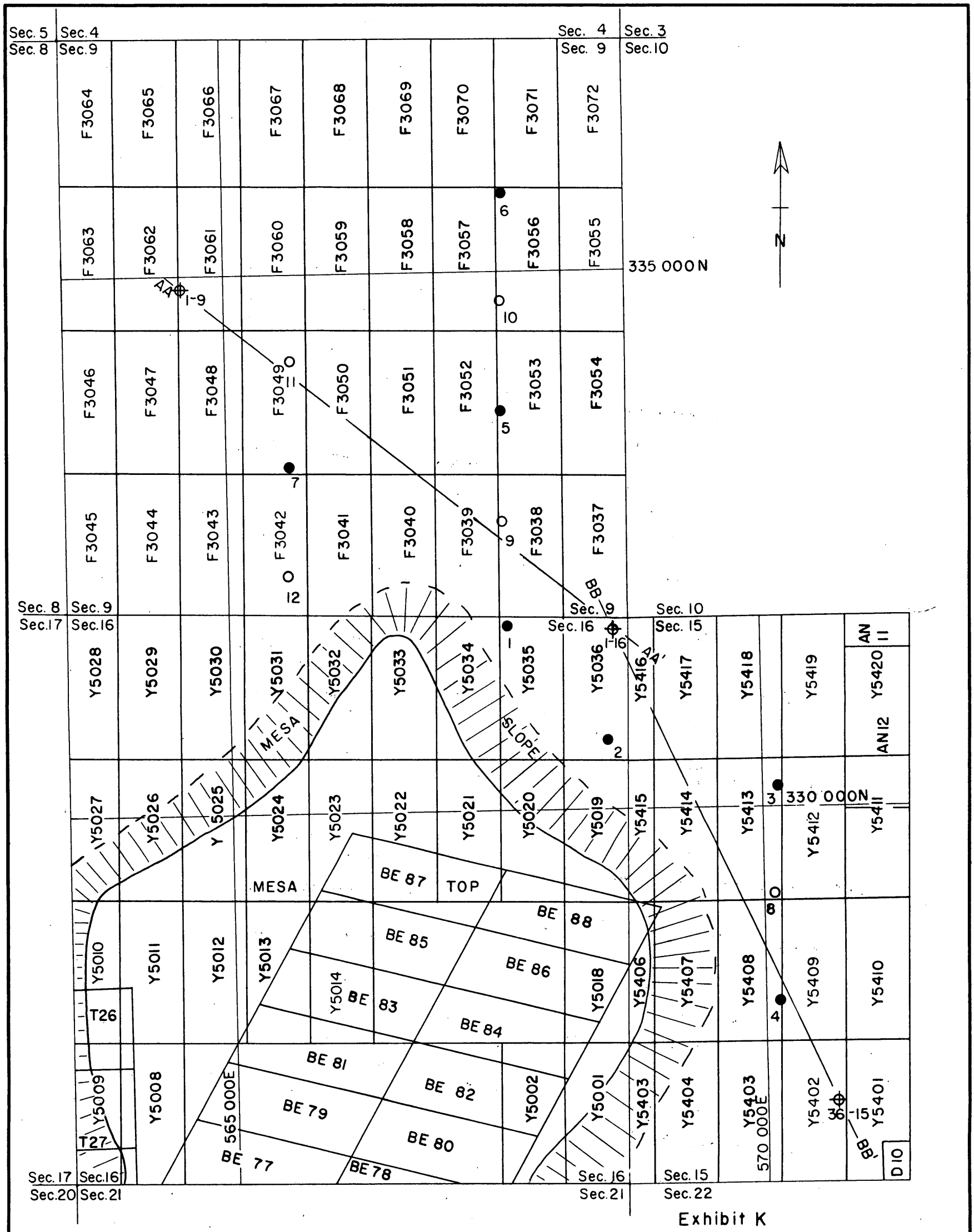


Exhibit K

AREA I

PROPOSED DRILL HOLE LOCATIONS

MC KINLEY COUNTY, N. M.

SCALE: 1" = 1000'

E. J. LONGYEAR CO. GRANTS, N.M.

AUGUST 5, 1957 B. F. SORENSEN

EXPLANATION

- ⊕ Holes previously drilled
- ● Stage I holes
- ○ Stage II holes

UNITED STATES
DEPARTMENT OF THE INTERIOR
OFFICE OF MINERALS EXPLORATION

224 New Customhouse
Denver 2, Colorado
March 26, 1959

OFFICIAL FILE COPY
O. M. E.
RECEIVED MAR 30 1959

DATE	INITIALS	CODE
3/30	C	220
"	JEP	110
	mb	700

Memorandum

To: Chairman, Operating Committee, OME

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4842 (Uranium) Contract Idm-E1183, E. J. Longyear Company, Agent, (San Mateo Dome Project) McKinley County, New Mexico - FINAL PAYMENT

Enclosed are two copies of a memorandum to T. A. Christensen, dated March 25, 1959, relative to final payment under the terms of the subject contract.

J. W. Townsend

Enclosure

20th Air Headquarters
Denver 2, Colorado
March 25, 1959

Memorandum

To: F. A. Christensen

From: Executive Officer, CAA Field Team, Region III

Subject: Docket No. [illegible] (Remedial Contract [illegible]),
K. S. Longyear Company, Agent, (San Mateo Dam Project)
McKinley County, New Mexico - FINAL PAYMENT

Reference is made to our memorandum of November 25, 1958, whereby we forwarded the final Form MP-105, Operator's Monthly Report and Voucher, for October 1958, and requested that you withhold an amount of $500.00 from reimbursement to the Operator, pending resolution of matters prerequisite to closing the account.

The Operator's final report has been received, therefore final payment to the Operator is to be made on the following basis, which is in conformance with the Report of Review of reported project costs, by the Contract Administration and Audit Division, CAA, dated March 13, 1959.

Basis for Final Payment

Total accepted cost ---------- $56,886.18

Government contribution provided by Contract:
Stage I, 75% of $59,443.25 ---------- $44,582.44
Stage II, 50% of $37,4[illegible].93 ---------- 18,711.47
Total Government contribution ---------- $63,293.91
Total prior payments ---------- 62,793.91
Balance due the Operator ---------- $ 500.00

Original
J. W. TOWNSEND
J. W. Townsend

JWC:bmh

cc: Chm. Op. Comm. (2)
Northern
Murphin
Rosale, CAA/Tac.
MP-105 file, Reg. XII
Carson file, Reg. XII
Cooper
Shank

$500.00
3/25/59

Room New Customhouse
Denver 2, Colorado

August 19, 1958

Memorandum

To: T. A. Christensen

From: Alternate Acting Executive Officer, DMEA Field Team, Reg. III

Subject: Docket DMEA 4848 (Uranium) Contract Idm-E1183, B. J. Longyear Company, Agent (San Mateo Dome Project) McKinley County, New Mexico - Operator's Monthly Progress Report for the month of July 1958

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application. Bids were not submitted for bulldozer work; however, the bulldozing rates are in line with the standard rates prevailing in the project locality for the size and make of bulldozer used on the project. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

Owing to the gradational character of the Westwater-Recapture contact, it is not possible for the Operator to determine the contact by visual examination of the drill cuttings (note engineer's comments and attached excerpt from geological interim inspection report). Therefore, the DMEA engineer and geologist concur that some excess drilling is unavoidable. Under the circumstances, it is administratively determined that the drilling is in conformance with the intent of the contract.

Concerning the engineer's comments on Circulation Materials, the contract allows a maximum of $40.00 per hole for circulating material costs in excess of $100.00; therefore, the Operator has properly reported the costs for this item of work.

Concerning the engineer's comments on Probing, the Government will not pay for probing footage in excess of the drilling footage invoiced by the drilling subcontractor.

Except for the following, we consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended for 75 percent of the amount reported on Form MF-104 for July 1958, contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

Disallow

Excess costs for 7 feet of probing at $0.115 per foot ------- $0.81

Reconciliation with Amount Reported by the Operator on Form MF-104 for July 1958

Amount reported on Form MF-104 for July 1958 ----------	$16,472.65
Amount to be disallowed ----------	.81
Acceptable cost for July 1958 ----------	$16,471.84
Government participation at 75 percent ----------	$12,353.88

REMARKS:

Date of Report ----------	August 5, 1958
Date Received in Field Office ----------	August 11, 1958
Date Received in Region Office ----------	August 14, 1958

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosures

MEN:jy

cc: Chm. Op. Comm. (2)
DMRA, TUC
MF-104 File, Reg. III
Harshman
Emerick
Cooper
Chrem.
} w/copy of Engr's Report

DMEA
DEPARTMENT OF THE INTERIOR
AUG 14 1958
REGION III
DENVER, COLORADO

August 12, 1958

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Arizona

Subject: Progress Report for July 1958, Docket DMEA-4842 (Uranium) Contract Ida-E1183, E. J. Longyear Co., Representative, (San Mateo Dome Project) McKinley County, N. Mex.

