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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
AUG 11 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1955 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ Government Participation: 50% Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	2,408.50	9,885.75	12,294.25	8/16/55		
Bulldozing						
Crosscutting						
Drifting						
Dia.Drill and Transfer Sta.		4,350.00	4,350.00			
(2) Labor and Supervision:						
Labor	6,830.21	51,735.21	58,565.42			
Supervision	342.33	2,686.89	3,029.22			
Technical Services	245.08	1,830.54	2,075.62			
(3) Operating Mat'ls. and Supplies:						
Timber	198.77	3,555.10	3,753.87			
Explosives	1,526.12	11,321.60	12,847.72			
Pipe	360.28	3,579.45	3,939.73			
Track	324.09	3,183.61	3,507.70			
Drill Steel & Bits	667.56	5,758.43	6,425.99			
Electric Cable-Instl'n	6.88	325.01	331.89			
Vent Pipe - Instl'n	18.96	200.00	218.96			
(4) Operating Equipment:						
Rental						
Purchase	1,812.91	27,553.09	29,366.00			
Depreciation	285.00	2,076.75	2,361.75			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	390.90	4,458.47	4,849.37			
Sampling and Analysis		130.32	130.32			
Payroll Taxes	289.86	2,237.36	2,527.22			
Ind. ~~Energy~~ Insurance & Med. Aid	301.89	2,230.02	2,531.91			
Tramming	649.80	4,744.99	5,394.79			
Compressed Air	720.63	5,979.81	6,700.44			
(8) ~~Miscellaneous~~						
Miner's Lamps	40.70	275.22	315.92			
Handling Supplies	186.20	1,266.16	1,452.36			
Hoisting(2500Level)	105.47	464.97	570.44			
TOTALS	17,712.14	149,828.75	167,540.89	17712.14	149828.75	167540.89

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

Date 8-5-55 *Payee Howe Sound Company - Chelan Division

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 8856.07

Signature [signature]
(Authorized Certifying Officer)

Date 8-8-55 Vou. No. 1576
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. 6644 in accordance with the terms of the contract.

Signature /S/ Stephen W. Zoldok Title Mining Engr Date 8-4-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W. Zoldok Title Mining Engr Date 8-4-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting Item 1 St. 1	Feet	10,185.76	277	104,628.48	2,592	40.37	3,100	
Crosscutting Item 2 St. 1	Feet	3,504.97	103	16,862.96	557	30.27	1,000	
Raising								
Shafts								
Winzes								
Drilling: Core Item 1	Feet	1,820.50	662	11,085.25	4,031	2.75	5,000	2.75
Core Item 2	Feet	588.00	196	1,209.00	403	3.00	4,000	3.00
Auger								
Dia. Drill Sta. Item 1 St. 1	Each	-	-	2,750.00	6	458.33	8	490.00
Trans. Item 2 St. 1	Each	-	-	1,000.00	2	500.00	4	500.00
Dia. Drill Sta Item 2 St. 1	Each	-	-	600.00	1	600.00	4	600.00
TOTAL DISTRIBUTED COSTS Item 1 St. 1		1,812.91		28,268.89	✓			TOTAL COSTS AUTHORIZED BY CONTRACT ~~31,007.01~~
Operating Equipment Purchased Item 2 St. 1		-		1,136.81	✓			8,219.00
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		17,712.14		167,540.89				

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

Date 7-25-55 Operator Howe Sound Company - Chelan Division

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

/s/ Stephen W Zoldok

INSTRUCTIONS

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

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

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

GPO 872894

July 9, 1955

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

Gentlemen:

Re: Docket No. KMEA 3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-E844

The following is a narrative of the work accomplished during June, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The 1500 drift east was advanced 277 feet in altered peridotite and in minor amounts of diorite.

Due to sloughing of the ribs there was an abnormal amount of overbreak; a total of 3,485 cubic feet was removed from the back and the ribs.

Two caps and posts were installed at about the 10420 east coordinate to relieve an old set of timber which was taking an excessive load. In the newly-driven section of drift, 134 rock bolts were installed.

Diamond drilling of a south hole from the station at the 11200 coordinate was finished and drilling of a north hole from the station at the 11850 coordinate was nearly completed.

An electric centrifugal pump was hooked into the water line just east of the diamond drill holes at the 9250 coordinate, which are the source of the water for the drift. The air-driven booster pump was moved from this location and reinstalled in the water line at the 11200 coordinate.

The 15 HP fan was moved from the diamond drill station at the 10800 coordinate and reinstalled in the ventilation line at the 11200 coordinate.

2500 Level Crosscuts

Timbering of the transfer station at the collar of the 321 crosscut was finished. The crosscut was advanced 98 feet. Rock in the back of crosscut and transfer station tended to peel and slough. To stabilize this rock 23 and 9 rock bolts were installed in the back of the crosscut and transfer station, respectively.

The 357 crosscut was completed by an advance of 5 feet. Cutting of the diamond drill station at the face of the crosscut was over one half finished.

Daimond drilling from the drill station at the end of the 373 crosscut continued.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	321 Crosscut	357 Crosscut	373 Crosscut
Advance	277	98	5	-
Rounds Blasted	45	15	1	-
Total advance under DMEA	2,595*	130	158	271
Average Tram to haulage drift	5,249	90	230	-
Length of newly-timbered section	-	-	-	-
Rock bolts used	154	23	-	-
Total rock bolts used under DMEA	1,276	23	-	-
EX Core drilling	682	-	-	123
Total EX Core drilling under DMEA	4,031	-	-	405

*Accumulated advance increased by 3 feet to correct error introduced in February, 1955.

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:ms

Enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
June 13, 1955

MEMORANDUM

To: DMEA Field Team, Region I, NW District

From: E. G. Erickson, Mining Engineer, Bureau of Mines

Subject: Interim report, Docket No. DMEA 3142 (copper), Howe Sound Co., Holden Mine, Chelan County, Washington, Contract Idm-E644

The project was inspected June 7 and 8, 1955, accompanied by Mr. T. E. Wilson, company geologist. Details of the contract were also discussed with Mr. J. S. Roper, manager, and Mr. R. Scott, accountant.

The 1500 level east drift had been advanced 149.6 feet beyond survey station No. 1313 for a total of 2,378 feet under the contract. The drift is operating on two 10-hour shifts per day to maintain a round-in-and-out cycle. The mine operates 6 days per week. Although the 10-hour day involves overtime the Operator has found this to be necessary because of the long tram and transfer of rock and the drilling time, plus the time necessary for installation of rock bolts, track, air, water and vent lines. Being able to maintain a complete cycle keeps the advance up, which is the "big divisor" when calculating the unit cost.

During the early part of the year, bad ground made it necessary to use timber and rock-bolt support. Some ground originally rock-bolted had to be timbered, and track had to be regraded. The extra work caused many drift rounds to be missed and made it necessary to employ extra labor to catch up the "dead work", which increased the unit cost. Since the ground conditions have improved, requiring less support, and a drift cycle has been established, the unit cost has dropped and the over-all unit cost of the drifting and crosscutting to date is reasonable under the conditions and is within the estimated cost.

Drifting allowed in Stage I, Item I, may be completed in September 1955, and it was suggested to the Operator that he present all up-to-date data before Stage I is completed to allow Field Team appraisal. It was suggested that a conference with the Field Team would be more desirable than discussion by correspondence. The Operator stated that the principal officials of the company were scheduled to visit the property early in July 1955, and they would evaluate the project and make their proposal, probably the latter part of July. Mr. Roper, manager of the Chelan Division, stated that he was very much in favor of a conference with the Field Team for a discussion of the project.

Following is a tabulation made after a cursory examination of the costs, showing actual costs as compared with costs estimated and set forth in the contract:

	Actual cost per foot	Estimated cost/ft. given in contract
Labor	$18.70	$17.00
Supervision & technical services	1.61	3.00 *
Materials & supplies	12.40	12.89
Depreciation	.75	.75 *
Miscellaneous	3.09	4.31
Contingencies	2.40	2.01
	$38.95	$39.96

*Denotes maximum allowable

The diamond drill hole north from drill station No. 5, located 15 feet west of survey station No. 1313, was at a depth of 145 feet.

Crosscut south No. 321 on the 2500 level had been advanced 34 feet beyond USBM survey tag No. 71 which corresponds to company survey station No. 1314. The 0.0 point or start of the crosscutting under the contract is 1.6 feet ahead of USBM tag No. 71, making a total advance of 32.4 feet under the contract.

Crosscut south No. 357 had been completed at a point 156.3 feet beyond the point where DMEA participation started. DMEA starting point was at survey station No. 1307 minus 0.2 feet. The diamond drill station at the end of the crosscut was virtually completed. Muck from the last drill station blast was still in the face.

South crosscut No. 373 was completed at a total of 271 feet. The drill station had been completed and the diamond drill hole was down 280 feet. Logs of all completed diamond drill holes are submitted with the Operator's monthly report.

The Operator's geologic maps and progress reports are good.

Following is a tabulation showing work itesm allowed and units completed:

	Item I	Estimated	Completed
Stage I			
	Drifting	3100 feet	2378 feet
	Drill stations	8	6
	Diamond drilling	5000 "	3369 " *
Stage II			
	Not yet started.		

*As of 6/1/55.

Item II	Estimated	Completed
Stage I		
Crosscutting	1000 feet	459.7 feet
Transfer stations	4	2
D.D. stations	4	2
Diamond drilling	4000 "	280 "
Stage II		
Not yet started.		

E. G. Erickson

E. G. Erickson

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.5

RECEIVED
JUL 11 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May, 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ Government Participation: 50 % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	1,842.00	8,043.75	9,885.75	7/18/55		
Bulldozing						
Crosscutting						
Drifting						
Dia. Drill and Transfer Sta.	1,590.00	2,760.00	4,350.00			
(2) Labor and Supervision:						
Labor	6,682.41	45,052.80	51,735.21			
Supervision	401.96	2,284.93	2,686.89			
Technical Services	239.66	1,590.88	1,830.54			
(3) Operating Mat'ls. and Supplies:						
Timber	192.86	3,362.24	3,555.10			
Explosives	1,680.77	9,640.83	11,321.60			
Pipe	89.70	3,489.75	3,579.45			
Track	374.48	2,809.13	3,183.61			
Drill Steel & Bits	943.53	4,814.90	5,758.43			
Electric Cable-Instl'n	-	325.01	325.01			
Vent Pipe - Instl'n	1.80	198.20	200.00			
(4) Operating Equipment:						
Rental						
Purchase	1,551.81	26,001.28	27,553.09			
Depreciation	270.00	1,806.75	2,076.75			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	950.76	3,507.71	4,458.47			
Sampling and Analysis	24.59	105.73	130.32			
Payroll Taxes	322.86	1,914.50	2,237.36			
Ind. Liability Insurance & Med Aid	318.52	1,911.50	2,230.02			
Tramming	615.60	4,129.39	4,744.99			
Compressed Air	748.94	5,230.87	5,979.81			
(8) Contingencies (specify):						
Miner's Lamps	33.30	241.92	275.22			
Handling Supplies	195.63	1,070.53	1,266.16			
Hoisting (2500 Lev)	143.37	321.60	464.97			
TOTALS	$19,214.55	$130,614.20	$149,828.75	19214.55	130614.20	149828.75

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

Date 6-30-55 *Payee Howe Sound Company - Chelan Div.

Per [signature] Title [signature]

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(Instructions on reverse)

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

$ 9607 28

Signature Myrtle I. Purdy
(Authorized Certifying Officer)

Date 7-8-55 Vou. No. 1551
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature 1S/ Eric G Erickson Title Mining Engr Date 6-24-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 1S/ Stephen W Zoldok Title Mining Engr Date 6-27-55

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

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

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

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

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Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
JUL 11 1955

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting Item 1 St. 1	Feet	9,680.02	220	94,442.72	2,315	40.80	3,100	
Crosscutting Item 2 St. 1	Feet	4,550.72	140	13,557.99	454	29.86	1,000	
Raising								
Shafts								
Winzes								
Drilling: Core Item 1	Feet	1,221.00	444	9,264.75	3,369	2.75	5,000	2.75
Core - Item 2	Feet	621.00	207	621.00	207	3.00	4,000	3.00
Auger								
Dia. Drill Sta. Item 1) St. 1	Each	490.00	1	2,750.00	6	458.33	8	490.00
Transfer Sta. Item 2 St. 1		500.00	1	1,000.00	2	500.00	4	500.00
Dia. Drill Sta. Item 2 St. 1		600.00	1	600.00	1	600.00	4	600.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Item 1		415.00		26,455.48				31,607.01
Operating Equipment Purchased Idm 2		1,136.81		1,136.81				8,219.00
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$19,214.55		$149,828.75				$39,826.01

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

Date 6-20-55 Operator Howe Sound Company - Chelan Division
Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

/s/ Eric G Erickson

INSTRUCTIONS

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

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

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

GPO 872894

HOWE SOUND COMPANY - CHELAN DIVISION

RECEIVED

JUL 11 1955

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

Gentlemen:

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

The following is a narrative of the work accomplished during May, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The 1500 drift east was advanced 220 feet in peridotite and granitized amphibole-biotite schist. These rocks were faulted and fractured more than those encountered in the 2 or 3 previous months and advance was accordingly less.

A drill station was cut at the 11,650 east coordinate. Diamond drilling in the north hole at the 11,200 coordinate was finished and drilling of the south hole from the station was started.

Overbreak from the back of the drift amounted to 886 cubic feet; there was also 125 cubic feet of overbreak in the newly-cut drill station.

One set of timber, supported by steel pins, and 115 rock bolts were installed in the newly-driven section of the drift. Ten rock bolts were used to support the back in the diamond drill station at the 11,650 coordinate.

In one axle unit on the Titan battery locomotive the axle, worm wheel, and all bearings were replaced; the locomotive was also completely rewired. This repair work was accomplished without interfering with the regular work in the drift. However, trouble with the air powered booster pump on the water line did preclude all drilling during one shift.

The Canton-type car transfer was moved forward to the diamond drill station at the 11,650 coordinate.

2500 Level Crosscuts

Cutting of the transfer station for the 321 exploration crosscut with floor some 8 feet above the track in the haulage drift, was essentially completed. The 321 crosscut was collared and driven 32 feet.

The 357 exploration crosscut was advanced 69 feet.

An advance of 39 feet completed the 373 exploration crosscut and cutting of the diamond drill station at the end of the crosscut was also accomplished. Diamond drilling from this station was started.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	321 Crosscut	357 Crosscut	373 Crosscut
Advance	220	32	69	39
Rounds blasted	34	5	11	7
Total advance under DMEA	2,315	32	151	271
Average tram to haulage drift	4,970	-	160	270
Length of newly-timbered section	6	-	-	-
Rock Bolts Used	115	-	-	-
Total rock bolts used under DMEA	1,122	-	-	-
EX core drilling	444	-	-	207
Total EX core drilling under DMEA	3,369	-	-	207

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:ms
Enc.

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
JUN 24 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April, 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ Government Participation: 50 % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling Core	$ 968.00	$ 7,075.75	$ 8,043.75			
Bulldozing						
Crosscutting						
Drifting						
Dia. Drill & Transfer Sta.	490.00	2,270.00	2,760.00			
(2) Labor and Supervision:						
Labor	7,764.44	37,288.36	45,052.80			
Supervision	448.76	1,836.17	2,284.93			
Technical Services	222.99	1,367.89	1,590.88			
(3) Operating Mat'ls. and Supplies:						
Timber	279.21	3,083.03	3,362.24			
Explosives	2,066.20	7,574.63	9,640.83			
Pipe	516.26	2,973.49	3,489.75			
Track	535.47	2,273.66	2,809.13			
Drill Steel & Bits	832.48	3,982.42	4,814.90			
Electric Cable-Instl'n.	-	325.01	325.01			
Vent Pipe - Instl'n.	41.75	156.45	198.20			
(4) Operating Equipment:						
Rental						
Purchase	474.00	25,527.28	26,001.28			
Depreciation	398.25	1,408.50	1,806.75			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	601.62	2,906.09	3,507.71			
Sampling and Analysis	37.79	67.94	105.73			
Payroll Taxes	422.04	1,492.46	1,914.50			
Ind. ~~xxxxx~~ Insurance & Med. Aid	347.46	1,564.04	1,911.50			
Tramming	908.01	3,221.38	4,129.39			
Compressed Air	1,057.03	4,173.84	5,230.87			
(8) Contingencies (specify):						
Miner's Lamps	44.40	197.52	241.92			
Handling Supplies	270.19	819.57	1,089.76	270.19	800.34	1070.53
Hoisting (2500 Level)	236.55	85.05	321.60			
TOTALS	$ 18,962.90	111,670.55	$ 130,633.45	18962.90	111651.30	130614.20

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

Date May 18, 1955 *Payee Howe Sound Company - Chelan Div.

Per [signature] Title Office Manager

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

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

(Instructions on reverse)

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

$ 9481 45

Signature [signature]
(Authorized Certifying Officer)

Date 6-20-55 Vou. No. 1537
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature /S/ Eric G. Erickson Title Mining Engr Date 6-10-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Engr Date 6-10-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED JUN 24 1955

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

Stages

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	1 + 2 Authorized by Contract: Units	Unit Costs
Drifting Item 1 St. 1	Feet	$10,703.60	300	$ 84,781.93	2,095	$ 40.47	4100	195 260.00 *
Crosscutting Item 2 St. 1	Feet	6,327.30	251	9,007.27	314	28.69	14.50	65 980.00 *
Raising								
Shafts								Unit Costs
Winzes								
Drilling: Core Item 1	Feet	968.00	352	8,043.75	2,925	2.75	7,000	$ 2.75
Churn								
Auger								
~~Dropping~~ Dia. Drill Sta. ~~Sections~~ Item 1 St. 1	Each	490.00	1	2,260.00	5	452.00	8	490.00
~~Transfer~~ Transfer Sta. ~~and~~ Trails Item 2 St. 1	Each			500.00	1	500.00	4	500.00
Total Distributed Costs								Total Costs Authorized by Contract
Operating Equipment Purchased	$	474.00		$26,040.48				$39,626.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		$18,962.90		~~$130,635.45~~ 130,614.20				309,990.00

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

Remarks:

Date May 18, 1955 Operator Howe Sound Co. - Chelan Div.

Per [signature] Title Office Manager

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

(Instructions on reverse)

(For Government use only)

6/10/55
Stephen W Zoldok

INSTRUCTIONS

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

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

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

GPO 872894

HOWE SOUND COMPANY - CHELAN DIVISION

RECEIVED
JUN 24 1955

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

Gentlemen:

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

The following is a narrative of the work accomplished during April, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The 1500 drift east was advanced 300 feet, predominantly in amphibole schist and in granitized peridotite. The peridotite encountered in one 15-foot section of the drift contained a considerable amount of sulfides which, in turn, carried some nickel (see accompanying map).

Cutting of the diamond drill station at the 11200 east coordinate was finished. The south hole at the 10800 coordinate was drilled, and diamond drilling toward the north is in progress at the 11200 coordinate.

Overbreak from the back of the drift amounted to 987 cubic feet; 146 rock bolts were used in the heading, and 6 bolts were used in the collar of the diamond drill station at the 11200 east coordinate.

A 15 H.P. fan was installed in the diamond drill station at the 10800 coordinate. This fan, when its blades became damaged, was replaced by another fan of the same size.

The Canton-type car transfer was moved from the drill station at the 10800 coordinate to the drill station at the 11200 coordinate.

The blasting switch was moved from the car transfer station at the 8500 coordinate and reinstalled in the drill station at the 10000 coordinate.

Repairs were made on the timber in the car transfer station at the collar of the drift.

2500 Level Crosscuts

The 357 exploration crosscut was advanced 82 feet.

The 373 exploration crosscut was advanced 149 feet. On April 18 an Eimco air locomotive was put into service in the heading.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	357 Crosscut	373 Crosscut
Advance	300	82	149
Rounds blasted	49	14	25
Total advance under DMEA	2,095	82	232
Average tram to haulage drift	4,750	126	157
Length of newly-timbered section	-	-	-
Rock bolts used	146	-	-
Total rock bolts used under DMEA	1,007	-	-
EX core drilling	352	-	-
Total EX core drilling under DMEA	2,925	-	-

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb
Enc.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
April 15, 1955

Department of the Interior
Defense Minerals Administration
RECEIVED
MAY 12 1955

MEMORANDUM

To: DMEA Field Team, Region I, NW District

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

A routine examination of the Holden mine was made April 12, 1955 in company with T. E. Wilson, Company geologist.

The 1500 drift east has been advanced 244.6 feet since March 8, the date of the last inspection, and now stands at BM 261 + 366.6 feet. In addition, one diamond drill station was cut at the 11,200 E, 19,900 N coordinate. This is the fifth drill station completed under the contract.

Timbers and rock bolts in the neighborhood of 10,400 E on the 1500 level are taking considerable weight. Posts are being driven into the caps and the steel washers on rock bolts are assuming a saucer shape. In the newest part of the drift, that is past the turn at line point 1295, the ground is much more stable and rock bolts are sufficient. There is no evidence of spalling even though the drift is more than 580 feet past this point. In this distance 414 rock bolts have been used, - 355 in the drift and 59 in the tail back and turn. The direct cost of rock bolts is approximately $2.60 per foot of advance while caps on pins would have cost about $4.40 per foot and caps on posts would be still higher.

A fan was installed for temporary use at the 10,800 E drill station. Later it will be permanently installed in the 11,200 E drill station which is now being used as a car transfer point. The fan mentioned last month is permanently installed at the 10,000 E drill station.

On the 2500 level the 373 transfer station has been completed and 373 crosscut extended 108.2 feet since the last inspection. The face now stands at BM 262 + 136.2 feet. This crosscut is being driven with the usual 7'x7' exploration heading dimensions. The 357 crosscut has been extended 48.6 feet from line point 1305. Of this distance, 43.7 feet is on company account and 4.9 feet under DMEA. Line point 1305 is about 39 feet from the crosscut collar. That part of the 357 crosscut driven on company account is a full size (8'x9') production heading since the company intends to eventually collar a slusher drift in it to service the 354 stope. The DMEA portion will be driven as a 7'x9' heading as agreed.

Two long shifts per day are working the 1500 level. The 2500 level is on a one shift per day basis.

The following table summarizes the work to date:

	Authorized	Completed
1500 Level (Item I)		
Stage I		
Drifting	3100 feet	1769.3 feet
Diamond drill stations	8	5
Diamond drilling	5000 "	1976 * "
*As of March 1		
Stage II		
Drift and crosscut	1000 feet	none
Diamond drill stations	2	none
2500 Level (Item II)		
Stage I		
Crosscutting	1000 feet	141.1 feet
Transfer station	4	1
Diamond drill stations	4	none
Diamond drilling	4000 feet	none
Stage II		
Crosscutting	450 feet	none
Transfer stations	2	none
Diamond drill stations	2	none
Diamond drilling	2000 "	none

Several administrative points were discussed with the Operator. The first deals with the partial deletion of charges for handling supplies during January. The amounts charged against the contract for such items as tramming, handling supplies, miners lamps, and hoisting are based on the actual unit cost of the particular service for the previous year. As an example, during 1953 the actual cost of handling supplies was found to be $0.403 per foot advance, and this is the amount charged during 1954. However, the cost was actually $0.49 during 1954 and this will be the charge during 1955. Thus, on the January 1955 MF-104, the charge for handling supplies is higher than before since it reflects the increased cost of service during 1954.

See Fiscal audit

The method of substantiating labor charges was again discussed. During a conference in Spokane on March 11, 1955, it was agreed that the Operator would submit, in addition to the regular calendar month payroll transcript, a payroll transcript covering the bonus periods of the month so that the validity of bonus payments could be verified by the Certifying

Officer. The accountant, while he is willing to prepare the transcript, feels that it throws an extra burden on the accounting department, especially since it is prepared early in the month when they are already swamped with the regular DMEA report plus their own monthly company fiscal and operating reports. Mr. Scott, the accountant, is not entirely satisfied that the bonus transcript will accomplish its intended purpose. It is recommended that the first MF-104 containing the bonus transcript be evaluated and if the bonus payments cannot be verified in this manner, that the Field Team and Certifying Officer consider the practicality of a periodic summary of labor costs.

John S. McWilliams

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

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 12 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1955 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington
Contract Amount, $ Government Participation: 50 % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	$ 1,636.25	$ 5,439.50	$ 7,075.75			
Bulldozing						
Crosscutting						
Drifting						
Dia. Drill & Transfer St.	-	2,270.00	2,270.00			
(2) Labor and Supervision:						
Labor	6,911.07	30,377.29	37,288.36			
Supervision	355.91	1,480.26	1,836.17			
Technical Services	141.95	1,225.94	1,367.89			
(3) Operating Mat'ls. and Supplies:						
Timber	309.68	2,775.35	3,085.03			
Explosives	1,566.45	6,008.20	7,574.65			
Pipe	522.46	2,451.03	2,973.49			
Track	487.89	1,785.77	2,273.66			
Drill Steel & Bits	882.17	3,100.25	3,982.42			
Electric Cable - Instl'n.	-	325.01	325.01			
Vent Pipe - Instl'n.	32.90	125.55	158.45			
(4) Operating Equipment:						
Rental						
Purchase	1,424.48	24,142.00	25,566.48			
Depreciation	277.50	1,131.00	1,408.50			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	524.70	2,381.39	2,906.09			
Sampling and Analysis	12.61	55.33	67.94			
Payroll Taxes	370.46	1,122.00	1,492.46			
Ind. Insurance & Med. Aid	291.22	1,272.82	1,564.04			
Tramming	632.70	2,588.68	3,221.38			
Compressed Air	807.04	3,366.80	4,173.84			
(8)						
Miner's Lamps	33.30	164.22	197.52			
Handling Supplies	171.31	648.26	819.57			
Hoisting (2500 Level)	56.32	28.73	85.05			
TOTALS	$17,443.35	$94,261.38	$111,709.73	17448.35	94 202.95	111651.30

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

Date 5-9-55 *Payee Howe Sound Company - Chelan Div.

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 8724 18

Signature [signature]
(Authorized Certifying Officer)

Date 5-9-55 Vou. No. 1503

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature /S/ John P. Mc Williams Title Mining Engr Date 4-27-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W. Zoldok Title Mining Eng Date 5-2-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Defense Minerals Administration
RECEIVED
MAY 12 1955

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 195 5 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Stages released Units	Unit Costs
Drifting Item 1 St. 1	Feet	$12,572.36	315	$ 74,117.53	1,795	$41.29	4100	195260.00
Crosscutting Item 2 St. 2	Feet	1,815.26	55	2,679.97	83	32.29	1450	65980.00
Raising								
Shafts								
Winzes								Unit Cost
Drilling: Core Item 1.	Feet	1,636.25	595	7,075.75	2,573	2.75	7,000	$ 2.75
Churn								
Auger								
Dia. Drill Sta. Item 1 St. 1	Each			1,770.00	4	442.50	8	490.00
Transfer Sta. Item 2 St. 1	Each			500.00	1	500.00	4	500.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		1,424.48		25,566.48				$39,826.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$17,448.35		$111,709.73				309990.00

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

Date 4-18-55 Operator Howe Sound Co.-Chelan Div.

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

/s/ John R McWilliams

INSTRUCTIONS

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

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

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

GPO 872894

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 12 1955

HOWE SOUND COMPANY - CHELAN DIVISION

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

Gentlemen:

Re: Docket No. DMEA 5142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. Idm-E644

The following is a narrative of the work accomplished during March, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The drift east was advanced 315 feet, largely in granitized amphibole schist.

No timbering was done in the heading, but 187 rock bolts were used to support the back of the newly-driven section to about 12 feet from the face. As in the previous months, the bolts were located only where required and were not placed in any fixed pattern. Although back holes were drilled only about 6½ feet above the drift floor, the back arched to about 9 feet high and the resulting overbreak in excess of a 6' by 8' section was 1,805 cubic feet.

At the 11200 east coordinate a diamond drill station was started and mined in the north rib of the drift to a depth of 9 feet.

The north diamond drill hole was finished in the station at the 10800 east coordinate.

2500 Level Crosscuts

Timbering of the transfer station at the collar of the 373 crosscut was completed, and the crosscut was advanced 55 feet.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 12 1955

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	573 Crosscut
Advance	315	55
Rounds blasted	54	9
Total advance under D.M.E.A.	1,795	83
Average tram to collar	4,357	55
Length of newly-timbered section	-	-
Rock bolts used	167	-
Total rock bolts used under D.M.E.A.	881	-
EX core drilling	595	-
Total EX core drilling under D.M.E.A.	2,573	-

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
March 11, 1955

MEMORANDUM

To: DMEA Field Team, Region I

From: J. R. McWilliams, Mining Engineer, Bureau of Mines

Subject: Routine inspection, Docket No. DMEA 3142 (copper), Howe Sound Company, Holden mine, Chelan County, Washington, Contract No. Idm-E644

A routine inspection of the Holden mine was made March 8 in company with Mr. T. E. Wilson, company geologist.

The 1500 drift east has been advanced 478.4 feet since January 6, the date of the last inspection, and now stands at BM 392 + 1535'. During February the face was advanced about 250 feet, and in addition a diamond drill station was cut at the 10,800 E, 19,900 N coordinates. This is the fourth drill station completed under the contract.

On the 2500 level the 373 crosscut face has been advanced 17 feet since the last inspection, for a total advance of 28 feet. The 373 transfer station is nearly complete. When it is finished, rail borne equipment can be used in the heading. The 357 crosscut on the same level has been collared. The first part of this heading is being driven on company account but later will come under DMEA. Work on the 2500 level is temporarily suspended for lack of a crew.

The 1500 drift east was turned back to the original bearing early in February. The heading had previously been turned south in an attempt to avoid bad ground conditions that have slowed the work for the past several months. The heading has been extended about 350 feet parallel to the original heading and no timbering has been necessary as yet. Rock bolts are being used and kept up to the face, so close that several have been lost by blasts. Drift advance has been much more rapid since no time is lost in recovering lost bolts or sets. Another reason for the faster advance is that the heading is on a two-shift basis. By working long shifts the two crews are able to pull about 15 rounds a week.

While not in use the jumbo is now kept in the tail drift developed where the drift reverts to the original heading. The tail drift measures 50.5 feet from line point 1295. Incidentally, the last pin set is within 1/2-ft. of this point.

The booster fan formerly located at the 9600 E drill station has been moved forward to the 10,400 E station to permit more efficient delivery of air to the face. It will be moved again when the 10,800 station becomes available. Booster fans are usually installed at 1200-ft. intervals.

Two new Bureau of Mines bench marks were set. The first, USBM #261, was attached to a plugged drill hole in the 1500 drift east at USBM #392 + 1413 and corresponds to line point 1298 on company maps. The second, USBM #262, is at the 373 crosscut transfer station on the 2500 level and corresponds to line point 1289.

J. R. McWilliams

J. R. McWilliams

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

Form DMEA-F-104 (Rev.)
(April 1952)

Budget Bureau No. 42-R1036.5

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 22 1955

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1955 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington
Contract Amount, $ Government Participation: 50 % Amount, $ ~~Unprocessed~~ Unprocessed

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY (Betty): Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core $	33.00	$ 5,406.50	$ 5,439.50	33.00	5406.50	5439.50
Bulldozing						
Crosscutting						
Drifting						
Dia.Drill & Transfer Sta.	490.00	1,780.00	2,270.00	490.00	1780.00	2270.00
(2) Labor and Supervision:						
Labor	5,309.24	25,068.05	30,377.29	5309.24	25068.05	30377.29
Supervision	219.62	1,260.64	1,480.26	219.62	1260.64	1480.26
Technical Services	89.66	1,136.28	1,225.94	89.66	1136.28	1225.94
(3) Operating Mat'ls. and Supplies:						
Timber	484.70	2,288.65	2,773.35	484.70	2288.65	2773.35
Explosives	1,052.58	4,955.62	6,008.20	1052.58	4955.62	6008.20
Pipe	384.91	2,066.12	2,451.03	384.91	2066.12	2451.03
Track	292.45	1,493.32	1,785.77	292.45	1493.32	1785.77
Drill Steel & Bits	375.21	2,725.04	3,100.25	375.21	2725.04	3100.25
Electric Cable-Instaln.	22.58	302.43	325.01	22.58	302.43	325.01
Vent Pipe - Instal'n.	2.70	120.85	123.55	2.70	120.85	123.55
(4) Operating Equipment:						
Rental						
Purchase	453.76	23,688.24	24,142.00	453.76	23649.04	24102.80
Depreciation	183.75	947.25	1,131.00	183.75	947.25	1131.00
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	267.06	2,114.33	2,381.39	267.06	2114.33	2381.39
Sampling and Analysis	-	55.33	55.33		55.33	55.33
Payroll Taxes	278.96	843.04	1,122.00	278.96	843.04	1122.00
Ind. Insurance & Med. Aid	213.57	1,059.25	1,272.82	213.57	1059.25	1272.82
Tramming	428.95	2,159.73	2,588.68	428.95	2159.73	2588.68
Compressed Air	320.44	3,046.36	3,366.80	320.44	3046.36	3366.80
(8)						
Miner's Lamps	22.20	142.02	164.22	22.20	142.02	164.22
Handling Supplies	120.05	508.98	628.26	120.05	508.98	629.03
Hoisting (2500 Level)	-	28.73	28.73		28.73	28.73
TOTALS	$11,045.39	$83,215.99	$94,261.38	11045.39	83157.56	94202.95

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

Date 4-15-55 *Payee Howe Sound Co./Chelan Division

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 5522 70

Signature [signature]
(Authorized Certifying Officer)

Date 4-15-55 Vou. No. 1482
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature /S/ John R. McWilliams Title Mining Eng Date 4-11-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen M. Zoldok Title Mining Eng Date 4-12-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 1955 Docket No. DMEA 3142 Contract No. Idm-E644

Operator's Name Howe Sound Company - Chelan Division Minerals COPPER

Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting Item 1. St. 1	Feet	10,029.30	245	61,545.17	1,480	41.58	#1+2 4100	actual cost
Crosscutting Item 2. St. 1	Feet	39.35	-	864.71	28	30.88	1450	—
Raising								
Shafts								
Winzes								Unit Costs
Drilling: Core Item 1.	Feet	33.00	12	5,439.50	1,978	2.75	7,000	2.75
Churn								
Auger								
~~Stations~~ Dia. Drill Sta. ~~xxxxxx~~ Item 1. St. 1	Each	490.00	1	1,770.00	4	442.50	8	490.00
~~xxxxxx~~ Transfer Sta. ~~xxxxxx~~ Item 2 St. 1	Each	-		500.00	1	500.00	4	500.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		$ 453.76		$24,142.00				$31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$11,045.39		$94,261.38				309990.00

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

Date 4-6-55 Operator Howe Sound Co.-Chelan Div.

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

ISI Stephen W Zoldok
4-12-55

INSTRUCTIONS

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

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

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

GPO 872894

HOWE SOUND COMPANY - CHELAN DIVISION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 22 1955

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

Gentlemen:

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

The following is a narrative of the work accomplished during February, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The drift east was advanced 245 feet in granitized amphibole schist.

