizontal diamond drill holes from the crosscutting drift; and also it provides for two drill holes to test for downward extensions or prongs of mineralized tactite within a block that may be dominantly intrusive rock.

The points raised in Mittendorf's letter of December 29 and in Lemmon's memo of December 20 appear to have been carefully considered in preparing this program. Both the applicant and the Field Team are aware that insufficient topographic and geologic mapping has been completed to give a decisive interpretation of the data available. However, the geologic mapping done by Myers this past fall shows (a) that two different igneous rock types are involved, one a granite, and the other a biotite-hornblende quartz monzonite--and (b) that the contact between the granite and the sediments as exposed at the surface, is essentially concordant whereas the contact between the quartz monzonite and the sediments is notably discordant. Furthermore, in Hole No. 1, the only hole logged by Myers, the "igneous" rock is hornblende quartz monzonite, not typical of either of the major intrusive bodies and probably a contaminated contact facies or apophysis, and the bottom $5\frac{1}{2}$ feet of this hole is in quartz-epidote rock which indicates that the hole is not definitely bottomed in "granite". J. W. Melrose, geologist in charge of the original drilling program, who prepared generalized logs of the drill holes, indicates that similar conditions obtain in at least holes 10 and 11, which are especially pertinent in connection with this application. It should be pointed out that these holes were not considered bottomed by Melrose, and were discontinued due to adverse weather.

These observations indicate the need for more detailed underground investigation to determine both shape and grade of the Ivanhoe ore body and to yield more information on the tactite-granite-quartz monzonite relationships that might be of great value in planning exploration of other tungsten deposits at and near Brown's Lake. As shown on the section attached to the revised application, the intrusive contact is believed to be irregular and to truncate bedding in a serrate fashion. If this interpretation is correct, significant roots of tactite may project to or below the elevation of the "Granite" adit, even though the dominant gross feature of the intrusive contact may be a flattening to the south as suggested by Lemmon. The holes to be drilled from the face of the "Granite" adit are designed to test this possibility; and at least one of them should intersect the lower of the two upper beds of higher grade ore which Lemmon considers to be worthy of further exploration.

The remainder of the exploration, namely raising from the "Granite" adit to and through the tactite and drifting and drilling therein, is designed specifically to delineate tonnage and grade of

the main part of the Ivanhoe deposit. This exploration should also furnish enough information to test the theory that the ore might occur in southeastward trending shoots, for the evidence in the Ivanhoe No. 4 working is not conclusive.

As both Mittendorf and Lemmon point out, surface sampling has been inadequate. However, the physical setting of the property makes surface sampling difficult and costly at any time and impossible during the winter (probably until May). Furthermore additional surface sampling, though it will add to our knowledge or probable grade of the deposit, will not greatly contribute to our knowledge of the down-dip configuration of the ore body. Such sampling probably could not be undertaken until May and it is questionable whether the results that might be expected therefrom would warrant delaying resumption of the project to that date.

In the revised proposal the applicant has furnished an itemized statement of costs step by step and has shown a schedule of labor and supervision. He has also submitted a sketch on which the proposed exploration and the known and interpreted geology is shown in plan and cross section.

It is my opinion that the present proposal has been drafted with due consideration of all information now available concerning the geology of the deposit and that it will be carried out under competent technical supervision. The Field Team, therefore, recommends that the revised program be approved. The extension of the "Granite" adit may be wholly in intrusive rock but it will provide a suitable site for raising to and through the tactite zones as provided for in step 1. If the raise encounters a significant thickness of tactite as anticipated, the sub-level should be driven across the tactite zone as provided for in step 2. If no significant tactite is encountered in the raise, step 2 should not be performed, but one of the holes from the face of the "Granite" adit should be drilled as provided for in step 3. If this hole encounters no significant body of t actite, the project should be discontinued.

A memorandum on the geologic setting of the Brown's Lake area by W. B. Myers is being transmitted under separate cover. This memorandum described the spatial relations of the known tungsten deposits to the igneous rocks, and should materially assist you in evaluating this revised application.

Montis R. Klepper

cc: USBM, Spokane

DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.
JAN 14 8 48 AM '52

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 4, Washington

January 10, 1952

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

Dear Mr. Mittendorf:

Enclosed are four copies of a revised application from American Alloy Metals for exploration of the Brown's Lake Tungsten deposit, Beaverhead County, Montana. This revised application has been carefully prepared after considerable discussion with Field Team representatives, and it is believed that it answers the questions and objections raised concerning the previous application as outlined in the Operating Committee's letter to me of December 29, 1951.

A detailed review of the revised application is in preparation and will be mailed to you tomorrow, if possible.

The Field Team has not attempted to prepare a contract because it feels that the data presented are complete enough so that this can be done in Washington.

New copies of Form MF-103 have not been submitted. The attached sheets replace those already submitted in answer to questions 3 to ~~11~~ 9 on Form 103.

Sincerely yours,

A. E. Weissenborn

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

Enclosures

cc: USBM

NSE MINERALS
ADMINISTRATION
WASHINGTON, D. C.
JAN 14 8 48 AM '52

REVISED EXPLORATION PROGRAM
DOCKET NO. DMEA 2292-TUNGSTEN
AMERICAN ALLOY METALS, INC.
BROWN'S LAKE TUNGSTEN DEPOSIT
BEAVERHEAD COUNTY, MONTANA
January 9, 1952

The following exploration project is outlined to further explore the tactite zones on the Ivanhoe claim (reference Docket DMA 1951-X). Underground work is proposed owing to the impracticability of continuing surface diamond drilling during the extreme cold weather prevailing in Montana during the winter months. Underground work, in general, as outlined below, was suggested by J. H. Harlan of DMPA to expedite the exploration in order to make the deposit available for exploitation by next spring.

It is proposed to do the underground exploration on the basis of three steps. Each step is contingent upon the success of the step preceding and each succeeding will be started after consultation with the DMEA field team. The three-step program will be as follows:

Step 1. Enlarge existing "granite" adit to 5' x 7' and extend it 160 feet. From a point near the breast of the extended adit drive a vertical raise 100 feet.

Step 2. Drive two sub-level drifts each 200 feet long from the raise.

Step 3. Drill approximately eight diamond drill holes from the sub-level drifts and two or three diamond drill holes from the breast of the adit to test the full thickness of the deposit.

Step 1

The most practicable site from which to start the first step of the exploration because of the extremely steep terrain and lack of accessibility to the outcrop area is from the face of an existing 90-foot adit that has been driven in granite a short distance below the granite-sediment contact. Supplies and equipment can be brought to the adit portal over an old wagon road that formerly served the workings on the claim. A certain amount of widening and repair will have to be done to the road before it can be used by trucks. It is anticipated that unwarranted difficulty would be encountered if an attempt were made to start a new adit at a higher elevation along the footwall of the tactite.

It is proposed to enlarge the existing adit to 5' x 7' and to extend it 160 feet. From a point about 20 feet from the face a vertical raise will be driven 100 feet. It is assumed that the downward projection of the tactite is cut off by a more or less horizontal granite body as is indicated by intersections in drill holes 10 and 11 and by the granite outcrop above the adit portal. Based on these observations it is expected that tungsten-bearing tactite will be cut in the raise at about 40 feet and that the raise will continue in ore to a point 80 to 100 feet above the adit or to the downward projection of the tactite hanging wall as indicated by outcrop.

Step 2

Step 2 will consist of driving two sub-level drift-crosscuts from the raise at a point well within the ore zone (50 or 60 feet above the adit level). Each drift-crosscut will be about 200 feet in length; one will be driven from the raise diagonally across the deposit to cut the footwall and the other will be driven in the opposite direction diagonally to cut the hanging wall of the deposit. This work will explore the deposit on strike for a distance of about 375 feet and also will crosscut the deposit from footwall to hanging wall.

Step 3

Step 3 will consist of diamond drilling approximately 1,200 feet of hole from underground stations to test the full thickness of the deposit and to test for possible additional ore above the granite south and beyond the face of the adit. About six short holes will be drilled from the sub-level normal to the dip of the deposit. These will test the full thickness of the ore between the ends of the two sub-level drifts. The first hole from the adit will be drilled southerly, normal to the strike of the deposit; it will be horizontal. This hole will explore for "tongues" of tactite ore that may extend into the granite. If this hole shows commercial bodies of ore, two other holes will be driven to determine the extension of the zones.

3. (a) Description of work to be accomplished and total cost:

Step 1

Enlarge adit to 5' x 7'	90 feet
Extend 5' x 7' adit	160
Drive 6' x 8' raise	100
	350 feet

(b) Time required to start and complete job:

Project to start within 30 days.