Enclosed are the original and 4 copies of each the subject report and the Operator's report that comprises a narrative section, Forms MF-104 and 104A, a map, geologic and radiometric logs for holes G-2-4, G-3-4, G-4-4, and G-5-4, and original invoices covering both the drilling and radiometric logging. Also enclosed are 4 extra copies of subject report.

The exploratory project of subject contract was inspected by me August 5, 1958 in the company of W. L. Emerick, geologist U. S. Geological Survey and B. F. Sorensen, project engineer. The field inspection included a visit to the sites of the 4 holes completed during the report period and to the 2 holes being drilled, and an inspection of sludges both of the drilling sites and a sample storage building.

The inspection of the sludges indicates rather conclusively that formational contacts cannot be definitely determined due to contamination of the samples. Furthermore, the gradational character of the W stratter-Recapture contact precludes it being pin-pointed by geophysical logs. Consequently, as stated by Mr. Sorensen in the narrative section of his report, a discrepancy is bound to exist between the contacts picked by the 2 methods.

No zones of significant radioactivity were encountered in the 4 holes completed during the report period.

Mr. Sorensen, continues to supervise the project in a creditable manner and apparently devotes full time to the job.

CC Executive Officer (Orig. & 8)
DMEA-4842
DF

TMRomslo:fr

ANALYSIS OF THE OPERATOR'S REPORT

Form MF-104

Drilling - The total for July, $13,792.50, is the cost of the 8,130 feet of authorized non-core drilling in completed holes Nos. G-2-4, G-3-4, G-4-4 and G-5-4. Per foot costs that are as specified include $1.50 for the initial 1,500 feet in each hole or 6,000 feet and $2.25 for the remaining 2,130 feet.

The holes appear to have been drilled, logged and tested for radioactivity in accordance with the contract. Furthermore, the geologic logs that Mr. Emerick and I believe are based on acceptable interpretations under the prevailing conditions, indicate the holes have been bottomed as specified at depths not exceeding 20 feet below the Westwater-Recapture contact. At my request, Mr. Emerick will confirm the findings on this problem in a memorandum to E. N. Hershman.

Original invoices covering the drilling cost and the costs for bulldozing, circulation material, probing, and stand-by time are attached to the original report.

Bulldozing - The $135.00 is for 9 hours of authorized work spent in preparing drill sites and access roads with an RD-6 tractor-dozer at the specified rate of $15.00 per hour.

Circulation Materials - The actual cost of circulation material used is $146.70 for hole G-3-4 and $549.40 for hole G-4-4, a total of $696.10. In my opinion the allowable cost is $496.10 after deducting the specified $100.00 for each hole. This opinion is based on the belief that the total allowable cost of $540.00 is chargeable against 1 or more holes. However, the operator feels that the maximum allowed is the vouchered $80.00, $40.00 for each of the 2 holes. If my interpretation is correct, I suggest that you notify the operator that he may claim the balance and instruct him as to the proper procedure.

Probing - The $935.75 is cost of probing 8,137 feet in the 4 completed holes at the specified cost of 11½ cents per foot. The probed depth exceeds the reported drilled depth by 7 feet. As probing measurements probably are more accurate than those used in drilling, participation in the cost of the 7 feet is recommended.

Stand-by time - The $66.00 is for the drillers charge of 1 hour each at holes G-3-4 and G-5-4 at the specified rate of $15.00 per hour plus the prober's charge of 1 hour for hole G-2-4 and 2.6 hours for the other 3 holes at the specified rate of $10.00 per hour.

Incidental Allowance - The $1,463.40 is the additional allowable cost of drilling the 8,130 feet at 18 cents per foot.

Totals - The total costs, $16,472.65, $7,699.59 and $24,172.24, appear to be correct.

Form MF-104-A

The form has been properly completed.

Narrative Report

The narrative report with map and geologic and radiometric logs is considered acceptable.

Original signed by
T. M. Romslo
T. M. Romslo

(Excerpt from Interim Inspection Report of August 12, 1958, by W. L. Emerick, USGS, on Contract Ida-X1183, Docket IDEA 4242, E. J. Longyear Company (San Mateo Dome Project) McKinley County, Arizona)

"Drill hole cuttings were inspected at the drill sites of the completed and currently drilling holes. All of the completed holes were carried through the Westwater Canyon member of the Morrison formation into the Recapture shale member. All of the sludge samples below the overlying Mancos shale were contaminated by large proportions (probably even as high as 95 percent) of the Mancos, and visual determination of contacts below the Mancos shale could not be made definitely. The contaminated condition is further confused by the fact that the Brushy Basin, Westwater Canyon and Recapture members of the Morrison formation interfinger. This Operator and others have found that electrical logging methods give more accurate results in placing contacts between the formations.

"Under the existing unavoidable circumstances it would be extremely difficult for the Operator to definitely pick contacts during the drilling of a hole, or to definitely know when he was 20 or 30 feet into the Recapture member. The drilling is being performed diligently and efficiently, and I concur with Mr. Ramalo's opinion that excess footage in the holes is unavoidable under the circumstances."

FORM 311A 10

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941

August 6, 1958

United States Dept. of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Marshman, Acting Executive officer
DMEA Field Team, Region III

RE: Docket No. DMEA 4842 (Uranium)
Contract 1 dm-E 1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
Mc Kinley County, New Mexico

Gentlemen:

Enclosed are the original and four copies of "Operators Unit Cost and Progress Report" covering work completed during July, 1958, on the San Mateo Dome Project under Docket No. DMEA 4842.

The original Report is supported by original or certified documentation of expenses.

We would appreciate having the check for reimbursement sent to our Denver Office.

Very truly yours,

E. J. LONGYEAR COMPANY

B. F. Sorensen

B. F. Sorensen
Project Engineer

Encl.

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

Budget Bureau No. 42-R1036.5

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED AUG 25 1958 DMEA

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of July, 1958 Docket No. DMEA 4842 Contract No. DM-E1183
Operator's Name E. J. Longyear Company, Agent, San Mateo Dome Project Minerals Uranium
Address Box 998, Grants, New Mexico
Contract Amount, $ 176,770.00 Government Participation: 75 % 50% Amount, $ 114,235.00

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:			STAGE I			
Drilling	13,792.50	7,042.00	20,834.50			
Bulldozing	135.00	45.00	180.00			
Circulation Material	80.00	2.00	82.00			
Drifting Probing	935.75	203.40	1,139.15			
Standby Time	66.00		66.00			
(2) Labor and Supervision:						
Incidental Allowance	1,463.40	366.12	1,829.52			
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
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						
Liability Insurance						
Core Boxes		41.07	41.07			
(8) Contingencies (specify):						
TOTALS	16,472.65	7,699.59	24,172.24	16471.24	7699.59	24,171.43

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

Date Aug. 5, 1958 *Payee E. J. Longyear Company

Per B. F. Sorensen Title Project Engineer

*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:

$ 12,353.88

Signature
(Authorized Certifying Officer)

Date 8/20/58 Vou. No. DMEA 59-27

(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. Idm-E1183 in accordance with the terms of the contract.

Signature M M Ramsle Title Mining Engineer Date 8/12/58

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Certified for Engineering Payment

Signature [illegible] Title alternate acting Executive Officer Date AUG 19 1958

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1962)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED AUG 25 1958 D.M.E.A.

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of July 1958 Docket No. DMEA 4842 Contract No. IDM-E1183

Operator's Name E. J. Longyear Co., Agent, San Mateo Dome Project Minerals Uranium

Address Box 998, Grants, New Mexico

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				STAGE I				
~~Shafts~~ Drill Crew Standby Hr.		30.00	2	30.00	2	15.00	13	15.00
~~Winzes~~ Logging Crew Stand Hr.		36.00	3.6	36.00	3.6	10.00	13	10.00
Drilling: Core	by Ft.			4,342.00	334	13.00	700	13.00
Non-Core ~~Churn~~ 0-1500	Feet	9,000.00	6000	11,250.00	7,500	1.50	60,000	1.50
None-Core ~~Auger~~ 1500-2200	Feet	4,792.50	2130	5,242.50	2,330	2.25	21,700	2.25
~~Stripping~~ Circulation Material		80.00	2	82.00	2.05	40.00	13	40.00
~~Trenching~~ Probing	Feet	935.75	8137	1,139.15	10,171	0.112	82,400	0.115
~~Test Pits~~ Core Boxes	Boxes			41.07	35	1.17	70	1.25
~~Roads and Trails~~ Bulldozing	Hour	135.00	9	180.00	12	15.00	40	15.00
Incidental Allowance	Feet	1,463.40	8130	1,829.52	10,161	0.18	82,400	0.18
TOTAL DISTRIBUTED COSTS		16,472.65		24,172.24				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS		16,472.65		24,172.24				176,770.00

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

Date Aug. 5, 1958 Operator E. J. Longyear Company

Per B. F. Sorensen Title Project Engineer

B. F. Sorensen

REMARKS: On probing: The units to date do not match the drilling units; however it is known that the probing measurements are more correct; therefore, the amount billed by the logging company is herewith submitted. However, it is understood that only a certain number of units are authorized and when this amount is reached no more will be submitted.