At about the start of the month, when it appeared that the heading had entered reasonably competent ground, the drift was again turned to a due east bearing. The turn was started some 30 feet back from the then present face where we knew there was good rock in the directions of both the hanging wall and the footwall sides. While arching of the back did continue, it was less troublesome than in previous months. Overbreak amounted to 1,491 cubic feet.

One new set of timber was added to the old timbered section. Two hundred thirty rock bolts were used to support the back of the newly driven section to about 30 feet from the face.

A diamond drill station was cut at the 10800 east coordinate. The drill station was made 9 and 10 feet deep in the north and south ribs of the drift, respectively. A Canton-type car transfer was installed in the south side of the new drill station, and a diamond drill runner started drilling a hole from the north side of the station.

The 15 H. P. fan was moved from the drill station at the 9800 east coordinate and reinstalled in the station at the 10000 coordinate. Repairs were made on the booster pump on the water line in the east drift.

About 3 shifts work were lost due to power failures which occurred early in the month. In spite of this, a record advance was made. In addition to the linear advance made, there was also some sidesweiping at the turn.

2500 Level Crosscuts

Some timbering was done in the transfer station for the 373 exploration crosscut.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	373 Crosscut
Advance	245 feet	-
Rounds blasted	41	-
Total advance under DMEA	1,480 feet	28 feet
Average tram to collar	4,042 feet	-
Length of newly-timbered section	6 feet	-
Rock bolts used	230	-
Total rock bolts used under DMEA	694	-
EX core drilling	12 feet	-
Total EX core drilling under DMEA	1,978 feet	-

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb
Enc.

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

1201 N. Division St.
Spokane 2, Washington
February 9, 1955

RECEIVED FEB 17 1955

MEMORANDUM

To: DMEA Field Team, Region I

From: J. R. McWilliams, Mining Engineer, Bureau of Mines

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

The above-named property was visited January 5-7, 1955, in company with S. W. Zoldok, mining engineer, Bureau of Mines, and Clarence Fisher, DMEA auditor. The underground examination was made in company with S. W. Zoldok and T. E. Wilson, company geologist.

The 1500 drift east was advanced 53 feet during December. As of January 6, the face stood at USBM 392 + 1056.6, an advance of 15.6 feet since January 1. Core drilling from the following stations was completed during December.

Drill station	Feet
10,000 E	601
10,400 E	218
10,504 E	77
Total	896

The last two holes were drilled ahead of schedule to explore the country to the sides of the drift for more competent rock. As has been mentioned before, poor ground has been a serious handicap to the Operator. Their geologists think the drift is running with a zone of weakness, and that by moving the drift over a few feet much of the trouble might be eliminated. As a result of the drilling, the drift was turned to the south and will revert to the original heading as soon as better ground is encountered.

Space at the turn will be utilized to store the jumbo. At present it is stored far back in the tunnel, and it takes about half an hour for a man to leave the face, get the jumbo and put it into service.

Tramming facilities are inadequate now and will become worse as the length of the tram increases. The Mancha Mule is overloaded when the usual 10-car train is made up, yet a single round will load 15 cars. The result is that the men working at the face are idle for over an hour while the muck train is taken to the transfer station and emptied. A possible solution that was discussed with the Operator is double tracking a section of the drift at some point near the present face.

Work on the 2500 level started December 28. At the time of our inspection, the 373 crosscut had been collared at the east end of the 2500 drift at line point 1289 + 15 feet and advanced 11 feet. In order to accommodate a transfer station at the collar, the crosscut floor is 7 feet above the haulage drift rails and the back of the haulage drift is slabbed off even with the crosscut back.

The slow advance of the past few months and the high cost per foot were discussed with the Operator. The Operator claims most of the delay has been caused by poor ground. The rock holds fairly well for a few days and then starts spalling and slabbing from the back and sides. Several remedial measures, rock bolts, pin sets, and square sets, have been tried with varying degrees of success. The post and cap sets have been the most successful since the rock spalls away from rock bolts and pin sets, leaving them largely ineffective. The Operator is hoping that the problem can be solved, at least partly, by moving the drift over as described above.

J. R. McWilliams

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

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of January, 1955 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington
Contract Amount, $ Government Participation: 50 % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core $	-	$ 5,406.50	$ 5,406.50			
Bulldozing						
Crosscutting						
Drifting						
Dia.Drill & Transfer St.	500.00	1,280.00	1,780.00	500.00		
(2) Labor and Supervision:						
Labor	4,535.94	20,534.11	25,068.05	4533.94		
Supervision	237.32	1,023.32	1,260.64	268.32		
Technical Services	115.82	1,020.46	1,136.28	147.48		
(3) Operating Mat'ls. and Supplies:						
Timber	457.24	1,831.41	2,288.65	457.24		
Explosives	720.64	4,234.98	4,955.62	720.64		
Pipe	253.64	1,812.48	2,066.12	253.64		
Track	228.18	1,265.14	1,493.32	228.18		
Drill Steel & Bits	554.09	2,170.95	2,725.04	554.09		
Electric Cable Instl'n.	-	302.43	302.43	— 0 —		
Vent.Pipe - Instl'n.	3.40	117.45	120.85	3.40		
(4) Operating Equipment:						
Rental						
Purchase	2,340.20	21,348.04	23,688.24	2301.00		
Depreciation	165.75	781.50	947.25	165.75		
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	261.82	1,852.51	2,114.33	261.82		
Sampling and Analysis	13.35	41.98	55.33	13.35		
Payroll Taxes	244.35	598.69	843.04	244.35		
Ind. Insurance & Med. Aid	215.59	843.66	1,059.25	215.59		
Tramming	377.91	1,781.82	2,159.73	377.91		
Compressed Air	2,166.96	879.40	3,046.36	2166.96		
(8)						
Miner's Lamps	33.30	108.72	142.02	33.30		
Handling Supplies	108.29	419.92	528.21	89.06		
Hoisting(2500 Level)	17.41	11.32	28.73	17.41		
TOTALS	$13,549.20	$69,666.79	$83,215.99	13553.43	69604.13	83157.56

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

Date 2/18-55 *Payee Howe Sound Co. - Chelan Division

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 6776 72

Signature [signature]
(Authorized Certifying Officer)

Date 3-3-55 Vou. No. 1448
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature /S/ John R McWilliams Title Mining Eng Date 2/24/55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Eng Date 2/25/55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of January 1955 Docket No. DMEA 5142 Contract No. Idm-E644

Operator's Name Howe Sound Company - Chelan Division Minerals COPPER

Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting Item 1. St. 1	Feet	10,037.59	204	51,515.87	1,235	41.71		
Crosscutting Item 2. St. 1	Feet	671.41	17	825.38	28	29.48		
Raising								
Shafts								
Winzes								
Drilling: Core Item 1	Feet	-	-	5,406.50	1,966		7,000	2.75
Churn								
Auger								
Dia. Drill Sta. Item 1. St. 1	Each	-	-	1,280.00	3	426.67	10	490.00
Transfer Sta. Item 2. St. 1	Each	500.00	1	500.00	1	500.00	4	500.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		2,340.20		23,688.24				51,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		13,549.20		83,215.99				

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

Date 4/8-55 Operator Howe Sound Co.-Chelan Div.

By [signature] Title [signature]

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

REMARKS:

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

HOWE SOUND COMPANY - CHELAN DIVISION

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

Defense Minerals
RECEIVED
MAR 7 - 1955

Gentlemen:

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

The following is a narrative of the work accomplished during January, 1955 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The 1500 drift east was advanced 204 feet to U.S.B.M. 392 + 1,245 through diorite, peridotite, a large lamprophyre dike, and the face was in amphibole schist at the end of the month. Considerable sulfide minerals occurred in the peridotite.

Sloughing, largely from the back, amounted to 1,809 cubic feet of overbreak. Most of this came in the first 120 feet which was mined in January. In one particularly bad place, 3 pony sets were installed above the regular drift timber. Ground conditions were better in the last 80 feet of the advance, and here it was not necessary to keep the timber so close to the face. However, rock bolts are required during the interim period. At the close of the month, timber had been extended to within 58 feet of the face, and there was one gap of 13 feet in the supporting timber.

Retimbering amounted to one post which was placed under the end of a cap previously supported on pins. Four new posts and 2 new caps were also installed in the drift at about the 10435 east coordinate. In this area the ground is actually squeezing the old timber, and additional support was needed.

Starting on the 9th of the month, 2 crews worked in the heading on opposite shifts. By working overtime, sometimes as much as 4 hours, the crews usually were able to complete the cycle of mucking, timbering as necessary, drilling, and blasting. Improved ground conditions made drilling and blasting of 7-foot rounds again feasible. The advance in January was the largest made to date in the heading during a single month.

The Titan battery locomotive was taken to the surface shop twice for repairs. This was done on Sundays, and no rounds were lost as a result.

2500 Level Crosscuts

The 373 exploration crosscut was advanced 17 feet and drilling and blasting for the transfer station at the collar of the crosscut was completed. Forty-six cubic yards of rock were removed for the station, for which the necessary timbering was about 2/3 completed.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	373 Crosscut
Advance	204	17
Rounds blasted	35	3
Total advance under D.M.E.A.	1,235	28
Average tram to collar	3,797	-
Length of newly-timbered section	140	-
Rock bolts used	32	-
Total rock bolts used under D.M.E.A.	464	-
EX core drilling	-	-
Total EX core drilling under D.M.E.A.	1,936	-

Yours very truly,

J. S. Roper
Manager

JSR:mb

DMEA Field Team, Region I,
Northwest District

March 3, 1955

DMEA Certifying Officer, Region I

Contract Idm-2644, Nove Sound Co. Operating report for month of January, 1955.

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

The following reinstatements and deletions have been made:

Reinstatements:		
Amount deducted from December 1954 MF-104 to hold cost for supervision and technical services to $3.00 per ft. of advance. Cost claimed for January 1955 is lower than the allowable cost.		$62.66
Deletions:		
Cash discount on invoice from North Coast Electric Co. for cable purchased- not taken into account by operator	$39.80	
Handling supplies- amount claimed is in excess of agreed amount allowable (40.3 cents per ft. of advance) by	19.63	58.43
Net reinstatements		$ 4.23

Myrtle Purdy

cc: DMEA (2)
USGS (1)
WASH. (2)
AD
Engr

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED FEB 28 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1954 Docket No. DMEA 3142 Contract No. Idm-E644

Operator's Name Howe Sound Company - Chelan Division Minerals COPPER

Address Holden, Washington

Contract Amount, $ Government Participation: 50 % Amount, $

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	$2,464.00	$ 2,942.50	$ 5,406.50	2464.00	2942.50	5406.50
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.	-	1,280.00	1,280.00		1280.00	1280.00
(2) Labor and Supervision:						
Labor	1,932.23	18,601.88	20,534.11	1932.23	18601.88	20534.11
Supervision	113.72	909.60	1,023.32	113.72	909.60	1023.32
Technical Services	140.94	879.52	1,020.46	140.94	879.52	1020.46
(3) Operating Mat'ls. and Supplies:						
Timber	226.72	1,604.69	1,831.41	226.72	1604.69	1831.41
Explosives	166.65	4,068.33	4,234.98	166.65	4068.33	4234.98
Pipe	139.90	1,672.58	1,812.48	139.90	1672.58	1812.48
Track	20.48	1,244.66	1,265.14	20.48	1244.66	1265.14
Drill Steel & Bits	166.38	2,004.57	2,170.95	166.38	2004.57	2170.95
Elec. Cable-Instl'n.	-	302.43	302.43		302.43	302.43
Vent Pipe-Instl'n.	-	117.45	117.45		117.45	117.45
(4) Operating Equipment:						
Rental						
Purchase	-	21,348.04	21,348.04		21348.04	21348.04
Depreciation	48.00	733.50	781.50	48.00	733.50	781.50
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	77.52	1,774.99	1,852.51	77.52	1774.99	1852.51
Sampling and Analysis	7.01	34.97	41.98	7.01	34.97	41.98
Payroll Taxes	67.58	531.11	598.69	67.58	531.11	598.69
Industrial ~~Liability~~ Insurance & Med. Aid	78.09	765.57	843.66	78.09	765.57	843.66
Tramming	109.44	1,672.38	1,781.82	109.44	1672.38	1781.82
Compressed Air	2.13	877.27	879.40	2.13	877.27	879.40
(8) ~~Expenses (specify)~~:						
Miner's Lamps	12.08	96.64	108.72	12.08	96.64	108.72
Handling Supplies	25.79	394.13	419.92	25.79	394.13	419.92
Hoisting (2500 Level)	11.32	-	11.32	11.32	-0-	11.32
TOTALS	$5,809.98	$63,856.81	$69,666.79	5747.32	63856.81	69604.13

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

Date 1-17-55 *Payee Howe Sound Company - Chelan Div.

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$2873 66

Signature [signature]
(Authorized Certifying Officer)

Date 2/25/55 Vou. No. 1446
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature 151 John R. McWilliams Title Mining Engr Date 1-21-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 151 Stephen W. Zoldok Title Mining Engr Date 2/24/55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1954 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting St. 1 Item 1	Feet	$3,192.01	53	$41,478.28	1,031	$40.23		
Crosscutting St. 2 Item 1	Feet	153.97	11	153.97	11	14.00		
Raising								
Shafts								
Winzes								
Drilling: Core	Feet	2,464.00	896	5,406.50	1,966	2.75	7,000	2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each	-		1,280.00	3	426.67	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased				$21,348.04				$31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$5,809.98		$69,666.79				

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

Date 1/17-55 Operator Howe Sound Company-Chelan Div.
Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

HOWE SOUND COMPANY - CHELAN DIVISION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
FEB 28 1955

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

Gentlemen:

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

The following is a narrative of the work accomplished during December, 1954 for the Buckskin Mountain exploration and in the 2500 level exploration crosscuts.

Buckskin Mountain Exploration

The 1500 drift east was turned to the south in an attempt to find better ground which was indicated by recent diamond drilling. An advance was made of 53 feet, to U.S.B.M. 392 + 1,041 feet, through altered peridotite and diorite.

The ground remained poor and continued support of the back and ribs was necessary. This was accomplished by timber supported on steel pins and by one cap on posts. The timber was extended 51 feet to within 7 feet of the face. In other words, all the December advance had to be timbered, plus considerable retimbering in the previously completed drift.

Last September timbering became necessary in the drift at a point 769 feet east of U.S.B.M. 392, and rock bolts were installed in most of the drift between station 392 and the timber. Weight from slabs has broken a number of head boards on the bolts and the slabbing of the rock has relieved all tension in other bolts. Consequently, there are intervals in the bolted section of the drift where the bolts are no longer adequately supporting the back. In one such 36-foot interval of drift, lagging and caps, supported on steel pins, were installed. Timbering will subsequently be required in other sections of drift where rock bolts were earlier installed.

Very blocky ground and numerous slips have caused the ribs of the drift to slab in some areas. In such areas the ribs have sloughed from around the steel pins which supported caps. This sloughing usually came after a considerable lag in time following the initial timbering and in spite of rock bolts installed in the ribs beneath the steel pins. Where this has happened, it has been necessary to install posts under the ends of the caps. Retimbering of this nature was required during December on 5 caps which are located in the vicinity of the 10300 east coordinate. This type of work greatly impedes the advance of the drift.

As the tramming distance increases and in view of the limited capacity of the locomotive, the need for a side track for extra muck cars becomes increasingly evident. The locomotive will not handle any more muck cars than are presently being handled, and, with the increase in tramming time, it will be necessary to have sufficient cars close to the face to complete the mucking cycle without delays. This problem will be considered as soon as ground conditions will permit the widening of the drift.

The regular crew of 3 men worked in the heading one shift, and a diamond drill runner drilled on the opposite shift at the 10000, 10400, and 10504 coordinates.

2500 Level Crosscuts

The 373 exploration crosscut was collared at the east end of the 2500 haulage drift. Eleven feet of advance were made. To allow the crosscut floor to be 7 feet above the haulage drift rail, as required for a transfer station, 9 cubic yards of rock were removed from the back of the haulage drift.

Miscellaneous Information

In the table below is information pertaining to the projects on both the 1500 and 2500 levels.

	1500 Drift	373 Crosscut
Advance	53 feet	11 feet
Rounds blasted	11	2
Total advance under D.M.E.A.	1,031 feet	11 feet
Average tram to collar	3,793 feet	-
Length of newly timbered section	51 feet	-
Rock bolts used	48	-
Total rock bolts used under D.M.E.A.	432	-
EX core drilling	896 feet	-
Total EX core drilling under D.M.E.A.	1,966 feet	-

Maps are appended to this report.

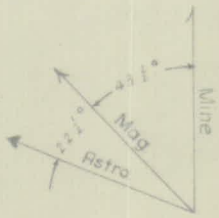
Yours very truly,

J. S. Roper
Manager

JSR:mb
Enc.

LEGEND

- LAMPROPHYRE
- LATE DIORITE DIKES
- DIORITE
- BIOTITE AFTER PERIDOTITE
- PERIDOTITE
- FAULT
- STRIKE AND DIP
- CONTACT



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE
BUCKSKIN MOUNTAIN EXPLORATION

LEVEL 1500 SCALE 1" = 40'
DATE 1-1-55 DRAWN BY T.W.

SURVEY BY R.C. - T.W. - J.A.
DESIGN BY
NOTES

FILE NUMBER
D.M.E.A.
IDM-E644

DMEA Field Team, Region I

February 25, 1955

DMEA Certifying Officer, Region I

Rowe Sound Company. Monthly operating report for the month of December 1954

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

A disallowance of $62.66 was made from the amounts claimed for supervision and technical services. According to the contract, charges for these items are not to exceed $3.00 per foot of drifting and crosscutting advance. The amount deleted represents the amount claimed over this maximum allowable of $3.00 per foot.

No adjustment was made in the payroll taxes as the $62.66 will be reinstated on the first MF-104 submitted in which the cost for supervision and technical services falls below the $3.00 per foot of advance allowable.

Myrtle Purdy

cc: DMEA (2)
USGS (2)
Wash. (2)

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

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 21 1955

Month of November, 195 4 Docket No. DMEA 5142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington
Contract Amount, $ 218,617.01 Government Participation: 50 % Amount, $ 109,308.50

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	$1,252.00	$ 1,710.50	$ 2,942.50			
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.	-	1,280.00	1,280.00			
(2) Labor and Supervision:						
Labor	1,107.50	17,494.38	18,601.88			
Supervision	81.15	828.45	909.60			
Technical Services	94.21	785.31	879.52			
(3) Operating Mat'ls. and Supplies:						
Timber	204.85	1,399.86	1,604.69			
Explosives	107.64	3,960.69	4,068.33			
Pipe	37.65	1,634.95	1,672.58			
Track	10.26	1,234.40	1,244.66			
Drill Steel & Bits	108.95	1,895.64	2,004.57			
Electric Cable Instl'n.		502.45	502.45			
Vent Pipe Installation		117.45	117.45			
(4) Operating Equipment:						
Rental						
Purchase		21,348.04	21,348.04			
Depreciation	38.25	695.25	733.50			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	83.62	1,691.37	1,774.99			
Sampling and Analysis		34.97	34.97			
Payroll Taxes	11.73	519.38	531.11			
Liability Insurance	53.76	711.81	765.57			
Tramming	87.21	1,585.17	1,672.38			
Compressed Air	1.80	875.47	877.27			
(8) [illegible]:						
Miner's Lamps	9.06	87.58	96.64			
Handling Supplies	20.55	573.58	594.13			
TOTALS	$3,290.13	$60,566.68	$63,856.81	3290.13	60566.68	63856.81

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

Date 12-20-54 *Payee Howe Sound Company - Chelan Div.

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 1645.06

Signature [signature]
(Authorized Certifying Officer)

Date 1-13-55 Vou. No. 1401
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature 1st John R. McWilliams Title Mining Engr Date Jan 12-55

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 1st Stephen W. Zoldok Title Mining Engr Date Jan 12-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 21 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1954 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	$2,058.13	51	$38,286.27	978	$ 39.15		$
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet	1,232.00	448	2,942.50	1,070	2.75	7,000	2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each	-		1,280.00	3	426.67	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		-		21,348.04				31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$3,290.13		$63,856.81				

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

Date 12-20-54 Operator Howe Sound Company-Chelan Div.
Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 21 1955

Gentlemen:

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

The following is a narrative of the Buckskin Mountain exploration work accomplished during the month of November, 1954.

Work was resumed in the 1500 drift east on November 8th and the heading was advanced 51 feet from U.S.B.M. 392 + 937 to + 988 feet.

Advance was made in altered peridotite and in diorite.

Nine sets of timber were installed. Posts were used for the first 3 sets and the last 6 caps were supported by steel pins. Thirteen rock bolts were used to stabilize the ribs of the drift.

A crew worked at the face during one shift and a diamond drill runner drilled in the station at the 10,400 coordinate during the opposite shift.

Other miscellaneous information is given below:

Drift advance	51 feet
Rounds blasted	11
Advance per round	4.6 feet
Drift advance since Feb. 1st, 1954	978 feet
Average tram to drift collar	3,740 feet
Rock bolts used	13
Rock bolts used since Feb. 1, 1954	384
Sets of timber	9
Sets of timber since Feb. 1, 1954	38
EX core drilling	448
EX core drilling since Feb. 1, 1954	1,070

Maps are appended to this report.

Yours very truly

J. S. Roper
Manager

JSR:MS
Enclosures

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

1201 N. Division St.
Spokane 2, Washington
November 16, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

A routine examination of the subject property was made on November 2 and 3, 1954, in company with R. J. Hundhausen, mining engineer, Bureau of Mines, and T. E. Wilson, geologist, Howe Sound Company.

Advance on the DMEA drift has been slow. During October the face was advanced 61 feet, and one diamond drill station was cut at the 10,400 E coordinate. Each diamond drill station consists of a short (8½ ft.) crosscut into the walls on both sides of the drift for an "advance" of 17 feet. This distance plus the drift width enables the drill crew to pull drill rod in 20-ft. sections.

Two errors appeared in the last report. Two instead of three drill stations had been cut at that time, and drilling had been completed only from the 9600 E coordinate. As of November 1, 1954, the total advance in the DMEA heading amounts to 927 feet. The drill station completed last month brings the number of drill stations to three, one at each of the following coordinates, 9600 E, 10,000 E, and 10,400 E.

Rock-falls from the back and sides continued to harass the Operator. A single collapse at the 10,400 E drill station took out four sets of timbers and required one week to clean up and retimber. Expansion type rock bolts are being used in certain locations to hold the walls in place (see Fig. 2). Roof bolting has been temporarily abandoned in favor of timbering but may be resumed when better ground is encountered. Shorter rounds are being drilled (5' - 5½' compared to 6' - 7' holes) in order to allow time in the work cycle for timbering and to reduce blast damage to the timbers. About one case of powder is used to pull an average advance of 4.7 feet per round.

The Operator wants to diamond drill from coordinate 10,400 E as soon as possible to explore the country rock to either side of the tunnel for better ground. If solid ground is found within a reasonable distance, the slow progress of the last two months would indicate that moving the tunnel over a few feet to take advantage of better going would be worthwhile. Rock exposed in the last few rounds seems to be more competent.

The diamond drill station at coordinate 10,000 E will be drilled as soon as drilling at coordinate 10,400 E is completed.

Two shifts per day were working in the heading until October 25 when the entire mine was closed by a strike centering around seniority privileges. In effect, the tunnel was being actively advanced during two weeks of the month. One week was lost in recovering ground lost by rock fall, another week was lost by strike.

The slow advance of the drift was brought to the attention of the management. They are anxious to speed it up but have been unable to do so because of the poor ground and now because of the labor trouble.

The resident manager reports no change in the situation in regard to starting exploration on the 2500 level. They have previously indicated that work would start as soon as the necessary men and equipment could be assembled. Apparently they have been reluctant to start a new project while the labor situation was unsettled.

According to a recent news article, the strike has been settled and work resumed November 8. No other details are known.

John R. McWilliams

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

Figure 1. Face of the DMEA drift as of November 2, 1954 showing sets carried up to the face. This section of the drift is susceptible to rock falls from the back and sides.

T. E. Wilson, staff geologist, Howe Sound Company, is shown on the left side of the photograph, and R. J. Hundhausen, mining engineer, Bureau of Mines, is shown on the right.

Figure 2. R. J. Hundhausen and T. E. Wilson are examining a rock-bolted wooden headboard damaged by blasting. The slab of rock to the left is typical of material held in place by rock bolting into the rib.

The pin set in the foreground is resting on drill steel inserted into drill holes. Beyond the pin set are rock bolts with scrap rail headboards. One bolt in the upper center serves only as an achor to support the vent pipe. The rock it should have supported has spalled away, leaving the headboard dangling.

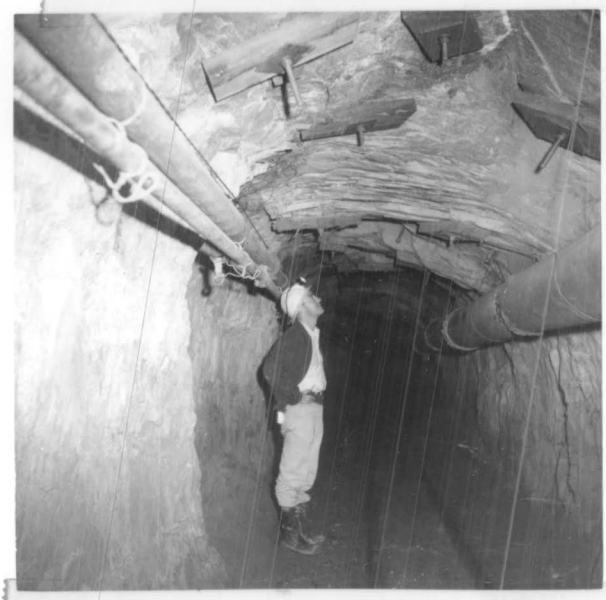


Figure 3. Typical view of the DMEA drift in ground easily supported by rock bolts.
J. R. McWilliams, Bureau of Mines engineer, is shown examining a section where rock has spalled from the unsupported back up to the point where support from the rock bolts becomes effective. Note the natural arch forming above the headboards.

Form MF-104 (Rev.) April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 21 1955

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1954 Docket No. DMEA 3142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington
Contract Amount, $ 218,617.01 Government Participation: 50 % Amount, $ 109,308.50

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	$	$ 1,710.50	$ 1,710.50			
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.	490.00	790.00	1,280.00			
(2) Labor and Supervision:						
Labor	2,622.16	14,872.22	17,494.38			
Supervision	204.33	624.12	828.45			
Technical Services	75.08	710.23	785.31			
(3) Operating Mat'ls. and Supplies:						
Timber	274.09	1,125.77	1,399.86			
Explosives	296.81	3,663.88	3,960.69			
Pipe	400.52	1,234.43	1,634.95			
Track	131.92	1,102.48	1,234.40			
Drill Steel & Bits	50.51	1,845.13	1,895.64			
Electric Cable Inst.	-	302.43	302.43			
Vent Pipe Install'n.	20.80	96.65	117.45			
(4) Operating Equipment:						
Rental						
Purchase	280.40	21,067.64	21,348.04			
Depreciation	45.75	649.50	695.25			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	150.89	1,540.48	1,691.37			
Sampling and Analysis	-	34.97	34.97			
Payroll Taxes	16.58	502.80	519.38			
Liability Insurance	106.30	605.51	711.81			
Tramming	104.31	1,480.86	1,585.17			
Compressed Air	5.63	869.84	875.47			
(8) ~~Contract Expense~~:						
Miner's Lamps	12.08	75.50	87.58			
Handling Supplies	24.58	349.00	373.58			
TOTALS	5,312.74	55,253.94	60,566.68	5312.74	55253.94	60566.68

Approved
BEG

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

Date 1/18-55 *Payee Howe Sound Company

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 2656 37

Signature MOP
(Authorized Certifying Officer)

Date 1-13-55 Vou. No. 1401
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature /s/ John R. McWilliams Title Mining Engr Date 11-23-54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Stephen W. Goldsp Title Mining Engr Date Jan 12-55

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 21 1955

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 195 4 Docket No. DMEA 3142 Contract No. 1dm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals COPPER
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	$4,542.34	61	$36,228.14	927	$39.08		
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet			1,710.50	622	2.75	7,000	$ 2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Station	Each	490.00	1	1,280.00	3	426.67	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		280.40		21,348.04				$31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$5,312.74		$60,566.68				

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

Date 11-18-55 Operator Howe Sound Company

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 21 1955

Gentlemen:

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

The following is a narrative of the Buckskin Mountain exploration work accomplished during the month of October 1954.

The 1500 drift east was advanced 61 feet from U.S.B.M. 392 + 876 to + 937 feet.

Advance was made through altered peridotite and diorite.

Thirteen sets of timber were installed eastward from the old timber. Posts were used for the last 6 sets where the ground is very blocky and steel pins set in the ribs will not support the caps. Three of these 6 sets were in replacement of timber supported by pins. Seventeen rock bolts were used to stabilize the ribs of the drift.

It was necessary to reduce the length of the round drilled to 5-5½ feet as a result of the timbering procedure which is required in this heavy ground. This length of round is now broken with 22 holes loaded with one case of powder.

A diamond drill station was cut off of the drift at the 10,400 coordinate to a depth of 8½ feet in each of the ribs.

All work was halted in the heading on the 25th of the month by a general strike at the mine.

Other miscellaneous information is given below:

Drift advance	61 feet
Rounds blasted	13
Advance per round	4.7 feet
Drift advance since Feb. 1st, 1954	927 feet
Average tram to drift collar	3,689 feet
Rock bolts used	17
Rock bolts used since Feb. 1st, 1954	371
Sets of Timber	29
EX core drilling	none
EX core drilling since Feb. 1st, 1954	622 feet

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:AA
Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

October 29, 1954

Memorandum

To: DMEA Field Team, Region II

From: Donald F. Kellum, Geologist, U. S. Geological Survey

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

Inspection of DMEA work on the 1500 east crosscut was made on Friday and Saturday, October 8 and 9, 1954. I was accompanied underground by Jacob L. Alexander, assistant geologist for the Holden mine.

The face October 8 was at mine survey point 1286 plus 133.5 feet, an advance of 256 feet since the second routine inspection by Dwight Crowder, geologist, Geological Survey, on June 30, 1954.

From the face point of the last DMEA inspection to mine station 1284 plus 80 feet the crosscut intersected a sequence of rocks consisting of amphibole-biotite gneiss, gray diorite, and late diorite dikes similar to that described by Puffett and Crowder on previous inspections. No marble was observed in this portion of the crosscut however. At 1284 plus 80 feet the gneiss-diorite complex is in contact with an altered basic rock. Extensive alteration of this basic rock is in the form of biotite which may be associated with shearing and, in part, emplacement of dioritic dikes. This basic rock is termed peridotite by company geologists, and its alteration mapped as biotite after peridotite. Sulfide mineralization is meagerly dispersed in the basic rock with occasional pods of pyrite-chalcopyrite-pyrrhotite such as one at 1286 plus 30 feet on the north (mine) side of the crosscut. This pod assayed 0.40 percent copper, 0.005 oz. gold, Tr. silver, and 1.31 percent nickel over a sample width of $2\frac{1}{2}$ feet. Another sample of this pod assayed 0.68 percent copper, Tr. gold, Tr. silver, and 2.92 percent nickel over a sample width of $1\frac{1}{2}$ feet. Sampling was done by company geologists.

At 1286 plus 92 feet biotitized basic rock is again in contact with the gray diorite of the gneiss-diorite complex. This gray diorite contains weak gneissic banding suggesting its derivation from gneiss. Biotitized basic rock again continues from 1286 plus 110 feet to the face at 1286 plus 133.5 feet. The upper left hand corner of the face contained a small lenticle of pyrite and chalcopyrite. Faulting near the face has offset a late diorite dike several feet.

A diamond drill station, the third under the DMEA contract, was prepared at the 10,400 E co-ordinate (1286 plus 117 ft.) and will be used as the current tramming transfer point. The former transfer point, diamond drill station no. 2, near co-ordinate 10,000 E will be drilled within the next few weeks. Drilling at the first diamond drill station near the 9,600 E co-ordinate has been completed: two level holes, U-15-208 to the north (mine) and U-15-209 to the south (mine) of the crosscut, were drilled. Diamond drill hole U-15-208 (319 ft.) intersected a complex of biotite-amphibole gneiss, gray diorite, and diorite dikes; doubtful peridotite was recovered between footage 146-160. The sulfides pyrite and pyrrhotite were noted as sparse disseminations, predominantly in biotite-amphibole gneiss. No sampling of this core was done by the mine staff.

Diamond drill hole U-15-209 (303 ft.) intersected a similar complex predominantly of gneiss, diorite and diorite dikes. A larger amount of basic rock was cored from this hole than was encountered in U-15-208. Two samples of the core were assayed by the mine staff. Both samples were of granitized biotite gneiss. Sample A5787 ($53\frac{1}{2}$ ft. - $57\frac{1}{2}$ ft.) contained slight amounts of chalcopyrite, pyrite and pyrrhotite; results of assays for copper and nickel were nil. Sample A5788 (199 ft. - 203 ft.) contained a slight amount of pyrite and chalcopyrite; results of assays for copper, nickel, and gold were nil.

Core recovery was good; a total of 622 feet of diamond drilling was done.

The situation as regards to starting exploration on the 2500 level was unchanged at the time of examination. Union negotiations presently under way may further delay DMEA participation on the 2500 level.

The accompanying map was copied from that supplied by the company geologists.

Attachments 2 (in quad.)

Distribution:
DMEA (orig. & 3)
USBM (2)
Docket
Kellum

FORM 83A 1M 8-50 C.P.

HOWE SOUND COMPANY

CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 1

BY J.L.I.

DATE July, 1954

HOLE NO. U-15-208 MINE Holden LEVEL 1500

LOCATION 1500 Drift East at 480 Chute Section

BEARING N DIP Horizontal LENGTH

LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE	ASSAY VALUE CU.	AG.	AU.	ZN.	WIDTH	GEOLOGY AND REMARKS
7-29		0-1½	-	-	-	-	1½	Replacement Granite
		1½-2½	-	-	-	-	1	Fine Grained Calcarious
								streak
		2½-29	-	-	-	-	26½	Medium to Fine grained black
								diorite with sedimentary or shistose
								halos which are most prominent
								from 2'-15' ½' Replacement granite
								14½-15.
7-31		29-35	-	-	-	-	6	Replacement granite: with occasional small
								diorite dikes
								Probable flat fault zone composed
								of Quartz with brecciation and
								alteration. Grades into amphibole
								schist at 39'.
		40-49	-	-	-	-	9	Medium grained grey quartz
								Diorite exhibiting slight shistosity.
		49-55	-	-	-	-	6	Medium to fine grained
								silicious amphibole schist.
		55-61½	-	-	-	-	6½	Medium grained replacement
								granite with chlorite. 3½'
								core lost.
		61½-84	-	-	-	-	22½	Medium to fine grained
								amphibole biotite schist with
								slight pyrite mineralization.
								Almost amphibolite (possibly of
								dioritic origin) in places and
								almost biotite schist in others.
								Evidence of brecciation and subsequent
								in filling or replacement,
								by chlorite. Quartz at
								65½' to 66½'.
		84-98	-	-	-	-	12	Highly silicious medium to
								fine grained amphibole schist
								with some brecciation and
								leaching. Garnet and epidote
								at 95'. 6' core lost.
8-2		98-104	-	-	-	-	8	Fine grained amphibole schist
								with garnet and epidote to 97½'.
		104-121	-	-	-	-	17	Medium to fine grained silicious
								biotite amphibole schist.
		121-146	-	-	-	-	25	Medium to fine grained black diorite
								with occasional small zones
								of granitization.
								U-15-208

FORM 83A 1M 8-50 C.P.

