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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1953 Docket No. DMEA 1019X Amended Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ 2300.00
92 ft. at $25.00 per foot

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 9 1954

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						
Bulldozing						
Crosscutting						
Drifting						
UNWATERING DILLY HILL SHAFT						
(2) Labor and Supervision:						
Labor	6,133.92	36,431.04	42,564.96			
Supervision	525.00	3,970.00	4,495.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	142.56	11,962.39	12,104.95			
Explosives		44.55	44.55			
Pipe	392.62	2,354.70	2,747.32			
Track		457.82	457.82			
Misc. Supplies inc. Diesel Fuel, Gas, Oil	1,766.55	11,186.13	12,952.68			
(4) Operating Equipment:						
Rental	86.00	2,947.05	3,033.05			
Purchase		6,026.26	6,026.26			
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	823.71	4,791.57	5,615.28			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	9,870.36	80,171.51	90,041.87			

Betty
2/11/54 - J.W.G.
Payment 2300.00

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

Date 1/12/54 *Payee THE GLIDDEN COMPANY

Per Edward A. Hoffman Title Manager of Mines

*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:

$2300.00

Signature
(Authorized Certifying Officer)

Date Vou. No. SF-DMca-29

(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. Idm-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div. Region III Date Jan. 22, 1954.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature C. Ricker for H. C. Miller Title Executive Officer DMEA Field Team Region III Date January 25, 1954

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
[illegible] 9 1954

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1953 Docket No. DMEA 1219X Amended Contract No. _____
Operator's Name [illegible] Minerals _____
Address [illegible], Ohio

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								
Crosscutting								
Raising								
Shafts Unwatering	ft	9,870.36	92'	55,142.73	502'			
Winzes Sully Hill Shaft								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit		-	-	34,899.14	1022.5'			
Total Distributed Costs		$9,870.36	92'	$90,041.87				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		$9,870.36		$90,041.87				

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 1/12/54 Operator [illegible]
Per [illegible] Title Manager of Mines

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

Remarks: _____

(Instructions on reverse)

(For Government use only)

INSTRUCTIONS

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

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

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

GPO 83-38475

Redding, California
January 12, 1954

SUBJECT: REHABILITATION BULLY HILL MINE
UNWATERING BULLY HILL MINE SHAFT

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
IDM-E187

UNWATERING BULLY HILL MINE SHAFT
370 ft. to 462 ft. below 300 sill.
502 ft. from back of shaft above 300 station.

Unwatering operations were continued without interruption during the month of December, the total advance being 92 ft. The water on January 1st was slightly below the 770 station cap. There was a very decided increase in the amount of water pumped near the 770 level, the increase being due to two causes: Very extensive workings on the 770 level and a considerable amount of water coming from behind barriers on the 670 level. Actually two levels were being unwatered simultaneously. The shaft continues in excellent condition, requiring only a small amount of repair work.

EQUIPMENT
The installation of the Imperial Type 10 belt driven compressor was completed during the month of December and this machine went into service January 1st, making it possible to discontinue the use of the diesel compressors. This compressor has a rated capacity of 1100 cu. ft. of free air per minute and is quite adequate for all pumping and hoisting operations. An additional pump, Cameron 12" x 5 " x 13" is now being installed to speed up unwatering operations.

It has been called to our attention that progress reports, such as the narrative and MF-104A, do not agree on the total distance the shaft has been unwatered. This comes about through the fact that report MF 104A shows the complete distance from the back of the shaft above the 300 station to the water level, whereas the narrative report shows the distance from the 300 station sill, the difference in footage between the two reports being 40 ft. The unwatering operation under the contract approved the unwatering of the shaft and the mine from the back of the shaft above the 300 station to the 870 level and is so reported in MF104A.

Respectfully submitted,

Edward L. Ralston, Manager of Mines

ELR:HM

MONTH OF DECEMBER 19[illegible] Docket [illegible]. DMEA 1219X Amended

OPERATOR: THE GLIDDEN COMPANY
Cleveland, Ohio

Government participation - diamond drilling December 1950 to December 31, 1952	$21,924.10
Government participation - reopening 300 Adit to July 31, 1953	7,157.50
Government participation - unwatering Bully Hill Shaft to December 31, 1953	12,550.00
TOTAL GOVERNMENT PARTICIPATION TO DATE	$41,631.60

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

Budget Bureau No. 42-R1038.5
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of November, 1953 Docket No. DMEA 1219X Amended Contract No. Idm-E187
Operator's Name The Glidden Company Minerals zinc-copper
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ 2075.00
~~83 ft. @ $25.00 per foot~~

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						
Bulldozing						
Crosscutting						
Drifting						
~~Unwatering Bully Hill Shaft~~						
(2) Labor and Supervision:						
Labor	5,478.40	30,952.64	36,431.04			
Supervision	157.50	3,812.50	3,970.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	401.09	11,561.30	11,962.39			
Explosives	-	44.55	44.55			
Pipe	1,050.91	1,303.79	2,354.70			
Track		457.82	457.82			
Misc. Supplies, inc.						
Diesel Fuel, Grease	2,015.89	9,170.24	11,186.13			
(4) Operating Equipment:						
Rental	1,625.00	1,322.05	2,947.05			
Purchase		6,026.26	6,026.26			
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	697.18	4,094.39	4,791.57			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	11,425.97	68,745.54	80,171.51			

Approved 83' @ cost $5.0/ft. Cost 4/15/54 - J.W.G.

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

Date 12/12/53 *Payee THE GLIDDEN COMPANY

By Edward L. Ralston Title Manager of Mines

*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:

$2075.00

Signature Boyd R. Sylvester
(Authorized Certifying Officer)

Date DEC 22 1953 Vou. No. SF-DMEA-26

(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. Idm-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div. Reg. III Date Dec. 15, 1953

A. C. Johnson

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature S. Ricker for H. C. Miller Title Executive Officer DMEA Field Team Region III Date December 16, 1953

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 November 1953 Docket No. DMEA 1219X Amended Contract No. _____
Operator's Name THE GLIDDEN COMPANY Minerals _____
Address CLEVELAND, OHIO

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								
Crosscutting								
Raising								
Shafts Unwatering Bully ~~xxxxx~~ Hill Shaft	Ft	11425.97	83'	45,272.37	410'			
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft	-	-	34,899.14	1022.5'			
TOTAL DISTRIBUTED COSTS		$11425.97	83'	$80,171.51				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$11425.97		$80,171.51				

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 12/12/53 Operator THE GLIDDEN COMPANY

By Edward L. Ralston Title Manager of Mines

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

Month of November 1953 Docket No. DMEA 1219X Amended

OPERATOR: THE GLIDDEN COMPANY
Cleveland, Ohio

Government participation - diamond drilling December 1950 to December 31, 1952	$21,924.10
Government participation - reopening 300 adit to July 31, 1953	7,157.50
Government participation - unwatering Bully Hill Shaft to November 30, 1953	10,250.00
TOTAL GOVERNMENT PARTICIPATION TO DATE	$39,331.60

Redding, California
December 12, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Unwatering Bully Hill Mine Shaft

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
IDM-E187

UNWATERING BULLY HILL SHAFT
286 feet to 370 feet below 300 sill.

Pumping operations were continued during the month of November. Some little delay was caused by difficulties with the diesel compressors. The 670 station was found to be in a very bad state of repair since it was caved and completely filled, Hence, it was bulkheaded and bypassed for the time being. It is quite apparent that the upraise from the 770 to the 670 has either caved or been sealed off since all drainage from the 670 level is coming down the shaft. However, this water has been confined to one corner of the shaft and is not doing any particular damage to pumping operations. The shaft has been found to be in very good condition, resulting in only a moderate amount of repair work.

Thus far an increase in underground water has not been noted, and while the rainy season has already set in, yet there is no apparent incoming water due to this situation. Generally speaking, the work is progressing in a satisfactory manner.

EQUIPMENT
No new equipment was added to unwatering operations during the month. However, an Imperial type 10 compressor, with a capacity of 1100 cu.ft. of free air per minute, is now being installed to replace the diesel compressors. This machine should go into operation very shortly.

Respectfully submitted

Edward L. Ralston, Manager of Mines

ELR:HM

vmde

NOV 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: October 29, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA - 1219X

Contract Idm-E 187 (Amended)

Commodity Zinc-Copper

Operator - The Glidden Company

Property - Bully Hill Mine, Shasta County, Calif.

By Mr. John D. Warne

Dated October 26, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-1219X (Amended)(Zinc-copper) October 26, 1953

Name and address of operator: The Glidden Co.,
Edward L. Ralston, Manager of Mines
P. O. Box 430
Redding, Calif.

Name and location of property: Bully Hill Mine, located about 30 miles northeast of Redding, Shasta Co., Calif.

Contract No.: Idm-E187

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This exploration project was visited on October 16, 1953. The operator had completed rehabilitating 1,022.5 feet of the 300-level adit (Stage II, item 1); and he had unwatered and rehabilitated 267 feet of the Bully Hill vertical underground shaft (Stage II, item 2).

Shaft unwatering and rehabilitation work is progressing at a satisfactory rate; however, this operation will be slow due to the great quantity of water to pump. Water is removed at a rate of over 100 g.p.m. at the present time.

No specific recommendations are made at this time.

STATEMENT OF WORK COMPLETED

Unwatering and rehabilitating the Bully Hill vertical shaft (Stage II, item 2)began on September 7, 1953. At the time of this inspection, this work had progressed to a point 267 feet below the 300-foot adit level station.

The quantity and costs of work done to date under the contract are as follows:

Stage I:

Diamond drilling 5,299 feet 4 inches.

Government participation @ $9.00/foot $47,693.98

Stage II:

Rehabilitation 300-level adit (item 1):

Period	Interval	Feet	Total Cost	Gov't Participation
March	0 - 20	20	$ 914.85	$ 140.00
April	20 - 137	117	4,986.51	819.00
May	137 - 365	228	8,934.59	1,596.00
June	365 - 592.5	227.5	10,312.02	1,592.50
July	592.5 - 1022.5	430	9,751.17	3,010.00
	Sub-totals	1,022.5	$34,899.14	$7,157.50*
	Cost per foot		$34.13	$7.00*

Unwater and rehabilitate Bully Hill vertical shaft (item 2):

August	0 - 41	41	$ 6,687.67	$ 1,025.00
September	41 - 267	226	14,037.16	5,650.00
	Sub-totals	267	$20,724.23	$ 6,675.00*
	Cost per foot		$77.62	$25.00*
	TOTALS		$55,623.00**	$13,832.50*

*Maximum allowable Government participation.
**Total cost of rehabilitation work as reported by the operator.

COMMENTS

The operator has installed the following equipment underground to perform the rehabilitation work:

1 Hoist - Vulcan, air operated, 10 x 14 sized, single geared drum, speed 500 ft./min., capacity 6500 lbs.

1 Pump - Cameron type, 14" air head, 7" water end, 13" stroke, capacity +200 gal./min., sinker type requiring about 600 c.f.m. of air to operate.

The sinker type pump was located at 267 feet below the collar (300 level) of the vertical Bully Hill underground shaft at the time of the inspection. The operator plans to install a permanent pump at the 570 level when it is reached to handle possible surges of water, and to proceed with pumping operations to the 870-foot level.

Electric power facilities have recently been installed at the mine; however Diesel and gasoline operated equipment is still in use.

John D. Warne

John D. Warne
Mining Engineer

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

500

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1953 Docket No. DMEA 1219X (Amended) Contract No. 1953
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ 1500.00

60 ft. @ $25.00 per foot

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						
Bulldozing						
Crosscutting						
Drifting						
UNWATERING BULLY HILL SHAFT						
(2) Labor and Supervision:						
Labor	5,726.93	25,225.71	30,952.64			
Supervision	500.00	3,312.50	3,812.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	629.63	10,931.67	11,561.30			
Explosives	-	44.55	44.55			
Pipe	-	1,303.79	1,303.79			
Track	-	457.82	457.82			
Oil, Diesel Fuel, Misc. Supplies	4,534.34	4,635.90	9,170.24			
(4) Operating Equipment:						
Rental	555.43	766.62	1,322.05			
Purchase	412.00	5,614.26	6,026.26			
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	763.24	3,331.15	4,094.39			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	13,121.57	55,623.97	68,745.54			

WPB 12-10

Bully
12/5/53 J.W.L.
60 @ $50
Approved.

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

Date 11/12/53 *Payee THE GLIDDEN COMPANY

Per E. J. [illegible] Title Manager of Mines

Edward [illegible]

*When this form is signed by a 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:

$ 1500 00

A. J. Renner
Signature Authorized Certifying Officer
(Authorized Certifying Officer)

DEC 3 1953
Date Vou. No. SF-DMEA-25

(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. Idm-E187 in accordance with the terms of the contract.

Signature George H. Holmes, Jr. Title Mining Methods Research Engineer Date November 18, 1953.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title DMEA Field Team Executive Officer Region III Date November 19, 1953

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

ACCOUNTS NOV 24 1953

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts Unwatering Bully ~~Wooser~~ Hill Shaft	Ft	13,121.57	60'	33,846.40	327'			
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft	-	-	34,899.14	1022.5'			
TOTAL DISTRIBUTED COSTS		$13,121.57		$68,745.54				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$13,121.57		$68,745.54				

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 11/12/53 Operator THE GLIDDEN COMPANY

Per Edward L. Ralston Title MANAGER OF MINES

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

MONTH OF OCTOBER 1953

Docket No. DMEA 1219X (Amended)

OPERATOR: THE GLIDDEN COMPANY
Cleveland, Ohio

Government participation - diamond drilling December 1950 to December 31, 1952	$21,924.10
Government participation - reopening 300 Adit to July 31, 1953	7,157.50
Government participation - unwatering Bally Hill Shaft to October 31, 1953	8,175.00
TOTAL GOVERNMENT PARTICIPATION TO DATE	$ 37,256.60

Redding, California
November 12, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Unwatering Bully Hill Mine Shaft

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
IDM-E187

UNWATERING BULLY HILL SHAFT

Pumping operations were continued during the month of October without interruption due to mechanical difficulties. A total of 60 ft. of shaft was unwatered. The 570 level was also unwatered and due to the extensive workings on the 570 level progress was slow. While the shaft was found in an excellent condition, yet it was necessary to do considerable relagging, also to install new 4 x 6 guides for the entire distance. There is considerable retimbering to be done on the 570 station since the ground is quite heavy here. However, the only work done at this time will be retimbering where necessary in the shaft and on the stations since it is not our intention to reopen the 570 at this time. Apparently the mine is not making very much water and it now appears that there is very little water held behind caves and other barriers, it being quite possible that some of the raises are still open and the water is lowered in the various workings as the shaft is unwatered.

EQUIPMENT

The only equipment added during the month was one 12" x 6" x 13" Cameron Station pump. To date this pump has not been installed but will be installed on the 570 or 670 levels. It is now ready to go into service.

Respectfully submitted,

Edward L. Ralston, Manager of Mines

ELR:HM

Form MF-101 (Rev.)
(April 1952)

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

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

ACCOUNTS AUG 24 1953

Month of July, 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address CLEVELAND, OHIO
Contract Amount, $ Government Participation: %; Amount, $3010.00

430 ft. @ $7.00 per foot

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:						9/4/53 J.W.L. Amount Allowed O.K.
Drilling						
Bulldozing						
Crosscutting						
Drifting						
Reopening 300 Adit						
(2) Labor and Supervision:						
Labor	5,339.58	12,623.82	17,963.40			
Supervision	500.00	1,812.50	2,312.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	1,581.02	7,568.43	9,149.45			
Explosives	44.55		44.55			
Pipe	768.39		768.39			
Track	390.77	67.05	457.82			
Oils, Greases, Misc. Supplies	373.80	1,281.29	1,655.09			
(4) Operating Equipment:						
Rental	59.25	118.50	177.75			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	693.81	1,676.38	2,370.19			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	9,751.17	25,147.97	34,899.14			

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

Date 8/14/53 *Payee THE GLIDDEN COMPANY

By Howard H. Hutton Title MANAGER OF MINES

*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:

$3010.00

Signature
(Authorized Certifying Officer)

Date Vou. No SF-DMEA-7

(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. [illegible] in accordance with the terms of the contract.

Signature [illegible] Title [illegible] Date [illegible]

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Region III Date August 24, 1953

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

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

ACCOUNTS AUG 24 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1953 Docket No. DMEA1219X (Amended) Contract No. _____

Operator's Name THE GLIDDEN COMPANY Minerals _____

Address CLEVELAND, OHIO

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft.	$9751.17	430'	$34,899.14	1022½'			
TOTAL DISTRIBUTED COSTS		$9751.17	430'	$34,899.14	1022½'			TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$9751.17		$34,899.14				

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 8/14/53 Operator THE GLIDDEN COMPANY

By Edward L. Ralston Title Manager of Mines

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

Redding, California
August 14, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Reopening 300 Bully Hill Adit

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
Idm-E187

Reopening 300 Adit
Advance July: 348½ ft. Total to date: 941 ft.
300 Adit Southwest of Shaft - 75 ft. - Total advance 75 ft.
Reached east side of shaft last week of July.

302 Drift SW
Advance - month: 13 ft. Total to date: 13 ft.
Necessary to reopen this drift to shaft in order to capture water from south side of shaft.

Timber
Back spiling only necessary on short stretches. Reduced cross-section of adit to 7 ft. caps, 7 ft. 6 in. posts.

300 Station
Ground not heavy but timber in bad state of repair. Necessary to do considerable retimbering before pumping operations can be started.

No new equipment added during the month.

You will please find appended a statement showing government participation to date on diamond drilling; also government participation to date on reopening 300 adit. The total, amounting to $29,081.60, represents government expenditures at Bully Hill.

Respectfully submitted,

Edward L. Ralston, Manager of Mines.

ELR:HM

MONTH OF JULY 1953 DOCKET NO. DMEA 1219X (Amended)

OPERATOR: THE GLIDDEN COMPANY
CLEVELAND, OHIO

Government participation - diamond drilling, December 1950 to December 31, 1952	$21,924.10
Government participation - Reopening 300 adit, to date (7/15/53)	7,157.50
TOTAL GOVERNMENT PARTICIPATION TO DATE	$29,081.60

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG - 4 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: July 31, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219X (Amended)

Contract Idm-E 187

Commodity Zinc-copper

Operator - The Glidden Company

Property - Bully Hill Mine, Shasta County, Calif.

By John D. Warne

Dated July 27, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

RECEIVED

INTERIM REPORT

Docket No.: DMEA-1219X (Amended) Zinc-copper July 27, 1953

Name and address of operator: The Glidden Co.,
Edward L. Ralston,
Manager of Mines,
P. O. Box 430,
Redding, Calif.

Name and location of property: Bully Hill Mine, located about 30 miles northeast of Redding, Shasta County, Calif.

Contract No.: Idm-E187

SUMMARY

This exploration project was inspected on July 22, 1953 by John D. Warne.

A total of 931 feet of the 300 level adit of the Bully Hill mine had been rehabilitated under Stage II of the contract at the time of this inspection.

The vertical shaft collar and 300 level station is now accessible. About one months time is estimated to be required by the operator to rehabilitate the shaft station before beginning unwatering operations.

Rehabilitation work is being performed in a satisfactory and workmanship manner.

RECOMMENDATIONS

No recommendations in connection with this exploration project are made at this time.

STATEMENT OF WORK COMPLETED

Rehabilitation work on the 300 level adit had proceeded to a point 931 feet from the portal at the time of this inspection. Several short intervals of rock section which did not require timbering were encountered within the last 300 feet of adit re-opened. Work is still in progress rehabilitating and retimbering the adit, however the shaft is now accessible.

The quantity and costs of work done to date under this contract are as follows:

Stage I:

Diamond drilling 5,299 feet 4 inches
Government participation @ $9.00/ft. $47,693.98

Stage II:

Rehabilitation 300 level adit.

Period	Interval	Feet	Total Cost	Govt. participation
March	0 - 20	20	$ 914.85	$ 140.00
April	20 - 137	117	4,986.51	819.00
May	137 - 365	228	8,934.59	1,596.00
June	365 - 592.5	227.5	10,312.02	1,592.50
July	592.5 - 931	--	(To July 22 - not yet reported)	
	Totals	592.5	$25,147.97	$4,147.50 *
	Cost per foot:		42.44	7.00 *

*Maximum allowable amount of Government participation.

GENERAL COMMENTS

The vertical shaft is now accessible however the operator is still engaged in rehabilitating and retimbering the 300 level adit. Considerable clean-up and retimbering the station will be required before shaft unwatering and rehabilitation operations are begun - about

one months time will be required to do this work.

Timber sets (10- by 10-inch size) are now being installed at 5-foot intervals; allowing 8 feet by 6 feet, 4 inches in the clear.

Rehabilitation work is being performed in a satisfactory and workmanship manner.

John D. Warne

John D. Warne,
Mining Engineer

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

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

September 23, 1953

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Operators' Monthly Progress Reports - Forms MF-104 & MF-104A

Enclosed herewith are two copies of each of the subject reports received from the following operators as listed below. These reports have been audited and passed to the Treasury for payment.

Contract No.	Operator	Report dated	Period covered
Idm-E187 (Amended) DMA-1219X	The Glidden Company	Sept. 14, 1953	August 1953
Idm-E379 DMEA-2455	Aubrey Minney	Sept. 14, 1953	September 1953

H. C. MILLER

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachments

Copy to: J. H. Bailey, USGS

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

Budget Bureau No. 42-R1036.2
Approval expires 6-30-53.

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

ACCOUNTS SEP 18 1953

Month of August, 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address CLEVELAND, OHIO
Contract Amount, $ Government Participation: % Amount, $ 1025.00

~~41 ft. @ $25.00 per foot~~

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						
Bulldozing						
Crosscutting						
Drifting						
UNWATERING BULLY HILL SHAFT						
(2) Labor and Supervision:						
Labor	1,998.99	17,963.40	19,962.39			
Supervision	500.00	2,312.50	2,812.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	1,094.53	9,149.45	10,243.98			
Explosives		44.55	44.55			
Pipe		768.39	768.39			
Track		457.82	457.82			
Oil, Grease, Misc. Supplies	581.54	1,655.09	2,236.63			
(4) Operating Equipment:						
Rental	29.62	177.75	207.37			
Purchase	2,202.14	-	2,202.14			
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	280.85	2,370.19	2,651.04			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	6,687.67	34,899.14	41,586.81			

Nassau Gold Gliddin's Co-Ltd

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

Date 9/14/53 Payee THE GLIDDEN COMPANY

Per Edward L. Ralston Title Manager of Mines

*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:

$1025.00

Signature Lloyd H. Sjolander Authorized Certifying Office
(Authorized Certifying Officer)

Date SEP 1953 Vou. No. SF-DMEA-17

(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. Ic-2187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div. Region III Date Sept. 16, 1953.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature S. Ricker for H. C. Miller Title Executive Officer DMEA Field Team Region III Date Sept. 17, 1953

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

ACCOUNTS SEP 18 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of August 1953 Docket No. DMEA 1219X (Amended) Contract No. _____
Operator's Name [illegible] Minerals _____
Address [illegible], OHIO

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								
Crosscutting								
Raising								
Shafts Unwatering Pit	Foot	6607.67	41'	6,607.67	41'			
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Pit	Foot	-	-	34,899.14	1022.5'			
Total Distributed Costs		6607.67	41'	41,506.81				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		6607.67		41,506.81				

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 9/14/53 Operator [illegible]
Per [illegible] Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

MONTH OF AUGUST 1953

Docket No. DMEA 1219X (Amended)

OPERATOR: THE GLIDDEN COMPANY
Cleveland, Ohio

Government participation - diamond drilling December 1950 to December 31, 1952	$21,924.10
Government participation - reopening 300 Adit to July 31, 1953	7,157.50
Government participation - unwatering Bully Hill shaft to August 31, 1953	1,025.00
TOTAL GOVERNMENT PARTICIPATION TO DATE	$30,106.60

Redding, California
September 14, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Reopening 300 Bully Hill Adit
Unwatering Bully Hill Mine Shaft

DMEA REFERENCE:

Docket No. 1219X Amended
Commodity: Zinc-Copper
Idm-K187

302 Drift Southwest:
Advance for month: 164 ft. Total advance: 177 ft.
This job was completed during the month and the entire distance is now open and in good condition to the west side of the station.

300 Station:
All retimbering has been completed on 300 Station and it is now ready for service.

300 Shaft above 300 Adit:
All retimbering here was completed during the month. Also, the raise from the back of 300 adit to the sheave wheel was retimbered.

Unwatering Bully Hill Shaft:
Preparation for the unwatering of the Bully Hill shaft from the 300 Adit to the 870 level was completed during the month and actual unwatering operations started September 7th.

The only equipment added during the month was one 14-7-13 Cameron Sinking Pump put in for the purpose of unwatering the Bully Hill shaft.

Progress to date on unwatering operations has been good.

Respectfully submitted,

Edward L. Ralston, Manager of Mines

ELR:HM

Department of the Interior
Defense Minerals Exploration Administration
SEP 21 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: September 14, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA-1219X

Contract Idm-E187 (Amended)

Commodity Zinc-Copper

Operator - The Glidden Company
Edward L. Ralston, Manager

Property - Bully Hill Mine, Shasta County, California

By John D. Warne

Dated September 3, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-1219X (Amended) Zinc-copper Sept. 3, 1953

Name and address of operator: The Glidden Co.,
Edward L. Ralston,
Manager of Mines
P. O. Box 430
Redding, Calif.

Name and location of property: Bully Hill Mine, located about 30 miles northeast of Redding, Shasta County, Calif.

Contract No.: Idm-E187

SUMMARY

This exploration project was discussed with Mr. E. L. Ralston at Redding, California on August 26, 1953.

The operator has rehabilitated 1022.5 feet of adit and drifts on the 300 level; and he is now engaged in retimbering the 300 level shaft station preparatory to unwatering the shaft (Stage II, item 2 of the contract).

RECOMMENDATIONS

An allowance of additional footage of rehabilitation (in excess of the 975 feet estimated in the contract) on the 300 level is recommended to allow capture of the water in the vicinity of the shaft. No increase in the total cost of rehabilitation work allowed in the contract ($60,150.00) is recommended.

STATEMENT OF WORK COMPLETED

A total of 1022.5 feet of rehabilitation work on the 300 level has been reported by the operator as of July 31, 1953.

The quantity and costs of work done to date under this contract are as follows:

Stage I:

Diamond drilling 5,299 feet 4 inches
Govt. participation @ $9.00/ft. $47,693.98

Stage II:

Rehabilitation 300 level adit.

Period	Interval	Feet	Total cost	Gov't. participation
March	0-20	20	$ 914.85	$ 140.00
April	20-137	117	4,986.51	819.00
May	137-365	228	8,934.59	1,596.00
June	365-592.5	227.5	10,312.02	1,592.50
July	592.5-1022.5	430 *	9,751.17	3,010.00
Totals		1022.5	$34,899.14	$7,157.50 **
Cost per foot:			41.31	7.00

**Maximum allowable amount of Government participation.
* Exceeds the amount estimated in the contract by 47.5 feet.

GENERAL COMMENTS

The operator is now engaged in retimbering and rehabilitating the shaft station preparatory to installing hoisting and pumping equipment at the shaft. Unwatering of the shaft is planned immediately.

Rehabilitation of workings on the 300 level in excess of 975 feet (as estimated by the contract) will be necessary in order to capture water from the shaft area. The operator has already exceeded the estimate by 47.5 feet; and a total of 1022.5 feet of drift was rehabilitated as of August 1, 1953. Little (or no) additional increase in footage of rehabilitation on this level is anticipated by Mr. Ralston. This small amount of additional rehabilitation work required on this level is necessary to permit further mine drainage.

John D. Warne

John D. Warne
Mining Engineer

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ACCOUNTS OCT 22 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of September, 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ 5650.00
226 ft. @ $25.00 per ft.

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						
Bulldozing						
Crosscutting						
Drifting						
Unwatering Bully Hill Shaft						
(2) Labor and Supervision:						
Labor	5,263.32	19,962.39	25,225.71			
Supervision	500.00	2,812.50	3,312.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	687.69	10,243.98	10,931.67			
Explosives	-	44.55	44.55			
Pipe	535.40	768.39	1,303.79			
Track	-	457.82	457.82			
Oils, Grease, Gas, Diesel, Misc. Sup.	2,399.27	2,236.63	4,635.90			
(4) Operating Equipment:						
Rental	559.25	207.37	766.62			
Purchase	3,412.12	2,202.14	5,614.26			
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	680.11	2,651.04	3,331.15			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	14,037.16	41,586.81	55,623.97			

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

Date 10/21/53 *Payee THE GLIDDEN COMPANY

Per Richard L. Galston Title Manager of Mines

*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:

$5650.00

Signature Lloyd H. Splender, Authorized Certifying Officer
(Authorized Certifying Officer)

Date Vou. No. SF-DMEA-22
(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. Idm-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div. Date October 21, 1953.
A. C. Johnson Region III

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Date October 22, 1953
H. C. Miller Region III

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

ACCOUNTS OCT 22 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1953 Docket No. DMEA 1219R (Amended) Contract No. _____

Operator's Name The Glidden Company Minerals _____

Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts Unwatering U.H.								
Winzes Shaft	FT	14,037.16	226'	20,724.83	267'			
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	FT	-	-	34,899.14	1022.5'			
TOTAL DISTRIBUTED COSTS		14,037.16	226'	55,623.97				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		14,037.16		55,623.97				

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

Date 10/14/53 Operator The Glidden Company

Per Edward L. Ralston Title Manager of Mines

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

MONTH OF SEPTEMBER 1953

Docket No. DMEA 1219X (Amended)

OPERATOR: THE GLIDDEN COMPANY
Cleveland, Ohio

Government participation - diamond drilling December 1950 to December 31, 1952	$21,924.10
Government participation - reopening 300 Adit to July 31, 1953	7,157.50
Government participation - unwatering Bully Hill shaft to September 30, 1953	6,675.00
TOTAL GOVERNMENT PARTICIPATION TO DATE	$35,756.60

Redding, California
October 14, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Unwatering Bully Hill Mine Shaft

DMEA REFERENCE:

Docket No. 1219X Amended
Commodity: Zinc-Copper
IDM-K187

Unwatering Bully Hill Shaft

Actual pumping operations were started September 7th and were continued without interruption during the month. The shaft was unwatered for a distance of 226 ft. below the 300 station sill, and the 370 and 470 levels were also unwatered. All workings on the 370 and 470 levels, with the exception of the stations, were bulkheaded after unwatering, a precautionary measure in case of a flash flood from water held back. It is planned to continue unwatering with the present pumping equipment to the 570 level, where a station pump will be installed in order to cut down the pumping head. Due to inaccessibility of the levels which have been unwatered, it is not possible to tell just how much water the mine is making but apparently it is not great.

Hoisting Equipment

A 10" x 14" Vulcan steam hoist was installed on the 300 Station to handle the unwatering operations. This hoist is operated by compressed air and is giving very satisfactory results.

Respectfully submitted,

Edward L. Ralston, Manager of Mines.

