PROJECT SUMMARY REPORT

By: J. W. Alt March 30, 1959

1. Docket No. DMEA-3142 (Copper)
Contract No. Idm-E644
Property: Holden Mine
Chelan County, Washington

Operator: Howe Sound Company
730 - 5th Avenue
New York 19, New York

Operator's Property Rights: Owner

2. Contract dated December 7, 1953. To complete December 7, 1955.

Work Authorized

The purpose of the project is to explore for copper ores by drifting and crosscutting not in excess of 4,100 feet in an easterly direction from the existing drift on the 1500 level of the Holden Mine, and by diamond drilling not in excessof 7,000 feet to test the eastern continuations of the general rock series which have been productive in the Holden Mine.

Stage I

This stage shall consist of not more than 3,100 feet of drifting, the construction of 8 diamond drill stations and not more than 5,000 feet of diamond drilling.

Stage II

This stage shall consist of not more than an additional 1,000 feet of drifting and crosscutting, the construction of 2 diamond drill stations and not more than 2,000 feet of diamond drilling.

Estimated Cost of the Project
(* Indicatesallowable Maximum)

Actual Costs

(2) Labor, supervision, consultants

Stage I		
Labor	$52,700.00	
Supervision and technical services	9,300.00*	$ 62,000.00
Stage II		
Labor	17,000.00	
Supervision and technical services	3,000.00*	20,000.00

(3) Operating materials and supplies

Stage I	39,561.00	
Stage II	12,810.00	52,371.00

(4) Operating Equipment

To be purchased		
Stage I		32,400.00
To be furnished by Operator		
Stage I	2,325.00*	
Stage II	750.00*	3,075.00

(7) Miscellaneous

Including Assaying and sampling		
Stage I	13,516.00	
Stage II	4,360.00	17,876.00

(8) Contingencies

To cover among other things, increases in labor costs		
Stage I	5,673.00	
Stage II	1,865.00	7,538.00
Total Estimated Actual Costs		$195,260.00

Agreed Unit Costs

Stage I

Diamond drill stations, 8 @ $490.00/each	$ 3,920.00	
Diamond drilling, 5,000 feet @ $2.75/ft.	13,750.00	$ 17,670.00

Stage II

Diamond drill stations, 2 @ $490.00/each	980.00	
Diamond drilling, 2,000 feet, @ $2.75/ft.	5,500.00	6,480.00
Total Agreed Unit Costs		$ 24,150.00
Total Estimated Actual Costs		$195,260.00*
Total Estimated Cost of the Project		$219,410.00*
Government's participation, 50%		$109,705.00*

Amendments

No. 1 Agreed January 13, 1954, effective December 7, 1953.

Change in Operating equipment to be purchased under Stage I.

Change of Cost of Contingencies, Stage I.

Amended Exploration Project Contract

Dated June 25, 1954. To be completed December 7, 1955

Effective as of December 7, 1953, the Prior Contract is amended and superseded by this Amended Contract. Includes 19 more claims.

Work Authorized

The work is divided into two major items, each of which is subdivided into two stages.

ITEM I - Work under this item is to be done on the 1500 level.

Stage I

This stage consists of not more than 3,100 feet of drifting, the construction of 8 diamond-drill stations, and not more than 5,000 feet of diamond drilling.

Stage II

This stage consists of not more than an additional 1,000 feet of drifting and crosscutting, the construction of 2 diamond-drill stations, and not more than 2,000 feet of diamond drilling.

ITEM II - Work under this item is be done on the 2500 level.

Stage I

This stage consists of not more than 1,000 feet of crosscutting, 4 transfer stations, 4 diamond-drill stations, and 4,000 feet of diamond drilling.

Stage II

This stage consists of not more than 450 feet of crosscutting, 2 transfer stations, 2 diamond-drill stations, and 2,000 feet of diamond drilling.

Estimated Costs of the Project

Agreed Unit Costs

ITEM I

Stage I

Diamond-drill stations, 8 @ $490.00/each	$ 3,920.00	
Diamond drilling, 5,000 feet, @ $2.75/ft.	13,750.00	$17,670.00

Stage II

Diamond-drill stations, 2 @ $490.00/ea.	980.00	
Diamond drilling, 2,000 feet, @ $2.75/ft.	5,500.00	6,480.00
Total Agreed Unit Costs, Item I		$24,150.00

ITEM II

Stage I

Transfer stations, 4 @ $500.00/ea.	$ 2,000.00	
Diamond drill station, 4 @ $600.00/ea.	2,400.00	
Diamond drilling, 4,000 feet, @ $3.00/ft.	12,000.00	$16,400.00

Stage II

Transfer stations, 2 @ $500.00/ea.	1,000.00	
Diamond drill stations, 2 @ $600.00/ea.	1,200.00	
Diamond drilling, 2,000 feet, @ $3.00/ft.	6,000.00	8,200.00

Total Agreed Unit Costs, Item II $24,600.00

Actual Costs (* Indicates allowable maximum)

(2) Labor, supervision, consultants

ITEM I

Stage I

Labor	$52,700.00	
Supervision and technical services	9,300.00*	$62,000.00

Stage II

Labor	17,000.00	
Supervision and technical services	3,000.00*	20,000.00

ITEM II

Stage I

Labor	$17,000.00	
Supervision and technical services	3,000.00*	$20,000.00

Stage II

Labor	7,650.00	
Supervision and technical services	1,350.00*	9,000.00

(3) Operating materials and supplies

	ITEM I		
Stage I		$40,353.99	
Stage II		12,810.00	$53,163.99
	ITEM II		
Stage I		$12,500.00	
Stage II		5,625.00	18,125.00

(4) Operating Equipment (To be purchased)

	ITEM I		
Stage I		$31,607.01*	
	ITEM II		
Stage II		8,219.00*	39,826.01*

To be furnished by Operator

	ITEM I		
Stage I		$ 2,325.00*	
Stage II		750.00*	3,075.00*
	ITEM II		
Stage I		$ 750.00*	
Stage II		337.00*	1,087.00*

(7) Miscellaneous

	ITEM I		
Stage I		$13,516.00	
Stage II		4,360.00	17,876.00
	ITEM II		
STAGE I		$ 4,140.00	
Stage II		1,502.00	5,642.00

(8) Contingencies	ITEM I		
Stage I		$ 5,673.00	
Stage II		1,865.00	$ 7,538.00*
	ITEM II		
Stage I		$ 2,550.00	
Stage II		1,357.00	3,907.00*

SUMMARY OF PROJECT COSTS

Estimated Total Actual Costs of Item I	$195,260.00*	
Estimated Total Agreed Unit Costs of Item I	24,150.00	
Estimated Total Actual Costs of Item II	65,980.00*	
Estimated Total Agreed Unit Costs of Item II	24,600.00	
Estimated Total Cost of Project		$309,990.00*
Government's Participation @ 50%		$154,995.00*

AMENDMENTS

No. 1 Agreed January 28, 1955.

Adds 8 unpatented claims.

No. 2 Agreed January 17, 1956.

Extends completion time from December 7, 1955 to July 1, 1956.

Royalty payment period increased to 11 years.

Change in the description of work and in costs.

Amendments (continued)

No. 3 Agreed October 10, 1956

The completion date is extended from July 1, 1956 to January 1, 1958.

Royalty payment period increased to 13 years.

Adds additional work and increases cost of the project by $53,850.00, making the Estimated Total Cost of the Project $363,840.00 and Government's participation, @ 50%, $181,920.00.

Work Completed

1500 Level

3,800 feet of drifting and crosscutting, cost per foot $50.41	$191,570.04
18 diamond drill holes, totaling 7,965 feet, cost per foot, $3.94	31,353.74
10 diamond drill station (Cost included in diamond drilling)	

2500 Level

1,365 feet of crosscutting, cost per foot, $32.54	44,423.15*
15 diamond drill holes totaling 7,734 feet, cost per foot, $3.84	29,685.68*

* Cost includes: 3 transfer stations, 6 diamond drill stations and 30 sample assays.

Northwest Area, Surface drilling

1 diamond drill hole, 1,385 feet, cost per foot, $8.43	11,676.28
Total Cost of the Project	$308,708.89

The work on the project was started February 1, 1954 and concluded in May 1957. The project was terminated by agreement dated July 24, 1957, and effective June 1, 1957.

3. Audit - Report of Review dated August 21, 1957.

Total cost as billed by Contractor	$324,553.78
Less proceeds from property disposition	15,832.14
Net Cost	308,721.64
Exceptions	12.75
Total Cost of the Project	$308,708.89
Government's participation, 50%	$154,354.45

Operator's final report dated June 11, 1957.
Field Team's final report dated December 1958.

4. Certification of Discovery or Development - Pseudo-Certification July 1, 1957.

Pseudo-Certification contains in the Termination Agreement dated July 24, 1957, effective date is June 1, 1957.

5. Comment:

The over-all performance of the contract work on the project was satisfactory. The Operator was competent both administratively and financially. The exploration program cannot be considered a failure as it did prove that mineralization continues on the structure below the 2,500 level although at the present price it is subcommercial. It also proved that some sulfide mineralization continues to the northwestward from the Main mine workings.

The 1500 level was extended east 3,800 feet, 10 diamond drill stations were cut and 18 holes aggregating 7,965 feet were drilled. None of the work disclosed any copper-gold mineralization of sufficient consequence to infer additional ore reserves in the Buckskin Area.

One diamond drill hole drilled from surface to a depth of 1,385 feet in the Northwest area also failed to indicate any significant copper-gold mineralization.

Total estimated indicated and inferred reserves in two veins below the 2500 level, estimated from drill holes alone, is 1,219,160 tons averaging 1.55 per cent copper and 0.066 ounce of gold per ton and containing an estimated 32,860,300 pounds of copper and 80,950 ounces of gold.

Because of present low metal prices and estimated excessive costs to develop and exploit the ore below the 2500 level, the Operator has terminated all activities and moved or disposed of most of the mining, milling, and housing facilities.

There remains a considerable area to the northwest of the mine that was not adequately explored. Of the three holes authorized in the Northwest Area and the three authorized in the Ebbutt's Breccia Area, only one hole was drilled. This was in the Northwest area. Should the Holden mine be reactivated at some future time, then Government participation in the exploration of these areas is warranted.

The immediate Holden mine area was adequately explored by the DMEA project and Government participation in further work is not recommended.

J. W. Alt

J. W. Alt

JWAlt/er
Copy to: Docket
Dir Read File
Mr. Johnson
Chron.

DMEA Form 17
Feb. 58

DEFENSE MINERALS EXPLORATION ADMINISTRATION

WORK COMPLETED ANALYSIS

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

Operator: The Howe Sound Company		Actual Cost	x
State: Washington		Agreed Unit Cost *	x
Final Report of Audit		Commodity	Docket No. DMEA-3142
Final Report of Review	X	Copper	Contract No. Idm-E644

Operation	Authorized by Contract and Amendments		Completed		Net cost after sale of Government Property
	Units	Cost	Units	Cost	
Drifting 7' x 7' & Crosscutting	5,468'	$224,246.86	5,165'	$224,196.91	$221,722.79
Raising					
Shafts					
Winzes					
Drilling (Specify) Diamond (AX & EX)	* 11,000'	57,555.00	7,839'	31,038.28	31,038.28
	* 11,616'	45,999.00	9,245'	36,898.75	36,898.75
Surface Excavation					
Underground Excavation Transfer Stations - 3 @ $500.00 ea.		* 1,500.00	3	1,500.00	1,500.00
Roads and Trails					
Operating Equipment Purchased		34,539.14		30,907.09	17,549.07
Surface Rehabilitation & Repairs					
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify)					
Totals		$363,840.00		$324,541.03	* $308,708.89

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

Salvage.
Pipe $1,349.76
Track 1,124.36
2,474.12
Equip. Pur. 13,358.02
Total $15,832.14

Prepared by W. P. Klugescheid/er Date 4/2/58

31398

☐ Audited 2nd Interim

WORK ANALYSIS SHEET - DMEA PROJECT

☒ Actual Cost

☐ Certified

Analysis as of _____
Incl. Voucher for January 1956.