HOWE SOUND COMPANY

CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 2

BY J.L.A.

DATE August, 1954

HOLE NO. U-15-208 MINE Holden LEVEL 1500

LOCATION 1500 Drift East at 480 Chute Section

BEARING N DIP Horizontal LENGTH

LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE	ASSAY VALUE CU.	AG.	AU.	ZN.	WIDTH	GEOLOGY AND REMARKS
8-2		146-157	-	-	-	-	11	Medium grained greenish black diorite which has the appearance of and may be altered peridotite.
		157-160	-	-	-	-	3	Same as above.
		160-163	-	-	-	-	3	Replacement granite
		163-167	-	-	-	-	4	Fine grained chlorite alteration probably derived from diorite. 2" 185ft.
		167-171½	-	-	-	-	4½	Replacement granite with chlorite fracture healing.
		171½-188½	-	-	-	-	17	Fine grained amphibole schist with garnet and epidote zones, some pyrrhotite present.
		188½-191½	-	-	-	-	3	Medium to fine grained silicious biotite schist.
		191½-198½	-	-	-	-	7	Medium to fine grained amphibole schist with pyrrhotite.
		198½-208	-	-	-	-	9½	Medium grained quartz diorite with 4" lamprophyre at 202'.
		208-211	-	-	-	-	3	Fine grained amphibole schist with garnet and epidote.
		211-213	-	-	-	-	2	Fine grained biotite schist with pyrite.
		213-214	-	-	-	-	1	Amphibole schist with pyrite.
8-3		214-231½	-	-	-	-	17½	Silicious fine grained pyritic amphibole schist with varying small amounts of biotite. Some pyrrhotite present.
		231½-235½	-	-	-	-	4	Medium to fine grained silicious biotite schist with pyrite, pyrrhotite, and some amphibole.
		235½-244	-	-	-	-	8½	Medium to fine grained silicious amphibole biotite schist with pyrite.
8-4		244-260	-	-	-	-	15	Medium to fine grained silicious biotite schist with pyrite, pyrrhotite, and zones containing varying small amounts of amphibole. Granite at 24"-247½, 256½-257, and 258-258½.

FORM 83A 1M 8-50 C.P.

HOWE SOUND COMPANY

CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 3

BY J.L.L.

DATE August, 1954

HOLE NO. U-15-208 MINE Holden LEVEL 1500

LOCATION 1500 Drift East at 480 Chute Section

BEARING N DIP Horizontal LENGTH

LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE	ASSAY VALUE CU.	AG.	AU.	ZN.	WIDTH	GEOLOGY AND REMARKS
8-4		260-263	-	-	-	-	3	Black to grey medium to fine grained diorite with sedimentary halos.
		263-268½	-	-	-	-	5½	Medium to fine grained siliceous biotite amphibole schist with pyrite and pyrrhotite.
		268½-274	-	-	-	-	5½	Medium to fine grained siliceous biotite schist with pyrite and pyrrhotite.
8-5		274-283½	-	-	-	-	9½	Same as above.
		283½-286	-	-	-	-	2½	Black medium grained diorite.
		286-295	-	-	-	-	9	Medium to fine grained amphibole biotite schist with scattered pyrite.
		295-303	-	-	-	-	8	Dark grey medium grained diorite.
		303-310½	-	-	-	-	7½	Medium to fine grained siliceous biotite schist with scattered pyrite. Amphibole present 309½-310½.
		310½-319	-	-	-	-	8½	Black to grey diorite with sedimentary halos present in the darker portions. 315'-316½' has been brecciated and recemented with chlorite. Pyrite is present in chlorite.
							END	

FORM 37 1M 1-51-C.P.

PAGE NO. 1

ASSAY RECORD

MINE Holden LEVEL 1500

WORKING U-15-208

OFF 1500 Or E. at 480 Chute Sec.

Horizontal

1954 MONTH	DAY	SAMPLE NUMBER	DISTANCE		ELEVATION	ASSAY VALUE % COPPER	OZ. SILVER	OZ. GOLD	% ZINC	WIDTH	FROM	REMARKS
July	29		0	30		-	-	-	-	30		
	31		30	96		-	-	-	-	66		
August	2		96	214		-	-	-	-	118		
	3		214	244		-	-	-	-	30		
	4		244	274		-	-	-	-	30		
	5		274	319		-	-	-	-	45		
								END				

FORM 89A 1M 8-50 C.P.

HOWE SOUND COMPANY
CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 1
BY J.I.A.
DATE August, 1954

HOLE NO. U-15-209 MINE Holden LEVEL 1300
LOCATION 1500 Drift East at 480 Chute Section
BEARING S DIP Horizontal LENGTH
LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE	Ni.	ASSAY VALUE CU.	AG.	AU.	ZN.	WIDTH	GEOLOGY AND REMARKS
8-9		0-34		-	-	-	-	34	Course to fine grained granitized amphibole biotite schist with finer grained gradational zones having the appearance of diorite but with schistose structure and no clear contacts. Occasional short zones of quartz, garnet, and chlorite present. Pyrite and pyrrhotite present in slight amounts. Replacement granite at 10'-11½' and 12½'-13½'.
		34-39½		-	-	-	-	5½	Slightly pyritic fine grained peridotite with cryptocrystalline border facies.
		39½-53½		-	-	-	-	14	Medium to fine grained granitized biotite schist whichin places has the appearance of medium grained diorite. Granitized peridotite at 42½'-43½' some pyrite and pyrrhotite present.
	A5787	53½-57½	Nil	Nil				4	Medium grained granitized biotite schist with slight amounts of chalcopyrite, pyrite, and pyrrhotite.
		57½-61		-	-	-	-	3½	Medium grained grey diorite.
8-10		61-63½		-	-	-	-	2½	Fine to medium grained grey diorite.
		63½-70		-	-	-	-	6½	Course grained granitized peridotite.
		70-89		-	-	-	-	19	Medium grained granitized biotite schist with replacement granite at 83-87½ and 88½-89.
8-11		89-94½		-	-	-	-	5½	Medium grained granitized biotite schist.
		94½-101½		-	-	-	-	7	Grey medium to course grained diorite.
		101½-104		-	-	-	-	2½	Medium to fine grained granitized biotite schist.
		104-107		-	-	-	-	3	Medium grained granitized peridotite.
		107-113		-	-	-	-	6	Course to fine grained grey diorite. Finer grained material has halos of schistosity.
		113-116		-	-	-	-	3	Medium grained granitized peridotite.
		116-118½		-	-	-	-	2½	Medium Grained grey diorite.
		118½-132		-	-	-	-	13½	Medium to fine grained granitized peridotite.
		132-147		-	-	-	-	15	Grey medium to fine grained diorite.

FORM 83A JM 8-50 C.P.

HOWE SOUND COMPANY

CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 2

BY L.I.[illegible]

DATE August 3, 1954

HOLE NO. U-15-209 MINE Holden LEVEL 1500

LOCATION 1500 Drift East at 400 Chute Section

BEARING S DIP Horizontal LENGTH

LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE Ft.	ASSAY VALUE CU.	AG.	AU.	ZN.	WIDTH	GEOLOGY AND REMARKS
8-12		147-154	-	-	-	-	7	Grey course grained diorite with fine grained peridotite 152'-153½'.
		154-177	-	-	-	-	23	Dark grey fine grained diorite with shistose halos and short zones of light grey course grained diorite. Very slightly pyritic and pyrrhotitic. 3' core lost.
8-13		177-180	-	-	-	-	3	Grey medium grained diorite.
		180-191	-	-	-	-	11	Slightly pyritic dark grey fine grained diorite with shistose halos. Chlorite at 187'.
		191-194	-	-	-	-	3	Slightly pyritic granitized biotite schist.
		194-199	-	-	-	-		Dark grey fine grained [illegible] diorite with shistose halos.
	A5798	199-203	Nil	-	Nil	-	4	Medium grained granitized biotite schist lightly pyritic and pyrrhotitic.
		203-204	-	-	-	-	1	Black fine grained diorite.
8-16		204-211	-	-	-	-	7	Grey fine grained diorite with lineation. Grey course grained diorite 206-207½
		211-223	-	-	-	-	12	Medium grained granitized amphibole schist with small amount of biotite.
		223-227	-	-	-	-	4	Grey course grained diorite with lineation.
		227-230½	-	-	-	-	3½	Black medium grained diorite.
		230½-244½	-	-	-	-	14	Grey course grained granitized quartz biotite peridotite with faint lineation.
		244½-247	-	-	-	-	2½	Grey medium to fine grained diorite with pronounced lineation.
		247-260	-	-	-	-	13	Grey course grained granitized quartz biotite peridotite with faint lineation.
8-17-54		263-264½	-	-	-	-	2½	Mixture of black fine grained diorite and granitized peridotite.
		264½-269	-	-	-	-	4½	Course grained granitized quartz biotite peridotite.
		269-277	-	-	-	-	8	Black to grey medium grained diorite.
		277-282	-	-	-	-	5	Mixture of black fine grained diorite and granitized peridotite.

FORM 8[illegible] 1M 8-50 C.P.

HOWE SOUND COMPANY
CHELAN DIVISION

DIAMOND DRILLING RECORD

SHEET NO. 7

BY J. [illegible]

DATE August, 1954

HOLE NO. U-15-209 MINE Holden LEVEL 1500

LOCATION 1500 Drift East at 400 Chute Section

BEARING S DIP Horizontal LENGTH

LATITUDE OF COLLAR DEPARTURE OF COLLAR ELEVATION

DATE	SAMPLE NO.	FOOTAGE	ASSAY VALUE				WIDTH	GEOLOGY AND REMARKS
			CU.	AG.	AU.	ZN.		
		282-303	-	-	-	-	21	Coarse grained granitized quartz biotite peridotite.
								END

FORM 37-1M 1-51-C.P.

PAGE NO. 1

ASSAY RECORD

MINE Holden LEVEL 1500

WORKING U-15-209

Horizontal

OFF Drift West at 480 Chute Sec.

1954 MONTH	DAY	SAMPLE NUMBER	DISTANCE		% Nil.	ASSAY VALUE % COPPER	OZ. SILVER	OZ. GOLD	% ZINC	WIDTH	FROM	REMARKS
August	9		0	53½		-	-	-	-	53½		
		A5787	53½	57½	Nil	Nil	-	-	-	4		
			57½	61		-	-	-	-	3½		
	10		61	89		-	-	-	-	28		
	11		89	147		-	-	-	-	58		
	12		147	177		-	-	-	-	30		
	13		177	199		-	-	-	-	22		
		A5788	199	203	Nil	Nil	-	Nil	-	4		
			203	204		-	-	-	-	1		
	16		204	262		-	-	-	-	58		
	17		282	303		-	-	-	-	41		
								END				

Form MF-394 (Rev.)
(April 1952)

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.5

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 3 - 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of September 1954 Docket No. DMEA 5142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $219,400.00 Government Participation: 50 % Amount, $109,700.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	$	$ 1,710.50	$ 1,710.50	✓		
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.		790.00	790.00	✓		
(2) Labor and Supervision:						
Labor	2,754.26	12,117.96	14,872.22	✓ 17.17		
Supervision	133.75	490.37	624.12	✓ 1.54		
Technical Services	97.88	612.35	710.23	✓		
(3) Operating Mat'ls. and Supplies:						
Timber	393.81	731.96	1,125.77	✓ 1.30		
Explosives	318.95	5,344.93	5,663.88	✓ 4.23		
Pipe	152.18	1,082.25	1,234.43	✓ 1.43		
Track	373.46	729.02	1,102.48	✓ 1.27		
Drill Steel & Bits	163.58	1,681.75	1,845.13	✓ 2.13		
Electric Cable Inst'n	-	302.43	302.43	✓		
Vent. Pipe Inst'n	27.37	69.28	96.65	✓ .46		
(4) Operating Equipment:						
Rental				✓		
Purchase		21,067.64	21,067.64	✓		
Depreciation	75.75	573.75	649.50	✓ .75		
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	487.93	1,052.55	1,540.48	✓ 1.78		
Sampling and Analysis	26.77	8.20	34.97	✓ .03		
Payroll Taxes	66.47	436.33	502.80	✓ .58		
Liability Insurance	119.02	486.49	605.51	✓ .70		
Tramming	172.71	1,308.15	1,480.86	✓ 1.71		
Compressed Air	25.43	844.41	869.84	✓ 1.00		
(8) Contingencies (specify):						
Miners' Lamps	15.10	60.40	75.50	.09		
Handling Supplies	40.70	308.30	349.00	.40		
				31.59		
TOTALS	$5,444.92	$49,809.02	$55,253.94	5444.92	49809.02	55253.94

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

Date 10/1/54 *Payee Howe Sound Company

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$2722 46

Signature MGP
(Authorized Certifying Officer)

Date 10/28/54 Vou. No. 1331
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature (6) John R. McWilliams Title Mining Engr. Date 10/26/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature (5) Stephen W. Foldok Title Mining Engr. Date 10/26/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

Defense Minerals Administration
RECEIVED
OCT 5-1954

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1954 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	$5,444.92	101	$31,685.80	866	$ 36.59		$
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet			1,710.50	✓ 622	2.75	7,000	2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each			790.00	✓ 2	395.00	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased				21,067.64	✓			31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$5,444.92		$55,253.94				

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

Date 10/11-54 Operator Howe Sound Company

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

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

Gentlemen:

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

The following is a narrative of the Buckskin Mountain exploration work accomplished during the month of September, 1954.

The 1500 drift east was advanced 101 feet from U.S.B.M. No. 392 + 775 to + 876.

The heading was driven in diorite, peridotite, and biotite schist. The last rock appears to be the product of complete alteration of the peridotite.

Sixteen sets of timber were installed westward from station 392 + 769 feet. These are 6-foot sets with the caps being supported on steel pins rather than by posts. Twenty-one rock bolts were used before the start of the timbering.

The 15 H. P. fan which was located at the 9600 coordinate was unbalanced and was replaced by another fan of the same size.

The Titan battery locomotive was in the shop for a general inspection and the installation of sanders.

One crew (2 miners and 1 helper) worked alone in the drift for 7 days; during the other working days in the month, 2 crews, on opposite shifts, were in the heading.

Other miscellaneous information is given below:

Drift advance	-	101 feet
Rounds blasted	-	17
Advance per round	-	5.9 feet
Drift advance since Feb. 1, 1954	-	866 feet
Average tram to drift collar	-	3,628 feet
Rock bolts used	-	21
Rock bolts used since Feb. 1, 1954	-	354
Sets of timber	-	16
EX core drilling	-	None
EX core drilling since Feb. 1, 1954	-	622 feet

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb

Enclosures

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

1201 N. Division St.
Spokane 2, Washington
September 16, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

A routine examination of the above named property was made September 2, 1954 in company with Fred Robertson, mine foreman.

The DMEA drift face was advanced 113 feet during August. Double shifting started during the week of August 23. The effect of two shifts per day has not yet become apparent in the progress reports, due in part to the 'shake down' period but more because of difficulty in holding the back. Spalling rock from the roof has increased the height of the tunnel several feet in places and necessitates the removal of extra muck. The narrow drift with the "self-supporting" masonry arch mentioned last month has been discontinued. It seemed to have no self-supporting effect and roof bolts were much harder to install on the sharply rounded back. The roof bolting technique has been modified somewhat by using 4 foot wooden headboards of 2x8 plank rock-bolted at each end and placed at random. The design offers considerable bearing surface but the wooden headboards are susceptible to damage from blasting. It was suggested that the headboards be made of scrap rail to minimize the damage.

The company has added one man, on a trial basis, to the normal two-man crew working in the heading. His duties are to handle the muck train on the DMEA drift, i.e., switch cars, tram the loaded train to the transfer station, dump the cars, tram the main line cars to the waste dump, and to perform general handy-man duties. This will become increasingly important as the muck train hauls become longer since the regular crew can spend more time at the face and not be concerned about muck disposal.

Two diamond drill holes have been completed from 9600 and 10,000 coordinates. The third drill station is being used as a transfer station until this function can be moved to the succeeding drill station. The next drill hole will be started in 5 or 6 weeks.

The resident manager reports no change in the situation in regards to starting exploration on the 2500 level. They have indicated that the work will start as soon as they can assemble the necessary men and equipment.

John R. McWilliams

John R. McWilliams

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

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

RECEIVED
BUREAU OF MINES
SEP 21 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Budget Bureau No. 42-R1036.5

SEP 27 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1954 Docket No. DMEA 3142 Contract No. IdmE644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ 219,400.00 Government Participation: 50 % Amount, $ 109,750.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	1,152.25	558.25	1,710.50	1152.25	558.25	1710.50
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.		790.00	790.00		790.00	790.00
(2) Labor and Supervision:						
Labor	2,727.89	9,390.07	12,117.96	2727.89	9390.07	12117.96
Supervision	103.19	387.18	490.37	103.19	387.18	490.37
Technical Services	84.88	527.47	612.35	84.88	527.47	612.35
(3) Operating Mat'ls. and Supplies:						
Timber	63.15	668.81	731.96	63.15	668.81	731.96
Explosives	363.75	2,981.18	3,344.93	363.75	2981.18	3344.93
Pipe	215.91	866.34	1,082.25	215.91	866.34	1082.25
Track	47.98	681.04	729.02	47.98	681.04	729.02
Drill Steel & Bits	225.48	1,456.27	1,681.75	225.48	1456.27	1681.75
Electric Cable Inst'n	268.66	33.77	302.43	268.66	33.77	302.43
Vent Pipe Inst'n	51.60	17.68	69.28	51.60	17.68	69.28
(4) Operating Equipment:						
Rental						
Purchase	4,436.25	16,631.39	21,067.64	4436.25	16631.39	21067.64
Depreciation	84.75	489.00	573.75	84.75	489.00	573.75
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	199.87	852.68	1,052.55	199.87	852.68	1052.55
Sampling and Analysis		8.20	8.20		8.20	8.20
Payroll Taxes	57.24	379.09	436.33	57.24	379.09	436.33
Liability Insurance	120.78	365.71	486.49	120.78	365.71	486.49
Tramming	193.23	1,114.92	1,308.15	193.23	1114.92	1308.15
Compressed Air	28.58	815.83	844.41	28.58	815.83	844.41
(8) Contingencies (specify):						
Miner's Lamps	18.12	42.28	60.40	18.12	42.28	60.40
Handling Supplies	45.54	262.76	308.30	45.54	262.76	308.30
TOTALS	10,489.10	39,319.92	49,809.02	10489.10	39319.92	49809.02

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

Date 9/17/54 *Payee Howe Sound Company

Per [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 5244 55

Signature [signature]
(Authorized Certifying Officer)

Date 9/23/54 Vou. No. 1294
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature 151 John R McWilliams Title Mining Eng. Date 9/21/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 151 Stephen W Zoldok Title Mining Engr. Date 9/21/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form M-4104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED
SEP 27 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of August 1954 Docket No. DMEA 3142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	4,900.60	115	26,240.88	765	34.30		
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet	1,152.25	419	1,710.50	622	2.75	7,000	2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each	-	-	790.00	2	395.00	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		4,436.25		21,067.64				31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		10,489.10		49,809.02				

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

Date 9/17/54 Operator Howe Sound Company
Per [signature] Title [signature]

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

REMARKS:

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

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

Gentlemen:

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

The following is a narrative of the Buckskin Mountain exploration work accomplished during the month of August, 1954.

The 1500 drift east was advanced 113 feet from U.S.B.M. No. 392 + 662 to + 775.

The drift was driven in diorite and biotite schist.

The 2300-volt line was extended eastward to the transformer station at the 8500 coordinate (location incorrectly stated in June's report as on the 9700 coordinate.) A low voltage line was put in eastward from the transformer station to two 15 H.P. fans which were installed at the 8800 and 9600 coordinates respectively. These fans are in series with the 25 H.P. fan and blow through the 15-inch line toward the face.

A new battery and battery box for the Titan locomotive was put into service. A 3-ton trolley locomotive previously used on the 2125 level was taken to the 1500 level. It is now used to make up trains of 130-cubic-feet cars after the cars have been filled at the east transfer station with rock from the exploration drift.

Diamond drilling was completed at the 9600 coordinate.

During the last third of the month the heading was worked daily on a 2-shift basis.

Other miscellaneous information is given below:

Drift advance	-	113 feet
Rounds blasted	-	19
Advance per round	-	5.9 foot
Drift advance since Feb. 1, 1954	-	765 feet
Average tram to drift collar	-	3,527 feet
Rock bolts used	-	52
Rock bolts used since Feb. 1, 1954	-	333
EX core drilling	-	419 feet
EX core drilling since Feb. 1, 1954	-	622 feet

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb

Enclosures

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

RECEIVED

Month of July, 1954 Docket No. DMEA 3142 Contract No. dm-E644

Operator's Name Howe Sound Company - Chelan Division Minerals Copper

Address Holden, Washington

Contract Amount, $ 219,400.00 Government Participation: 50 % Amount, $ 109,750.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						
Drilling - Core	558.25	-	558.25	558.25	-0-	558.25
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.	-	790.00	790.00		790.00	790.00
(2) Labor and Supervision:						
Labor	1,777.99	7,612.08	9,390.07	1777.99	7612.08	9390.07
Supervision	54.80	332.38	387.18	54.80	332.38	387.18
Technical Services	87.92	439.55	527.47	87.92	439.55	527.47
(3) Operating Mat'ls. and Supplies:						
Timber	151.04	517.77	668.81	151.04	517.77	668.81
Explosives	484.52	2,496.66	2,981.18	484.52	2496.66	2981.18
Pipe		866.34	866.34		866.34	866.34
Track	10.48	670.56	681.04	10.48	670.56	681.04
Drill Steel & Bits	151.29	1,304.98	1,456.27	151.29	1304.98	1456.27
Electric Cable-Inst'n	1.00	32.77	33.77	1.00	32.77	33.77
Vent. Pipe-Inst'n	11.50	6.18	17.68	11.50	6.18	17.68
(4) Operating Equipment:						
Rental						
Purchase	6,049.97	10,966.24	17,016.21	6049.97	10581.42	16631.39
Depreciation	83.25	405.75	489.00	83.25	405.75	489.00
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	129.32	723.36	852.68	129.32	723.36	852.68
Sampling and Analysis	-	8.20	8.20		8.20	8.20
Payroll Taxes	49.38	329.71	379.09	49.38	329.71	379.09
Liability Insurance	71.62	294.09	365.71	71.62	294.09	365.71
Tramming	189.81	925.11	1,114.92	189.81	925.11	1114.92
Compressed Air	42.67	773.16	815.83	42.67	773.16	815.83
(8) Contingencies (specify):						
Miner's Lamps	9.06	33.22	42.28	9.06	33.22	42.28
Handling Supplies	44.73	218.03	262.76	44.73	218.03	262.76
TOTALS	9,958.60	29,746.14	39,704.74	9958.60	29361.32	39319.92

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

Date 9-7-54 *Payee Howe Sound Company

By [signature] Title [signature]

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

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

(Instructions on reverse)

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

$ 4979 30

Signature [signature]
(Authorized Certifying Officer)

Date 9/23/54 Vou. No. 1294
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature John K. McWilliams Title Mining Engr Date 9/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature Stephen W. Zoldak Title Mining Engr Date 9/15/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form DF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1954 Docket No. DMEA 3142 Contract No. ldm-E644

Operator's Name Howe Sound Company - Chelan Division Minerals Copper

Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	3,350.38	111	21,340.28	652	32.73		
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Feet	558.25	203	558.25	203	2.75	7,000	2.75
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each	-	-	790.00	2	395.00	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		6,049.97		17,016.21				31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		9,958.60		39,704.74				

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

Date 8-7-54 Operator Howe Sound Company

Per [signature] Title [signature]

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

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

Gentlemen:

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

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of July, 1954.

The 1500 drift east was advanced 111 feet from U.S.B.M. No. 392 + 551 to + 662 feet.

The drift was driven in diorite and in amphibole schist.

Beginning late in the month the rounds were drilled so as to give a high and narrow arch to the back. Whether or not this will lessen the need for rock bolts is inconclusive at this date.

Seventeen hundred feet of electric cable for a 2300-volt line were installed eastward from about the 6300 coordinate. Messenger cable was installed as far east as the 8800 coordinate. An oil switch for the 2300-volt line was mounted at the fan station on the 6370 coordinate.

The Canton-type car transfer was moved to the diamond drill station at the 10,000 coordinate.

A Boyles Brothers I-U diamond drill was moved into the heading and core-drilling was begun in the drill station at the 9600 coordinate.

Other miscellaneous information appears in the table below:

Drift advance	-	111 feet
Rounds blasted	-	17
Advance per round	-	6.5 feet
Drift advance since February 1, 1954	-	652 feet
Average distance of tram to drift collar	-	3,414 feet
Number rock bolts used	-	6
Number rock bolts used since Feb. 1, 1954	-	281
EX core drilling	-	203 feet
Total EX core drilling since Feb. 1, 1954	-	203 feet

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb

Enclosures

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

Gentlemen:

Re: Docket No. DMEA 3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. 1dm-E34

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of July, 1954.

The 1500 drift east was advanced 111 feet from U.S.B.M. No. 392 + 551 to + 652 feet.

The drift was driven in diorite and in amphibole schist.

Beginning late in the month the rounds were drilled so as to give a high and narrow arch to the back. Whether or not this will lessen the need for rock bolts is inconclusive at this date.

Seventeen hundred feet of electric cable for a 2300-volt line were installed eastward from about the 6300 coordinate. Messenger cable was installed as far east as the 8800 coordinate. An oil switch for the 2300-volt line was mounted at the fan station on the 6370 coordinate.

The Canton-type car transfer was moved to the diamond drill station at the 10,000 coordinate.

A Boyles Brothers I-U diamond drill was moved into the heading and core-drilling was begun in the drill station at the 9600 coordinate.

Other miscellaneous information appears in the table below:

Drift advance	-	111 feet
Rounds blasted	-	17
Advance per round	-	6.5 feet
Drift advance since February 1, 1954	-	652 feet
Average distance of tram to drift collar	-	3,414 feet
Number rock bolts used	-	6
Number rock bolts used since Feb. 1, 1954	-	281
EX core drilling	-	203 feet
Total EX core drilling since Feb. 1, 1954	-	203 feet

Maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mb

Enclosures

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
1201 N. Division St.
Spokane 2, Washington
July 23, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

A routine examination of the subject property was made July 21, 1954, in company with Tom Wilson, staff geologist for Howe Sound Company.

Work on the DMEA drift (1500 east) has progressed quite rapidly since the last examination. The drift has been extended to a point 632.94 feet beyond the initial measuring point at USBM 392 for an actual advance of 622.64 feet since February 1, 1954. In addition, diamond drill stations have been cut at the 9600 and 10,000 coordinates, respectively. Diamond drilling from the 9600 station is expected to start by July 24, 1954.

Several changes in operating technique have been made, including abandonment of systematic roof-bolting in favor of random bolts, reverting to the use of wooden headboards in place of steel washers with rock bolts, and, recently, narrowing the drift from 7 feet to 6 feet and at the same time increasing the height and vaulting the roof so that it forms a natural arch and will be more nearly self-supporting. The decrease in width will necessitate carrying the vent tube, air, water and electric lines overhead. The new drift dimensions will not affect the volume of rock removed per foot of advance. A considerable amount of new rock bolting was necessary from the 9500 to 10,000 coordinates in an area originally supported by a pattern of bolts. The Operators expect more efficient roof support with fewer bolts by using random bolts where needed instead of a pattern of bolts, especially with an arched roof.

Mucking time has been decreased somewhat by moving the car transfer station from the 9600 drill station to the 10,000 drill station.

Plans are being made for the work to go on a two-shift basis as soon as a second set of Edison batteries for the locomotive is received. They were shipped from the east coast by boat this week and are expected

to arrive late in August. In the meantime, drilling from the undersized 9600 drill station will be done during the second shift so that interference with muck trains will be avoided and the drilling completed before double shifting starts. Drilling from the other stations will not interfere with the passage of trains.

The present ventilation system, barely adequate for one shift though it could be improved by resealing some of the vent tube joints, will be strengthened by the installation of a ventilator fan near the 8800 coordinate.

According to Mr. Roper, resident manager, work on the 2500 level will start as soon as they are able to assemble the necessary men and equipment and prepare the working face.

John R. McWilliams

John R. McWilliams

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

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1954 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ 219,400.00 Government Participation: 50 % Amount, $ 109,750.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						Approved Betty
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Sta.	$ 490.00	$ 300.00	$ 790.00	490.00	300.00	790.00
(2) Labor and Supervision:						
Labor	1,838.64	5,773.44	7,612.08	1838.64	5773.44	7612.08
Supervision	71.99	260.39	332.38	71.99	260.39	332.38
Technical Services	94.26	345.29	439.55	94.26	345.29	439.55
(3) Operating Mat'ls. and Supplies:						
Timber	180.18	337.59	517.77	180.18	337.59	517.77
Explosives	410.51	2,086.15	2,496.66	410.51	2086.15	2496.66
Pipe	7.68	858.66	866.34	7.68	858.66	866.34
Track	-	670.56	670.56	-0-	670.56	670.56
Drill Steel and Bits	160.30	1,144.68	1,304.98	160.30	1144.68	1304.98
Electric Cable-Inst'n	30.30	2.47	32.77	30.30	2.47	32.77
Vent Pipe - Inst'n	3.10	3.08	6.18	3.10	3.08	6.18
(4) Operating Equipment:						
Rental						
Purchase	824.40	10,141.84	10,966.24	794.30	9787.12	10581.42
Depreciation	54.00	351.75	405.75	54.00	351.75	405.75
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	99.66	623.70	723.36	99.66	623.70	723.36
Sampling and Analysis	-	8.20	8.20	-0-	8.20	8.20
Payroll Taxes	27.89	301.82	329.71	27.89	301.82	329.71
Liability Insurance	64.94	229.15	294.09	64.94	229.15	294.09
Tramming	123.12	801.99	925.11	123.12	801.99	925.11
Compressed Air	22.88	750.28	773.16	22.88	750.28	773.16
~~(8) Miscellaneous (specify)~~:						
Miners' Lamps	9.06	24.16	33.22	9.06	24.16	33.22
Handling Supplies	29.02	189.01	218.03	29.02	189.01	218.03
TOTALS	$ 4,541.93	$ 25,204.21	$ 29,746.14	4511.83	24849.49	29361.30

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

Date 7/12/54 *Payee Howe Sound Company

Per [signature] Title Vice Pres.

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

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

(Instructions on reverse)

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

$ 2255.91

Signature [signature]
(Authorized Certifying Officer)

Date 7/20/54 Vou. No. 1218
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature 19 John R McWilliams Title Mining Engr Date 7/14/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 151 Stephen W Zoldok Title Mining Eng Date 7/14/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form [illegible]-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 195 4 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	Unit	Costs This Month	Units This Month	Costs to Date	Units to Date	Unit Costs to Date	Authorized by Contract: Units	Authorized by Contract: Unit Costs
Drifting	Feet	$5,227.55	72	$ 17,989.90	541	$ 33.25	4100	
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Sta.	Each	490.00	1	790.00	2	395.00	10	$ 490.00
Total Distributed Costs								Total Costs Authorized by Contract
Operating Equipment Purchased		824.40		10,966.24				31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		$6,541.95		$ 29,746.14				

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

Date 7/10/54 Operator Howe Sound Company

Per [signature] Title Vice Pres

Remarks:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 872894

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

Gentlemen:

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

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of June, 1954.

The 1500 drift east was advanced 72 feet from U.S.B.M. No. 392 #479 to #551 feet. A diamond drill station was cut at the 10,000 coordinate to depths of 9 and 10 feet into the south and north ribs, respectively, of the drift.

The drift was driven in diorite.

One Hundred twenty-four rock bolts were installed to stabilize the back in the last 450 feet of the drift. A considerable part of this interval already had some rock bolts in it.

One set of timber was installed in the drift in a faulted area at about the 8700 coordinate.

The monorail, which is used in the dumping of the 30-cubic foot cars at the collar of the exploration drift, was lengthened by the addition of a 14-foot section.

New electric cable was installed in the 1500 haulage drift from the 283 winze station eastward to beyond the 6300 coordinate.

About one cubic yard of concrete was placed on the floor of the diamond drill station at the 9700 coordinate to make a suitable place for the installation of transformers.