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ACCOUNTS JUL 22 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of June, 1953 Docket No. DMEA 1219X Amended Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address CLEVELAND, Ohio
Contract Amount, $ Government Participation: % Amount, $ 1592.50

227.5 ft. @ $7.00 per foot

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:						Alt
Drilling						Betty
Bulldozing						9/4/53 - J.W.L.
Crosscutting						Amount approved
Drifting						O.K.
RED PLAINS 300 Adit						
(2) Labor and Supervision:						
Labor	5417.45	7,206.37	12,623.82			
Supervision	500.00	1,312.50	1,812.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	3094.28	4,474.15	7,568.43			
Explosives						
Pipe						
Track	67.05		67.05			
Oils, Greases						
Misc. Supplies	463.57	817.72	1,281.29			
(4) Operating Equipment:						
Rental	59.25	59.25	118.50			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	710.42	965.96	1,676.38			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	10312.02	14,835.95	25,147.97			

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

Date July 13, 1953 *Payee THE GLIDDEN COMPANY

Per Edward L. Kelston Title Manager of Mines

*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:

$ 1592 50

Signature
(Authorized Certifying Officer)

Date Vou. No. 5F-DMEA-6

(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. [illegible] in accordance with the terms of the contract.

Signature [illegible] Title Chief, Engrg. Div., Region III Date July 17, 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Region III Date July 22, 1953

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

GPO 83-38476

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151
Approval expires 6-30-63.

UNITED STATES
DEPARTMENT OF THE INTERIOR

ACCOUNTS JUL 22 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1953 Docket No. DMEA 1219X (Amended) Contract No. _____

Operator's Name THE GLIDDEN COMPANY Minerals _____

Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Foot	10312.02	227.5'	25,147.97	592.5'	$42.444		
TOTAL DISTRIBUTED COSTS		10312.02	227.5'	$25,147.97				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc								
TOTAL COSTS		$10312.02		$25,147.97				

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

REMARKS: _____

Date July 13, 1953 Operator THE GLIDDEN COMPANY

By Edward L. Ralston Title Manager of Mines

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

Redding, California
July 13, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
Reopening 300 Bully Hill Adit

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
Idm-K187

Reopening 300 Adit:

Advance - June: 227.5 feet. Total to date: 592.5 feet.

Little change in condition of adit, completely filled, with ground badly broken. Slighty less flow of water.

Timber: Continued use of back spiling necessary with occasional side spiling and some breast boards. Ground not heavy after being retimbered.

No new equipment added during month.

Respectfully submitted,

Edward L. Ralston - Manager of Mines

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JUL 10 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: July 6, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219X

Contract Idm-E 187

Commodity Zinc-Copper

Operator - The Glidden Company
P. O. Box 430, Redding, Calif.

Property - Bully Hill Mine, located about 30 miles northeast of Redding, Shasta County, California

By John D. Warne, Mining Engineer

Dated July 3, 1953

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

George Mavor

RECEIVED
JUL 20 1953

INTERIM REPORT

Docket No.: DMEA-1219X (Amended) Zinc-copper July 3, 1953

Name and address of operator: The Glidden Co.,
Edward L. Ralston,
Manager of Mines,
P. O. Box 430,
Redding, California

Name and location of property: Bully Hill Mine, located about 30 miles northeast of Redding, Shasta County, California.

Contract No.: Idm-E187

SUMMARY

This exploration project was inspected on June 24 and 25, 1953 by John D. Warne.

Work under this amended contract was resumed on March 23, 1953 to rehabilitate the 300 level adit of the Bully Hill mine under Stage II of the contract. A total of 525 feet of the adit had been re-opened and enlarged at the time of this inspection.

Rehabilitation work is progressing at an average rate of about 175 feet per month; and it is being performed in a satisfactory and workmanship manner.

RECOMMENDATIONS

The period of the amended contract, dated April 30, 1953, should be extended retroactively to allow payment for rehabilitation work performed during the period March 23 to April 30, 1953 prior to the date of the amended contract.

STATEMENT OF WORK COMPLETED

Work under this amended contract was resumed on March 23, 1953 to rehabilitate the 300 level adit of the Bully Hill mine under Stage II of the contract.

The quantity and costs of the work done to date are as follows:

Stage I:

Diamond drilling 5,299 feet 4 inches - Government participation $47,693.98

Stage II:

Rehabilitation 300 level

Interval	Feet	Total Cost	Government Participation
0 - 20	20	$ 914.85	$ 140.00
20 - 137	117	4,986.51	819.00
137 - 365	228	8,934.59	1,596.00
Totals	365	$14,835.95	$2,555.00 *

*Maximum allowable price per foot $14.00 @ 50% Government participation.

GENERAL COMMENTS

The 300 level adit is being enlarged to accommodate passage of hoisting equipment to the under ground shaft which is to be later rehabilitated for use. Timber sets (10- by 10-inch size is used) are now being installed at 5-foot intervals, and heavy spiling (4- by 6-inch size) is used in rehabilitating the adit; 16- by 16-inch timbers, allowing 8- by 8-feet in the clear, were installed near the portal. This work is being done in a very satisfactory manner. The Government's participation in this work ($7.00 per foot) to accomplish subsequent exploration work is considered reasonable - and it is considerably less than 50% of the actual cost of the work.

EQUIPMENT

Under the terms of the contract the operator furnishes all operating equipment for performing the work. Satisfactory equipment has been ordered, or is now in use, to complete the work within the time limit specified by the contract.

OTHER INFORMATION

Work was begun to rehabilitate the 300 level adit on March 23, 1953 prior to the date of the amended contract April 30, 1953. The operator (Mr. E. L. Ralston, Manager of Mines, for the Glidden Company) states that the period of the amended contract will be extended retroactively to allow payment for work done from March 23 to April 30, 1953; however, there is nothing on file in this office that indicates an agreement whereby work under the contract may be started prior to the date thereof.

John D. Warne

John D. Warne
Mining Engineer

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

1983 JUL 6 AM 10:03

SAN FRANCISCO, CALIFORNIA

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

Budget Bureau No. 42-[illegible]3.3.
Approval expires 6-30-53

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

ACCOUNTS

Month of April, 1953 Docket No. DMEA 1219X (Amended) Contract No. [illegible]
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ $819.00
117 ft. @ $7.00 per ft.

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						
Bulldozing						
Crosscutting						
Drifting						
RE-OPENING 300 ADIT						
(2) Labor and Supervision:						
Labor	2316.75	409.89	2,726.64			
Supervision	625.00	-	625.00			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	1172.08	465.00	1,637.08			
Explosives						
Pipe						
Track						
Misc. Supplies: Oils						
Grease, Diesel Fuel	585.85		585.85			
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	286.83	39.96	326.79			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	$4986.51	$ 914.85	$ 5,901.36			

Betty
9/4/53 J.W.C.
amount allowed
O.K.

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

Date June 23, 1953 *Payee The Glidden Company

Per [signature] Title Manager of Mines

*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:

$ 819 00

Signature
(Authorized Certifying Officer)

Date AUG 12 1953 Vou. No. SF-DMEA-6

(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. Idm-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div., Region III Date June 30, 1953.

A. C. Johnson

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Region III Date July 2, 1953.

H. C. Miller

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

ACCOUNTS JUL 17 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of April 1953 Docket No. DMEA 1219 (Amended) Contract No. _____
Operator's Name The Glidden Company Minerals _____
Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft	4986.51	117'	5991.36	197'	$43.0732'	137	
TOTAL DISTRIBUTED COSTS		4986.51	117'	5991.36	197'			TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		4986.51	117'	5991.36				

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 June 13, 1953 Operator The Glidden Company

Per Edward L. Malyon Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

Redding, California
May 14, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
REOPENING 300 BULLY HILL ADIT

DMEA REFERENCE:
Docket No. 1219X Amended
Commodity: Zinc-Copper
Idm-E187

Reopening 300 Adit:
Advance - April: 117 feet. Total to date: 137 ft.

Adit badly caved, completely filled. Heavy flow of water.

Timber:	Posts and caps	10 x 10's - fir
	Girts	4 x 6's - fir
	Spiling	4 x 6's - fir
	Lagging	2 x 8's and 2 x 10's - fir

Necessary to use spiling in back for entire distance, with occasional side spiling and breast boards. Heavy flow of water continued.

Rails: 25 lb.

Equipment: 320 ft. Diesel compressor. Model 12-B EIMCO shovel loader.

Second shift added April 27, 1953.

Respectfully submitted,

Edward L. Ralston - Manager of Mines

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

ACCOUNTS JUL 17 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of May, 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ $1596.00
228 ft. @ $7.00 per foot

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						
Bulldozing						
Crosscutting						
Drifting						
REOPENING 300 ADIT						
(2) Labor and Supervision:						
Labor	$4479.73	$2726.64	$ 7,206.37			
Supervision	687.50	625.00	1,312.50			
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	2837.07	1637.08	4,474.15			
Explosives						
Pipe						
Track						
Misc. Supplies: Oils, Grease, Diesel Fuel	231.87	585.85	817.72			
(4) Operating Equipment:						
Rental	59.25	-	59.25			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	639.17	326.79	965.96			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	$8934.59	5901.36	$14,835.95			

ok
Betty
9/4/53 J.W.A.
Income Allowed
O.K.

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

Date 6/13/53 *Payee THE GLIDDEN COMPANY

Per Howard L. Walton Title Manager of Mines

*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:

$1596.00

Signature Lloyd H. Sjolander
Authorized Certifying Officer
(Authorized Certifying Officer)

Date Vou. No.
(See other side)

(For Government use only)

CERTIFICATION BY GOVERNMENT REPRESENTATIVE:

I certify that to the best of my knowledge and belief the contractor submitting this voucher is operating a Defense Minerals Exploration Administration project under Contract No. Ion-1107 in accordance with the terms of the contract.

Signature R. C. Johnson Title Chief, Mining Div. Region III Date June 30, 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Region III Date July 2, 1953

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

ACCOUNTS JUL 17 1953

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of May 1953 Docket No. DMEA 1219X (Amended) Contract No. _____

Operator's Name The Glidden Company Minerals _____

Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft.	8934.59	228 ft	14835.95	365'	40.646'		
TOTAL DISTRIBUTED COSTS		8934.59	228 ft	14835.95	365'			TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		8934.59	228 ft	14835.95				

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 June 13, 1953 Operator THE GLIDDEN COMPANY

Per Edward L. Halston Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

THE GLIDDEN COMPANY

TIME-TESTED
PAINTS · VARNISHES · LACQUERS · ENAMELS

Box 430, Redding, California

June 13, 1953

Mr. A. C. Johnson,
Chief, Mining Division,
Bureau of Mines, Region III,
P. O. Box 1551,
Reno, Nevada.

Re: Docket DMEA 1219X (Amended)
Exploration Project Contract
Idm-E187

Dear Mr. Johnson:

We are enclosing original and four copies of Operator's Monthly Reports and Vouchers, Operator's Unit Costs and Progress Reports, and certified copies of invoices covering the reopening and retimbering of the 300 Adit, Bully Hill Mine. These reports cover the months of March, April and May.

Under the terms of our amended contract with the DMEA, the government was to participate to a maximum of $7.00 per foot on the reopening and retimbering of the 300 adit. This amended contract was executed during the month of May and according to Mr. Griswold, Chairman of the DMEA Board, would be retroactive on the work in reopening this 300 adit. Hence, this is the reason the reports were not mailed you during the months of March and April. However, they are now up to date and we will mail them each month before the 15th of the month.

Will you kindly have some additional report forms, MF 104 and MF 104-A, mailed to us since our supply is getting rather short.

Respectfully yours,

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

ELR:HM
Encls.

QUALITY Glidden PRODUCTS

Redding, California
June 13, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
REOPENING 300 BULLY HILL ADIT

DMEA REFERENCES:
Docket No. 1219X Amended
Commodity: Zinc-Copper
Idm-E187

Reopening 300 Adit:
Advance - May: 228 feet. Total to date: 365 feet.

Adit badly caved, completely filled, ground blocky and badly broken. Heavy flow of water.

Timber: Necessary to use spiling in back for entire distance with some side spiling and occasional breast boards. No difficulty experienced in holding adit open after timbering.

Equipment added: Kohler portable electric light plant on rental basis until power lines can be run in from substation.

Respectfully submitted,

Edward L. Ralston - Manager of Mines

Form [illegible]-104 (Rev.)
(April 1952)

Budget Bureau No. [illegible]-R10[illegible]3.
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

ACCOUNTS JUL 17 1953

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of March, 1953 Docket No. DMEA 1219X (Amended) Contract No.
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio
Contract Amount, $ Government Participation: % Amount, $ 140.00
20 ft. @ $7.00 per ft.

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						
Bulldozing						
Crosscutting						
Drifting						
Reopening 300 Adit						
(2) Labor and Supervision:						
Labor	409.89		409.89			
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber	465.00		465.00			
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	39.96		39.96			
Liability Insurance						
(8) Contingencies (specify):						
TOTALS	$914.85		$ 914.85			

Approved
Betty
8/4/53 J.W.L.
Amount allowed
O.K.

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

Date June 13, 1959 Payee The Glidden Company

Per Edward L. Hutton Title Manager of Mines

*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:

$140.00

Signature Lloyd H. Sjelander
Authorized Certifying Officer
(Authorized Certifying Officer)

Date JUL 17 1953 Vou. No. SF-DMCA-6

(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. 3dr-207 in accordance with the terms of the contract.

Signature R. G. Johnson Title Chief, Inspr. Br. Date June 30, 1953

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Region III Date July 2, 1953

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form [illegible]-104A
(Apr. 1952)

Budget Bureau No. 42-R1
Approval expires 6-30-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR

ACCOUNTS JUL 17 1953

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of March 1953 Docket No. DMEA 1219X (Amended) Contract No. 17
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Reopening 300 Adit	Ft.	914.85	20'	914.85	20'	45.743'		
TOTAL DISTRIBUTED COSTS		$914.85	20'	$914.85	20'			TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		$914.85	20'	$914.85				

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 June 13, 1953 Operator The Glidden Company

Per [signature] Title Manager of Mines
Howard L. Ralston

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

Redding, California
April 14, 1953

SUBJECT: REHABILITATION BULLY HILL MINE
REOPENING 300 BULLY HILL ADIT

DMEA Reference:
Docket No. 1219 I Amended
Commodity: Zinc-Copper
Idm-E187

Reopening 300 Adit:
The work comprised reopening the 300 Adit which had been closed since about 1920. Adit badly caved and completely filled.

Work started: March 23, 1953.

Advance - March: 20 feet.

Portal timbers: 8 x 16's.

Sets: 5 ft. centers.

Opening: 8 ft. high by 8 ft. wide, in the clear.

Respectfully submitted,

Edward L. Ralston - Manager of Mines

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
JAN 16 1953

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: January 12, 1953

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D.C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219X

Contract Idm-E 187

Commodity Zinc-Lead-Copper

Operator - The Glidden Co.,
766 - 50th Ave.,
Oakland, Calif.

Property - Bully Hill and Rising Star Mines
Shasta County, Calif.

By E. J. Watson, Mining Engineer

Dated January 8, 1953

H. C. Miller
H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA-1219X (copper-zinc) January 8, 1953

Name and address of operator: The Glidden Co.,
The Chemical and Pigment Co., Div.,
766 - 50th Ave.,
Oakland, Calif.

Name and location of property: Bully Hill and Rising Star Mines
Shasta County, Calif.

Contract No.: Idm-E187

SUMMARY

Actual diamond drilling has been stopped at the Bully Hill mine area on Dec. 31, 1952, pending a revision of the DMEA contract. Two holes, A1-5 and A3-1, were in progress during the month of December. Hole A1-5 was in the north extension of the Bully Hill zone and A3-1 in the south extension. A total of five holes aggregating 5,230 feet were drilled in the north extension; all the holes except the first encountered the extension of a mineralized zone north of the present nine workings. The first hole, A1-1, did not encounter the zone due to the fact that it did not reach out far enough. The last hole, A3-1, started in the southern extension of the Bully Hill zone was stopped at 69 feet and did not reach its objective.

7

A monthly summary of the drilling footages since work was started is as follows:

Date	A1-1	A1-2	A1-3	A1-4	A1-4A*	A1-5	A3-1	Totals
Dec. 1951	82	-	-	-	-	-	-	82
Jan. 1952	290	125	-	-	-	-	-	415
Feb. "	223	394	-	-	-	-	-	617
Mar. "	135	519	-	-	-	-	-	654
Apr. "	120	-	438	-	-	-	-	558
May "	165	-	407	-	-	-	-	572
June "	-	-	60	278	-	142	-	480
July "	-	-	-	402	-	338	-	740
Aug. "	-	-	-	143.8	-	185.5	-	329.3
Sept. "	-	-	-	112.2	-	83.5	-	195.7
Oct. "	-	-	-	147	-	64	-	211
Nov. "	-	-	-	23	106	51	-	180
Dec. "	-	-	-	-	-	196	69	265
Totals	1,015	1,038	905	1,106	106*	1,060	69	5,299

*Hole A1-4A is a deflection through ore zone in hole A1-4 from 943 to 1,049 or 106 feet. This footage (106 feet) should have been included in the November account submitted by the Glidden Co. It will be included in the December account showing footage for that month as 371 feet, instead of 265 feet as shown on the summary tabulations. Actually, only six holes were collared from surface; the 106 feet of deflection is called A1-4A only for clarification in the summary tabulations.

PROGRESS OF WORK

At the time of field inspection, Jan. 6, 1953, no actual drilling was being conducted. Work was progressing on the removal of casing from hole A1-5. Drilling was exceedingly tedious and slow due to bad

caving ground requiring considerable, reaming, casing and cementing. However, work was conducted in a very efficient and workman-like order by the E. J. Longyear Company under the supervision of Mayer G. Hansen, engineer in charge.

Average length of holes completed was 1,025 feet, not including hole A3-1 or the deflection (106 feet) in hole A1-4. Average footage for the month was 407.6 feet.

Actual drilling was discontinued on Dec. 31, 1952.

Skeletonized cores from all drill holes have been brought to Reno for storage in the Reno core library of the U. S. Bureau of Mines. The remainder of the core will be kept in storage at the Bully Hill mine location. Although sludges were saved, they were not sent in for analyses due to the excessive caving encountered in the holes. However, they also are being kept in storage at the Bully Hill mine location.

The two sludge sampling machines, loaned from the Bureau, were returned to Reno.

DRILL HOLE MINERALIZATION AND ASSAYS

Hole A1-1 did not encounter mineralization due to not reaching the objective.

A recapitulation of weighted assays of the best mineralization in holes A1-2 and A1-3, which are the only holes from which assay returns have been received to date, are as follows:

Hole No.	From	To	Feet	%,Cu	%,Zn
Al-2	778.5	794.0	15.5	2.14	14.31
"	877.0	888.0	11.0	2.45	.68
Al-3	529.0	534.0	5.0	0.72	.16
"	541.5	546.5	5.0	6.12	.05
"	712.5	715.0	3.0	1.48	.05
"	731.0	734.0	3.0	0.63	.05
"	749.0	752.5	3.5	3.16	.05
"	763.0	798.0	33.0	0.66	.12

The intervening sections in the drill holes are too low in mineral content to be of any consequence. The lead content was very low, as well as the silver and gold.

Hole Al-4 encountered mineralization from 987 to 1,080. The deflected or redrilled section from this hole, which started at 943 and was stopped at 1,049, a total distance of 106 feet, encountered the same mineralization comparable with the undeflected section in the zone.

Hole Al-5 encountered mineralization from 864 to 1,060. It bottomed in the ore zone.

Assay intervals have been made throughout the mineralized zones in Holes Al-4, the deflected section (Al-4A) and Al-5. The core samples have been sent out for analyses on January 2, 1953; the returns have not been received to date.

The mineralization in holes Al-4 and Al-5 is comparable to holes Al-2 and Al-3. Some sections in the zones will be low in mineral content. Variations can be expected. No high grade zones were encountered. The mineralization is spotty and consists of pyrite pre-

dominating, with chalcopyrite, some sphalerite and galena in the order named. It occurs in fracture fillings, and fine disseminations. Core recovery in the mineralized zones were good, averaging at least 90 percent.

Hole A3-1 reached only a depth of 69 feet when drilling was discontinued. No mineralization was encountered.

OPERATORS FUTURE PLANS

The Glidden Company canceled their drilling contract with the E. J. Longyear Company, effective Dec. 31, 1952.

The Glidden Company plans to apply for an underground exploration contract with the DMEA costing $413,417.22. The company feels that enough drilling has been done on the north extension of the Bully Hill mine zone to warrant underground exploration.

The program calls for the following:

1. Re-opening and retimbering No. 3 adit, a distance of 975 feet.

2. Rehabilitation of Bully Hill shaft to 800-foot level, a distance of 647 feet; and repairing shaft station in No. 3 adit.

3. Rehabilitation of 300-foot drift north, a distance of 1,130 feet.

4. Rehabilitation of 800-foot drift north, a distance of 850 feet.

5. Drifting on 300-foot drift northerly, a distance of 1,300 feet.

6. Drifting on 800-foot level, a distance of 1,400 feet.

7. Raising from 800-foot level, a total of 1,150 feet.

8. Buildings and equipment.

9. Moving equipment.

10. Transportation on Shasta reservoir.

DISCUSSION

The above program presentation is pending, awaiting assay returns from holes A1-4 and A1-5, and completion of maps by the Glidden Co. It is unfortunate that no drilling was done in Areas 2, 3, 4, 5, and 6 before this work was abandoned.

The portal of No. 3 (main) adit is caved and covered with heavy alluvium, slide material from the above hillside slope. It is not known what condition the underground workings are in. It is also unfortunate that an attempt was not made to clean out the portal of the adit in order to get an idea of the condition of the workings.

E. J. Matson

E. J. Matson
Mining Engineer

Important that assays are reliable —

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED

JAN 12 AM 9:2

SAN FRANCISCO, CALIFORNIA

Redding, California
January 7, 1953

Subject: Exploration Project Contract
Bally Hill and Rising Star Mines
Shasta County
California

M.M.A. Reference:
Docket No. [illegible] 1210X
Commodity: Zinc-Copper
Idn-[illegible]-1[illegible]7

Geological Engineering Report - Month of December, 1952

I. Diamond Drilling

The footage drilled to date on this project totals [illegible] feet, as of the end of the work day December 31, 1952. Reference is made to the attached page 1 of Resolution No. I.

The following tabulation summarizes the drilling progress for the month of December 1952.

Hole [illegible]- Bally Hill [illegible]4- Dec. footage [illegible]', size [illegible], Total depth 1[illegible]'
Hole [illegible]- Bally Hill 1147- Dec. footage [illegible]', size 4", Total depth [illegible]'
Total footage [illegible]' for December

Hole [illegible] (A1-5) continued in Bally Hill [illegible] accounts for [illegible] pyrite. It was generally mineralized with [illegible] pyrite with occasional [illegible] and [illegible] of chalcopyrite. At 1[illegible]' there is a very small amount of a black mineral, coating the edges of pyrite cubes and chalcopyrite which is suggestive of secondary chalcocite.

Drilling was suspended on December [illegible], in conference with instructions from the Bulldog Company.

Hole [illegible] (A[illegible]-1) was started in [illegible] first hole in [illegible], which covers the [illegible] of the main Bally Hill [illegible]. [illegible] a casing was [illegible] drill to a depth of [illegible] feet, in which 4 [illegible] heavy duty pipe was set as a stick. [illegible] with bit attached was also set inside [illegible] feet. The hole was stopped on December [illegible], upon receipt of a wire from [illegible] Indianapolis office based upon a cancellation of the drilling program effective December 31, 1952. Since it was apparent that [illegible] time, even [illegible], it was decided [illegible]. [illegible] report.

Vertical sections are attached which show the geology and locat' of mineralization in holes 5 (A1-5) and 6 (A3-1).

Hole 5 was surveyed three times before a satisfactory reading was obtained. This was necessary because the ground water a depth was warm, and the relatin set too fast or not at all on the first two attempts before a proper concentration could be computed. A surveying record is enclosed.

On the first of December 1962, a letter was received by the Longyear Company from the Hilden Company advising that as of December 31, 1962, diamond drilling and engineering geological work was to be suspended. It is believed by the latter company that sufficient encouraging information has been obtained in the drilling done to date to justify reopening the Bully Hill Mine. It was further decided that all geological information, including diamond drill hole sections, assays, surface mapping, etc., should be assembled on maps and drawings for presentation to the U.S.A. Committee in Washington, D.C., for consideration in granting a modification of the existing contract called "Contract U.S.A. 1210X". This work will be done during the month of January 1963. Simultaneously, the drills and equipment will be prepared for shipment to our home warehouse in Marquette, Michigan.

In hole 5 (A1-5), 31 runs or pulls were made during the month, of which 20 recovered 100% of the core.

II. Diamond Drill Hole Description

Detailed descriptions of the drill cores from holes number A1-5 and A3-1 are given in the attached logs. As has been our custom in reporting, each trip or run of the corebarrel into the hole, together with the amount of core recovered and the percentage is shown.

Hole 5 (A1-5) was drilled from 364 to 1000 feet. A small amount of sulfide mineralization persisted to the end of the hole, variable in amount but averaging about 5 percent. Of this, small grains or veinlets of chalcopyrite occur scattered throughout the portion drilled.

Samples were taken to a depth of 900' and shipped to Robert A. Bailey, Inc., Assayer, on December 3, 1962. The balance of the hole will also be sampled.

Hole 6 (A3-1) was drilled with a tri-cone bit and the cuttings caught on screens. These are not to be used as samples.

Hole #4 (A1-4) was also sampled throughout its mineralized portion and sent to the assayer.

III. Camp Rehabilitation

No major work was undertaken this month.

A Roan #435 gasoline operated pump was installed which pumped water from the line near the houses in Circle City up to the tank on the south point of Bully Hill. This would take care of the drilling planned in areas 2, 3, 4 and 5. The pump was adequate.

Additional leaks in the roofs of houses occurred, which were repaired.

Unusually heavy rainfall hampered hauling at the drill sites and only the caterpillar tractor was able to travel on the upper road.

The elevation of Shasta Lake Reservoir raised from 1020.7 to 1029.1, a raise of 8.4 feet. 15.4 inches of rain fell, bringing the total to 21.[illegible] inches, which compares with a normal average to date of 18.75 inches. Temperature ranges were between the high of 85° and the low of 34°.

IV. Other Surveys or Construction

Nothing new was started.

The drills, pumps, casing, rods, and all other equipment were being collected in the machine shop, some for crating, but all for preparation for shipping back to our warehouse in Marquette, Michigan. It is roughly estimated that railroad car loading will be made during the fourth week in January.

V. Safety

There were no lost time accidents this month.

VI. Visitors

There were no visitors this month from the Government Agencies.

The writer spent the time from December tenth thru the twentieth in San Francisco and Oakland working with Mr. Halstead, preparing a tabulation of footages of tunnel and drifts to be reopened, and the amount of drifting, crosscutting and raising necessary to prospect the mineralized zones indicated by the drilling in Area 1, on a two level development program.

Costs were also estimated for performing this work. The data was presented to Mr. L. C. Miller, Executive Officer, U. S. A. Field Team, Region III, in San Francisco on December 17, 1942.

VII. Geological and Engineering Work

Most of the month was spent on drafting in the preparation of 40 and 100 scale, geological and assay maps. Also the plane table geological data is being transferred to Surface Exposure maps. It has been our thought to spend the days during the dry season in the field mapping and gathering data which would be assembled later during the rainy season, into finished maps. The same applies to the 40 scale diamond drill hole sections which show geology and assays.

These are not sufficiently completed to include with this report.

Attached are tabulations showing the sludge recovery data for Hole #5 (A1-5). It is of particular interest to note that from 702 feet to the end of the hole there was no return of sludge or water. Yet, when the rods were removed from the hole, water overflowed at the collar. From this it may be deduced that an open water course exists into which the drilling water and the cuttings flowed, because (?) the water passing thru the rods under pressure from the pumps found less resistance passing thru the water course than returning up the pipe column between the rods and casing. The core recovery in this interval was 100 percent.

VIII. Maps

The maps which have been in process will be the sole subject for our attention until completed.

Unless otherwise notified, this report is the last to be submitted on this project.

Respectfully submitted

Mayer G. Hansen

Mayer G. Hansen

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

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

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of December, 1952 Docket No. DMEA 1219-X Contract No. E 187
Operator's Name The Glidden Company Minerals Zinc-Lead-Copper
Address Cleveland, Ohio
Contract Amount, $ Government Participation: 11.88% Amount, $ 1669.50
(371 ft. @ 50% of .9 per ft.)

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	132.50		3,067.50			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	2,272.00		42,090.57			
Supervision	550.00		6,400.00			
Technical Services	4,609.06		94,177.42			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Drill Pipe			797.28			
Bits, Shells, etc.	1,796.69		23,822.20			
(4) Operating Equipment:						
Rental	2,762.31		41,258.50			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	555.28		48,550.58			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	66.24		1,811.82			
Liability Insurance	323.58		4,476.39			
Cookhouse & Townsite	937.36		15,429.96			
Miscellaneous	46.42		620.62			
(8) Contingencies (specify):						
TOTALS	$14,051.44		$245,512.34			

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

Date 1/14/53 Payee THE GLIDDEN COMPANY

Per [signature] Title Manager of Mines

*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:

$1669.50

Signature Lloyd H. Spencer
Authorized Certifying Officer
(Authorized Certifying Officer)

Date JAN 2 1953 Vou. No SF-DMEA-32

(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. [illegible] in accordance with the terms of the contract.

Signature [illegible] Title [illegible] Date [illegible]

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H.C. Miller Title Executive Officer DMEA Field Team Region III Date January 16, 1953

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
SAN FRANCISCO, CALIFORNIA

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of December 1952 Docket No. DMEA 1219-X Contract No. _____

Operator's Name The Glidden Company Minerals _____

Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core Diamond	Ft.	$13496.16	371*	$196,961.76	5299			
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Total Distributed Costs		$13496.16		$196,961.76				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		555.28		48,550.58				
New Buildings, Improvements, etc.								
Total Costs		$14051.44		$245,512.34				

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 1/14/53 Operator THE GLIDDEN COMPANY

By Edward L. Hinkston Title Manager of Mines

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: * Included in Footage of 371 ft. is 100 ft. of redrilling as set forth in Mr. W.O. Hansen's letter of 12/4/52 to Mr. A.C. Johnson, Reno, Nevada.

(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.

U. S. GOVERNMENT PRINTING OFFICE 205676

DEPARTMENT OF INTERIOR
BUREAU OF MINES
REGION III
RECEIVED
JAN 15 AM 8:4
SAN FRANCISCO, CALIFORNIA

Redding, California
December 3, 1952

Subject: Exploration Project Contract
Bully Hill and Rising Star Mines
Shasta County
California

D.M.A. Reference:
Docket No. DMA 1210X
Commodity: Zinc-Copper
Idm-P-197

Geological Engineering Report - Month of November, 1952

I. Diamond Drilling

The footage drilled to date on this project totals 5034 feet as of the end of the work day November 30, 1952. Reference is made to the attached page 1 of Tabulation No. I.

The following tabulation summarizes the drilling progress for the month of November, 1952.

Hole #4-Drill #1147-Nov.footage 23',size EX,Total depth 1106'
Hole #4-Drill #1147-Nov.footage 106',size EX,Total depth 1048'
(The latter covers the redrilled portion from 943 to 1049)
Hole #5-Drill # 824-Nov.footage 51',size EX,Total depth 804'
Total footage 180' for November

The average number of runner shifts worked per drill per day for the 25 day (including armistice and Thanksgiving day) work month was 1.52. Early in the month Henry Wilgren, drill runner, left for San Francisco to have an operation on hand for the removal of a growth.