*☒ Agreed Unit Costs

Name THE HOWE SOUND COMPANY.

Docket No. 3,142

State WASHINGTON

Commodity COPPER

Idm-E No. 644

OPERATION	AUTHORIZED Units	AUTHORIZED Cost	COMPLETED Units	COMPLETED Cost	NET COST
Drifting & Crosscutting 7'x7'	5,468'	$224,246.86	5,165'	$224,196.91	✓
Raising	See				
Shafts					
Winzes					
Drilling (Specify) D.D. Diamond *	16 units	8,310.00	16 units	8,310.00	✓
Diamond *	7,416' @ 2.75	20,394.00	9,627'	27,542.75	✓
	7,000' @ 3.00	21,000.00			
Surface Excavation					
Underground Excavation 3 @ 500.00 Transportation *		1,500.00	3	1,500.00	✓
Roads and Trails					
Operating Equipment Purchased		34,539.14		30,907.09	✓
Surface Rehabilitation & Repairs	See Next				
Underground Rehabilitation					
New Building, Improvements, etc.					
Other (Specify)					
Totals		$309,990.00		$302,036.50	

OK

Conversion Rate ~~1/1/55~~ 1/1/56.
Cu. price in Aug 1955. = 5.25
Amend #2 to Amended contract - Incorporated.
Royalty Repayment Period - 11 years.

Prepared by W. H. Hugenkeid

71626

Amendment No. 3.

Completion date extended to Jan. 1, 1958.

Royalty payment period 13 years.

All work under Amend. No. 2. to be called Stage I.

Stage II

Agreed Unit Costs,

1500 Level

1200' D.D. @ $3.70 ✓ $4,440.00

2500 Level

3000' D.D. @ 4.25 ✓ 12,750.00

30 Samples assayed @ 3.50 ✓ 105.00

$17,295.00

Actual Costs.—Surface Drilling

D. Independent Contracts.

Drilling & Driving Pipe est. 600' @ $10.00 ✓ 6,000.00

D.D. to depth 500' est. 1900' @ 6.00 ✓ 11,400.00

D.D. depth 500'-1000' est 1500' @ 7.30 ✓ 10,950.00

Reaming & Casing—est. 680' @ 2.50 ✓ 1,700.00

Cementing drill holes—est.—680' @ 2.50 ✓ 1,700.00

Amend 3. Cont.

(2) Labor, Supervision, Consultants.

(a+b) Supervising Eng.-Geol. 7 mos.
@ 600.00 half time 300 2,100.00 ✓
(c) Labor - Eng. Helper. 70 days @ 15.00 1,050.00 ✓ 3,150.00

(3) Operating Materials
240 core boxes @ $2.50 ✓ 600.00

(7) Miscellaneous
Mobilization of surface drill. ✓ 755.00

3 drill moves @ 65.00 ea. 195.00

30 Samples Assayed @ 3.50 ea ✓ 105.00

Total Stage II. 53,850.00

Total Cost of Stage I 309,990.00

Total Project. 363,840.00

Miscellaneous	23,908.27
Contingencies	11,445.00*
Labor	95,915.75
Materials + Suppl.	72,472.84
	$203,741.86

Amendment No. 2.
Agreed Unit Costs.

1500 Level

9 D.D. Stas @ 490.00	4,410.00	
1 " " " @ 300.00	300.00	4,710.00
✓ 7,416' D.D. @ 2.75/ft	20,394.00	20,394.00
		25,104.00

2500 Level

6 D.D. Stations @ 600.00	3,600.00	
3 Transfer Stas @ 500.00	1,500.00	5,100.00
✓ 7,000' D.D. @ 3.00/ft.	21,000.00	21,000.00
		26,100.00

Equipment Purchased. 34,539.14*

1500 Level

4,100' Drifting and Crosscutting	
Supervision + Consultants @ 3.00/ft.	12,300.00*
Equipment by Operator @ 0.75 ft.	3,075.00*

2500 Level.

1,368' Drifting + Crosscutting	
Supervision + Consultants @ 3.00/ft	4,104.00*
Equipment by Operator @ 0.75/ft.	1,026.00*

Amended Contract

Amendment No. 2. See new Sheet.

The Howe Sound Company – Washington – 3142

Stage I (agreed unit costs) Item I.

8 D.D. Stations @ 490.00 each ✓ $ 3,920.00

5000' D.D @ 2.75 ✓ 13,750.00

Stage II

2 D.D. Stations @ 490.00 ea. ✓ 980.00

2,000' D.D. @ 2.75 ✓ 5,500.00

Stage I. Item II.

1 Transfer Stations @ 500.00 ✓ 2,000.00

4 D.D. Stations @ 600.00 ✓ 2,400.00

4000' D.D. @ 3.00 ✓ 12,000.00

Stage II

2 Transfer Stations @ 500.00 ✓ 1,000.00

2 D.D. Stations @ 600.00 ✓ 1,200.00

2000' D.D. @ 3.00 ✓ 6,000.00

$ 48,750.00

Actual Costs.

Item I. Stage I.		
Labor		X 52,700.00
Supervision + Tech.		X 9,300.00
Stage II		
Labor		X 17,000.00
Supervision + Tech.		X 3,000.00
Stage I. Item II.		
Labor		X 17,000.00
Supervision + Tech.		X 3,000.00
Stage II		
Labor	(94,350.00)	X 7,650.00
Supervision + Tech.	(16,650.00)	X 1,350.00
Materials + Supplies - Item I.		
Stage I.		X 40,353.99
Stage II.		X 12,810.00
Item II.		
Stage I.		X 12,500.00
Stage II.	(71,288.99)	X 5,625.00
Item I Stage I.		
Equip. Purchases.		X 31,607.01
Stage I. Item II.		
Equip. Purchase	(39,826.01)	X 8,219.00

Depreciation

Item I - Stage I		✓ 2,325.00
Stage II		✓ 750.00
Item II - Stage I		✓ 750.00
Stage II	(4,162)	✓ 337.00

Miscellaneous - Samp. + Assaying etc.

Item I - Stage I.		✓ 13,516.00
Stage II.		✓ 4,360.00
Item II - Stage I.		✓ 4,140.00
Stage II.	(23,518)	✓ 1,502.00

Contingencies

Item I - Stage I.		✓ 5,673.00
Stage II.		✓ 1,865.00
Item II Stage I.		✓ 2,550.00
Stage II	(11,445)	✓ 1357.00

Summary (Actual Costs Driving)

Labor	94,350.00
Supervision	16,650.00
Materials + Supplies	71,288.99
Depreciation	4,162.00
Miscellaneous (Sampling etc)	23,518.00
Contingencies	11,445.00
$39.89+/ft.	$221,413.99

5,550' Drifts and XCs (7x7')

Summary D.D.

8 DD stations @ 490.00 ea		3,920.00
2 DD. " " "		980.00
4 DD. " " 600.00 "		2,400.00
2 DD " " "		1,200.00
16		8,500.00
5000' D.D. @ 2.75		13,750.00
2000' " " "		5,500.00
4000' " " 3.00		12,000.00
2000' " " "		6,000.00
13000'		37,250.00
4 Transfer Stations @ 500.00		2,000.00
2 " " "		1,000.00
		3,000.00

~~March~~ ~~February~~ April.
January 1955

Spent.

5 ~~X 3~~ 6 D.D. Stations	✓2,750.00	~~2,260.00~~ ~~1,770.00~~ ~~1,280.00~~
1 D.D. " @ 600.00		600.00 ✓
2 Transfer Stations @ 500.00		~~500.00~~ 1,000.00 ✓
~~1776~~ ~~2,573~~ ~~2,925'~~ ~~3,369~~		~~426.67~~ ~~7075.75~~ ~~8,043.75~~ ~~5,439.50~~
~~1966'~~ D.D. @ 2.75		~~5,406.50~~ 9,264.75 ✓
207' D.D. @ 3.00	✓621.00	~~26,040.48~~ ~~25,566.48~~ 27,592.29 ✓
Equip. Purchased		94,442.72 ✓ ~~25,688.24~~
2095' 2,315'		~~84,784.43~~
Stem 1 Stage 1 1495' Sections		~~44,117.53~~ ~~51,515.87~~ ~~61,545.17~~
Stem 2 " 1 — 83' 314' 454'	13,557.22 ✓	~~7,007.27~~ ~~2,679.97~~ ~~825.38~~ ~~884.71~~
2,769' ~~2407'~~ 1263'		~~52,571.25~~
1,884,500'		~~62,409.88~~ 111,709.73
	76,797.50	93,789.20 ~~$83,215.99~~ ~~99,261.88~~

~~Sept, Oct, Nov, Dec~~ ~~June~~ 1956 Feb.

~~July, Aug~~ ~~June~~

Spent. ~~May~~ 1955

~~8~~ 10

7 D.D. Stations @ £490.00 — 4,710.00 ~~4,220.00~~ ⊕ 3,730.00 ~~3,240.00~~ $ ~~2,750.00~~

3 D.D. Sta. @ 600.00 — ✓ ⊕ 3,600.00 ~~2,400.00~~ ~~1,200.00~~ ~~1,800.00~~ ~~600.00~~

Next Page

3 Transfer Stns @ 500.00 — ✓ ⊕ 1,500.00 ~~1,000.00~~ ✓

5,353' ~~4,031'~~ ~~4,438'~~ ~~4,812'~~ 4,816' ~~5,000~~ ✓ ⊕ 14,720.75 ~~14,177.00~~ ~~13,750.00~~ ~~13,244.00~~ ~~13,235.00~~ ~~12,177.00~~ ✓ ~~11,865.25~~ ~~9,264.75~~

~~3,369'~~ D.D. @ 2.75

~~3114'~~ ~~3,062~~ 4,274' ~~2611'~~ ~~1,945'~~ ~~11,586.00~~ 12,822.00

~~703'~~ ~~1,032'~~ ~~1,315'~~ 1,560' ~~1,775~~ ⊕ ~~9,351.00~~ ~~4,680.00~~ ~~3,915.00~~ ~~3,066.00~~ ✓ ~~4,833.00~~ ~~5,925.00~~ ~~6,241.00~~

207' D.D. @ 3.00

✓ ⊕ 30,907.09 ~~29,945.36~~ ~~29,963.05~~ ✓ ~~29,405.20~~ ~~30,841.62~~ ~~30,259.70~~ ~~27,592.29~~

Equipment Purchased

~~3036'~~ 3,097' 3100? (1500 level)