Other miscellaneous information appears in the table below:

Drift Advance	-	72 feet
Rounds blasted in drift	-	12
Advance per round	-	6.0 feet
Drift advance since February 1, 1954	-	541 feet
Average distance of tram to drift collar	-	3,303 feet
Number rock bolts used	-	124

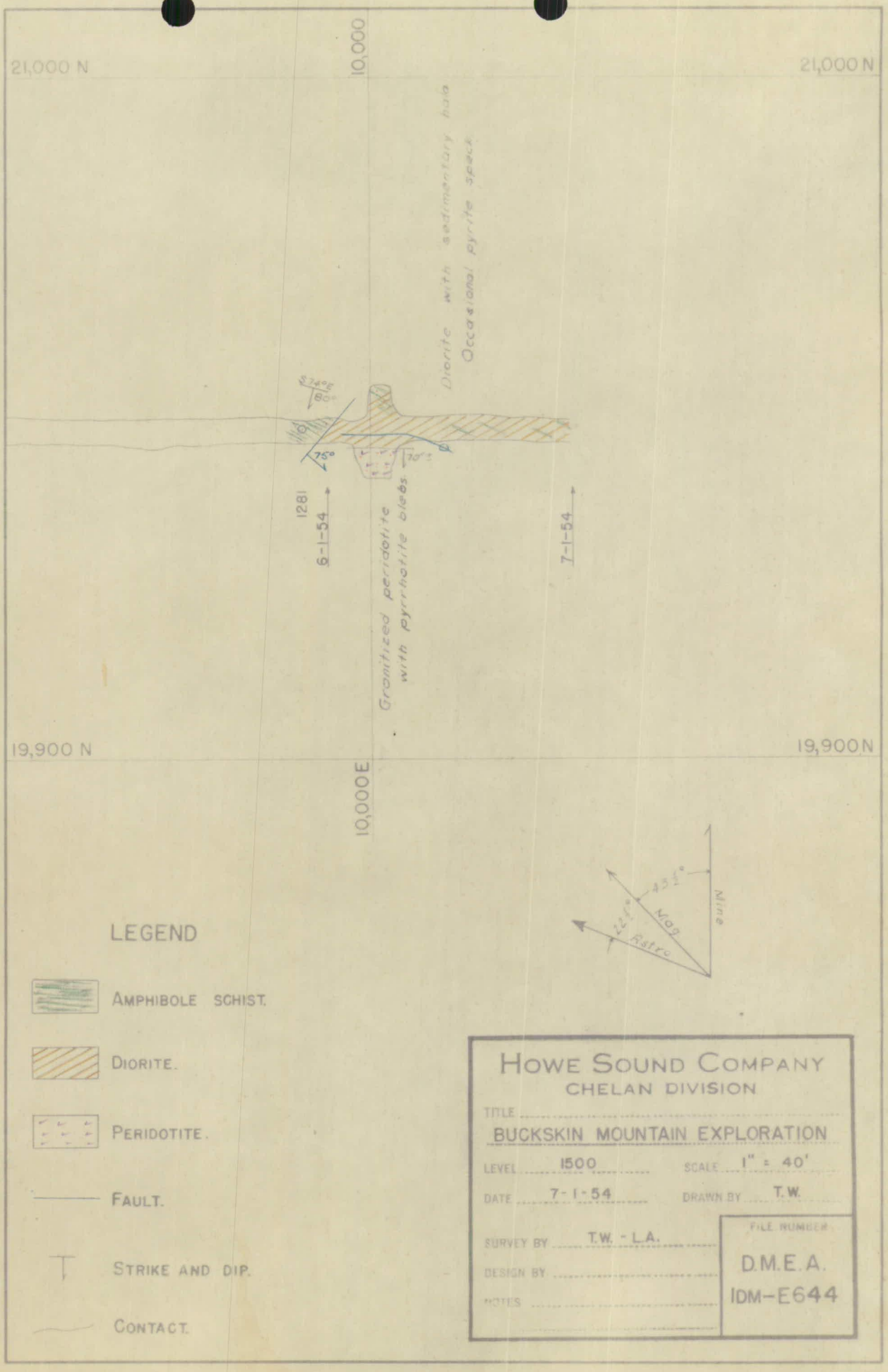
Survey and geologic maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mel

Enclosures


21,000 N
10,000
21,000 N
Diorite with sedimentary bits
Occasional pyrite specks
S74°E
80°
75°
70°
1281
6-1-54
7-1-54
Granitized peridotite
with pyrrhotite blebs
19,900 N
19,900 N
10,000E
45½°
22½°
Mag
Astro
Mine
LEGEND
AMPHIBOLE SCHIST.
DIORITE.
PERIDOTITE.
FAULT.
STRIKE AND DIP.
CONTACT.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 40'
DATE 7-1-54
DRAWN BY T.W.
SURVEY BY T.W. - L.A.
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
REGION II

Administrative Audit Difference Statement

Date: July 21, 1954

Payee's
Reference: Contract Idm-E644
Howe Sound Company, Operating
Report for June 1954.

DMEA Field Team, Region II
Spokane, Washington

Upon examination of the above Payee's Reference a difference was found which made it necessary to suspend their account accordingly:

Amount Claimed	$ $4,541.93
Difference	$ 30.10
Amount Approved	4,511.83

The reason for the difference was:

The operator claimed $630.10 for Messenger Cable, cable rings and freight. This is $30.10 in excess of the amount allowed by the contract for this item and $30.10 has been deleted.

Any reclaim for deductions made above must be supported by a copy of this form.

DMEA Certifying Officer, Region II

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

June 30, 1954

Memorandum

To: DMEA Field Team, Region II

From: Dwight F. Crowder, Geologist, U. S. Geological Survey

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

The second routine inspection of DMEA work at the Holden mine was made Wednesday, June 30. I was accompanied by Rowland W. Tabor, Geological Survey, and Mr. Tom Wilson, geologist for the Holden mine.

The heading on June 30 was 540.6 feet from USBM 392 or Mine Survey point 1275. This represents a total advance under DMEA contract of 530.3 feet (from the beginning point of DMEA work at USBM 392 plus 10.3 feet) and an advance of 411.3 feet since the first routine inspection on March 3, 1954, by Willard P. Puffett, geologist, Geological Survey.

The first 80 feet of DMEA work beyond the face location of Puffett's inspection on March 3, 1954, is in fine-grained gray rock containing hornblende and reddish biotite. This diorite is the same as described by Puffett and at Mine Survey point 1279 it grades through about 20 feet into a light gray schistose amphibole gneiss also described by Puffett. These two rocks here and elsewhere in the mine are cut by anastomosing dikes and sills of a foliated biotite quartz diorite of fine to medium grain. These dikes and sills show many features indicating a replacement origin--extreme irregularity of contacts; and relict streaks of mafics that crosscut the dike and are parallel to the foliation or banding of the enclosing gneisses. Some of these quartz diorites appear intrusive; however, only the most prominent of these dikes are shown on the map. The gray diorite and gneiss and the anastomosing dikes constitute a complex migmatite which is quite characteristic of large sections of the Holden mine and of Buckskin Mountain.

Migmatites continue to Mine Survey point 1280 + 20' and consist mainly of gray amphibole schist except for a short section of gray diorite at 1279 + 40 feet. Beyond this area of diorite, the schist contains considerable reddish biotite.

At 1280 + 20 feet is a flat (15° - 25°) contact with a basic rock which company geologists call peridotite, which continues to 1280 + 77 feet. This is the first time the DMEA drift has crossed the basic rock with which the nickel in the Holden mine and on Buckskin Mountain is probably associated. Here the rock is highly sheared and contains considerable talc, chlorite, and some biotite and perhaps serpentine minerals. No sulfides were seen and no pyroxene or olivine was noted so I would not call the rock anything but a sheared and altered basic rock. Contacts with the migmatite diorite and gneiss seem sharp and probably intrusive. The biotite quartz diorite dikes in the migmatite cut the basic rock indicating a time sequence of (1) gray diorite and gneiss, (2) basic rock, and (3) quartz diorite replacement and intrusion.

Migmatites continue from 1280 + 77 feet to the face with minor features being some small pods of marble with red garnets near 1280 + 150 feet suggesting sedimentary origin. Pyrite occurs as disseminations and tiny stringers at + 190 feet. Two small exposures of the basic intrusive are also present. At 1280 + 120 feet on the north (mine) side of the drift the basic rock contains considerable plagioclase, some biotite and 30-50 percent pyrrhotite which assays 0.30 percent copper; 0.05 ounces silver; trace gold; nil zinc; 0.82 percent nickel. At 1287 + 20 on the south side of the drift, the basic hornblende rock contains splotchy areas of plagioclase suggesting metasomatism. From what I have seen elsewhere, however, this may represent the original texture of an extremely heterogeneous gabbroid intrusion.

The drift has been turned slightly to the south to bring it parallel to the probable projection of the Holden ore zone. Two diamond drill stations have been prepared and the first drilling under DMEA contract is expected to begin in about two weeks from the station at the 9,600 E. coordinate.

The accompanying map was largely copied from the one prepared by company geologists and was checked by me.

Attachments - 2

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

Form MF-104 (Rev.)
(April 1953)

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May 1954 Docket No. DMEA 3142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ 219,400.00 Government Participation: 50% Amount, $ 109,750.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						Guaranteed Billy
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Station		$ 300.00	$ 300.00			
(2) Labor and Supervision:						
Labor	$1,512.68	4,260.76	5,773.44	1512.68		
Supervision	67.34	193.05	260.39	67.34		
Technical Services	72.31	272.98	345.29	72.31		
(3) Operating Mat'ls. and Supplies:						
Timber	57.11	280.48	337.59	57.11		
Explosives	607.76	1,478.39	2,086.15	607.76		
Pipe	254.28	604.38	858.66	254.28		
Track	271.96	398.60	670.56	271.96		
Drill Steel & Bits	281.56	863.12	1,144.68	281.56		
Elect. Cable Inst'n	-	2.47	2.47			
Vent. Pipe Installation	1.55	1.53	3.08	1.55		
(4) Operating Equipment:						
Rental	5,489.72	4,652.12	10,141.84	5135.00		
Purchase	98.25	253.50	351.75	98.25		
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	86.62	537.08	623.70	86.62		
Sampling and Analysis	5.00	3.20	8.20	5.00		
Payroll Taxes	65.48	236.34	301.82	65.48		
Liability Insurance	60.34	168.81	229.15	60.34		
Tramming	224.01	577.98	801.99	224.01		
Compressed Air	33.96	716.32	750.28	33.96		
(8) Contingencies (specify):						
Miners' Lamps	6.04	18.12	24.16	6.04		
Handling Supplies	52.79	136.22	189.01	52.79		
TOTALS	$ 9,248.76	$ 15,955.45	$ 25,204.21	8894.04	15955.45	24849.49

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

Date JUN 11 1954 *Payee Howe Sound Company

Per [signature] Title Vice President

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

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

(Instructions on reverse)

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

$ 4447 02

Signature [signature]
(Authorized Certifying Officer)

Date 6/23/54 Vou. No. 1197
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature /S/ Stephen W. Zoldok Title Mining Engr Date 6/15/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W. Zoldok Title Mining Engr Date 6/15/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form No. F-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

JUN 28 1954

Month of May 1954 Docket No. DMEA 5142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	$5,759.04	181	$ 14,762.37	469	$ 31.48	4100	
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Station	Each			500.00	1	500.00	10	$ 490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		5,489.72		10,141.84				$ 31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$9,248.76		$ 25,204.21				

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

JUN 11 1954
Date ..... Operator Howe Sound Company
Per ..... Title Vice President

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

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

Gentlemen:

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

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of May, 1954.

The 1500 drift east was advanced 131 feet from U.S.B.M. #392 +348 to +479 feet.

The heading was driven mainly in amphibole biotite schists, some of which showed slight mineralization.

Rock bolts were used to hold the back in part of the new advance. These bolts were put in with wooden head boards and without pattern.

A new battery, made up of 77 A6 cells, was put into service on the 4-ton locomotive. With this battery a loaded train of ten 30-cubic foot cars are handled, and as a result about an hour of overtime is saved per day by each of the two crew members.

Below is a tabulation of data relevant to the work performed:

Advance	- 131 feet
Rounds blasted	- 22
Advance per round	- 6.0 feet
Total advance since February 1, 1954	- 469 feet
Average distance of tram to drift collar	-3,231 feet
Number rock bolts used	- 30

Survey and geologic maps are appended to this report.

Yours very truly,

J. S. Roper
Manager

JSR:mel

Enclosures

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

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

Defense Minerals Administration
RECEIVED
MAY 20 1954

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of April, 1954 Docket No. DMEA 3142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ 219,400.00 Government Participation: 50 % Amount, $ 109,750.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						Approved Betty
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Station		$ 300.00	$ 300.00			
(2) Labor and Supervision:						
Labor	$1,391.51	2,869.25	4,260.76			
Supervision	66.05	127.00	193.05			
Technical Services	127.43	145.55	272.98			
(3) Operating Mat'ls. and Supplies:						
Timber	-	280.48	280.48			
Explosives	538.17	940.22	1,478.39			
Pipe	166.62	437.76	604.38			
Track	43.35	355.25	398.60			
Drill Steel & Bits	272.14	590.98	863.12			
Elect. Cable Install'n	-	2.47	2.47			
Vent. Pipe Install'n	1.53	-	1.53			
(4) Operating Equipment:						
Rental						
Purchase	137.45	4,514.67	4,652.12			
Depreciation	79.50	174.00	253.50			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	190.97	346.11	537.08			
Sampling and Analysis	-	3.20	3.20			
Payroll Taxes	79.25	157.09	236.34			
Liability Insurance	54.12	114.69	168.81			
Tramming	181.26	396.72	577.98			
Compressed Air	29.75	686.57	716.32			
~~(8) Contingencies (specify):~~						
Miners' Lamps	6.04	12.08	18.12			
Handling Supplies	42.72	93.50	136.22			
TOTALS	$3,407.86	$ 12,547.59	$ 15,955.45	3407.86	12547.59	15955.45

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

Date May 6, 1954 *Payee Howe Sound Company

By [signature] Title Vice President

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

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

(Instructions on reverse)

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

$ 1703 93

Signature [signature] (Authorized Certifying Officer)

Date 5/14/54 Vou. No. 1160

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E644 in accordance with the terms of the contract.

Signature /S/ Stephen W Zoldok Title Mining Eng Date 5/12/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Eng Date 5/12/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1954 Docket No. DMEA 3142 Contract No. ldm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	3,270.41	106	11,003.33	338	32.55	4,100	
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Station	Each			300.00	1	300.00	10	490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		137.45		4,652.12				31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		3,407.86		15,955.45				

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

Date May 6, 1954 Operator Howe Sound Company

Per [signature] Title Vice President

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 20 1954

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

Gentlemen:

Re: Docket No. DMEA 3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. ldm-E844

The following is a narrative of the Buckskin Mountain exploration work accomplished during the month of April, 1954.

The 1500 drift east was advanced 106 feet from U.S.B.M. No. 392 +242 to +348 feet. At U.S.B.M. No. 392 +274 feet the heading was turned from N.77°E. to due east (mine bearing).

The advance was made in biotite schist and in peridotite. Excessive sloughing from the back slowed progress during the first three weeks of the month.

It was necessary to reblast two rounds in which powder in one or more holes had failed to detonate in the initial blasts.

Below are data regarding the work performed:

Advance	106 feet
Rounds blasted (excluding reblasts)	19
Advance per round	5.6
Average distance of tram to collar of drift	3,100 feet
Rock bolts used	none

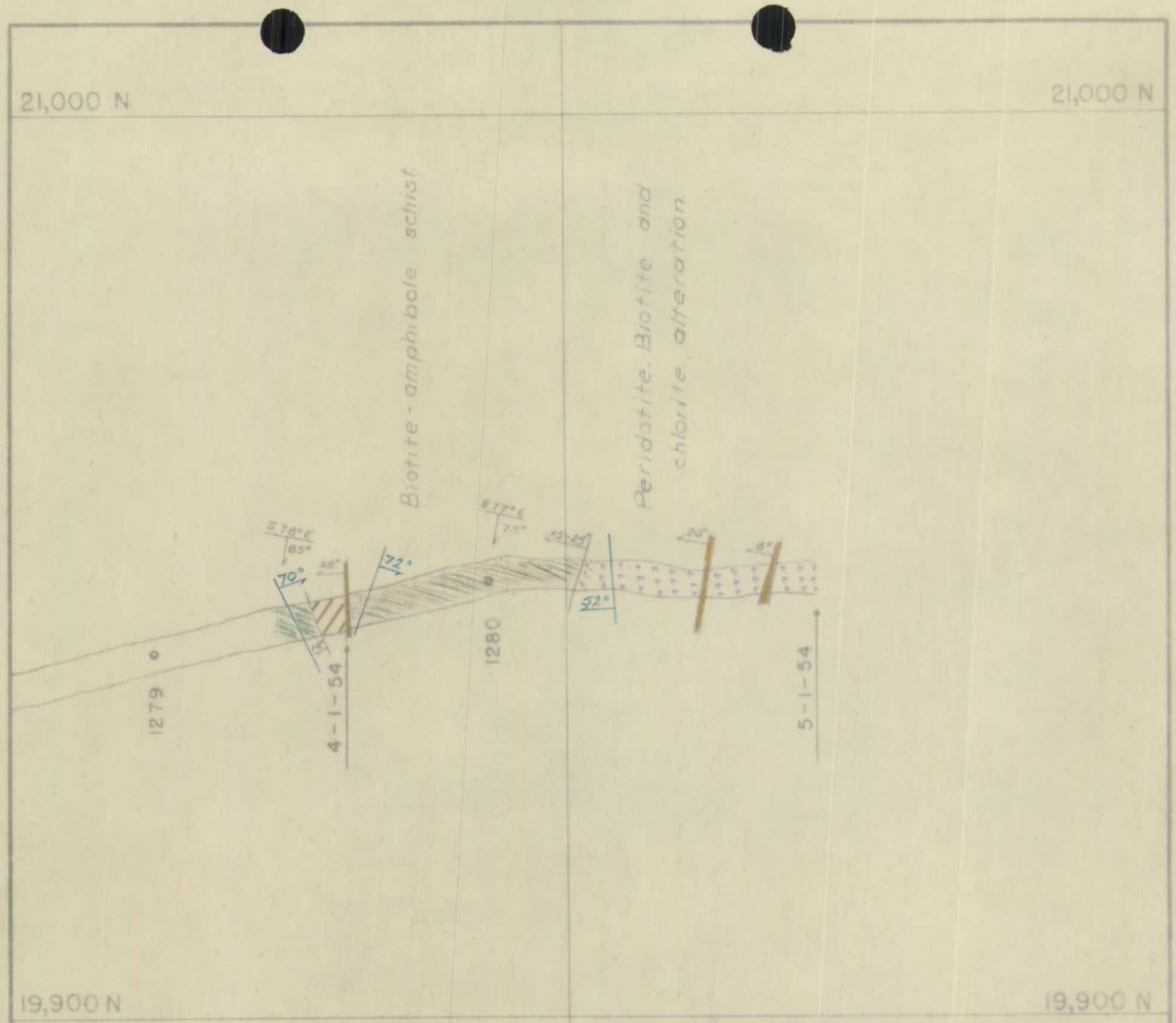
Survey and geologic maps are appended to this report.

Yours very truly,

John J. Curzon

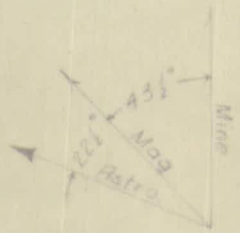
John J. Curzon
Manager

JMN:mel



LEGEND

- Biotite schist.
- Amphibole gneiss.
- Late diorite dikes.
- Diorite.
- Peridotite.
- Fault.
- Strike and dip.
- Contact.



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

DATE: 5-1-54 DRAWN BY: T.W.

SURVEY BY: T.W.

DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E644

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

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Defense Minerals Administration
RECEIVED
APR 29 1954

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1954 Docket No. DMEA 3142 Contract No. Idm-E844
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington
Contract Amount, $ 219,410.00 Government Participation: 50 % Amount, $ 109,705.00

ITEMS OF COSTS	FOR OPERATOR'S USE			FOR GOVERNMENT USE ONLY		
	Monthly Total	Totals Previously Reported	Totals To Date	Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						Griswold Billy
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Diamond Drill Station	300.00	$ -	$ 300.00			
(2) Labor and Supervision:						
Labor	1,586.42	1,282.83	2,869.25			
Supervision	59.55	67.45	127.00			
Technical Services	107.43	38.12	145.55			
(3) Operating Mat'ls. and Supplies:						
Timber	129.44	151.04	280.48			
Explosives	524.59	415.63	940.22			
Pipe	21.16	416.60	437.76			
Track	4.33	350.92	355.25			
Drill Steel and Bits	246.22	344.76	590.98			
Elect. Cable Install'n	2.47	-	2.47			
(4) Operating Equipment:						
Rental						
Purchase	4,514.67	-	4,514.67			
Depreciation	93.75	80.25	174.00			
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	84.75	261.36	346.11			
Sampling and Analysis	-	3.20	3.20			
Payroll Taxes	87.67	69.42	157.09			
Liability Insurance	60.98	53.71	114.69			
Tramming	213.75	182.97	396.72			
Compressed Air	264.07	422.50	686.57			
(8) Contingencies (specify):						
Miners' Lamps	6.04	6.04	12.08			
Handling Supplies	50.38	43.12	93.50			
TOTALS	$8,357.67	$ 4,189.92	$ 12,547.59	8357.67	4189.92	12547.59

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

Date 4/14/54 *Payee Howe Sound Company

Per [signature] Title Vice President

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

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

(Instructions on reverse)

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

$ 4178.83

Signature [signature]
(Authorized Certifying Officer)

Date 4/23/54 Vou. No. 1143
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature /S/ John R McWilliams Title Mining Engr Date 4/19/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature /S/ Stephen W Zoldok Title Mining Engr Date 4/19/54

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form ME-104A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1954 Docket No. DMEA 3142 Contract No. Idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT Units	AUTHORIZED BY CONTRACT Unit Costs
Drifting	Feet	$5,543.00	125	$ 7,752.92	232	$ 33.33	4,100	
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Diamond Drill Station	Each	300.00	1	300.00	1	300.00	10	$ 490.00
TOTAL DISTRIBUTED COSTS								TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased		$4,514.67		$ 4,514.67				$ 31,607.01
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$8,357.67		$ 12,547.59				

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

Date 4/14/54 Operator Howe Sound Company

Per [signature] Title Vice President

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
APR 29 1954

Gentlemen:

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

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of March, 1954:

The 1500 drift east was advanced 125 feet from U.S.B.M. #392 +117 to +242 feet. A diamond drill station was cut to a depth of 4 feet in each rib of the drift at the 9600 coordinate.

The heading was driven in diorite and in amphibole gneiss.

Rock bolts were installed to support the back to #392 +142 feet.

A 4-ton battery locomotive and a 7.5 KW battery charger, which were recently purchased, were put into service in the drift. The 80 A5 batteries which are being used temporarily in the locomotive, are adequate for only one 6-car trip from the face without recharging, so a 1 1/2-ton locomotive is also used to tram cars to the 1500 haulage drift.

The Canton-type car transfer was moved to the drill station at the 9600 coordinate allowing the trains of loaded cars to be made up at this point.

Below is a tabulation of data regarding the work performed:

Advance	-	125 feet
Rounds blasted (excluding drill station)	-	20
Advance per round	-	6.25
Average distance of tram to collar of drift	-	2,984 feet
No. rock bolts used	-	47

Survey and geologic maps are appended to this report.

Yours very truly,

John J. Curzon

John J. Curzon
Manager

JJC:mel

Enclosures

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

March 8, 1954

Memorandum

To: Field Team, Region II

From: Willard P. Puffett, Geologist, U. S. Geological Survey

Subject: Routine inspection, Docket No. DMEA 3142 (copper)
Howe Sound Company, Inc., Holden Mine, Chelan Co., Washington
Contract No. Idm-E644

A routine inspection of DMEA work at the Holden mine was made Wednesday and Thursday, March 3 and 4. I was accompanied by Fred W. Cater, Jr., U. S. Geological Survey and John McWilliams, U. S. Bureau of Mines. This marks the first inspection of DMEA work by Survey personnel.

Mr. Tom Wilson, geologist for the Holden mine, accompanied us underground to the DMEA heading. This heading had been advanced 129.3 feet beyond USBM marker no. 392, or Mine Survey point 1275. The beginning point of DMEA work was U. S. Bureau of Mines marker no. 392, plus 10.3 feet. Thus, total work completed under the contract as of March 3, amounted to 119 feet. The heading is being advanced on a one-shift per day basis.

The first 70 feet of the DMEA work intersected light gray schistose amphibole gneiss. After 70 feet this rock becomes less gneissic and is locally termed a diorite. The gradational contact between the two rock types dips very flatly to the west and strikes in a general northwest direction. In the hanging wall of this contact are a few light green to gray marble lenses in which occur scattered light pink garnets (grossularite). The marble exhibits very definite narrow banding, probably original bedding, and the garnets are aligned parallel to these bands. Some epidote occurs near the garnets.

The diorite is a massive, relatively fine-grained dark gray rock, containing much hornblende and some fine-grained reddish biotite. Near the face this rock contains sparsely disseminated fine-grained pyrite. There are some evidences of relict banding which may represent bedding. It is the general opinion of the geologists at the mine that this diorite represents a granitized sediment. In the lower right-hand corner of the face a lens of marble is exposed. This marble is very similar in respect to the small marble lenses found in the hanging wall of the diorite. The contact between this marble and the diorite is very uneven and can probably be termed a replacement contact, although the banding so evident in the limestone cannot be traced into the dioritic rock.

As shown on the accompanying geologic map, which has for the most part been copied from the map prepared by company geologists, the DMEA drift has intersected a few sills and dikes of more granitic characteristics. The mine term for this type of rock is granite, but actually it can be more correctly termed a quartz diorite. This rock appears to be more typically igneous in character and is believed to represent a late intrusion. Near the face there is a steeply dipping, dark-brown fine-grained lamprophyre dike cutting at nearly right angles to the foliation. A few thin faults have offset this dike locally, the average displacement being 3 to 4 inches.

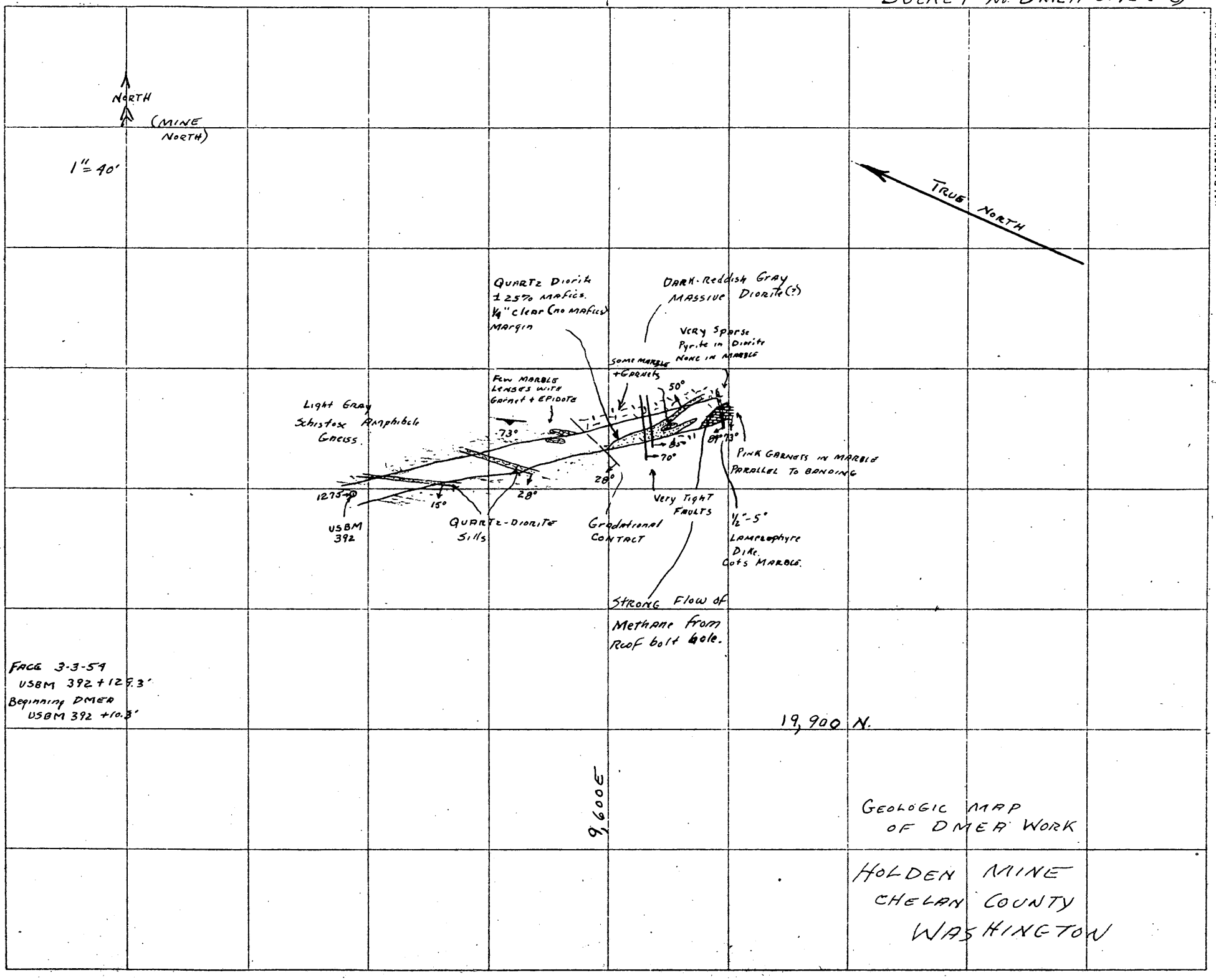
It has been necessary to install roof bolts in the DMEA drift. On the day of the inspection a roof bolt hole being drilled near the face intersected a strong flow of methane gas. Apparently it is not uncommon for drill holes in the mine to intersect concentrations of this type gas.

As shown on the accompanying map, the DMEA work is being extended in a direction slightly north of east (mine co-ordinates). The main Holden ore body strikes generally east-west. Diamond drilling completed previous to DMEA work has indicated that the limestone band generally found on the footwall of the main ore zone occurs some 200 feet to the north of the DMEA drifting. Thus, the DMEA work is gradually crosscutting the eastern area of projection along strike of the main mineralized zone and presumably will be turned to a more easterly bearing after advancing a few more hundred feet. It is not anticipated that the downward projection of the mineralized zone on Buckskin Mountain will be intersected until at least 700 feet of drift under DMEA contract has been driven. At the current rate of advance, it will be late summer before this much work has been completed. Diamond drilling as specified in the contract is to be started sometime in April.

Inasmuch as the DMEA work being completed at the mine is being mapped very carefully by company geologists, it is probable that it will not be necessary for DMEA personnel to plan routine examination inspections at intervals of less than two months. Should unforeseen circumstances take place, Mr. Wilson stated he would notify us and we could then make a special trip, if necessary.

Enclosure

Distribution:
DMEA (orig & 3)
USBM (2)
Docket
Puffett



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

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

1201 N. Division St.
Spokane 2, Washington
March 8, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

A routine examination of the subject property was made March 3 and 4, 1954, in company with Willard Puffett and Fred C. Cater, both of the U. S. Geological Survey. Tom Wilson, Bob Paasche, Mel Newman, and Andy Anderson, staff members of the Howe Sound Company, accompanied the DMEA group during the examination and were very helpful in providing pertinent information.

Work on the DMEA contract started on schedule, on February 1, and during the month advanced the DMEA heading (1500 drift east) 107 feet. As of March 3, the face stood at USBM #392 plus 129.3 feet. The present working force consists of two men working one shift a day plus overtime. They average 5 rounds per 6-day week and advance the 7'x7' heading about 6½ feet per round. One round per day is expected when the newly purchased Mancha Mule is placed in service. The work is being carried on in a workmanlike manner by competent personnel.

The usual daily work sequence is muck, rock bolt, drill, and blast. Each phase will be treated separately in the normal order.

Drilling

Drilling is done with Gardner-Denver 89 - 3½" drifters mounted on a twin boom Joy hydro-jib jumbo. The jumbo carriage can feed 9-ft. steel, but at present 7-foot holes are being drilled with 7-ft. steel and tungsten carbide bits. Drill water is collected from several up diamond drill holes near the transfer station and pumped to the working face.

Blasting

A 34-hole burn cut round is used. It is loaded with 2 boxes of No. 1 Geladyne (60%) plus 32 primers with electric delay caps. Each round pulls about 6½ feet. All blasting is done at the end of the shift to allow dust and fumes to be exhausted during the night.

Muck Disposal

Muck is loaded by a Gardner-Denver #9 mucking machine into 1½-ton side-dump cars, then trammed to the transfer station where it is dumped into 5-ton cars waiting on the main haulage level. The regular mine train picks up the larger cars in strings of 5 or 6 and trams them 3860 feet to the portal and outside to the dump. The transfer station is 2805 feet from USBM #392.

A battery-operated 1½-ton Mancha Mule is presently being used in the DMEA drift. The machine, however, is not large enough to remove all the muck from one round on a single battery; therefore, a spare battery is kept on hand to keep the locomotive operating. Replacement of the present equipment with a larger unit will eliminate time lost in changing batteries. The larger Mancha Mule, an AN Titan purchased in a used condition from the Western Machinery Company, is on the premises undergoing overhaul. It will be placed in service as soon as possible. The heavy duty batteries ordered with the unit will be delivered in about six weeks, and pending their arrival the two small batteries now in use will be connected in parallel to power the Titan.

Rock Bolting

In the past, rock bolting has been deferred until weak ground was encountered and then bolting was carried up to the face in rows of three bolts, on 5-foot centers. This pattern did not allow sufficient support so it was changed to four 5-foot bolts per row on 4-foot centers, installed immediately after the advance of the face. Another innovation is the use of steel washers instead of the old wooden headboards. All rock bolts are manufactured on the premises using 5' x 5/8" rod with a burned slot. Washers and wedges are of 3/8" or 1/2" scrap plate.

Transfer Station

Because the levels in the mine are numbered from the original tunnel high above the present workings, the main shaft station, haulage way, portal, dumps and mill are all on the 1500 level. The 1500 drift east was originally driven as a 10'x10' heading, the same size as the main haulage drift. Subsequently, when the drift dimensions were decreased to the 7'x7' size used in utility tunnels throughout the mine, a difference in elevation of about 4 feet remained between the floors of the tunnel. The transfer station built at this point was designed so that loaded cars from the small tunnel could be spotted on a trestle directly over larger cars on the main level and side-dumped. The station can handle three 5-ton cars at one time on the lower level. The cars are dumped by a ½-ton air hoist, though it will eventually be replaced by an air ram now being reconditioned.

All equipment appears to be in good shape and is well maintained.

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

John R. McWilliams

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

Budget Bureau No. 42-R1036.4
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of February, 1954 Docket No. DMEA 3142 Contract No. Idm-E644

Operator's Name Howe Sound Company - Cholan Division Minerals Copper

Address Holden, Washington

Contract Amount, $ 219,410.00 Government Participation: 50 % Amount, $ 109,705.00

ITEMS OF COSTS	FOR OPERATOR'S USE: Monthly Total	Totals Previously Reported	Totals To Date	FOR GOVERNMENT USE ONLY: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals To Date
(1) Independent Short Form Contracts:						Approved Belly
Drilling						
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	$1,282.83					
Supervision	67.45					
Technical Services	38.12					
(3) Operating Mat'ls. and Supplies:						
Timber	151.04					
Explosives	415.63					
Pipe	416.60					
Track	350.92					
Drill Steel and Bits	344.76					
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation	80.25					
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment	261.36					
Sampling and Analysis	3.20					
Payroll Taxes	69.42					
Liability Insurance	55.71					
Tramming	162.97					
Compressed Air	422.50					
~~(8) Contingencies (specify):~~						
Miners' Lamps	6.04					
Handling Supplies	43.12					
TOTALS	$4,189.92			4,189.92		4,189.92

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

Date Mar. 22 1954 Payee Howe Sound Company

Per [signature] Title Vice President

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

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

(Instructions on reverse)

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

2094.96

$ 2094.96

Signature [signature] (Authorized Certifying Officer)

Date 4/1/54 Vou. No. 1128

(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. E 644 in accordance with the terms of the contract.