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)

W. Ronsio

INSTRUCTIONS

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

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

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

GPO 872894

FORM 311A 10M 8-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

Grants, New Mexico
August 6, 1958

United States Dept. of the Interior
Defense Minerals Exploration Adm.
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting Executive ~~Officer~~
DMEA Field Team, Region III

Progress Report No. 3 (July, 1958) RE: Docket No. DMEA 4642 (Uranium)
Contract Idm - E 1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
Mc Kinley County, New Mexico

Gentlemen:

On July 1, 1958 a second drill rig was put in the field and drilling has since been on a two rig basis. During the month, Hole G-2-4, which was started during June, was completed, Holes G-3-4, G-4-4, and G-5-4 were started and completed, and Holes G-6-4 and G-7-3 were started.

Probing results in the completed holes show no above background radioactivity and all holes completed to date are considered barren.

At the present rate of progress it is anticipated that Stage 1 drilling will be 85% complete by September 1, 1958.

Drilling (See attached map for hole locations)

Drilling thru July 28 was on a two rig basis of one 12 hour shift per day for each rig. On July 28 one rig was put on a 2-shift per day basis, each shift being for 8 hours. Crews on each rig maintained a working schedule throughout the month of 10 straight days on and 4 days off.

Rig breakdown and lost curculation problems resulted in several lost drilling days. A breakdown of time for the month shows: Each rig drilling only 16 days, an average of 7 days lost per rig because of lost circulation and breakdowns, and each rig crew off 8 days. Drilling progress per calendar day was 207 feet or 103 feet per rig.

United States Dept. of the Interior

No. 2

Hole G-2-4 - Started June 16. Bottomed July 3 at 2020 feet after penetrating the Recapture approximately 20 feet. The hole was completed in 18 days at a rate of 112 feet per calendar day. A cone from the drill bit was lodged in the hole on June 24 and 4 days were lost fishing it out.

Hole G-3-4 - Started July 1. Completed July 17 at a depth of 2030 feet. Approximately 50 feet of the Recapture was penetrated. Drilling time averaged 113 feet per calendar day. Lost circulation trouble resulted in 5 lost drilling days, and the drillers were off 4 days.

Hole G-4-4 - Started on July 4. A depth of 860 feet was reached on July 7, at which time circulation was lost. The hole was cemented and re-drilled to 350 feet on July 9. Drill rig mechanical failure resulted in 4 lost days during which time the hole became inaccessible and on July 18 the hole was re-started. The hole was completed July 31 at 2020 feet after penetrating the Recapture approximately 20-40 feet. On July 28, two shifts were started to better control lost circulation. Each shift worked 8 hours, making each working day 16 hours long. Total feet drilled to complete the hole were 3240 feet in 28 days. During this time 8 days were not worked, 4 days were lost because of mechanical failures, and 3 days lost because of lost circulation. Drilling time for the completed hole averaged 72 feet per calendar day.

Hole G-5-4 - Started July 19. Completed on July 31 at a depth of 2060 feet. The Recapture was penetrated approximately 50 feet. The hole was completed in 13 calendar days for an average of 158 feet per day. The drill crew did not work during the period July 24 - 27.

Hole G-6-4 - Started July 31. Present depth 1500 feet.

Hole G-7-3 - Started July 31. Present depth 1200 feet.

Probing (See attached hole cross-sections)

Hole G-2-4 - Probed July 3, 1958 to a depth of 2020 feet. No above background radioactivity was recorded and the hole is considered barren. A sand interval from 1800 feet to 1850 feet could possibly be the Poison Canyon sand; however, it is grouped with the Westwater, which extends to 1999 feet. Shale breacks occur at 1850 feet and 1915 feet.

Hole G-3-4 - Probed to 2027 feet on July 17. Radioactivity of double background magnitude was recorded at 1828 feet in what is believed to be the Poison Canyon sand; however, the count is not thought to be high enough to indicate mineralization, and the hole is considered barren.

The Westwater member is 162 feet thick, beginning at 1816 feet.

COPY

U. S. Department of the Interior

No. 3

The first 25 feet, referred to above, is thought to be the Poison Canyon sand. This sand is separated from the main body of the Westwater by a 13 foot shale zone. Other shale breaks occur at 1910 and 1942 feet. The Recapture shale and mudstone beds could not be recognized in the sludge samples; however, the geophysical log shows a definite contact at 1978 feet.

Hole G-4-4 - Probed to 2025 feet on July 31. No above background radioactivity was recorded and the hole is considered barren. The Westwater member is over 150 feet thick, beginning at 1828 feet. The Westwater - Recapture contact is gradational and cannot be definitely determined; however, it is thought to be between 1980 and 2011 feet. The electrical log shows the hole to be 2025 feet deep (drilled depth was recorded as 2020 feet). No Poison Canyon sand could be recognized.

Hole G-5-4 - Probed to 2073 feet on July 31. No above background radioactivity was recorded and the hole is considered barren. The Westwater sand is at 1885 feet and extends to approximately 2020 feet. The Westwater - Recapture contact cannot be definitely determined. Shale breaks occur in the Westwater at 1895, 1915, and 1965 feet. It is possible the Poison Canyon sand exists between 1885 feet and 1916 feet, but this can only be surmised.

Note:

Because only the formations below the Dakota are thought to be important as uranium host rocks, only the original of this Report is supported by a geophysical log of the entire footage in each drill hole. Only the footage below the Dakota appears on the geophysical logs supporting the four copies of the Report. However, if it is thought necessary, copies of the entire logs can be submitted with each copy of the Report.

Sampling (See attached lithologic logs)

Dust and/ or sludge samples were collected from every 10 feet of hole drilled. The samples were logged by a geologist and those through the Westwater were checked for radioactivity with a geiger counter. None of the samples checked showed any radioactivity above background. Samples through the Westwater were sacked and saved for study by the Government.

Contacts cannot be definitely determined from the samples because of contamination. Therefore, there exists some discrepancies between contacts picked from a study of the sludge samples and those picked from the geophysical logs. This difference is not great; however, contacts used as reference points are taken from geophysical logs because of their greater accuracy.

COPY

United States Dept. of the Interior

No. 4

Drilling and Related Costs (For Month of July, 1958)

Actual Costs (Stage 1)

Category (1) Independent Contracts	Cost to SMDP	Cost submitted to DMEA
6,000 feet of non-core drilling 0 - 1,500 ft. depths, @ $1,50/ft.	$9,000.00	$9,000.00
2,130 feet non-core drilling 1,500 - 2,200 ft. depths, @ $2.25/ft.	4,792.50	4,792.50
2 hrs. drill crew standby time @ $15.00/hr.	30.00	30.00
8,137 feet probing and logging @ $0.115/ft.	935.75	935.75
5.6 hrs. logging & standby time @ $10.00/hr.	56.00	36.00
Cost of lost circulation material in excess of $100.00 per hole	496.10	80.00
10 hrs. bulldozing @ $15.00/hr.	150.00	135.00
Fixed Unit Costs		
Incidental Allowance for each foot of hole drilled, 8,130 feet @ $0.18/ft.	1,463.40	1,463.40
2% New Mexico School Tax	280.75	
Grand Total:	$17,204.50	$16,472.65