Hole #4 (A1-4) located on the old tennis court, continued in broken rhyolite breccia. As described in last months report, a cave at 948 feet invariably closed the hole each time the rods were withdrawn. The bit and corebarrel would never freely pass this point on the way down and required drilling from a few inches to a few feet each time in passing. Attempts were made to survey beyond this depth, which is only 7 feet beyond the bottom of the EX casing, but each time the clinometer barrel reached the cave it was impossible to pass. Core drilling reached a depth of 1106 feet having passed thru a mineralized zone containing essentially pyrite, but also containing small amounts of chalcopyrite, extending from 943 to 1077 feet. On November third, the bit encountered solid rock at 943 and continued

without re-entering the hole to 1049. This gave a second crossing of the mineralized zone and at 1049 it was decided to abandon the hole. The redrilling gave us a good check on the zone and indicated a slightly lower percentage of sulfide. On November 13th, we started pulling casing. Sixty feet of AX casing broke off and was left in the hole. The BX also stuck and the bottom 50 feet was cut off and left in the hole. The EX and 4 inch casing came out without much trouble. The tripod and drill set-up was rigged down and moving to the new location started. The latter is located at the south end of the Sully Hill Mine in Area 3 and will hereafter be referred to as Consecutive #6, (A3-1).

Hole #5 (A1-5) was not worked the first half of the month as it was desired to work 3 shifts daily on #4. On November 18th, drilling commenced again on #5 which had filled up with caved material to a depth of 710 feet. It was necessary to chop and drill and use a casing bit on the EX casing, which was set to the previous bottom at 713 feet. From the twentieth on, about six feet a shift was obtained. The rock penetrated was broken up tuffaceous rhyolite. It contained disseminated pyrite varying in places up to 15% but averaging closer to a 5% content. There is a slight amount of chalcopyrite present, increasing in depth but never reaching ore grade. A few small veinlets of barite were observed. The possibility of encountering more intense mineralized still exists, and the hole should be continued.

Vertical sections are attached which show the geology and location of mineralization in holes #4 (A1-4) and #5 (A1-5).

A final attempt to survey in the redrilled portion of #4 (A1-4) was made on November 1 th, which was unsuccessful. As a last resort we pulled the AX casing up 20 feet to try for a survey at 638. Cave material followed up with the casing and it was impossible to get the Nas compass below the influence of the tubing. On November 24th Hole #5 (A1-5) was surveyed for both bearing and dip at a depth of 832 feet. The condition of both the gelatin and acid was excellent and a bearing of N 16° W and a dip of 53°30' was obtained.

In hole #4 (A1-4), 29 runs or pulls were made during the month of which 11 recovered 100% of the core. Only five runs were under 50% core recovery.

In hole #5 (A1-5), 12 runs or pulls were made during the month of which 10 recovered 100% of the core and the other two runs recovered 91 and 67% respectively.

II. Diamond Drill Hole Descriptions

Detailed descriptions of the drill cores from holes number A1-4 and A1-5 are given in the attached logs. As is our custom in reporting, each trip or run of the corebarrel into the hole, together with the amount of core recovered and the percentage, is shown.

The extent of the sulfide mineralization in hole #4 (A1-4) was fully described in last months report. The pyritic mineralization ended at about 1073 and thereafter only a few stringers appeared at 1093. Following an inspection by the U. S. A. field team, the core will be sacked as samples and sent to Robert A. Hanks, Inc. for assaying. It is doubtful if any samples will exceed 4 percent copper, although two, one foot samples may reach this figure.

The mineralization in hole #5 is not as good as that found in hole #3, although the similarity is apparent. The chalcopyrite appears more as a coating and the amount of pyrite present is less. Because the slight amount of chalcopyrite present seems to be increasing with depth, there still is a chance that a more intense amount may yet occur. It is still planned to continue this hole to a thousand foot depth.

III. Camp Rehabilitation

No major work was done this month.

The first rain storm on November 13th indicated a few leaking roofs which were repaired.

A D7 Caterpillar bulldozer was taken to the mine via Bureau of Reclamation barge and stations cut on the south end of Bully Hill mine. Access roads were cut and drill rods, casing, tripod poles and other equipment was hauled to the first site.

Due to the absence of power it is planned to install a Bean 435 gasoline operated pump near the houses at Circle City, to pump water to the tank above the proposed holes in Area 3. The pipe line and tank is installed and a line was placed leading from the tank to the first hole in Area 3.

With the advent of the rainy season the water supply increased and the supply tanks are overflowing.

The elevation of Shasta Lake Reservoir dropped from 1022 feet to 1020.7 feet, a drop of 1.3 feet. The lake elevation is being held at the latter elevation. This yields a total drop in elevation of about 45 feet

below the June crest. The high temperatures were in the seventies during the first week of the month and dropped to the fifties by the end of the month. The daily low temperature is currently in the twenties. About 4 inches of rain fell, which brings the total this season to 5.04 inches which compares with a normal average to date of 7.41 inches.

IV. Other Surveys or Construction

A landing dock was constructed, consisting of two pontoons, size 6½ x 24 feet, spaced 12 feet apart, joined across with 2 x 6 joists. It is double decked with tar paper in between layers. A small, simple derrick remains to be installed and possibly an overhead cross-brace for rigidity on the open end.

V. Safety

There were no lost time accidents this month.

VI. Visitors

On November 18th and 19th, Mr. Jacques F. Robertson of the U.S. Geological Survey, visited the mine on one of his routine D.M.A. inspection trips. He was accompanied by Mr. Grant Goodwin, Geologist, California State Division of Mines. The morning of the 20th was spent with Mr. Robertson studying maps and sections.

VII. Geological and Engineering Work

Considerable time was spent on surveying by plane table and alidade, with special emphasis on the south end of the Bully Hill Mine area in connection with the drilling in Area 3.

Attached are tabulations showing the sludge recovery data for hole #4 (A1-4). The high figures of percent recovered (up to 2000%) indicates the caved and broken conditions of the rocks drilled.

VIII. Maps, Newly Made

The geological surface mapping is in process of being transferred to tracings on both 100 and 40 scale. When completed, the various contacts will be projected across areas where no exposures exist. Dossans,

gossanized areas and alteration effects are noted with the thought in mind of yielding indications of new or additional zones of mineralization. Together with fault structures, these will eventually yield complete geological maps.

40 Scale level maps of the Bully Hill Mine are also in process, as are a set of 100 scale maps.

Respectfully submitted,

Mayer G. Hansen

Mayer G. Hansen

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

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

DEC 2 0 1952

Month of November, 1952 Docket No. DMEA 1219X Contract No. E 187

Operator's Name The Oglebay Company Minerals Zinc & Copper

Address Cleveland, Ohio

Contract Amount, $ (74 ft. @ 50% of $9.00 per ft.) Government Participation: 2.45% Amount, $ 333.00

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:						~~[illegible]~~ Keating Betty
Drilling	$ 90.00		2,935.00			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	2,697.04		39,818.57			
Supervision	550.00		6,050.00			
Technical Services	4,032.20		49,568.36			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe			797.28			
Track						
Bits, Shells, etc.	627.96		22,025.51			
(4) Operating Equipment:						
Rental	2,634.56		38,496.19			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	1,050.95		47,995.30			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous: Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	72.27		1,745.58			
Liability Insurance	369.94		4,152.81			
Cookhouse & Townsite	1,347.92		14,492.60			
Miscellaneous	76.03		574.00			
(8) Contingencies (specify):						
TOTALS	$13,548.87		$231,460.90			

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

Date 12/13/52 *Payee The Oglebay Company

Per [signature] Title Manager of Mines

*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:

$ 333.00

Signature A. J. Nerad
Authorized Certifying Officer
(Authorized Certifying Officer)

Date DEC 1 8 1952 Vou. No. SF-DMEA-30

(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. Idm-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div., Region III Date Dec. 15, 1952

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer ~~DMEA Field Team~~ Region III Date Dec. 18, 1952

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

DEC 26 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of November 1952 Docket No. DMEA 1219X Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address CLEVELAND, OHIO

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core Diamond	Ft	$12,420.32	74	$183,388.00	4928			
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		$12,420.32		$183,388.00				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		1,128.55		48,072.90				
New Buildings, Improvements, etc.								
TOTAL COSTS		$13,548.87		$231,460.90				

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 12/13/52 Operator THE GLIDDEN COMPANY
Per [signature] Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
DEC 15 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: Dec. 9, 1952

Memorandum

To: Operating Committee, DMEA, Interior Bldg., Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219

Contract Idm-E 187

Commodity Copper-Zinc

Operator - The Glidden Company

Property - Bully Hill and Rising Star Mines, Shasta County, Calif.

By J. F. Robertson, Geo. Survey

Dated Nov. 19, 1952

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (With one copy of report)

E. H. Bailey, USGS (With one copy of report)

INTERIM REPORT

Docket No.: DMEA 1219 (copper-zinc)

Name and address of operator: The Glidden Company
The Chemical & Pigment Co., Division
766-50th Avenue
Oakland, California

Name and location of property: Bully Hill and Rising Star Mines
Shasta County, California

Contract No.: Idm E187

Introduction

The diamond drilling exploration project at the Bully Hill-Rising Star mines, Shasta County, California, DMEA 1219, was inspected by J. F. Robertson of the Geological Survey on November 19, 1952.

The status of the drilling on that date was 4 holes completed and 1 hole in process of being drilled in area No. 1, at the north end of the Bully Hill mine area. Two drills are employed; one was drilling hole No. A1-5. The other was being used to pull casing from hole No. A1-4.

On the day drilling was inspected, stakes were being set in preparation for cutting the first drill station in Area No. 3. As soon as casing is recovered from DDH A1-4 the drill rig will be moved to the new area. This new hole, designated DDH A3-1, will be located, as shown on the DMEA map of proposed drill holes sites, approximately where the northernmost drill hole in Area No.3 is shown. Coordinates will be reported when the drill is set up and the collar of the hole is surveyed.

Progress of Work

Hole No. A1-4 reached a maximum depth of 1106 feet on November 1, 1952. EX casing had been set to 936 feet, and drilling had been proceeding with EX rods with some difficulty. Considerable caving ground

existed to the bottom of the hole. Then on November 1 the hole caved just below 940 feet. Completely new core was recovered when drilling through the caving ground was attempted. Drilling continued to a depth of 1053 feet, where it was stopped on November 14, 1952. The core from the re-drilled ground checked with the mineralized rock found in the earlier drilling.

At the time of inspection one drill shift per day was engaged in recovering BX casing from Hole No. A1-4. Approximately 60 feet of AX casing, with the casing bit attached, had been lost. BX casing appeared to be wedged in the hole and was yielding only slightly to stresses involving house jacks, hammering, and yawing.

Drilling of hole A1-5 was suspended on October 30, 1952 after a depth of 813 feet had been reached, because of a shortage of EX casing. Nine hundred thirty-six feet of EX casing was in use in hole No. A1-4 and more could not be obtained. The drill crew returned to drilling hole A1-5 on November 14, 1952. It was found that the hole had partly filled with cave material and cuttings during the period of idleness and the EX casing would not pass through this material by itself. On the day of inspection, drilling with EX bit was progressing rapidly through the loose material, with casing 20 feet above being worked down. The casing was down 762 feet.

No surveys of the holes have been made since those reported in Bureau of Mines Interim Report of October 30, 1952. As pointed out then, the tendency of the holes to bend toward a gentler inclination with depth is a desirable condition because a greater proportion of the mineralized zone is obtained. Core recovery is high, averaging 85 to 90 percent in A1-4 below 936 feet.

The rock in cores of both Al-4 and Al-5 consists of inter-layered porphyritic rhyolite flow breccia and crystal-lithic tuff, silicified and locally chloritized. Quartz and calcite veinlets cross cut the rock at intervals. Mineralized rock, possibly of ore grade, was encountered in hole No. Al-4 at a depth of 987.1 feet for 2 feet. From here to the bottom of the hole, core is mineralized like core from hole No. Al-2, consisting of disseminated pyrite and chalcopyrite with traces of sphalerite. Rocks with streaks of chalcopyrite, possibly of ore grade, occur at a few places, but most of the mineralized rock is not of commercial grade. However, where the disseminated ore minerals are found in the drill core their extent suggests richer zones in the area. Ore minerals in significant concentration have not been encountered as yet in DDH Al-5.

Evaluation of DDH Al-4

Information obtained in DDH Al-4 justifies its location and the length to which it was drilled. In retrospect, it appears that a shorter hole could have been drilled to reach the same target by establishing the drill site 150 to 200 feet farther west and inclining the hole at a steeper angle. Before drilling of this hole began, however, projection of geology from the immediately adjacent area showed that the most favorable host rock for ore, the porphyritic rhyolite, would be encountered throughout most of the hole. The ground warranted exploration for ore shoots parallel or divergent from the main Bully Hill ore zone to east and northeast. In addition, exploration by drilling would tap its northern extension. Hole Al-4 had the porphyritic rhyolite throughout its length, but failed to develop any notable mineralized ground, except along the northern extension of the main Bully Hill ore zone. The information obtained from the hole,

however, is of value in defining the eastern boundary of ore mineralization.

RECOMMENDATION

It is recommended that DDH A1-5 be continued to 1000 feet. If mineralization of ore grade is encountered and appears to persist, the drilling should continue beyond the 1000 feet distance.

Mr. E. J. Matson of the Bureau of Mines in his Interim Inspection Reports of September 29, 1952 and October 30 recommended that only one drill rig be employed at one time in the succeeding areas to be drilled. One of the drills will be moved soon to begin drilling in area No. 3. In view of the above recommendation the other drill rig, after A1-5 is finished, should be moved to either area No. 2 or No. 5. In this I concur. The use of two drills in one area does not allow for maximum evaluation and most efficient placement of drill holes. Each drill hole in an area should be planned on the basis of information derived from the previous hole drilled. The geologist and engineer-in-charge of the drilling program for the E. J. Longyear Company, Mr. M. G. Hansen, is essentially in agreement with this recommendation. However, the representative of the Glidden Company, Mr. E. L. Ralston, is not fully aware of the Government's proposal. As a matter of policy it is suggested that he be apprised of the Government's recommendation.

Redding, California
November 4, 1952

Subject: Exploration Project Contract
Bully Hill and Rising Star Mines
Shasta County
California

D.M.A. Reference:
Docket No. DMA 1219X
Commodity: Zinc-Copper
Idm-F-127

Geological Engineering Report - Month of October, 1952

I. Diamond Drilling

The footage drilled to date on this project totals 4,054 feet as of the end of the work day October 31, 1952. Reference is made to the attached page 1 of Tabulation No. 1.

The following tabulation summarizes the drilling progress for the month of October, 1952:

Hole #4-Drill #1147-Oct.footage 147.0',size EX,Total depth 1083'
Hole #5-Drill # 824-Oct. footage 64.0',size AX,Total depth 813'

The average number of shifts worked per drill per day for the 27 day work month was 1.81. There were two lost time accidents and one helper scheduled to become a runner during the month quit after a prolonged drinking spell.

To be further described elsewhere is the encouraging fact that mineralized zones were encountered in both holes.

Drilling continued to be difficult in both holes. Hole #4 (A1-4), located on the old tennis court, continued in broken rhyolite and encountered additional high flows of water. Currently 4 inch casing is set to a depth of 107 feet, NX casing set to 340 feet, BX casing set to 600 feet, AX casing set to 824 feet and EX casing is set to 936 feet. There has been a persistent cave at 948 feet, which resists cementing and which always closes the hole when the rods and corebarrel are withdrawn. It is necessary to redrill about 6 inches to 2 feet almost every time the bit and corebarrel are lowered into the hole. It is evident that a large boulder is moving at that point as sometimes it is even difficult to withdraw the rods. Once we pass the 943-945 foot point, drilling continues at an almost normal rate of

progress considering the depth. Sulfide mineralization began coming in at 382 and the core recovery thruout this zone was excellent. During the month 59 runs or pulls were made, of which 32 recovered 100% of the core. Only 3 runs were under 50% in core recovery.

Hole #5 (A1-5) which is located near the southeast corner of the group of three houses in Circle City, advanced 64 feet, mostly in Bully Hill Rhyolite. It was altered and chloritic and started bearing small amounts of sulfide at about 700 feet. The hole was continually caving, particularly at a depth of 712. Circulation of Aquagel and baroid failed to hold up the walls. Previously cementing had failed to help. The length of caving exceeded 50 feet and it frequently happened that the corebarrel would fill up with broken material before reaching bottom. A single tube corebarrel is currently being successfully used. In this hole 4 inch casing is set to a depth of 71 feet, NX casing set to 301 feet, BX casing set to 600 feet and AX casing is set to 679 feet. It is planned to set EX casing as soon as we can clear up the hole and reach bottom. The core recovery was fair only, as there were 25 runs of which 6 recovered 100% core.

Hole #4 was surveyed twice but in each case the gelatin set before reaching bottom and the bearing reading was not considered good. The hydrofluoric etching showed the hole to flatten to 28½ degrees.

100 scale sections are submitted for holes #4 and #5, which show the geology posted to date.

II. <u>Diamond Drill Hole Descriptions</u>

Detailed descriptions of the drill cores from holes number A1-4 and A1-5 are given in the attached logs. As is our custom in reporting, each trip or run of the corebarrel into the hole, together with the amount of core recovered and the percentage, is shown.

Hole #4 (A1-4) encountered a mineralized zone containing sufficient quantities of sulfide to make it desirable to investigate further by underground workings such as drifts and crosscuts and drilling to determine its vertical extent. There is a core length of some hundred feet including zones containing up to 15% sulfides, mostly pyrite, but with some chalcopyrite showing. The bedding and mineralization cuts across the core at from 30° to 55°. The mineralization persists to the present bottom of the hole which will be continued at least to 1150 feet if not more, depending upon results. The flattening of the hole has yielded a good crosscutting effect and obviates the

necessity of going to the anticipated depth of 1400 feet as mentioned the last two months. A brief description of the sulfide content follows: (Sulfide content estimated)

982.2	-	983	slight disseminated chalcopyrite
983.5	-	983.7	slight disseminated chalcopyrite
985.0	-	985.3	slight disseminated chalcopyrite
987.3	-	988.1	15% chalcopyrite plus 10% pyrite
9[illegible].1	-	1002.0	10% chalcopyrite plus 5% pyrite
1009.5	-	1011.0	15% chalcopyrite plus 10% pyrite
1017.0	-	1020.0	some chalcopyrite plus some pyrite
1020	-	1025	some pyrite
1025	-	1030.5	some pyrite
1030.5	-	1041	about 15% pyrite
1041	-	1049	barren
1071.7	-	1078.7	5% chalcopyrite plus 10% pyrite

Hole #5 (A1-5) is also entering a mineralized zone and by the end of the month had about 30 feet of core length with bedding planes and mineralization cutting the core at from 60° to 85°. The mineralization is not intense and because it looks a great deal like that encountered in Hole #3, may have a better showing with continued depth. A brief description of estimated sulfide mineralization follows:

786	-	789	15 to 20% sulfide
789	-	791	barren
791	-	797	2 to 3% sulfide
797	-	799	15% plus sulfide
799	-	804	10 to 15% sulfide
804	-	810	10% sulfide
810	-	813	About 2% sulfide

Some chalcopyrite is visible but the amount present is too indefinite to guess.

It is planned to continue this hole to at least 1000 feet of depth, its ultimate depth to be decided upon the appearance of the rock penetrated as the hole progresses.

III. Camp Rehabilitation

No major work was done this month.

Re stables for drill sites and access roads were cut.

The water supply was adequate and increased as the weather turned cooler. Both tanks are full but both drills are still conserving the supply by recirculation.

The elevation of Sparta Lake reservoir dropped from 1[illegible] to 1032, a drop for October of 4 feet, or a total

of 44 feet since the crest was reached in June. Afternoon temperatures decreased this month and varied from 76° to 105°. The night or low temperatures averaged in the fifties. The total rainfall thus far this season (starting in July) has only been 0.06 inches, which is considerably below normal.

IV. Other Surveys or Construction

No new surveys, construction or unusual major work was performed.

V. Safety

There were two lost time accidents this month. Mr. Beezley, a drill runner, had a piece of metal fly into and stick onto his eyeball while breaking drill rod connections. He was off work about five days. Mr. Cunningham, a drill helper, dislocated a vertebrae or injured his back while lifting drill rods. He has been off work about 10 days and still has not reported back.

VI. Visitors

On October 21st, Mr. Edward J. Matson, Engineer, Reno office, U.S. Bureau of Mines, visited the mine on a routine inspection trip.

VII. Geological and Engineering Work

Much time was spent on the plane table mapping in Areas 1 and 3. We are endeavoring to get as much field work of this type done as soon as possible before the rains start. Much of it is routine and does not yield startling results. It is desired to study the alteration areas from the south end of the Bully Hill Mine over to and including the Rising Star Area.

The writer spent considerable time preparing a summary report covering the first ten months of exploration work. The purpose of the report was to help the Glidden Company reach a decision as to the future program of development.

VIII. Maps, Newly Made

The set of 100 scale geological maps are still in process covering the Bully Hill Mine. The current geology obtained from sections of the diamond drill holes is transferred to these. With this information available, it will be possible to better interpret the old geological

mapping to make it correspond with the classification of rocks now being used. These are most useful in planning future exploration work as well as for determining the depth of the drilling as it progresses.

40 scale sections are also in process on each of the diamond drill holes. When completed, these will show both the geology and the assay values of samples of the mineralization.

40 Scale level maps are also being started to show detailed geology and assays.

Respectfully submitted

Kayer G. Hanson

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of October, 1952 Docket No. DMEA 1219X Contract No. Idm E-187

Operator's Name The Glidden Company Minerals Zinc & Copper

Address Cleveland, Ohio

Contract Amount, $ (211' @ 50% of $9.00 per foot) Government Participation 6.683% Amount, $ 949.50

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	$ 105.50		$ 2,845.00			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	2,984.00		37,121.53			
Supervision	550.00		5,500.00			
Technical Services	4,941.64		45,536.16			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe			797.28			
Track						
Bits, Shells, etc.	1,712.12		21,397.55			
(4) Operating Equipment:						
Rental	2,309.52		35,861.63			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	1,195.55		46,944.35			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	97.68		1,673.31			
Liability Insurance	402.77		3,782.87			
Cookhouse & Townsite	1,071.45		13,144.68			
Miscellaneous	32.97		497.97			
(8) Contingencies (specify):						
TOTALS	$15,403.20		$217,912.03			

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

Date Nov. 13, 1952 Payee THE GLIDDEN COMPANY

Per [signature] MANAGER OF MINES

*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:

$ 949.50

Signature
(Authorized Certifying Officer)

Date Vou. No. SF-DMCA-27
(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. [illegible] in accordance with the terms of the contract.

Signature [illegible] Title Chief, [illegible] Div. Date November 17, 1952.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature [illegible] Title Executive Officer DMA Field Team Region III Date Nov. 18, 1952

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration

OPERATOR'S UNIT COST AND PROGRESS REPORT

NOV 13 - 1952

Month of October 1952 Docket No. DMEA 1219X Contract No.
Operator's Name The Glidden Company Minerals
Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core Diamond	Ft	$14,207.65	211	$170,967.68				
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		$14,207.65		$170,967.68				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		1,195.55		46,944.35				
New Buildings, Improvements, etc.								
TOTAL COSTS		$15,403.20		$217,912.03				

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 Nov. 13, 1952 Operator THE GLIDDEN COMPANY

Per [signature] Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 1 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: Oct. 31, 1952

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219X

Contract Idm-E 187

Commodity Copper-zinc

Operator - The Glidden Co.

Property - Bully Hill and Rising Star Mines
Shasta County, Calif.

By E. J. Matson, Mining Engr.

Dated Oct. 30, 1952

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (with one copy of report)
E. H. Bailey, USGS (with one copy of report)

Sept. 18 to Oct. 22, 1952

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
NOV 4 1952

INTERIM REPORT

Docket No.: DMEA-1219X (copper-zinc) October 30, 1952

Name and address of operator: The Glidden Co.,
The Chemical and Pigment Co., Division
766 - 50th Ave.,
Oakland, Calif.

Name and location of property: Bully Hill and Rising Star Mines
Shasta County, Calif.

Contract No.: Idm-E187

SUMMARY

Diamond drilling is continuing at the northern extension (Area No. 1) of the Bully Hill mine ore zone. Three holes have been completed and two are in progress. A recapitulation of drilling footage to the end of the month of September is as follows:

Period	A1-1*	A1-2*	A1-3*	A1-4	A1-5	Totals
Previous totals	1015	1038	905	823.8	665.5	4,447.3
Footage for Sept.	0	0	0	112.2	83.5	195.7
Totals	1015*	1038*	905*	936.0	749.0	4,643.0

* Holes completed.

Since September 30 to October 22, 1952, holes A1-4 and A1-5 were advanced to 1025 feet and 786 feet respectively. Footage advance for hole A1-4 was 89 feet and hole A1-5 was advanced 37 feet, a total gain of 126 feet. Mineralization was encountered in holes A1-2 and A1-3 as reported in last interim report.

Hole A1-4 has encountered some scattered pyrite and chalcopyrite mineralization at 987.4 feet and apparently was still in the mineralized zone at the time of above inspection.

Hole A1-5 encountered some pyrite mineralization at 712 feet but no chalcopyrite was visible. It apparently is approaching the mineralized zone.

PROGRESS OF WORK

The status of hole A1-4 to date is as follows:

4"	casing	to	167	feet
NX	"	"	260	"
BX	"	"	330	"
AX	"	"	824	"
EX	"	"	936	"

Bottom of hole to date is 1,025 feet with drilling continuing with an EX bit. Progress is slow. Another caved area was encountered at 945 feet and caving continuing to the present bottom. The hole has been making water practically all the way down with a heavy surge encountered from 1,018 to 1,025 feet. The water pressure is so great that the rods slowly creep down the hole with no strain on the cable. The inclination of the hole at the collar is -45°. The inclination of the hole is gradually getting flatter until now the last survey at 940 feet is about -27°, according to Mayer G. Hansen, engineer-in-charge for the E. J. Longyear Co.

This flattening of the dip of the hole is more of an asset instead of a liability. It saves on footage. The ore zone which was encountered at 987.4 feet would apparently have been encountered at about 1,100 feet were it not for the deflection.

The mineralization in the hole is scattered and spotty, consisting of pyrite and chalcopyrite in fracture fillings and some disseminations. No zinc or lead minerals were visible. Core recovery in the sulphide zone is about 90 percent.

The status of hole A1-5 is as follows:

4"	casing	to	71	feet
NX	"	"	301	"
BX	"	"	600	"
AX	"	"	679	"

The bottom of hole to date is 786 feet. Drilling here also is slow and tedious. The hole has been caving badly all the way down. The last bad cave started at 712 feet and has been giving trouble to the present depth. A shortage of EX casing developed due to the fact that 936 feet has been used in hole A1-4 and there is not enough on hand to case hole A1-5 to the present depth. However, three shifts daily have been working on hole A1-4 in anticipation of completing it and then using the EX casing in hole A1-5. Some pyrite mineralization is beginning to show up in the core in hole A1-5 which is inducive to chalcopyrite mineralization. It is believed the bottom of the hole is near the fringe of the ore zone.

Hole A1-5 also is flattening in inclination. It was started with a -64° dip and at the last survey, at 500 feet, showed an inclination of -57°. This flattening of the dip is fortunate as previously stated.

SAMPLING

No core samples have been made up in holes A1-4 or A1-5 yet. Not enough of the mineralized zones have been penetrated to be significant.

Sludges are being caught for each drilling interval and saved for future reference if needed. The holes are caving so badly that the sludges are not sent out for analyses. The E. J. Longyear Company continues to use the two Bureau of Mines automatic sampling machines which were loaned to them. Mr. Mayer G. Hansen, geologist and engineer-in-

charge for the E. J. Longyear Company states in his monthly narrative report, commenting on the sludge sampling machine: "It is almost fool-proof and besides obtaining an accurate sample of the material brought to the surface, does so very economically. We are gratefully indebted to the Mining Division, Region III, U. S. Bureau of Mines, for their use."

RECOMMENDATIONS

It is recommended that as soon as hole A1-4 is completed, the drill rig be moved to Area No. 3 on the south end of the Bully Hill ore zone. The EX casing from Hole A1-4 be installed in hole A1-5 in order to complete the drilling with an EX bit.

Then when hole A1-5 is completed, the drill rig should be moved over to Area No. 5 and thus have one drill working in one area at one time, only.

CONCLUSION

It looks very favorable that both holes A1-4 and A1-5 will accomplish their purpose. Work is being done in a good workman-like manner. Much credence is due to the untiring efforts of Mayer G. Hansen, engineer-in-charge, to push the holes down to their completion.

E. J. Matson

E. J. Matson
Mining Engineer

Redding, California
October 4, 1952

Subject: Exploration Project Contract
Bully Hill and Rising Star Mines
Shasta County
California

Refer to Reference:
Docket No. [illegible] 12139X
Commodity: Zinc-Copper
Index-187

Geological Engineering Report - Month of September 1952

I. Diamond Drilling

The footage drilled to date on this project totals 4641 feet as of the end of the work day September 30, 1952. Reference is made to the attached page 1 of Tabulation No. 1 (which was completely submitted in last months report for August). Only the page that shows the continually changing figures will be submitted hereafter.

The following tabulation summarizes the drilling progress for the month of September 1952.

Hole 4- Drill 1147-Sept.footage 112.3', size AX, EX, Total depth 936'
Hole 5- Drill 1224-Sept.footage 83.5', size AX , Total depth 749'
Total footage of Sept. 195.7'

The average number of shifts worked per drill per day for the 27 day work month was 2.04. Two drillers left voluntarily near the end of the month and one drill helper was called into the Army. Replacements have been effected.

Both holes continued in bad ground with drilling advance very low. Hole 4 (1-4), located on the old tennis court, continued in serpent, having rhyolite breccia. A casing was set to a depth of [illegible] feet and the hole continued with [illegible] size. If continued further this hole may reach 1400 feet and it is therefore necessary to make it as large as possible, just as long as possible to insure its completion. It is planned to set 7" casing early in October and continue of size. Cementing was resorted to very frequently and ten shifts were spent either cementing or drilling out cement. In between times a bagel and barrel drilling mud was also used in an effort to hold up the walls and prevent caving. There was only 112 feet advance from 24 "runs" or trips of the core barrel into the hole in fresh rock. Of these only four trips yielded 100% core recovery.

Hole #5 (A1-5) is located near the west end of the group of three houses in Circle City. As reported last month, the drilling then was proceeding BX size when the wall rock shifted and bent the casing in the hole. Drilling was stopped when the AX casing broke off and the hole was reamed BX size to pass over the AX casing. We were delayed a few days waiting the arrival of more BX casing. Currently in Hole #5, 4 inch casing is set to a depth of 71 feet, AX casing to 301 feet, BX casing to 670 feet and AX casing to 670 feet. Drilling is proceeding AX size. The rock drilled is fully 1/3 Rhyolite and contains a slight increase in amount of pyrite present, but not enough to be considered a mineralized zone. The depth of the hole at the end of the month was 740 feet and if the mineralized zone encountered in hole #3 continues, it should be found between 800 and 1000 feet. We have both AX and BX sizes left with which to complete the hole. Because of the delay in reaming and lack of BX casing, the advance this month was 23.5 feet. Core recovery varied from 20 to 100% with 7 out of 21 runs yielding 100%.