Signature 15 John R McWilliams Title Mining Engr Date 3/25/54

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature 151 Stephen W Zoldok Title Mining Engr Date 3/25/54

MONTHLY REPORT OF OPERATOR

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GPO 83-38476

Form DMEA-604A
(April 1952)

Budget Bureau No. 42-R1151.1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of February 1954 Docket No. DMEA 3142 Contract No. idm-E644
Operator's Name Howe Sound Company - Chelan Division Minerals Copper
Address Holden, Washington

OPERATION	UNIT	COSTS THIS MONTH	UNITS THIS MONTH	COSTS TO DATE	UNITS TO DATE	UNIT COSTS TO DATE	AUTHORIZED BY CONTRACT	
							Units	Unit Costs
Drifting	Feet	$4,189.92	107				4,100	
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		$4,189.92	107					TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS								

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

Date Mar. 22, 1954 Operator Howe Sound Company

Per [signature] Title Vice President

REMARKS:

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

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

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

Defense Minerals
1 2 1954

Re: Docket No. DMEA 3142 (Copper)
Howe Sound Company
Holden Mine
Chelan County, Washington
Contract No. IDM - E 644

Gentlemen:

The following is a narration of the Buckskin Mountain exploration work accomplished during the month of February, 1954:

DMEA work, which began on February 1, 1954, advanced the 1500 drift east 107 feet from U.S.B.M. # 392 + 10 to + 117 feet. A small amount of drilling was done toward cutting a diamond drill station at the 9,600 coordinate.

The heading was driven in amphibole gneiss containing marble streaks with garnet, all of which was cut by replacement diorite dikes.

As the heading advanced systematic rock bolting kept the back supported to within a very short distance of the face. Bolts used were of the split-pin type and were made in our shop. They were installed in rows of 4 across the back with 4-foot spacing between rows. At the start of the month rows of 3 with a 5-foot spacing were tried but this pattern did not adequately hold the rock.

In a normal day the 2-man crew completed a working cycle in an 8-hour shift with about 2 hours overtime. Their cycle was mucking out, rock bolting, drilling, and blasting. An incentive bonus schedule covered all these operations as well as installation of air, water and ventilation pipe when needed.

Tramming from the face was done by a 1 1/2-ton battery locomotive; a spare battery was required to accomplish a working cycle in one day. Trains of 3 cars were made up at the 455 crosscut south which is 450 westward from U.S.B.M. # 392. The muck broken by one round fills about 18 to 21 30-cubic foot cars. The broken rock is hauled to a transfer station which is some 2,805 westward from U.S.B.M. # 392. At the transfer station muck from the smaller cars is dumped with the aid of an air hoist, into 130 cubic foot cars which are parked in the 1500 haulage drift at a slightly lower horizon than the exploration heading. From this point it is about a 3,860 foot haul to the mine portal.

Below is tabulated a list of data regarding the work performed:

<u>Drilling Operation</u>

Drills used	- 3 1/2" drifters.
Jumbo	- 2 machine, hydraulic drill, jib with 10 feed.
Drill steel	- 1-inch, quarter octagon, carbon steel.
Drill bits	- 4 wings, 1 1/2", tungsten carbide, detachable.
No. holes in round	- 34.
Depth of holes	- 7 feet.
Type of round	- burn cut.

Blasting

Rounds in February	- 18
Advance per round	- 6.5 feet
Powder type	- 65% semi-gelatin
Cartridge size	- 1 1/4" x 8"
Cartridge per round	- 262 (About 114 pounds)

Mucking and Tramming

Muck cars	- 30 cubic foot, rocker dump
Trammer	- 1 1/2 battery trammer
Length of tram (in 30 cubic foot cars)	- about 2,900 feet
Cars of muck per round	- 18 to 21
Cars pulled per trip	- 3

Rock Bolting

Rock bolts	- 1" x 5' split pin type
No. bolts used	- 74
Washers on bolts	- 3/8" and 1/2" plate (No wooden head boards)

Miscellaneous

Size of heading	- 7' x 7'
Track gage	- 24"

Yours truly,

John J. Curzon

John J. Curzon
Manager

TELEPHONES, CIRCLE 7-5695-6-7

HOWE SOUND COMPANY

CHELAN DIVISION

HOLDEN, WASH.

NEW YORK OFFICE
730 FIFTH AVENUE

NEW YORK, March 22 1954

Mr. A. E. Weissenborn
Executive Officer - Region 2
D. M. E. A. Field Team
South 157 Howard
Spokane 4, Washington

RE: DOCKET NO. DMEA 3142
CONTRACT NO. IDM-E 644

Dear Mr. Weissenborn:

Enclosed please find five copies each of Forms 104 and 104A together with supporting data covering exploration work done at Holden during the month of February.

I am also enclosing original and one copy of our separate invoice for the actual amount due us. We will appreciate it if you will make payment to this office.

Yours sincerely

Vinton H. Clarke
Vice President

VHC:c
ccJJC

TELEPHONES, CIRCLE 7-5695-6-7

HOWE SOUND COMPANY

CHELAN DIVISION

HOLDEN, WASH.

NEW YORK OFFICE
730 FIFTH AVENUE

NEW YORK, March 22 1954

INVOICE
No. 1

Mr. A. E. Weissenborn
Executive Officer - Region 2
D. M. E. A. Field Team
South 157 Howard
Spokane 4, Washington

CONTRACT NO. IDM-E 644

Total Expense for work completed during February	$ 4,189.92
Government Participation 50%	2,094.96
DUE HOWE SOUND COMPANY-CHELAN DIVISION	2,094.96

Vinton H. Clarke - Vice President

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

1201 N. Division St.
Spokane 2, Washington
February 8, 1954

MEMORANDUM

To: DMEA Field Team, Region II

From: John R. McWilliams, Mining Engineer, Bureau of Mines

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

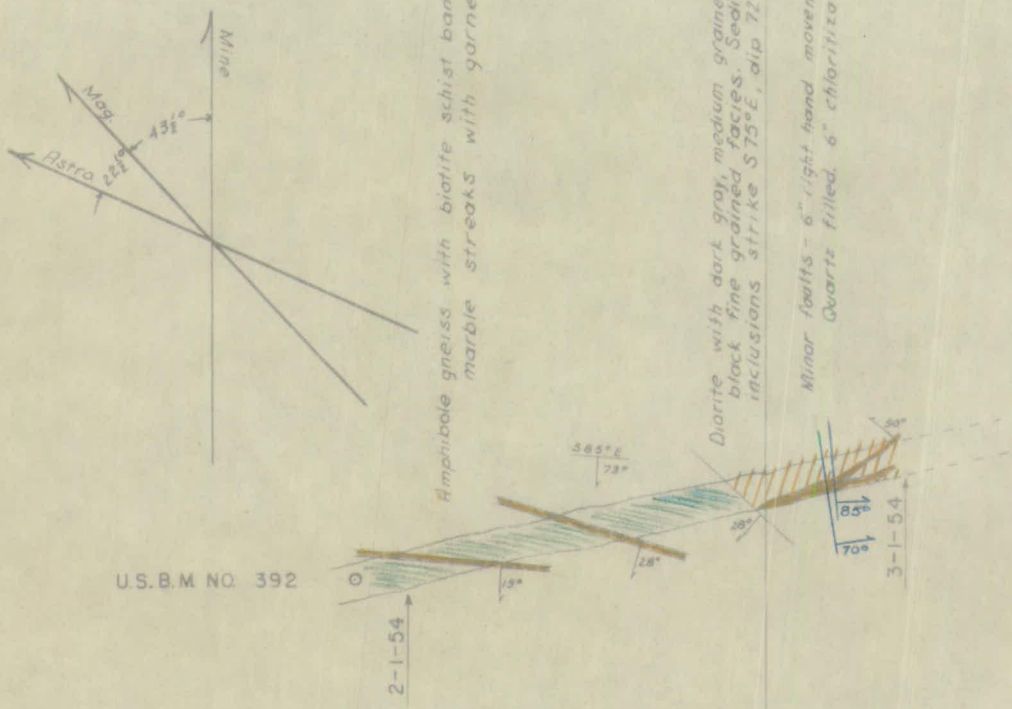
A preliminary inspection of the 1500-foot drift of the Holden mine was made January 27, 1954 in the company of Tom Wilson, resident geologist.

Work on the DMEA contract is scheduled to start February 1, and the inspection was made to set the initial bench mark from which to measure the DMEA portion of the drift. Bench mark USBM #392 was attached to a plugged drill hole in the back of the 1500-foot drift at a point 10.3 feet from the face. On company maps, USBM #392 corresponds to Station #1275 that was located by transit survey just prior to this inspection.

The Operator indicated that work would start on schedule.

John R. McWilliams

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



19,900 N

9600 E

LEGEND

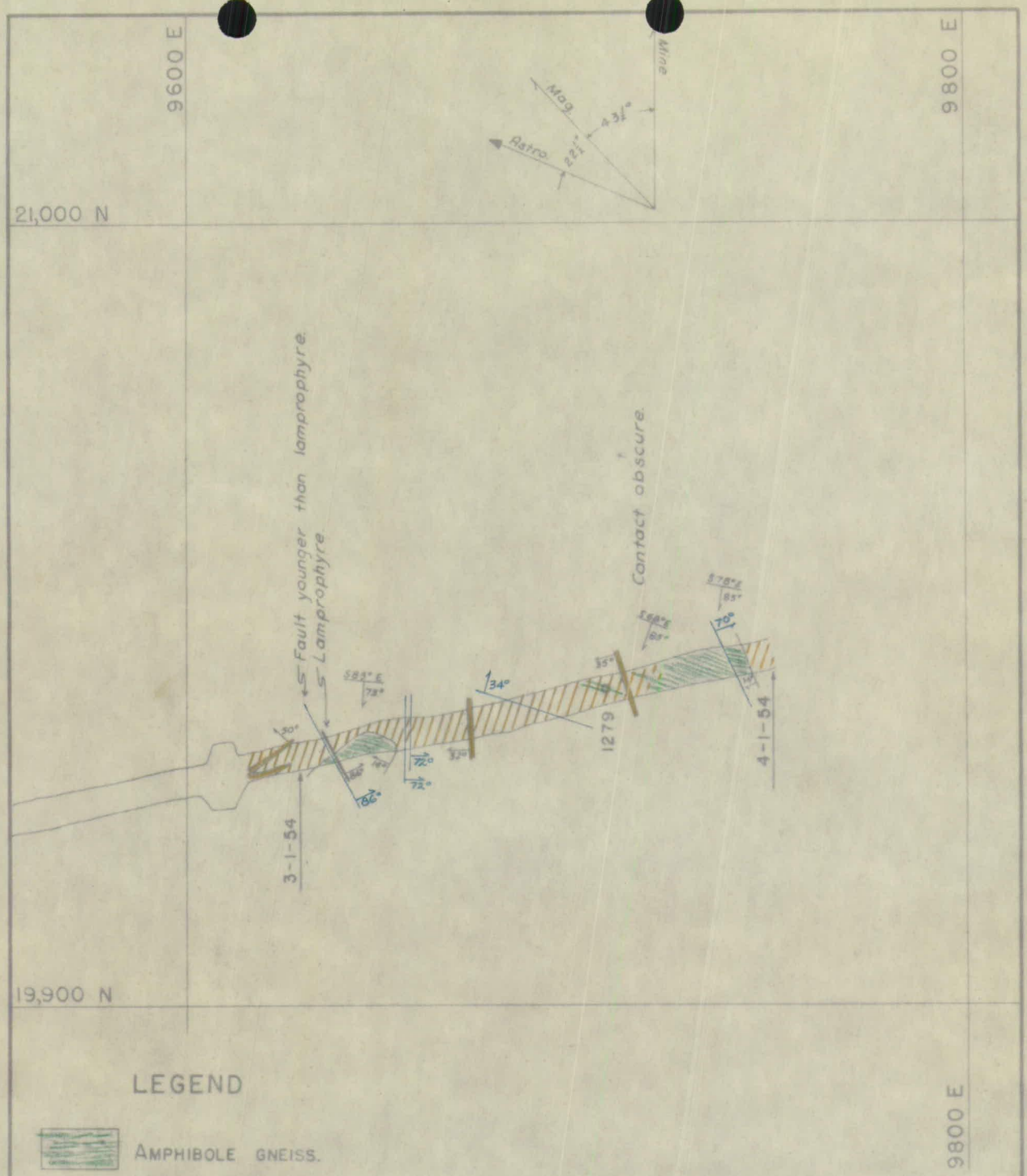
- Amphibole gneiss.
- Late diorite dikes.
- Diorite.
- Fault.
- Strike and dip.
- Contact.

HOWE SOUND COMPANY
CHELAN DIVISION

TITLE
BUCKSKIN MOUNTAIN EXPLORATION

LEVEL 1500 SCALE 1" = 40'
DATE 3-1-54 DRAWN BY T.W.
SURVEY BY T.W.
DESIGN BY
NOTES

FILE NUMBER
D.M.E.A
IDM-E644



LEGEND

- Amphibole gneiss.
- Late diorite dikes.
- Diorite.
- Fault.
- Strike and dip.
- Contact.

HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

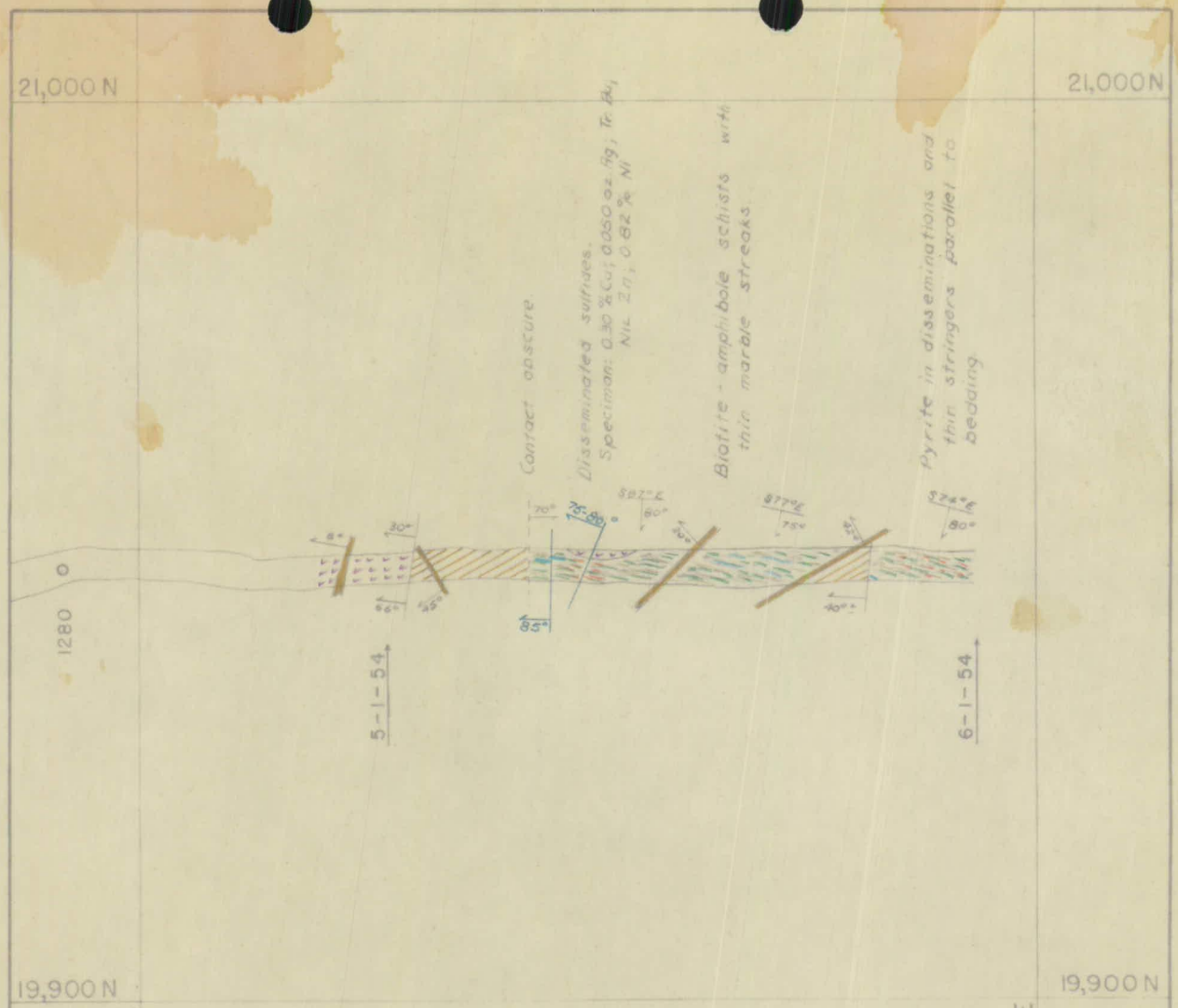
DATE: 4-1-54 DRAWN BY: T.W.

SURVEY BY: T.W., R.P.

DESIGN BY:

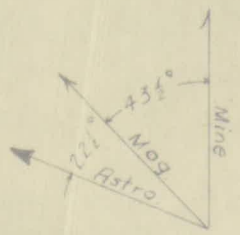
NOTES:

FILE NUMBER: D.M.E.A. IDM-E644



LEGEND

- Biotite schist.
- Amphibole schist.
- Late diorite dikes.
- Diorite.
- Peridotite.
- Fault.
- Strike and dip.
- Contact.



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

DATE: 6-1-54 DRAWN BY: T.W.

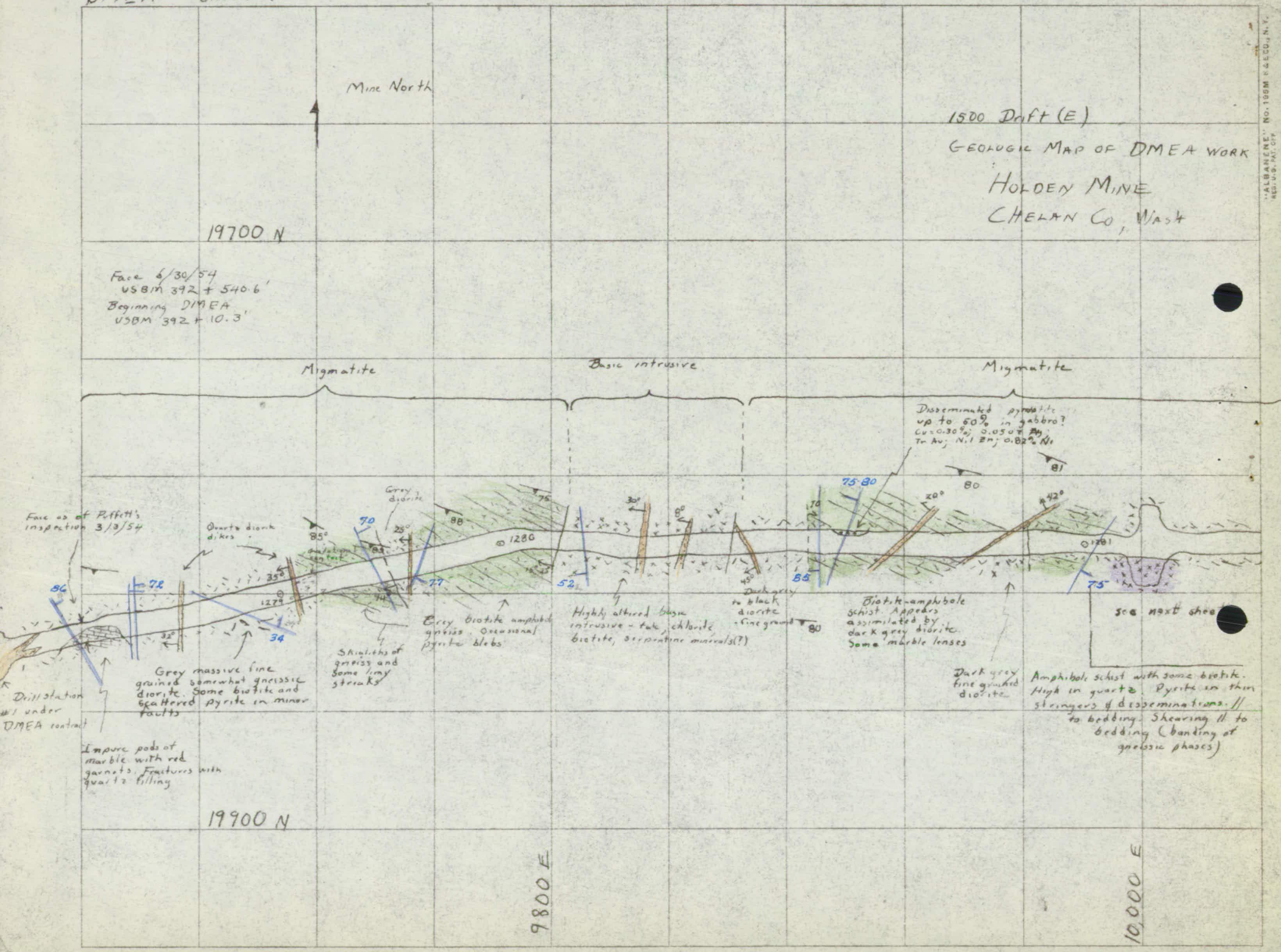
SURVEY BY: T.W.

DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E644

DMEA sheet 1


Mine North
1500 Drift (E)
GEOLOGIC MAP OF DMEA WORK
HOLDEN MINE
CHELAN Co, Wash
19700 N
Face 6/30/54
USBM 392 + 540.6'
Beginning DMEA
USBM 392 + 10.3'
Migmatite
Basic intrusive
Migmatite
Disseminated pyrrhotite up to 60% in gabbro?
Cu: 0.30%; 0.05 oz Au; Tr Au; Ni 1 Zn; 0.82% Ni
Face as of Pifferti's inspection 3/3/54
Quartz diorite dikes
Grey diorite
Grey biotite amphibole gneiss. Occasional pyrite blebs
Highly altered basic intrusive - talc, chlorite, biotite, serpentine minerals(?)
Dark grey to black diorite - fine grained
Biotite-amphibole schist. Appears assimilated by dark grey diorite. Some marble lenses
Dark grey fine grained diorite
Amphibole schist with some biotite. High in quartz. Pyrite in thin stringers & disseminations. // to bedding. Shearing ⊥ to bedding (banding of gneissic phases)
See next sheet
Drill station #1 under DMEA contract
Grey massive fine grained somewhat gneissic diorite. Some biotite and scattered pyrite in minor faults
Impure pods of marble with red garnets. Fractures with quartz filling
Skinliths of gneiss and some limy streaks
19900 N
9800 E
10,000 E

DMEA sheet 2

19700 N

GEOLOGIC MAP OF DMEA WORK

HOLDEN MINE

CHELAN CO, WASH

1500 Drift (E)

Migmatite

Diamond drill station
#2 under DMEA
Contact

12810

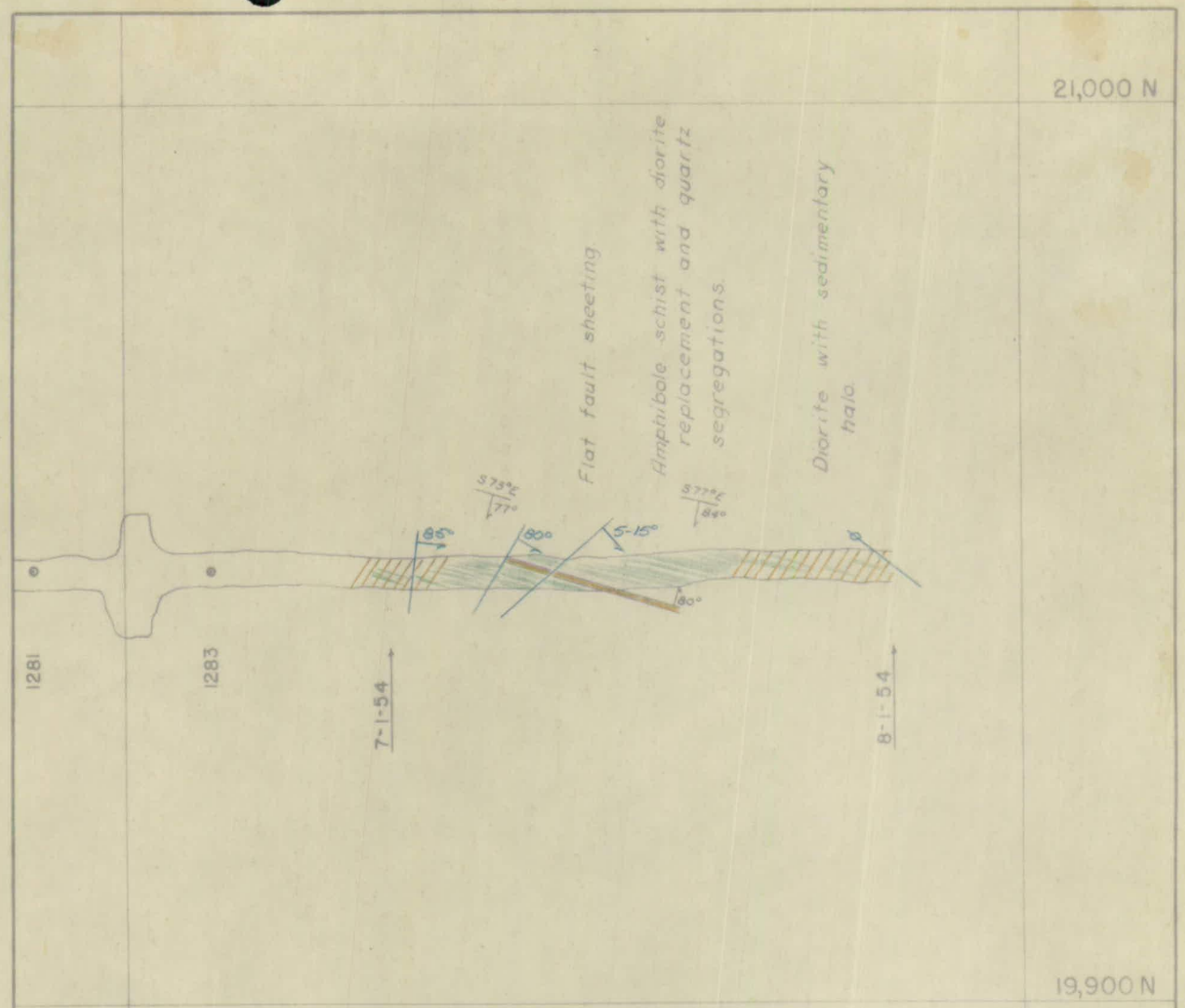
Grey diorite
with remnants of grey
Feldspathized gneiss or schist
basic intrusive
or gabbroic
rock.
Pyrrhotite blebs

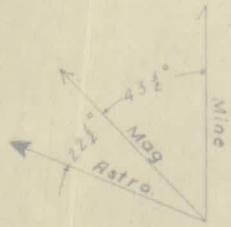
19900 N

10,000 E

~~10,000 E~~

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





LEGEND

- Amphibole schist.
- Late diorite dikes.
- Diorite.
- Fault.
- Strike and dip.
- Contact.

Howe Sound Company
Chelan Division

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

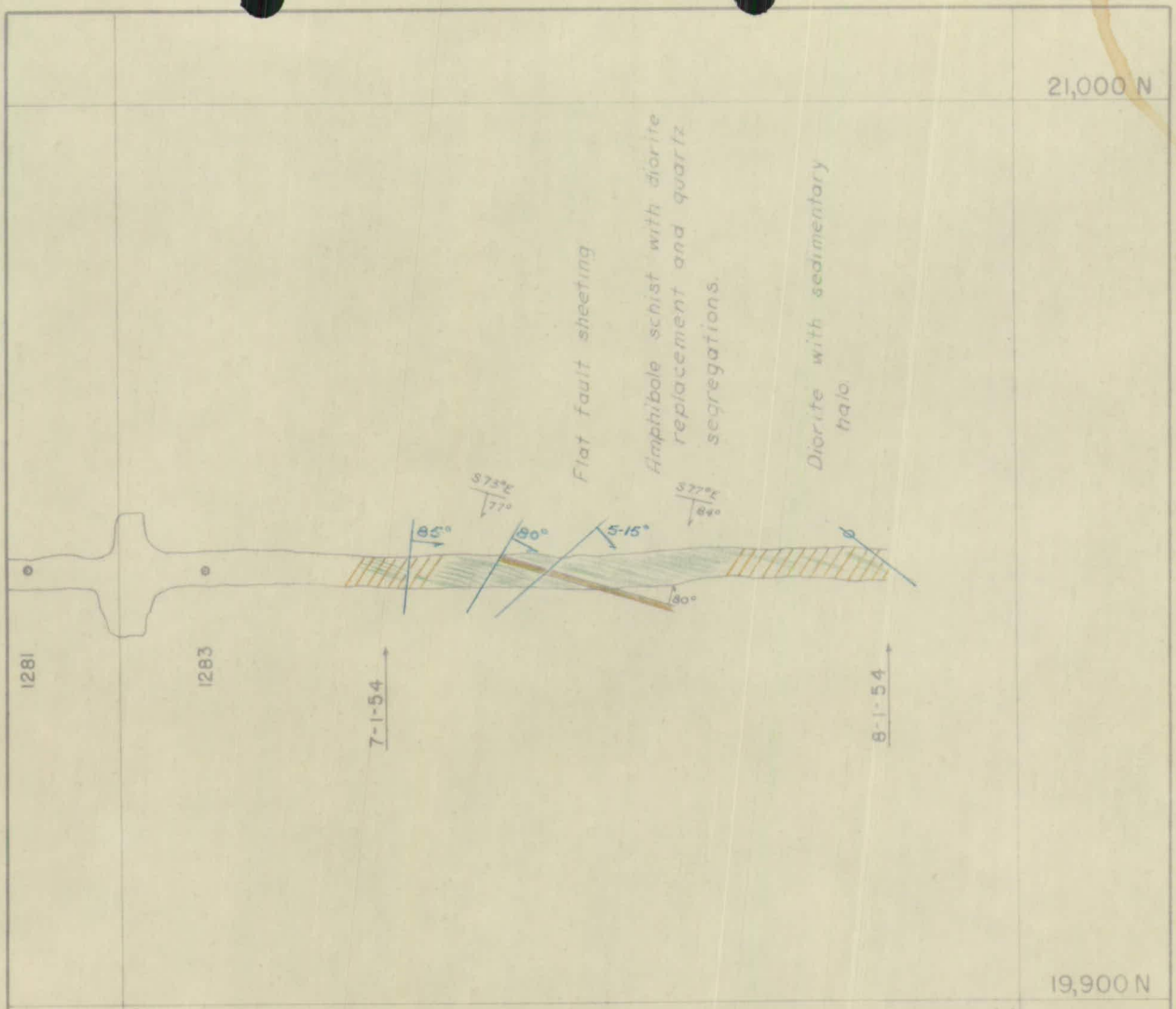
DATE: 8-1-54 DRAWN BY: T.W.

SURVEY BY: T.W.

DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E644



LEGEND

- Amphibole schist.
- Late diorite dikes.
- Diorite.
- Fault.
- Strike and dip.
- Contact.

HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

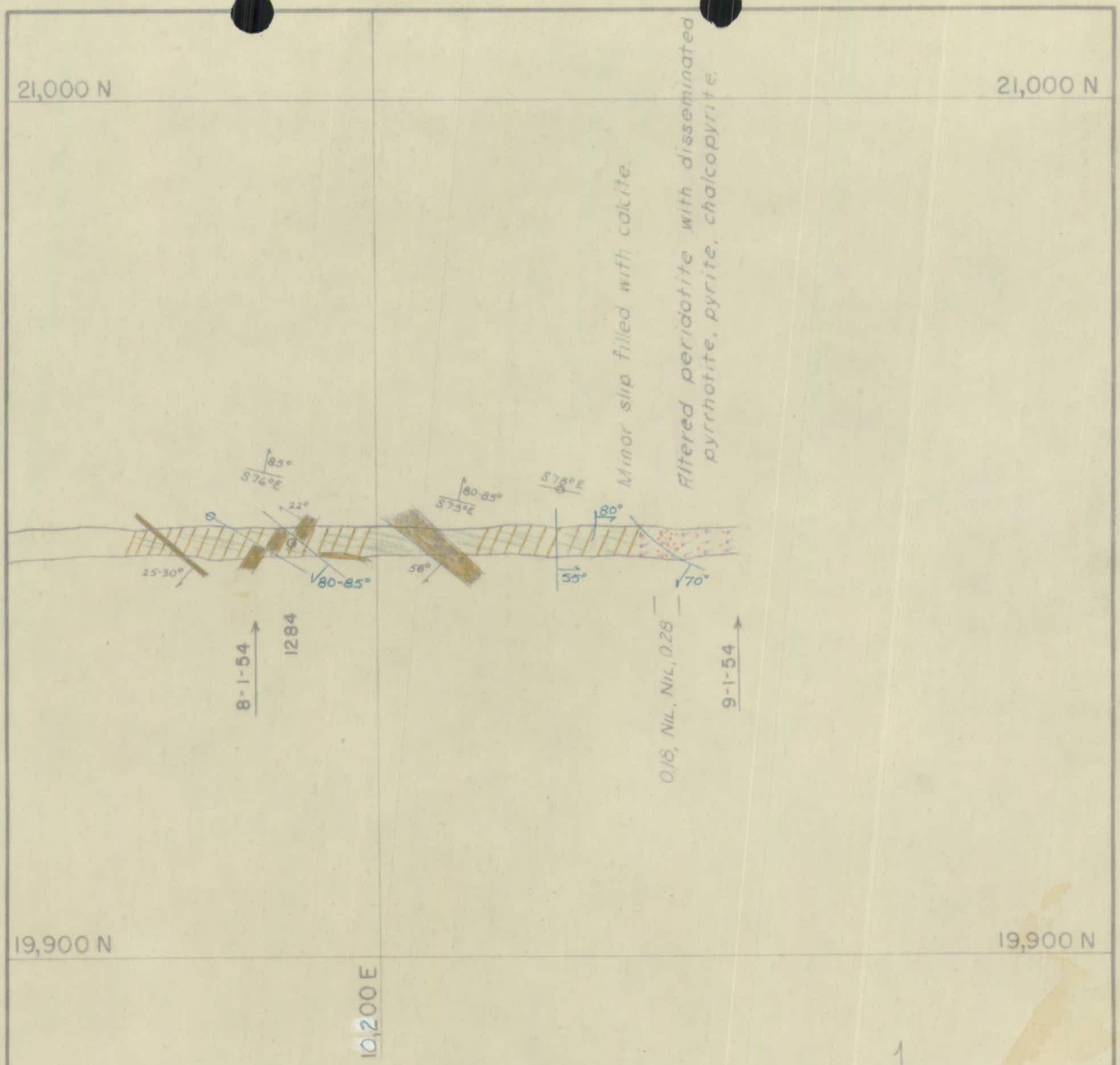
DATE: 8-1-54 DRAWN BY: T.W.

SURVEY BY: T.W.

DESIGN BY:

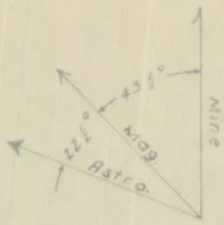
NOTES:

FILE NUMBER: D.M.E.A. IDM-E644



LEGEND

- Amphibole schist.
- Late diorite dike.
- Diorite.
- Peridotite.
- Fault.
- Strike and dip.
- Contact.