The estimated maximum number of shifts to complete underground work on which costs were based is as follows:

Enlarge adit 90 feet	20 shifts	4½/shift
Advance adit 160 feet	70 shifts	2.3'/shift
Raise 100 feet	60 shifts	1.7'/shift
Total	156 shifts	

156 shifts @ 12 shifts per week - 13 weeks

Estimated total elapsed time:

Winterize camp	2 weeks
Repair road and prepare adit site	4 weeks
Complete underground work	13 weeks
	19 weeks - 5 months

Total estimated cost of Step 1, including all costs of preparing for project $29,500.00

Step 2

3. (a) Drive 400 feet of drift 100 shifts 4'/shift
100 shifts @ 12 shifts per week 8.5 weeks
Estimated total elapsed time 2 months

Total estimated cost Step 2 $13,600.00

Step 3

Drilling 1,200 feet of diamond drill hole 60 shifts
60 shifts @ 12 shifts per week 1-1/2 months

Total estimated cost Step 3 $12,300.00

Summary

	Estimated Time, Months	Estimated Cost
Step 1	5	$29,500.00
Step 2	2	13,600.00
Step 3	1-1/2	12,300.00
Total		$55,400.00

Step 1

5. (a) No facilities exist on the property for mining. The camp on the Reservoir claim at Brown's Lake comprises five small cabins that were built in the 90's. They were formerly used as cabins for a fishing resort. They are of log construction and need rehabilitation to make them habitable for winter use. Also camp equipment and furnishings will have to be bought. The cost of this repair and equipment is estimated as follows:

Repairing and lining of cabins with Celotex or equivalent, 4 cabins @ $100	$ 400.00
Oil heating stoves and tanks, 5 @ $80	400.00
Furnishings for houses (beds and mattresses, dishes, cook stove and cooking utensils)	700.00

(b) An old wagon road, approximately 6,700 feet in length connects the project with the camp site and county road at Brown's Lake (see attached sketch). Before this wagon road can be used by trucks to service the project it will require widening in places and a switchback at the upper end, together with about 400 feet of additional road to make the dump level accessible to trucks. This work will be done with a tractor with dozer blade. The tractor will be used also to prepare the adit site. It is extimated that this road can be repaired and the adit site prepared with an RD-8 tractor or equivalent in about 133 hours.

133 hours @ $15 per hour	2,000.00
Total Repair and Rehabilitation	$3,500.00

Step 2

5. (a) Facilities: By the time Step 2 is started it will be necessary to install a water system at the camp at Brown's Lake. It will be unsafe to take domestic water from the lake. This system can be installed for $1,200.00

Step 3

Step 3 consists of drilling 1,200 feet of drill holes from underground stations. The holes will range in length from approximately 50 to 275 feet.

5. (a) None

(b) None

Step 1

6. Additional buildings and facilities:

1 combination compressor-shop building to be constructed at the adit portal site. Rough lumber construction with paper or corrugated iron roof, 16' x 30' with stove and one partition to enclose small warehouse

Total Buildings and Facilities	$1,000.00

Step 2

6. Buildings: None

Step 1

7. (a) Equipment to be rented:

Compressor 105 cfm, Diesel-driven - 1 month @ $164 a month (used for road repair and adit site)	$ 164.00
Compressor 315 cfm, Diesel-driven, 3-1/2 months @ $470 per month	1,645.00
Mucking machine, Eimco, 3-1/5 months @ $275 per month	962.00
Total Equipment to be Rented	$2,771.00

(b) Equipment to be purchased:

Pipe, 2" - 450 feet @ $.44 per foot	$ 200.00
Pipe, 1½"- water line from Agnes Creek to adit site 800 feet @ $.32	250.00
Pipe, 1" 450 feet @ $.21	100.00
Pipe fittings	100.00
Rail - 16-lb, 2 tons, with fishplates, spikes, bolts @ $166 per ton	350.00
1 air receiver (approximately 30" x 7')	250.00
3 mine cars, 15 cu ft $250	750.00
1 chain saw	380.00
2 Atlas rock drills with hose, required spare parts, bit grinding equipment, etc.	1,660.00
Total Equipment to be Purchased	$4,040.00

(c) Depreciation allowance on equipment owned by operator:

1 truck with snowplow attachment, valued at $1,800, 5 months @ $30	$ 150.00
1 pickup truck, valued at $1,800 5 months @ $30	150.00
Total Depreciation Allowance	$ 300.00

Step 2

7. (a) Equipment to be rented:

Compressor 315 cfm, Diesel-driven, 2 months @ $470	$ 940.00
Slusher hoist and scraper, 2 months @ $125	250.00
Total Equipment to be Rented	$1,190.00

(b) Equipment to be purchased:

Pipe, 2" - 400 feet @ $.44	$ 176.00
Pipe, 1" - 400 feet @ $.21	84.00
Pipe fittings	50.00
Slusher cable - 500 feet 3/8" @ $.09	45.00
Total Equipment to be Purchased	$ 345.00

(c) Depreciation allowance:

1 truck valued at $1,800, 2 months @ $30	$ 60.00
1 pickup truck valued at $1,800, 2 months @ $30	60.00
Total Depreciation Allowance	$ 120.00

Step 3

7. (a) Equipment to be rented:

Compressor 315 cfm, Diesel-driven, 1 month @ $470	$ 470.00

(b) None.

(c) Depreciation allowance on equipment owned by operator:

1 truck valued at $1,800, 1 month @ $30	$ 30.00
1 pickup truck valued at $1,800, 1 month @ $30	30.00
Total Depreciation Allowance	$ 60.00

Step 1

8. Itemized schedule of labor and supervision:*

2 miners @ $1.75/hour, $14/day, $91/week 6 weeks (working on road and preparing adit site)	$ 1,092.00
4 miners @ $1.75/hour, $14/day, $91/week 13 weeks	4,732.00
1 laborer (general purpose man) @ 1.65/hour, $13.20/day, $85/week for 19 weeks	1,615.00
1 cook**@ $1.50/hour, $12/day, $78/week 19 weeks	1,482.00
1 superintendent - 5 months @ $600	3,000.00
Total Labor and Supervision	$11,921.00

4732.00 / 156

2123.33 / 100 = $13.27/hr

labor & adit see page 1

*Calculated on six working days per week.

**The operator will be required to operate a boarding house because the project is 30 miles from the nearest town where board and room could be obtained. Winter road conditions will prohibit commuting between the town and the project. Only the cook's wages will be charged against the project. The operator will stand any loss incurred in the purchase of groceries in operating the boarding house.

Step 2

8. Itemized schedule of labor:

4 miners @ $1.75/hour, $14/day, $91/week for 8.5 weeks	$3,094.00
1 laborer (general purpose man) $1.65/hour, $13.20/day, $85/week for 8.5 weeks	722.00
1 cook, $1.50/hour, $12/day, $78/week for 8.5 weeks	663.00
1 superintendent - 2.5 months @ $600	1,500.00
Total Labor and Supervision	$5,979.00

Step 3

8. (a) Itemized schedule of labor:

1 laborer (general purpose man) @ $1.65/hour, $13.20/day, $85/week for 4 weeks	$ 340.00
1 cook @ $1.50/hour, $12/day, $78/week for 4 weeks	312.00
1 superintendent - 1 month @ $600	600.00
Total Labor and Supervision	$1,262.00

(b) Contractural services:

Diamond drilling, approximately 8 holes aggregating 1,200 feet in length @ $7.50/foot	$9,000.00

Step 1

9. Materials, supplies, assaying, accounting, etc.

Drill steel with bits for job	$ 400.00
Powder, 350 feet @ 10 lbs/ft, 1-3/4 tons @ $420/ton	735.00
Blasting caps, 2-1/5 thousand @ $21.60/1000	50.00
Blasting fuse, 14,000 feet @ $12.50/1000	175.00
Diesel fuel, 100 gallons per day, 600 gallons/week for 15 weeks (2 weeks on road work, approximate) 9,000 gallons @ $.16	1,440.00
Diesel lubricating oil, 5 gallons/week for 15 weeks 75 gallons @ $1.50	112.00
Repair parts for compressor	200.00
100 samples assays @ $5	500.00
Engineering and geology	300.00
Accounting, office and traveling expense	750.00
Unforeseen expenses resulting from difficult operating conditions in winter weather	1,250.00
Total Materials and Supplies	$5,912.00

Step 2

9. Materials, supplies, assaying, accounting, etc:

Powder, 400 feet @ 10 lbs/ft, 2 tons @ $420	$ 840.00
Blasting caps, 3,000 @ $21.60/1,000	65.00
Blasting fuse, 15,000 feet @ $12.50/1000	188.00
Diesel fuel, 600 gallons/week for 8.5 weeks, 5,100 gallons @ $.16	816.00
Diesel lubricating oil, 5 gallons/week for 8.5 weeks 42 gallons @ $1.50/gallon	63.00
200 sample assays @ $5	1,000.00
Engineering and geology	300.00
Accounting, office, traveling expense	500.00
Unforeseen expenses	1,000.00
Total Materials and Supplies	$4,772.00

Step 3

9.	Diesel fuel, 600 gallons per week for 4 weeks, 2,400 gallons @ $.16	$ 384.00
	Diesel lubricating oil, 5 gallons/week for 4 weeks 20 gallons @ $1.50/gallon	30.00
	150 sample assays @ $5	750.00
	Engineering and geology	200.00
	Accounting, office, traveling expenses	150.00
	Total Materials and Supplies	$1,514.00

SUMMARY OF COSTS, STEP 1

Item 5.	(a)	Rehabilitation of buildings and facilities	$ 3,500.00
6.		Buildings	1,000.00
7.	(a)	Equipment to be rented	2,771.00
	(b)	Equipment to be purchased	4,040.00
	(c)	Depreciation allowance	300.00
8.		Labor and supervision	11,921.00
9.		Materials, supplies, etc.	5,912.00
		TOTAL COST FOR STEP 1	$29,444.00

SUMMARY OF COSTS, STEP 2

Item 5.	(a)	Facilities	$ 1,200.00
6.		None	
7.	(a)	Equipment to be rented	1,190.00
	(b)	Equipment to be purchased	345.00
	(c)	Depreciation allowance	120.00
8.		Schedule of labor and supervision	5,979.00
9.		Materials, supplies, assaying, etc.	4,772.00
		TOTAL COST OF STEP 2	$13,606.00

SUMMARY OF COSTS, STEP 3

Item 7.	(a)	Equipment to be rented	$ 470.00
	(b)	None	
	(c)	Depreciation allowance	60.00
8.	(a)	Labor	1,262.00
	(b)	Contractural services	9,900.00
9.		Materials and supplies	1,514.00
		TOTAL COST OF STEP 3	$12,306.00

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

January 2, 1952

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

Memorandum

To: George Selfridge, DMEA

From: Robert W. Geehan

Subject: American Alloy Metals, Inc.
Browns Lake Tungsten, DMEA 2292.
(Refer to my memo of Dec. 29, 1951.)