Total expenditure submitted to DMEA for July, 1958 $16,472.65

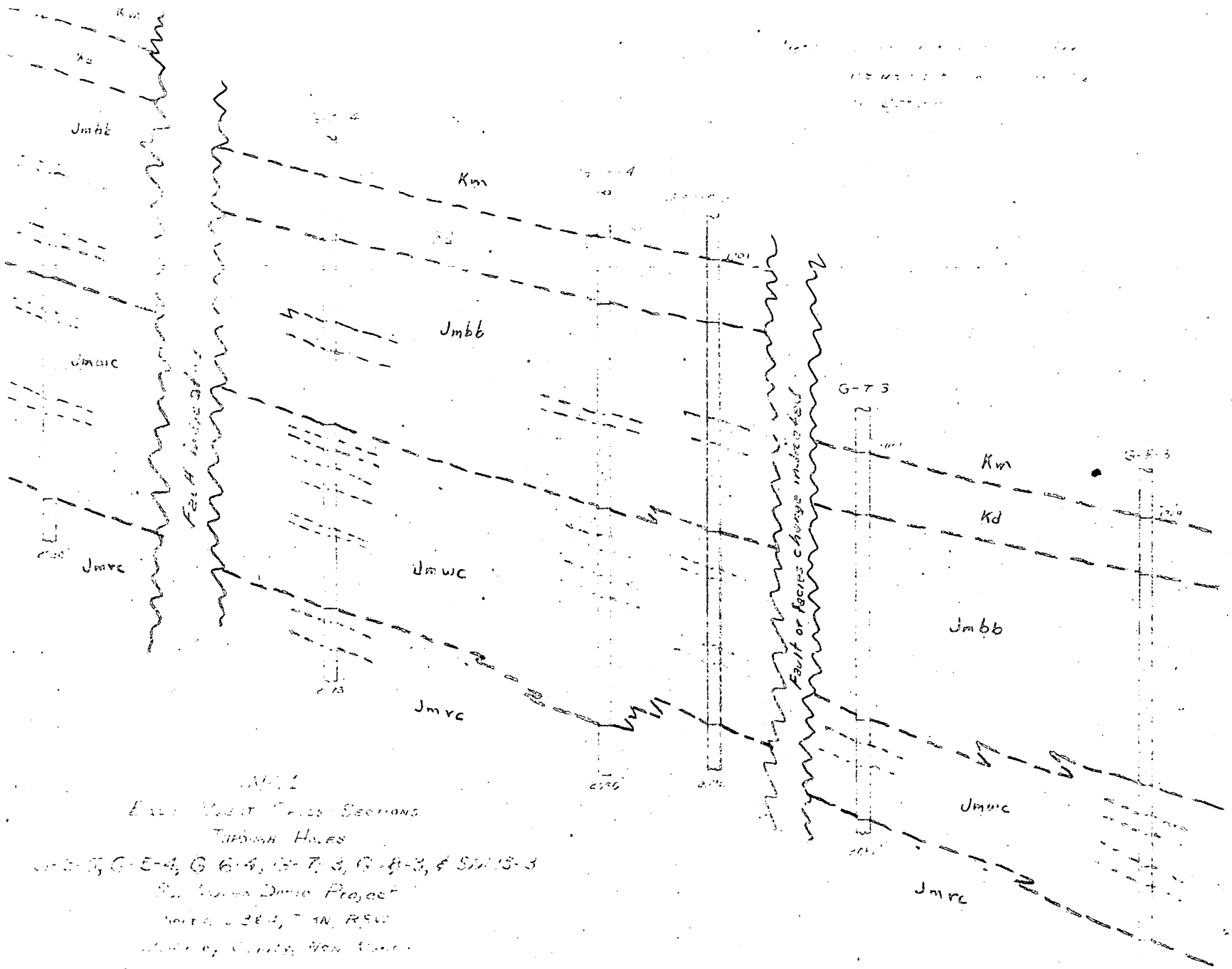
Government participation @ 75% $12,354.49

E.J. LONGYEAR COMPANY

B. F. Sorensen

B. F. Sorensen
Project Engineer

COPY



No. 1

East West Cross Sections

Through Holes

G-5-3, G-5-4, G-6-4, G-7-3, G-8-3, & SDH 15-3

San Juan Basin Project

Sec. 3, T 31 N, R 15 W

Made by Conoco, New Mexico

E.J. Dangelmayer Aug. 1984

Scale 1"=

OFFICIAL FILE COPY
O. M. E.
RECEIVED OCT 8 1958

DATE	INITIALS	CODE
10/8	C.	330
11		
		110
		700

FINAL DISTRIBUTION
MADE OCT 6 1958

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

Administrative Audit Difference Statement

Date: October 2, 1958
Payee's Reference: August 1958

DMEA-484V

San Mateo Dome Project
E. J. Longyear Company, Agent
416 Colorado Building
Denver, Colorado

Gentlemen:

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

Amount Claimed $ 24,753.36

Difference $ 41.42

Amount Approved $ 24,711.94

The reason for the difference was due to:

Disallowance, Logging Crew Standby Time

The Operator has reported the cost of 4 hours travel time for the logging crew, under "Logging Crew Standby Time." The contract does not provide for travel time; therefore, the reported cost for logging crew travel time is disallowed as follows:

Reported cost, 6 hours Standby time at $10.00 per hour	$60.00
Allowable cost 2 hours actual Standby time at $10.00 per hour	20.00
Amount disallowed	$40.00

(CONTINUED ON ATTACHED SHEET)

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N. E. Stokes
Audit Section

R-III-B & F Form No. 4
4-15-52 D

Disallowance, Self Potential Probing

The Operator has failed to report 95 feet of drilling for the period; therefore, self potential probing for 95 feet of unreported drilling is disallowed as follows:

Disallowed, reported cost for 95 feet self potential probing at $0.15 per foot ---------- $1.42

Total amount to be disallowed ---------- $41.42

224 New Customhouse
Denver 2, Colorado
Sept. 30, 1958

Memorandum

To: T. A. Christensen

From: Acting Executive Officer, ORE Field Team, Region III

Subject: Docket No. DMEA 4842 (Uranium) Contract Idm-K1183, R. J. Longyear Co., Agent, (San Mateo Dome Project) McKinley County, New Mexico - Operator's Monthly Progress Report for the month of August 1958

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract, and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

Except as otherwise indicated below, we consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended on the following basis contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

<u>Disallowance, Logging Crew Standby Time</u>

The Operator has reported the cost of 4 hours travel time for the logging crew, under "Logging Crew Standby Time." The contract does not provide for travel time, therefore the reported cost for logging crew travel time is to be disallowed as follows:

Reported cost, 6 hours Standby time at $10.00 per hour	$60.00
Allowable cost 2 hours actual Standby time at $10.00 per hour	20.00
Amount to be disallowed	$40.00

Disallowance, Self Potential Probing

The Operator has failed to report 95 feet of drilling for the period; therefore, self potential probing for 95 feet of unreported drilling is to be disallowed as follows:

Disallow, reported cost for 95 feet self potential probing at $0.15 per foot-----$14.42

Total amount to be disallowed---------- $ 41.42

Reconciliation with Amount Reported by the Operator on Form MF-104 for the month of August, 1958

Amount reported on Form MF-104 for August, 1958----------	$24,753.36
Amount to be disallowed----------	41.42
Acceptable cost for August, 1958----------	$24,711.94
Government participation at 75 percent----------	$18,533.96

Remarks:

Date of Report----------September 2, 1958
Date Received in Field Office----------September 8, 1958
Date Received in Region Office----------September 15, 1958

Original signed by
E. N. HARSHMAN
E. N. Harshman

Enclosures

JBC:hsh

cc: Chmn. Op.Comm. (2)
Romale, GMR/Inc.
MF-104 file, Reg. III
Harshman)
Emerick) w/copy Engr's Report
Cooper)
Chron

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

September 10, 1958

Memorandum

To: J. W. Townsend, Alternate Acting Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject: Progress Report for August 1958, Docket DMEA-4842 (Uranium) Contract Ida-E1183, E. J. Longyear Co., R presentative (San Mateo Dome Project) McKinley County, N. Mex.

Enclosed are the original and 4 copies of each the subject report and the operator's report that comprises a narrative section, a location map, a section through drill holes, and geologic and radiometric logs of holes. Also enclosed are the original invoices covering both the drilling and the logging, and 4 extra copies of subject report.

The inspection of the exploratory project of captioned contract was made by me September 3 and 4, 1958 in the company of B. F. Sorenson, Project Engineer. Maps, sections and logs were reviewed at the company's office in Grants before field work that included an inspection of core and cuttings from the hole completed and in progress during the report period.

The following are the pertinent findings of the inspection:

1. Six holes, G-6-4, G-7-3, G-8-3, G-10-27, G-11-34 and G-12-27, were completed during the report period for a total of 12,335 feet of drilling. All of these holes were drilled in accordance with the contract except G-8-3 that was bottomed at 2,295 feet or 95 feet below the specified maximum of 2,200 feet.

CC Alternate Act. Exec. Off.(Orig. & 8)
DMEA-4842
DF

TMRomslo:fr

2. Holes G-9-27 and G-13-27, the last of the 13 holes of Stage I, were being drilled.

3. All completed holes had been both geologically and radiometrically logged.

4. No ~~zones~~ of above background radioactivity were encountered in the completed holes.

5. Mr. Sorensen continues to supervise the project in an excellent manner and apparently devotes full time to the work.

ANALYSIS OF THE OPERATOR'S REPORT

Form MF-104

Drilling - The $20,790.00 is the cost of the 12,240 feet of authorized drilling in the 6 completed holes. Per foot costs are as specified by the contract and include $1.50 for the initial 1,500 feet in each hole or 9,000 feet and $2.25 for the remaining 3,240 feet. Hole G-8-3 that was drilled to 2,295 feet was the only one bottomed below the specified maximum of 2,200 feet. The project engineer has satisfactorily explained why the hole was drilled deeper than necessary and has not included in the voucher the cost of the 95 feet of excessive drilling.