~~2,887~~ ~~2,693'~~ ~~2,522'~~

Item 1. Stage 1. ~~2,315'~~

Capital ⊕ 135,396.66 ~~141,464.44~~ ~~130,404.30~~ ~~111,590.79~~ ✓ ~~164,028.98~~ ⊙ 135,352.2 ~~94,443.76~~

815'

~~186'~~ ~~688'~~ ~~665'~~ ~~557'~~

Item 2. Stage 1. ~~454'~~ (2500 level)

~~142,855.84~~ ~~2,882.46~~ ~~145,638.30~~ ⊕ 26,176.83 ~~25,000.80~~ ~~21,431.10~~ ~~16,864.96~~ ~~13,557.99~~ ✓ ~~20,416.65~~

~~3,149'~~ ~~2,769'~~ ~~4,258'~~ ~~3,558'~~

⊕ 18,174.83 ~~18,853.53~~ ~~18,182.11~~ ~~14,215.63~~ ~~14,000.46~~

108,000.71 ~~107,491.44~~ ~~121,667.79~~ ✓

550' ~~257'~~ ~~444'~~ ~~98~~ (2500 level)

Item 2. Stage 2. —

700' (1500 level)

Item 1. Stage 2. — ~~44'~~ ~~251'~~ ~~423'~~ ~~818'~~ ~~14,607.14~~ ~~3,568.95~~ ⊕ ~~23,718.36~~ ~~33,114.86~~ 44,771.79

~~218,045.83~~ ~~256,416.46~~ ~~256,024.83~~ ~~177,838.75~~ ⊕ ~~167,115.5~~ ~~182,413.7~~ 167,540.89 ~~282,497.01~~

Spent

1956

Feb

10 D.D stations @ 470.00 — 4,710.00

6 D.D Stations @ 600.00 — 3,600.00

3 Transfer Stations @ 500.00 — 1,500.00

~~5,368'~~ ~~5,878'~~ ~~6,646'~~ 6,765'
~~5,353'~~ D.D. @ 2.75 — 18,603.75 ~~16,164.50~~ ~~14,762.00~~ ~~16,276.50~~ ~~14,720.75~~

~~4,884'~~ ~~6,074'~~ ~~6,282'~~ 6,454'
~~4,274'~~ D.D. @ 3.00 — 19,362.00 ~~18,222.00~~ ~~14,652.00~~ ~~18,846.00~~ ~~16,822.00~~

Equipment Purchased — 30,907.09

Drs + XCS.
Item 1 Stage 1. 3,100' (1500 Level) — (corrected) 135,172.06 ~~135,396.66~~

Drs + XCS
Item 2 Stage 1 815' (2500 Level) — (corrected) 26,176.83

Drs + XCS
Item 2 Stage 2. 550' (2500 Level) — (corrected) 18,076.23 ~~18,174.83~~

Drs. + XCS
Item 1 Stage 2. 700' (1500 Level) — 44,771.79

Salvage

Pipe	$ 6,349.74
Track	1,124.36
Supp. Purchase	13,358.02
	$ 13,832.12

O.K. ~~302,036.50~~ 302,877.75 — ~~282,997.01~~ Checking audit → ~~274,328.00~~ everything ~~299,300.50~~

1500 ft

Summaries by Items

Item 1 Stage 1 actuals

3100' Drifts + Crosscuts

Labor	$52,700.00
Supervision	9,300.00
Materials	40,353.99
(Equip. Purchases	31,607.01)
Depreciation	2,325.00
Miscellaneous	13,516.00
Contingencies	5,673.00
Total,	123,867.99

$39.96/ft.

Item 1 Stage 2 Actuals

1000' Drifts + Crosscuts

Labor	17,000.00
Supervision	3,000.00
Materials	12,810.00
Depreciation	750.00
Miscellaneous	4,360.00
Contingencies	1,865.00
Total,	39,785.00

$39.79/ft.

7500 Bucket

Actual Costs

Item 2 Stage 1

1000' Drifts and Crosscuts —	Labor	$ 17,000.00
	Supervision	3,000.00
	Materials	12,500.00
$39.94/ft.	(Equip. Purchased	8,219.00)
	Depreciation	750.00
	Miscellaneous	4,140.00
	Contingencies	2,550.00
	Total	39,940.00

Item 2 Stage 2

450' Drifts & Crosscuts —	Labor	7,650.00
	Supervision	1,350.00
	Materials	5,625.00
$39.60/ft.	Depreciation	337.00
	Miscellaneous	1,502.00
	Contingencies	1,357.00
	Total	17,821.00

Spent.

Stage II 1956 ~~Nov.~~ Dec.

1500 Level @ $3.70/ft 1200' ~~506'~~ 4,440.00 ~~4,171.70~~ ~~1,872.20~~

2500 Level @ 4.25/ft 1,280' 5,440.00

105.00 ?

Surface Drilling & Drawing Pipe @ 10.00 150'? 1,500.00

D.D. to 500' @ 6.00 350' 2,100.00

D.D. ~~600~~-1000' @ 7.30 500' 3,650.00

? 1,631.08

~~16,584.33~~

18,878.83

Stage I 287,047.63

~~303,636.46~~ OK

305,926.46 OK

OFFICIAL COPY
AUG 8 1967
INITIALS | CODE
gla | 20 M
110
220

GEOLOGICAL SURVEY
So. 157 Howard Street
Spokane, Washington 99204
August 3, 1967

Memorandum

To: Chief, Office of Minerals Exploration

From: Field Officer, Region I

Subject: DMEA-2436 (Cobalt-Copper)
Northfield Mines, Inc.
Stevenson Property
Lemhi County, Idaho
Contract Idm-K334

DMEA-3668 (Lead)
R. R Hogue and Ed Pohl
Silver Saddle Mine
Broadwater County, Montana
Contract Idm-E811

DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

During a telephone conversation August 1, 1967, A J Kauffman, Jr., Chief, Albany Office of Mineral Resources, advised me that the Bureau of Mines has no record of any production from the Silver Saddle mine since March 1964; no record of production at any time from the Stevenson property; and no record of any production from the Holden mine since February 26, 1964.

D R MacLaren

D. R. MacLaren

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
7/27/		110
		220

Memorandum

To: Field Officer, Region I

From: Chief, Office of Minerals Exploration

Subject: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

The Operator under the subject contract quitclaimed the property to the Lutheran Bible Institute of Seattle, Washington, and by letter dated February 26, 1964, reported there had been no production from the property since September 8, 1959.

The royalty repayment period under the contract expired June 25, 1967. Before closing our records on this case, please check with the U. S. Bureau of Mines to confirm that no production has been made from the Holden mine from February 26, 1964 through June 25, 1967, and advise accordingly.

FRANK E. JOHNSON

Frank E. Johnson

cc: Director's reading file
Division file
Economic Geology file
OME file
OME reading file
130
120

FEJohnson/bih 7/27/67

23263

Area Code 212
PEnnsylvania 6-5577

HOWE SOUND COMPANY
500 FIFTH AVENUE · NEW YORK 36, NEW YORK

March 9, 1964

OFFICIAL FILE COPY
O. M. E
RECEIVED MAR 10 1964

DATE	INITIALS	CODE
3/10		800
		120
		500
		220

Mr. George Fumick, Jr.
Acting Director
United States Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

RE: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

HS
report here
[illegible]

Dear Mr. Fumick:

Pursuant to our letter of February 26th, we enclose photostatic copies of two Quit Claim deeds to The Lutheran Bible Institute of Seattle, Washington.

Yes.
Advised in our letter of 2/19/64
Murphy
Folder 2

Very truly yours,

HOWE SOUND COMPANY

S. Geisen

S. Geisen
Assistant Treasurer

SG:TL
Encs.

QUIT CLAIM DEED
(Corporate Form)

BOOK 618 PAGE 42

573769

REAL ESTATE EXCISE TAX
EXEMPT
Chelan County Treasurer
T. E. McKoin
By Frank Smyth
Deputy

WASHINGTON TITLE INSURANCE COMPANY
SEATTLE, WASHINGTON

Mail to Helin, Carmody & Horswill
Central Building
Seattle, 4, Wash.

Send Tax Statement to

FORM L57

E19530

Quit Claim Deed

(CORPORATE FORM)

THE GRANTOR HOWE SOUND COMPANY, a corporation,

for and in consideration of One Dollar and other valuable consideration

conveys and quit claims to THE LUTHERAN BIBLE INSTITUTE OF SEATTLE, a Washington corporation,

the following described real estate, situated in the County of Chelan, State of Washington:

Certain patented lode mining claims located in Chelan Mining District, Chelan County, State of Washington, more particularly described in Exhibit A attached hereto.

FEE 3.00
FILED FOR RECORD
Helin, Carmody & Horswill
1960 DEC 30 AM 8 38
A. C. Weed
BOOK 618 PAGE 42-43
CHELAN COUNTY AUDITOR
WENATCHEE, WASH.

IN WITNESS WHEREOF, said corporation has caused this instrument to be executed by its proper officers and its corporate seal to be hereunto affixed this 27 day of December, 1960.

HOWE SOUND COMPANY

By Wm. T. Holmes
Vice President.

By J. F. Wilmott
Asst Secretary.

STATE OF NEW YORK,
County of NEW YORK } ss.

On this 27 day of December, 1960, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Wm. T. Holmes and J. F. Wilmott to me known to be the Vice President and Asst. Secretary, respectively, of HOWE SOUND COMPANY, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

HELENE QUINN
NOTARY PUBLIC, State of New York
No. 03-[illegible]
Qualified in Bronx County
Commission Expires March 30, 1962
Cert. Filed New York County

Notary Public in and for the State of Washington, NEW YORK
residing at 2446 Tiebout Ave. Bronx, 58, N.Y.

EXHIBIT A

	Survey No.	Patent No.	Recorded with Chelan County Auditor, Wenatchee, Washington Book No.	Page No.
Lucille Millsite	1232	1133372	254	191
Lucille Lode	1221	1069269	234	193
Copper Creek Lode	1213-A 1213-B	1060711	234	194
Copper Creek Millsite				
Rain #3 Lode				
Rain #4 Lode				
Rain #5 Lode	1239	1111729	283	276
Rain #9 Lode				
Rain #10 Lode				
Copper Mountain Lode				
Gordon Lode				
Garretson Lode				
Minnie Quartz Lode	1213-A 1203	1094035	218	562
A.M.H. Quartz Lode				
Irene Quartz Lode				

QUIT CLAIM DEED
(Corporate Form)

WASHINGTON TITLE INSURANCE COMPANY
SEATTLE, WASHINGTON

Mail to

Send Tax Statement to

FORM L57

Quit Claim Deed

(CORPORATE FORM)

THE GRANTOR HOWE SOUND COMPANY, a corporation,

for and in consideration of One Dollar and other valuable consideration

conveys and quit claims to THE LUTHERAN BIBLE INSTITUTE OF SEATTLE, a Washington corporation,

the following described real estate, situated in the County of Chelan
State of Washington:

Certain unpatented lode mining claims located in Chelan Mining District, Chelan County, State of Washington, more particularly described in Exhibit A attached hereto.

IN WITNESS WHEREOF, said corporation has caused this instrument to be executed by its proper officers and its corporate seal to be hereunto affixed this 27 day of December, 1960.

HOWE SOUND COMPANY

By Wm. T. Holmes
Vice President.

By J. F. Wilmott
Asst. Secretary.

STATE OF ~~WASHINGTON~~ NEW YORK, }
County of NEW YORK } ss.