I have just received the report from the Field Team regarding the subject docket. As this report is dated December 11, there seems to have been no reason for not including it in the docket.

It is noted that many of the comments made in my memorandum of December 29, are in line with the proposal from the Field Team. However, my comments on the maps and on the interpretation of the drill data are still valid. It would be of interest to know the location from which the bulk sample was obtained, and the reasons for limiting surface work.

It is recommended that the revised proposal be approved, subject to:

1. Possible limits on raises as a matter of general policy regarding exploration vs development.
2. A statement regarding possible changes if the crosscut remains in granite where ore is expected.
3. "Enlarging existing adit" at $25 per foot needs some supporting data. How large is the adit now?
4. The letter from Eichelberger, mentioned on page 3 of the Field Team Report, is not in the Docket.
5. The maps indicate that the adit is not normal to the trend of the formation.
6. Perhaps money and time could be saved if a more detailed study is made by the Field Team and/or Mr. Melrose during the period while the camp is being rehabilitated.

Robert W. Geehan

Robert W. Geehan

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

December 29, 19

Memorandum

To: George Selfridge

From: Robert W. Geehan

Subject: American Alloy Metals, Inc.
Browns Lake Tungsten. DMEA 2292

The application proposes a 200 foot crosscut, 200 feet of drifting, and 2 raises of unknown length.

The maps and sections submitted leave much to be desired, particularly for a project that is an extension of a previous DMA exploration project. For example the geology in the vicinity of the portal of the Granite Tunnel, which it is proposed to extend, is not the same on the 1"=200' map as on the 1"=20' map.

The remarks of J. W. Melrose regarding 192,000 tons of ore appear to be a rather optimistic interpretation of data obtained in 2 drill holes. In this instance, the logs of holes 10 and 11 could be interpreted to indicate a roll in the main bed rather than a new "upper bed". Both the holes appear to have bottomed in granite in the area where the main bed is projected. However, it is difficult to determine the significance of these logs without a field check.

The proposal appears to be development rather than exploration, particularly in the portion regarding raises. Several other applications have been rejected or modified where similar work was proposed. For exploration it might well be desirable to extend the drift rather than to drive the raises (If the crosscut ever hit the ore.) However, there is no question that some exploration will result from the proposal as it is now, and if you are willing to approve other similar proposals as "exploration" there is nothing out of line in this one. As you know there is no sharp line between exploration and development.

DEC 29 1 31 PM '51
DEFENSE MINERALS
ADMINISTRATION
WASHINGTON, D.C.

The cost of the compressor house appears high, and the building rather large for one 600 cubic foot compressor. I have no knowledge of the area in question, but wonder if the proposed $4,000 for road work is practical under winter conditions. The overall cost appears to be high for the amount of work projected.

Good mining practice usually calls for surface sampling of a mineral deposit, particularly a tungsten deposit, before extensive underground work is done. If any such work has been done here, it is not referred to in the docket. It would appear that holes 1 - 2 - 3 - 4 - 5 could have been located in a more favorable area if the surface had been sampled.

In general, I get the impression that the Field Team should pass on this proposal. Why is there no report from them regarding the work done to date?

I recommend that action on this proposal be held up long enough to obtain such a report from the field team, with special reference to the geology. A point blank question as to their opinion regarding the probability of the crosscut remaining in granite would be in line.

Robert W. Geehan

Robert W. Geehan

FILE COPY
SURNAME:

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

DEC 29 1951

Mr. A. H. Weissenborn
Executive Officer, Region II
South 157 Howard Street
Spokane 8, Washington

Re: Docket No. DMEA 2292 - Tungsten
American Alloys Metals, Inc.
Brown's Lake Tungsten Deposit
Beaverhead County, Montana

Dear Mr. Weissenborn:

We are returning herewith one copy of the exploration application of American Alloys Metals for the applicant's reconsideration and possible submittal of an alternative program in view of the known facts. Also included is a copy of a memorandum by D. M. Lemmon of the U. S. Geological Survey.

Information to date indicates that the granite contact is fairly flat and that it cuts across the bedding of the limestone and tactite. Insufficient geologic and topographic mapping has been completed to give a clear interpretation of the known data. Enough mapping should be done to compile sufficient information to construct several cross sections showing the probable relationships between the granite, the beds and the ore bodies.

In addition, surface sampling has been inadequate. The average grade of the east ore zone is estimated on the basis of a single channel, bulk sample that weighed 2,200 pounds and assayed 0.39 percent WO_3.

The proposed exploration, in part, consists of driving the adit ahead, which now is in granite, to crosscut the tactite on its dip. Holes No. 10 and 11 suggest that the granite contact lies some 30 to 40 feet above the elevation of the adit and therefore, the adit will not crosscut the beds.

The map of the Ivanhoe No. 4 working also suggests that the ore might occur in southeastward trending shoots as indicated by the inclines. It is not common practice to drive off the level, especially down, except to follow better values.

From the above, it would appear that more sampling should be done and considerably more mapping on which to base an intelligent exploration program.

With regard to the engineering, all large estimated expenditures should be substantiated by a break down into the various items and their costs. Maps showing where the work will be done and figures relating to size and distances should be included. In the Company's application no size of opening was given nor lengths for other than the drifts. The map (plan) shows the drifts being driven from the end of the adit yet the raises in the drifts are to be driven from the footwall to the hanging wall.

The number of men to be employed must be shown. If the work is to be done by contract then the contract price must be given but it is not necessary to list the men on the contract, only those that will work on days pay. The overall footage prices given as $33.00 per foot should be substantiated by a breakdown as the legal department wishes that reimbursements be made on the schedules listed in the contract with materials and supplies added, instead of on a footage basis.

Possibly the field team has information which will aid the applicant in providing the maps and cross sections necessary to substantiate a proposed program.

Sincerely yours,

C. O. Mittendorf (for) JN. 12-29

Chairman, Operating Committee
Defense Minerals Exploration
Administration

Enclosures

GCSelfridge'lm
12/28/51

Approved:

Member, Bureau of Mines

Member, Geological Survey

cc: Admn. Reading File
✓ Mails and Files Br.
C. O. Mittendorf
R. W. Geehan, USBM
D. M. Lemmon, USGS
Field Team Reg. II
Docket
G. C. Selfridge

STANDARD FORM NO. 64

Office Memorandum • UNITED STATES GOVERNMENT

TO : George Selfridge, DMEA DATE: December 20, 1951

FROM : D. M. Lemmon, U. S. Geological Survey

SUBJECT: American Alloy Metals, Inc. DMEA 2292 - Tungsten
Brown's Lake Tungsten Deposit
Beaverhead County, Montana

Exploration done to date (DMA 1951-X) has shown that the west tactite zone contains about 0.10 percent of WO_3 and is not workable for tungsten. The granite cuts across the bedding and eliminates the main tactite bed at depth beneath holes 3 and 5.

The 2 drill holes (10 and 11) on the east tactite zone both ended in granite, showing that the granite contact is nearly flat and cuts across the limestone and tactite beds. The most reasonable interpretation of the evidence is that the main granite body was reached by all 7 drill holes.

Sufficient geologic and topographic mapping has not been done to give a clear interpretation of the known facts. The applicant does not have a clear picture of the ore deposit because of failure to plot geologic interpretations on the drill-hole sections.

No adequate surface sampling has been done. The content of WO_3 in the east zone is estimated on the basis of a single channel sample across the bed (Bulk sample, 2200 pounds, 0.4% WO_3). The sampling of underground workings cannot be considered representative of the whole mass because these workings are confined to a single layer in the tactite.

The work proposed under a new exploration contract ($79,800 project) involves driving the granite adit forward across the contact zone, then drifting 100 feet east and west on the footwall and raising through the tactite at each end of the drift. Drill holes 10 and 11 indicate that the granite contact lies 40 feet above the adit level, and that the adit never will cross the contact. Therefore it is questionable whether this adit should be extended.

In summary, the following information has been obtained from the exploration to date:

1. The only potential ore is in the east tactite body.
2. This body is cut off by granite down dip at an inclined depth of about 100 feet.
3. The total reserve in this body 1,000 feet long and 57 feet thick, to a depth of 100 feet, is about 570,000 tons of inferred ore. The content of WO_3 is not known, but may be about 0.4 percent, as indicated by a single channel sample.
4. Two upper beds cored in hole 11 contained higher grade material in narrow widths, and are worth further exploration.

Recommendation:

The proposal submitted for underground exploration is not satisfactory as it now stands.

It is recommended that the applicant be requested to reconsider the proposal in the light of known facts, and present a more practical program.

DMEA 2292 E247 Tungsten

Browns Lake Tungsten Deposit
Ivanhoe Claim
Beaverhead Co, Mont.

American Alloy Metals
1 Montgomery St.
San Francisco, Calif.

Loan – $56,584
75% – $42,438

Contract: (3 Stages)
Dated – Jan. 29, 1952
Start – 30 days
Run – 1 year
End – Jan 29, 1953

Amendments
#1 – dated 3/20/52 – effec. 1/29/52 – re fixtures & improvements
#2 – " 7/25/52 – " (not stated) – approves drilling Stage 3 hole during Stage 2 of contract.