Original invoices covering the costs of drilling, probing, bulldozing and stand-by time are attached to original copy of the report.

Bulldozing - The $285.00 is for 19 hours spent in preparing drill sites and access roads with an RD-6 tractor-dozer at the specified rate of $15.00 per hour.

Probing - The approved cost of probing is $1,376.24. It includes $1,224.00 for 12,240 feet of Gamma-R logging at 10 cents a foot and $152.24 for 10,149 feet of S. P. logging at 1½ cents a foot. The difference between the vouchered $1,377.66 and the approved $1,376.24 is $1.42, the cost of the S. P. logging of the 95 feet of excessive footage in hole G-8-3.

Standby Time - The approved cost for stand-by time is $57.50 or $40.00 less than the vouchered $97.50. Of the approved cost of $57.50, $37.50 is for the drilling standby time of 1 hour at hole G-10-27 and 1.5 hours at hole G-12-27, or 2.5 hours at $15.00 per hour. The remaining approved cost of $20.00 is for 2 hours of logging standby time at $10.00 an hour. The disapproved $40.00 probably represents 4 hours of the 7.5 hours of drive time that was charged by the logging contractor. Drive time, time consumed on round trips from Grants, N. Mex., is not considered as standby time and therefore has been disallowed.

Incidental Allowance - The $2,203.20 is the additional allowable cost of drilling the 12,240 feet of hole at 18 cents a foot.

Totals - The $24,753.36, $24,172.24 and $48,925.60 appear to be correct before the disallowed $0.81 for probing during July and the presently disapproved $1.42 for probing and $40.00 for standby time.

Form MF-104A

The form has been correctly completed except that the August costs of non-core drilling from 1,500 to 2,200 feet should be $7,290.00 instead of the reported $2,290.00.

Narrative Report

The narrative report with map, section, and geologic and radiometric logs is presented in an excellent manner.

Original signed by
T. M. Romslo

T. M. Romslo

COPY

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

Grants, New Mexico
September 2, 1958

United States Department of the Interior
Defense Minerals Exploration Administration
234 New Customhouse
Denver 2, Colorado

Attention: E. H. Harshman, Acting Executive Officer
DMEA Field Team, Region III

RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Enclosed are the original and four copies of "Operators Unit Cost and Progress Report" covering work completed during August, 1958, on the San Mateo Dome Project under Docket No. DMEA 4842.

The original Report is supported by original or certified documentation of expenses.

We would appreciate having the check for reimbursement sent to our Denver Office.

Very truly yours,

E. J. LONGYEAR COMPANY

B. F. Sorensen
B. F. Sorensen
Project Engineer

Encl.

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED SEP 1958

DMEA
DEPARTMENT OF THE INTERIOR
Budget Bureau No. 42-R1036.5
SEP 15 1958
REGION III
DENVER, COLORADO

OPERATOR'S MONTHLY REPORT AND VOUCHER

Month of August 195 8 Docket No. DMEA 4842 Contract No. IDM-E1183
Operator's Name E. J. Longyear Company, Agent, San Mateo Dome Proj. Minerals Uranium
Address P. O. Box 998, Grants, New Mexico
Contract Amount, $ 176,770.00 Government Participation: 75 % 4.50% Amount, $ 114,235.00

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
	S T A C E - I					
(1) Independent Short Form Contracts:						
Drilling	20,790.00	20,834.50	41,624.50			
Circulation Material	285.00	180.00	465.00			
Crosscutting	------	82.00	82.00			
Probing	1,377.66	1,139.15	2,516.81			
Drifting	97.50	66.00	163.50			
Stand by Time						
(2) Labor and Supervision:						
Allow.	2,203.20	1,829.52	4,032.72			
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
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						
Liability Insurance						
Core Boxes		41.07	41.07			
(8) Contingencies (specify):						
TOTALS	~~24,753.36~~	~~24,172.24~~	~~48,925.60~~	24,711.94	24,172.24	48,884.18

I certify that the above bill is correct and just and that payment therefor has not been received.
Date Sept. 2, 1958 *Payee E. J. Longyear Company
Per B. F. Sorensen Title Project Engineer

*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.

Obviously disallowed (Instructions on reverse)

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of: 24171.43 48883.37 96
$ 18533

Signature
(Authorized Certifying Officer)
Date 10/3/58 Vou. No. DMEA 59-44
(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. 14m-E1183 in accordance with the terms of the contract.

Signature [illegible] Title Mining Engineer Date 9/10/58

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE:

Checked for Engineering Allowability

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

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED OCT 8 1958 O.M.E.

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

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

Month of August 8 195 Docket No. DMEA 4842 Contract No. IDM-E1183
Operator's Name E. J. Longyear Company, Agent, San Mateo Dome Project Minerals Uranium
Address P. O. Box 998, Grants, New Mexico

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
			STAGE 1					
Drifting								
Crosscutting								
Raising								
Shafts								
Winzes								
Drilling: Core								
Drill Crew Stand by	Hr	37.50	2.5	67.50	4.5	15.00	13	15.00
Logging Crew Stand by	Hr	60.00	6.0	96.00	9.6	10.00	13	10.00
Non-Core 0-1500	feet	------	------	4,342.00	334	13.00	700	13.00
Non-Core 1500-2200	feet	13,500.00	9,000	24,750.00	16,500	1.50	19,500	1.50
Circulation Mud		2,290.00	3,240	12,532.50	5,570	2.25	6,000	2.25
Probing	feet	------	------	82.00	2.05	40.00	13	40.00
Core Boxes	Boxes	1,377.66	12,240	2,516.81	22,404	0.112	26,200	0.115
Bulldozing	Hr.	------	----	41.07	35	1.17	70	1.25
Incidental Allowance	feet	285.00	19	465.00	31	15.00	40	15.00
		2,203.20	12,240	4,032.72	22,404	0.18	26,200	0.18
Total Distributed Costs		24,753.36		48,925.60				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		24,753.36		48,925.60				

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 Sept. 2, 1958 Operator E. J. Longyear Company

Per B. F. Sorensen Title Project Engineer

B. F. Sorensen

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)

D M Romslo

INSTRUCTIONS

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

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

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

GPO 872894

COPY

DMEA
DEPARTMENT OF THE INTERIOR
SEP 15 1958
REGION III
DENVER, COLORADO

Grants, New Mexico
September 2, 1958

United States Department of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III

Progress Report No. 4 (August, 1958) RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
N. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Drilling during August was on a two rig basis. During the period August 1 to 10 one rig worked one 12 hour shift per day, then on August 11 went on a two shift per day basis of eight hours per shift. The other rig worked the entire month on a two shift per day basis, each shift being for eight hours. Progress for the month shows Holes G-6-4 and G-7-3 completed, Holes G-8-3, G-10-27, G-11-34 and G-12-27 started and completed, and Hole G-9-27 started. Hole G-9-27 is being cored through the Westwater member of the Morrison formation.

Probing results in the completed holes show no above background radioactivity, and all holes completed to date (11) are considered barren.

At the present rate of progress it is anticipated that Stage I drilling will be completed early in September. Stage III drilling will start during the first week of September and should be completed by November 1, 1958.

Drilling (See attached Map for hole locations)

Two rigs were in operation throughout the month on a schedule of 10 straight days on and 4 days off. Drill crews worked 23 days during the month, and were off 8 days. Footage drilled was 12,335 feet in 6 completed holes, and 1745 feet in another hole as yet incomplete. Average feet drilled per calendar day was 454, or 227 feet per day per rig. Of the total footage drilled during the month, only 12,240 is submitted to DMEA for reimbursement.

COPY

U. S. Dept. of the Interior (DMEA) September 2, 1958

Hole G-6-4- Started July 31. Bottomed on August 7 at 2050 feet after penetrating the Recapture approximately 36 feet. Circulation was lost at approximately 1880 feet and was not regained thereafter upon completion of the hole. Time for completion was 8 days, of which 2 days were lost because of mechanical troubles. Average feet of advance per calendar day was 256.

Hole G-7-3- Started July 31. Bottomed on August 13 at a depth of 2070 feet. The Recapture was penetrated approximately 10 feet (See Probing). A total of 2070 feet was drilled in 14 days for an average of 148 feet per calendar day. The drill crews did not work during the period August 7-10.

Hole G-8-3- Started August 11. Bottomed on August 16 at a depth of 2295 feet after penetrating the Recapture approximately 55 feet (see probing results). The hole was completed in 6 days for an average advance of 382 feet per calendar day.

Hole G-9-27- Started August 20. Present depth is 1745 feet. The hole will be cored through the Westwater, starting at approximately 1650 feet. It is expected that the hole will bottom early in September.