On this 27 day of December, 1960, before me, the undersigned, a Notary Public in and for the State of Washington, duly commissioned and sworn, personally appeared Wm. T. Holmes and J. F. Wilmott to me known to be the Vice President and Asst. Secretary, respectively, of HOWE SOUND COMPANY, the corporation that executed the foregoing instrument, and acknowledged the said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that authorized to execute the said instrument and that the seal affixed is the corporate seal of said corporation.

Witness my hand and official seal hereto affixed the day and year first above written.

HELENE QUINN
NOTARY PUBLIC, State of New York
No. 03-3135163
Qualified in Bronx County
Commission Expires March 30, 1961
CERT. FILED NEW YORK COUNTY

Helene Quinn
Notary Public in and for the State of ~~Washington~~, NEW YORK
residing at - 2440 TIEBOUT AVE. BRONX, 58, N.Y.

EXHIBIT A

Unpatented lode mining claims as follows:

Name	Date of Location	Recorded with Chelan County Auditor, Wenatchee, Wash., Book No.	Page	Date.
Adrienne	6/18/31	218	353	7/10/31
Alder	11/1/31	218	497	1/14/32
Basin	7/3/31	218	368	7/10/31
Black Bear	10/11/30	218	232	11/17/30
Blue Cap	6/24/31	218	359	7/10/31
Blue Cap #2	6/24/31	218	360	7/10/31
Brown Bear	10/6/30	218	223	11/17/30
Buckskin	7/3/31	218	367	7/10/31
Chelan	7/3/31	218	367	7/10/31
Dorothy	6/18/31	218	354	7/10/31
Ethel	8/14/31	218	457	11/13/31
Green Cap	6/19/31	218	364	7/10/31
Green Cap #2	6/19/31	218	364	7/10/31
Hart Lake #1	6/20/29	152	538	9/4/29
Hart Lake #2	6/20/29	152	538	9/4/29
Hillside	6/20/29	152	539	9/4/29
Isobel	9/15/31	218	458	11/13/31
Lakeside	6/19/29	152	540	9/4/29
Lucerne #3	10/15/30	218	215	11/17/30
Lucerne #4	10/17/30	218	214	11/17/30
Lucerne #6	7/3/31	218	365	7/10/31
Lupine	7/3/31	218	354	7/10/31
Mary Green #1	6/16/29	152	545	9/4/29
Mary Green #2	6/17/29	152	546	9/4/29
Mary Green #3	6/17/29	152	546	9/4/29
Mary Green #4	6/17/29	152	547	9/4/29
Mountain Goat #1	10/22/30	218	216	11/17/30
Mountain Goat #3	10/23/30	218	213	11/17/30
Nutcracker	9/14/31	218	464	11/13/31
Pine Tree	6/20/29	152	550	9/4/29
Railroad Creek	6/17/31	218	366	7/10/31
Rain #6	9/25/30	218	234	11/17/30
Rain #7	9/26/30	218	233	11/17/30
Rain #8	9/27/30	218	230	11/17/30
Rain #11	10/18/30	218	217	11/17/30
Rain #12	10/14/30	218	218	11/17/30
Rainbow #1	9/30/30	218	233	11/17/30
Rainbow #2	10/9/30	218	232	11/17/30
Rainbow #3	10/21/30	218	227	11/17/30
Rainbow #5	10/20/30	218	217	11/17/30
Rainbow #7	10/1/30	218	229	11/17/30
Rainbow #8	10/8/30	218	228	11/17/30
Rainbow #9	10/2/30	218	225	11/17/30
Rainbow #10	10/7/30	218	224	11/17/30
Rainbow #11	10/3/30	218	221	11/17/30
Rainbow No. 12	10/4/30	218	220	11/17/30
Red Bluff	2/25/30	218	10	3/3/30
Red Cap	6/23/31	218	369	7/10/31
Red Cap #2	6/22/31	218	370	7/10/31
Snow #1	6/19/29	152	576	9/4/29
Snow #2	6/19/29	152	577	9/4/29
Snow #3	6/20/29	152	577	9/4/29

EXHIBIT A, Cont'd.

Name	Date of Location	Recorded with Chelan County Auditor, Wenatchee, Wash., Book No.	Page	Date
Summit	6/20/29	152	575	9/4/29
Sunrise	6/10/29	152	569	9/4/29
Sunrise #2	6/10/29	152	570	9/4/29
Sunshine #1	7/23/29	152	570	9/4/29
Sunshine #2	7/23/29	152	571	9/4/29
Sunshine #3	7/23/29	152	571	9/4/29
Sunshine #4	7/23/29	152	572	9/4/29
Sunshine #5	7/23/29	152	573	9/4/29
Sunshine #6	7/23/29	152	573	9/4/29
Sunshine #7	7/23/29	152	574	9/4/29
Sunshine #8	7/23/29	152	575	9/4/29
Tamarack	10/5/30	218	219	11/17/30
Tamarack #1	7/8/40	254	491	7/23/40
Tamarack #2	7/17/40	254	492	7/23/40
Victoria	8/14/31	218	458	11/13/31
White Cap	6/23/31	218	361	7/10/31
White Cap #2	6/19/31	218	362	7/10/31
White Cap #3	6/23/31	218	363	7/10/31
Will White	6/13/29	152	580	9/4/29
Yellow Cap #1	8/10/38	254	278	8/19/38
Yellow Cap #2	8/10/38	254	278	8/19/38
Yellow Cap #3	8/10/38	254	279	8/19/38
Yellow Cap #4	8/9/38	254	280	8/19/38
Yellow Cap #5	8/9/38	254	280	8/19/38
Yellow Cap #6	8/8/38	254	281	8/19/38
Yellow Cap #7	8/8/38	254	282	8/19/38

Area Code 212
PEnnsylvania 6-5577

HOWE SOUND

HOWE SOUND COMPANY
500 FIFTH AVENUE · NEW YORK 36, NEW YORK

OFFICIAL FILE COPY
O. M. E
RECEIVED FEB 27 1964

DATE	INITIALS	CODE
2/27	[illegible]	800
2/28	[illegible]	~~500~~
		220

February 26, 1964

Mr. George Fumick, Jr.
Acting Director
United States Department of the Interior
Office of Minerals Exploration
Washington 25, D. C.

RE: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

Dear Mr. Fumick:

Replying to your letter of February 19th, this is to advise that there was no production from the above property since September 8, 1959.

We have contacted our attorney in Seattle, Washington, who will endeavor to obtain from the Lutheran Bible Institute the original deed transferring the property and make a photostatic copy thereof which we will send to you immediately upon receiving same.

Very truly yours,

HOWE SOUND COMPANY

S. Geisen

S. Geisen
Assistant Treasurer

SG:TL

Copy of reply to R-I 2/28/64. [illegible]

MME Form 7
(2/63)

OFFICIAL FILE COPY

Date	Surname	Code
2/18	Murphy	500
2/18	Talbert	800
	Selfridge	120
2/18	Goldman	110
	Fumich	100
		220

FEB 19 1964

Howe Sound Company
500 Fifth Avenue
New York, New York, 10036

Re: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

Gentlemen:

In answer to our letter of February 10 regarding the status of ownership of the Holden mine and production therefrom, your reply of February 12, 1964, stated the mine was shut down in June of 1957 and that the property was subsequently turned over to the Lutheran Bible Institute. However, no answer was given to our question regarding production.

We must advise you that in accordance with the Termination Agreement dated July 24, 1957, Annex IV, and Amendment No. 3 of the subject Amended Contract, royalty is payable on all minerals produced from the land described in Article 2, Annex II, and Amendment No. 1 from June 25, 1954, to June 25, 1967, or until the amount of $154,354.45 contributed by the Government without interest is fully repaid, whichever occurs first.

Due to a curtailment in our personnel in some areas, we cannot make a yearly on-site inspection of the properties subject to the royalty provisions of DMEA contracts for which this office has assumed the administrative responsibility; hence, in lieu of such inspections, we mail the necessary requests for information.

Although you have turned over the subject property to another party, this action did not release Howe Sound Company from the obligations mentioned in the second paragraph of this letter. Therefore, will you kindly inform this office whether or not there has been any production from the property since September 8, 1959. Also, kindly submit a copy of the instrument whereby the property was turned over to the Lutheran Bible Institute.

Sincerely yours,

George Fumich, Jr.
Acting Director

FMMurphy/mm (2/18/64)
cc: Director's Reading File
Region I
Docket
Code 500

23263

One

So. 157 Howard Street
Spokane, Washington 99204
February 18, 1964

Air Mail

Memorandum

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

From: Acting Field Officer, Region I

Subject: DMRA-3142 (Copper)
Home Sound Company
Holden Mine
Chelan County, Washington
Assembled Contract Ida-3644

There is enclosed the original of a Report of Royalty Review dated February 14, 1964, covering the subject contract for the period September 9, 1959, through February 12, 1964.

One copy of the report has been retained for the Spokane office files. The report is for record purposes only, and no copy was provided for the Operator.

D. R. Maclaren

Enclosure

cc: OMM(2)
CA&A Div.
CPF

Director's Reading File
Resources Research Branch Chief

MLSmelser:mls

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

February 10, 1964

Re: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract Idm-E644

Howe Sound Company
500 Fifth Avenue
New York 36, New York

Gentlemen:

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

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

Sincerely yours,

F M Murphy

F. M. Murphy, Acting Chief
Division of Minerals

Office copy
SLC Utah for a reply

OFFICIAL FILE COPY
O M E
RECEIVED FEB 3 1964

DATE		
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	[illegible]	100
	[illegible]	~~110~~
2/13	Murphy	500

MME Form 63
Revised 3-62

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since September 8, 1959, has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☐

Mine was completely shut down in June of 1957 and the property was subsequently turned over to the Lutheran Bible Institute.

2. Since September 8, 1959, has there been any production from the land subject to the contract? Yes ☐ No ☐

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

	Quantity	Value

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

Type	Quantity	Estimated Grade	Location
Ore	Tons		
Concentrates	Tons		
Other	Tons		

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

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

Disposition of Material	Quantity	Value

Submitted by:

Name Howe Sound Company

Address 500 Fifth Avenue
New York, N. Y. 10036

Title S. Geier
Assistant Treasurer

Date February 12, 1964

4511

MME Form 7
(10-58)

OFFICIAL FILE COPY

Date	Surname	Code
		220

FEB 1 4 1964

Memorandum

To: Acting Field Officer, Region I

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

Subject: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract Idm-E644

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

(a) Original to the Fiscal Section, Office of Management Operations, Office of the Secretary, U. S. Department of the Interior, Washington, D. C. 20240; and

(b) One copy for your files.