No new plan maps will be submitted this month.

Both holes were surveyed this month with results showing on the attached tabulation.

Sections are also submitted for Holes 4 and 5, which show the geology posted to date.

II Diamond drill hole descriptions

Detailed descriptions of the drill cores from holes number A1-4 and A1-5 are given in the attached logs. As is our custom in reporting each trip or run of the core barrel into the hole, together with the amount of core recovered and percentage, is shown.

Although there is a slight amount of scattered fine grained pyrite present in Hole A1-5, it is insignificant.

Assay returns from the last of the mineralized area found in Hole #3 (A1-3) drill core samples, were received from Robert L. Cohen Inc. in San Francisco and are attached. The copper content is lower than expected and it must be inferred that the chalcopyrite occurs as thin layers over the pyrite. There was a rather large amount of sulfide present with considerable chalcopyrite visible. And the chalcopyrite been solid, the copper content should have been higher. Mr. Edward L. Atkins of the Reno, Nevada office of the U.S. Bureau of Mines collaborated with the writer in selecting 20 samples of core for check assaying by the Reno office. As soon as received, the results will be listed.

Also attached this month is a tabulation of the sludge samples, taken from the first five holes. These show the weight recovered, compared with the theoretical weight and yield a figure for percentage of sludge recovered. A study of these figures will quickly indicate the reason for not wishing to use assays of sludge samples to combine with or change core assays. As is shown in Hole #3 (#1-3), one sample had 40 times more weight of cuttings and caved material than the theoretical weight. It was not infrequent to have more than 10 times the theoretical amount. Conversely, this hole also shows that in some samples the amount of sludge or cuttings recovered was only [illegible] of the 100% theoretical weight.

However, as stated in previous reports, selected samples will be chosen to send to the commercial assayer to check against the assay results of the equivalent core sample.

While on the subject of sludges, the writer wishes to compliment the designers and makers of the Bureau of Mines sludge catching devise. It is operated by a water pump which controls the speed of revolution, which in turn controls the number of swoops per minute of the sample arm and cutter. The size of the cutter opening determines the percentage of the total sample desired. It is almost fool-proof and besides obtaining an accurate sample of the material brought to the surface, does so very economically. We are gratefully indebted to Messrs W. J. Watson, designer, and A.S. Johnson, Chief, Mining Division, Region [illegible], U.S. Bureau of Mines, for their use.

III Camp Rehabilitation

No major work was done this month.

Laying of linoleum was completed in six houses.

No stations for drill sites nor access roads were cut.

The water supply was adequate and the two large tanks are again overflowing. However, both drills are conserving the supply by recirculation.

The elevation of Shasta Lake reservoir dropped from 1[illegible] to 1038 feet, a drop in September of 9 feet, or a total of 40 feet since the crest was passed in June. Afternoon temperatures increased this month and varied from an average of [illegible] to 100 degrees. Night or low temperatures averaged in the sixties. The total rainfall thus far this season (starting in July) has only been 0.[illegible] inches, which is below normal.

IV Other Surveys or Construction

No new surveys, construction or unusual major work was performed.

V Safety

There were no lost time accidents this month.

VI Visitors

On September 11, Mr. Jacques F. Robertsen of the U.S. Geological Survey, arrived and spent the following three days examining the drill cores, or was with the writer studying maps at the office.

On September 16, Mr. Edward J. Eaton, Engineer, Mexico Office, U.S. Bureau of Mines, arrived and inspected the drilling and did work with the writer and Mr. Robertson.

On September 24, Mr. Dwight Joyce, President of Glidden Company accompanied by Mr. Edward L. Ralston, Manager of the Chemical and Pigment Company of Oakland - a subsidiary plant - visited the mine and property.

VII Geological and Engineering Work

Considerable plane table work was finalized during the month and much of the area to the north of the Bully Hill Line up to the McClure Tunnel, was tied in. This is all north of the mapping previously done by members of the Geological Survey. In this area many points had been previously set at strategic locations from which the area immediately surrounding the point was mapped by brunton and tape. Of particular interest in the result which shows the bedding of the flows and also the sensitivity of the shear zones to be trending in a northwesterly direction. This is contrary to the old belief that the shear zones trended in a north north-easterly direction. This is the cause for lengthening holes DH-4 and DH-8 to go deeper in the hill in order to examine the possibility of mineralized zones continuing in a northerly direction. Topographic surveying for use in making contour maps was not done at this time.

A sizeable swamp was also mapped in the south end of the Bully Hill Line area, which is in the zone called Area 2. This useful in comparing our mapping with that of the Survey and also for planning the drilling in Area 2.

Prints of these maps will not be attached until satisfactorily completed so as not to require duplicating work by tracing and coloring. In the meantime, the surface map submitted in the will suffice.

VII. Maps, Daily Lode

A set of 10 scale geological maps has been in process for some time, covering the Daily Hill line. A time consuming problem was to establish a coordinate system which would be identical for surface and previous underground work. This was accomplished last month, and the results are believed to be very accurate. It now permits better use of existing information from underground workings in conjunction with surface geology, projection of mineralized area and planning of drill holes. The workings of the 770, 870, 970 and 1100 levels have been transferred to this set and a composite of the tunnel levels has also been in process. This set will be completed as time permits and will be given precedence over other drafting.

An adequate number of 40 scale tracings, with border lines and coordinate lines printed, were obtained for use in making up two more sets of maps: one, showing detailed geology and the other showing complete assays. These will also be completed as time permits.

Respectfully submitted,

Mayer G. Hansen

Mayer G. Hansen

COPY

Invoice

E. J. LONGYEAR COMPANY
Mining Engineers
1701 Foshay Tower
Minneapolis, Minnesota

October 9, 1952

The Glidden Company
c/o Mr. Edward D. Ralston
The Chemical & Pigment Company
766 - 50th Avenue
Oakland 1, California

Invoice No. 95203

Charges in connection with exploration at the Bully Hill Mine, Shasta County, California, during the month of September, 1952, as per the terms of our agreement dated May 3, 1951.

Engineering Fees			
September 1 - 30, 1952	1 month	@ $2,000.00 per month	$2,000.00
September 1 - 30, 1952	30 days	@ 35.00 per day	1,050.00
			$3,050.00
Car Expenses			100.00
Living Expenses			
M. G. Hansen		369.64	
A. Lutenko		100.00	469.64
Expenses			
Office supplies		124.96	
Rental of typewriter		7.00	
Postage charges		13.20	
Telephone and telegraph charges		34.39	
Office rental for 11 months		220.00	
Sample sacks		53.00	452.55
Wages paid to Office Staff at Redding, California			
September 1-30, 1952		200.00	
F.I.C.A. Insurance	$200.00 @ 1.5%	3.00	
Unemployment insurance	200.00 @ 3 %	6.00	
Compensation, PD & PL Insurance	200.00 @ 9.213%	18.42	227.42
			$4,299.61

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY
BY
Manager of Mines

C O P Y

Invoice

J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1701 Foshay Tower
Minneapolis 2, Minnesota

October 9, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical and Pigment Company
766-50th Avenue
Oakland 1, California

Invoice No. 95243

Diamond core drilling during the month of September 1952, on your property known as Bully Hill, Shasta County, California, as per the terms of our agreement dated April 27, 1951.

Total footage drilled during September 1952 195' 8"

Hole No.		From	To	Footage	Rate	
	Compensation					
4	Diamond Drilling	823'10"	936.0	112'2"		
5	"	665' 6"	749.0	83'6"		
"	Reaming	535.0	564.0	29.0		
"	"	580.0	600.0	20.0		
"	"	630.0	670.0	40.0		
				284'8"	.50	$142.33

Equipment Rental

1 drill	6/30 month	(3 shifts)	@ 675.00	135.00	
	11/30 "	(2 shifts)	@ 600.00	220.00	
	13/30 "	(1 shift)	@ 475.00	205.83	
1 drill	9/30 "	(3 shifts)	@ 675.00	202.50	
	16/30 "	(2 shifts)	@ 600.00	320.00	
	5/30 "	(1 shift)	@ 475.00	79.17	
Truck	1 month			100.00	1,262.50

Depreciation of Rods and Casing

		From	To	Footage	(1-10%)	Rate	Amount	
4	AU Rods	823'10"	936.0	112'2"	11.2	1.65	18.48	
"	AX Casing	800.0	824.0	24.0	2.4	1.33	3.19	
"	4" Casing	0.0	167.0	167.0	16.7	2.15	35.91	
5	AU Rods	665'6"	749.0	83'6"	8.3	1.65	13.70	
"	BX Casing	535.0	600.0	65.0	6.5	1.70	11.05	
"	AX Casing	614.0	679.0	65.0	6.5	1.33	8.65	
"	4" Casing	0.0	71.0	71.0	7.1	2.15	15.27	106.25

Payroll (See enclosed payroll sheets)

September, 1952			4,296.00	
FICA Insurance	3,393.17	@ 1.5%	50.90	
Unemployment Insurance	2,298.00	@ 3%	68.94	
Compensation, PD & PL Ins.	4,082.00	@ 9.213%	376.07	4,791.91

Credit due you for board of workmen at Redding, Calif.

Axel Augustson	30 days @ 2.00	60.00
Curtis England	26 days @ 2.00	52.00
Arni Maki	22 days @ 2.00	44.00
Floyd Heyborne	25 days @ 2.00	50.00
Henry Wilgren	23 days @ 2.00	46.00
Earl Trusty	17 days @ 2.00	34.00
Arthur R. Kinkel	23 days @ 2.00	46.00
Harold E. Osborne	4 days @ 2.00	8.00
Don A. Fisher	13 days @ 2.00	26.00

Invoice
K. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1701 Foshay Tower
Minneapolis 2, Minnesota

THE GLIDDEN COMPANY

October 9, 1952

Invoice No. 95243

Credit due you for board of workmen at Redding, Calif.			
Delbert Briggs	28 days @ $2.00	56.00	
Leslie M. Marvel	25 days @ 2.00	50.00	
Roy Cunningham	14 days @ 2.00	28.00	(500.00)
Hold harmless insurance charges for August, 1952			4.11
Fire and Theft insurance			12.10
Freight, express and postage			264.31
Telephone and telegraph charges			3.25
Food supplies			619.10
Camp expense			
Kitchen and mess hall supplies			115.65
Fuel and oil			
12 cyl. Standard flamo		67.36	
1270 gals. Gasoline		312.42	379.78
Supplies used			
Stationery supplies		3.21	
6 Timken bearings		25.62	
1 Timken bearing		5.70	
6 cap seals		.12	
1 set pullers		34.97	
2 Wisconsin faucets		2.06	
1 UC Crank Nut		1.87	
2 compressor rings		.62	
1 tire gauge wrench		2.16	
19 sks. Lumnite cement		133.46	
2 sks. wiping rags		56.65	
1 AXL 10 ft. D.T. Core barrel		93.30	
1 AX 10 ft. D.T., R.T. Core Barrel		80.95	
1 BX 10 ft. S.T. Core barrel		33.25	
8 spark plugs		6.80	
6 AXL Core lifters		12.60	
2 B Rod Box to BX Casing pin Subs		24.20	
2 AX Casing pin to 2" pipe pin Subs		24.20	
1 set "A"Chuck jaws		10.10	
1 repair kit for light plant		16.50	
1 Set gaskets - Wisc. engine		3.24	
1 coupling, short type water swivel		11.15	
4 oil seals for short type water swivel		5.30	
1-600 lb. pressure gauge		12.50	
1-1/2 in. x 70 ft. L.L. cable with clevis		28.25	

Copy

Invoice
E. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1701 Foshay Tower
Minneapolis 2, Minnesota

October 9, 1952

THE GLIDDEN COMPANY

Supplies used:		
1 - 12 " Crescent wrench	4.00	
1 - 3/4" x 25 ft. swivel hose with fittings	28.45	
1-3" malleable tee	3.00	
5 AXL "Type C" Diamond Reaming Shells @ 69.90	349.50	
1 BX "Type C" " " "	205.75	
1 NX "Type C" " " "	137.75	
2 BXL "Type C" Diamond Bit @ 11.00	22.00	
3 BX "Type C" Diamond Bit @ 11.00	33.00	
1 AX "Type C" Diamond Bit	9.00	
7 AXL "Type C" Diamond B it @ 9.00	63.00	
1 BX "Type CC" Diamond Bit	11.00	
2 BX "Type C" Diamond Casing Bits @ 17.50	35.00	
1 BX "Type T" " " "	17.50	1,547.73

Borts Wear	Type S	Type T	Type C	Type CC
Actual wear previous month	6.25	3.20	267.19	20.60
Add:				
This month's suspension chge	-0-	5.00	58.00	3.00
	6.25	8.20	325.19	23.60
Less:				
Last month's suspension chge	3.00	5.00	103.00	15.00
	3.25	3.20	222.19	8.60

3.25 carats - "Type S" Borts	@ 11.00	35.75	
3.20 carats - Type T "	@ 11.00	35.20	
222.19 carats - Type C "	@ 11.00	2,444.09	
8.60 carats - Type CC "	@ 8.50	73.10	2,588.14
Borts salvaged from Diamond Reaming Shells			
13.55 carats "Type C" Borts	@ 11.00		(149.05)
			11,188.21

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

BY

Manager of Mines

COPY

SHASTA NAVIGATION CORP.
P. O. Box 690 Project City, Calif.

September 30, 1952

Glidden Consolidated Zinc Mines
Glidden Paint Co.
Oakland, California

Statement for September 1952

				Passengers	Freight	
Sept. 1st	New-Chris	2 trips	$10.50 per hr	$21.00		2 hrs.
Sept. 2nd	New-Chris	1 trip	10.50 per hr	10.50		1 hr
Sept. 2nd	Garwood	1 trip	12.00 per hr	12.00		1 hr.
Sept. 3rd	Garwood	1 trip	12.00 per hr	12.00		1 hr.
Sept. 3rd	Christina	1 trip	10.50 per hr	15.75		1½ hrs
Sept. 4th	Christina	1 trip	10.50 per hr	15.75		1½ hrs.
Sept. 4th	Garwood	1 trip	12.00 per hr	12.00	xxxx.	1 hr.
Sept. 5th	New-Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 6th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 7th	New Chris	1 trip	10.50 per hr.	10.50	x	1 hr
Sept. 8th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 8th	Christina	1 trip	10.50 per hr.		15.75	1½ hrs.
Sept. 9th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 9th	Christina	1 trip	10.50 per hr.	15.75		1½ hrs.
Sept. 10th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 11th	New Chris	3 trips	10.50 per hr.	21.00	10.50	3 hrs.
Sept. 12th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 13th	Christina	2 trips	10.50 per hr.	31.50		3 hrs.
Sept. 14th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 15th	New Chris	2 trips	10.50 per hr.	21.00	2	2 hrs.
Sept. 16th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 16th	Christina	1 trip	10.50 per hr.	15.75		1½ hrs.
Sept. 17th	Christina	2 trips	10.50 per hr.	15.75	15.75	3 hrs.
Sept. 18th	Christina	1 trip	10.50 per hr.	15.75	1½	1½ hrs.
Sept. 18th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 19th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 20th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 21st	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 22nd	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 22nd	Garwood	1 trip	12.00 per hr.	12.00		1 hr.
Sept. 23rd	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 23rd	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 24th	New Chris	3 trips	10.50 per hr.	31.50		3 hrs.
Sept. 25th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 25th	Christina	1 trip	10.50 per hr.	15.75		1½ hrs.
Sept. 26th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 27th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
Sept. 28th	New Chris	1 trip	10.50 per hr.	10.50		1 hr.
Sept. 29th	New Chris	2 trips	10.50 per hr.	21.00		2 trips
Sept. 30th	New Chris	2 trips	10.50 per hr.	21.00		2 hrs.
				641.25	42.00	
		15% Trans. Tax		96.19		
		3% Frt. Tax			1.26	
				737.44	43.26	
				Total		$780.70
			Outboard Motor Gas			6.56
						$787.26

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY
By
Manager of Mines

C O P Y

Greene Rental Tools and Equipment
Route 1, Box 4992
Redding, California

Inv. 2166
9/2/52

The Glidden Company
Oakland, California

Rental Floor Sander and Edger	$20.00

A correct copy of the original invoice

THE GLIDDEN COMPANY

By

Manager of Mines

C O P Y

Pacific Gas & Electric Company
Redding, California

California Zinc Co.
Bully Hill, Shasta Co., Calif.

Power - 8/11 to 9/12/52 $49.12

A correct copy of the original invoice

THE GLIDDEN COMPANY

By
Manager of Mines

C O P Y

Redding Lumber Co[illegible]ny
Box 580
Redding, California

9/2/52

The Glidden Company
Oakland, Calif.
For Squaw Creek Job.

Inv. No. 11020

6 rolls 65# roofing @ $3.50		$21.00
	Sales Tax	.63
		$21.63

A correct copy of the original invoice

THE GLIDDEN COMPANY

By
Manager of Mines

COPY

THE BRANCK SERVICENTER
Redding, California

9/30/52

Glidden Consolidated Zinc Mines

Invoice No. 18414

Cylinder Days Demurrage for September

90 days @ 3¢ $2.70

A correct copy of the original invoice

THE GLIDDEN COMPANY

By

Manager of Mines

C O P Y

THE GLIDDEN COMPANY
San Francisco, Calif.

9/2/52

Glidden Consolidated Zinc Mines
Redding, California

15 gals Spred Satin Pinefrost Green	@ $2.85	$42.75
	Tax	1.28
		$44.03

A correct copy of the original invoice

THE GLIDDEN COMPANY

By

Manager of Mines

1219

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 27 1952

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market St.
San Francisco 2, Calif.

October 22, 1952

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Operators' Monthly Progress Reports - Forms MF-104 & 104A

Enclosed herewith are two copies of each of the subject reports received from the following operators as listed below. These reports have been audited and passed to the Treasury for payment.

Contract No.	Operator	Report dated	Period covered
Idm-E187 DMEA-1219	The Glidden Company	Oct. 14, '52	Sept. 1952
Idm-R332 DMEA-2354	Hidden Hills Company	Aug. 20, '52	June 1952
"	" " "	Sept. 22, '52	July 1952
"	" " "	Sept. 27, '52	August 1952

S. Ricker for H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachments

Copy to: E. H. Bailey, USGS

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

Budget Bureau No. 42-R1036.3.
Approval Expires

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 27 1952

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of September, 1952 Docket No. DMEA 1219X Contract No. E-187

Operator's Name THE GLIDDEN COMPANY Minerals Zinc & Copper

Address Cleveland, Ohio

Contract Amount, $ 196 ft. @ 50% of $9.00 per foot Government Participation: 5.1% Amount, $ 882.00

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	$142.33		$ 2,739.50			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	3,078.00		34,137.53			
Supervision	550.00		4,950.00			
Technical Services	4,299.61		40,594.52			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe			797.28			
Track						
Bits, Shells, etc.	2,124.46		19,685.43			
(4) Operating Equipment:						
Rental	4,595.10		33,552.11			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	572.88		45,748.80			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous: Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	89.78		1,575.63			
Liability Insurance	314.53		3,380.10			
Cookhouse & Townsite	1,297.19		12,073.23			
Miscellaneous	34.71		468.00			
(8) Contingencies (specify):						
TOTALS	$17,098.59		$202,508.83			

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

Date Oct. 14, 1952 Payee THE GLIDDEN COMPANY

Per [signature] Gen. Manager of Mines

*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:

$882.00

Signature [signature]
(Authorized Certifying Officer)
AUTHORIZED CERTIFYING OFFICER

Date OCT 21 1952 Vou. No.

(See other side)

ACCOUNTS OCT 16 1952

(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. [illegible] in accordance with the terms of the contract.

Signature R. C. Johnson Title Chief, Mining Div. Date October 15, 1952.
R. C. Johnson Dayton Ind

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W. C. Miller Title Executive Officer Date October 16, 1952.
W. C. Miller DMEA Field Team, Region III

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 3 1952

INTERIM REPORT

August to Sept. 17, 1952

Docket No. DMEA-1219X (copper-zinc) Sept. 22, 1952

Name and address of operator: The Glidden Co.
The Chemical and Pigment Co., Division
766 - 50th Avenue
Oakland, Calif.

Name and location of Property: Bully Hill and Rising Star Mines,
Shasta County, Calif.

Contract No.: Idm-E187

SUMMARY

Diamond drilling is continuing in Area 1 on holes A1-4 and A1-5; no mineralization of consequence has been encountered in either hole to date. Exploration in this area is designed to explore for continuation of mineralization on the northern extension of the Bully Hill mine zone. Three drill holes, A1-1, A1-2, and A1-3, have been completed, totaling 2,958 linear feet. Hole A1-1 was barren of mineralization; hole A1-2 encountered the mineralized zone from 778.5 to 898 or a distance of 119.5 feet at a hole inclination of -70° at the collar. Hole A1-3 encountered the mineralized zone from 519.5 to 905(it did not penetrate through the zone; the bottom was still in pyrite mineralization) a distance of 385.5 feet on a hole inclination of -59° at the collar.

Scattered mineralization was encountered as shown by assay sheets submitted in the last interim report (Aug. 28, 1952) and continuation of assays attached for remainder of hole A1-3. This completes assays for holes completed to date.

A recapitulation of drilling footage to the end of the month of August is as follows:

Period	A1-1	A1-2	A1-3	A1-4	A1-5	Totals
Previous totals	1015	1038	905	680.0	480.0	4118.0
Footage for August	0	0	0	143.8	185.5	329.3
Totals	1015*	1038*	905*	823.8	665.5	4447.3

*Holes completed.

Since Sept. 1 to 17, hole A1-4 has been advanced 106.2 feet or to a depth of 930 feet; hole A1-5 has been advanced 14.5 feet or to a depth of 680.0 feet. Total advance since Sept. 1 to 17, 1952 is 120.7 feet.

PROGRESS OF WORK

The status of hole A1-4 to date is as follows:

4"	casing	to	167	feet
NX	"	"	260	"
BX	"	"	330	"
AX	"	"	824	"

Bottom of hole is 930 feet with drilling continuing with an AX bit. At time of inspection, Sept. 17, 1952, the bit encountered cave material at 920. The hole is caving continuously. If caving continues, the hole can be cased with EX casing and drilling resumed with an EX bit. It is believed at least 400 feet and possibly more of drilling will be required to complete the hole in order to penetrate the ore zone.

The present status of hole A1-5 is as follows:

4"	casing	to	71	feet
NX	"	"	301	"
BX	"	"	600	"

The hole was previously drilled to 665 feet with an EX bit, with AX and EX casing installed to 615 and 653.5 feet respectively. However, the hole started caving seriously and the AX and EX casing was removed and the hole reamed with a BX casing bit and setting the BX casing to 600 feet. The bottom of the hole to date (Sept. 17, 1952) was 679 feet BX size.

More cave material was encountered at 623 feet. However, the last ten feet of hole was in good solid ground and plans are to set AX casing to bottom or as close to 680 as possible and resume drilling with an AX bit. With two more reduction (AX and EX), it is hoped the hole can be completed to and through the ore zone. It is believed 300 more feet of drilling will be required.

Both holes are in the Bully Hill rhyolite formation and have encountered tough going.

SAMPLING

The assay returns from all the mineralized sections of holes Al-2 and Al-3 have been received as shown by the past assay sheets (Interim report, Sept. 3, 1952) and the sheet accompanying this report. A combined weighted average of assays and individual assays of best mineralized sections are as follows:

Hole No.	From	To	Feet	%,Cu	%,Zn
Al-2	778.5	794.0	15.5	2.14	14.31
"	877.0	888.0	11.0	2.45	.68
Al-3	529.0	534.0	5.0	0.72	.16
"	541.5	546.5	5.0	6.12	.05
"	712.5	715.0	3.0	1.48	.05
"	731.0	734.0	3.0	.63	.05
"	749.0	752.5	3.5	3.16	.05
"	763.0	798.0	33.0	.66	.12

Intervening sections in the mineralized zone were too low in mineral content to be significant. Due to the continuous caving ground encountered, no sludge samples have been sent in for analyses, although sludges are caught and stored for future reference if needed.

RECOMMENDATIONS

It is recommended that drilling be continued in Area No. 1, however, as soon as either one of the holes now in progress is completed, that drill rig be moved to Area No. 3 on the south end of the Bully Hill zone.

The other drill rig should be kept in Area No. 1 until no further drilling is required there. At the completion of drilling in Area 1, the drill rig should be moved to Area No. 5 and thus have one drill working in one area and each succeeding hole be spotted in the most advantageous position from information gained from the preceding hole.

CONCLUSIONS

Drilling is slow and tedious requiring much cementing, reaming and casing. Work is being conducted in good workman-like order under the able supervision of Mayer G. Hansen, engineer in charge for the E. J. Longyear Co. A new 100 feet to the inch map is being revised by the Longyear Co. showing topography, geology and mine workings which is expected to aid greatly in the performance of the work.

E. J. Matson

E. J. Matson

C O P Y

Hole No. A1-3 (3)

E. J. Longyear Company
Diamond Drilling Sample and Assay Record
BULLY HILL AND RISING STAR MINES
Shasta County, California

Sample No	Interval From	Interval To	Length	Core Assays Total Cu	Zn	Pb	Au	Ag
77	761	763	2.0	0.15	0.17	0.02	Tr	Nil
78	763	768	5.0	0.63	0.05	0.05	Tr	Nil
79	768	773.5	5.5	0.08	0.18	0.02	Tr	Tr
80	773.5	778	4.5	1.30	0.21	0.04	Nil	Tr
81	780	785	5.0	1.01	0.31	0.04	.005	.09
82	785	790	5.0	0.38	0.10	0.03	.005	Tr
83	790	795	5.0	0.78	0.12	0.05	Nil	Nil
84	795	798	3.0	0.51	0.12	0.05	Tr	Nil
86	803	807	4.0	0.13	0.11	0.02	Nil	Tr
87	809	814	5.0	Tr	0.05	Tr	.005	Nil
88	814	819	5.0	0.01	0.05	0.02	.005	Nil
89	819	824	5.0	0.01	0.05	0.02	.005	Nil
90	824	829	5.0	0.07	0.21	0.02	.02	.18
91	829	834	5.0	0.01	0.05	0.05	.02	Tr
92	834	839	5.0	0.01	0.10	Tr	.01	Nil
93	839	844	5.0	0.01	0.09	0.01	.01	Nil
94	844	849	5.0	0.05	0.31	0.02	Tr	Nil
95	849	854	5.0	0.13	0.05	0.05	Nil	Nil
96	854	859	5.0	0.05	0.03	0.01	Tr	Tr
97	859	864	5.0	0.03	0.05	0.02	.01	Tr
98	864	869	5.0	0.12	0.05	0.05	.01	Nil
99	869	874	5.0	0.23	0.05	0.04	.01	Tr
100	874	879	5.0	0.02	0.03	0.01	Tr	Nil
101	879	884	5.0	0.03	0.05	0.02	Nil	Nil
102	884	889	5.0	0.03	0.15	0.02	Tr	Nil
103	889	894	5.0	0.03	0.10	0.02	Tr	Tr
104	894	899	5.0	0.15	0.05	0.03	.01	Tr
105	899	905	6.0	0.10	0.05	0.08	Tr	Nil

1219 X

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 3 1952

UNITED STATES
DEPARTMENT OF THE INTERIOR
Defense Minerals Exploration Administration

Office of
Executive Officer
DMEA Field Team
Region III

1012 Flood Building
870 Market Street
San Francisco 2, Calif.

Date: September 29, 1952

Memorandum

To: Operating Committee, DMEA, Interior Building, Washington 25, D. C.

From: Executive Officer, DMEA Field Team, Region III

Subject: Interim Inspection Report

Attached are four copies of Interim Report on -

Docket DMEA 1219X

Contract Idm-E 187

Commodity Copper-Zinc

Operator - The Glidden Co.
The Chemical and Pigment Co., Division

Property - Bully Hill and Rising Star Mines
Shasta County, California

By E. J. Matson

Dated September 22, 1952

H. C. Miller
Executive Officer
DMEA Field Team, Region III

Attachment

Copy to: Finance Officer, Region III (with one copy of report)
E. H. Bailey, USGS (with one copy of report)

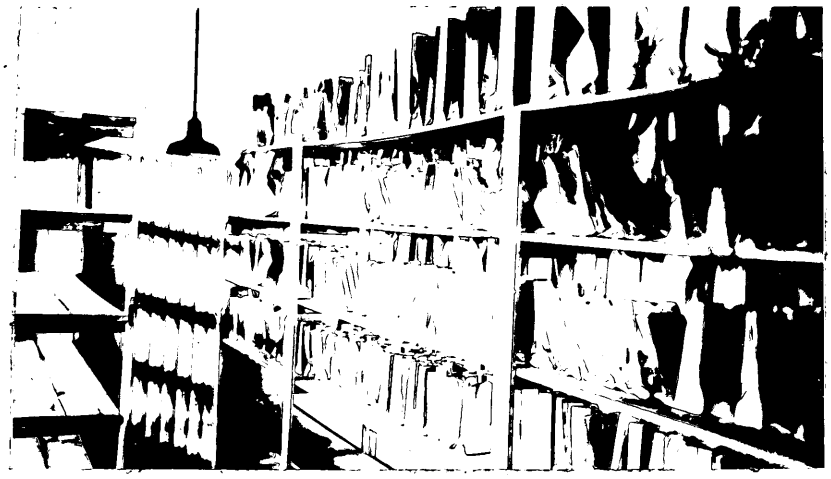


Fig. 2, - Showing storage rack of sludge samples. Sludge samples have been taken for all drilling footages with the aid of the sludge sampling machine furnished by the Bureau of Mines, and have been transferred to paper sacks with the hole number and corresponding footage interval labeled theron. They are being saved for future reference or assay, if needed.