Amended contract 1-12-53

DMEA 2292, E247 Contract & Amended #1, 2, 3, 4, 5 not allowed

OFFICE OF THE ADMINISTRATOR

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

December 13, 1951

Attention: Mr. Selfridge

MEMORANDUM

TO: Operating Committee, Defense Minerals Exploration Administration

FROM: Field Team, Region II

SUBJECT: New contract for American Alloy Metals Inc., Brown's Lake Tungsten deposit, Beaverhead County, Montana

Enclosed is a letter from Frank Eichelberger & Associates (American Alloy Metals Inc.) to A. E. Weissenborn, which inadvertently was omitted from memo to you dated December 11, 1951, subject as above, from Field Team, Region II, to the Operating Committee, DMEA.

Very truly yours

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

Enclosure

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 17 1951

FRANK EICHELBERGER & ASSOCIATES
CONSULTING ENGINEERS & GEOLOGISTS
SYMONS BUILDING · SPOKANE 8, WASHINGTON

FRANK EICHELBERGER
J. W. MELROSE
JACOB SCHODER
C. R. RANNEY
S. W. ZOLDOK

10724 Wilshire Blvd.
Los Angeles 24 California
December 6 - 1951

Mr. A. E. Weissenborn
U.S. Geological Survey -
145 South Howard St.
Spokane 4 Washington.

Dear Mr. Weissenborn -

In a telephone conversation with Mr. Walter Melrose last evening I was informed of all the changes and amendments made to our last application for an exploration loan for the Ivanhoe claim under lease to the American Alloy Metals Inc.

Mr. Julian and I heartily concur in the changes made and have authorized Mr. Melrose to sign the application for the American Alloy Metals Co. Mr. Melrose has been in charge of the exploration work which has been done and has full authority from us to sign, checks, vouchers, applications etc. etc. on behalf of the company.

It is our hope that this application will have speedy processing so that no time will be lost on the work.

Very truly yours
American Alloy Metals
by Frank Eichelberger V.P.

DMEA-2292

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane 4, Washington

Considered by Operating Committee (Denver) 12/21/51

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 17 1951

December 11, 1951

Memorandum

Attention: Mr. Selfridge

Field Team MEMO

To: Operating Committee, Defense Minerals Exploration Administration

From: Field Team, Region II

Subject: New contract for American Alloy Metals Inc., Brown's Lake Tungsten deposit, Beaverhead County, Montana.

Enclosed is an application from the American Alloy Metals Co. proposing additional work not provided for in either of the existing contracts on the property (DMA 148x and DMA 1951x). However, the work will be on the same ground covered in the DMA 1951x contract, i.e., the Ivanhoe claim. Attached to the application is a report by J. W. Melrose, the geologist who is in charge of the work. This report discusses the geology and the results of the work done to date.

To summarize briefly, the tungsten occurs in tactite beds in the Amsden near an intrusive contact with granite. The geology has been described in a Field Team memo by Klepper and Roby and in an earlier unpublished Survey memo by Hobbs. The Ivanhoe contract was designed to test by diamond drilling the grade and continuity of the tactite beds down the dip. Because of delays in approving the Ivanhoe contract--due largely to difficulties in obtaining subordination agreements (actually a guaranty was used in lieu of a subordination agreement)--and because of the time consumed in getting a road up the cliffy slope on the Ivanhoe claim, drilling progress was slower than had been anticipated and cold weather necessitated a cessation of drilling before enough data had been obtained to properly appraise the deposit. Five holes were drilled on the west end of the deposit with disappointing results--the tactite lamped well but the tungsten content was low. On the east end of the deposit three holes were started. One was barely collared when drilling ceased; of the remaining two, one cut two tactite beds above the main bed and the other cut one. Encouraging assays were obtained from both holes but neither penetrated the main bed (see the Melrose report). Sampling of a number of old workings in the tactite bed demonstrated that the tungsten is somewhat erratically distributed, but on the whole the average grade is about the same as that indicated by the

reconnaissance sampling done by the Field Team last spring. A 2,200 pound bulk sample furnished by American Alloy Metals was taken from the same outcrop chip sampled by the Field Team last spring. Two splits of the original sample representing a 57-foot thickness of tactite (including some hornfels beds) assayed 0.50 percent WO_3 (Bureau of Mines laboratory at Albany, Oregon) and 0.45 percent WO_3 (Union Assay Co., Salt Lake City). The 2,200 pound bulk sample from the same outcrop but representing a slightly greater thickness assayed 0.39 percent WO_3. (Bureau of Mines laboratory at Albany, Oregon). The results of exploration to date, therefore, are encouraging but not decisive.

During the summer exploration by Blair Burwell and Associates in the area south of Brown's Lake (not with government funds) has shown other tactite deposits in the vicinity similar to the Brown's Lake deposit with parts running around 0.30 to 0.40 percent WO_3--though here again the results are not decisive.

A Geological Survey mapping project has been in progress for the past several seasons in the NW$\frac{1}{4}$ of the Willis quadrangle which includes the Lost Creek and Greenstone deposits that Burwell has been prospecting. This summer W.B. Myers of the Geological Survey extended the Willis quadrangle geological mapping to the north to include the Brown's Lake area. This work is of a reconnaissance nature but it has shown that the tactite areas are quite extensive, occurring at intervals from Birch Creek to Brown's Lake and north, probably to the old Hecla mining district. The Bureau of Mines has had two engineers, C.C. Popoff and J.S. McNabb examining mineral deposits in Beaverhead County during the past field season in connection with Missouri Basin investigations. This work adds to the information on the known tungsten south of the Brown's Lake. A summarizing memorandum by Popoff and McNabb has been sent to Mr. Lowell B. Moon, Member, Operating Committee, DMEA.

Preliminary metallurgical studies have been done on the original Brown's Lake sample at the Bureau of Mines plant at Albany, Oregon. More detailed studies now are underway on the 2,200-pound bulk sample. The first results indicate that a plus 50 percent tungsten trioxide concentrate can be made with a 70 percent recovery. Much higher recoveries can be obtained in a lower grade concentrate suitable for refining in a chemical plant.

It may be said in summary then that there is an impressively large area in Beaverhead Co., Montana, within which deposits similar to these at Brown's Lake are likely to be found, but that not enough has been done to determine whether any of the deposits known so far can be profitably mined under present conditions. More is known about the Brown's Lake deposits than any of the others.

Mr. John Harlan, consultant for the DMPA, visited the deposits this summer in the course of a reconnaissance of tungsten deposits of the west. He was favorably impressed with the potentialities of the Beaverhead Co. area and discussed with the various operators, on several occasions, proposals by which the deposits might be brought into production. These discussions involved consideration of a chemical plant at Butte and a concentrator either at Butte or somewhere between Brown's Lake and Lost Creek. The possibility of converting the Cole Manganese plant at Butte to tungsten milling, suggested payment schedules, and cost data, were discussed by J.D. Bardill (USBM) in a memorandum sent to Mr. Moon, with copy to Mr. Harlan. Plans are, of course, still very much in the tentative stage, pending more complete information on the deposits. Mr. Harlan felt it was urgent that this information be obtained as soon as possible so that a decision could be reached and that definite plans could be made for prompt action if the exploration results showed that this was feasible. He suggested to Mr. Eichelberger, Vice-President of American Alloy Metals, Inc., therefore, that the current drilling program be replaced by underground exploration that could be carried on during the winter. The application submitted by Mr. Eichelberger is in conformity with this suggestion.

The new application calling for an expenditure of $79,800 has been discussed at some length with Mr. Melrose, representing Mr. Eichelberger; Mr. Erickson representing the Bureau of Mines; and others. It was agreed that certain items could be eliminated or cut down, and the total cost thereby reduced to an estimated $55,740. This revised proposal, six copies of which are attached, is satisfactory to Mr. Melrose. Mr. Eichelberger was informed of the proposed changes by Mr. Melrose via long distance telephone and has written the attached letter indicating his concurrence.

In view of the urgent need to obtain specific information in the shortest possible time, and because surface drilling probably cannot be resumed before mid-June, the Field Team agrees that the new proposal is justified.

The Field Team considered at first that time might be saved by making the new proposal an amendment to the original contract. A telephone call to Mr. Mittendorf's office indicated that it would be necessary to make a new contract. It is proposed, therefore, that the existing contract DMA-1951x be cancelled after the new one is in effect. There remains a balance of about $11,000 in DMA-1951x. The final statement on this contract has not been submitted but the contractor will submit this statement as soon as possible. It is hoped that this will not delay approval of the proposed new contract. We do not, of course, wish to cancel the

old contract until we are sure that the new one will be approved; in fact it probably cannot be cancelled until approval is given the final statement by the fiscal officer.

The Field Team recommends that contract DMA-148x be allowed to stand. This contract provides for work on the Fox claim on the south side of the Canyon as well as exploration of a number of claims north of the canyon. Further work on the Fox claim is not contemplated at this time but retention of the contract will permit exploration of showings on the north side of the canyon. Reconnaissances by W.B. Myers of the U.S. Geological Survey and by Popoff and McNabb of the Bureau of Mines indicate that some of these showings are worth further investigation.

It is believed that enough information is presented herewith, or otherwise available, to permit the contract to be drawn up in Washington. If information is to be obtained by spring, it is urgent that a decision be made as soon as possible so that work can be started immediately.