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

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

Enclosures

EDTalbert/ama 2-14-64

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

43683

Griswold
220

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

March 15, 1963

Re: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract Idm-E644

Howe Sound Company
500 ~~730~~ Fifth Avenue
New York 19, New York

Gentlemen:

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

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

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Division of Minerals

MME Form 63
Revised 3-62

DMEA-3142
Idm-E644

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since September 8, 1959 , has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☐

2. Since September 8, 1959 , has there been any production from the land subject to the contract? Yes ☐ No ☐

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

	Quantity	Value
_____	_____	_____

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

Type	Quantity		Estimated Grade	Location
Ore	_____	Tons	_____	_____
Concentrates	_____	Tons	_____	_____
Other	_____	Tons	_____	_____

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

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

Disposition of Material	Quantity	Value
_____	_____	_____

Submitted by:

Name _____ Title _____

Address _____ Date _____

4511

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

March 15, 1963

Re: DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract Idm-E644

Howe Sound Company
730 Fifth Avenue
New York 19, New York

Gentlemen:

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

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

Sincerely yours,

W. R. Griswold

W. R. Griswold, Chief
Division of Minerals

MME Form 63
Revised 3-62

DMEA-3142
Idm-E644

REQUEST FOR INFORMATION ON CERTIFIED PROJECT AND PROJECT UNDER ROYALTY AGREEMENT

1. Since September 8, 1959 , has there been a change in ownership, lease, or sublease? If yes, please state details of the transaction below and provide a true or signed copy of the pertinent documents, unless they have been provided before. Yes ☐ No ☐

2. Since September 8, 1959 , has there been any production from the land subject to the contract? Yes ☐ No ☐

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

	Quantity	Value
_____		
_____	_____	_____

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

Type	Quantity		Estimated Grade	Location
Ore	_____	Tons	_____	_____
Concentrates	_____	Tons	_____	_____
Other	_____	Tons	_____	_____

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

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

Disposition of Material	Quantity	Value
_____	_____	_____

Submitted by:

Name _____ Title _____

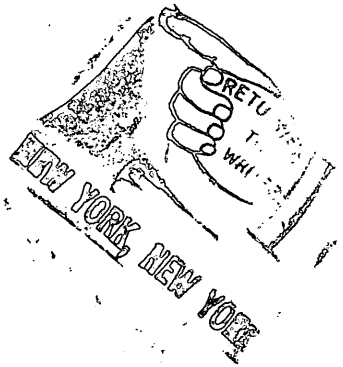
Address _____ Date _____

4511

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

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
DEPARTMENT OF THE INTERIOR



Moved, Left No Address
Address Unknown

20

NEW YORK 19, N.Y.
MAR 13
12 — M
1963

RADIO CITY
STATION

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
So. 157 Howard Street
Spokane 4, Washington
January 19, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED JAN 26 1959

DATE	INITIALS	CODE
1-26	C	220
1-27	[illegible]	500

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

Re: Docket No. DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract No. Idm-E644

Dear Mr. Selfridge:

On December 24, 1958, this office forwarded to you three copies of a Field Team final report on this project. In the list of illustrations we note that we have shown an incorrect title for plate 6, sheet 5. We are enclosing three copies of the corrected page and ask that you substitute them for the incorrect ones.

Sincerely yours,

A E Weissenborn

A. E. Weissenborn
Executive Officer, OME
Field Team, Region I

Enclosures
cc: USBM(2) w/5 enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION
So. 157 Howard Street
Spokane 4, Washington
December 24, 1958

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1/12	C	220
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Mr. George C. Selfridge, Chairman
Operating Committee, OME
Department of the Interior
Washington 25, D. C.

Re: Docket No. DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Amended Contract No. Idm-E644

Dear Mr. Selfridge:

Enclosed are three copies of a Field Team final report on this project.

Completed work comprised 3,800 feet of drifting and crosscutting and 7,965 feet of diamond drilling on the 1500 level, 1,365 feet of crosscutting and 7,734 feet of diamond drilling on the 2500 level, and 1,385 feet of diamond drilling from the surface in the Northwest Area. The total cost of the completed project was $308,708.89 to which the Government contributed 50 percent or $154,354.45.

The project resulted in the discovery of 1,219,160 tons of ore in two veins below the 2500 level. These veins averaged 1.35 percent copper and 0.066 ounce gold per ton. These estimates are based on drilling records, only. There has been no production of ore subject to royalty. The Termination Agreement includes a pseudo-certification.

The Operator believed that the development costs to exploit the ore below the 2500 level would be excessive and has abandoned the property.

By Field Team, Region I

Reviewed by
OME OPERATING COMMITTEE
1-9-59
(Date)

A. E. Weissenborn by [illegible]
A. E. Weissenborn, Executive Officer
U. S. Geological Survey

Thomas E. Howard
for: Wing G. Agnew, Member
U. S. Bureau of Mines

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

DEPARTMENT OF THE INTERIOR

OFFICE OF MINERALS EXPLORATION

FIELD TEAM, REGION I

COPY		
RECEIVED JAN 19 1959		
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FINAL REPORT

Amended Contract Idm-E644

by

John D. Bardill
Metallurgist
U. S. Bureau of Mines

R. D. Sample
Geologist
U. S. Geological Survey

HOWE SOUND COMPANY
238 North 21st, West
Salt Lake City 16, Utah

(formerly of
730 Fifth Avenue
New York 19, New York)

Docket No.:	DMEA-3142
Commodity:	Copper
Prior Contract date:	December 7, 1953
Amended Contract date:	June 25, 1954
Termination date:	June 1, 1957

Reviewed by
OME OPERATING COMMITTEE
1-9-59
(date)

HOLDEN MINE
Railroad Creek Mining District
Chelan County, Washington

Spokane, Washington

December 1958

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FINAL REPORT

HOWE SOUND COMPANY
Holden Mine
Railroad Creek Mining District
Chelan County, Washington

Amended Contract Idm-E644

* * * * * *

INTRODUCTION

This report describes an exploration project for copper ore conducted jointly by Howe Sound Company and the Defense Minerals Exploration Administration at the Holden mine and adjacent areas, Chelan County, Washington.

Summary

The purpose of the project was to explore for copper at four areas of the Holden mine and vicinity as follows:

(1) The Buckskin Mountain Area by drifting and diamond drilling.

(2) The extension of the main Holden ore body below the 2500 level by diamond drilling.

(3) The Northwest Area by diamond drilling.

(4) The Ebbutt's Breccia Area by diamond drilling.

The exploration project consisted of extending the 1500 level east a distance of 3,800 feet, cutting 10 diamond drill stations, and 7,965 feet of diamond drilling from these stations. Exploration on the 2500 level consisted of 5 crosscuts totaling 1,365 feet, 6 diamond drill stations, and 7,734 feet of diamond drilling. One hole, 1,385 feet in depth, was drilled from the surface in the Northwest Area. Approved total cost of the project was $308,708.89, of which the Government's participation at 50 percent was $154,354.45.

Total estimated indicated and inferred ore resulting from the project below the 2500 level in 2 veins is 1,219,160 tons averaging 1.35 percent copper and 0.066 ounce of gold per ton and containing an estimated 32,860,300 pounds of copper and 80,950 ounces of gold. No ore was discovered in the Buckskin Mountain Area nor in the Northwest Area.

Because of present low metal prices and estimated excessive costs to develop and exploit the ore below the 2500 level the Operator has terminated all activities and moved or disposed of most of the mining, milling, and housing facilities.

A pseudo-certification is incorporated in the Termination Agreement dated July 24, 1957.

Recommendations

The right of the Government to royalty on production is included under Item 4 of the Termination Agreement.

The immediate Holden mine area was adequately explored by the DMEA project and Government participation in further work is not recommended.

There remains a considerable area to the northwest of the mine that was not adequately explored. Of the three holes authorized in the Northwest Area and the three authorized in the Ebbutt's Breccia Area, only one hole was drilled. This was in the Northwest Area. Should the Holden mine be reactivated at some future time, then Government participation in the exploration of these areas is warranted.

LOCATION AND ACCESSIBILITY

The Holden mine and adjacent property controlled by the Howe Sound Company is in secs. 1, 12, and 13, T. 31 N., R. 16 E., and in secs. 7, 18, 19, and 20, T. 31 N., R. 17 E. Willamette meridian, unsurveyed, (pl. 1), Chelan County, Washington. The main portal of the mine is at an altitude of 3,435 feet above sea level, just above the company townsite of Holden which is on Railroad Creek in the north-central part of the Cascade Range. The property may be reached by traveling 42 miles, either by boat or plane, from Chelan at the lower part of Lake Chelan to Lucerne, a small resort community and loading dock, on the southwest shore near the upper end of the lake. Thence by auto up Railroad Creek over a good, graveled road for 11 miles to Holden and the mine. There are no other roads into the property.

The Swiss chalet-styled village of Holden was built by the company in the valley below the mine portal. It includes stores, living quarters, boarding house, recreation facilities, schools, and privately owned homes.

Chelan is the nearest supply center and shipping point. The mill concentrates (chalcopyrite and zinc sulfides) were trucked from the mine to Lucerne in large, steel buckets, then loaded on barges and shipped to Chelan. There the buckets were loaded on trucks and transported about 4 miles to the Great Northern Railroad at Chelan Falls in the Columbia River Valley, and thence in ore cars to the smelter.

The terrain of the area is steep and rugged. Some of the highest mountain peaks of the Cascade Range are in the near vicinity. Buckskin Mountain nearby reaches an altitude of 8,100 feet. Precipitous cliffs border deeply glaciated valleys. Valley floors are covered with large boulders and glacial debris to depths of several hundred feet. There are still several small retreating glaciers in the region. Slopes, where not too precipitous, are covered with loose sliderock.

In general, Railroad Creek and its tributary valleys are mantled by a dense growth of fir, spruce, pine and buckbrush, but the higher surrounding slopes are rocky with sparse timber growth.

The climate is severe during the winter months with subzero temperatures and extremely heavy snows. Average annual snowfall is about 27 feet, but exceptionally hard winters have recorded 40 feet or more. Commonly rock and snowslides make the roads difficult and expensive to maintain.

The climate during the summer months is pleasant. Days are warm and the nights are cool. Occasional showers in the afternoon are common, but ideal working conditions may be expected during these months.

Average annual precipitation amounts to about 40 inches, including the snow; the average annual temperature is around 40° F.

PROPERTY

The Operator's property rights as set forth in Article 2 of the Amended Contract consist of 10 patented and 36 unpatented claims (pl. 3). The list of claims is as follows:

Patented claims	Numbers
AMH	1,054,835
Copper Creek	1,068,711
Irene	1,054,835
Lucille	1,069,269
Minnie	1,054,835
Rain No. 3	1,111,729
Rain No. 4	1,111,729
Rain No. 5	1,111,729
Rain No. 9	1,111,729
Rain No. 10	1,111,729

Unpatented claims	Book	Page No.
Basin	218	368
Buckskin	218	367
Chelan	218	367
Crest	503	653
Cliff	503	651
Hillside	254	63
Lakeside No. 2	503	655
Lakeside No. 3	503	657
Lakeside No. 4	503	659
Lakeside	152	540
Lucerne No. 3	218	215
Lucerne No. 4	254	29
Lucerne No. 6	218	365
Lupine	218	354
Lupine No. 2	503	231
Lupine No. 3	503	233
Lupine No. 4	503	235
Lupine No. 5	503	237
Pine Tree	254	64
Pine Tree No. 2	503	661

Unpatented claims	Book	Page No.
Pine Tree No. 3	503	663
Pine Tree No. 4	503	665
Rain No. 8	218	230
Rain No. 11	218	217
Rain No. 12	218	218
Rainbow No. 3	218	227
Rainbow No. 5	218	217
Rainbow No. 7	218	229
Rainbow No. 9	218	225
Rainbow No. 11	218	221
Summit	254	66
Snow No. 1	254	65
Snow No. 2	254	65
Snow No. 3	254	65
Sunrise	152	569
Sunrise No. 2	152	570

These claims, patented and unpatented, are recorded in the Chelan County Auditor's office, Wenatchee, Washington.