Hole G-10-27- Started August 12. Bottomed August 19 at a depth of 1950 feet after penetrating the Recapture approximately 62 feet (see probing results). The hole was completed in 8 days for an average advance of 244 feet per calendar day. One day was lost because of a mechanical breakdown.

Hole G-11-34- Started August 17. Bottomed on August 25 at a depth of 1880 feet. The Recapture was penetrated approximately 40 feet (see probing results). The hole was completed in 9 days for an average advance of 209 feet per calendar day. The drill crews did not work during the period August 21-24.

Hole G-12-27- Started August 26. Bottomed August 31 after penetrating the Recapture approximately 63 feet. Average advance per calendar day was 350 feet.

Sampling (See attached lithologic logs)

Dust and/or sludge samples were collected from every 10 feet of hole drilled. The samples were logged by a geologist and those through the Westwater were checked for radioactivity with a geiger counter. None of the samples checked showed radioactivity above background. Samples through the Westwater were sacked and saved for study by the Government.

Contacts cannot be definitely determined from samples because of contamination. Therefore, there exists some descripances between contacts picked from a study of the sludge samples and those picked from the geophysical logs. This difference is not great; however, contacts used as reference points are taken from geophysical logs because of their greater accuracy. In all holes drilled sludge samples indicated that the Recapture had been penetrated at least 20 feet.

COPY

Probing (See attached Electric logs and Cross-sections)

Hole G-6-4- Probed to 2034 feet on August 7. No above background radioactivity was recorded and the hole is considered barren. The Westwater is thought to extend from 1862 feet to 2014 feet. A sand interval from 1862 feet to 1902 feet could be the Poison Canyon sand; however, it is included as part of the Westwater.

Hole G-7-3- Probed to 2081 feet on August 13. No above background radioactivity was recorded and the hole is considered barren. The Westwater sand extends from 1997 to 2070 feet. Drilling records show the hole to be drilled to only 2070 feet; however, probing shows the hole to be at least 2081 feet deep. The Recapture is indicated at 2070 feet. The Westwater sand extends from 1997 feet to 2070 feet, being only 73 feet thick. Cross-section No. 1, a east-west section through Holes G-3-4, G-5-4, G-6-4, SM 15-3, G-7-3, and G-8-3 indicates faulting between Holes SM 15-3 and G-7-3, which may account for the thinning of the Westwater. It can also be seen from the cross-section that formations fall off rapidly to the east in section 3, and that the holes drilled in section 3 are on the SE flank of the San Mateo Dome. In view of the structure indicated by the cross-section, it is felt that any more drilling in the area east of the section line between section 3 and section 4 is not warranted.

Hole G-8-3- Probed to 2295 feet on August 16. No above background radioactivity was recorded and the hole is considered barren. The Westwater is thought to extend from 2126 to 2240 feet. A sand interval between 2126 and 2148 feet could be the Poison Canyon sand; however, it is included as part of the Westwater. Because sludge samples did not indicated that the Recapture was penetrated, the hole was drilled to 2295 feet. It was not known until after the hole was logged by geophysical methods that an excess of Recapture had been drilled. In view of this, only the footage to 2200 feet was submitted to DMEA for reimbursement.

Hole G-10-27- Probed to 1930 feet on August 20. No above background radioactivity was recorded and the hole is considered barren. No Poison Canyon sand is indicated. The Westwater is thought to extend from 1760 to 1888 feet. An excess of Recapture was drilled because sludge samples indicated that the Recapture had been penetrated at 1920 feet. It is thought that the contact is gradational and not an abrupt change from sand to shale.

Hole G-11-34- Probed to 1875 feet on August 25. No above background radioactivity was noted and the hole is considered barren. The Westwater extends from 1700 feet to 1838 feet. A sandstone bed exists between 1657 and 1678 feet that could be the Poison Canyon sand; however, it is separated from the main body of the Westwater by 21 feet of shale and is included as part of the Brushy Basin member.

Hole G-12-27- Probed to 2090 feet on August 31. No above background radioactivity was recorded and the hole is considered barren. The Westwater extends from 1896 to 2027 feet. A sandstone bed exists between 1854 and 1874 feet that could be the Poison Canyon sand; however, it is separated from the main body of the Westwater by 22 feet of shale and is included as part of the Brushy Basin member.

COPY

Note: Because only the formations below the Dakota are thought to be important as uranium host rocks in this area, only the original of this Report is supported by a geophysical log of the entire footage in each drill hole. Only the footage below the Dakota appears on the logs supporting the four copies of the Report. However, if it is thought necessary, copies of the entire logs can be had upon request.

General

In as much as Stage 1 drilling will be completed early in September it might be mentioned here that following the completion of Stage 1 drilling a request will be made to DMEA for permission to carry out Stage II drilling.

Because of previous commitments, other than DMEA, that have imposed a heavy work load on this Office for September, it is anticipated that the above mentioned request will not be submitted until early October.

Drilling and Related Costs (For Month of August, 1958)

Actual Costs (Stage 1)

Category (1) Independent Contracts	Cost to [illegible]	Cost submitted to DMEA
9,000 feet of non-core drilling 0 - 1,500 ft. depths, @ $1.50/ft.	13,500.00	13,500.00
3,335 feet non-core drilling 1,500 - 2,200 ft. depths, @ $2.23/ft.	7,503.75	7,290.00
2.5 hrs. drill crew standby time @ $15.00/hr.	37.50	37.50
12,325 feet probing and logging @ $0.112/ft.	1,386.16	1,377.66
9.5 hrs. logging and standby time @ $10.00/hr.	95.00	60.00
Cost of lost circulation material in excess of $100.00 per hole	------	------
19 hrs. bulldozing @ $15.00/hr.	285.00	285.00
Fixed Unit Costs		
Incidental Allowance for each foot of hole drilled, 12,335 feet @ $0.18/ft.	2,220.30	2,203.20
2% New Mexico School Tax	436.53	------
Grand Total:	$25,454.24	$24,753.36

Total expenditure submitted to DMEA for August, 1958: $24,753.36

Government participation @ 75%: $18,565.02

R. J. LONGYEAR COMPANY

B. F. Sorensen
Project Engineer

OFFICE OF MINERALS EXPLORATION
224 New Customhouse
Denver 2, Colorado
November 24, 1958

Memorandum

To: T. A. Christensen

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4842 (Uranium) Contract IAm-E1183, E. J. Longyear Co., Representative, (San Mateo Dome Project) McKinley County, New Mexico - Operator's Monthly Progress Report for the month of October, 1958

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract, and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application. Bids were not submitted for bulldozer work; however, the bulldozing rates are in line with the standard rates prevailing in the project locality for the size and make of bulldozer used on the project. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

We consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended for 50 percent of the amount reported on Form MF-104 for October 1958, contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations, except for the following deduction:

Withhold an amount of $500.00 pending performance of additional work, or closing the account. All work under Stages I and III has been completed, and Government approval has not been granted for any of the work under Stages II and IV.

Hold 915 - 922 - Jude

Remarks:

Date of Report----------November 1, 1958
Date Received in Field Office----------November 13, 1958
Date Received in Region Office----------November 21, 1958

Original signed by
J. W. TOWNSEND
J. W. Townsend

Enclosures

JWT:bmh

cc: Chem. Op. Comm. (2)
Rosalo, CMR/Inc.
NF-104 file, Reg. III
Barshman } w/copy of Engr's
Cooper } Report
Caren

OME
DEPARTMENT OF THE INTERIOR

NOV 21 1958

REGION III
DENVER, COLORADO

November 18, 1958

Memorandum

To: J. W. Townsend, Executive Officer, OME Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject: Progress Report for October 1958, Docket DMEA-4842 (Uranium) Contract Idn-E1183, E. J. Longyear Co., Representative (San Mateo Dome Project) McKinley County, N. Mex.

Enclosed are the original and 4 copies of each the subject report and the operator's report that comprises a narrative section, Forms MF-104 and 104A, a location map, and geologic and radiometric logs. Also inclosed are 4 extra copies of subject report.

A progress inspection of the exploratory project of captioned contract was made by me October 14 and 16, 1958 in the company of W. L. Emerick, geologist, U. S. Geological Survey and B. F. Sorensen, project engineer. It included a review of maps and logs of completed holes at the operator's office in Grants, N. Mex. and a field inspection of drill sites, cores and sludges. The findings which follow are supplemental to those included in my Progress Report for September 1958.

Work completed to October 16, 1958 in addition to that previously reported included the non-core drilling and logging of holes Nos. G-18-32, G-19-32 and G-21-32. Work in progress was confined to the non-core drilling of holes Nos. G-20-32 and G-22-32, the last of the authorized 9 holes of Stage III. They had been drilled to respective depths of 1790 and 1220 feet. According to the Operator's Report, these 2 holes were bottomed October 24, 1958 and then were radiometrically logged. The data submitted with the Operator's Report is considered sufficient evidence that the 2 holes were completed without an on site inspection of the project.