By DMEA Field Team, Region II

Arthur B. Kiloqaard
FOR: A. E. Weissenborn
Executive Officer
(U. S. Geological Survey)

Clem A. Magill
FOR M. E. Volin
Member
(U. S. Bureau of Mines)

Enclosure
cc: USBM

P.S. Original copy coming air mail; 3 carbons by regular delivery.

American Alloys Metals, Inc.

EXHIBIT "A"

Description of Project

The following exploration project amendment is outlined to further explore the tactite beds on the Ivanhoe claim (reference Docket DMA 1951X, Tungsten, I-DMA-E127) by: enlarging existing 90-foot adit; crosscutting and drifting a total of 400 feet; and raising a total of 260 feet. The work is planned to prove the continuity of the ore and grade.

Work to be Performed

1.	Rehabilitate (winterize) camp and camp equipment	$ 2,700.
2.	Access road improvement and maintenance, including preparing adit site	4,000.
3.	Combination building (compressor-storage & shop)	2,400.
4.	Enlarging existing adit (labor and supplies) 90 feet @ $25/ft.	2,250.
5.	Crosscutting and drifting (labor and supplies) 400 feet @ $33/ft.	13,200.
6.	Raising (labor and supplies) 260 feet @ $39/ft.	10,140.
7.	Equipment cost	9,550.
8.	Freight, accounting, travel & misc. expense	3,500.
9.	Supervision, geology, engineering, sampling, assaying and mill tests	8,000.
	Total	$55,740.

(1) water system $ 1200
building 1000

road 2,000 salary furnishings stove
cabins 400 + 700 + 400

equip
rented 4431.00
purchased 4385.00
dep 480.00
9296.0

9.
5100

Time Schedule

1st month		Rehabilitate camp; access road.
2nd	"	Prepare adit site; construct combination building; assemble surface plant and equipment; enlarge existing adit and crosscut 60 feet.
3rd	"	Crosscut 140 feet; drift 60 feet.
4th	"	Drift 140 feet; raise 60 feet.
5th	"	Raise 100 feet.
6th	"	Raise 100 feet.

It is possible that the work may be accomplished in a shorter period of time, thus cutting cost substantially.

Fixtures and Improvements

1 Combination building (compressor, storage, and shop)

Operating Equipment

To be purchased:

	Item	Est. cost
1	air receiver	$ 250.00
1	air powered fan	250.00
1	chain saw	380.00
		$ 880.00

To be rented:

					Max. rental allowance
1	315 cfm compressor @ $470/mo	for	6	months	$2,820.00
1	mucking machine @ $275/mo	"	"	"	1,650.00
1	air trammer @ $150/mo	"	"	"	900.00
8	mine cars @ $240/mo	"	"	"	1,440.00
2	air drills, hose, power leg and accessories of raising; grinding equipment, etc. @ $250/mo	for	6	months	1,500.00
	Total				$8,310.00

Note: Should raises be driven flatter than repose angle of broken rock, reasonable rental for slusher shall be allowed for required time. The cost will be absorbed in estimated cost per foot.

To be furnished by Operator

1 truck with snowplow attachment @ $30/mo for 6 months		$180.00
1 pickup @ $30/mo.	" " "	180.00
		$360.00

Labor and Supervision

1 superintendent @ $600/mo. for 6 months		$3,600.00
1 shift boss @ $400/mo.	" " "	2,400.00

Labor may be paid at a shift rate not to exceed established rates in the district and company may contract labor at unit prices not to exceed rates for like work in the district. All contracts must be approved by Field Team.

Rehabilitation and Repairs

Camp rehabilitation and equipment shall not exceed $2,700. Camp buildings to be repaired and equipped for winter habitation are a group of summer cabins located on lower end of Brown's Lake, formerly known as Brown's Lake fishing lodge and cabins.

EXPLORATION

Subject: DMEA-2292
Re: Exploration Loan
Ivanhoe Patented Claim

Mr. Frank Eichelberger, Vice President
American Alloy Metals, Inc.
One Montgomery Street
San Francisco 4, California

My dear Mr. Eichelberger:

This will acknowledge receipt of your application dated November 21, 1951 for a loan under the Defense Production Act of 1950.

Your application was assigned Docket Number DMEA-2292 and referred to the Iron & Ferro-Alloys Division.

Kindly refer to DMEA-2292 in any future correspondence relating to your application.

Sincerely yours,

ROBERT E. ADAMS

Robert E. Adams
Acting Administrative Officer

7862

a. Independent contracts
1. Bulldozing
2. Diamond drilling

b. Labor, supervision, consultants
1. Labor
2. Supervision
3. Consultants

c. Materials and supplies
1. Pipe and accessories
2. Rail and accessories
3. Steel and bits
4. Powder, fuse, caps
5. Power, fuel, oil
6. Mine timber
7. Building supplies
8. House furnishings
9. Miscellaneous
10. Diamond drill supplies

d. Equipment
1. To be purchased
2. To be rented
3. To be furnished by contractor

e. Miscellaneous
1. OAB, payroll taxes, etc.
2. Accounting, office and travel expenses
3. Assays
4. Repairs, including parts

f. Contingencies

TABLE B

AMERICAN ALLOY METALS*

DOCKET NO. DMEA 2292
CONTRACT NO. Idm-E247

STAGE I

	Independent Contracts		Labor, Supervision, Consultants			Materials and Supplies										Equipment			Miscellaneous Expenses				Contingencies	
	a-1	a-2	b-1	b-2	b-3	c-1	c-2	c-3	c-4	c-5	c-6	c-7	c-8	c-9	c-10	d-1	d-2	d-3	e-1	e-2	e-3	e-4	f	TOTAL
1. Rehabilitate with celotex 4 small cabins ($400.00) & furnish. Allowed	'	'	(?)	(?)	'	'	'	'	'	'	'	(?)	700.00	'	'	400.00	'	'	'	'	'	'	'	1,500.00
February	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
March	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
2. Rehabilitate road & adit site (27% time of Stage I) Allowed	1,995.00		1,932.29(?) 1/	810.00 1/				(?)	(?)	(?)				(?)			164.00	81.00	(?)	202.50				5,184.79
February	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
March	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
April	'	'	'	'	'	'	'	'	17.71	'	'	'	'	'	'	'	'	'	'	'	'	'	'	17.71
3. Construct 16'X 30' compressor building (with stove) Allowed	'	'	(?)	(?)	'	'	'	'	'	'	'	(?)	'	(?)	'	(?)	'	(?)	'	'	'	'	'	1,000.00
February	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
March	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
April	'	'	119.93	'	'	'	'	'	'	'	'	'	'	9.90	'	'	'	'	'	'	'	'	'	129.83
May	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
June	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
July	'	'	119.92	36.00	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	155.92
4. Camp water system Allowed	'	'	(?)	(?)	'	(?)	'	'	'	'	'	'	'	'	'	(?)	'	'	'	'	'	'	'	1,200.00
February	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
March	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
April	'	'	307.42	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	307.42
5. Mine water line Allowed	'	'	(?)	'	'	256.00	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	256.00
February	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
March	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
April	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'	'
May	'	'	100.00	'	'	(?)	'	'	'	'	'	'	'	562.94	'	'	'	'	'	'	'	'	'	662.94
June														20.96										20.96
6 & 7. Slab & extend adit (7.0 wks.) & drive raise (6 wks.) Allowed	'	'	7,003.91	2,190.00	300.00	392.50	247.50	400.00	1,062.50	1,552.50	349.80	'	'	'	'	3,490.00	2,980.00	219.00	(?)	547.50	500.00	200.00	1,250.00	22,685.21
April	'	'	1,663.05	600.00	'	(----102.89----)		'	146.10	'	'	'	'	1,139.32	'	1,006.41	1,246.05	60.00	317.76	'	'	10.66	'	6,292.24
May			1,795.24	600.00				62.55	483.43	156.66			1.20	365.03			414.00	60.00	243.63	366.82		103.68		4,652.24
June			1,841.37	522.00				268.42	1,070.70	315.34	56.80			200.43		Deleted	689.00	60.00	264.97	255.02		257.22		5,801.28
July			1,990.66	564.00				131.30	73.80	122.54	25.55		86.60	224.11		1,013.81	689.00	60.00	258.61	128.78	38.95	198.48		5,607.19
August	'	'	811.38	132.00	'	'	'	127.08	'	118.39	67.90	'	49.42	107.71	'	70.00	647.60	60.00	102.29	126.01	41.05	219.44	'	2,680.27