Assay sequence: %Cu, oz. Au, oz. Ag, %Ni

Howe Sound Company
Chelan Division

Title: Buckskin Mountain Exploration

Level: 1500 Scale: 1" = 40'

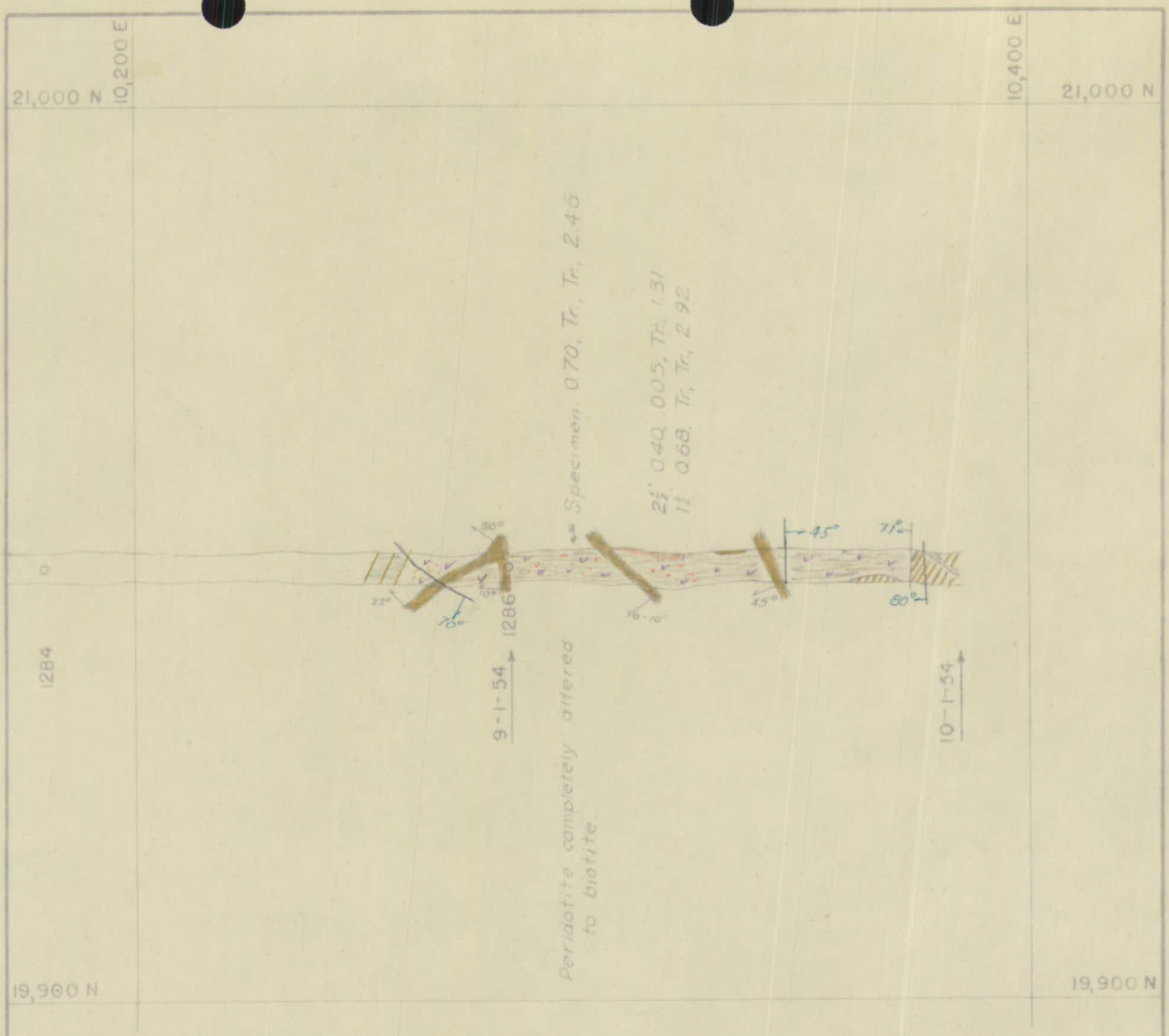
Date: 9-1-54 Drawn by: T.W.

Survey by: T.W.

Design by:

Notes:

File number: D.M.E.A. IDM-E644



LEGEND

- Peridotite
- Biotite after peridotite
- Diorite
- Late diorite dikes
- Sulphide mineralization
- Fault
- Strike and dip
- Contact

Assay sequence. % Cu, oz. Au, oz. Ag, % Ni

Howe Sound Company
Chelan Division

Title: Buckskin Mountain Exploration.

Level: 1500 Scale: 1" = 40'

Date: 10-1-54 Drawn by: T.W. - J.A.

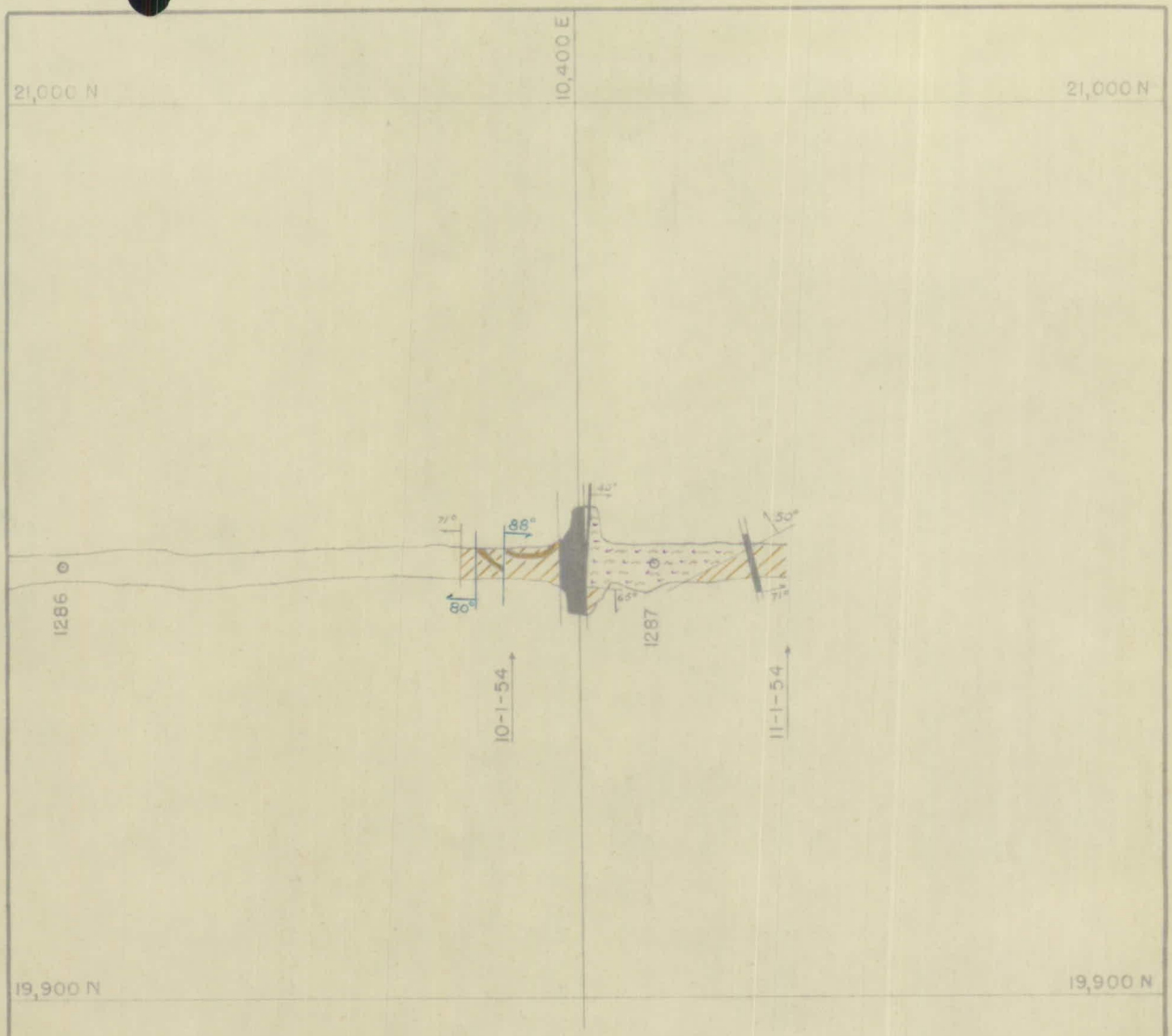
Survey by: T.W. - J.A.

Design by:

Notes:

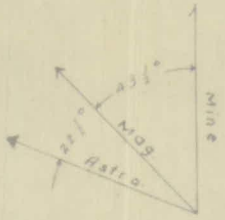
File number: D.M.E.A. IDM-E644

Diamond Drill Stn. #1
1500 Drift (E)
9,600E
DDH U-15-209 0° 303'
DDH U-15-208 0° 319'
To 303'
To 319'
19,900N
20,100N
Mine North
(N 65° W)
1" = 40'
20,100N
10,200E
19,400E
Face at 2nd. inspection
6-30-54
Flat fault strike
Predominantly amphibole gneiss
diorite replacement and/or intrusive segregations.
gradational contact
disseminated pyrrhotite, pyrite, chalcopyrite
Specimen: 0.78% Cu; Tr Au; Tr Ag; 2.46% Ni
2½' 0.46% Cu; 0.005 Au; Tr Ag; 1.31% Ni
1½' 0.68% Cu; Tr Au; Tr Ag; 2.92% Ni
Sulphide showing 1½", mainly pyrite, chalcopyrite.
Face at 3rd. inspect'n
10-8-54
Sample:
0.18% Cu;
Ni Ag;
Ni Au;
0.38 Ni;
Basic rock
largely biotitized
Biotite - amphibole gneiss
Replacement and/or intrusive diorite
Basic intrusive
(largely biotitized)
Late diorite dikes
Mineralization
Holden Mine
Chelan County, Wash.
1500 Drift (E)
10-8-54
Mine North
(N 65° W)
1" = 40'
19,900N



LEGEND

- LAMPROPHYRE
- LATE DIORITE DIKES
- DIORITE
- BIOTITE AFTER PERIDOTITE
- FAULT
- STRIKE AND DIP
- CONTACT



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

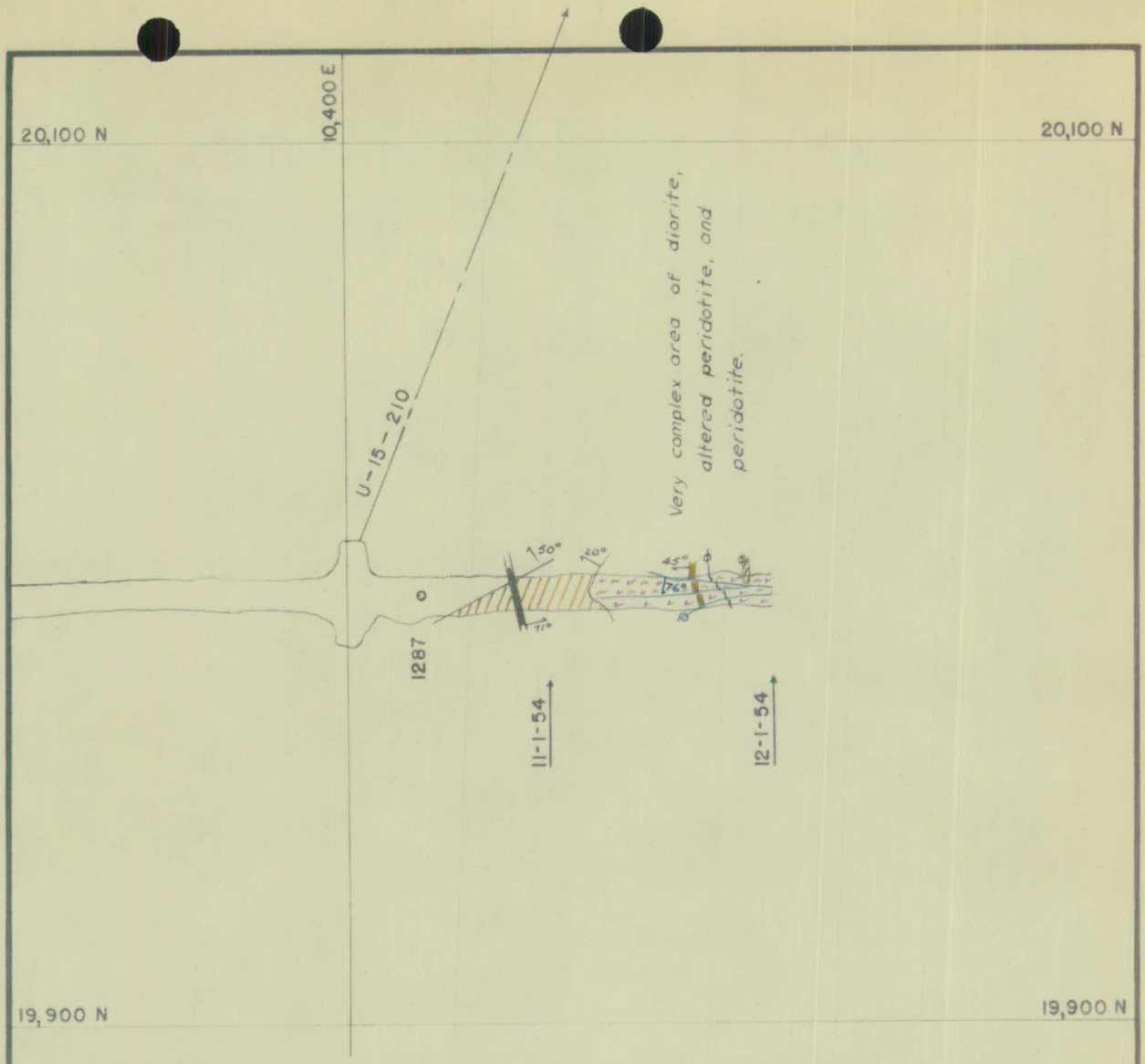
DATE: 11-1-54 DRAWN BY: T.W.

SURVEY BY: T.W. - J.A. - W.C.

DESIGN BY:

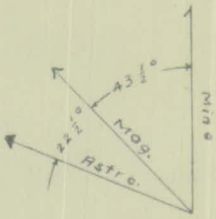
NOTES:

FILE NUMBER: D.M.E.A. IDM-E644



LEGEND

- Lamprophyre
- Late diorite dikes
- Diorite
- Biotite after peridotite
- Peridotite
- Fault
- Strike and dip
- Contact



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

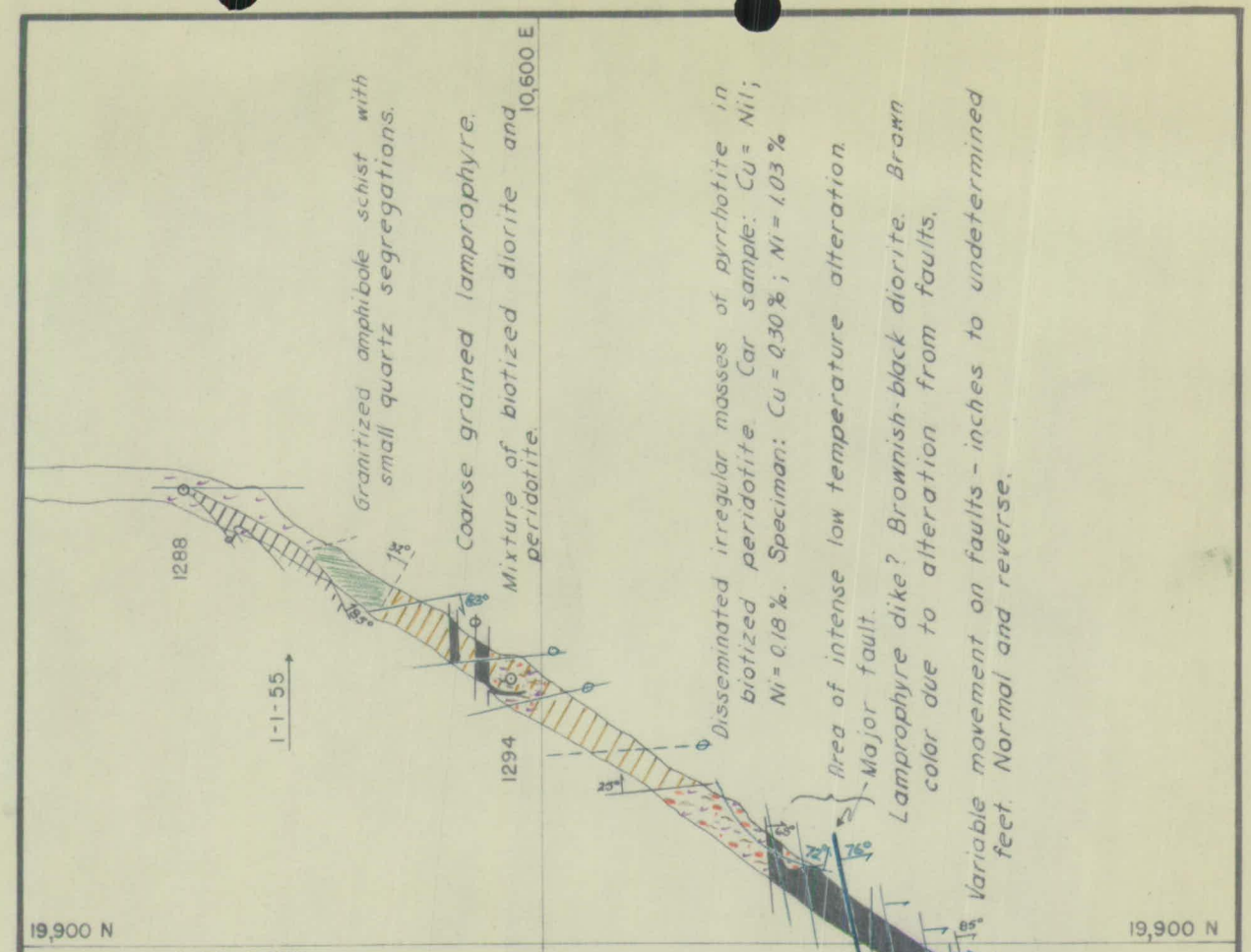
DATE: 12-1-54 DRAWN BY: T.W.

SURVEY BY: R.C. - T.W. - J.A.

DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E644



LEGEND

- LAMPROPHYRE
- LATE DIORITE DIKES
- DIORITE
- SULFIDES
- BIOTITE AFTER PERIDOTITE.
- PERIDOTITE
- AMPHIBOLE SCHIST
- FAULT
- STRIKE AND DIP
- CONTACT

HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

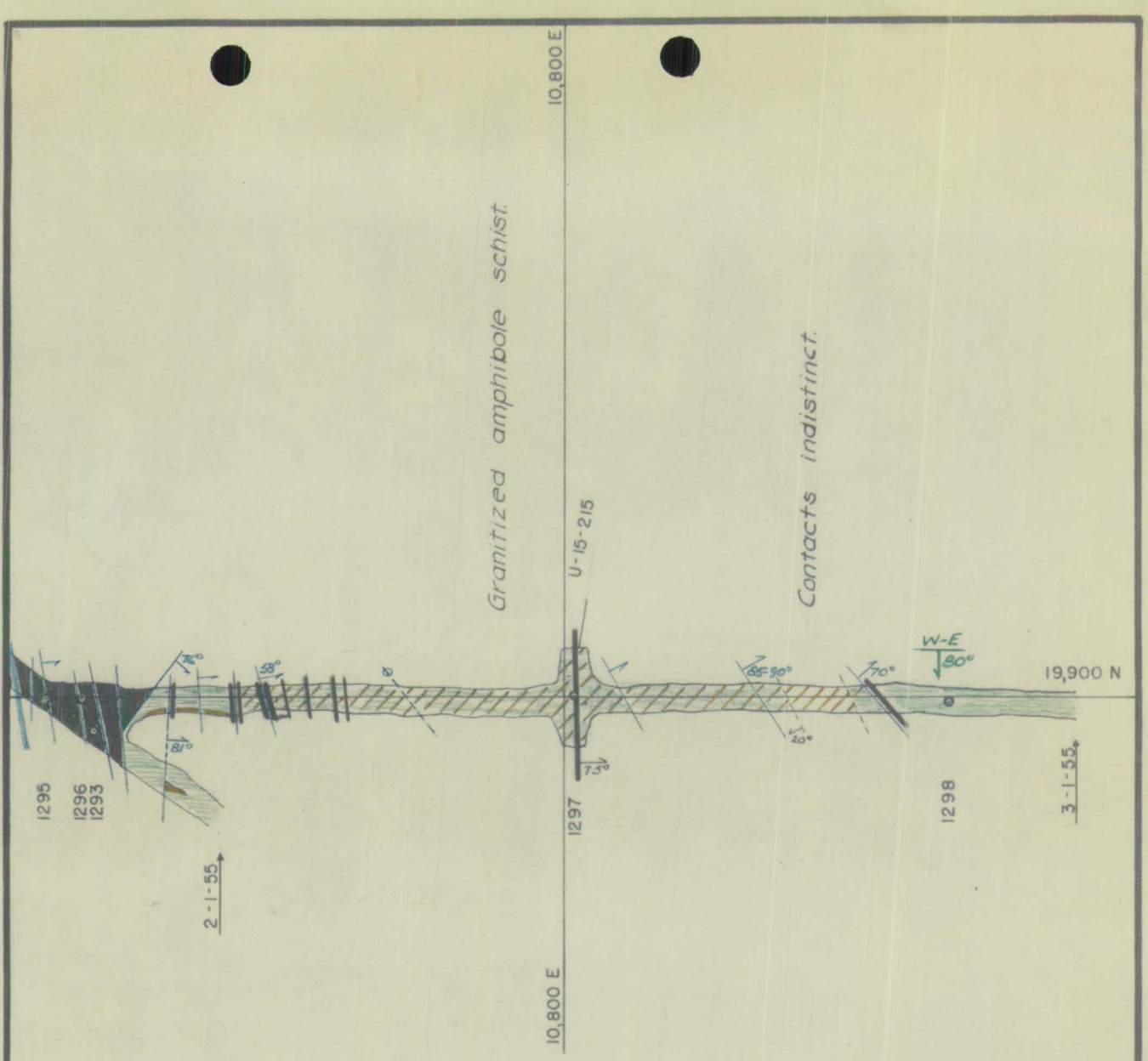
DATE: 2-1-55 DRAWN BY: T.W.

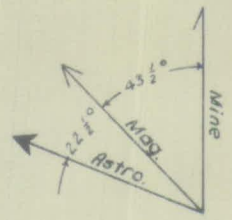
SURVEY BY: R.C.- T.W.- J.A.

DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E 644





LEGEND

- Lamprophyre.
- Late diorite dikes.
- Diorite.
- Amphibole schist.
- Fault.
- Strike and dip.
- Contact.

HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

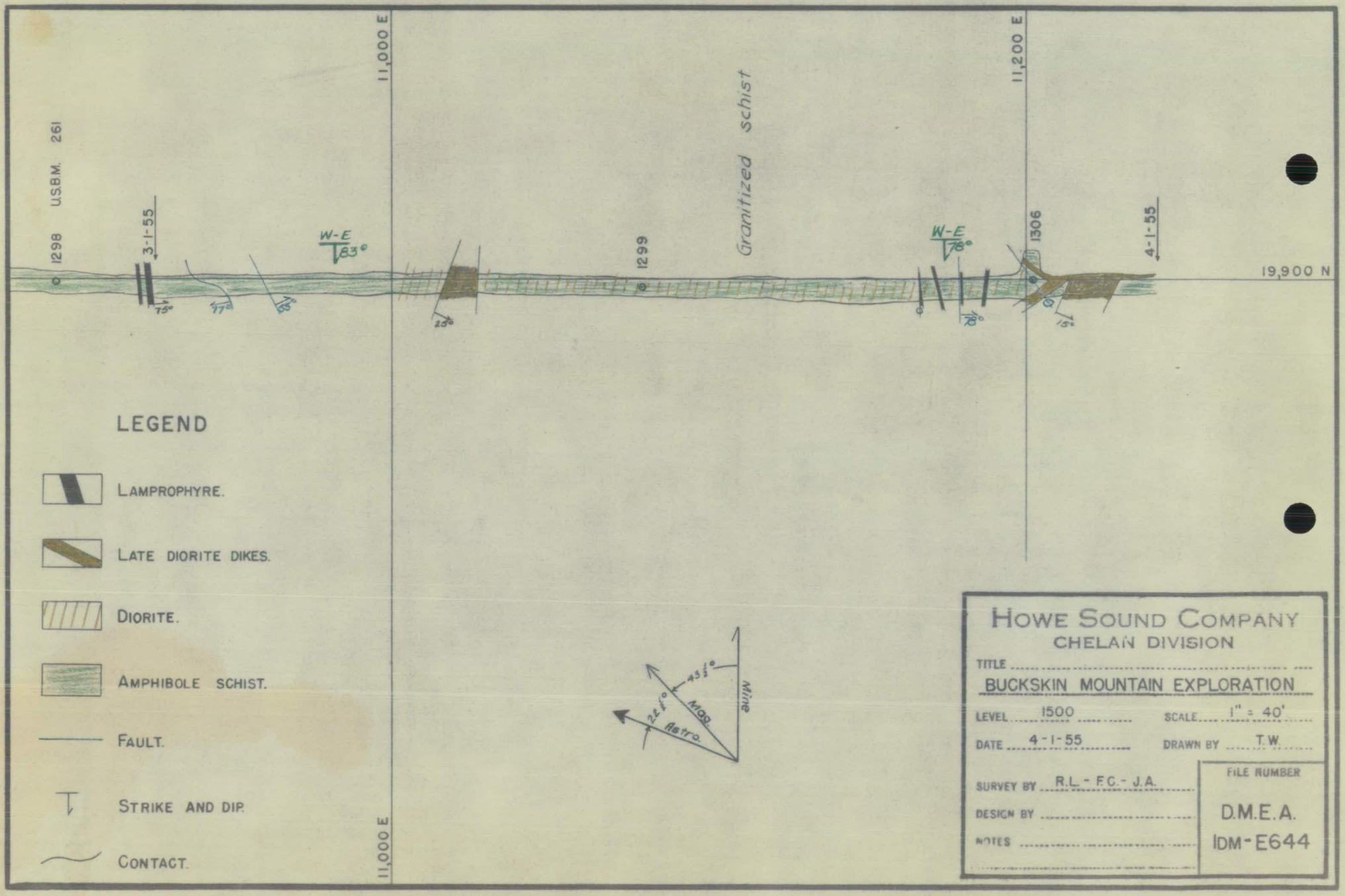
DATE: 3-1-55 DRAWN BY: T.W.

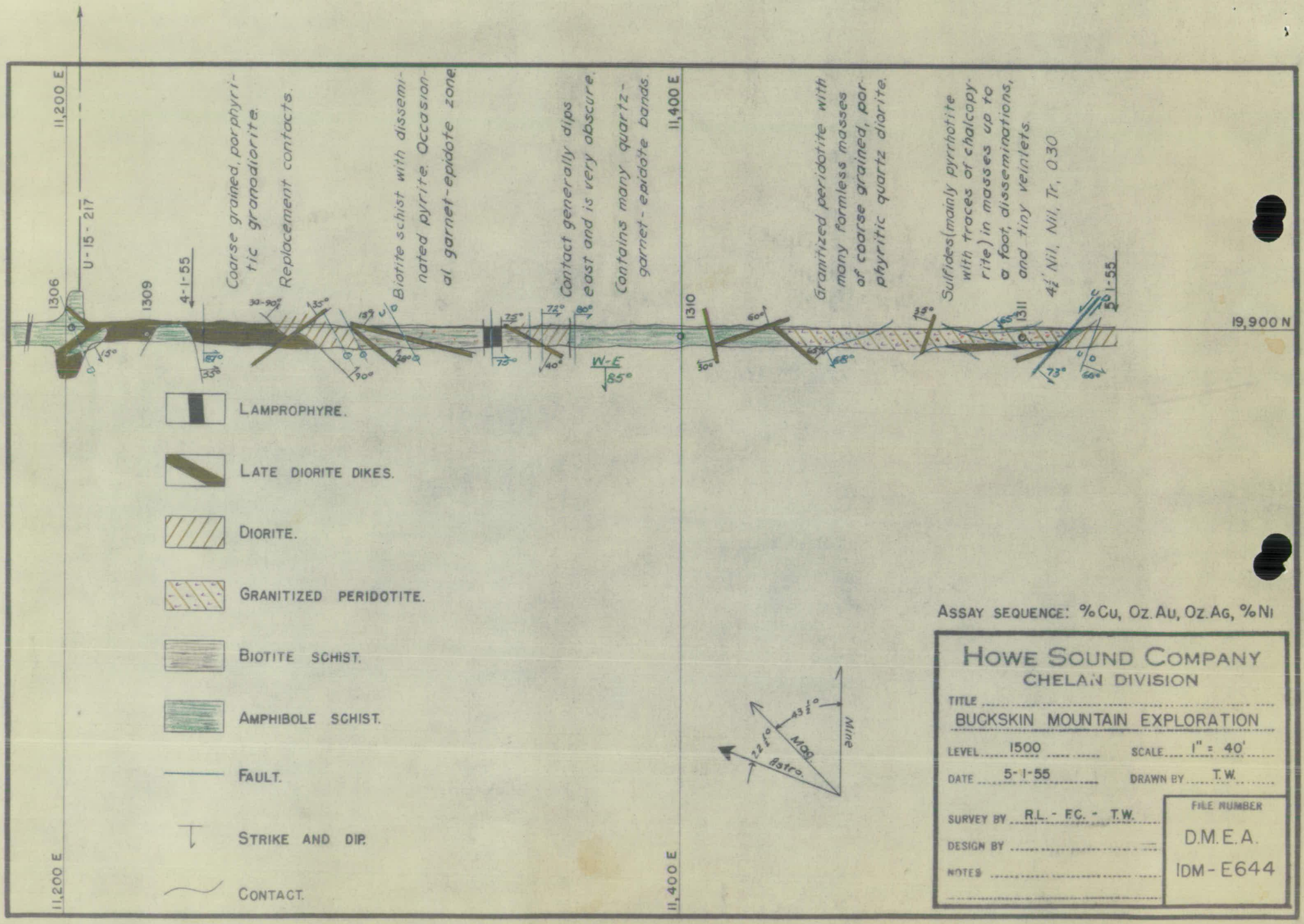
SURVEY BY: R.L. - T.W. - F.C.

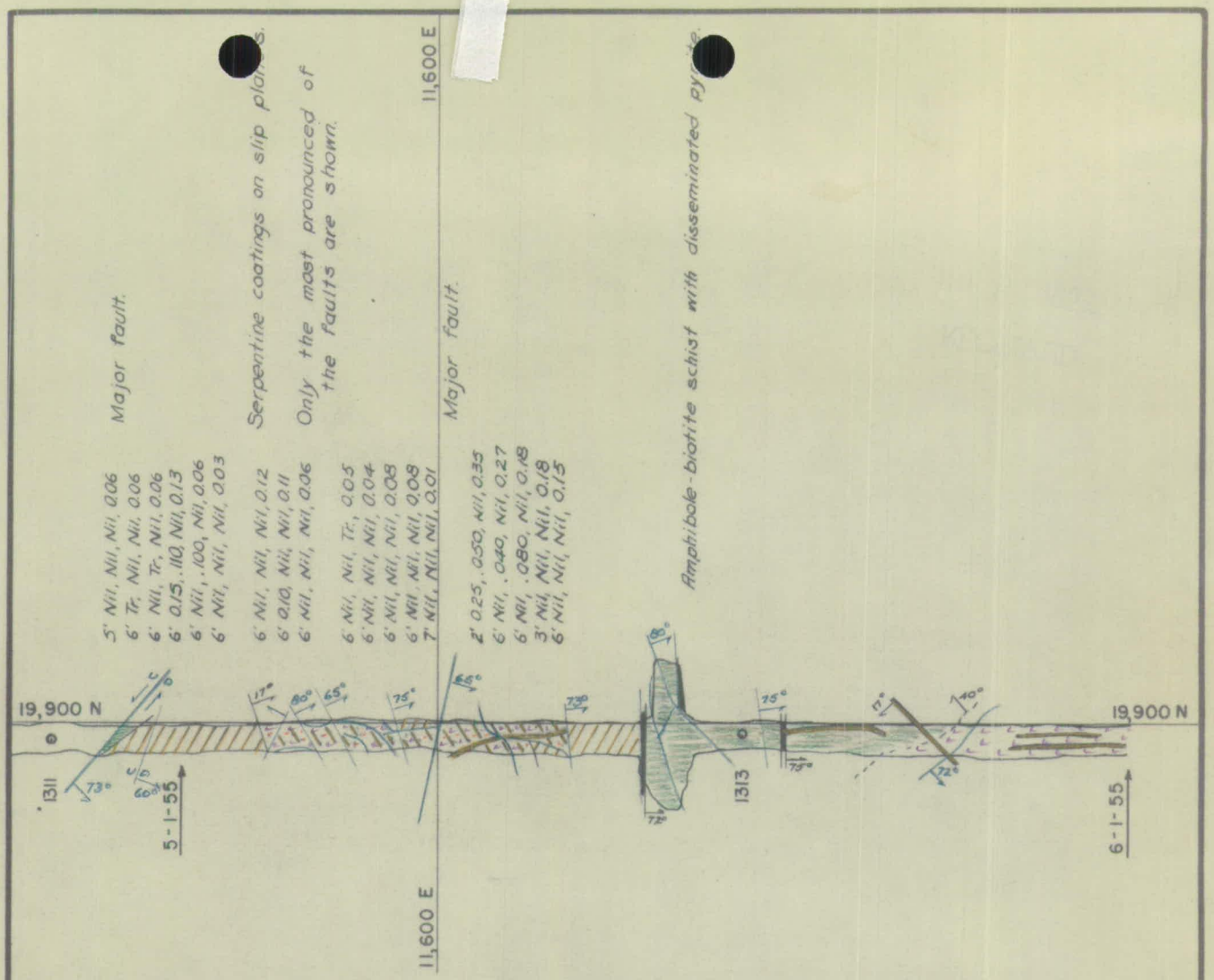
DESIGN BY:

NOTES:

FILE NUMBER: D.M.E.A. IDM-E644

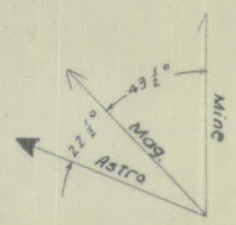

11,000 E
11,200 E
19,900 N
1298 U.S.B.M. 261
3-1-55
W-E
83°
75°
77°
78°
23°
1299
Granitized schist
W-E
78°
78°
1306
15°
4-1-55
LEGEND
LAMPROPHYRE.
LATE DIORITE DIKES.
DIORITE.
AMPHIBOLE SCHIST.
FAULT.
STRIKE AND DIP.
CONTACT.
Mline
43½°
MGQ
22½°
Astro.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 40'
DATE 4-1-55
DRAWN BY T.W.
SURVEY BY R.L. - F.C. - J.A.
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644


11,200 E
U-15-217
1306
1309
4-1-55
Coarse grained, porphyritic granodiorite.
Replacement contacts.
Biotite schist with disseminated pyrite. Occasional garnet-epidote zone.
Contact generally dips east and is very obscure.
Contains many quartz-garnet-epidote bands.
11,400 E
1310
Granitized peridotite with many formless masses of coarse grained, porphyritic quartz diorite.
Sulfides (mainly pyrrhotite with traces of chalcopyrite) in masses up to a foot, disseminations, and tiny veinlets.
1311
4½' Nil, Nil, Tr, 0.30
5-1-55
19,900 N
W-E
LAMPROPHYRE.
LATE DIORITE DIKES.
DIORITE.
GRANITIZED PERIDOTITE.
BIOTITE SCHIST.
AMPHIBOLE SCHIST.
FAULT.
STRIKE AND DIP.
CONTACT.
Mine
Mag.
Astro.
43½°
22½°
ASSAY SEQUENCE: %Cu, Oz. Au, Oz. Ag, %Ni
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 40'
DATE 5-1-55
DRAWN BY T.W.
SURVEY BY R.L. - F.C. - T.W.
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644



LEGEND

- Lamprophyre.
- Late diorite dikes.
- Diorite.
- Granitized peridotite.
- Biotite schist.
- Amphibole schist.
- Fault.
- Strike and dip.
- Contact.