Idm-E187

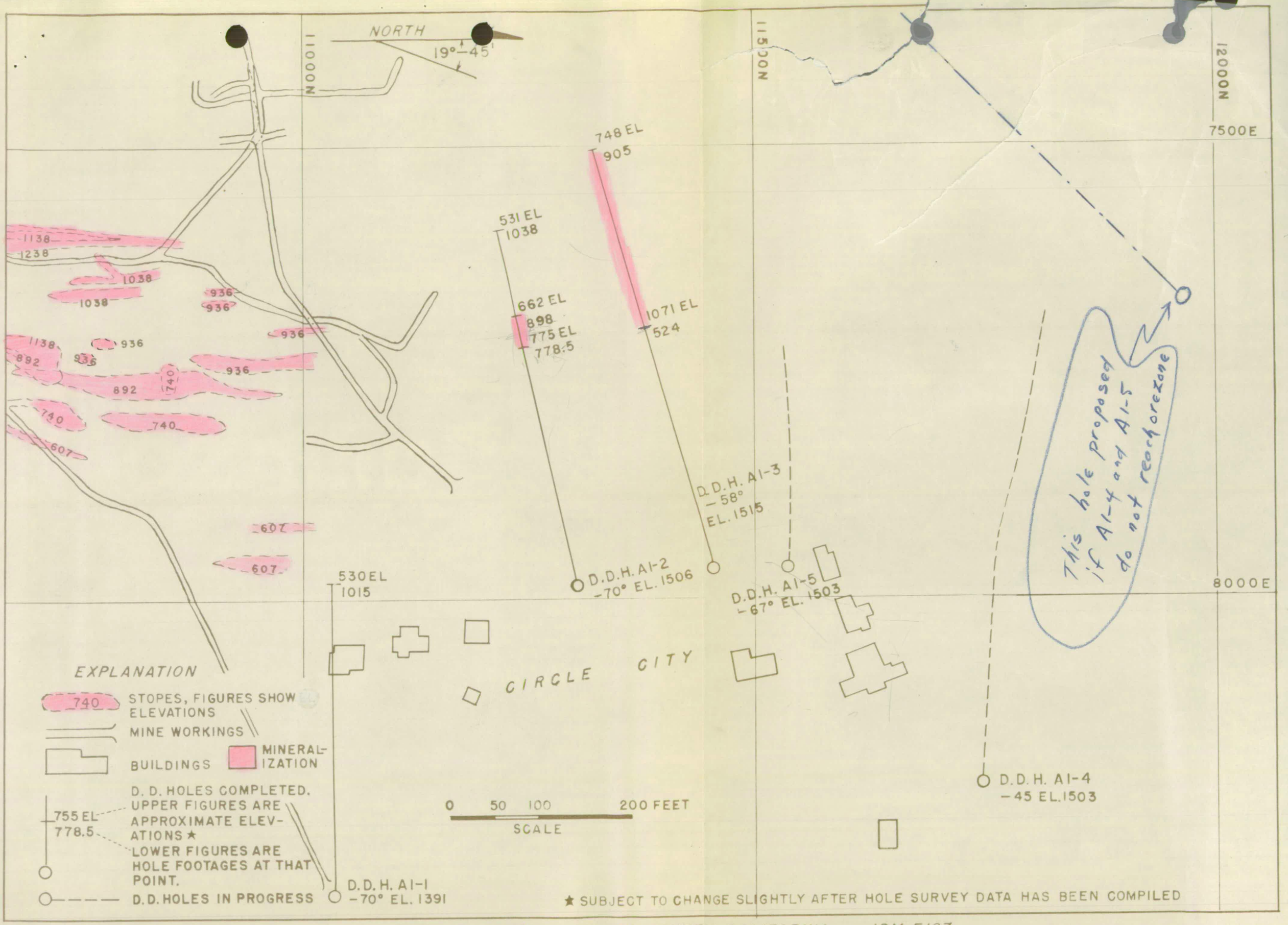


FIG. 1 — PLAN MAP, AREA NO. 1, BULLY HILL MINE LOCATION — SHASTA COUNTY, CALIFORNIA. — IDM E187

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
SEP 9 1952

INTERIM REPORT

Sept. 3, 1952

July and to August 28, 1952

Docket No. DMEA-1219X (copper-zinc)

Name and address of operator: The Glidden Co.,
The Chemical and Pigment Co., Division
766 - 50th Avenue,
Oakland, Calif.

Name and location of property: Bully Hill Mine,
Shasta County, Calif.

Contract No. Idm-E187

SUMMARY

Work is progressing on holes A1-4 and A1-5, see fig. 1, no ore mineralization has been encountered in either hole to date. A recapitulation of monthly summary of drilling is as follows:

Month	A1-1	A1-2	A1-3	A1-4	A1-5	Totals
Dec. 1951	82					82
Jan. 1952	290	125				415
Feb. 1952	223	394				617
Mar. 1952	135	519				654
Apr. 1952	120		438			558
May 1952	165		407			572
June 1952			60	278	142	480
July 1952				402	338	740
	1,015*	1,038*	905*	680	480	4,118

*Holes completed.

Since August 1 to 28, 1952, hole A1-4 has been advanced 144 feet or to a depth of 824 feet; hole A1-5 has been advanced 185 feet or to a depth of 665 feet. Total advance since August 1 to 28 is 329 feet.

Holes A1-2 and A1-3 indicate that the ore zone is striking more to the northwest than was anticipated (see fig. 1) and both holes now

in progress (A1-4 and A1-5) will be longer than originally planned.

PROGRESS OF WORK

Hole A1-4 has been drilled thus:

4"	casing	to	167	feet
NX	"	"	250	"
BX	"	"	600	"

Bottom to date is BX size at 824 feet. The hole started caving at 795 to 805 and encountered considerable gouge and sandy material. During the washing and cleaning of the hole, a large rock apparently shifted into the hole and had to be drilled out at 806. The hole was cemented and drilled out three times in the past week. It is still in the Bully Hill rhyolite formation.

Hole A1-5 has been drilled as follows:

4"	casing	to	71	feet
NX	"	"	301	"
BX	"	"	350	"
AX	"	"	615	"
EX	"	"	653.5	"

Bottom to date is 665 feet. A large fault with gouge was encountered at 585 feet. The hole has been caving to the bottom. It became necessary to pull out the EX and AX casing to attach a fresh AX casing bit in order to advance the casing. However, in pulling the AX casing, the last 50 feet of it broke off. The upper part of the AX casing was removed from the hole. The BX casing was also taken out and a BX casing bit installed on the casing with reaming in progress to over-ream the AX casing left in the hole.

SAMPLING

The mineralized sections of holes A1-2 and A1-3 have been sent

to Abbot A. Hanks, Inc., San Francisco, Calif., as shown by the accompanying sample return sheets. Only the cores have been sent in for analyses. However, sludges have also been taken and are kept in storage for future reference if needed, as shown by fig. 2.

Cost of sampling, according to Mayer G. Hansen, engineer in charge for the E. J. Longyear Co., is as follows:

Copper determination	$3.00
Zinc "	3.00
Lead "	3.00
Gold and silver " (combined) . . .	3.00
Total	$12.00

The complete core interval is sent for analyses and then is coarse-ground and quartered. One portion is sent to the Bureau of Mines, Reno, Nev.; one portion to the Glidden Co., and one portion is kept at Abbot A. Hanks, Inc., laboratory in case other tests are required, such as, cadmium, etc.

RECOMMENDATIONS

It is recommended that the holes be kept large size as far as possible before reducing bit size. Both holes now in progress will be considerably longer than anticipated, due to the apparent northwesterly trend of the ore zone and also the deflection of the drill hole (see fig. 1). There is also a possibility that either hole may not cut the ore zone due to aforementioned causes. Holes should be kept short as possible to reach the objective and to overcome drilling hazards usually encountered in this type of ground.

In the event that holes A1-4 and A1-5 do not reach their objective, it would probably be better to start another hole on the north end of Area 1 as shown by fig. 1. This hole should be planned to cut the ore zone about 400 feet below the collar and not try to reach too deep.

In the light of the above and the actual drilling that has been done, the drilling footage in area No. 1 has exceeded the original estimates. Possibly an amendment to the drilling program will be in order.

A summary of drilling, planned and actual, is as follows:

Hole No.	Originally planned Footage	Actually drilled Footage
1	1,050	1,015
2	1,000	1,038
3	800	905
4	500	824 (still in progress)
5	750	665 (still in progress)
Totals	4,100	4,447

CONCLUSIONS

In drilling with two machines on one extension of an ore body, especially where holes are long, it is difficult to spot the farthest drill from the known ore zone advantageously.

It would be much more advantageous and more to the point if only one drill was used in one area and each hole spotted from the relative information gained from the preceding hole. Considerable drilling footage would be saved and apparently much grief avoided.

In the narrative submitted by Mayer G. Hansen, engineer in charge for the E. J. Longyear Company, dated August 2, 1952, and covering period July 1 - 31, 1952, some errors occurred in the first two paragraphs of his report and should be corrected as follows:

1. In the second line of the first paragraph, the totals should read 4,118 feet instead of 4,083 feet.

2. In the last figure on the third line of the same paragraph, instead of 1,010, it should be 1,015 (footage for Al-1).

3. In the second paragraph, where it reads "Hole #5 - Drill #824 July footage 308 . . . .", it should be 338 instead of 308 feet.

4. In the same line as above where it reads " . . . . Total depth 450 feet", it should be 480 feet instead of 450 feet.

5. Also where it reads "Total footage for July 710 feet", it should be 740 feet instead of 710 feet.

E. J. Matson

E. J. Matson
Mining Engineer

Redding, California
September , 1952

Subject: Exploration Project Contract
Valley Mill and Valley View Mines
Lassen County
California

. . Reference:
Docket . . 1017
Stratigraphy: Lee-Lepper
[illegible]

Geological Engineering Report - Month of August 1952

I. Diamond Drilling

The footage drilled by diamond drill on the project totals 4[illegible] feet as of the end of the month of August 31, 1952. A reference is made to the attached tabulation which shows the number of drill holes, listed by areas, their location and orientation, as well as the footage drilled. The tabulation is self-explanatory.

The following tabulation summarizes the drilling performed for the month of August 1952.

Hole [illegible]-Drill [illegible]-Aug. Footage 143', size [illegible] Total depth [illegible]'
Hole [illegible]-Drill [illegible]-Aug. Footage 1[illegible]', size [illegible] Total depth [illegible]'
Total footage of August [illegible]

The average number of shifts worked per drill per day for the 30 days [illegible] . The driller left [illegible] Holes scheduled to be drilled have all stations at the end of the month. [illegible] drilled and [illegible]. Footage drilled averaged a little over [illegible]. The [illegible] t, including moving, operating and surveying time. Two drill crews are working at the present time.

[illegible] holes encountered unusual [illegible] and [illegible], crossing [illegible] water, [illegible] . Hole 4, (1-4) was drilled [illegible] beyond [illegible] with little [illegible]. This hole was located on the [illegible] of the Hecla vein, [illegible] and [illegible] feet, [illegible] feet, [illegible] to [illegible] feet. [illegible] started caving [illegible] hole [illegible] water, [illegible] . [illegible] water [illegible] [illegible]

stick [illegible] some of the loose sands. [illegible] was circulated in an attempt to hold [illegible] in these places to no avail. On Friday, August [illegible], the wall rock shifted and the hole recollared in solid rock at [illegible] feet. This was not a deviation from the old hole as the new core was a solutely round and not wedge-shaped as [illegible] deflection occurs. The third core job permitted combining the hole and setting [illegible] casing to the new depth of [illegible] feet. Obviously, slope sandies from the first [illegible] feet proved holder rock and not reliable. The core rec very varied from 0 to 100, with 6[illegible] the runs or rolls yielding 100% core recovery. The rock drilled may be classed as [illegible] very hard drilling. The hole is making a small amount of water, which is stopped coming in at 3[illegible] to 4[illegible] feet.

Hole [illegible] (41-[illegible]) is located near the west end of the [illegible] of three holes in [illegible]. The drilling [illegible] is [illegible] started in [illegible] (1 shift) and ended in [illegible] hours. The [illegible] casing was set to a depth of 71 feet, [illegible] casing to [illegible] feet, [illegible] casing to [illegible] feet, [illegible] casing to 410 feet and [illegible] casing to 653 feet. A heavy seepage from a major fault was first encountered at [illegible] feet and continued carrying clay [illegible] to [illegible] feet. During the drilling, the casing was advanced every day to endeavor to stay close to the bottom of the [illegible] combarrel drilling. At one time when the crush nuts were loosened to take a [illegible] hole with the swivel head crush jaws, the weight of the casing caused the casing bit to stick [illegible] the bottom of the hole. In the course of withdrawing the casing to install a new bit, the bottom 50 feet of casing broke off and remained in the bottom of the hole. Successfully we removed the [illegible] casing, [illegible] and are a vancing the [illegible] drill rods [illegible] casing. It is planned to set about [illegible] feet of casing and continue the drilling. It is anticipated that [illegible] will get a depth of 110[illegible] feet in order to [illegible] test for the presence of sulfide mineralization. The core recovery varied from 0 to 100 with [illegible] of the runs yielding 100. The hole is making small amounts of water and [illegible] number at 90 to 95 feet. The drilling conditions on this hole are classed as very hard or difficult drilling.

The new [illegible] hole map is not ready for this monthly report and the [illegible] must again be used as a reference. It should be noted that [illegible] tested [illegible] the [illegible] hole [illegible] originally [illegible] the drilling [illegible] and [illegible] the [illegible] hole [illegible] to [illegible] feet. It is [illegible] that the [illegible] was planned to be about [illegible] feet will actually be [illegible] over 1[illegible] feet. [illegible] will be [illegible] exceed 100[illegible] or 11[illegible] feet.

A gyroscope was [illegible], which enables us to [illegible] the [illegible] from the surveys in the drill holes [illegible]. The results are tabulated with [illegible] reliability and [illegible] attached hereto.

Across correct[illegible] [illegible] were made, [illegible] drill holes [illegible] were [illegible], [illegible] the [illegible] of the drill holes.

It was [illegible] that hole 4 in [illegible] and [illegible] direction [illegible] cause [illegible] to disappear [illegible] of the hole. [illegible], these surveys with the [illegible] compass and [illegible] gyroscope [illegible] the amount of deviation previously [illegible], most of all, the bottom of the hole as surveyed was found to be [illegible] in a more westerly direction and the last [illegible] was [illegible] at 70 feet, which compares with [illegible] the collar.

It is currently [illegible] that should either of holes number 4 and 5 (A1-4 and A1-5) encounter mineralization, that another hole be drilled in area 1. Regardless, upon the completion of these two holes, one drill will be moved over to area [illegible] to commence the prospecting of the southerly extensions of the [illegible] drill [illegible].

[illegible] Diamond Drill Hole Description

Detailed descriptions of the drill cores from holes number A1-4 and A1-5 are given in the attached logs. As is customary in prospecting, each drill hole commenced into the hill, together with the amount of core recovered and percentage, is shown.

[illegible] mineralization is concerned, there was [illegible] [illegible] in the rocks drilled. Only a very small [illegible] of scattered fine [illegible] pyrite was observed which [illegible] loss. No [illegible] [illegible] the broken [illegible] drill cores together with the drill [illegible] [illegible], [illegible] be indicative of approaching mineralized areas. There is an appreciable amount of [illegible] [illegible].

It [illegible] well [illegible] we have [illegible], although the [illegible] as desired in certain [illegible] drill [illegible], there is no [illegible] [illegible]. [illegible], [illegible] the [illegible], [illegible] have [illegible] holes may [illegible] [illegible] without [illegible]. [illegible] there [illegible], the [illegible] recovered [illegible] is

[illegible] reported as [illegible]. There is as we enter soft, clayey fault zones in which there is [illegible] material to withstand washing [illegible] in the circulating water. In [illegible], for instance, [illegible] prevent the caving close to the [illegible], the weight of the casing caused them to slip [illegible] the hole. It may be observed from the drill logs [illegible] the drilling intervals, that in [illegible] where one recovery in [illegible] was [illegible] - usually [illegible] 1 to 4 feet. If core [illegible] being destroyed by grinding, it would be a great [illegible] drilled before [illegible]. Every effort is made by virtue of frequent [illegible] and by carrying the large sized casing as far as [illegible] to obtain the maximum core recovery. This detailed explanation is [illegible] here, to alleviate fears in this regard. It might also be [illegible] that the core of the newly-explored [illegible] carbonatite, which is outstanding in obtaining core recovery on a verse drill [illegible], in regard to every [illegible] recovery [illegible] is [illegible]. All pieces of [illegible] are available on the [illegible].

Despite a [illegible] of the cuttings of [illegible] have been [illegible]. [illegible], in an drilling [illegible] all cuttings were caught in a series of water tubs. As has been reported, in recent months we have been using a pair of automatic samplers obtained from the [illegible] office of the Bureau of Mines. The operation of this sampler is carefully watched and it is believed we are obtaining a [illegible] representative sample of all of the material coming from the hole. These samples are dried and weighed, using the average specific gravity of the rocks drilled, a percent recovery of sample is obtained.

However, in [illegible] comparison [illegible] there has been so much caving in [illegible] of the drill holes as to [illegible] as a representative sample. There is [illegible] cuttings to speak of while at [illegible] we have obtained [illegible] as the [illegible] of [illegible].

Concurrently the cuttings samples have been sent to the [illegible] for [illegible] analysis. The cost of 1.[illegible] (in [illegible] samples), it would be folly to continue. It is hoped, however, to have a few select [illegible] samples [illegible] the core samples analyzed [illegible] ([illegible]).

Attached is a [illegible] of the assay results from [illegible] holes, [illegible], which [illegible] the [illegible] portion [illegible] the [illegible] of the [illegible] of [illegible]. The [illegible] of [illegible] was [illegible] in the [illegible] that [illegible] the [illegible].

In the drill [illegible] submitted, an estimated copper content was given. [illegible] a [illegible] estimates were a little high but not [illegible]. [illegible] all concerned are [illegible] what the copper content might be in the [illegible] zones, it is felt that the chance for error is [illegible] consequently, no estimates will be given [illegible].

A comparison of estimated copper content with actual assays follows:

Hole 2

[illegible], Assayer					Estimated			
Interval From	To	Length Sample	% Cu	[illegible]	Interval From	To	Length Sample	% Cu
77[illegible].5	7[illegible]1	[illegible]	2.01	2[illegible]	77[illegible]	[illegible]	[illegible]	[illegible]
7[illegible]1	[illegible]	[illegible]	3.0[illegible]	1[illegible].41				
[illegible]	[illegible]7	2.0	2.31	[illegible].46	[illegible]	[illegible]	2.0	3.0
[illegible]	[illegible]	4.0	1.7[illegible]	13.9[illegible]	7[illegible]7	791	4.0	4.0
[illegible]	794	[illegible].0	0.[illegible]	1.12	791	[illegible]	[illegible]	2.0
7[illegible]	79[illegible]	5.0	[illegible].20	0.[illegible]				
-	-							
-	-							
[illegible]77	[illegible]	[illegible].0	4.4[illegible]	0.30	[illegible]	[illegible]2	[illegible]	2.[illegible]
[illegible]	[illegible]	1.0	[illegible]	3.[illegible]	[illegible]	[illegible]	1.0	1.0 or less

Hole 3

Interval From	To	Length Sample	% Cu	[illegible]	Interval From	To	Length Sample	% Cu
541.[illegible]	[illegible]	[illegible]	[illegible].1[illegible]	[illegible]	[illegible]	[illegible]	[illegible].0	[illegible].0
-	-							
-	-							
71[illegible]	71[illegible]	[illegible]	1.[illegible]	[illegible]	71[illegible]	71[illegible]	[illegible]	[illegible]
[illegible]1	734	[illegible]	[illegible]	[illegible]	[illegible]1	734	[illegible]	[illegible]
74[illegible]	7[illegible]	[illegible]	[illegible].1	[illegible]	74[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	7[illegible]	[illegible]	[illegible].1[illegible]	[illegible]	[illegible]	761	[illegible]	[illegible]
7[illegible]	[illegible]61	[illegible].0	[illegible]	[illegible].[illegible]2				
(last [illegible] assay [illegible])								

[illegible] is evident [illegible] although a considerable width of [illegible] mineralization was [illegible], the [illegible] and [illegible] was [illegible] [illegible] be [illegible] because it can not [illegible] are [illegible]. The [illegible] zones as well as [illegible] 10 [illegible], which will [illegible] drill holes.

[illegible] Rehabilitation

No major work was done this month.

A new porch was constructed as an entrance to the dining room of the boarding house. Linoleum was laid on all of the floors of the six houses in lower camp and part of one house at Circle City.

No access roads or drill sites were cut.

The water supply was adequate, although a marked diminution was apparent. The water flow decreases appreciably in mid-afternoon but picks up considerably over night. There was one day in mid-August when the tanks ran completely dry, necessitating shutting down the drills. All personnel affected helped clean out about two feet of mud sediment which had accumulated in the bottoms of the two tanks. All major leaks were plugged with [illegible] or wedges and some areas were covered with quick setting cement. Weirs were constructed or repaired which further increased the water recovery. Since this work there has been no shortage of water. However, since that occurrence, both drills have been recirculating the drilling water.

The elevation of Klondike Lake Reservoir dropped from 1929 to 1937 feet, a drop in the amount of 12 feet, or a total of 31 feet since the crest was reached. Storage temperatures continued to vary between [illegible] and [illegible] degrees, but night temperatures went into the low [illegible].

[illegible] Other Surveys or Investigations

No new surveys, other than the usual major work, were done.

[illegible] Visitors

On August 10th, Mr. Jacques [illegible] of the [illegible] Bulletin Survey arrived and spent the following two days with the writer at the mine and office.

On August 17th, Mr. [illegible], engineer from the [illegible], and [illegible] of the [illegible], arrived to discuss and inspect the operation of the mine and [illegible] and procedures and [illegible] problems now in process.

VII Geological and Underground Work

Plane table [illegible] geological mapping continued mostly in the Jennie June Claim area. Several stations which were set in strategic locations and for which geology was mapped with brunton and [illegible], were tied in to the [illegible] la system.

Considerable time was spent in trying to find and convert the coordinates of the underground [illegible] to the [illegible] system. [illegible] and line [illegible] and [illegible] terminals had certain [illegible] set in a manner, which indicated one terminal was the original zero point of the old mine system of coordinates. [illegible] this same point as our 1,000 and 1,000 coordinates. Subsequent to establishing this base line, the mines - both [illegible] and [illegible] - used separate [illegible] coordinate systems. With all portals caved and access to underground workings impossible, it has been difficult to convert the old mine to the new coordinate system. This is most essential in order to use the [illegible] of underground stopes, workings, and occurrences and geology to best advantage. It is necessary in order to plan the best location of drill holes, their bearing, dips and length. During the month, this problem was successfully solved and we are in process of making a set of 100' scale maps which will show the relative [illegible] current [illegible] drilling to old workings and geology. These are very necessary in planning our drilling campaign.

After this set is completed, a set of [illegible] scale maps covering the long [illegible] area, will be made. These is considerable good information available in the [illegible] maps and records which will be invaluable and must be [illegible] in the [illegible] and working up the [illegible] line, as well as for compiling [illegible] on old mine workings.

No changes or [illegible] to the original work are necessary.

VIII Work

As a stay [illegible], the [illegible] geological maps are in process, but are not [illegible], as [illegible] probably [illegible] with the [illegible] work.

Geological [illegible] work [illegible] the [illegible] were [illegible] changes in [illegible] positions resulting from the [illegible] drill holes. [illegible] were [illegible] and [illegible].

Respectfully submitted

Mayer H. Hansen.

[illegible] Engineer

COPY

INVOICE

E. J. LONGYEAR COMPANY
Mining Engineers
1701 Foshay Tower
Minneapolis, 2, Minnesota

September 8, 1952

The Glidden Company
c/o Mr. Edward D. Ralston
The Chemical & Pigment Company
766 - 50th Avenue
Oakland 1, California

INVOICE NO. 85207

Charges in connection with exploration at the Bully Hill Mine, Shasta County, California, during the month of August, 1952, as per the terms of our agreement dated May 3, 1951.

Engineering Fees				
August 1 - 31, 1952	1 month	@ $2,000.00 per month	2000.00	
August 1 - 31, 1952	31 days	@ $35.00 per day	1085.00	3085.00
Car expense				124.18
Living Expenses				
M. G. Hansen			323.92	
A. Lutenko			100.00	423.92
Expenses				
Telephone & Telegraph charges			78.24	
Assaying			1248.00	
Office supplies			64.73	
Rental of typewriter			7.00	
Field supplies			17.58	1415.55
Wages paid to office staff at Redding, California				
June 16 - July 14 & August 1-31, 1952			390.77	
FICA Insurance		390.77 @ 1.5%	5.86	
Unemployment Insurance		390.77 @ .3	11.72	
Compensation, PD & PL Insurance		390.77 @ 9.213%	36.00	444.35
				5493.00

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward D. Ralston, Manager of Mines

COPY

Invoice

E. J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1701 Foshay Tower
Minneapolis 2, Minnesota

Sept. 9, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical and Pigment Company
766 - 50th Avenue
Oakland 1, California

Invoice No. 85245

Diamond core drilling during the month of August, 1952, on your property known as Bully Hill, Shasta County, California, as per the terms of our agreement dated April 27, 1951.

Total footage drilled during August, 1952 329' 4" feet

Hole No.		From	To	Footage	Rate	
	Compensation					
4	Diamond Drilling	680.0	823'10"	143'10"		
5	" "	480.0	665'6"	185' 6"		
"	Reaming	568.0	614.0	46.0		
"	"	360.0	535.0	175.0		
				550' 4"	.50	275.17

Equipment Rental

1 drill	14/31 month	(3-shifts)	@ 675.00	304.84	
	17/31 "	(2-shifts)	@ 600.00	329.03	
1 drill	13/31 "	(3-shifts)	@ 675.00	283.06	
	18/31 "	(2-shifts)	@ 600.00	348.39	
Truck rental 1 month				100.00	1,365.32

Depreciation - Rods & Casing

		From	To	Footage	(1-10)	Rate	Amount	
4	AU Rods	680.0	823'10"	143'10"	14.4	1.65	23.76	
"	AX Casing	0.0	800.0	800.0	80.0	1.33	106.40	
5	Au Rods	480.0	643.0	173.0	17.3	1.65	28.55	
"	E Rods	653.0	665'6"	12'6"	1.3	1.32	1.72	
"	AX Casing	0.0	614.0	614.0	61.4	1.32	81.66	
"	EX Casing	0.0	647.0	647.0	64.7	1.27	82.17	
"	BX Casing	360.0	535.0	175.0	17.5	1.70	29.75	354.01

Payroll (See enclosed payroll sheets)				
August, 1952			5,204.00	
FICA Insurance	4,654.00	@ 1.5%	69.81	
Umemployment Ins.	3,652.67	@ 3.0%	109.58	
Comp. RD & PL Ins.	4,818.00	@ 9.213%	443.88	5,827.27

Credits due you for board of workmen at Redding, Calif.

Axel Augustson	30 days	@ 2.00	(60.00)	
Curtis England	29 days	@ 2.00	(58.00)	
Arni Maki	26 days	@ 2.00	(52.00)	
Floyd Heyborne	25 days	@ 2.00	(50.00)	
Henry Wilgren	27 days	@ 2.00	(54.00)	
Earl Trusty	29 days	@ 2.00	(58.00)	
Arthur R. Kinkel	27 days	@ 2.00	(54.00)	
Robert H. Chappel	21 days	@ 2.00	(42.00)	
William McCandlish	22 days	@ 2.00	(44.00)	
Clarence O. Olsen	12 days	@ 2.00	(24.00)	
Harold E. Osborne	18 days	@ 2.00	(36.00)	
Don A. Fisher	14 days	@ 2.00	(28.00)	
Delbert Briggs	11 days	@ 2.00	(22.00)	
Leslie M. Marvel	1 day	@ 2.00	(2.00)	(584.00)

Copy

Invoice
E. J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1701 Foshay Tower
Minneapolis 2, Minnesota

Sept. 9, 1952

Invoice No. 85245

Held Harmless insurance charges for July, 1952			3.91
Fire and Theft Insurance			12.10
Freight and Express & Postage charges during August 1952			115.54
Telephone and telegraph charges			31.76
Crating equipment at Marquette, Michigan for shipment to Redding, California			17.28
Fuel & Oil			
12 cyl Standard flamo		67.36	
1270 Gal. gasoline		312.42	
20 cans machine oil		13.39	393.17
Food supplies			542.12
Camp Expenses			
Kitchen & Mess Hall Supplies		13.13	
1 O'Cedar mpp		3.49	16.62
Supplies used			
72 - 100 W. bulbs		10.37	
6 - 24" hook jaws		21.92	
6 - 18" hook jaws		13.81	
6 - 24" hook jaws		6.01	
6 - 18" hook jaws		5.42	
1 - 5/16 camp valve		1.66	
1 - 5/16 x ¼ camp valve		2.10	
1 - 1/2 gal bushing		.23	
1 - copper tube cutter		2.32	
1 - BXL 10 ft. core barrel		129.75	
1 - AXL 10 ft. core barrel		93.30	
1 BXL 10 ft. outer tube		30.20	
1 - BX 10 ft. R.T. core barrel		102.80	
2 - NX core lifters		6.00	
2 - BX core lifters		5.10	
4 - BXL core lifters		10.20	
2 - AXL core lifters		4.20	
1 set gaskets f/ve - 4 Wisc engine		3.24	
1 oxygen pressure gauge		5.93	
1 AXL "Type C" diamond reaming shell		69.90	
3 - BXL "Type C" " " "	@ 98.50	295.50	
1 NX "Type E" " " "		149.41	
1 NX "Type C" " " "		146.11	
1 AX "Type T" diamond casing bit		14.00	
1 BX "Type T" " " "		17.50	
2 - NX "Type C" " " "	@ 22.00	44.00	
5 - BXL "Type CC"" Bits	@ 12.10	60.50	
4 - BXL "Type C" " "	@ 11.00	44.00	
12 - RX "Type C" " "	@ 11.00	132.00	
3 - AXL "Type C" " "	@ 9.00	27.00	1,454.48

Bortz Wear	Type S	Type T	Type C	Type CC
Actual wear previous month	2.05	12.53	131.20	-0-
Add: This mo. suspension chg.	3.00	5.00	103.00	15.00
	5.05	17.53	234.20	15.00
Less: last mo. suspension chg.	6.00	3.00	85.00	-0-
	(.95)	14.53	149.20	15.00
(.95) carats - type S Bortz		@	11.00	(10.45)
14.53 carats - type T bortz		@	11.00	159.83
149.20 carats - type C Bortz		@	11.00	1,641.20
15.00 carats - type CC Bortz		@	8.50	127.50

1,918.08

$11,742.83

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE
THE GLIDDEN COMPANY

Edward L. Ralston, Manager of Mines

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Department of the Interior
Defense Minerals Administration
RECEIVED
OCT 6 1952

Month of August 1952 Docket No. DMEA 1219X Contract No. _____
Operator's Name THE GLIDDEN COMPANY Minerals _____
Address Cleveland, Ohio

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core Diamond	Ft	$18652.19	329'4"	$140,234.32				
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
Total Distributed Costs		$18652.19		$140,234.32				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		1289.63		45,175.92				
New Buildings, Improvements, etc.								
Total Costs		$19941.82		$185,410.24				

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 Aug. 12, 1952 Operator THE GLIDDEN COMPANY

Per Edward L. Ralston Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

R. A. CORROON & CO.

August 1952

The Glidden Company
Chemicals-Pigments-Metals Division
Oakland, California

Insurance on use of barges on Shasta Lake (Gasoline, fuel oil and supplies)	$25.00

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

BY _____
Edward L. Ralston, Manager of Mines

THE GLIDDEN COMPANY
San Francisco, Calif.