STAGE II

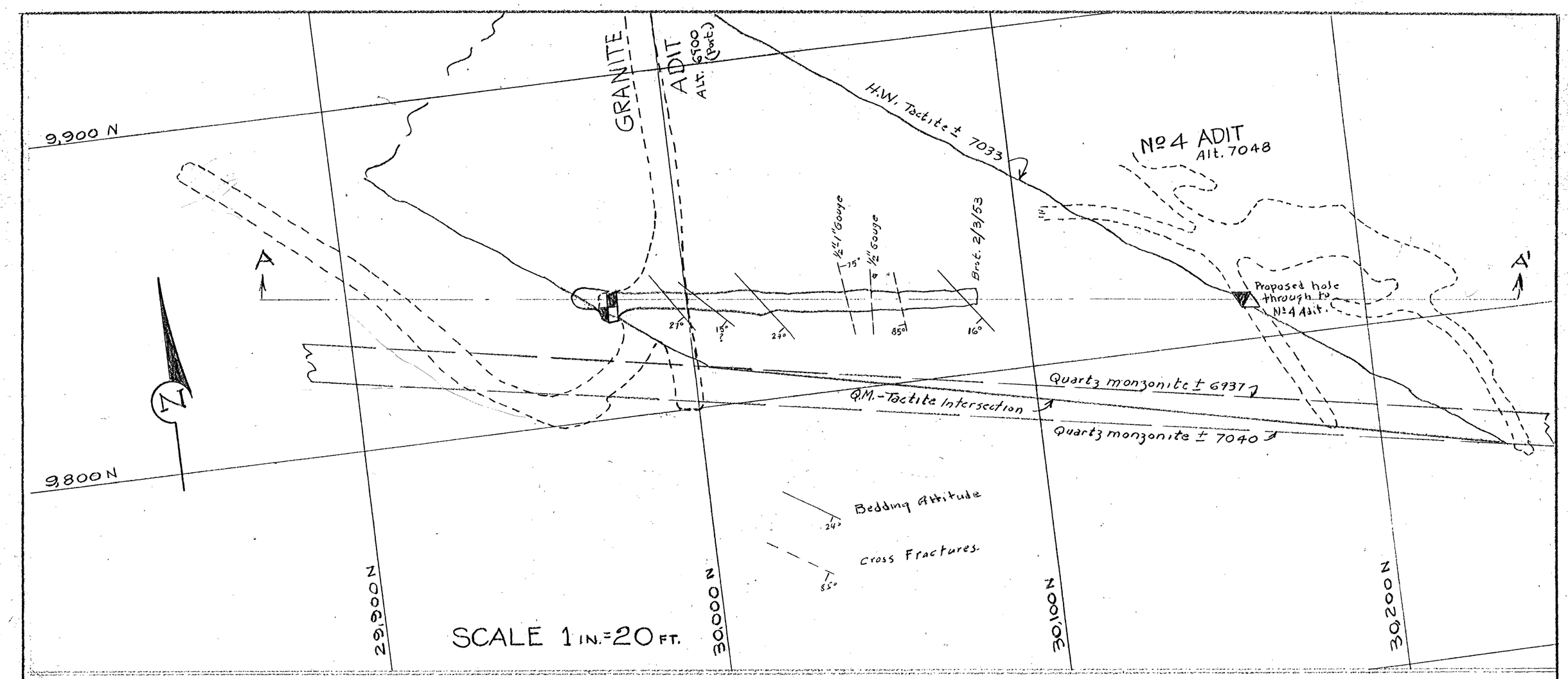
8. Drive intermediate level Allowed	'	'	4,486.30	1,200.00	300.00	310.00	'	(?)	1,215.00	879.00	'	'	'	58.50	'	'	1,190.00	120.00	(?)	500.00	1,000.00	'	1,000.00	12,258.80
September																								

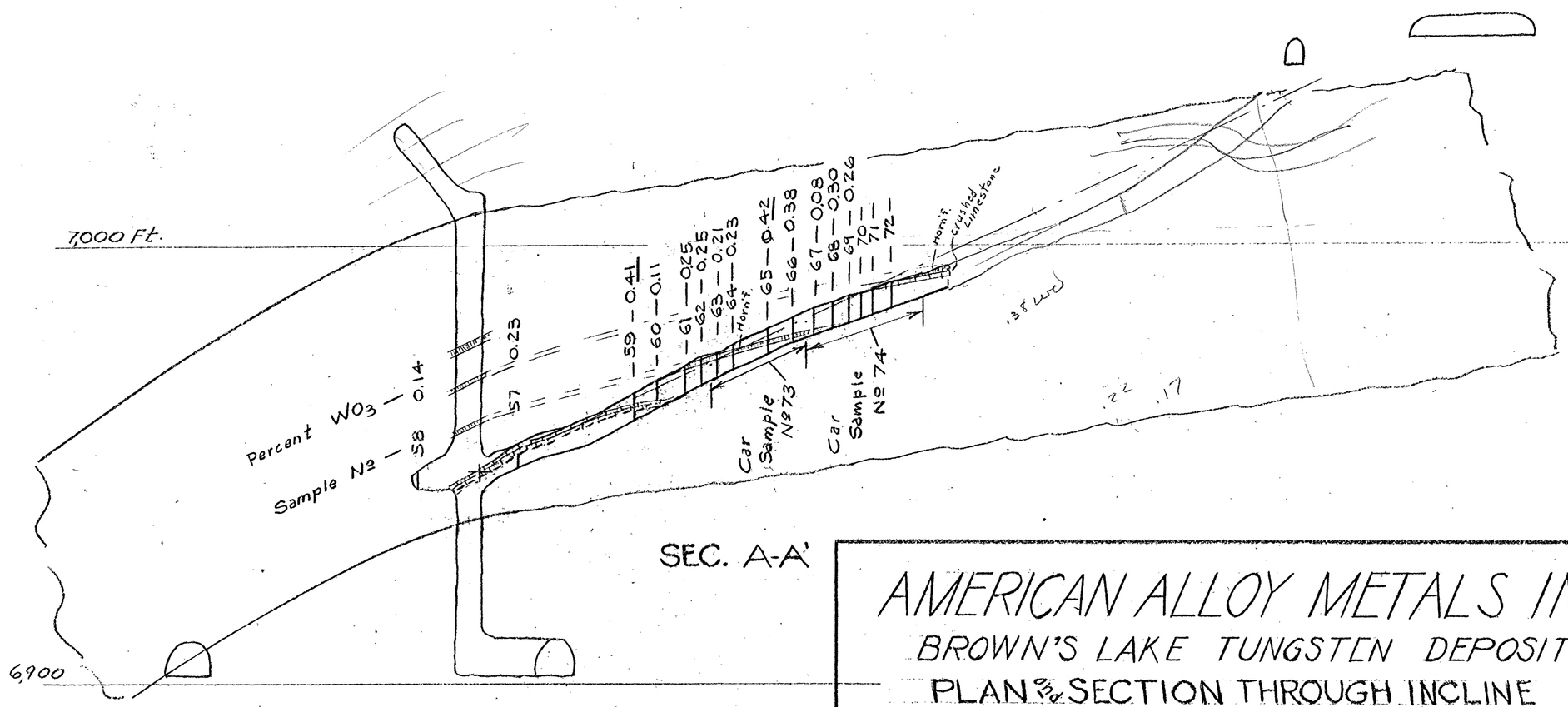
STAGE III

9. Diamond drill sites Allowed	'	'	150.00	'	'	'	'	'	50.00	'	'	'	'	'	'	'	'	'	'	'	'	'	'	200.00
September																								
10. Drill 1,200 feet AX hole Allowed	'	9,000.00	655.20	600.00	200.00	'	'	'	414.00	'	'	'	'	'	'	'	470.00	60.00	'	150.00	750.00	'	'	12,299.20
August	'	'	196.38	31.80	'	'	'	'	'	12.50	'	'	'	'	241.02	'	48.90	'	24.64	'	'	3.00	'	558.24
11. Tram Allowed	'	'	(?)	(?)	'	'	(?)	'	'	'	(?)	'	'	(?)	'	(?)	'	'	'	'	'	'	'	2,200.00 2/
April	'	'	(?)	(?)	'	'	'	'	'	'	'	'	'	(?)	'	(?)	'	'	'	'	'	'	'	90.81

TOTAL ALLOWED 56,584.00

* Based upon information available in Washington
1/ May or may not include items for 1, 3, 4, and 5.
2/ The tram was provided for by an amendment substituting funds from road rehabilitation under Stage I and from contingencies.





AMERICAN ALLOY METALS INC.

BROWN'S LAKE TUNGSTEN DEPOSIT

PLAN and SECTION THROUGH INCLINE

SHOWING SAMPLES

Glen, Beaverhead County, Mont.