History

The gossan outcrop of the deposit was first noticed in 1887 by Major A. B. Rogers, a Great Northern Railway location engineer, searching for a pass across the Cascade Mountains. J. H. Holden staked the first claims in 1892 followed soon by A. H. Murdock and W. P. Robinson who staked adjacent ground. These two groups of claims formed a substantial part of the mining property as worked until recently. During the period from 1892 to 1928 many unsuccessful attempts were made by various individuals, stock companies, and syndicates to exploit the deposit. The property was acquired by Brittania Mining and Smelting Company in 1928 and Chelan Copper Mining Company was formed to prospect the deposit. In 1937 this company was dissolved and the property was developed as an operating unit of Howe Sound Company. Living accommodations, shop buildings, mine surface plant, concentrating plant, docks, tugs, 12 miles of road, and 5¼ miles of powerline were constructed.

Mining and milling operations started in the spring of 1938 and continued to June 28, 1957, when increasing production costs and falling market price for copper finally forced closure of the mine. During this period over 212 million pounds of copper, 40 million pounds of zinc, 2 million ounces of silver, and 600 thousand ounces of gold were produced from 11 million tons of ore. The Holden mine was the largest gold and copper mine in the State of Washington.

Mine Workings and Plant

The mine is developed by more than 56 miles of underground workings over a vertical range of about 2,300 feet, and a lateral range of about 13,000 feet.

The 1500 level, at an altitude of 3,500 feet, is the main haulage level. Fourteen working levels have been in use, seven above the 1500 level (550, 700, 800, 1000, 1100, 1250, and 1450), and six below (1600, 1775, 1950, 2150, 2325, and 2500). The greatest horizontal extent of any haulage level excepting the 1500 level was about 3,200 feet. Above the main haulageway, main levels were used principally for access and service and were spaced at vertical intervals of 100-250 feet. Below the 1500 level, main levels are established at 175-foot intervals, with every other level being a haulageway and intermediate levels serving for ventilation, service, and access.

The mine was serviced by four shafts. Two-compartment vertical shaft no. 1 was used between 1938 and 1945 to service the 550, 700, 800, 1100, and 1250 levels. No. 2 shaft, completed in January 1947, is a vertical 5-compartment shaft serving all levels below the 1500 level. No. 3 shaft was an old exploration heading near the east end of the mine below the 2500 level which was abandoned two sets below the level. The 283 winze is a 3-compartment shaft inclined at -65° and driven about 75 feet in the footwall of the ore body. Two crushers were located underground -- one, on the 1950 level to crush ore from above the 1500 level and the second, below the 2500 level, to serve the area below the 1500 level.

Support in the ground above the 1500 level was rarely required. Ground below the 1500 level was erratic, requiring heavy support in places and none in others. Rock bursts caused difficulty from the 1500 level down. Deslimed sand fill, timber, and rock bolts were used for support depending upon the character of the ground.

Both natural and mechanical ventilation was used. An appropriate mine surface plant consisting of shops, compressors, etc., serviced the mine. A 2,000 tpd gravity-flotation concentrator beneficiated the ore.

GEOLOGY

General Geology

A geologic map of the Holden quadrangle, Washington, which includes the Holden mine area, by Fred W. Cater and other members of the Geological Survey, was completed in 1954. The map was placed

on open file on August 30, 1956. A portion of this map portraying the surface geology of the Holden mine and surrounding vicinity is shown in plate 2.

Elton A. Youngberg and Thomas L. Wilson published "The geology of the Holden mine" in Economic Geology, v. 47, no. 1, Jan.-Feb. 1952, p. 1-12. They state that the rocks in the area are steeply dipping metamorphic sediments, probably pre-Ordivician in age, that have been intruded by igneous rocks. The metamorphic rocks comprise quartzite, amphibole schist locally altered to biotite schist, amphibole gneiss, and marble. The igneous rocks range in composition from peridotites to aplites, but diorite is the most common.

Regional stresses which formed the Cascade Mountains have formed permeable shear zones parallel to the bedding of the original sediments. Selective replacement of siliceous phases of the amphibole-biotite schist has resulted in the formation of a gold-copper-zinc-bearing ore shoot in one of the shear zones.

There are two classes of post-ore faults -- steep eastward-dipping normal faults and flat westward-dipping thrust faults. Neither set of faults has appreciably affected the ore shoots.

The Cascade Mountains of Central Washington are underlain principally by a large granodiorite batholith which is believed to have intruded into the older metamorphic rocks during late Jurassic or Cretaceous times. Numerous roof pendants are found near the margins of contact. In some areas the granodiorite has penetrated into the gneiss in lit-par-lit fashion forming broad zones of injection gneiss.

A long period of erosion followed the granodiorite intrusion in which most of the overlying metamorphic rocks were removed except in small patches as roof pendants. Several sedimentary and igneous formations of Tertiary and Quaternary age covered this old erosional surface. During the Pleistocene age the whole region was intensely glaciated.

Local Geology

The Holden mine is in one of the old metamorphic roof pendants and the mineralization is associated with the Chelan granodiorite batholith which is a quartz diorite. Solutions emanating from the batholith are believed responsible for recrystallization of the gneiss and deposition of minerals along the narrow contact zones. This injected migmatite and granitized formation is the host rock for the ore. The ore zone is in an extensive shear zone from 40 to 80 feet wide in granitized argillite, quartzite, and related rocks. It strikes N. 20°-30° W. and dips about 65° S.

and has been intensely silicified. An altered limestone is usually present in the footwall. This zone can be traced intermittently on the surface for over 2,000 feet and probably continues northwesterly under the glacial-filled valley for a mile or more (pl. 2).

The main ore body at the Holden mine represents an ore shoot within a pyritized shear zone and pitches about 60° W. This ore body extends below the 2500 level, but the mineralization there is spotty and generally below ore grade. Dioritic and granitic dikes greatly disturb the continuity of the ore body and tend to cut out fairly extensive sections of ore within the body (pl. 4).

One surface diamond drill hole in the Northwest area near the junction of Big Creek and Railroad Creek intersected a wide, weakly mineralized zone at this point. The glacial till was about 150 feet thick (pl. 8). Numerous post-mineral faults have cut the northwesterly mineralized zone. Some of these faults have displacements of 60-1,500 feet.

At the extreme northwest extension of the mineralized zone is the so-called "Ebbutt's breccia" which is a mass of tectonic breccia about 1,000 feet long by 500 feet wide. This breccia consists of angular and rounded fragments and cobbles of gneiss set in a matrix of sheared gneiss. The whole mass has been silicified and replaced in part by sulfides; the sulfides on the surface have all been oxidized to limonite. Quartz-lined vugs, many of them filled with limonite, are numerous. This area was drilled in 1941, but the results were discouraging. Additional drilling with DMEA participation was authorized but never completed.

The geology in the Buckskin Mountain Area is similar to that in the Holden Area. Diamond drilling from the drift to Buckskin Mountain on the 1500 level disclosed only negligible values of copper and gold although there was considerable disseminated pyrite present in the shear zone (pl. 5, sheets 1, 2, & 3). Northward drilling from the 1500 level penetrated a series of lime silicates several feet in thickness immediately beyond the siliceous metasediments. Weak sulfide mineralization but no commercial ore bodies were found. These lime silicates are similar to the series of skarn which marks the footwall boundary within the main Holden mine ore body and the two are believed analogous. Drilling below the lime silicates and into the footwall of the shear zone showed the rocks to be a homogenous series of amphibole schist the same as found in the footwall of the ore body.

Mineralogy

Two stages of mineralization have been recognized within the mine by Youngberg and Wilson. In the first and strongest stage the order of mineral deposition was magnetite, quartz, pyrite, pyrrhotite, sphalerite, galena, chalcopyrite, and gold. The mineral

assemblage of this stage indicates medium to high-temperature mineralization. The second stage of mineralization was much weaker than the first but very widespread and considered to be low temperature mineralization. Some radioactive mineralization was detected associated with the heavy biotite schist zones in the lead-zinc areas, but the occurrence was very rare.

Some weak copper, zinc, lead, and silver mineralization appears to have been associated with the Tertiary igneous activity, and deposited minor amounts of these metals along structures developed at that time within the mine zone.

Mineral Deposit

According to Fred W. Cater the Holden ore body may be properly called an elongated zone of crushed breccia that has been replaced by sulfides. Crushed zones occur where the foliation or banding in the gneiss changes strike.

Apparently, hydrothermal solutions, given off at depth from the batholith, migrated upward through shrinkage fractures into the upper part of the igneous plug and along shear zones in the adjacent metamorphics. Where temperature and pressure relationships were favorable, economic minerals were deposited. Later these ore zones were cut and distorted by dikes and sills of Cretaceous and Tertiary age.

THE PROJECT

Geologic justification for exploration of the Buckskin Area from the Holden 1500 level was based primarily on memoranda submitted by Fred W. Cater and Dwight F. Crowder, Geologists, U. S. Geological Survey, who were mapping a survey project in the area and were familiar with the geology.

In a memorandum dated November 9, 1953, to the Field Team, Crowder states in part:

> "I spent nearly a month on the surface outcrops of the Buckskin zone and Holden mine zone while collecting geochemical samples. The similarity between the two areas is striking. On the Holden quadrangle mapping project both areas were mapped as migmatite due to the high percentage of dike material. In both areas there is considerable silicification and visible pyrite in most specimens. The oxidation in both areas is very superficial -- merely skin-deep stainings in fractures and on exposed surfaces. Gossan is developed in scattered small shears 6 inches to 2 feet wide and a few feet long. Chalcopyrite and sphalerite are rarely seen in either the Holden or Buckskin outcrops. Where the Holden

ore body comes close to the surface the exposures are very poor due to a thick transported soil cover. For this reason it is difficult to evaluate the Buckskin exposures by comparison with the Holden exposures. The Buckskin outcrops are not impressive, but they are fully as impressive as what we see over the Holden ore body.

"The Buckskin oxidized zone is on strike with numerous parallel oxidized zones on the west side of Copper Creek. These zones include the Holden mine zone, the Midway zone, the Mountain Goat zone and numerous smaller ones. The Buckskin zone is the only one on the east side of Copper Creek and it seems likely that it is a continuation of the widest and best mineralized zone on the west side--the Holden mine zone."

Because of the inaccessibility of the Buckskin Area, and therefore because of the time that would be required to explore this area from the surface, it was deemed more feasible to explore the area from the Holden 1500 level.

The diamond drilling in the Ebbutt's Breccia Area authorized in Amendment No. 3 of the Amended Contract was justified because this area is in line with the northwestern projection of the Holden fissure and contains numerous vugs and shears lined with limonite. The Northwest Area is between the Holden Mine Area and the Ebbutt's Breccia Area along the projection of the Holden fissure. One hole drilled in 1941 showed weak mineralization in this area. However, it was believed that the hole was too far to the east to have cut the main shear zone. Therefore, limited drilling in this area was believed to be justified.

The original contract, dated December 7, 1953, was for $219,410 with Government participation at 50 percent. The work was to be completed in 2 years.