Inv. 14-12603

August 1952

Glidden Cons. Zinc Mines
Redding, California

Paint for camp use $73.39

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

BY

Edward L. Ralston, Manager of Mines

Copy

Pacific Gas & Electric Co.
Redding, California

August 30, 1952

California Zinc Co.
(Glidden Cons. Zinc Mines)
c/o 766-50th Avenue
Oakland, California

Power - Bully Hill	6/11 - 7/12/52	$138.19
" - Bully Hill	7/12 - 8/12/52	23.75
		$161.94

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

By
Edward L. Ralston, Manager of Mines

C O P Y

REDDING LUMBER COMPANY
Redding, California

8/15/52

The Glidden Company
766-50th Avenue
Oakland, California

Date: 8/8/52
Order No. 10855
Shipped: Our Truck

2 x 4 #2 & Btr. S4S DF	1995'	@ $95.00	$189.53
1 x 8 #3 S4S DF	2020'	80.00	161.60
2 x 6 #2 " S4S DF	500#	95.00	47.50
2 x 12 #2 " Rgh Dry DF	496'	90.00	44.64
1 x 12 Clear S4S DF) 1 x 12 " " ")	200'	306.00	61.20
1 x 8 Clear Heart Rustic Redwood	359'	294.00	105.55
4 x 4 S4S Redwood	80'	150.00	12.00
1 pc plywood	32'	.35	11.20
			$ 633.22
	Sales Tax		19.00
	Cartage		75.00
			$ 727.22

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

By
Edward L. Ralston, Manager of Mines

C O P Y

J. J. LeFebvre & Son
1449 Market Street
Redding, California

The Glidden Company
766-50th Avenue
Oakland 1, California

49115

8/2	Drills	$4.06
8/4	1 pt. Decoret	.95
		$5.01

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

By
Edward L. Ralston, Manager of Mines

C O P Y

AMES HARRIS NEVILLE COMPANY
2800 Seventeenth Street
San Francisco, California

Date: Aug. 6, 1952
Inv.No 13611
Shipped Aug. 4, 1952
Order 4887

The Glidden Company
766-50th Avenue
Oakland, California

105	Ore bags 12" x 8" Ex 36" #10 Duck ½ width cut 24" Hem Top All seams double sewed	351.25 M	35.13
		PP & INS	1.49
			36.62
	Plain bags		

Mark: Glidden Consolidated Zinc Mines
Redding, Calif.

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

By
Edward L. Ralston, Manager of Mines

C O P Y

GENE FRANCK'S SERVICENTER
Redding, California

GLIDDEN CONST. ZINC MINES

8/31/52	Inv. 18264	Cylinder Days Demurrage for August 1952 @ 3¢ per day	
		71 days @ 3¢	$2.13

A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

BY _____
Edward L. Ralston
Manager of Mines

COPY

SHASTA NAVIGATION CORP.

P. O. Box 690 Project City, California

August 31, 1952

Glidden Consolidated Zinc Mines
Glidden Paint Co.
Oakland, California

Statement for August 1952

					Passengers	Freight
Aug. 1st	New-Chris	2 trips	2 hours	$10.50 per hr.	$21.00	
Aug. 2nd	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 3rd	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 4th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 5th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 6th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 7th	New-Chris	2 trips	2 hours	10.50 per hr	21.00	
Aug. 8th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 9th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 9th	Garwood	1 trip	1 hour	12.00 per hr.	12.00	
Aug. 10th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 11th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 11th	Christina	1 trip	1½ hours	10.50 per hr.		15.75
Aug. 11th	Garwood	1 trip	1 hour	12.00 per hr.	12.00	
Aug. 12th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 13th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 14th	Christina	2 trips	3 hours	10.50 per hr.	15.75	15.75
Aug. 15th	Christina	1 trip	1½ hours	10.50 per hr.		15.75
Aug. 15th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 16th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 17th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 18th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 19th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 19th	Christina	1 trip	2 hours	10.50 per hr.		21.00
Aug. 20th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 21st	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 22nd	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 23rd	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 24th	Garwood	1 trip	1 hour	12.00 per hr.	12.00	
Aug. 25th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 25th	Garwood	1 trip	1 hour	12.00 per hr.	12.00	
Aug. 26th	New-Chris	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 27th	New-Chris	1 trip	1 hour	10.50 per hr.	10.50	
Aug. 27th	Christina	1 trip	1½ hours	10.50 per hr.	15.75	
Aug. 28th	Christina	2 trips	3 hours	10.50 per hr.	31.50	
Aug. 29th	Garwood	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 30th	Garwood	2 trips	2 hours	10.50 per hr.	21.00	
Aug. 31st	Garwood	1 trip	1 hour	12.00 per hr.	12.00	
					$606.00	$68.25
			15% Trans. Tax		90.90	
			Frt. Tax			2.05
			1 hr waiting time 8/31		5.00	
					$701.90	$70.30

TOTAL $772.20

A TRUE AND CORRECT COPY OF THE
ORIGINAL INVOICE
THE GLIDDEN COMPANY

BY _____
Edward L. Ralston
Manager of Mines

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Bureau of Mines
Defense Minerals Administration
RECEIVED
OCT 6 1952

Budget Bureau No. 42-R1036.3.
Approval expires 9-30-53.

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August, 1952 Docket No. DMEA 1219 X Contract No. F-187

Operator's Name THE GLADDEN COMPANY Minerals Zinc & Copper

Address Cleveland, Ohio

Contract Amount, $ 329'4" @ 50% of $9.00 per foot Government Participation: 7.43% Amount, $ 1481.99

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	275.17		$2,597.17			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	3,966.00		31,059.53			
Supervision	550.00		4,400.00			
Technical Services	5,493.00		36,294.91			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe			797.28			
Track						
Bits, Shells, etc.	2,196.03		17,560.97			
(4) Operating Equipment:						
Rental	4,540.91		28,957.01			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	1,289.63		45,175.92			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous: Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	156.23		1,485.85			
Liability Insurance	384.18		3,065.57			
Cookhouse & Townsite	1,042.90		10,776.04			
Miscellaneous	47.77		430.29			
(8) Contingencies (specify):						
TOTALS	$19,941.82		$185,410.24			

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

Date Aug. 12, 1952 *Payee THE GLADDEN COMPANY

Per Edward L. Ralston Title Manager of Mines

*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:

$ 1481.99

Signature A. J. RENNER
(Authorized Certifying Officer)
AUTHORIZED CERTIFYING OFFICER

Date 9/30/52 Vou. No. SF-DMEA-16

(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. 1dr-1167 in accordance with the terms of the contract.

Signature R. C. Johnson Title Chief, Mining Div. Reg. III Date Sept. 19, 1952.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W. Mueller Title [illegible] Date [illegible]

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Redding, California
August 2, 1952

Subject: Exploration Project Contract
Bully Hill and Rising Star Mines
Shasta County
California

D.M.A. Reference:
Docket No. DMA 1219X
Commodity: Zinc-Copper
Idm-F-187

Geological Engineering Report - Month of July, 1952

I. Diamond Drilling

The footage drilled to date on this project totals 4083 feet as of the end of the work day July 31, 1952. Holes number A1-1, A1-2 and A1-3 are completed, bottoming at 1010, 1038 and 905 feet respectively. Five holes in all were planned in Area I. Of the original five holes planned, one is temporarily abandonded and another has been substituted because of finding ore mineralization in holes number A1-2 and A1-3. Should we encounter continued mineralization in Hole number A1-5, we no doubt will plan additional holes to develope the continuity of the ore zone.

The following tabulation shows the drilling progress for the month of July 1952.

Hole #4-Drill #1147-July footage 402' size NX & BX Total depth 680'
Hole #5-Drill # 824-July footage 308' size NX & BX Total depth 450'
Total footage for July 710'

The avera e number of shifts worked per drill per day for the 25 day work month was 2.32. Two more drill helpers returned to Michigan. Currently we are short of helpers and have one driller assigned that work. Another driller will report early in August on the job and we expect to get two more helpers next week. Footage drilled averages a little over six feet per shift, including reaming, cementing and surveying time.

Hole #4 (A1-4) continued in a satisfactory manner thru somewhat broken rhyolite breccia - (Alaskite). It is located on the old tennis court in the Circle City area and has 4 inch heavy duty pipe set to a depth of 167 feet. NX casing is set to a depth of 240 feet, BX casing is set to a depth of 600 feet and drilling currently is BX size. The rock drilled

may be classed as medium drilling and the core recovery varied from 25 to 100% with half of the runs or pulls yielding 100% core recovery. The hole is in good condition.

Hole #5 (A1-5) was added to the original program to prospect the ore zones indicated in holes number 2 and 3. It encountered Bully Hill rhyolite breccia (Alaskite). It is located about 150 feet north of Hole #3 and is drilling in a westerly direction. Four inch heavy duty pipe has been set as casing to a depth of 71 feet with NX casing set to 301 feet, BX casing set at 360 feet and drilling currently is BX size. The rock drilled may be classed as poor to medium drilling and the core recovery varied from zero to 100% with only one fourth of the runs or pulls yielding 100% core recovery. Time was lost when two new corebarrels twisted off in the hole, one resulting is a several shifts fishing job. Both were recovered and the hole is in good condition.

Drilling mud was not used during the month and casing was extended successfully each time a cave was encountered.

The plan map submitted in May can be referred to again this month as no revisions are to be made. This is the 100 scale map showing Diamond Drill Hole locations in Area I and III.

Diamond Drill Hole cross sections submitted for holes number 4 and 5 (A1-4 and A1-5). Though slight mineralization has been encountered, the holes have not yet reached the ore zones indicated in holes A1-2 and A1-3.

Hole #4 (A1-4) was surveyed for both dip and bearing by Maas compass and hydroflueric acid etching. The results are as follows:

Hole #4

Collared @ 45° Bearing N 86 W

Surveyed @ 300 feet, dip reading 46°, Corrected to 40° 30'.
Surveyed @ 460 feet, dip reading 45°, Corrected to 40°
Surveyed @ 660 feet, dip reading 40°, Corrected to 35°

Bearing @ 300 feet N 86 W
Bearing @ 460 feet N 65 W
Bearing @ 660 feet N 65 W

Obviously this hole has deflected considerably to the north and is beginning to parallel the ore zone which is apparently turning to the west on the north end. Should the

hole turn more in the next two hundred feet, it may be advisable to discontinue the hole and move westerly and recollar to drill in a W.S.W. direction.

II Diamond Drill Hole Descriptions

Detailed descriptions of the drill cores from Holes number A1-4 and A1-5 are given in the attached logs. As is our custom in reporting, each trip of the corebarrel into the hole, together with the amount of core recovered and percentage, is also shown.

There was nothing particularly outstanding this month in the rocks drilled. There were a few spots in which megascopic chalcopyrite, sphalerite as well as pyrite occurred. There was also chloritic alterations present and some kaolinization and also introduced silicification. The main targets or mineralized zones lie ahead of us.

During the month, holes number A1-2 and A1-3 were skeletonized and the mineralized portion of Hole A1-2 sacked and sent to Abbot A. Hanks, Assayer, San Francisco, California for determination of copper, lead, zinc, gold and silver. A portion of Hole A1-3 was also sent for the same determinations. In all, 76 samples were sent, and there still remains a portion of the latter hole to sample. No returns have yet been received.

III Camp Rehabilitation

No major or new work was done this month.

The old sewage lines burst, collapse or plug up necessitating much attention and occasional replacement. The water lines also required a bit of attention.

Since the drills worked continuously on the same holes, it was not necessary to bring in a bulldozer, consequently no new stations or access roads were cut.

The Forest Service road via Round Mountain and the Madrone Field Campsite, was in good condition. Supplies for the mine were trucked in over this road instead of using the Bureau of Reclamation barge service.

The water supply continued to more than meet the drilling and domestic requirements. There is, however, a perceptible diminution that becomes apparent in the afternoons. Always in the morning the flow has increased and the two storage tanks are constantly overflowing. It seems that we should be able to continue throughout the month of August without even making any effort to conserve water.

The Shasta Lake Reservoir which reached a surface elevation of 1066 feet and overflowed the Dam's drum gates has lowered considerably and now is 1050 feet, a drop of 16 feet. The summer temperatures reached highs for the year and official temperatures exceeded 110 degrees, with unofficial temperatures exceeding 115 degrees.

IV Other Surveys or Construction

No extra transit work was required.

No other or new contracts were made.

Eighteen hundred feet of two inch pipe was installed from the pipe line back of the houses at Circle City up the mountain to a water tank placed at the south end of Bully Hill. This is to provide a water supply for the drilling to be done in Areas 3, 4, 5 and part of 6. It is planned to install a pump to the pipeline coming from the water tanks near the houses.

V. Safety

There were no lost time accidents this month. One case of poison oak required medical attention.

VI Visitors

On July 7, 1952, Messrs. John F. Albers and Jacques F. Robertson of the U.S. Geological Survey, arrived in Redding to complete portions of the district mapping to the east of us. We held a conference to discuss progress, development and procedures at the Bully Hill mine.

On July 9th, Mr. Ed. J. Matson, Engineer from the Reno, Nevada office of the Bureau of Mines, visited the mine on his regular tour of inspection.

Messrs. Albers and Robertson visited the mine on July 14th. Mr. Albers accompanied me to the Afterthought Mine, which lies in the southeasterly part of the district. Here, thru the courtesy of and accompanied by Mr. Ken Richman, General Superintendent, we visited several stopes underground, and also made a general trip thru the workings to study the geology. Later, access was made to inspecting some of the drill cores and also geological maps and sections. This trip was very beneficial to the writer as it gave a good insight into the ore forming conditions of some of the ore bodies in the district.

On July 19, Messrs. John H. Weeks, Edward L. Ralston and Robert Grove, all of the Glidden Company, also made an

inspection trip at the mine.

Mr. John C. Franz, Safety Engineer, State of California, Department of Industrial Relations, visited Redding on July 29th and 31st.

VII Geological and Engineering Work

Plane table mapping and geological mapping continued with special emphasis on the area over the current drilling in the Jennie June claim. It is becoming increasingly apparent that the favorable zone in which ore may be expected is turning in a northwesterly direction. This being the case and considering that drill hole A1-4 is turning to the north away from it, it may be desirable to discontinue the hole and move to a new location, recollar and use a west-south-westerly bearing. As previously stated, this hole has been surveyed for bearing at 3 locations and it is now planned to take 2 or 3 more readings in between the former as a check, before proposing a change.

While there is still a good chance of crossing the zone in which the ore may be hoped for, it will be increasingly more distant and the hole will cut it at too flat an angle to be most satisfactory.

Tunnel openings or portals were located and plotted on the new 100 scale map now in progress. Two more claim corners were found and will be tied in promptly. Photostat copies of the patent surveys are to be obtained from the office of the Cadastral Engineer in San Francisco, which will further help accurately locate the tunnel portal from which the underground shaft and workings can be plotted. It is to be remembered that all tunnel portals are caved in and consequently difficult to accurately locate, and also that no underground workings are accessible. When the shaft can be accurately plotted, it may be used as a guide in properly orienting and locating the workings of the succeeding levels. These in turn, will be used to locate, plot and project geological data in conjunction with the diamond drill core information.

VIII Maps

No new plan maps are sufficiently completed to submit with this month's reports.

Two sections; one for Drill hole A1-4 and one for drill hole A1-5, are attached.

Respectfully submitted

Mayer G. Hansen

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

Budget Bureau No. 41-R1036.3
Approval Expires 10-31-53.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 1952

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of July, 1952 Docket No. DMEA 1219A Contract No. E-187

Operator's Name THE GLADDEN COMPANY Minerals Zinc & Copper

Address CLEVELAND, OHIO

Contract Amount, $ 740 Ft. @ 50% of $9.00 per foot Government Participation 19.47% Amount, $ $3,330.00

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	$486.50		$ 2,322.00			
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	3,538.00		27,093.53			
Supervision	550.00		3,850.00			
Technical Services	4,488.41		30,801.91			
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe	175.51		797.28			
Track						
Bits, shells, etc.	2,067.97		15,364.94			
(4) Operating Equipment:						
Rental	4,068.17		24,416.10			
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	591.45		43,886.27			
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Travel & Living			2,809.70			
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	160.82		1,329.62			
Liability Insurance	355.47		2,681.39			
Cookhouse & Townsite	581.81		9,733.14			
Miscellaneous	34.10		382.52			
(8) Contingencies (specify):						
TOTALS	$17,098.21		$165,468.42			

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

Date Aug. 14, 1952 *Payee THE GLADDEN COMPANY

Per Edward J. Malaton Title Manager of Mines

*When 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:

$ 3330 00

Signature
(Authorized Certifying Officer)

Date 9/30/52 Vou. No. SF-DMEA-16

(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. Idn-E187 in accordance with the terms of the contract.

Signature A. C. Johnson Title Chief, Mining Div. Region III Date August 15, 1952.

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature H. C. Miller Title Executive Officer DMEA Field Team Region III Date August 22, 1952

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-10[illegible]A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
OCT 6 1952

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1952 Docket No. DMEA 1219X Contract No.
Operator's Name THE GLIDDEN COMPANY Minerals
Address CLEVELAND, OHIO

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core Diamond	Ft.	$16506.76	740	$121,582.13	4118			
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		$16506.76		$121,582.13				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		591.45		43,886.29				
New Buildings, Improvements, etc.								
TOTAL COSTS		$17098.21		$165,468.42				

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 Aug. 14, 1952 Operator THE GLIDDEN COMPANY

Per [signature] Asst. Manager of Mines
Edward L. Ralston

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)

ACCOUNTS AUG 22 1952

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

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

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

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

Month of June, 1952 Docket No. DMEA 1219 Contract No. E-187
Operator's Name [illegible] Company Minerals
Address
Contract Amount, $ Government Participation 10.11% Amount, $ 2151.00
470 ft. drilled at [illegible] ft.

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	897.00					
Bulldozing						
Crosscutting						
Drifting						
(2) Labor and Supervision:						
Labor	4,315.03					
Supervision	550.00					
Technical Services	2,823.54					
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe	842.64					
Track						
Bits, shells, etc.	1,276.37					
(4) Operating Equipment:						
Rental	5,828.95					
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs	2,066.80					
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment						
Sampling and Analysis						
Payroll Taxes	210.68					
Liability Insurance	415.69					
Bookhouse & Townsite	1,672.62					
Miscellaneous	44.39					
(8) Contingencies (specify):						
TOTALS	21,263.71					

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

Date 7/14/52 *Payee [illegible] Company

Per [illegible] Title Manager of Mines

Edward L. Hinton

*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:

$2151.00

Signature Lloyd L. Norvell
Authorized Certifying Officer
(Authorized Certifying Officer)

Date AUG 18 1952 Vou. No. SF-DMEA-7

(See other side)

AUG 25 1952

(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. 10-1307 in accordance with the terms of the contract.

Signature R. C. Johnson Title Chief, Mining Div. Date July 10, 1952.
R. C. Johnson Region III

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Signature W. Miller Title DMEA Field Team Executive Officer Date Aug. 13, 1952
F. C. Miller Region III

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.

U. S. GOVERNMENT PRINTING OFFICE 205675

Form MF-104A
(April 1952)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1952 Docket No. DMEA 1219 X Contract No. _____

Operator's Name THE GLOBE COMPANY Minerals _____

Address _____

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								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core	Ft.	$19276.91	478					
Churn								
Auger								
Stripping								
Trenching								
Test Pits								
Roads and Trails								
TOTAL DISTRIBUTED COSTS		$19276.91	478					TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs		2006.80						
New Buildings, Improvements, etc.								
TOTAL COSTS		$21283.71	478					

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 July 14, 1952 Operator THE GLOBE COMPANY

Per Edward L. Ralston Title Manager of Mines

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.

U. S. GOVERNMENT PRINTING OFFICE 205676

Copy

Invoice

E. J. LONGYEAR COMPANY

July 9, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766 - 50th Avenue
Oakland 1, California

INVOICE NUMBER 65201

Charges in connection with exploration at the Bully Hill Mine, Shasta County, California, during the month of June, 1952, as per the terms of our agreement dated May 3, 1951.

Engineering Fees				
June 1-30, 1952	1 month	@ $2,000.00 per month	2,000.00	
June 1-30, 1952	30 days	@ $35.00 per day	1,050.00	3,050.00
Car Expenses				101.00
Living Expenses				
L. C. Armstrong			49.70	
A. Lutenko			100.00	149.70
Expenses				
Postage & express charges			8.49	
Telephone & Telegraph charges			3.68	
Office supplies			61.86	
Rental of Typewriter			7.00	80.73
Wages paid to Office Staff at Redding, California				
April 13 - May 31, 1952	(Frances Hopper)		362.46	
June 23 - 30, 1952	(Mary Jane Harlan)		26.34	
F.I.C.A. Insurance	388.80 @ 1.5%		5.83	
Unemployment Insurance	388.80 @ 3%		11.66	
Compensation, F.D. & F.L. Insurance 388.80 @ 9.213%			35.82	442.11
				3,823.54

M. C. Hansen's expenses will be billed in July, due to the fact that they were not received in Minneapolis in time for the June invoice.

CERTIFIED TO BE A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston, Manager of Mines

Invoice

E. J. LONGYEAR COMPANY

July 9, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766 - 50th Avenue
Oakland 1, California

INVOICE NUMBER 65239

Diamond core drilling during the month of June, 1952, on your property known as Sully Hill, Shasta County, California, as per the terms of our agreement dated April 27, 1951.

Total footage drilled during June, 1952 476 feet.

Hole No.		From	To	Footage	Rate	
	Compensation					
3	Diamond Drilling	845.0	905.0	60.0		
4	" "	2.0	278.0	276.0		
4	Reaming	10.0	18.0	8.0		
4	"	19.0	40.0	21.0		
4	"	167.0	240.0	73.0		
5	Diamond Drilling	0.0	142.0	142.0		
5	Reaming	71.0	85.0	14.0		
				594.0	.50	$297.00

Equipment Rental					
1 drill 26/30 month	(3-shifts)	@	575.00	585.00	
4/30 "	(2-shifts)	@	600.00	80.00	
1 drill 10/30 "	(3-shifts)	@	675.00	225.00	
17/30 "	(2-shifts)	@	600.00	340.00	
3/30 "	(1-shift)	@	475.00	47.50	
Truck rental 1 month				100.00	1,377.50

Depreciation Rods & Casing

		From	To	Footage	(1-10)	Rate	Amount	
3	E Rods	845.0	905.0	60.0	6.0	1.32	7.92	
4	AU Rods	2.0	278.0	276.0	27.6	1.65	45.54	
4	NX Casing	0.0	240.0	240.0	24.0	2.30	55.20	
5	AU Rods	0.0	142.0	142.0	14.2	1.65	23.43	
5	NX Casing	0.0	85.0	85.0	8.5	2.30	19.55	151.64

Casing Left in Hole #3

AX Casing	50.0 ft.		
Less Depr.	5.0 ft.		
	45.0 ft.	1.33	59.85

Payroll (See enclosed payroll sheets)

June, 1952			5,271.00	
F.I.C.A. Insurance	5,271.00	1.5%	79.06	
Unemployment Insurance	4,995.00 @	3%	149.85	
Compensation, F.D. & P.L. Insurance	4,916.00	9.213%	452.91	5,952.86

Credit due you for board of workmen at Redding, California

Copy

Invoice

E. J. LONGYEAR COMPANY

July 9, 1952 Page 2.

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
756 - 80th Avenue
Oakland 1, California

INVOICE NUMBER 61239

Alex Augustson	30 days	@	2.00	(60.00)	
Curtis England	29 "	@	2.00	(58.00)	
Arni Maki	26 "	@	2.00	(52.00)	
Frank Shewmaker	23"	@	2.00	(46.00)	
Floyd Mayborne	20 "	@	2.00	(40.00)	
Henry Wilgren	28 "	@	2.00	(56.00)	
Billy Wardlaw	24 "	@	2.00	(48.00)	
Arthur Minkel	12 "	@	2.00	(24.00)	
Robert Venn	14 "	@	2.00	(28.00)	
Chas. Mattson	30 "	@	2.00	(60.00)	
Donald Mattson	30 "	@	2.00	(60.00)	
James Warlin	14 "	@	2.00	(28.00)	
Earl Trusty	22 "	@	2.00	(44.00)	
Robert Chappell	10 "	@	2.00	(20.00)	
Wm. McCandlish	10 "	@	2.00	(20.00)	(644.00)

Hold harmless insurance charges for May, 1952 4.53

Camp Expenses
Kitchen & Mess hall supplies 88.77

Food supplies 554.41

Freight, express and postage charges during June, 1952 146.59

Hauling, drilling equipment from Redding to site site 130.29

Fire & Theft Insurance 12.10

Telephone & Telegraph charges 15.57

Fuel & Oil
2 cases Machine Oil 7.21
12 cyls Standard Palmo. 67.36 74.57

Supplies Used
1 - 1,000 gal. storage tank 101.48
1,617 ft. 2" Blk. pipe 797.25
1 - 2" swing check valve 11.26
6 - 2" ells 6.84
8 - 2" unions 19.76
2 - 2" ells 1.90
4 - 2" plugs 1.60
8 - 2X x 5 nipples 4.00
2 - 2X 10 ft. Rigid type outer tubes 101.00

Copy

Invoice

A. J. LONGYEAR COMPANY

July 9, 1952 Page 3.

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766 - 60th Avenue
Oakland 1, California

INVOICE NUMBER 65839

2 - NX Carboloy casing bits			90.70	
2 - Extra heavy 5" jar staffs			44.50	
1 - 500# pressure gauge			6.46	
1 - 3/4" x 25 ft. swivel hose			28.45	
1 - 5" tee			4.50	
3 - NX Core lifters			9.00	
1 - AX Core lifters			2.10	
2 sets of cutters for AX Casing cutter			16.60	
1 AW rod sub			4.14	
9 - AX - "Type C" Diamond Bits	@	7.00	63.00	
1 - AX - "Type CC" Diamond Bits			7.00	
1 - NX - "Type C" Reaming Shell			153.50	
5 - NX - "Type C" Diamond Bits	@	15.40	77.00	
1 - NX - "Type T" " Casing Bit			22.00	
1 - AX - "Type C" " Reaming Shell			216.60	
2 - AX - "Type C" " Bits	@	9.00	(18.00)	1,775.07

Borts Wear	"Type T"	"Type CC"	"Type C"	"Type S"
Actual Wear Previous Month	-0-	67.59	216.34	67.03
Add: This months suspension chg.	3.00	2.00	38.00	- 0 -
	3.00	69.59	254.34	67.03
Less: Last months suspension chg.	- 0 -	24.00	78.00	10.00
	3.00	45.59	176.34	57.03

3.00 carats	"Type T" Borts	@	11.00	33.00	
45.59 "	"Type CC" "	@	8.50	385.82	
176.34 "	"Type C" "	@	11.00	1,939.74	
57.03 "	"Type S" "	@	8.50	484.76	2,843.32

Borts Salvaged from Diamond Reaming Shells

24.40 carats "Type C" Borts	@	11.00	(268.40)	
				12,691.65

CERTIFIED TO BE A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston, Manager of Mines

COPY

REDUCTION PACIFIC COMPANY
1485 Park Avenue
Emeryville, California

5/29/52 4758 Terms: Net 30

Date of Invoice: 6/3/52 Inv. No. B 56354

Sold to Chemical and Pigment Co.
The Glidden Company
766 - 50th Avenue
Oakland, California

Ship to Redding

6/3/52 Valley Exp Shipped from Emeryville

1	ea	Acet Reg	01	806-8402	1	35.50	$35.50
1	ea	Oxy Reg	01	806-8456	1	37.75	37.75
1	ea	750 torch	01	812-0750	1	18.25	18.25
1	ea	Mixer	01	810-0781	1	2.50	2.50
1	ea	Tip	01	811-9801	1	2.00	2.00
1	ea	Tip	01	811-9803	1	2.00	2.00
1	ea	Tip	01	811-9807	1	2.25	2.25
1	ea	Cutt Torch	01	822-9066	1	43.00	43.00
1	ea	Tip Cutt	01	854-4499	1	3.85	3.85
1	ea	Cutt tip	01	854-4400	1	3.85	3.85
1	ea	Cutt tip	01	854-4401	1	3.85	3.85
2	ea	Nut	01	803-0003	2	.15	
2	ea	Nut	01	803-0004	2	.15	
4	ea	Gland	01	803-0008	4	.15	
50 ft		1/4 Twin Hose w/conn	04	908-4108	50	.30	15.00
		Tax	65				5.09
						Total	174.89

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

C O p y

PACIFIC GAS AND ELECTRIC COMPANY
1304 Market Street
Redding, California

Electric Power or Gas Heating Bill
Current Month Charge
Meter Readings

This Month	Last Month	Difference	Constant	Units, etc.		
					Service Min. Chg.	$86.34
4300	4257	43	100	4300	@ .0307	132.01

Schedule P-2 Conn. Load 34.15

				Month	Year to Date		
Service Min charge	143.90 per yr	Quantity	M	4300	4300	Total	218.35
		Commodity Energy chg	M	132.01	132.01		
		Service Min chg	M	86.34	86.34	Amount due this month	218.35
		as billed	M	218.35	218.35		

May 12
June 11 1952

A CORRECT COPY OF THE ORIGINAL INVOICE
THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

C O P Y

KRONKE CO.
3212 San Pablo Avenue
Oakland 8, California

THE GLIDDEN CONSOLIDATED ZINC MINES
c/o E. J. Longyear Co.
P. O. Box 430
Redding, California

Sold to
The Glidden Company
Chemical Pigment Division
766-50th Avenue
Oakland, California

June 9, 1952

Order No. 4768
Our order No. 4315
Terms: Net Cash - No Discount

4 only new stationary awnings	$87.50
State tax	2.63
	$90.13

A CORRECT COPY OF THE ORIGINAL INVOICE
THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

MENZEL AND KIMBALL
HOTEL LORENZ
REDDING, CALIFORNIA

5/31/52

GLIDDEN CONSOLIDATED ZINC MINES

			Equipment Rental	Labor	Materials, Etc.	Totals
5/12	Foreman	10 @ 3.10		31.00		
	Working Supervisor	8 @ 3.12½		25.00		
	Power wagon	8 @ 3.50	28.00			
	Pickup	4 @ 2.50	10.00			
5/13	1 foreman	9 @ 3.10		27.90		
	1 working supervisor	9 @ 3.12½		28.13		
	1 lineman	9 @ 2.75		24.75		
	1 helper	9 @ 2.05		18.45		
	Wittner Electric				88.97	
	1 power wagon	8 @ 3.50	28.00			
	1 pickup	4 @ 2.50	10.00			
	Boat hire 5/12-5/13		41.40			
	1 serv Knob				.40	
	1 - 502 strainer				.35	
	12 - #6 Conn				1.08	
	1# tape				1.20	
	Redding Industrial Electric				125.31	
	Travel time			45.00		
			117.40	200.23	217.31	534.94
	Payroll Ins. & Taxes on Labor @ 12.23					24.49
	Plus 15% on material, Labor etc. of 442.03					66.30
						625.73

A CORRECT COPY OF THE ORIGINAL INVOICE
THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

LORENZEL AND KIMBALL
HOTEL LORENZ
REDDING, CALIFORNIA

June 27, 1952

E. J. Longyear Co.
P. O. Box 430
Redding, California

Cat Hire - Bully Hill Mines

1 cat skinner 5 days	40 hours @ 2.65	$106.00
2 days standby time @ 4 hours waiting for barge	8 hours @ 2.65	21.20
1 caterpillar and dozer 5 days	30 hours @ 11.00	330.00
		$457.20

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

Bill for Collection

Bill No. 276
Date June 30, 1952

Interior-Reclamation-Central Valley Project
P. O. Box 471, Redding, California

PAYER: THE GLIDDEN COMPANY
766 - 50th Avenue
Oakland, California

This bill is in accordance with Contract between the United States and The Glidden Company for barge service across Shasta Reservoir, Symbol 175r-3905 dated December 26, 1951, paragraph 8:

6-19-52 - Receipt #8 - from Bureau Boat Docks at Turntable to Landing at Bully Hill, 4 hours @ $12.00 per hour cr $48.00

Please make check payable to:
"Treasurer of the United States
and mail to:
"Bureau of Reclamation
P. O. Box 471
Redding, California

AMOUNT DUE THIS BILL $48.00

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

MENZEL AND KIMBALL
Hotel Lorens
Redding, California

May 31, 1952

E. L. Longyear Co.
P. O. Box 430 1607 Market Street
Redding, California

Attention of Mr. Armstrong

CAT HIRE AND GENERATORS - BULLY HILL MINES

9 days D7 Cat Rental		54 hrs	@ 11.00	594.00	
Haul cat (Hein Trucking)				22.66	
Pick up		2 hrs	2.50	5.00	
Labor: 5/22 to 5/31 straight time		72 hrs	2.65		190.80
	Overtime	2½ hrs	2.65		5.96
5/24	Overtime	4	2.65		10.60
5/30	"	4	2.65		10.60
5/31	"	4	2.65		10.60
Supervisor		2	3.125		6.25
				621.66	234.81
Payroll taxes and insurance					28.72
				621.66	263.53
Plus 15%					39.53
				621.66	303.06

Total 924.72

A correct copy of the original invoice

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

AIR REDUCTION PACIFIC COMPANY
1485 Park Avenue
Emeryville 8, California

C O P Y

5/29/52 4758

Net 30
Date of invoice 6/3/52 Invoice No. 56355

Sold to Chemical and Pigment Co.
The Glidden Co
766 50th St.
Oakland Calif

Ship to Same

6/3/52 Valley Express

4	eax	Nut	01	803-0003	4	.15	
4	ea	Nut	01	803-0004	4	.15	
8	ea	Gland	01	803-0010	8	.15	
25 ft		3/16 Twin Hose w/c 2x12 1/2	04	908-4106	25	.26	6.50
1	ea	Cut tip	01	813-0503	1	3.85	3.85
1	ea	Y Conn W/O Valves OXY	01	899-1276	1	2.50	2.50
1	ea	Y Conn W/O Valves Acet	01	899-1277	1	2.50	2.50
1	ea	Cyl Truck	01	815-2524	1	23.00	23.00
		Tax 65					1.15
					Total		39.50

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

C O P Y

THE AMERICAN RUBBER MANUFACTURING CO.
1145 Park Avenue
Oakland, California

Invoice No. 75867-C

Invoice Date 6-12-52

Customers No 4654

Terms: 2% 10 prox

Sold to: The Glidden Company
766-50th Avenue
Oakland 1, California

Shipped to:
Glidden Consolidated Zinc Mines, c/o Mayer Hansen, Golden Eagle Hotel, Redding, Calif.