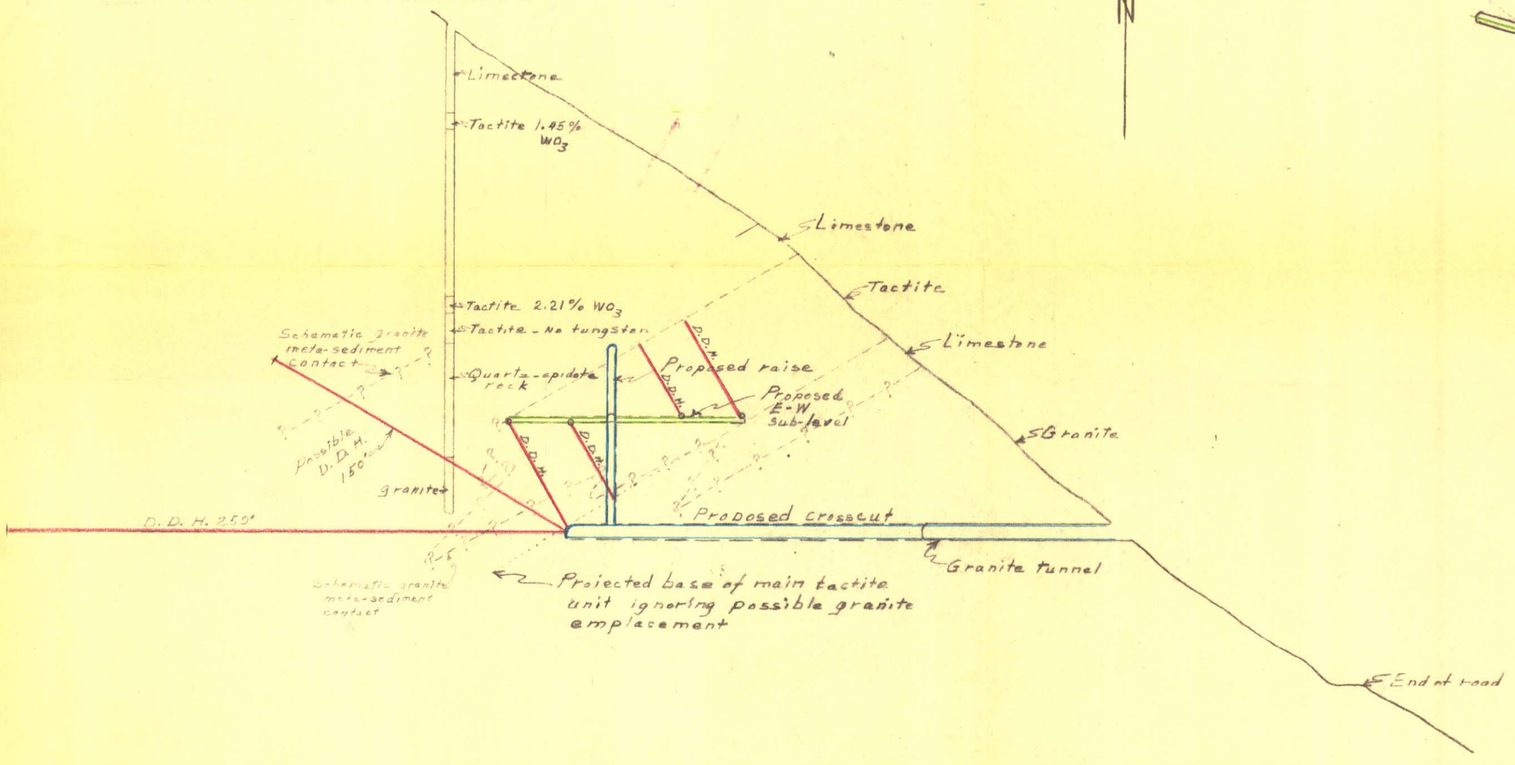
Feb. 4, 1953 Robert N Roby

SCALE 1 IN.=20 FT.

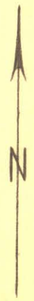
Confidential

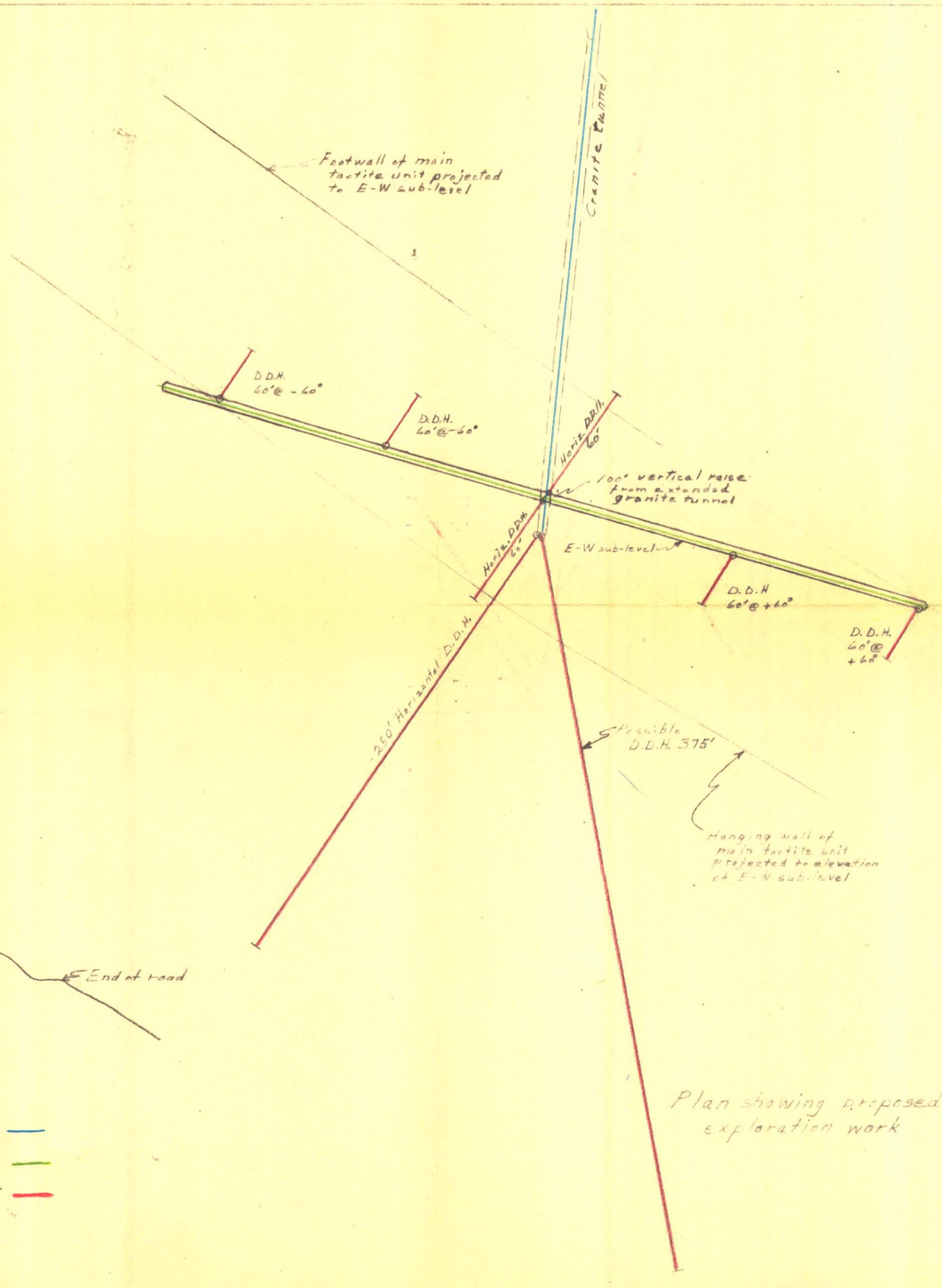
MINERALS ENGINEERING COMPANY - TUNGSTEN DIVISION
Monthly Operating Statement
Month of August, 1954