The exploration was to be done in two stages. Stage I was to consist of 3,100 feet of drifting easterly from the existing drift on the 1500 level to a point under Buckskin Mountain, construction of 8 diamond drill stations and not more than 5,000 feet of diamond drilling to test for the continuations of the general rock series that had been productive in the mine. Stage II, subject to the prior approval of the Government, was to be performed on additional land to be acquired by the Operator and was to consist of not more than an additional 1,000 feet of drifting and/or crosscutting, construction of 2 diamond drill stations and not more than 2,000 feet of diamond drilling. Drifting and crosscutting were on a maximum allowable actual cost basis and diamond drill station and diamond drilling were on a fixed unit cost basis. Funds were provided for the purchase of some equipment in which the Government would have an equity.

Amendment No. 1, dated January 13, 1954, substituted equipment to be purchased in the contract at a lesser cost and increased the amount of the contingency fund by the difference.

An Amended Contract, dated June 25, 1954, and effective December 7, 1953, was issued superceding the Prior Contract. The amount of the contract was increased to $309,990 in which the Government participation was 50 percent. The property included under the contract was increased to 28 unpatented and 10 patented claims. Completion date of the contract work remained at December 7, 1955.

The Amended Contract included two items:

Item I, comprising two stages, consisted of all of the work contained in the Prior Contract and in the same amount of $219,410.

Item II for $90,580 consisted of two stages. Stage I comprised 1,000 feet of crosscutting, 4 transfer stations, 4 diamond drill stations, and 4,000 feet of diamond drilling from the 2500 level to explore the Holden mine at deeper horizons. Stage II, subject to the prior approval of the Government, consisted of not more than 450 feet of crosscutting, 2 transfer stations, 2 diamond drill stations, and 2,000 feet of diamond drilling from the 2500 level. Crosscutting was on a maximum allowable actual cost basis and transfer stations, diamond drill stations and diamond drilling were on agreed unit cost basis.

There were three amendments to the Amended Contract. Amendment No. 1, dated January 28, 1955, added eight unpatented claims to the property included under the contract (pl. 3).

Amendment No. 2, dated January 17, 1956, extended the completion date to July 1, 1956, and extended the maximum period for royalty payments and lien to 11 years. Exhibit "A", Description of the Work, was deleted from the Amended Contract. Briefly, the following description of the work was substituted:

<u>1500 Level</u>:

1. Ten diamond drill stations, agreed unit costs.

2. 7,416 feet diamond drilling, agreed unit costs.

3. Not more than 4,100 feet of drifting and/or crosscutting easterly, actual cost basis.

2500 Level:

1. Crosscutting not in excess of 1,368 feet, actual cost basis.

2. Diamond drilling not in excess of 7,000 feet, agreed unit cost basis.

3. Three transfer stations, agreed unit cost basis.

4. Six diamond drill stations, agreed unit cost basis.

Amendment No. 3, dated October 10, 1956, increased the amount of the contract to $363,840, extended the maximum period for royalty payments and lien to 13 years and the completion date to January 1, 1958. It further provided for two stages as follows:

Stage I:

All work delineated in Exhibit "A" attached to Amendment No. 2 to the Amended Contract.

Stage II:

A. Underground diamond drilling:

1. One drill hole not to exceed 1,200 feet from the 1500-level Buckskin drift.

2. Five drill holes not to exceed a total length of 3,000 feet downward from the 2500 level.

B. Surface diamond drilling:

1. Northwest Area - 3 holes not to exceed a total length of 3,000 feet.

2. Ebbutt's Breccia Area - 3 holes not to exceed a total length of 1,000 feet.

The project was started February 1, 1954, and concluded in May 1957 including one surface diamond drill hole in the Northwest Area. Two surface drill holes in the Northwest Area and three surface drill holes in the Ebbutt's Breccia Area remained to complete the contract.

On May 31, 1957, the Operator requested termination of the contract because the Howe Sound Company planned to close the mine permanently by the end of June 1957.

The contract was terminated by mutual agreement on July 24, 1957, effective as of June 1, 1957. A pseudo-certification is incorporated in the Termination Agreement.

The work completed under the contract consisted of the following:

1500 Level:

18 diamond drill holes totaling	7,965 feet
Diamond drill station	10
Drifting	3,800 feet

2500 Level:

5 crosscuts totaling	1,365 feet
Transfer stations	3
Diamond drill stations	6
15 diamond drill holes totaling	7,734 feet
Sample assays	30

Northwest Area:

1 diamond drill hole	1,385 feet
Cementing	114 feet
Sample assays	30
Core boxes	41

The 1500 level was extended east 3,800 feet, 10 diamond drill stations were cut and 18 diamond drill holes aggregating 7,965 feet were drilled. None of the work disclosed any copper-gold mineralization of sufficient consequence to infer additional ore reserves in the Buckskin Area.

One diamond drill hole drilled from the surface to a depth of 1,385 feet in the Northwest Area also failed to indicate any significant copper-gold mineralization.

The eastward extension of the 1500 level, crosscutting on the 2500 level, and diamond drilling on both levels did not reveal any new outstanding geological features or structure. The predominant rocks were the same dioritized metasediments that were found in the old workings. Several large masses of peridotite with sparsely disseminated sulfides of copper, iron, and nickel were encountered in the Buckskin Area, but all were below commercial grade ore. Diamond drilling showed that the altered, siliceous, shear zone extends eastward from the 1500 level and downward from the 2500 level. Also the rocks bounding the shear zone were similar in character to the rocks bounding the zone in the main Holden mine ore body.

In the Holden Area diamond drilling seems to indicate that the ore-bearing structure has split into two branches below the 2500 level between coordinates 6400 E. and 6800 E. resulting in hanging-wall and footwall bodies separated by anastomosing dikes.

Crosscuts were driven from the 2500 level south into the hanging wall for diamond drill stations. Downward-angled holes were drilled through the vein structures from these stations. Holes were also drilled through the structures from the drift proper.

The Operator's two maps, "Diamond Drilling Below 2500 Level," which accompany his final report show sections through diamond drill stations with the holes projected into the plane of the section. Intersections with the vein and/or veins are plotted, with width of vein material intersections and analyses of samples from these intersections. Reference should be made to these maps.

Ore Reserves

Indicated and/or inferred ore reserves have been calculated from the results of diamond drill holes, using both company drilled holes and holes in which DMEA participated.

For purposes of estimating reserves the vein structures were divided into blocks; i.e., the hanging-wall vein was divided into seven blocks, 1 through 7, and the footwall vein structure into 8 blocks, A through H.

A cut-off grade of 1 percent copper was used to differentiate between ore and waste.

As an example of the method of calculating reserves take 320 Chute Section (pl. 10). DDH's U-25-143, U-25-121, and U-25-122 each penetrated the hanging-wall vein. Horizontal hole U-25-41 drilled from the main drift penetrated a low-grade structure. Since the holes intersected the structure at an angle, the ore widths were corrected to true widths of 23, 30, and 22 feet each, respectively. Hole U-25-121 cut the following sections in the ore zone:

Feet of section	% Cu	Oz.Au/ton
18	1.93	00.165
7.5	0.60	0.040
5.5	1.06	0.085
4	0	0
4	1.12	0.040
39		

The corrected width is 30 feet and the weighted averages are 1.27 percent copper and 0.100 ounce of gold per ton. The same procedure was used in the ore intersections in DDH's U-25-143 and U-25-122. Then the widths and assays of the three holes were averaged resulting in a weighted average of 25 feet width, 1.35 percent copper and 0.087 ounce of gold per ton representing 320 Chute Section. This procedure was used to obtain the weighted averages of the seven hanging-wall vein sections and the eight footwall sections.

The depth of the ore zone along the dip of the vein in 320 Chute Section was estimated to be about 290 feet. One 8-foot intersection in DDH U-25-84 in 325 Chute Section assayed 1.38 percent copper and 0.080 ounce of gold per ton. DDH U-25-145 did not intersect the vein encountered in U-25-84 so the ore zone was estimated to have a depth of only 50 feet along the dip. Average of the 2 depths is 170 feet.

Hanging-wall vein Block 6 was considered to be the weighted average of 320 and 325 Chute Sections. Length along the strike between the two sections is about 95 feet. Block 6 has an estimated strike length of 95 feet, average depth down dip of 170 feet, and weighted average thickness of 16.5 feet with a weighted average grade of 1.36 percent copper and 0.085 ounce of gold per ton. Assuming 10 cubic feet of ore per ton the block will represent an estimated 26,648 tons.

Other blocks were calculated in the same manner. See tables 1 and 2 and plates 9 and 10 for details.

Estimated total indicated and inferred reserves in the hanging-wall vein was 569,340 tons having an average grade of 1.58 percent copper and 0.089 ounce of gold per ton. The footwall vein was estimated to contain 649,820 tons, having an average grade of 1.18 percent copper and 0.047 ounce of gold per ton. Total estimated indicated and inferred reserves in the 2 veins below the 2500 level, estimated from drill holes alone, is 1,219,160 tons averaging 1.35 percent copper and 0.066 ounce of gold per ton and containing an estimated 32,860,300 pounds of copper and 80,950 ounces of gold.

The Operator estimates indicated reserves of 1,058,800 tons, averaging 1.045 percent copper and 0.055 ounce of gold per ton.

Exploitation Possibilities

A modified form of sublevel stoping employing long-hole blasting has been the most recent and successful method of mining at the Holden mine. U. S. Bureau of Mines Information Circular No. 7870 entitled "Mining Methods and Cost of the Holden Mine, Howe Sound Company, Chelan Division, Chelan County, Washington" by John R. McWilliams describes the mining operations in detail.

The same method of mining probably would be employed if mining operations are resumed at Holden.

It is reported that, aside from low metal prices, the Operator believed that development costs to exploit the ore discovered below the 2500 level would be excessive and therefore decided to abandon the mine.

Summary of Factual Data

The project work completed and the total unit costs under the contract were as follows:

Item	Authorized	Completed	Unit cost (rounded)	Total cost
1500 level drifting and crosscutting	4,100 ft.	3,800 ft.	$50.41/ft.	$191,570.04
1500 level diamond drilling	8,616 ft.	7,965 ft.	3.94/ft.	31,353.74
2500 level crosscutting	1,368 ft.	1,365 ft.	32.54/ft.	44,423.15
2500 level diamond drilling	10,000 ft.	7,734 ft.	3.84/ft.	29,685.68
Northwest Area--surface diamond drilling including 114 ft. cementing	3,000 ft.	1,385 ft.	8.43/ft.	11,676.28
Ebbutt's Area--surface diamond drilling	1,000 ft.	none	--	--
Total				$308,708.89

Total amount of contract	$363,840.00
Government participation at 50 percent	181,920.00
Total amount expended	$308,708.89
Government's participation	154,354.45
Total amount unexpended	$ 55,131.11
Government's share unexpended	27,565.55
Net value of production during contract period	none

Cost of 16 diamond drill stations and 30 sample assays, although on an agreed unit cost basis, is included in the cost of diamond drilling shown above. Cost of three transfer stations on an agreed unit cost is included in the cost of crosscutting.

There was no ore production subject to DMEA royalty as a result of the project work.

Total salvageable value of the equipment and operating supplies was $15,832.14 of which the Government's equity was $7,916.07.

A detailed breakdown of costs and list of salvageable items is included as table 3.

Discussion of Conclusions

The over-all performance of the contract work on the project was satisfactory. The Operator was competent both administratively and financially. The exploration program cannot be considered a failure as it did prove that mineralization continues on the structure below the 2500 level although at the present price of metals it is subcommercial. It also proved that some sulfide mineralization continues to the northwestward from the main mine workings. At some future date these areas may be worth further exploration.