Assay sequence: %Cu, Oz. Ag, Oz. Au, % Ni

Howe Sound Company
Chelan Division

Title: Buckskin Mountain Exploration

Level: 1500 Scale: 1" = 40'

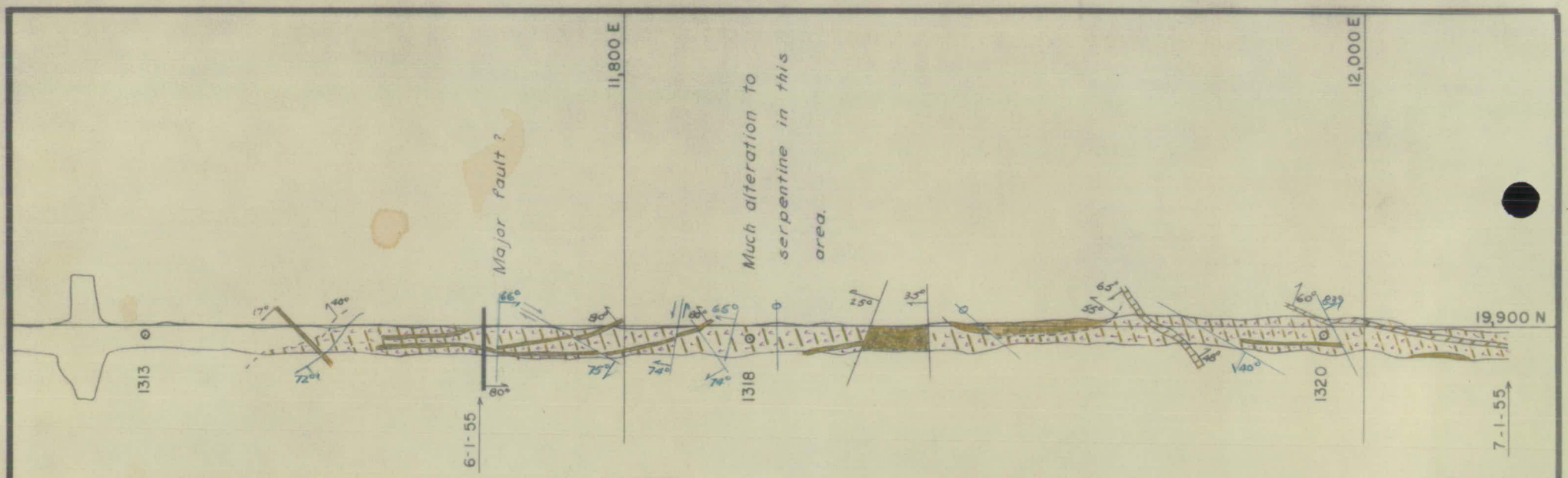
Date: 6-1-55 Drawn by: T.W.

Survey by: R.L. - F.C. - T.W.

Design by:

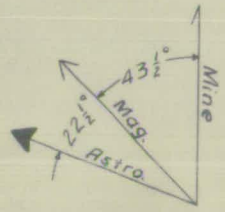
Notes:

File number: D.M.E.A. IDM-E644



LEGEND

- LAMPROPHYRE.
- LATE DIORITE DIKES.
- DIORITE.
- GRANITIZED PERIDOTITE.
- FAULT.
- STRIKE AND DIP.
- CONTACT.



HOWE SOUND COMPANY
CHELAN DIVISION

TITLE: BUCKSKIN MOUNTAIN EXPLORATION

LEVEL: 1500 SCALE: 1" = 40'

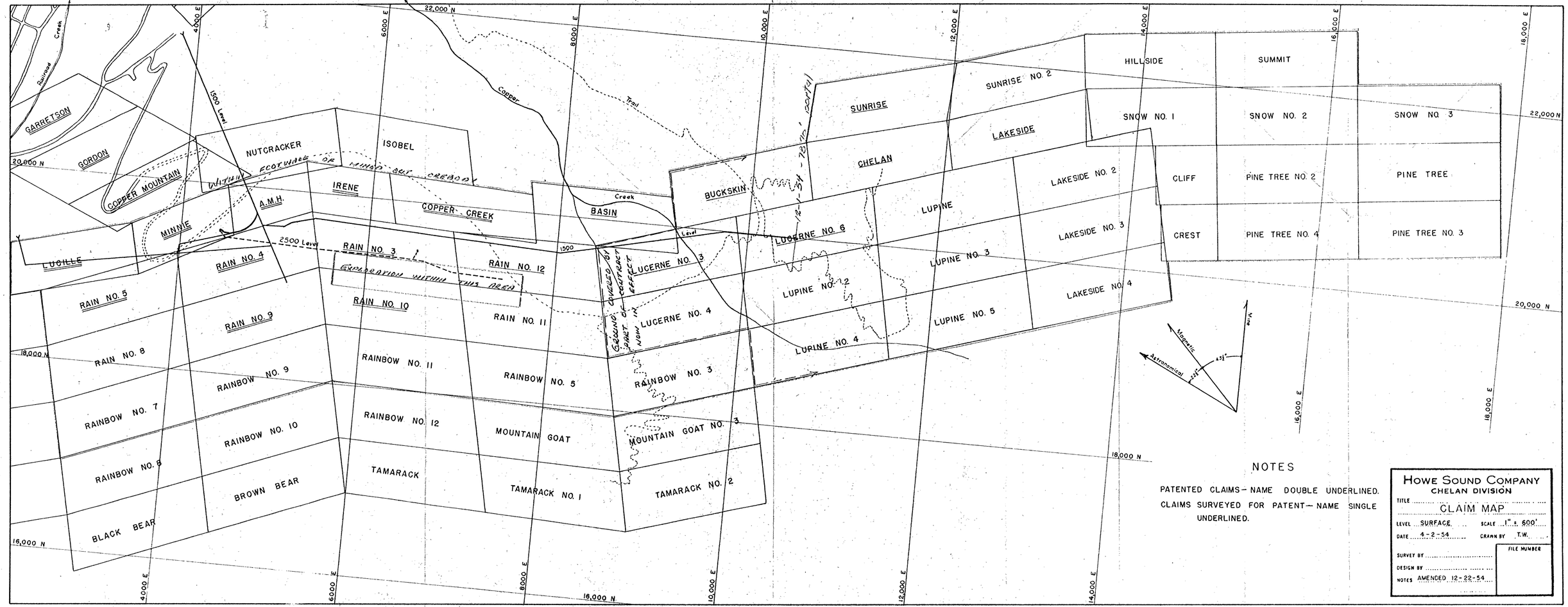
DATE: 7-1-55 DRAWN BY: T.W.

SURVEY BY: R.L. - F.C. - T.W.

DESIGN BY:

NOTES:

FILE NUMBER
D.M.E.A.
IDM-E644

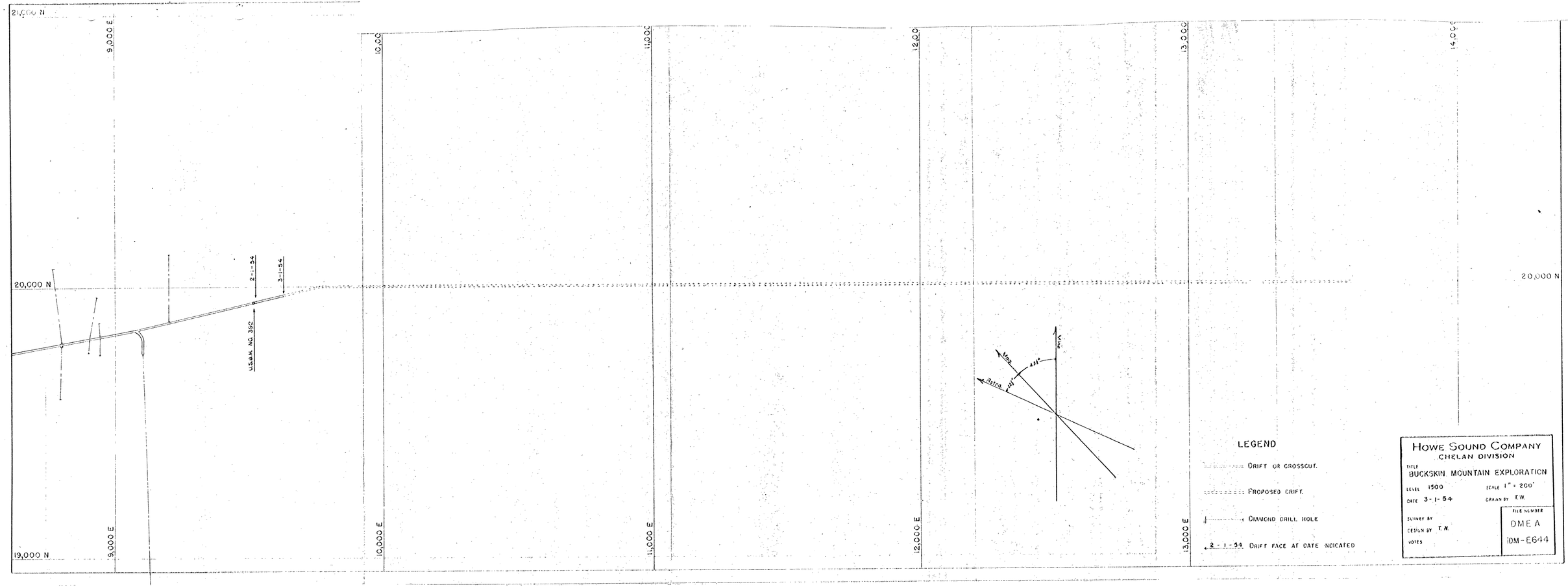


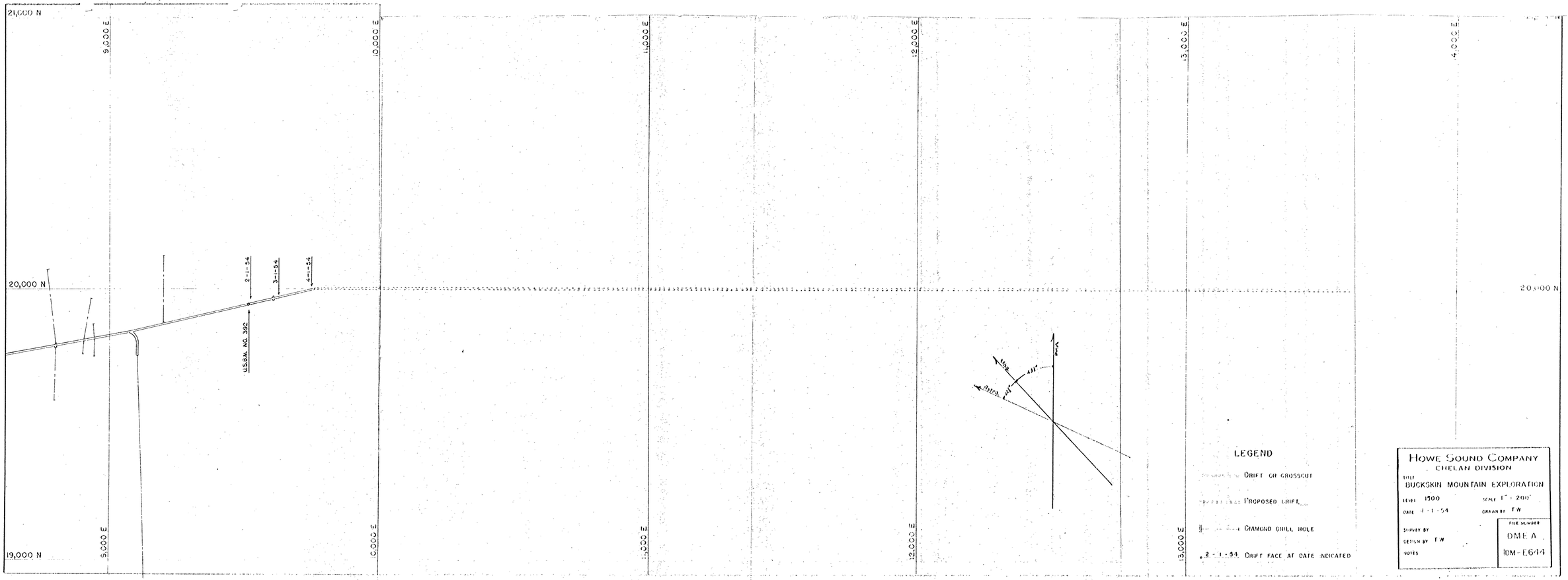
NOTES

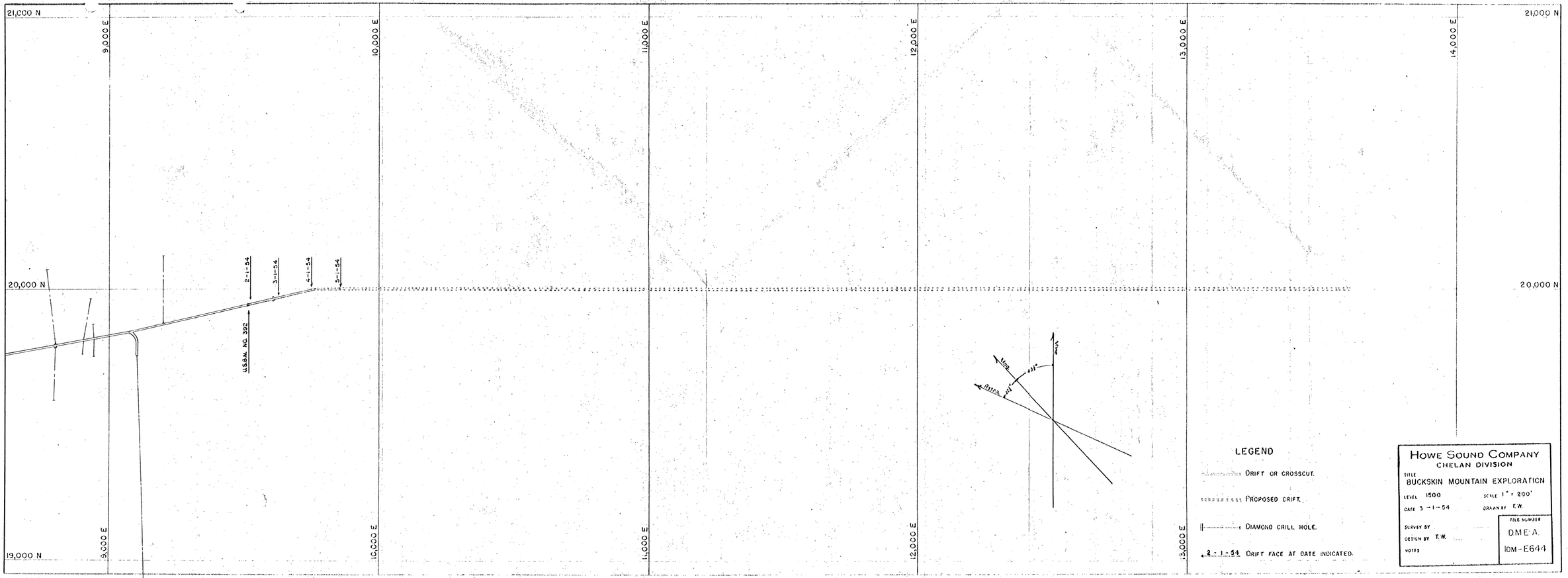
PATENTED CLAIMS – NAME DOUBLE UNDERLINED.
CLAIMS SURVEYED FOR PATENT – NAME SINGLE UNDERLINED.

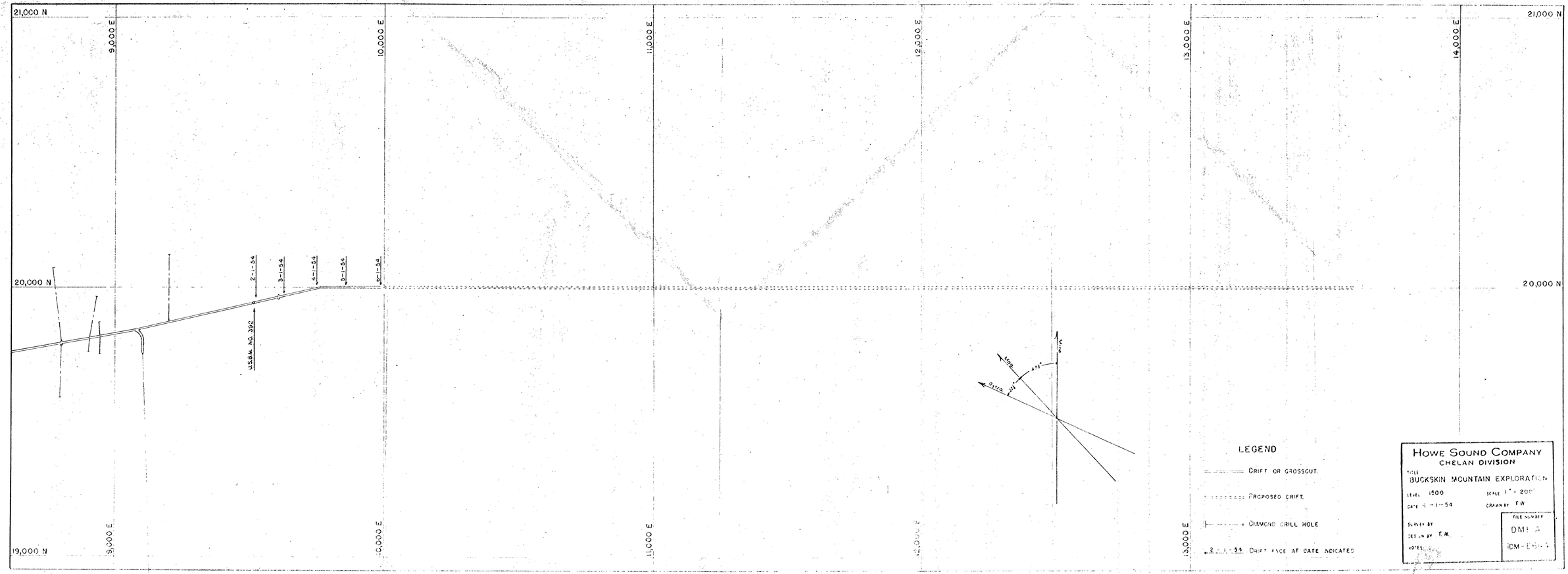
HOWE SOUND COMPANY
CHELAN DIVISION

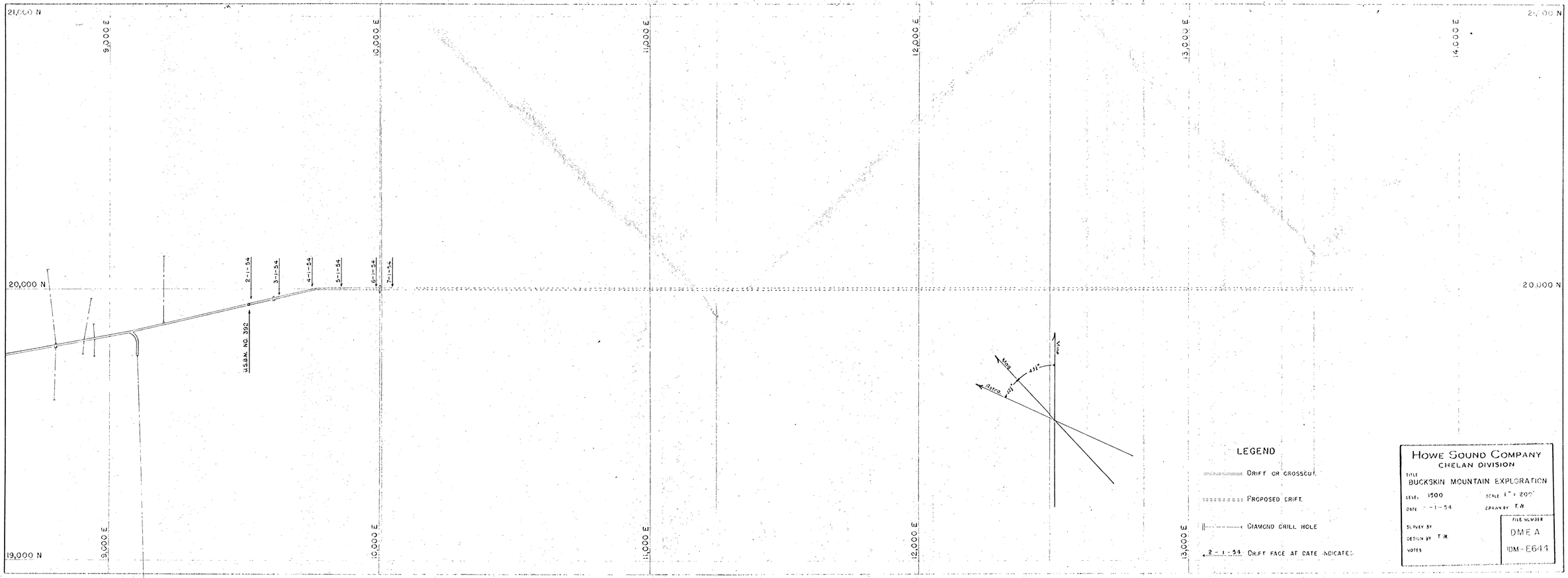
TITLE: CLAIM MAP
LEVEL: SURFACE
SCALE: 1" = 600'
DATE: 4-2-54
DRAWN BY: T.W.
SURVEY BY:
DESIGN BY:
NOTES: AMENDED 12-22-54
FILE NUMBER


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
U.S.G.M. NO. 392
Mag.
Astro.
43°
41°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 3-1-54
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
DME A
10M-E644

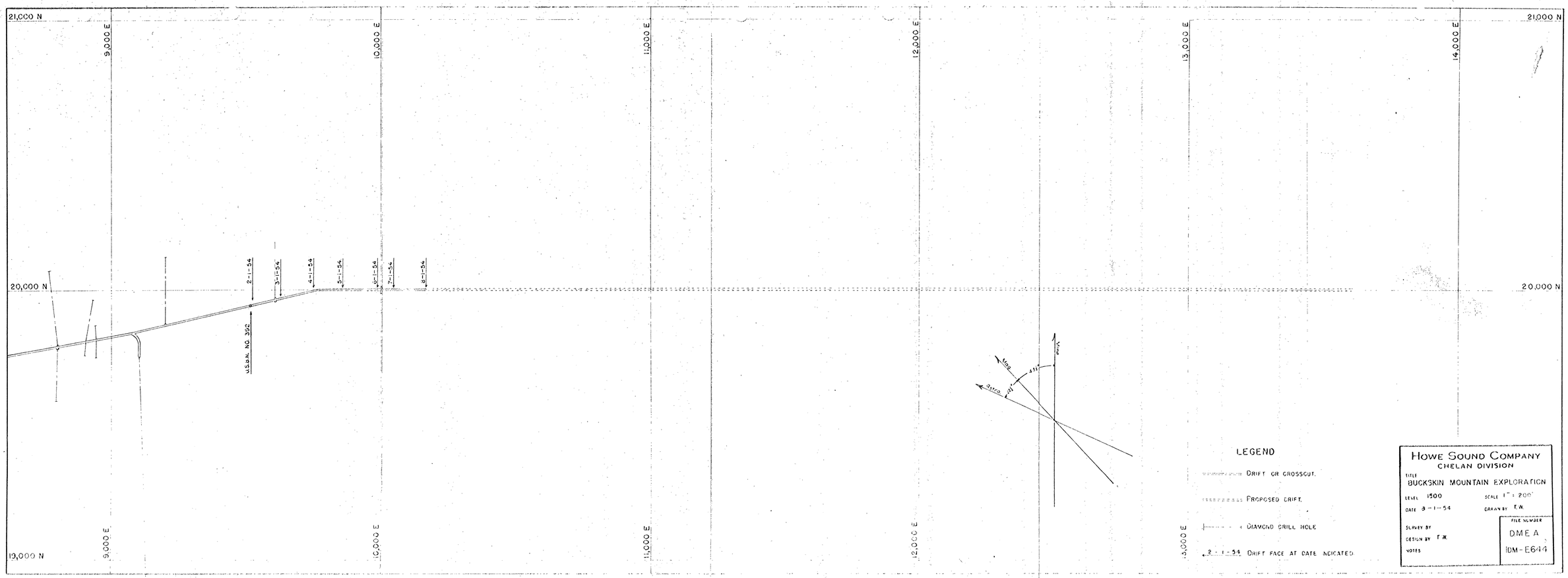

21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
U.S.B.M. NO. 392
LEGEND
DRIFT OR CROSSCUT
PROPOSED DRIFT
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 4-1-54
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
DME A
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
U.S.B.M. NO. 392
Mag.
True
Astro.
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 5-1-54
DRAWN BY E.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
DME-A
10M-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
U.S.B.M. No. 392
Mag.
Astro.
8.5°
10°
Vertical
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 6-1-54
DRAWN BY F.W.
SURVEY BY
DESIGN BY F.W.
NOTES
FILE NUMBER
DMB-A
DM-ESG-1


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
U.S.B.M. NO. 392
Mag
True
Mine
43½°
23°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 7-1-54
DRAWN BY F.W.
SURVEY BY
DESIGN BY F.W.
NOTES
FILE NUMBER
DME A
IDM-E644