	American Alloy Metals					Lost Creek				All Operations	
	Total This Month	This Month	Last Month	This Year	Total to Date	This Month	Last Month	This Year	Total to Date	Year to Date	Total to Date
PRODUCTION											
(1) Mill Concentrates - Low grade units		3,638.40	3,701.31	17,315.82	17,912.52				73.49	17,299.94	17,986.02
Gross value delivered to refinery	$229,219.20	$229,219.20	$233,182.46	$ 1,090,896.85	$ 1,128,489.28			$(1,000.08)	$ 4,630.16	$1,089,896.77	$ 1,133,119.44
(2) Mill Concentrates- High Grade Units		1,099.92	1,203.77	7,868.45	7,868.46					7,868.45	7,868.45
Gross value delivered to G.S.A.	$ 58,295.88	$ 58,295.88	$ 77,939.76	$ 495,712.67	$ 495,712.67					$ 495,712.67	$ 495,712.67
(3) Total Gross Value All Products	$287,515.08	$287,515.08	$311,122.22	$ 1,586,609.52	$ 1,624,201.95	$ -0-	$ -0-	$ (1,000.08)	$ 4,630.16	$1,585,609.44	$1,628,832.11
COST OF PRODUCTION											
(4) Mining - (Total cost per ton)	$ 3.45	$ 3.45	$ 3.73	$ 3.82	$ 3.90			$ 17.67	$ 22.40	$ 3.91	$ 4.46
Labor											
Direct	14,838.02	$ 14,838.02	14,462.94	79,318.96	92,258.01		$ 107.36	$ 1,794.08	$ 6,967.63	81,113.04	99,225.64
Indirect	2,187.50	2,187.50	2,097.50	13,879.64	16,799.25			1,559.41	3,396.89	15,439.05	20,196.14
Taxes and Insurance	1,028.57	1,028.57	1,020.49	6,515.91	7,550.40		9.32	270.67	678.61	6,786.58	8,229.01
Total Labor	$ 18,054.09	$ 18,054.09	$ 17,580.93	$ 99,714.51	$ 116,607.66	$ -0-	$ 116.68	$ 3,624.16	$11,043.13	$ 103,338.67	$ 127,650.79
Materials											
Repairs	$ 5,796.93	$ 5,796.93	$ 3,555.77	$ 16,898.32	$ 22,224.61			$ 565.12	$ 2,056.03	$ 17,463.44	$ 24,280.64
Consumable Tools & Supplies	6,772.81	6,772.81	5,191.94	32,106.55	43,290.24			(448.55)	3,740.49	31,658.00	47,030.73
Explosives	4,532.29	4,532.29	5,235.66	17,092.80	18,062.79			535.70	634.95	17,628.50	18,697.74
Rentals	3,835.00	3,835.00	7,182.46	38,703.52	48,670.93			215.30	1,531.56	38,918.82	50,202.49
Total Materials	$ 20,937.03	$ 20,937.03	$ 21,165.83	$ 104,801.19	$ 132,248.57	$ -0-	$ -0-	$ 867.57	$ 7,963.03	$ 105,668.76	$ 140,211.60
Expense											
Development deferred				$ 25,564.61	$ 25,564.61				$33,690.01	$ 25,564.61	$ 59,254.62
Royalties	$ 7,050.00	$ 6,650.00	$ 6,650.00	$ 28,525.00	29,125.00	$ 400.00	$ 400.00	$ 3,200.00	3,200.00	31,725.00	32,325.00
D. M. E. A.			5,000.00	17,588.72	17,588.72			175.92	175.92	17,764.64	17,764.64
Taxes				230.98	327.83			.35	.35	231.33	328.18
Montana Office	4,399.10	4,399.10	1,654.26	19,150.74	23,439.21			399.85	6,627.99	19,550.59	30,067.20
Total Expense	$ 11,449.10	$ 11,049.10	$ 13,304.26	$ 91,059.05	$ 96,045.37	$ 400.00	$ 400.00	$ 3,776.12	$43,694.27	$ 94,836.17	$ 139,739.64
Total Mining Cost	$ 50,440.22	$ 50,040.22	$ 52,051.02	$ 295,575.75	$ 344,901.60	$ 400.00	$ 516.68	$ 7,867.85	$62,700.43	$ 303,843.60	$ 407,602.03
(5) Hauling of Ores - Mine to Mill (Cost Per Ton)	$ 1.00	$ 1.00	$ 1.11	$ 1.09	$ 1.12				$ .32	$ 1.08	$ 1.09
Tons	14,629.90	14,629.90	13,951.55	77,338.97	88,510.57			445.39	2,798.99	77,783.46	91,310.56
Total Cost of Hauling Ore	$ 14,613.43	$ 14,613.43	$ 15,558.53	$ 84,339.58	$ 98,718.22			$ (1.22)	$ 923.49	$ 84,338.36	$ 99,641.71
(6) Milling - (Total cost per ton)	$ 4.29	$ 4.29	$ 4.11	$ 3.88	$ 4.29				$ 5.20	$ 4.10	$ 4.31
Labor											
Direct	14,111.82	14,111.82	11,101.00	79,731.02	90,383.61				2,516.14	79,731.02	92,899.75
Indirect	2,307.50	2,307.50	2,127.50	19,968.54	21,363.22				302.58	19,968.54	21,665.80
Taxes & Insurance	945.09	945.09	942.84	6,483.66	7,033.83				109.38	6,483.66	7,143.21
Total Labor	$ 17,364.41	$ 17,364.41	$ 14,171.34	$ 106,183.22	$ 118,780.66	$ -0-	$ -0-	$ -0-	$ 2,928.10	$ 106,183.22	$ 121,708.76
Materials											
Repairs	$ 10,338.88	$ 10,338.88	$ 7,346.42	$ 40,288.56	$ 42,449.97				$ 460.04	$ 40,288.56	$ 42,910.01
Consumable Tools & Supplies	9,285.17	9,285.17	7,893.36	46,327.33	56,636.63				2,216.34	46,327.33	58,852.97
Power	1,836.56	1,836.56	1,753.66	12,707.59	13,965.24				271.23	12,707.59	14,236.47
Reagents	3,087.15	3,087.15	1,710.18	23,647.48	32,530.75				1,510.85	23,647.48	32,041.60
Total Materials	$ 24,547.76	$ 24,547.76	$ 18,713.62	$ 122,970.96	$ 143,582.59	$ -0-	$ -0-	$ -0-	$ 4,458.46	$ 122,970.96	$ 148,041.05
Expense											
Depreciation	$ 4,130.11	$ 4,130.11	$ 4,256.39	$ 27,624.84	$ 30,946.28					$ 27,624.84	$ 30,946.28
Assays & Engineering	1,521.65	1,521.65	1,943.08	7,757.05	7,895.34				$ 27.50	$ 7,757.05	7,922.84
Montana Office	2,119.23	2,119.23	2,028.24	23,661.83	25,893.21				524.65	23,661.83	26,417.86
Total Expense	$ 7,770.99	$ 7,770.99	$ 8,227.71	$ 59,043.72	$ 64,734.83	$ -0-	$ -0-	$ -0-	$ 552.15	$ 59,043.72	$ 65,286.98
(7) Total Milling Cost	$ 49,683.16	$ 49,683.16	$ 41,112.67	$ 288,197.90	$ 327,098.08	$ -0-	$ -0-	$ -0-	$ 7,938.71	$ 288,197.90	$ 335,036.79
(8) Total Tons Milled	11,575.31	11,575.31	10,014.39	70,305.99	74,173.99				1,526.50	70,305.99	77,700.49
(9) Refinery - Low Grade											
Freight to refinery	$ 5,517.28	$ 5,517.28	$ 5,425.16	$ 38,399.31	$ 41,125.61				$ 273.53	$ 38,399.31	$ 41,399.14
Refinery Loss	22,921.89	22,921.89	23,318.24	108,645.53	112,712.84				576.81	108,645.53	113,289.65
Cost of refining (Includes Penalties)	66,242.54	66,242.54	25,486.51	275,875.56	281,182.61				580.62	275,875.56	281,763.23
Adjustment of prior charges	8,886.43	8,886.43	8,886.44	44,432.19	44,432.19					44,432.19	44,432.19
Total	$103,568.14	$103,568.14	$ 63,116.35	$ 467,352.59	$ 479,453.25	$ -0-	$ -0-	$ -0-	$ 1,430.96	$ 467,352.59	$ 480,884.21
(10) Refinery - High Grade											
Freight to refinery	$ 741.09	$ 741.09	$ 394.02	$ 3,316.21	$ 3,316.21					$ 3,316.21	$ 3,316.21
Refinery loss (Adj. Prior months)				3,610.64	3,610.64					$ 3,610.64	3,610.64
Cost of refining - (Penalties)	860.40	860.40	4,449.48	11,573.51	11,573.51					11,573.51	11,573.51
(Direct Labor & Mat'ls, Expense and Depreciation)	16,238.23	16,238.23	9,374.47	49,811.02	49,811.02					49,811.02	49,811.02
Total	$ 17,839.72	$ 17,839.72	$ 14,217.97	$ 68,311.38	$ 68,311.38	$ -0-	$ -0-	$ -0-	$ -0-	$ 68,311.38	$ 68,311.38
(11) Total Cost - Mining, Hauling, Milling & Refining	$236,144.67	$235,744.67	$186,056.54	$1,203,777.20	$1,318,482.53	$ 400.00	$ 516.68	$ 8,266.63	$ 72,993.59	$1,212,043.83	$1,391,476.12
(12) M.E. Co. General Overhead - Allocated to above	11,807.23	11,787.23	9,302.82	60,188.85	65,554.68	20.00	25.83	413.32	3,372.04	60,602.17	68,926.72
-Adjusting December 1953				369.43	369.43			277.64	277.64	647.07	647.07
(13) Total Cost (11) & (12)	$247,951.90	$247,531.90	$195,359.36	$1,264,335.48	$1,384,406.64	$ 420.00	$ 542.51	$ 8,957.59	$ 76,643.27	$1,273,293.07	$1,461,049.91
Total Cost per ton mined	$ 16.95	$ 16.92	$ 14.00	$ 16.35	$ 15.64			$ 20.11	$ 27.38	$ 16.37	$ 16.00
(14) Net Return-Accrual basis (3)less(13)	39,563.18	39,983.18	115,762.86	322,274.04	239,795.31	$(420.00)	$(542.51)	(9,957.67)	(72,013.11)	312,316.37	167,782.20
(15) Gross Money Received - (From G.S.A. or banks)	$253,805.06	$253,805.06	$246,623.49	$1,187,216.81	$1,195,209.06			$ 2,557.07	$ 4,535.95	$1,189,773.88	$1,199,745.01
(16) Credit for charges included above deducted before cash settlement made:											
Refinery Loss	22,921.89	22,921.89	23,318.24	107,612.05	111,679.36				576.81	107,612.05	112,256.17
Cost of refining prior to 4/1/54				40,645.16	45,952.21				580.62	40,645.16	46,532.83
Penalties (May thru Aug. 1954)	899.64	899.64	5,610.60	21,971.62	21,971.62					21,971.62	21,971.62
(17)	$277,626.59	$277,626.59	$275,552.33	$1,357,445.64	$1,374,812.25	$ -0-	$ -0-	$ 2,557.07	$ 5,693.38	$1,360,002.71	$1,380,505.63
(18) Total Cost (13)	$247,951.90	$247,531.90	$195,359.36	$1,264,335.48	$1,384,406.64	$ 420.00	$ 542.51	$ 8,957.59	$ 76,643.27	$1,273,293.07	$1,461,049.91
(19) Credit for charges covering cost of refining on those concentrates not yet converted to cash	35,787.66	35,787.66	(1,312.51)	72,247.17	72,247.17					72,247.17	72,247.17
(20)	$212,164.24	$211,744.24	$196,671.87	$1,192,088.31	$1,312,159.47	$ 420.00	$ 542.51	$ 8,957.59	$ 76,643.27	$1,201,045.90	$1,388,802.74
Actual Net Return - Cash Settlement basis (17) less (20) (Cash received from settlements)	$ 65,462.35	$ 65,882.35	$ 78,880.46	$ 165,357.33	$ 62,652.78	$(420.00)	$(542.51)	$(6,400.52)	$(70,949.89)	$ 158,956.81	$ (8,297.11)
Material in process or in transit											
Low Grade											
Units	524.24	524.24									
Value	$ 33,090.12	$ 33,090.12									
High Grade											
Units	546.79	546.79									
Value	$ 34,447.87	$ 34,447.87									
Total											
Units	1,071.03	1,071.03									
Value	$ 67,537.99	$ 67,537.99									
Stockpiled Ore											
Tons	13,572.34	12,299.85				1,272.49					
Cost	$ 76,473.20	$ 47,969.42				$28,503.78					



N-S Section at proposed Crosscut
Looking west





Plan showing proposed exploration work

Stage I
Stage II
Stage III

PLAN AND SECTION SHOWING PROPOSED EXPLORATION ON IVANHOE CLAIM, BROWN'S LAKE, BEAVERHEAD COUNTY, MONTANA

50 0 50 100 150 200 Feet