CC Exec. Officer (Orig. & 8)
DMEA-4842
DF

TMRomslo:fr]

The total footage drilled in the 5 completed holes was 10,340 of which 10,310 is allowable after deducting 30 feet of drilling (10 feet in hole G-18-32 and 20 feet in hole G-21-32) beyond the specified maximum of 20 feet in the Recapture formation.

The results of probing the 22 completed holes, 13 of Stage I and 9 of Stage III, indicates that 20 of the holes are barren and that the extent and degree of mineralization in the other 2 holes is not significant. Mineralization in the 2 holes, G-15-32 and G-16-32, occurs in the Poison Canyon sandstone at a depth of about 1880 feet and amounts to an indicated 1 to 3 feet of 0.03 to 0.04 percent eU_3O_8.

The operator has proposed that the contract be amended to change the location of 6 of the 8 holes of Stage IV to a presently unsubordinated area that is adjacent to the above mentioned 2 slightly mineralized holes. Recommendations relative to the proposal will shortly be submitted by Mr. Emerick and me.

ANALYSES OF THE OPERATOR'S REPORT

Form MF-104

Actual Costs - Documented by the certified invoices attached to the original copy of the Operator's report.

Drilling - The $17,572.50 is the cost of the 10,310 feet of approved non-core drilling in the 5 completed holes. It includes $11,250.00 for 7500 feet of drilling to depths of 1500 feet or less at $1.50 a foot and $6,322.50 for the 2810 feet of deeper drilling at $2.25 a foot.

Bulldozing - A total of 7½ hours was spent in the preparation of drilling sites and access roads with an RD-6 tractor-dozer at $15.00 per hour. As previous vouchers cover 8 of the authorized maximum of 12 hours for such work, the operator accordingly has charged to the project $60.00 for the remaining 4 hours of allowable work.

Probing - The $1124.09 is an allowable cost that includes $1031.00 for the Gamma-R logging of the allowable 10,310 feet of hole at 10 cents a foot, and $93.09 for the S.P. logging of 6206 feet of hole at 1½ cents a foot. The 6206 feet of S. P. logging does not include the 30 feet of excessive hole.

Stand-by Time - The $74.50 is an allowable cost that includes $7.50 for ½ hour of the 2 hours of drill-crew time at $15.00 per hour and $67.00 for 6.7 hours of logging-crew time at $10.00 per hour.

Fixed Costs -

Incidental Allowance - The $1,855.80 is the additional allowable cost of the 10,310 feet of drilling at 18 cents a foot.

Totals - The monthly total of $20,686.89 appears to be correct. The other totals, $76,200.10 and $96,886.99 also appear to be correct before the $0.81 disallowance of the July voucher.

Form MF-104A

The 2 sheets of this form have been properly completed.

Narrative Report

The narrative report with map and geologic and radiometric logs is acceptable.

T. M. Rosale

T. M. Rosale

FORM 311A 10M 8-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941
CABLE ADDRESS
"LONGCODENVER"

Grants, New Mexico
November 1, 1958

United States Dept. of the Interior
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting Executive Officer
OME Field Team, Region III

RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

COPY

Gentlemen:

Enclosed are the original and four copies of "Operators Unit Cost and Progress Report" covering work completed during October, 1958, on the San Mateo Dome Project under Docket No. DMEA 4842.

The original Report is supported by original or certified documentation of expenses.

We would appreciate having the check for reimbursement sent to our Denver Office.

Very truly yours,

E. J. LONGYEAR COMPANY

B. F. Sorensen

B. F. Sorensen
Project Engineer

Encl.

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

Budget Bureau No. 42-R1036.5

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

RECEIVED DEC 1 1958 DMEA

Month of October, 1958 Docket No. DMEA 1042 Contract No. Ico-1163
Operator's Name M. J. Longyear Company, Agent, San Mateo Dome Project Minerals: Uranium
Address Box 998, Grants, New Mexico
Contract Amount, $176,770.00 Government Participation: 75% 50% Amount $7111,235.00

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	17,572.50	64,945.50	82,518.00			
Bulldozing	60.00	690.00	750.00			
Circulating material	------	82.00	82.00			
Probing	2,124.00	3,880.00	5,004.10			
Standby time	74.50	303.00	377.50			
(2) Expense Operation: Incidental allowance	1,855.80	6,217.30	8,073.10			
Labor						
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
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						
Liability Insurance						
Core Boxes	------	82.13	82.13			
(8) Contingencies (specify):						
TOTALS	20,686.89	76,200.10	96,886.99	20,686.89	76,200.10	96,886.99

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

Date Nov. 1, 1958 *Payee M. J. Longyear Company

Per B. Sorenson Title Project Engineer

*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:

$ 9,843.45

Signature [illegible]
(Authorized Certifying Officer)

Date 11-26-58 Vou. No. DMEA-59-65

(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. Fdm-E-1183 in accordance with the terms of the contract.

Signature [illegible] Title Mining Engineer Date Nov. 18, 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Checked for Engineering Allowability

Signature [illegible] Title Executive Officer Date NOV 24 1958

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

RECEIVED DEC 1 1950 O.M.E.

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

Month of October 1950 Docket No. DMEA 1012 Contract No. [illegible]

Operator's Name E. J. Longyear Company, Agent, San Mateo Farm Project Minerals Uranium

Address Box 990, Grants, New Mexico

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		[illegible] I		[illegible] I				
Crosscutting								
Raising								
Drill Crew Standby	hr.			82.50	5.5	15.00	13	15.00
Logging Crew Standby	hr.			66.00	6.6	10.00	13	10.00
Drilling: Core	foot			7,613.00	501	13.00	700	13.00
Non-Core Blast 0-1500	foot			29,250.00	19,500	1.50	19,500	1.50
Non-Core Rotary 1500-2200	foot			13,812.50	6,170	2.25	6,000	2.25
Drilling Circulation Material				82.00	2.05	40.00	13	40.00
Trenching Probing	foot			2,958.95	26,166	0.113	26,200	0.115
Test Pits Core Mason	hours			82.13	70	1.17	70	1.25
Roads and Trails Bulldozing	hr.			570.00	38	15.00	40	15.00
Incidental Allowance	foot			4,723.92	26,262	0.18	26,200	0.10
TOTAL DISTRIBUTED COSTS				59,404.06				TOTAL COSTS AUTHORIZED BY CONTRACT
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
TOTAL COSTS				59,404.06				61,261.50

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 Nov. 1, 1950 Operator E. J. Longyear Company

Per B. Sorenson Title Project Engineer
D. P. Sorenson

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)

M Romero

INSTRUCTIONS

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

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

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

GPO 872894

Form MF-104A
(April 1962)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED DEC 1 1958 O.M.E.

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of October 1958 Docket No. DMEA 1012 Contract No. 1[illegible]103

Operator's Name B. F. Goodrich Company, Agent, San Mateo Dome Project Minerals [illegible]

Address Box 996, Grants, New Mexico

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		(illegible)		[illegible]				
Crosscutting								
Raising								
Shafts: Pull Crew Standby hr.		7.50	0.5	135.00	9	15.00	9	15.00
Loading Crew Standby hr.		67.00	6.7	74.00	6.3	20.00	9	10.00
Drilling:								
Core 0-1500	feet	11,250.00	7,500	20,250.00	13,500	1.50	13,500	1.50
Core 1500-2000	foot	6,322.50	2,810	11,102.50	5,000	2.25	5,000	2.25
Supplies: Circulation Material		---	---	---	---	---	0	10.00
Blasting: Probing	feet	1,121.00	10,310	2,045.23	10,500	0.110	10,000	0.115
Blasting								
Roads and Trails: Bulldozing	hr.	60.00	5	100.00	12	15.00	12	15.00
Incidental Allowance	feet	1,031.00	10,310	2,316.20	10,500	0.10	10,000	0.10
Total Distributed Costs		20,606.00		37,602.93				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		20,606.00		37,602.93				

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. 1, 1958 Operator B. F. Goodrich Company

Per B. B. Sorensen Title Project Engineer

B Sorensen

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)

M Pondo

INSTRUCTIONS

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

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

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

GPO 872894

FORM 311A 10M 8-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941
CABLE ADDRESS
"LONGCODENVER"

Grants, New Mexico
November 1, 1958

United States Dept. of the Interior
Office of Minerals Exploration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting ~~Executive Officer~~
OME Field Team, Region III

Progress Report No. 6 (October, 1958)

RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Stage III drilling under DMEA Contract Idm-E1183 was completed with the bottoming of holes G-20-32 and G-22-32 on October 24. Holes G-18-32, G-19-32, and G-21-32 were completed earlier in the month.