350 ft.	2" I. D. SJCRL BEAR Arcolized fire hose, coupled in 50 ft. lengths	$.72 ft.	Net	$252.00
	Treatment	$.06 ft.	Net	21.00
	(7 sets)	10.25 set	Net	71.75
	Calif. State Sales Tax			10.34
				$355.09

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

LeFevbre Supply Co.
1424 Pine Street
Redding, California

The Glidden Company
766 50th Ave
Oakland, 1, Calif.

15621

5	3½" sanding disks	.50	$2.50
1#	2½" belt	.15	.15
3	3½" belt	.15	.45
1	½" bell reducer		.26
1	½" half union		1.06
			4.42
		tax	.14
			4.56
	Rent for sander and edger		5.00
			9.56

A correct copy of the original invoice

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

[illegible]STA NAVIGATION CORP.
P. O. box 690
Project City, California

July 1st, 1952

GLIDDEN CONSOLIDATED ZINC MINES
Chemical and Pigment Company

JUNE 1952 STATEMENT

June 1	Garwood	2 trips	2 hrs	$12.00	$24.00
June 2	"	2 trips	2 hrs	12.00	24.00
June 3	"	2 trips	2 hrs	12.00	24.00
June 4	"	2 trips	2 hrs	12.00	24.00
June 5	"	1 trip	1 hr	12.00	12.00
June 5	Christina	1 trip	1½ hours	10.50	15.75
June 6	Garwood	2 trips	2 hrs	12.00	24.00
June 7	Garwood	2 trips	2 hrs	12.00	24.00
June 8	Garwood	1 trip	1 hr	12.00	12.00
June 9	Garwood	2 trips	2 hrs	12.00	24.00
June 10	Garwood	1 trip	1 hr	12.00	12.00
June 10	Christina	1 trip	1½ hrs	10.50	15.75
June 11	Garwood	2 trips	2 hrs	12.00	24.00
June 12	Garwood	1 trip	1 hr	12.00	12.00
~~June 12~~	~~Christina~~	~~1 trip~~	~~1½ hr~~	~~12.00~~	~~12.00~~
June 12	Christina	1 trip	1½ hrs	10.50	15.75
June 13	Garwood	2 trips	2 hrs	12.00	24.00
June 14	Garwood	1 trip	1 hr	12.00	12.00
June 15	Garwood	1 trip	1 hr	12.00	12.00
June 16	Christina	1 trip	1½ hrs	10.50	15.75
June 16	New-Chris	1 trip	1 hr	10.50	10.50
June 17	Garwood	2 trips	2 hrs	12.00	24.00
June 18	Garwood	2 trips	2 hrs	12.00	24.00
June 19	Garwood	1 trip	1 hr	12.00	12.00
June 19	Christina	1 trip	1½ hrs	10.50	15.75
June 20	Garwood	2 trips	2 hrs	12.00	24.00
June 21	Christina	2 trips	3 hrs	10.50	31.50
June 22	Christina	1 trip	1½ hrs	10.50	15.75
June 23	Christina	2 trips	3 hrs	10.50	31.50
June 24	Garwood	2 trips	2 hrs	12.00	24.00
June 25	Garwood	2 trips	2 hrs	12.00	24.00
June 26	Garwood	2 trips	2 hrs	12.00	24.00
June 27	Garwood	1 trip	1 hr	12.00	12.00
June 27	Christina	1 trip	1½ hrs	10.50	15.75
June 28	Christina	1 trip	1½ hrs	10.50	15.75
June 28	Garwood	1 trip	1 hr	12.00	12.00
June 29	Christina	1 trip	1½ hrs	10.50	15.75
June 30	Garwood	1 trip	1 hr	12.00	12.00
June 30	Christina	1 trip	1½ hrs	10.50	15.75
					711.00
				Trans. Tax	106.65
					$ 817.65

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

Copy

GENE FRANCK'S SERVICENTER
P. O. Box 1750
Redding, California

To: Glidden Const. Zinc Mines
The Glidden Co.
Chemical Division
766-50th Avenue
Oakland 1, Calif.

6/6/52	1 spark lighter		1.05	
	1 arco Goggles		2.45	
			3.50	
		Tax	.11	3.61
	1#4 Acetylene @ 3.96		4.87	
	1 #122 Oxygen 1.95		2.38	
		Tax	.22	7.47
	1 12" Crescent		3.24	
	1 Vise Grip		1.67	
		Tax	.15	5.06
	1 #244 Oxygen		4.76	
	1 #122 Oxygen		2.38	
		Tax	.21	
	Deliver to Bridge Bay		3.00	10.35
				$26.49

A CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

COPY

R. A. CAROON & CO, INC.
Insurance Brokers and Adjusters
92 William Street

THE GLIDDEN COMPANY
CLEVELAND, OHIO

INSURANCE: CONTINENTAL INSURANCE COMPANY - Marine Open Policy No. 670

Shasta Reservoir Navigation for the month of February 1952:

	Amt. Insured	Rate	Premium
Barge Service 1 trip		25.00	$25.00
Cargo	700.00	.20	1.40
			$26.40

Shasta Reservoir Navigation for the month of March 1952

Barge Service - 3 trips		25.00	$75.00
Cargo	4090.00		8.18
			$83.18

Shasta Reservoir Navigation for the month of April 1952

Barge Service - 2 trips		25.00	$50.00
Cargo	2100.00	.20	4.20
			$54.20

A CORRECT COPY OF THE ORIGINAL INVOICE $ 163.78

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

o p y

R. A. Corroon & Co., Inc. Dr.
Insurance Brokers and Adjusters
92 William Street
New York

6/23/52

TO: THE GLIDDEN COMPANY
Cleveland, Ohio

Insurance: The Continental Insurance Co. - Marine Open Policy #670

Shasta Reservoir Navigation for the month of May 1952

	Amt. Insured	Rate	Premium
Barge Service - 1 trip			25.00
Cargo	400.00	.20	.80
			$25.80

A correct copy of the original invoice

THE GLIDDEN COMPANY

Edward L. Ralston
Manager of Mines

MF-104
(April 1951)

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

07: Omea-2

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

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

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

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

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
AUG 4 1952

CERTIFICATION

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

THE GLIDDEN COMPANY
(Name of Company)

By Edward L. Kaiston
(Signature of Authorized Official)

June 13, 1952
(Date)

Manager of Mines
(Title)

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

JUN 23 1952

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X Idm E-187
Total contract amount
Government participation percent 23.29%

Government participation maximum amount 50% of $9.00 per foot - $4.50 per foot drilled

Distribution of Expenditures for Month of May 1952

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	$4938.00	$14,653.00	$19,591.00			
Equipment purchase [1]						
Equipment rental [2]	2981.78	8,525.16	11,506.94			
Buildings						
Explosives						
Repair parts						
Other supplies	2236.31	8,135.97	10,372.28			
Power						
Transportation						
Withholding taxes	222.21	664.43	886.64			
Compensation insurance	413.50	1,302.34	1,715.84			
Other insurance	12.10	39.60	51.70			
Contract work	287.00	1,251.50	1,538.50			
Other (specify)						
Total	$11090.90					
Totals previously reported	$	34,572.00				
Totals to date	$		45,662.90			

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Amount approved for payment
Remarks

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF May 1952

Name of operator The Glidden Company
Project No. DMA 1219 X
Total contract amount
Government participation percent 23.29%

Type	Number	Man-Shifts	Rate	Total
Miners			$	$
Muckers				
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners	5	110	2.00 per hr	$2360.00
Drill helpers	5	90	1.50 per hr.	2028.00
Teamsters				
Manager				
Superintendent				
Engineers				
Geologists				
Bookkeeper				
Foreman	1		550.00 mo.	550.00
Clerks				
Stenographers				
Other				
Total	11	200		$4938.00

Note.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks $ 2583.00

Lloyd L. Norvall
Authorized Certifying Officer
JUL 22 1952

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF May 1952

Name of operator The Glidden Co.
Project No. DMA 1219 X
Total contract amount
Government participation, percent 23.29% - 574 ft. Drilled at
(50% of $9.00 per foot) $4.50 per ft. $2583.00

Item	Costs					Progress				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [2]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes	$4938.00	$2981.78	$2236.31	$934.81	$11,090.90	Ft.	574	2326	2900	
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching										
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	$4938.00	$2981.78	$2236.31	$934.81	$11090.90	Ft.	574	2326	2900	

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

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks

C
O
P
Y

INVOICE
E. J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1700 Foshay Tower
Minneapolis 2, Minnesota

June 6, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766 - 50th Avenue
Oakland 1, California

Invoice Number 55251

Diamond core drilling during the month of May, 1952, on your property known as the Bully Hill, Shasta County, California, as per the terms of our agreement dated April 27, 1951.

Total footage drilled during May, 1952 574 feet.

Hole No.		From	To	Footage	Rate	
	Compensation					
1	Diamond Drilling	850.0	1015.0	165.0		
3	Diamond Drilling	438.0	845.0	407.0		
4	Diamond Drilling	0.0	2.0	2.0		
				574.0	.50	287.00

	Equipment Rental		
	1 Drill 1 month (double shifts)	600.00	
	1 drill 1 month (3 - shifts)	675.00	
	Truck rental 1 month	100.00	1,375.00

Depreciation Rods & Casing

		From	To	Footage	(1-10)	Rate	Amount	
1	E Rods	850.0	1015.0	165.0	16.5	1.32	21.78	
3	AU Rods	438.0	576.0	138.0	13.8	1.65	22.77	
"	E Rods	576.0	845.0	269.0	26.9	1.32	35.50	
"	AX Casing	265.0	520.0	255.0	25.5	1.33	33.92	
"	EX Casing	0.0	576.0	576.0	57.6	1.27	73.15	
4	AU Rods	0.0	2.0	2.0	.2	1.65	.33	187.45

	Rods and Casing Left in Hole #1				
	E Rods	190.0 ft.			
	Less Depr.	19.0 ft.			
		171.0 ft.	@	1.32	225.72
	AX Casing	280.0 ft.			
	Less Depr.	28.0 ft.			
		252.0 ft.	@	1.33	335.16	560.88

	Payroll (See enclosed payroll sheets)		
	May, 1952	5,622.00	
	FICA Insurance 5,622.00 @ 1.5%	84.33	
	Unemployment Ins. 5,622.00 @ 3%	168.66	
	Compensation, PD & PL Insurance 5,110.00 @ 9.213%	470.78	6,345.77

C
O
P
Y

INVOICE
E. J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1700 Foshay Tower
Minneapolis 2, Minnesota

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766-50th Avenue
Oakland 1, California

Invoice Number 55251

Credit due you for board of workmen at Redding, Calif.					
Alex Augustson	31 days	@	2.00	(62.00)	
Curtis England	31 days	@	2.00	(62.00)	
Arni Maki	30 days	@	2.00	(60.00)	
Frank Sheumaker	27 days	@	2.00	(54.00)	
Floyd Heyborne	27 days	@	2.00	(54.00)	
Henry Wilgren	31 days	@	2.00	(62.00)	
Billy Wardlay	24 days	@	2.00	(48.00)	
Arthur Kinkel	26 days	@	2.00	(52.00)	
Robert Venn	30 days	@	2.00	(60.00)	
Chas. Mattson	15 days	@	2.00	(30.00)	
Donald Mattson	15 days	@	2.00	(30.00)	
James Warlin	15 days	@	2.00	(30.00)	(604.00)
Travel Expenses of Workmen to Redding, California					
James Warlin - from Republic, Mich.				158.92	
Chas. Mattson - from Republic, Mich.				160.42	
Donald Mattson - from Republic, Mich.				159.37	478.71
Charges in connection with crating equipment at Marquette, Michigan, for shipment to Redding, Calif.					5.40
Hold harmless insurance charges for April, 1952					3.91
Camp Expenses					
Kitchen and mess hall supplies					150.09
Food Supplies					595.30
Telephone charges					7.38
Freight, express and postage charges during May, 1952 (Includes shipments from Marquette, Michigan)					306.13
Hauling drilling equipment from Redding to drill site					138.80
Fire and Theft Insurance charges					12.10
Fuel and Oil					
6 - 35# Grease				25.10	
2 cases machine oil				7.35	
8 cyls. Standard flamo				44.91	
1270 gals. gasoline				312.42	389.78

C
O
P
Y

INVOICE
E. J. LONGYEAR COMPANY
Diamond Core Drilling Contractors
1700 Foshay Tower
Minneapolis, Minnesota
2
June 6, 1952

The Glidden Company
c/o Mr. Edward L. Ralston
The Chemical & Pigment Company
766-50th Avenue
Oakland 1, California

Invoice Number 55251

Supplies Used			
1 - Bearing		2.83	
40 sacks aquagel		179.94	
Rod grease		8.31	
Recharging fire extinguisher		2.83	
Folding chair		5.68	
Spark plugs		13.18	
Lumber		18.33	
2 Mans Compasses	@ 40.00	80.00	
1-BX 10' Double Tube Core Barrel		102.80	
1-AX 10' Double Tube Core Barrel		80.95	
1-EX 10' Double Tube Core Barrel		57.60	
1-EX 10' Double Tube Outer Tube		35.20	
1 - 600 lb. pressure gauge		6.46	
1 - U.G. drill clutch		126.05	
1 - AX casing B.H. male tap		31.15	
2 - EX core lifters	@ 2.55	5.10	
1-AX core lifter		2.10	
4 - EX core lifters	@ 2.10	8.40	
2 oil seals for water swivel		2.65	
1 - AX Cross chopping bit		17.15	
1 - EX Cross chopping bit		24.20	
2 - Bolts for pipe tongs	@ 1.55	3.10	
2 - screws for pipe tongs	@ 1.55	3.10	
2 - BX type CC Diamond Bits	@ 12.10	24.20	
12 - BX Type C Diamond bits	@ 7.00	84.00	
1 - EX Type C Reaming shell		72.24	
3 - AX Type C Diamond bit	@ 9.00	27.00	
2 - AX Type CC Diamond bit	@ 9.00	18.00	
7 - BX Type C Diamond bit	@ 12.10	84.70	
1 - AX Type C Casing bit		14.00	
1 - AX Type C. Reaming shell		91.90	
6 - BX Type S Diamond bits	@ 8.75	52.50	1,285.65

Borts Wear	"Type CC"	"Type C"	"Type S"
Actual Wear previous month	7.67	33.09	-0-
Actual Wear this month	-0-	28.59	18.00
This month suspension chg.	24.00	78.00	10.00
	31.67	139.68	28.00
Less:			
Last Month's suspension chg	18.00	35.00	-0-
	13.67	104.68	28.00

13.67 Carats "Type CC" Borts	@	8.50	116.20
104.68 Carats "Type C" Borts	@	11.00	1151.48
28.00 Carats "Type S" Borts	@	8.50	238.00
			1,505.68

Borts Salvaged from Diamond Reaming Shells

7.85 Carats "Type C" Borts	@	11.00	(86.35)
			$12,944.68

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE
THE GLIDDEN COMPANY
BY
Edward L. Ralston, Manager of Mines

C
O
P
Y

INVOICE
E. J. LONGYEAR COMPANY
Mining Engineers
1700 Foshay Tower
Minneapolis, Minnesota

June 5, 1952

The Glidden Company
c/o Mr. Edward D. Ralston
The Chemical & Pigment Company
766-50th Avenue
Oakland 1, California

Invoice No. 55203

Charges in connection with exploration at the Bully Hill Mine, Shasta County, California, during the month of May, 1952, of senior geological engineers (M. G. Hansen and L. C. Armstrong) and junior engineer (A. Lutenko) as per terms of our agreement dated May 3, 1951.

Engineering Fees				
May 1 - 31, 1952	1 month	@ $2,000.00 month	$2,000.00	
May 1 - 31, 1952	30 days	@ $35.00 per day	1,050.00	$3,050.00
Car Expenses				193.33
Living Expenses				
M. G. Hansen			92.40	
L. C. Armstrong			186.59	
A. Lutenko			124.42	403.41
Other Expenses				
Telephone & Telegraph			47.51	
Postage			6.85	
Office Supplies			96.11	
Field Supplies			33.26	
Rental of typewriter and repairing same			27.00	210.73
				3,857.47

CERTIFIED TO BE A TRUE AND CORRECT COPY OF THE ORIGINAL INVOICE

THE GLIDDEN COMPANY

BY

Edward L. Ralston, Manager of Mines

E J. Longyear Co.
1701 Foshay Tower
Minneapolis, Minn

Squaw Creek
Contract Name

For Period Ending May 1- 15 1952

State California

Employee	Position	Total Hours	Rate	Pay Per.	Total Hours	S.T.	O.T.	GROSS
Axel Augustson	Foreman		275.00	5/15		275.00		275.00
Betty Augustson	Cook		200.00	5/15		200.00		200.00
Curtis England	Runner	16/88	2.00	5/15	104	208.00	16.00	224.00
Arne W. Maki	"	16/88	2.00	5/15	104	208.00	16.00	224.00
Frank R. Shewmaker	"	16/88	2.00	5/15	104	208.00	16.00	224.00
Floyd Heyborne	"	16/88	2.00	5/15	104	208.00	16.00	224.00
Henry Wilgren	"	16/88	2.00	5/15	104	208.00	16.00	224.00
[illegible]y M. Wardlaw	Helper	72/88	1.50	5/15	160	240.00	54.00	294.00
Arthur R. Kimbel	"	72/96	1.50	5/15	168	252.00	54.00	306.00
Robert Venn	"	80/88	1.50	5/15	168	252.00	60.00	312.00
Mattelyn Trusty	Cook's Helper	32/88	1.00	5/15	120	120.00	16.00	136.00
						2379.00	264.00	2643.00

This is a certified copy of Payroll Summary of E.J. Longyear Co. for Diamond Drilling - Glidden Company Properties.

THE GLIDDEN COMPANY

BY

Edward L. Ralston, Manager of Mines

Squaw Creek
Contract Name

e E. J. Longyear Co.
1701 Foshay Tower
Minneapolis, Minn.

For Period Ending May 16-31 1952 State California

EMPLOYEE	Position	HOURS Total	Rate	Pay Per.	Total Hours	S.T.	O.T.	GROSS
Axel Augustson	Foreman	275.00		5/31		275.00		$275.00
Betty Augustson	Cook	200.00		5/31		200.00		200.00
Curtis England	Runner	24/88	2.00	5/31	112	224.00	24.00	248.00
Arne Maki	"	24/88	2.00	5/31	112	224.00	24.00	248.00
Frank R. Shewmaker	"	24/88	2.00	5/31	112	224.00	24.00	248.00
Floyd Heyborne	"	24/88	2.00	5/31	112	224.00	24.00	248.00
Henry Wilgran	"	24/88	2.00	5/31	112	224.00	24.00	248.00
Bi[illegible] M. Wardlaw	Helper	32/80	1.50	5/31	112	168.00	24.00	192.00
Arthur R. Kinkel	"	32/80	1.50	5/31	112	168.00	24.00	192.00
Robert Venn	"	32/80	1.50	5/31	112	168.00	24.00	192.00
Charles R. Mattson	"	16/96	1.50	5/31	112	168.00	12.00	180.00
Donald E. Mattson	"	16/96	1.50	5/31	112	168.00	12.00	180.00
James W. Warlin	"	16/96	1.50	5/31	112	168.00	12.00	180.00
Mattelyn Trusty	Cook's Helper	40/88	1.00	5/31	128	128.00	20.00	148.00
						2731.00	248.00	2979.00

This is a certified copy of Payroll Summary of E.J. Longyear Co. for Diamond Drilling - Glidden Company Properties.

THE GLIDDEN COMPANY

By

Edward L. Ralston, Manager of Mines

A. C. Johnson, Chief, Mining Div., Reg. III June 16, 1952

E. J. Matson, Mining Engineer, Bureau of Mines, Reg. III

Glidden Co., Shasta County, Calif. (zinc-copper) Contract Idm-2187

Report of inspection - June 4, 5, 1952.

Hole A1-1 was completed to a depth of 1,038 feet. No mineralization was encountered in the hole. Note angle of deflection of hole after being surveyed. (See fig. 1).

Hole A1-3 was down to a depth of 869 feet. It had encountered mineralization at 541.5 feet and was still in it at the 869 feet depth. The mineralization consisted of chalcopyrite and pyrite. No zinc or lead mineralization was visible to the naked eye. The chalcopyrite was confined chiefly to small fractures, some paralleling the core and others crisscrossing it. Some very finely disseminated chalcopyrite was also visible. No assays have been made of the mineralized section yet. Some sections of it may go 3% copper. Mineralization is spotty. Core recovery in Hole A1-3 has been about 50 percent in the ore zone. Some places no core, other places 90-100% recovery.

Sludges are very erratic. The hole has been making water practically all the way down and at time of inspection was making about 50 gallons per minute. During drilling, sometimes no cuttings come up out of the hole; then when the rods are pulled a big surge of cuttings comes out, chiefly cave material. An automatic sampler is being used to catch cuttings from each drilling interval. (See view No. 2.).

The hole is getting dangerous to drill. It has from 15 to 50 feet of cave in it all the time from 529 feet down. It has been impossible to seal the cave off due to the hole making water. After each run, the driller must drill through the cave first before drilling new ground. When the rods are pulled out, the hole fills up again. Therefore, too much credence cannot be given to sludge samples.

The hole has been drilled thus:

BX size to 210 and cased.
BX " " 529 " "
AX " " 576 " "
EX " from 576 down

Hole A1-4 (see fig. 1, was down to a depth of 10 feet. It was just through to bed rock. The hole was first started 40 feet westerly in the same plane, but due to large boulders in the overburden, it had to be moved back in order to collar it. The plan and longitudinal projections of the drill hole arrangement are shown in figures 2 and 1.

Hole Al-1 did not encounter ore. It did not reach out far enough.

Hole Al-2 encountered the ore zone at 778 feet, or 460 feet vertically below the collar and 670 feet in elevation. Note all collars are relatively near 1,500 feet in elevation.

Hole Al-3 encountered the ore zone at 541.5 feet or 460 feet vertically below the collar and 966 feet in elevation.

Hole Al-4 is designed to encounter the hole at about the same elevation as hole Al-2.

Hole Al-5 is designed to encounter the zone at about the same elevation as hole Al-3.

The planning gives a sort of parallelogram in the ore zone with two holes spaced about 150 feet apart horizontally intersecting the ore zone at vertical intervals of about 300 feet.

Hole Al-6, see plan fig. 1, may not be drilled, depending on the outcome of holes Al-4 and Al-5. It may be better to drill Hole Al-6 north along the zone beyond Hole Al-5.

A monthly summary of drilling to date is as follows:

Month	Al-1	Al-2	Al-3	Al-4	Totals
Dec.	82				82
Jan.	290	125			415
Feb.	223	394			617
Mar.	135	519			654
Apr.	120		438		558
May	165		407		572
Totals	1,015	1,038	845		2,898

Hole Al-4 had two feet at the end of the month. However, the hole was moved back to another location as previously stated, and started anew on June 1. Therefore, no footage for hole Al-4 can be credited for the month of May. Otherwise, it would be 574 feet (total) for the month.

E. J. Matson

E. J. Matson

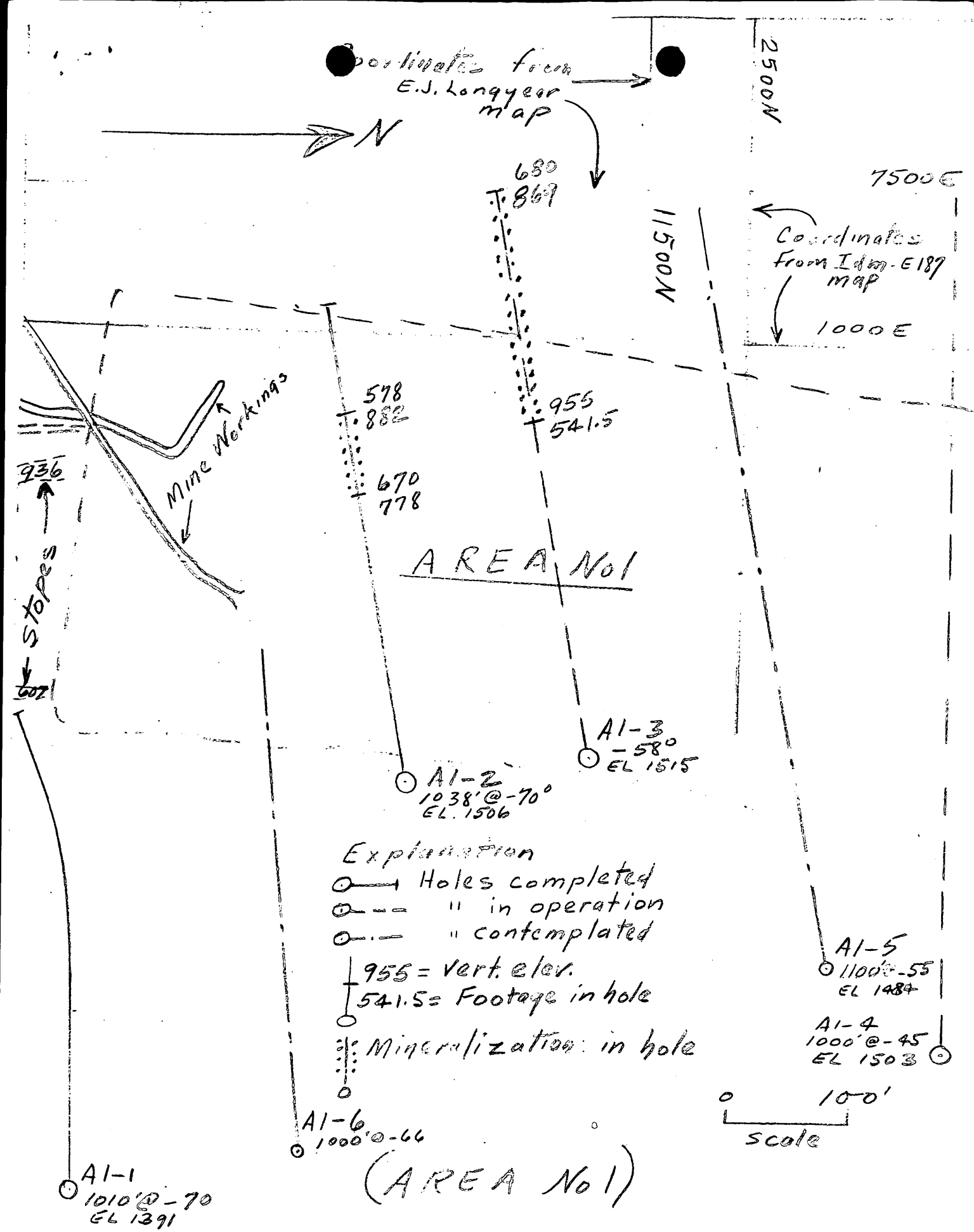


Fig 1 Plan sketch of drill set-ups Idm-E187

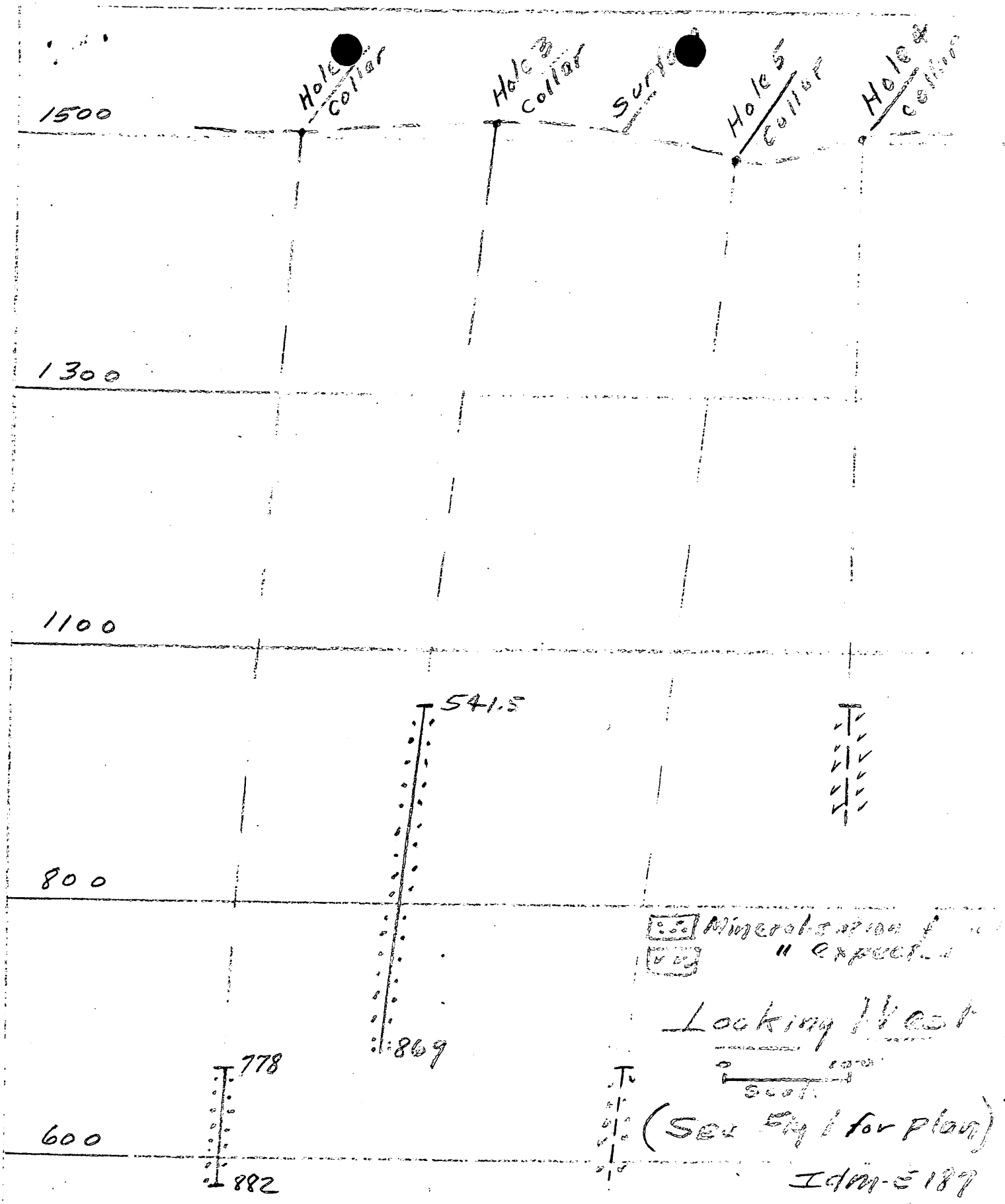


Fig 2. Vertical Longitudinal Projection showing mineralized sections encountered and expected.