21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
U.S.B.M. NO. 392
Mag.
41½°
Astro.
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 3-1-54
DRAWN BY E.W.
SURVEY BY
DESIGN BY E.W.
NOTES
FILE NUMBER
DME A
DM-E644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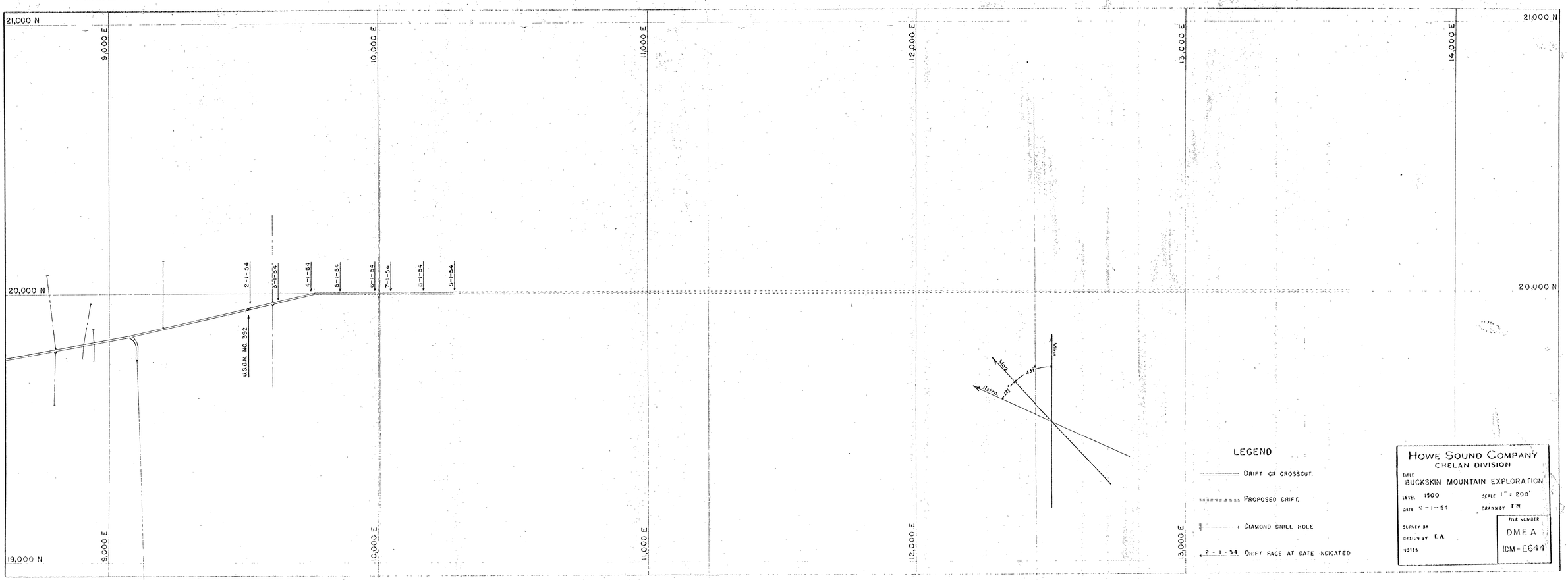
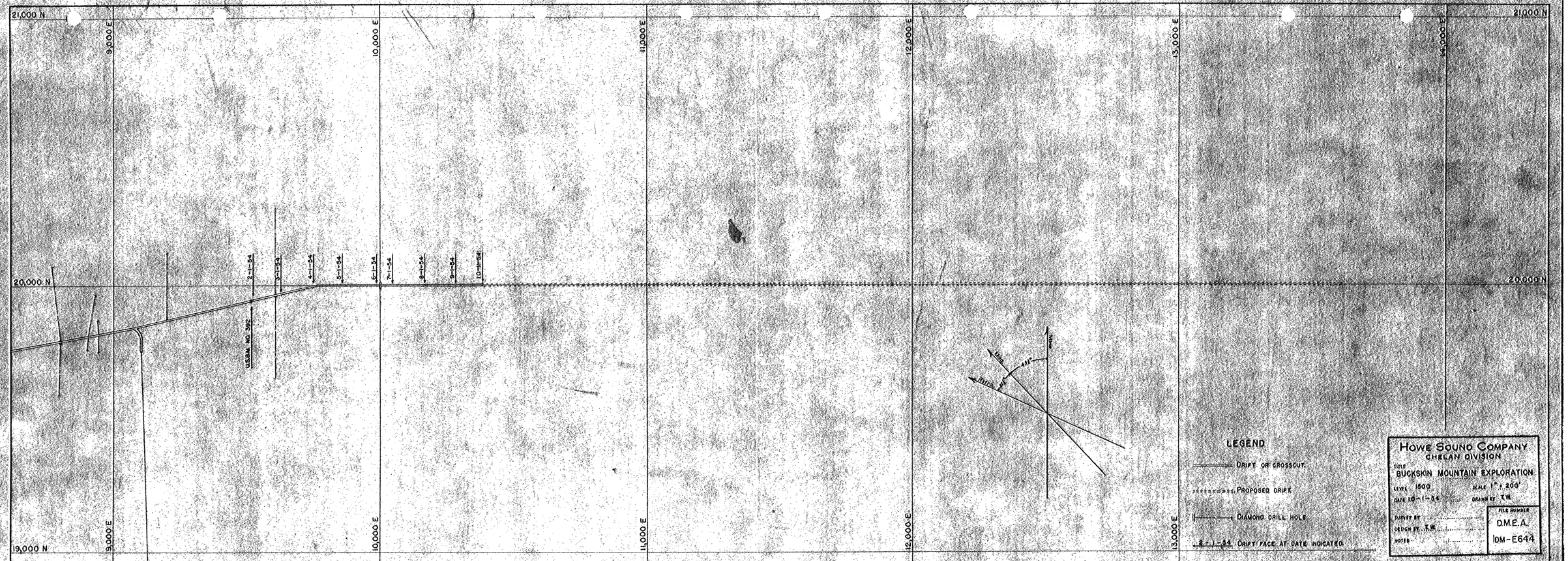
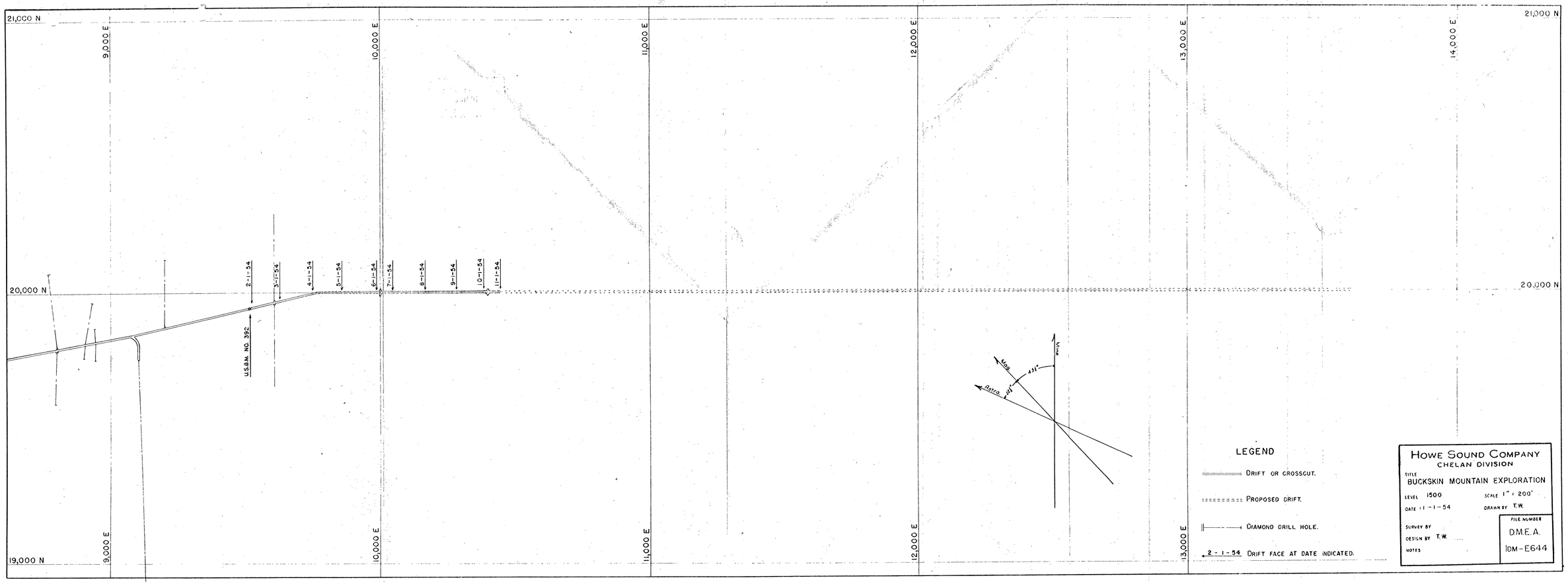
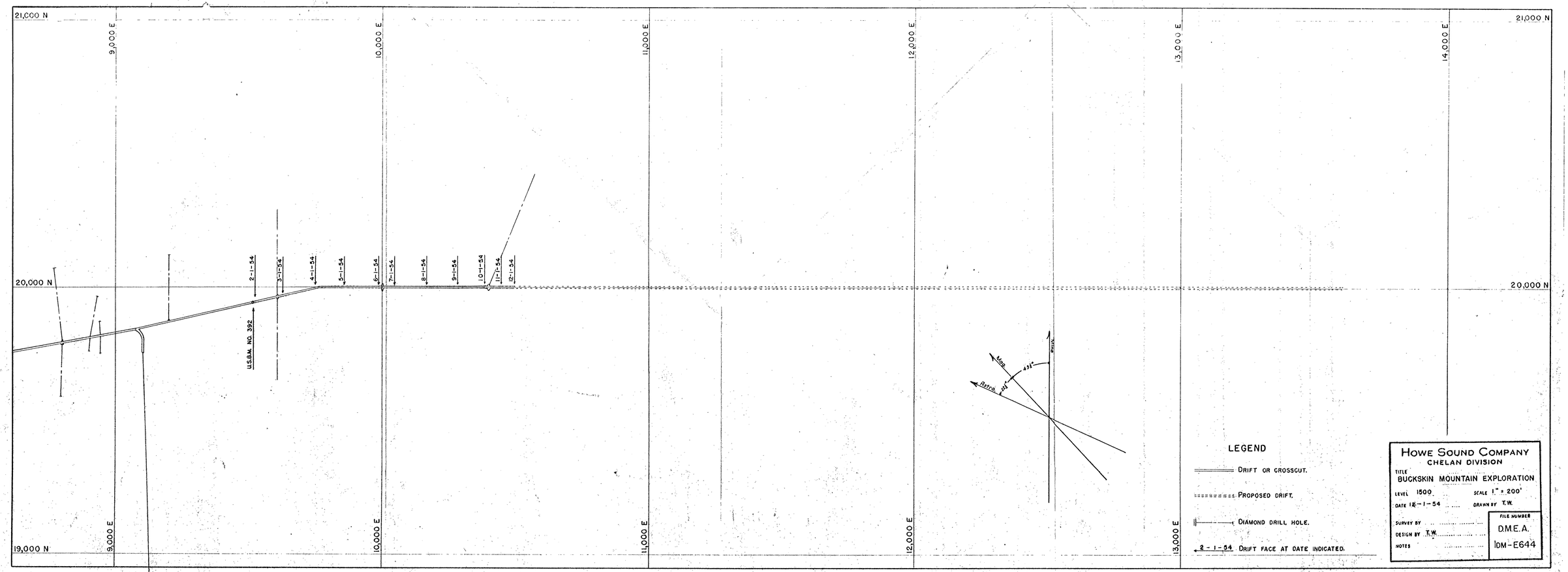
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
U.S.B.M. NO. 392
Mag
Vine
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 3-1-54
DRAWN BY F.W.
SURVEY BY
DESIGN BY F.W.
NOTES
FILE NUMBER
DME A
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
U.S.B.M. NO. 392
MAG
ASTRO
4.31°
1.4°
Mine
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE
2-1-54 DRIFT FACE AT DATE INDICATED
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 5-1-54
DRAWN BY F.W.
SURVEY BY
DESIGN BY F.W.
NOTES
FILE NUMBER
DME A
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
U.S.G.M. NO. 392
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
MAG. 24.5°
TRUE 24.5°
NORTH
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 10-1-54
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
U.S.B.M. NO. 392
Mine
Mag
Astro
45½°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 11-1-54
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644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19,000 N
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12,000 E
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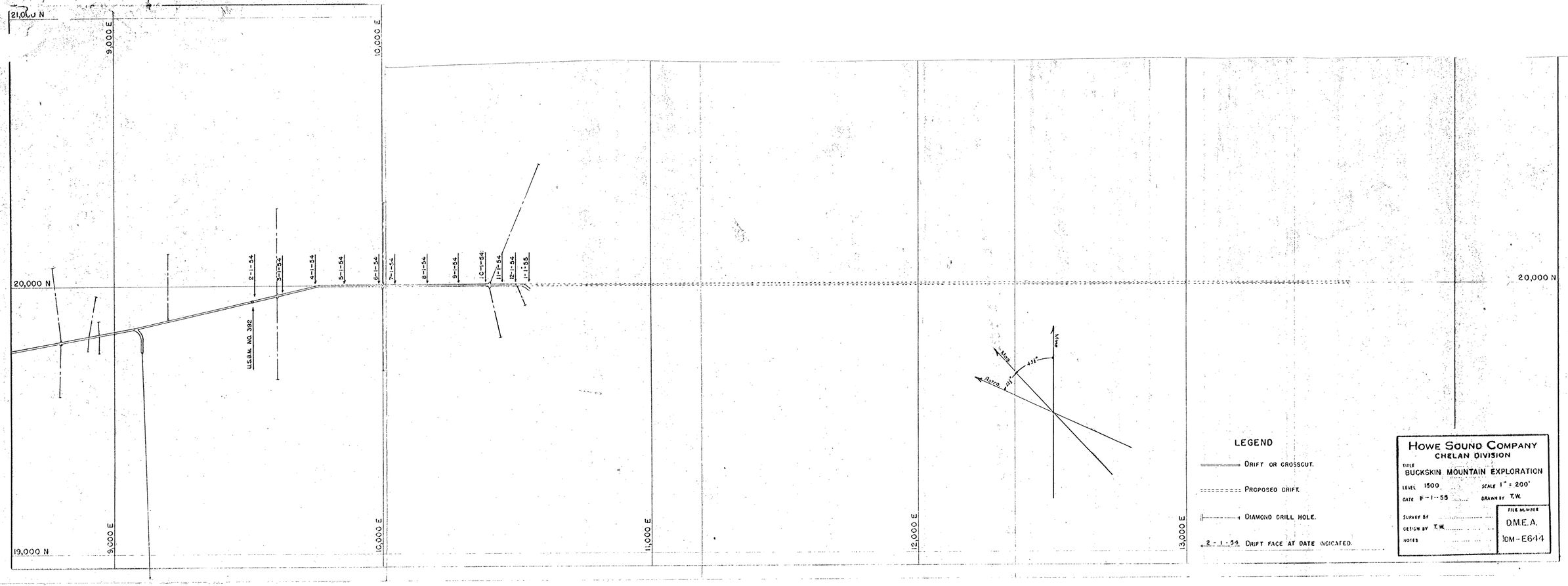
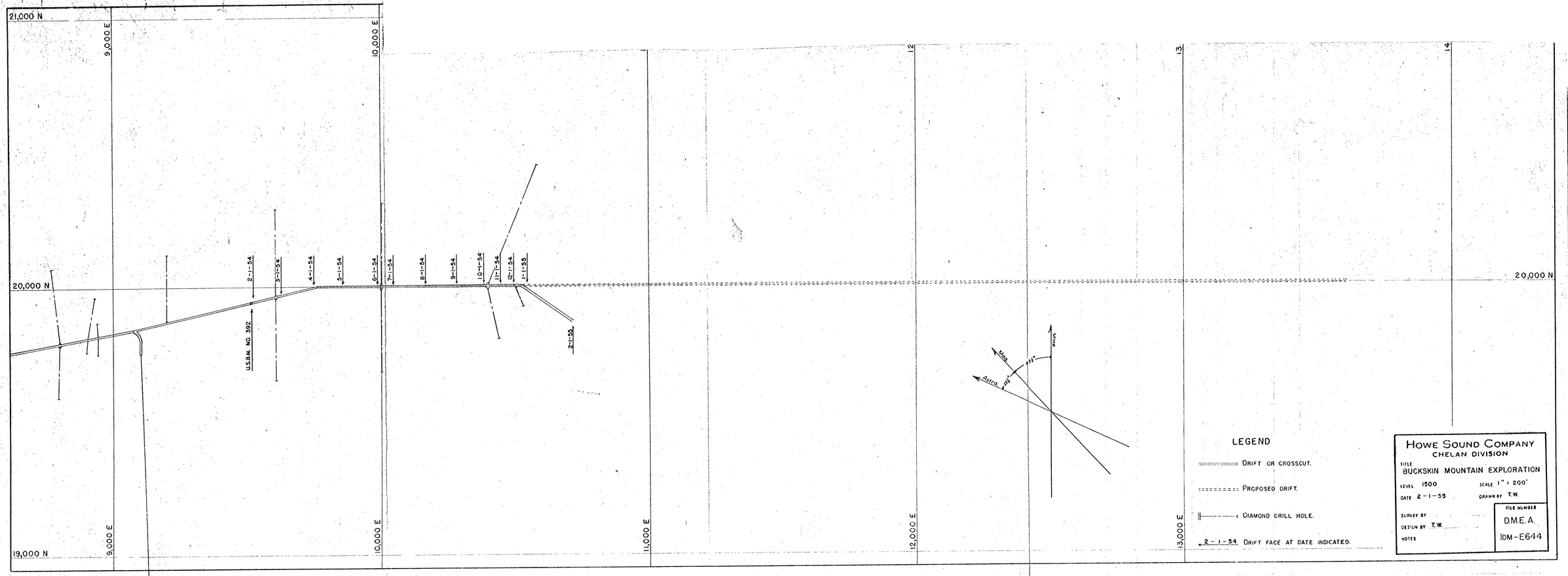
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
U.S.G.M. NO. 392
MAG
TRUE
45½°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500.
SCALE 1" = 200'
DATE 12-1-54
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
1DM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
U.S.B.M. NO. 392
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
Mag.
Astro.
Mine
43½°
5½°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 8-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
DM-E614


21,000 N
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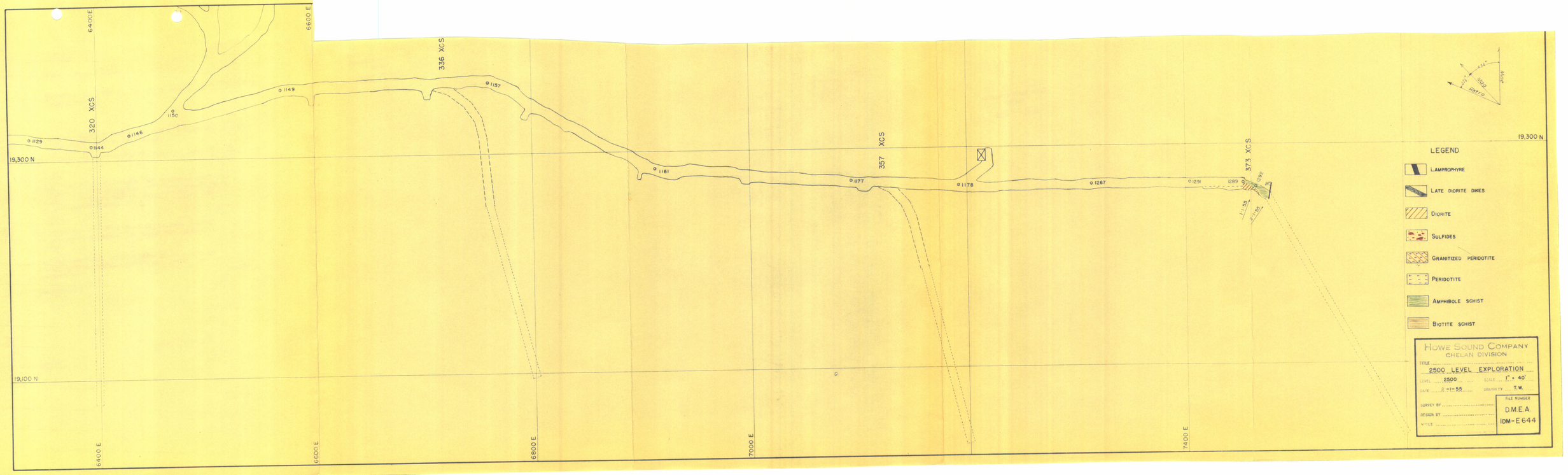
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
12
13
14
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
2-1-55
U.S.B.M. NO. 392
Mag.
Astro.
31°
Mine
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 2-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644


6400 E
6600 E
320 XCS
336 XCS
357 XCS
373 XCS
19,300 N
19,100 N
6400 E
6600 E
6800 E
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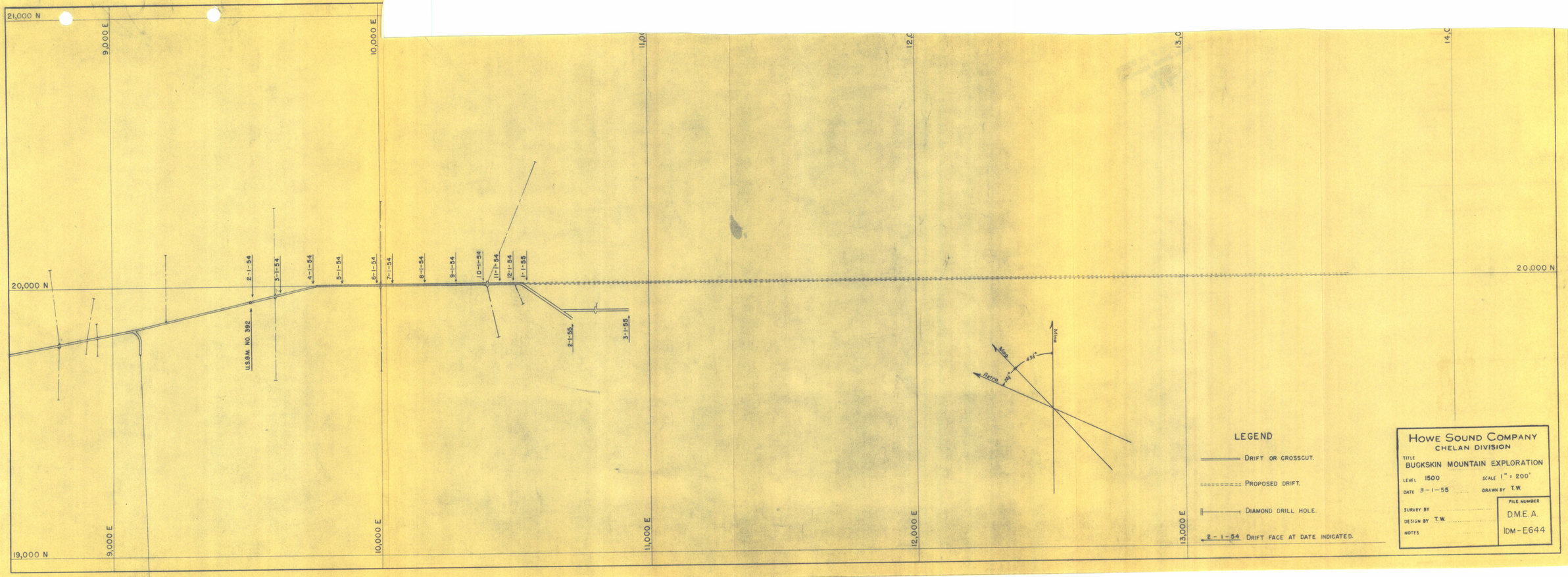
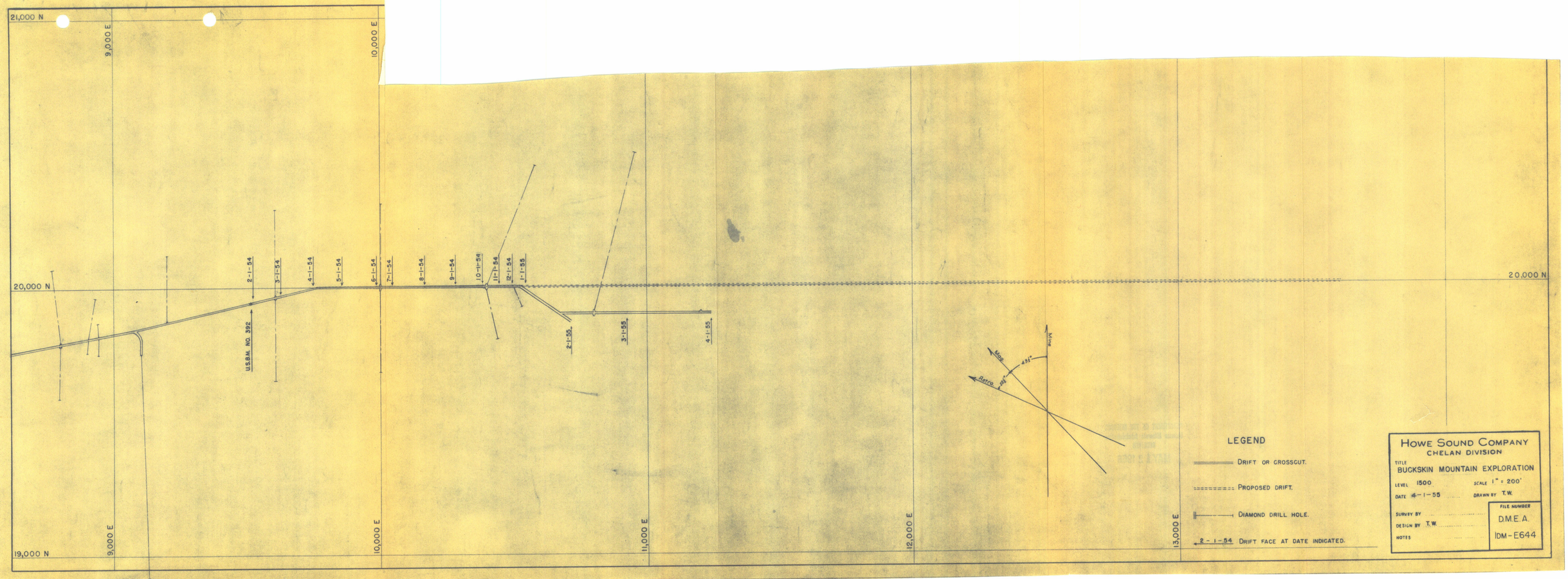
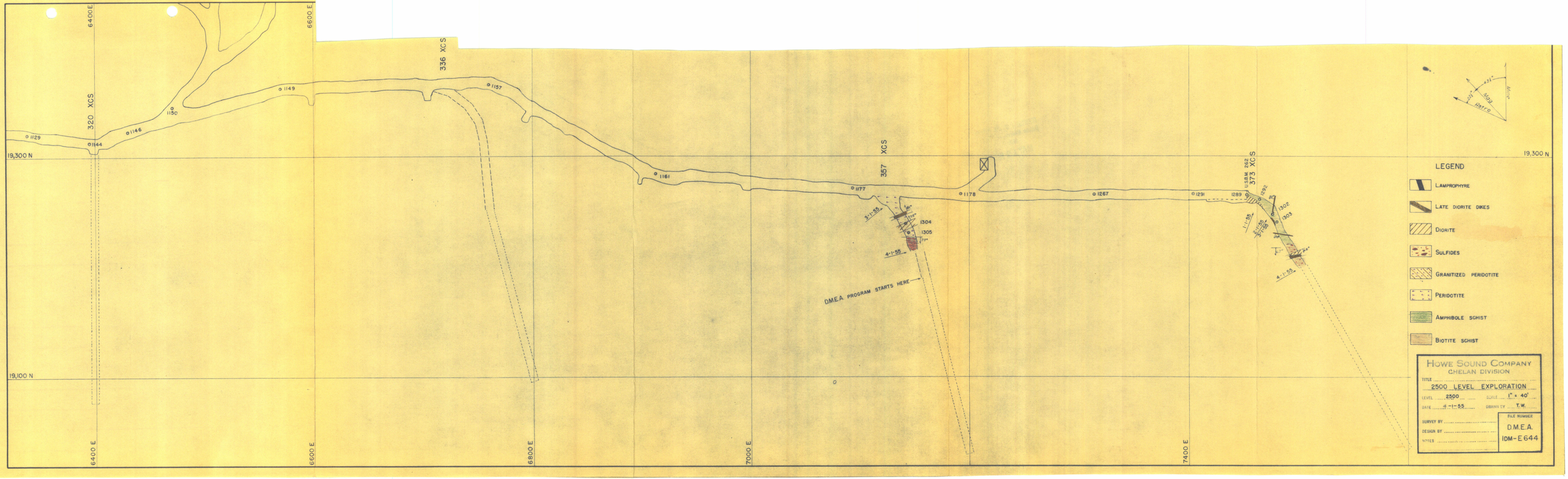
7400 E
1129
1144
1146
1149
1150
1157
1161
1177
1178
1267
1291
1289
1292
1155
1156
Magnetic
LEGEND
Lamprophyre
Late diorite dikes
Diorite
Sulfides
Granitized peridotite
Peridotite
Amphibole schist
Biotite schist
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
2500 LEVEL EXPLORATION
LEVEL 2500
SCALE 1" = 40'
DATE 2-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
2-1-55
3-1-55
U.S.B.M. NO. 392
Mag.
Retro.
49½°
24½°
True
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 3-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
IDM-E644


21,000 N
20,000 N
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
2-1-55
3-1-55
4-1-55
U.S.B.M. NO. 392
Mag
True
49½°
49°
N. Mag
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 4-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
DM-E644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6600 E
6800 E
7000 E
7400 E
19,300 N
19,100 N
320 XCS
336 XCS
357 XCS
373 XCS
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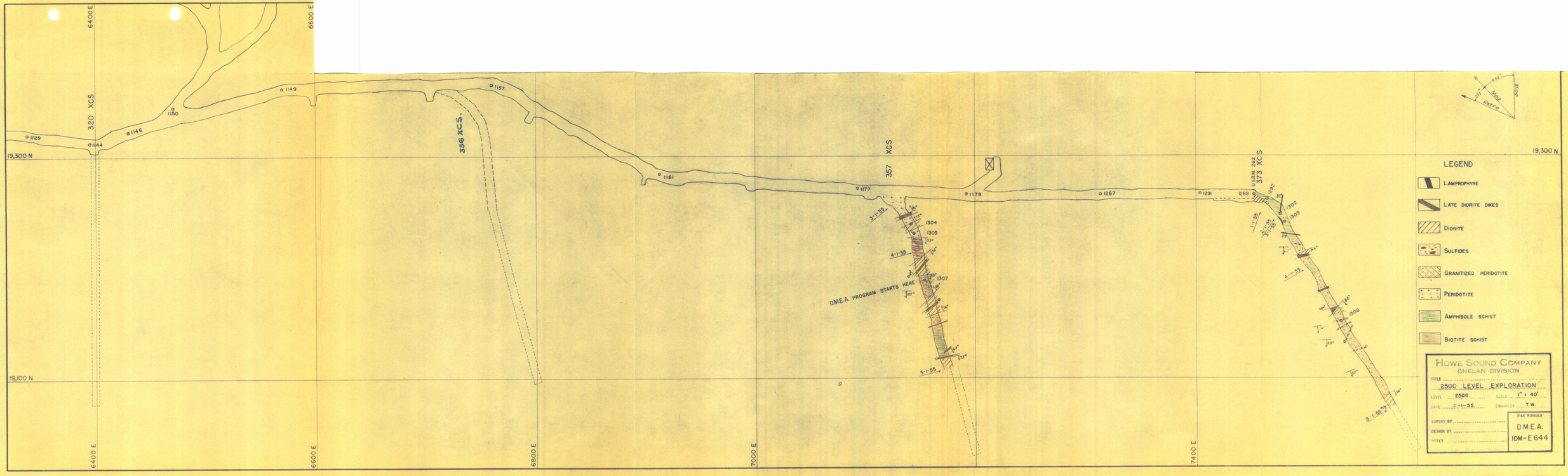
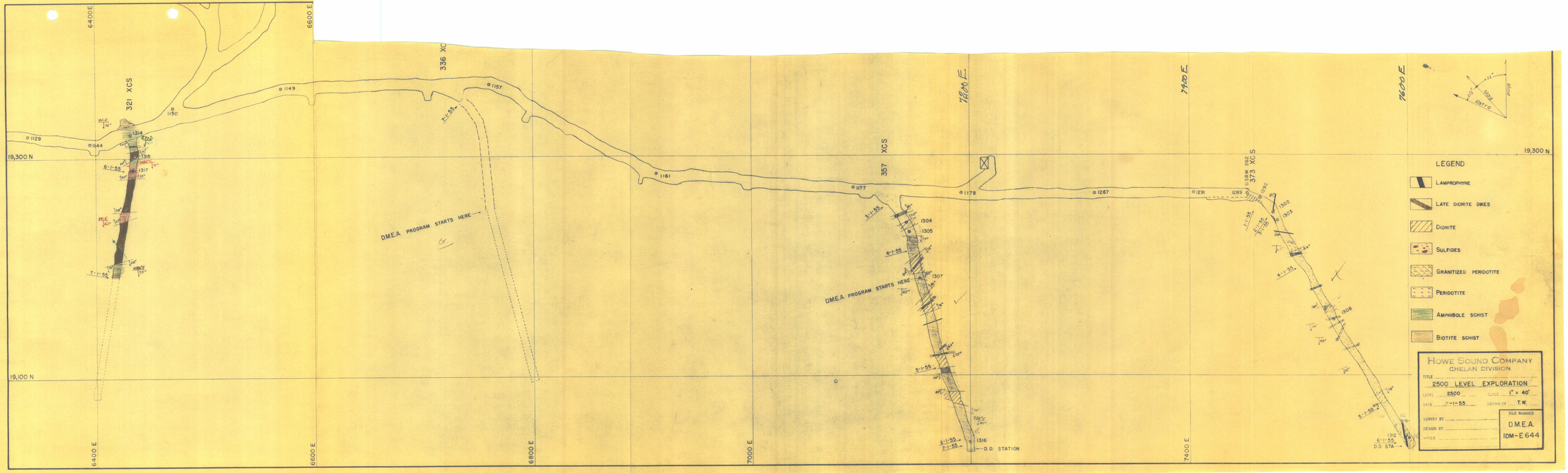
1144
1146
1150
1149
1157
1161
1177
1178
1267
1291
1289
1292
1302
1303
1304
1305
1315 BM
4-1-55
3-1-55
1-1-55
DMEA PROGRAM STARTS HERE
LEGEND
LAMPROPHYRE
LATE DIORITE DIKES
DIORITE
SULFIDES
GRANITIZED PERIDOTITE
PERIDOTITE
AMPHIBOLE SCHIST
BIOTITE SCHIST
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
2500 LEVEL EXPLORATION
LEVEL 2500
SCALE 1" = 40'
DATE 4-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E 644


6400 E
6600 E
6800 E
7000 E
7400 E
19,300 N
19,100 N
320 XCS
336 XCS
357 XCS
373 XCS
USBM 262
1129
1144
1146
1149
1150
1157
1161
1177
1178
1267
1291
1289
1292
1302
1303
1304
1305
1307
1308
DME.A PROGRAM STARTS HERE
3-1-55
4-1-55
5-1-55
Mag
True
Mine
LEGEND
LAMPROPHYRE
LATE DIORITE DIKES
DIORITE
SULFIDES
GRANITIZED PERIDOTITE
PERIDOTITE
AMPHIBOLE SCHIST
BIOTITE SCHIST
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
2500 LEVEL EXPLORATION
LEVEL 2500
SCALE 1" = 40'
DATE 5-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E 644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6600 E
6800 E
7000 E
7200 E
7400 E
7600 E
19,300 N
19,100 N
321 XCS
336 XCS
357 XCS
373 XCS
BSBM 262
1129
1144
1150
1149
1157
1161
1177
1178
1267
1291
1289
1292
1314
1315
1317
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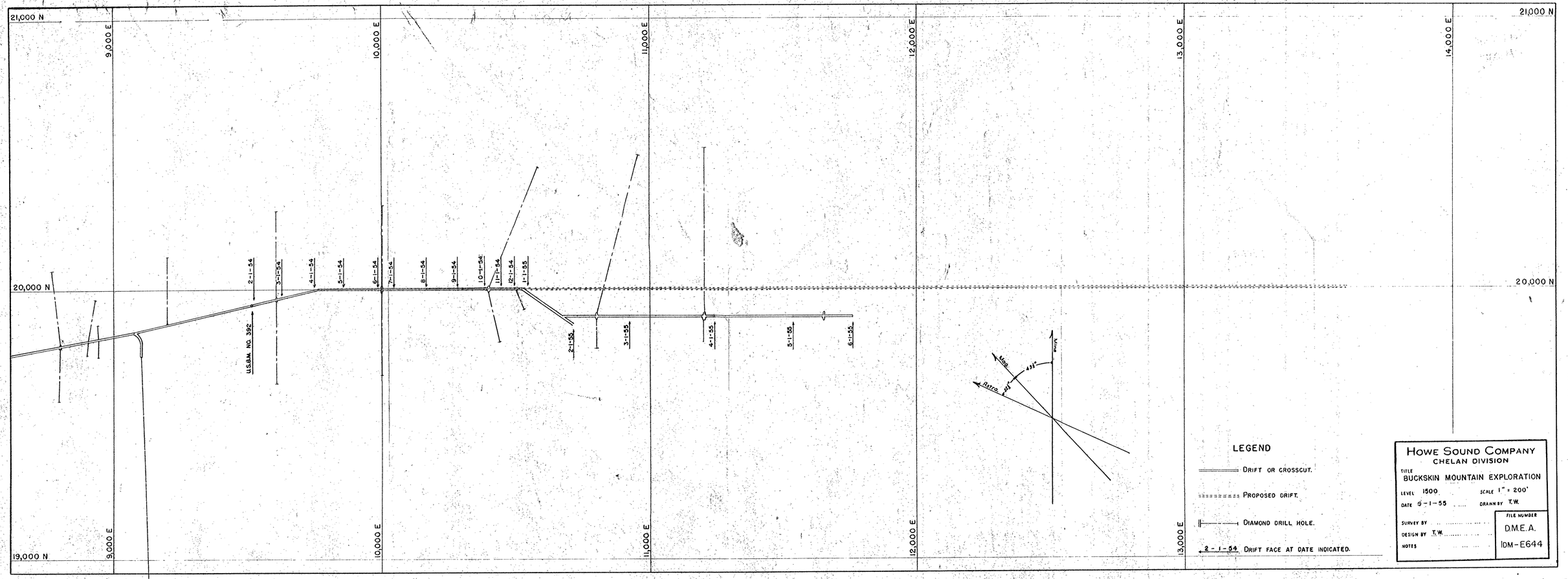
1307
1308
1302
1303
1316
1312
6-1-55
7-1-55
3-1-55
4-1-55
5-1-55
D.M.E.A. PROGRAM STARTS HERE
D.D. STATION
D.D. STA
LEGEND
LAMPROPHYRE
LATE DIORITE DIKES
DIORITE
SULFIDES
GRANITIZED PERIDOTITE
PERIDOTITE
AMPHIBOLE SCHIST
BIOTITE SCHIST
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
2500 LEVEL EXPLORATION
LEVEL 2500
SCALE 1" = 40'
DATE 7-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY
NOTES
FILE NUMBER
D.M.E.A.
IDM-E 644


21,000 N
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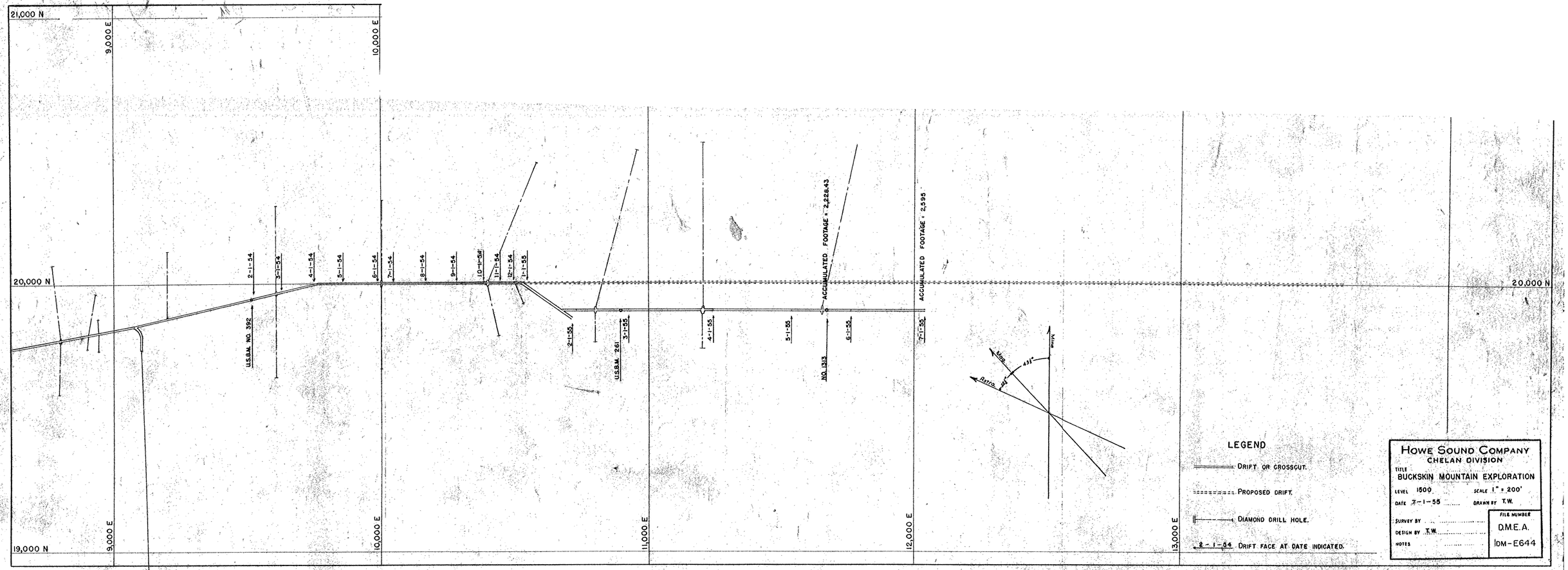
19,000 N
9,000 E
10,000 E
11,000 E
12,000 E
13,000 E
14,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
2-1-55
3-1-55
4-1-55
5-1-55
6-1-55
U.S.B.M. NO. 392
Mine
Map
Retro
48½°
48°
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 9-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
10M-E644


21,000 N
20,000 N
19,000 N
9,000 E
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12,000 E
13,000 E
2-1-54
3-1-54
4-1-54
5-1-54
6-1-54
7-1-54
8-1-54
9-1-54
10-1-54
11-1-54
12-1-54
1-1-55
U.S.B.M. NO. 392
2-1-55
3-1-55
U.S.B.M. 261
4-1-55
5-1-55
6-1-55
7-1-55
NO. 1313
ACCUMULATED FOOTAGE = 2,228.43
ACCUMULATED FOOTAGE = 2,595
Mag.
Bates
431'
Mine
LEGEND
DRIFT OR CROSSCUT.
PROPOSED DRIFT.
DIAMOND DRILL HOLE.
2-1-54 DRIFT FACE AT DATE INDICATED.
HOWE SOUND COMPANY
CHELAN DIVISION
TITLE
BUCKSKIN MOUNTAIN EXPLORATION
LEVEL 1500
SCALE 1" = 200'
DATE 7-1-55
DRAWN BY T.W.
SURVEY BY
DESIGN BY T.W.
NOTES
FILE NUMBER
D.M.E.A.
10M-E644