Attachments
Distribution:
- OME(3) ✓
- USBM(5)
- USGS(SRO)
- Docket
- Sample

EXTRA COPY

		CODE
1/20	gf	220
1/21	WEB	500

So. 157 Howard Street
Spokane 4, Washington

January 15, 1958

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

Re: Field Team Final Reports for Docket Nos. DMEA-255, DMEA-2764, DMEA-3142, DMEA-3668 and DMEA-4687

Dear Mr. Selfridge:

This is in reply to your letter of January 8, 1958, regarding the status of certain final Field Team reports.

Docket No. DMEA	Operator	Status of final report
255	Whitedelf Mining Company	75 percent completed.
2764	Bunker Hill Company	90 percent completed.
3142	Howe Sound Company	40 percent completed.
3668	Harold Hogan and Ed Pohl	While the effective date of termination was December 1, 1956 this was not determined until June 15, 1957. We have been trying to get the Operator to dewater and muck out the winze for a final measurement and have finally given him until February 10, 1958 to do so.
4687	Howe Sound Company	30 percent completed.

Due to termination during last summer and fall, we now have about 26 final reports to get out. We are pushing as hard as we can to have as many as possible completed before next field season.

By Field Team, Region I

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

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

cc: USBM (2)

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
	Answered	500
1/8	GL	130
		110
		100
		~~110~~
1/9	gl	200
		500

500

JAN 8 1958

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

Re: Field Team Final Reports for Docket Nos. DMEA-255, DMEA-2764, DMEA-3142, DMEA-3668 and DMEA-4687.

Dear Mr. Weissenborn:

The following projects have been concluded for some time. Kindly let us have the final Field Team reports as soon as convenient.

Docket No. DMEA-255	Whitedelf Mining Company
Docket No. DMEA-2764	Bunker Hill Company
Docket No. DMEA-3142	Howe Sound Company
Docket No. DMEA-3668	Harold Hogan and Ed Pohl
Docket No. DMEA-4687	Howe Sound Company

Sincerely yours,

George C. Selfridge
(esf)
Chairman, Operating Committee

WRGriswold/er 1/6/58
Copy to: Dockets (5)
Admr R File
Op. Committee
Mr. Bishop, USBM
Mr. Kiilsgaard, USGS
Chron.

APPROVED:

O. M. Bishop
(esf)
Member, Bureau of Mines

Thor H. Kiilsgaard
(esf)
Member, Geological Survey

8623

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DMEA
RECEIVED SEP 23 1957

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9/24	[illegible]	500

1201 N. Division St.
Spokane 2, Washington

September 13, 1957

Howe Sound Company - Chelan Division
730 Fifth Avenue
New York 19, New York

Re: Docket No.-3142 (Copper)
Contract No. Idm-E644
Monthly operating report for
May 1957 and final payment

Gentlemen:

The subject monthly operating report has been processed and forwarded to the Disbursing Officer for payment.

The disallowance made is explained in the attached copy of a memorandum to the Field Team from the Certifying Officer, Region I.

By Field Team, Region I

Donald R. MacLaren
Alternate Act. Exec. Officer
U. S. Geological Survey

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

cc: DMEA (2)
USGS (2)

DMEA Field Team, Region I September 13, 1957

DMEA Certifying Officer, Region I

Monthly operating report for May 1957 and final payment
Contract No. Idm-E644

The subject operating report has been processed and forwarded to the Disbursing Officer for payment.

We have disallowed $12.75 for 3 ft. of diamond drilling claimed on the May 1957 MF-104 in accordance with Report of Review dated August 21, 1957. The Operator claimed 1283 ft. completed on the 2500 level while the final inspection showed 1280 ft. completed.

Dorothy F. Long

cc: DMEA (2)
USGS (2)

OFFICIAL FILE COPY DMEA RECEIVED SEP 16 1957		
DATE	INITIALS	CODE
9-17	C	220
9/17	[illegible]	800
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1201 N. Division Street
Spokane 2, Washington

September 10, 1957

Mrs. Dorothy Long, Certifying Officer
DMEA Field Team, Region I
1201 N. Division
Spokane 2, Washington

Re: Docket No. DMEA-3142 (copper)
Howe Sound Company
Holden Mine
Contract No. Idm-E644

Dear Mrs. Long:

The work completed under the contract was done to the satisfaction of the Government. The contract was terminated by mutual agreement effective as of June 1, 1957. A final report evaluating the results of the exploration program has been presented by the Operator and accepted by the Executive Officer.

The Government has been reimbursed for its equity in the salvageable value of operating materials, supplies and equipment in accordance with the values set forth in the contract.

A pseudo-certification is included as Item 4 of the Termination Agreement dated July 24, 1957.

A final Report of Review dated August 21, 1957 by DMEA Auditor C. A. Turner has been received.

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

Sincerely yours,

Donald R. MacLaren
Alternate Acting Exec. Officer
DMEA Field Team, Region I

cc: DMEA (2)
USGS (2)

DMEA Form 7
(12-56)

OFFICIAL FILE COPY

Date	Surname	Code
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9/6	G	220
		500

SEP 6 1957

Mr. Charles A. Turner
DMEA Auditor
1201 North Division Street
Spokane 2, Washington

Re: Report of Review
Howe Sound Company
Idm-E644, DMEA-3142

Dear Mr. Turner:

Report of Review pertaining to the subject contract is approved and release authorized after the following changes:

1. Substitution of "the remainder" for "a minor portion" in paragraph (e) of reasons for review in lieu of final audit.

2. Correction of "Net Cost" to $308,721.64.

These changes have been made on the Washington copies.

You will remember that at the May meeting of auditors in Washington, it was pointed out that the amount to be shown as "Total cost as billed by contractor" in Reports of Review or in Audit Certificates should be the amount claimed by the Operator in the "Totals to Date" column of the MF-104 on which the audit is based. In this instance the amount appears to be $308,721.66 as indicated on the Schedule attached to the Report of Review, that is, the Operator had made adjustments in the claimed costs because of property disposition. The tabulation in the Report of Review thus properly should be:

Total cost as billed by contractor		$308,721.66
Exceptions:		
By DMEA Finance Officer	$ None	
Herewith (Schedule Attached)	12.75	12.75
Total Accepted Cost (Schedule Attached)		$308,708.91

The negligible difference of two cents in the computation of salvage should have been disregarded. Also the line "Less Salvage" should have been omitted and the columns "Corrected Distribution", "Corrected Costs" and "1500 Level" appropriately adjusted on the Schedule.

8623

It is also believed that the reasons for review in lieu of final audit could have been more concisely stated, for example, as follows:

(a) Accepted costs aggregating $294,328.00 for the period ending March 31, 1956, were covered by Second Interim Audit Report and Certificate dated May 11, 1956, issued by C. E. Fisher, DMEA Auditor;

(b) The monthly reports for subsequent periods were supported by documentary proof of costs incurred amounting to $11,676.28;

(c) The balance ($18,536.75) of the costs were incurred under a contract provision for Government contribution on the basis of agreed unit costs of units of work actually performed; and

(d) The administrative cost to the Government of an on-site audit would be excessive in relation to the estimated amount of possible further disallowances.

If the report had been prepared as outlined above it could have been typed on the regular 8x10½ inch stock which is standard for such reports.

It is not felt that these matters are of sufficient importance to warrant rewriting the Report of Review, but they are brought to your attention for your future guidance.

Sincerely yours,

(Signed) J. L. Chambers

Jay L. Chambers, Director
Contract Administration
and Audit Division

CEFisher/wb
September 4, 1957

Copy to: Docket
Admr. Reading File
Mr. Chambers

1201 N. Division St.
Spokane 2, Washington

9/3 G 220
9/3 800
9/4 500

August 28, 1957

Mr. C. A. Turner
DMEA Auditor, Region I
1201 North Division St.
Spokane 2, Washington

Re: Docket No. DMEA-3142 (copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-E644

Dear Mr. Turner:

The following addition should be made to the work units completed within the terms of the contract, as listed in our letter to you of August 26, 1957.

Amendment No. 3 (Stage II)	Authorized	Completed
Samples - surface drilling	30	30
Samples - 2500 level	30	30

By Field Team, Region I

Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

Donald R. MacLaren, Acting Member
U. S. Geological Survey

cc: DMEA (3)
USGS (2)
USBM (AD)
Docket

2/30 WPY 500

1201 N. Division St.
Spokane 2, Washington

August 26, 1957

Mr. C. A. Turner
DMEA Auditor, Region I
1201 North Division St.
Spokane 2, Washington

Re: Docket No. DMEA-3142 (copper)
Nace Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-2644

Dear Mr. Turner:

The project work under the referenced contract was terminated by mutual agreement effective as of June 1, 1957. All the work performed was completed to the satisfaction of the Government.

A final inspection report on the completed work was submitted by John D. Bardill on July 3, 1957.

The Operator's final engineering and geological report was received on June 28, 1957. It is considered as having met the requirements of Article 7(b) of the contract.

The Government has been reimbursed for its equity in the salvage value of operating materials, supplies and equipment in accordance with the values set forth in the contract. See Salvage Statement attached to Voucher No. 1812.

A pseudo-certification is included as Item 4 of the Termination Agreement dated July 24, 1957.

Work units completed within the terms of the contract are as follows:

Amendment No. 2 (Stage I)

		Authorized	Completed
Crosscutting & drifting,	1500 level, ft.	4,100	3,800
Diamond drill stations,	1500 level	10	10
Diamond drilling,	1500 level, ft.	7,416	6,765
Crosscutting,	2500 level, ft.	1,368	1,365
Diamond drill stations,	2500 level	6	6
Transfer stations,	2500 level	3	3
Diamond drilling,	2500 level, ft.	7,000	6,454

Amendment No. 3 (Stage II)

Samples	30	0
Diamond drilling, 1500 level, ft.	1,200	1,200
Diamond drilling, 2500 level, ft.	3,000	1,280
Surface diamond drilling, Northwest Area	3,000	1,385
Surface diamond drilling, Ebbutt's Area	1,000	0

It is now in order for you to issue your Report of Review.

By Field Team, Region I

Wing G. Agnew, Acting Exec. Officer
U. S. Bureau of Mines

Donald R. MacLaren, Acting Member
U. S. Geological Survey

cc: DMEA (3)
USGS (2)
USBM (AD)
Docket

OFFICIAL FILE COPY DMEA RECEIVED AUG 26 1957		
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So. 157 Howard Street
Spokane 4, Washington

August 23, 1957

Mr. W. T. Holmes
Secretary-Treasurer
Howe Sound Company
Chelan Division
Holden, Washington

Re: Docket No. DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-E644

Dear Mr. Holmes:

This will acknowledge receipt of your letter of August 20, 1957, enclosing four (4) executed copies of a Termination Agreement dated June 24, 1957.

Sincerely yours,

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

cc: DMEA (2)
USBM (2)
USBM (AD)
Sample

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

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DMEA
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August 22, 1957

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

Re: Docket No. DMEA-3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-E644 (Amended)

Dear Mr. Selfridge:

Enclosed are the Government and Audit copies of the Termination Agreement.

By copy of this letter, other copies of the Termination Agreement are being distributed.

Sincerely yours,

A. E. Weissenborn

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

Enclosures

cc: USBM (2)
Finance Office w/encl.
Sample

Termination