View 1. Drill rig set-up at Hole A1-3. Building at left is an old abandoned dwelling used for housing former company employees.

View 2. Close-up of automatic sludge sampler at Hole A1-3. A uniform portion of drill cuttings are caught in muslin sack during each drilling interval.

View 3. Portion of old zinc oxide plant foremerly operated by the Bully Hill Mining Company.

Idm-E187

A. C. Johnson, Chief, Mining Division, Reg. III May 13, 1952

E. J. Watson, Mining Engineer, Bureau of Mines, Region III

Glidden Co., Shasta Co., Calif. (zinc-copper) Contract Idm-E187

Report of examination May 5 and 6, 1952

The property was visited on the above dates. Work at the property was progressing satisfactorily.

Work is still confined to Area No. 1, which is the northward extension of the Bully Hill ore zone. One hole (Al-2) has been completed to date and work is progressing on two others (Al-1 and Al-3).

Hole Al-1, EX size, was down to a depth of 891 feet on May 5 and is still in rhyolite flow rock. No mineralization has been encountered in the hole to date. The hole will probably be advanced to about 1,050 feet and will be bottomed at that depth if no ore is encountered. Drilling advance on the hole has been greatly retarded due to caving ground.

Hole Al-2 was completed last month to a depth of 1,038 feet. It encountered mineralization from 778 to 883 feet, some of which was massive sulphide containing galena, chalcopyrite, sphalerite, (possibly some marmatite), and pyrite. No assays have been made up of the mineralized section to date, however, the company intends to send all samples to Abbot A. Hanks at San Francisco, Calif., for analysis. A copy of the drill hole log for hole Al-2, made by the resident geologist, is attached to this report.

Hole Al-3, which was started in April, has reached a depth of 493 feet on May 5, 1952. No ore was encountered to date in this hole.

A monthly summary of drill footages since start of project is as follows:

	Hole No. A1-1			Hole No. A1-2			Hole No. A1-3			Monthly Totals
	From	To	Footage	From	To	Footage	From	To	Footage	
Dec.	0 -	82	82							82
Jan.	82 -	372	290	0 -	125	125				415
Feb.	372 -	595	223	125 -	519	394				617
Mar.	595 -	730	135	519 -	1038	519				654
Apr.	730 -	850	120				0 -	438	438	558
							Total to date			2,326

Two mechanical sludge sampling machines were taken to the property on April 5 for catching sludge samples. The machines are the same as those developed by the Bureau of Mines and used on Bureau work. They will be used for the duration of the diamond drilling work on this project.

Mayer G. Hanson, engineer in charge of the work for the E. J. Longyear Co., plans to take a 30-day vacation starting May 11, 1952. He will be replaced by Lee Armstrong of the E. J. Longyear Co.

E. J. Matson

E. J. Matson

MF-104
(April 1951)

SF-DMC9-29
6-20-52

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

E-187

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

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

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

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

JUN 27 1952

CERTIFICATION

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

THE GLIDDEN COMPANY
(Name of Company)

By Edward L. Ralston
(Signature of Authorized Official)

May 13, 1952
(Date)

Manager of Mines
(Title)

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

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $9263.22
Government participation percent 27.11

Distribution of Expenditures for Month of April 1952

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	$4572.00	$10,081.00	$14,653.00			
Equipment purchase [1]						
Equipment rental [2]	2152.46	6,372.70	8,525.16			
Buildings						
Explosives						
Repair parts						
Other supplies	1587.99	6,547.98	8,135.97			
Power						
Transportation						
Withholding taxes	205.74	458.69	664.43			
Compensation insurance	388.93	913.41	1,302.34			
Other insurance	12.10	27.50	39.60			
Contract work	344.00	907.50	1,251.50			
Other (specify)						
Total	$9263.22					
Totals previously reported		$25,308.78				
Totals to date			$34,572.00			

FOR GOVERNMENT USE ONLY

Checked by PL
Entered by
Approved by A. C. Johnson
Amount approved for payment $2511.00
Remarks

JUN 20 1952

A. J. RENNER
AUTHORIZED CERTIFYING OFFICER

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF April 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $9263.22
Government participation percent 27.11

Type	Number	Man-Shifts	Rate	Total
Miners			$	$
Muckers				
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners	5	110	$2.00 hr.	$2240.00
Drill helpers	6	83	1.50 hr.	1782.00
Teamsters				
Manager				
Superintendent				
Engineers				
Geologists				
Bookkeeper				
Foreman	1		550.00 mo.	550.00
Clerks				
Stenographers				
Other				
Total	12	193		$4572.00

Note.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by R. C. Johnson
Remarks

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF April 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $9263.22
Government participation, percent 27.11%

558 ft. drilled at $4.50 per ft. (50% of $9.00) $2511.00

Item	Costs					Progress				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes	$4572.00	$2152.46	$1587.99	$950.77	$9263.22	Ft.	558	1768	2326	
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching										
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	$4572.00	$2152.46	$1587.99	$950.77	$9263.22	Ft.	558	1768	2326	

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

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by
Remarks

A. C. Johnson, Chief, Mining Division, Reg. III March 10, 1952

E. J. Matson, Mining Engineer, Region III

Gliddon Co., Shasta County, Calif. (Zinc and Copper) Contract Idm-2187

Report of examination March 4 and 5, 1952.

The property was visited on the above dates accompanied by J. F. Robertson and A. R. Kinkel, geologists of the U. S. Geological Survey. The property is reached by driving north from Redding about 15 miles along U. S. Highway 99 to a point about one quarter of a mile south of the Pitt bridge, a landing on the south side of the Shasta reservoir. Thence, travel is by boat northeasterly for an estimated distance of 8 miles to the Bully Hill landing on the north side of the reservoir at this point. Total distance from Redding to Bully Hill landing is about 23 miles via automobile and boat. The mine area is about two miles northwesterly by road from the landing.

The U. S. Geological Survey has made an extended and comprehensive study of the area supplemented with a compilation of the old company records and maps. To compile all these old records and company maps has apparently been a painstaking job, as most of the old maps had no coordinate lines and very little other information for orientation. Much credence is due them for their endeavors.

A copy of the original report by A. R. Kinkel and J. P. Albers of the U. S. Geological Survey, giving a description of the geology and ore deposits is attached to this report.

On March 5, the drilling was progressing satisfactorily. Work at present is confined in area No. 1, to explore the northward extension of the Bully Hill ore zone.

Hole No. Al-1 was down to a depth of 626 feet. It was cased down to a depth of 608 feet and drilling from that point is continuing with an AX bit.

Hole No. Al-2 was down to a depth of 631 feet. It was cased down to a depth of 641 feet and drilling from that point is continuing with an AX bit, also. No ore was encountered to date in either hole. Both holes are at an inclination of -70° and are expected to reach a depth of about 1,000 feet. Ore formations are expected to be encountered in the next 300 feet. A plan showing locations of the holes is attached to this report.

The Glidden Company is continuing the rehabilitation of the property. The cook house and living quarters for the drill personnel are completed. Further rehabilitation is in progress, such as, building roads, preparing drill sites, developing water supply, etc.

The E. J. Longyear Co. has two U.G. Model diamond drills, powered by Waukesha gasoline motors, equipped with twin cylinder hydraulic heads. Each tripod has one 40-foot leg, and two 30-foot legs, made of single poles for each leg. The drillers are using 10-foot coreberrels and are rigged up to connect and disconnect the rods at 20-foot intervals for lowering or hoisting.

The company is operating on a three-shift basis on each drill at present. Plans are, however, to use two shifts on each rig and then have one shift to alternate on each rig to allow for delays caused by cementing. That is, there will at least be the equivalent of at least three shifts per day on one machine and two shifts per day on the other.

Core recovery is good so far. It appears from the nature of the ore, and from the opinion of the resident geologist, Mayer Hansen, core recovery on the ore zone will be good. Mr. Hansen has proposed that all core in ore zone be ground and quartered, one quarter to be assayed, others saved. Cores are kept in 6-foot core boxes and are stored in racks in the core shed. Core space is being taken up gradually in the core shed and before long something will have to be done about future storage. The Longyear Company has not planned to save them for posterity. It may be advisable to bring the cores to the Reno coreshouse for storage. They probably should be skeletonized before transportation.

The original exploration contract, dated April 27, 1951, item No. 2, mentions vertical holes, varying from 600 to 1,000 feet and averaging 800 feet in length. Holes are being drilled at -70° and not vertical. Apparently this contract has been amended or superseded. It would be advisable to have a copy of the present working contract in the Reno files.

Chief personnel at the project includes the following:

a. Mayer O. Hansen, Mining Geologist in charge of operations for E. J. Longyear Co., with address at Golden Eagle Hotel, Redding, Calif., Phone 700.

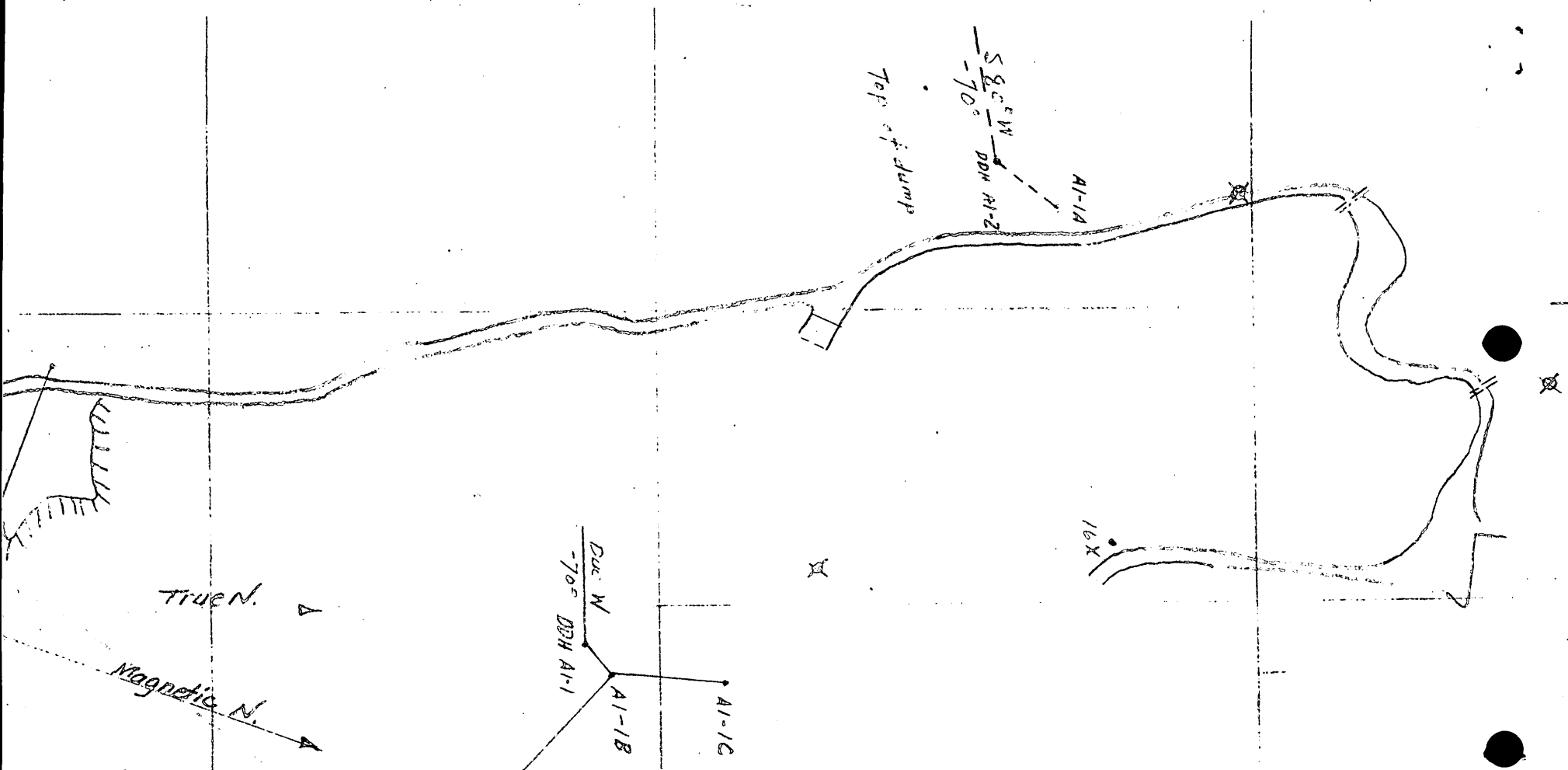
b. Alex Lutenko, geologist and assistant to Mr. Hansen. (E. J. Longyear Co.)

c. Axel Augustuson, drill foreman, for E. J. Longyear Co.

d. Roy McDowel, foreman for Glidden Co.

E. J. Matson

E. J. Matson



DIAMOND DRILL HOLE LOCATIONS IN AREA
BULLY HILL & RISING STAR MINES
DMA 1219, Idn E187

0 50 100 200 Feet

Declination 19° 45'

X Approximate location of proposed DDH etc.

Tracing and reduction from plan: Bulf Survey by
Mayer Hansen, December [illegible] 81

View 1.
Christina, motor launch used for transporting employees to and from work. Pit bridge can be seen at right center. Owned by Shasta Navigation Company. Rental charge is $10.50/hour. Glidden Company also rents barges from U. S. Bureau of Reclamation. Cost of water transportation varies from $1000 to $1800 per month.

View 2.
Al-1 drill hole set-up at lower center. Al-2 drill hole can be faintly seen at left side of draw. Houses are part of Circle City (camp buildings of Bully Hill Mine).
Note heavy overburden. Main haulage level of Bully Hill Mine is at left of Al-1 drill site, totally obscured by detritus and soil.

View 3.
Looking at Rising Star Mine area from Bully Hill area. Rising Star shaft is at upper road. Main haulage level is at lower left. Numerous dumps from other adits det the area.

View 4.
Ruins of Bully Hill smelter and mill. Part of Shasta reservoir in right center.

View 5.
Showing caved condition of No. 4 Adit at Rising Star mine.
J. F. Robertson and M. G. Hansen standing at left of portal.

View. 6.
Showing caved condition of portal of main haulage level at Rising Star mine. Mayer Hansen is standing on top of adit portal. Building at skyline is power and hoist room for Rising Star shaft. See View No. 3.

Note- All mine entrances are in same condition in both the Rising Star and Bully Hill mines.

MF-104
(April 1951)

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

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

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

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

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 5 1952

CERTIFICATION

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

THE GLIDDEN COMPANY
(Name of Company)

By Edward D. Ralston
(Signature of Authorized Official)

March 14, 1952
(Date)

Manager of Mines
(Title)

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

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $8569.03
Government participation percent 33.29

Distribution of Expenditures for Month of February 1952

634 ft. drilled at $4.50 per ft. (50% of $9.00) $2853.00

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	$3830.00	$2265.00	$6095.00			
Equipment purchase [1]						
Equipment rental [2]	1767.29	2122.34	3889.63			
Buildings						
Explosives						
Repair parts						
Other supplies	2106.45	2164.07	4270.52			
Power						
Transportation						
Withholding taxes	177.39	101.93	279.32			
Compensation insurance	345.15	201.03	546.18			
Other insurance	8.25	8.25	16.50			
Contract work	334.50	254.50	589.00			
Other (specify)						
Total	$8569.03					
Totals previously reported		$7117.12				
Totals to date			$15686.15			

FOR GOVERNMENT USE ONLY

Checked by fh
Entered by
Approved by A. C. Johnson
Amount approved for payment $2853.00
Remarks

APR 21 1952

Lloyd L. Norwell
Authorized Certifying Officer

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF February 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $8569.03
Government participation percent 33.23

634 ft. Drilled @ $4.50 per ft. (50% of $9.00) $2853.00

Type	Number	Man-Shifts	Rate	Total
Miners			$	$
Muckers				
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners	6	88	$2.00 per hr.	$1744.00
Drill helpers	7	107	1.50 per hr.	1536.00
Teamsters				
Manager				
Superintendent				
Engineers				
Geologists				
Bookkeeper				
Foreman	1		550.00 month	550.00
Clerks				
Stenographers				
Other				
Total				$3830.00

Note.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF February 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $8569.03
Government participation, percent 33.29

634 Ft. Drilled @ $4.50 per foot (50% of $9.00) $2853.00

Item	Costs					Progress				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes	$3830.00	$1767.29	2106.45	865.29	$8569.03	Ft.	634	497	1131	
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching										
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	$3830.00	$1767.29	2106.45	865.29	$8569.03	Ft.	634	497	1131	x

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

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks

MF-104
(April 1951)

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

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

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

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

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

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

CERTIFICATION

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

THE GLIDDEN COMPANY
(Name of Company)

By [signature]
(Signature of Authorized Official)
Edward L. Ralston

April 12, 1952
(Date)

Manager of Mines
(Title)

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

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator The Glidden Company
Project No. DMA 1219 X
Total contract amount $9622.63
Government participation percent 29.79

Distribution of Expenditures for Month of March 1952

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	$3986.00	$6095.00	$10,081.00			
Equipment purchase [1]						
Equipment rental [2]	2483.07	3889.63	6,372.70			
Buildings						
Explosives						
Repair parts						
Other supplies	2277.46	4270.52	6,547.98			
Power						
Transportation						
Withholding taxes	179.37	279.32	458.69			
Compensation insurance	367.23	546.18	913.41			
Other insurance	11.00	16.50	27.50			
Contract work	318.50	589.00	907.50			
Other (specify)						
Total	$9622.63					
Totals previously reported		$15686.15				
Totals to date			$25,308.78			

FOR GOVERNMENT USE ONLY

Checked by RL
Entered by
Approved by R. C. Schumann
Amount approved for payment $2866.50
Remarks

APR 21 1952

Lloyd L. Norvell
Authorized Certifying Officer

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF March 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219X
Total contract amount $9622.63
Government participation percent 29.79

Type	Number	Man-Shifts	Rate	Total
Miners			$	$
Muckers				
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners	6	85	$2.00 per hr	$1864.00
Drill helpers	8	97	1.50 per hr	1572.00
Teamsters				
Manager				
Superintendent				
Engineers				
Geologists				
Bookkeeper				
Foreman	1		550.00 mo.	550.00
Clerks				
Stenographers				
Other				
Total	15	182		$3986.00

Note.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF March 1952

Name of operator THE GLIDDEN COMPANY
Project No. DMA 1219 X
Total contract amount $9622.63
Government participation, percent 29.79%

637 ft. drilled at $4.50 per ft. (50% of $9.00) $2866.50

Item	Costs					Progress				
	Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes	$3986.00	2483.07	2277.46	876.10	9622.63	Ft.	637	1131	1768	
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching										
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	$3986.00	2483.07	2277.46	876.10	9622.63	Ft.	637	1131	1768	

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

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. E. Johnson
Remarks

COPY

THE CHEMICAL and PIGMENT COMPANY
Division of the Glidden Company

G
N L
U I
S T
Brand H

766 Fiftieth Avenue Oakland 1, California

February 13, 1952

Mr. A. C. Johnson, Chief,
Mining Division,
Bureau of Mines, Region III,
P. O. Box 1551,
Reno, Nevada.

Re: Docket DMA-1219X
Exploration Project Contract
Idm-2187

Dear Mr. Johnson:

I am enclosing, in quadruplicate, form MF-104, covering January diamond drilling operations at our Bully Hill property, Shasta County, California.

Our reason for presenting the actual cost of the drilling operation, exclusive of rehabilitation costs, barge service costs, and other expenditures incidental to this project, is to substantiate our claim for the amount which the government has agreed to pay on this contract. In this connection I wish to advise that there is no contract between the Government and E. J. Longyear Co., since this contract was made between the Glidden Company and the Longyear Co. Hence, the government contract is between the Government and The Glidden Company and under the terms of this contract the Government will participate up to $9.00 per foot for the actual footage drilled, and any additional cost above $9.00 per foot is to be borne by The Glidden Company. Consequently in making out form MF-104, the only thing really to be considered is the actual footage drilled, yet to substantiate our claim for government participation, we feel that it is quite necessary to present our actual drilling costs. On this form we show a total cost against this drilling operation of $7,117.12, but we are not asking the government to participate to the extent of 50% of this amount, but are claiming 50% of the actual footage drilled at $9.00 per foot, or 497 feet at $4.50 per foot, the total amounting to $2,236.50. In the event that the cost of drilling drops below $9.00 per foot, a thing quite possible after the job gets well under way, you can readily understand that it would be necessary for us then to present the actual cost, otherwise the government would be participating to the extent of 50% of the actual cost. While form MF-104 hardly covers the scope of our operations, yet I believe we are presenting sufficient facts to meet all of the requirements of the Defense Minerals Administration.

Respectfully yours,

THE GLIDDEN COMPANY
/s/ Edward L. Ralston
Edward L. Ralston
Manager of Mines

ELR:HM

SF-Dr

MF-104
(April 1951)

Budget Bureau No. 42-R1036.
Approval expires 6-30-51.

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS ADMINISTRATION

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAR 14 1952

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

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

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

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

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

CERTIFICATION

ACCOUNTS FEB 18 1952

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.

THE GLIDDEN COMPANY
(Name of Company)

By [signature]
(Signature of Authorized Official)
Edward L. Karsten

Feb. 13, 1952
(Date)

Manager of Mines
(Title)

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

16—64068-1

MONTHLY SUMMARY COST STATEMENT

Name of operator: The Glidden Company
Project No. DMA: 1219 X
Total contract amount: $7117.12
Government participation percent: 31.424%
Government participation: Maximum Amount: 50% of $9.00 per ft. or 497 ft. @ $4.50 $2236.50

Distribution of Expenditures for Month of January 1952

Item	Monthly Total	Totals Previously Reported	Totals to Date	For Government Use Only: Approved Monthly Total	Approved Totals Previously Reported	Approved Totals to Date
Wages and salaries	$ 2,265.00					
Equipment purchase [1]						
Equipment rental [2]	2,122.34					
Buildings						
Explosives						
Repair parts						
Other supplies	2,164.07					
Power						
Transportation						
Withholding taxes	101.93					
Compensation insurance	201.03					
Other insurance	8.25					
Contract work	254.50					
Other (specify)						
Total	$ 7,117.12					
Totals previously reported						
Totals to date						

FOR GOVERNMENT USE ONLY

Checked by: Ph
Entered by:
Approved by: A. C. Johnson
Amount approved for payment: $ 2236.50
Remarks:

FEB 27 1952

Lloyd L. Norvell
Authorized Certifying Officer

[1] Enter total purchase price in month purchase is made.
[2] Payments for rental of equipment or prorated depreciation on equipment owned by contractor.

16—64068-1

COPY

UNITED STATES
DEPARTMENT OF THE INTERIOR
Geological Survey
102 Old Mint Building
San Francisco 3, California

February 8, 1962

Mr. A. C. Johnson
U. S. Bureau of Mines
P. O. Box 1551
Reno, Nevada

Dear Mr. Johnson:

The week of January 28 to February 1 I visited the diamond drilling exploration project, DMA 1219, Idm E 187, Bully Hill and Rising Star mines near Redding, Shasta County, California. My understanding from Mr. E. H. Bailey is that Mr. Matson of your office was assigned to make inspections on this project, and that he was scheduled to make a trip to Redding the week of January 28. I am sorry that Mr. Matson was not able to make this trip, for I expected to discuss with him the information desired for the inspection reports on this particular project.

The government's contract with the Glidden Company calls for payments of the loan on the basis of footage drilled. This condition appears to eliminate most of the items such as costs of material, labor, operation, etc., usually reported and simplifies the task of inspection. I collected data pertinent to the contract, and following is a report of progress as of January 31.

Diamond drilling was begun on the first phase of this project December 17. The first two holes are in the process of being drilled in the area designated No. 1 (shown on the sketch map accompanying the DMA contract). E. J. Longyear Company is doing the drilling under a contract agreement with The Glidden Company and Mr. Mayer Hansen, mining geologist, is supervising the operations. Rock encountered, as of the date of this report, was expected from the surface geology, but drilling has not proceeded far enough toward the target to indicate either presence or absence of zinc and copper ore.

The map accompanying the DMA contract shows the approximate layout of drill holes and areas of exploration. Five holes are initially proposed for area No. 1, but they are shown as unnumbered. The system decided upon is to number the holes consecutively in the order drilled within each area; they are designated thus: DDH A1-2 (Area 1-number 2). DDH A1-1 is equivalent to the first hole at the south end of area 1. DDH A1-2 is the same as the third hole from the south end of area 1. The remaining three holes are as yet unnumbered.

A brief resume of drilling for the months of December and January follow:

DDH Al-1 Bearing: Due West
Inclination: -70°

Date	
Dec. 16	Moving and rigging up
Dec. 17	Commence drilling
	NX casing to 24'
Dec. 31	Down to 68'3", 24' to 68' BX
Jan. 31	" " 371' NX

DDH Al-2 Bearing: S80°W
Inclination: -70°

Jan. 2	Rigging up
Jan. 9	Down to 87' NX casing
Jan. 31	" " 125', 87' to 125' BX

Two drill rigs are employed, with only one crew each at present. Mr. Hansen advised me that three more crews are due to arrive shortly, which will enable him to operate the drills continuously.

Enclosed are logs of the drill cores for the lengths reached at the end of January. The cores are well marked, kept in compartmented wooden trays, 5 feet long and a core shed is being erected to house them. Mr. Hansen logged the core of drill hole Al-1. I reviewed it with him and found his descriptions to be excellent. The geology of DDH Al-2 was noted briefly, but a more detailed review will be made. Some pyrite was observed throughout DDH-Al-1, but no ore has been encountered. Considerable caving and broken ground has been encountered in DDH Al-2 requiring cementing and reaming several times, with consequent slow down of progress. Plans were underway to pull the casing on this hole, put on a casing bit, and then sink the casing to considerable depth to avoid as much as possible excessive caving.

The map accompanying the DMA contract was derived from an old survey and is not accurate. Therefore, Mr. Hansen has re-surveyed the drill hole locations by plane table. DDH Al-2 had to be relocated 15 to 20 feet because it plotted out on the side of a dump, and other holes in area 1 will have to be moved a few feet to facilitate setting up the drilling equipment. The enclosed sketch map was taken and reduced from Mr. Hansen's 1"-40' survey. His survey was made before the drill rigs were set up. Consequently, there may be an error of a foot, plus or minus, in the location of drill holes Al-1 and Al-2. The approximate locations of the other three are indicated by X's circumscribed by a circle. Another survey will bd made later to locate all the holes exactly with reference to coordinates.

COPY

Mr. Hansen intends to check the accuracy of available company maps by control traverses, and will re-survey the whole mines area if necessary. It is probable that coordinates will have to be redrawn or changed, but the location of drill holes will correspond as closely as possible to locations shown on the contract map.

Sincerely yours,

/s/ J. F. Robertson
J. F. Robertson

Enclosures

nca-18

DISTRIBUTION OF WAGES AND SALARIES FOR MONTH OF January 1952

Name of operator The Glidden Company
Project No. DMA 1219 X
Total contract amount $7117.12
Government participation percent 31.424%

Government participation: Maximum Amount: 50% of $9.00 per ft. or 497 ft. @ $4.50 $2236.50

Type	Number	Man-Shifts	Rate	Total
Miners			$	$
Muckers				
Trammers				
Timbermen				
Pumpmen				
Hoistmen				
Surface				
Samplers				
Assayers				
Shift bosses				
Mechanics				
Electricians				
Blacksmiths				
Carpenters				
Drill runners	2	37	2.00 per hr	688.00
Drill helpers	2	42	1.50 per hr	642.00
Teamsters	1	19	1.75 per hr	385.00
Manager				
Superintendent				
Engineers				
Geologists				
Bookkeeper				
Foreman	1		550.00 mo.	550.00
Clerks				
Stenographers				
Other				
Total				$ 2 265.00

Note.—Show only that portion of supervisory, office, and engineering salaries that is chargeable to this project.

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks

16—64068-1

EXPLORATION UNIT COST AND PROGRESS REPORT FOR MONTH OF January 1952

Name of operator The Glidden Company
Project No. DMA 1219 X
Total contract amount
Government participation, ~~percent~~ $7117.12
31.424%

Government participation - maximum amount: 50% of $9.00 per ft., or 497 ft. @ $4.50 ft. $2236.50

Item	Costs: Wages [1] and salaries	Equipment [2]	Supplies	Other [3]	Total	Progress: Unit	Units this month	Units previously reported	Units to date	Units authorized by contract
Drifting										
Crosscutting										
Raising										
Shafts										
Winzes										
Drill holes	2 265.00	2 122.34	2 164.07	565.71	7 117.12	Foot	497		497	
Overburden										
Rehabilitation and preparation										
Geology and geophysics										
Trenching										
Sampling and assaying										
Roads and trails										
Test pits										
Other (specify)										
Totals	2 265.00	2 122.34	2 164.07	565.71	7 117.12	Foot	497		497	

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

16—64068-1 U. S. GOVERNMENT PRINTING OFFICE

FOR GOVERNMENT USE ONLY

Checked by
Entered by
Approved by A. C. Johnson
Remarks