Probing results indicate that holes G-18-32, G-19-32, G-20-32, G-21-32, and G-22-32 are barren. Thus, of the 9 holes drilled to complete Stage III, 7 are considered barren and 2 (G-15-32 and G-16-32) are slightly mineralized. The indicated mineralization is in the Poison Canyon sand at a depth of approximately 1880 feet and amounts to an estimated 1-3 feet of 0.03-0.04% eU_3O_8.

Stages I and III drilling have been completed and a request for an amendment to the Contract whereby further drilling could be approved is being prepared. Meantime all field operations have been discontinued.

Drilling (See attached map for hole locations)

Two rigs were in operation through October 24 at which time Stage III drilling was completed. One rig worked two 8-hour shifts per day during the entire period while the other rig worked two 8-hour shifts per day through October 7, then one 8-hour shift per day through October 24. Drill rigs operated on a schedule of

10 straight days on and 4 days off. One additional day was lost because of muddy roads. Drill crews worked 15 days and were off 9 days during the month. Footage drilled was 6,540 feet in 5 completed holes. Average feet drilled per calendar day was 272, or 136 per day per rig. Of the total footage represented by the completed holes (10,340), only 10,310 feet is submitted to DMEA for reimbursement.

COPY

Stage III (Completed October 24)

Hole G-18-32 Started September 26 and bottomed October 1 at a depth of 2050 feet. The Recapture was penetrated approximately 9 feet (see probing results). The hole was completed in 6 days for an average advance of 342 feet per calendar day.

Hole G-19-32 Started September 26 and bottomed October 1 at a total depth of 2080 feet. The Recapture was penetrated approximately 12 feet (see probing results). The hole was completed in 6 calendar days for an average drilling speed of 347 feet per day.

Hole G-20-32 Started October 1 and completed October 24 at a total depth of 2090 feet. The Recapture was penetrated approximately 16 feet (see probing results). The hole was completed in 24 calendar days (one rig operating one shift during 17 days) for an average advance of 87 feet per day. During this period 8 days were taken off for weekends, 1 day was lost due to muddy roads, and 2 days were spent washing the hole to enable it to be probed.

Hole G-21-32 Started October 1 and bottomed October 12 at a total depth of 2090 feet. The Recapture was penetrated approximately 49 feet. Drilling was completed in 11 calendar days for an average advance of 190 feet per day. Four days were taken off for weekends and 1 day was lost due to muddy roads.

Hole G-22-32 Started October 12 and bottomed October 24 at a depth of 2030 feet after penetrating the Recapture approximately 15 feet (see probing results). The hole was drilled in 12 days for an average advance of 254 feet per calendar day.

Sampling (see attached lithologic logs)

Dust and/or sludge samples were collected from every 10 feet of hole drilled. The samples were logged by a geologist and those through the Westwater were checked for radioactivity with a geiger counter. None of the samples checked showed radioactivity above background. Samples through the Westwater were sacked and saved for study by the Government.

Contacts cannot be definitely determined from sludge samples because of contamination. Therefore, there exist some descrepancies

between contacts picked from a study of the sludge samples and those picked from the geophysical logs. This difference is not great; however, contacts used as reference points are taken from geophysical logs because of their greater accuracy. In all holes drilled sludge samples indicated that the Recapture had been penetrated at least 20 feet.

COPY

Probing (See attached Electric Logs and Cross-sections)

Stage III (Completed October 24)

Hole G-18-32 Probed to 2066 feet on October 1. The probing showed the hole to be at least 16 feet deeper than the 2050 feet reported by the driller. No above-background radioactivity was noted and the hole is considered barren. The Westwater extends from 1846 to 2057 feet. A sand interval from 1784 to 1835 feet may be the Poison Canyon sand.

Hole G-19-32 Probed to 2090 feet on October 1. Probing showed the hole to be at least 10 feet deeper than the 2080 feet reported by the driller. No above-background radioactivity was noted and the hole is considered barren. A sand interval from 1887 to 1902 feet may be the Poison Canyon sand but thinning some at this location. The Westwater extends from 1929 to 2078 feet.

Hole G-20-32 Probed to 2100 feet on October 24. Results show the hole to be at least 10 feet deeper than the 2090 feet reported by the driller. Two attempts to probe the hole were unsuccessful due to caving, however, on the third attempt the probe reached bottom. No above-background radioactivity was noted and the hole is considered barren. The Westwater extends from 1920 to 2084 feet. The Poison Canyon sand is absent here having pinched-out somewhere between this hole and G-19-32.

Hole G-21-32 Probed to 2080 feet on October 12. No above-background radioactivity was noted and the hole is considered barren. The Westwater extends from 1863 to 2041 feet. The Poison Canyon sand is absent here having pinched-out somewhere between this hole and G-18-32.

Hole G-22-32 Probed to 2035 feet on October 24. Results show the hole to be at least 5 feet deeper than the 2030 feet reported by the driller. At 1135 feet the Self Potential instruments went out of order, consequently, below that point no Self Potential was recorded. No above-background radioactivity was noted and the hole is considered barren. The Westwater extends from 1834 to 2020 feet. The Poison Canyon sand is absent here having pinched out somewhere to the west before reaching this point.

General

Drilling under Stages I and III has been completed.

United States Dept. of the Interior November 1, 1958

DMEA Contract Idm-E1183 specifies that upon completion of Stages I and III no further drilling may be undertaken without prior approval, in writing, by the Government. A request for further drilling has been prepared and will be submitted during the first week of November; however, at present all field operations under the Contract have been discontinued.

Drilling and Related Costs (For Month of October, 1958)

Actual Costs (Stage III)

Category (1) Independent Contracts	Cost to SMDP	Cost submitted to DMEA
7,500 feet of non-core drilling 0-1,500 ft. depths, @ $1.50/ft.	$11,250.00	$11,250.00
2,840 feet non-core drilling 1,500-2,200 ft. depths, @ $2.25/ft.	6,390.00	6,322.50
2 hrs. drill crew standby time @ $15.00/hr.	30.00	7.50
10,371 feet probing and logging @$0.115/ft.	1,130.64	1,124.09
8.4 hrs. logging and standby time @ $10.00/hr. and $17.00/hr.	95.90	67.00
Cost of Washout time 12 hours @ $15.00/hr.	180.00	----
7.5 hrs. bulldozing @ $15.00/hr.	112.50	60.00
Fixed Unit Costs		
Incidental Allowance for each foot of hole drilled, 10,340 feet @ $0.18/ft.	1,861.20	1,855.80
2% New Mexico School Tax	359.25	---
Grand Total:	$21,409.49	$20,686.89

Total Expenditure (Stage III) submitted to DMEA for October, 1958: $20,686.89

Government participation @ 50% $10,343.45

E. J. LONGYEAR COMPANY

B. F. Sorensen

B. F. Sorensen
Project Engineer

COPY

FINAL DISTRIBUTION
NOV 12 1958
MADE

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

224 New Customhouse
Denver 2, Colorado
November 7, 1958

OFFICIAL FILE COPY
O. M. E.
RECEIVED NOV 14 1958

DATE	INITIALS	CODE
11/14	C	220
"	JH	110
"	elm	700

Memorandum

To: T. A. Christensen

From: Executive Officer, OME Field Team, Region III

Subject: Docket No. DMEA 4842 (Uranium) Contract Idm-Fi-61, E. J. Longyear Co., Representative, (San Mateo Dome Project) McKinley County, New Mexico - Operator's Monthly Progress Report for the month of September, 1958

Enclosed are the original and four copies each of Forms NF-104 and NF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract, and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application. Bids were not submitted for bulldozer work; however, the bulldozing rates are in line with the standard rates prevailing in the project locality for the size and make of bulldozer used on the project. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

We consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended on the following basis contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

The contract provides for 75 percent contribution by the Government in the acceptable costs under Stages I and II, and 50 percent under Stages III and IV. During September 1958, work was performed under Stages I and III; therefore, Government contribution is recommended as follows:

Amount reported, Stage I----------$10,519.88
Government contribution at 75 percent----------$7,889.91

Amount reported, Stage III----------$16,796.04
Government contribution at 50 percent---------- 8,398.02

Total reported cost for September, 1958-27,315.92
Total Government contribution----------$16,287.93

Remarks:

Date of Report----------October 5, 1958
Date Received in Field Office----------October 20, 1958
Date Received in Region Office----------October 24, 1958

Original signed by
J. W. TOWNSEND

J. W. Townsend

Enclosures

JBC;bmh

cc: Chairman, Op. Comm. (2)
Ronald, GRE/Tac.
MF-104 file, Reg. III
Barnhart
Emerick } w/copy of Engr's Report
Cooper
Chron

OME
DEPARTMENT OF THE INTERIOR

OCT 24 1958
REGION III
DENVER, COLORADO

October 23, 1958

Memorandum

To: Executive Officer, OME Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject: Progress Report for September 1958, Docket DMEA-4842 (Uranium) Contract Idm-E1183, E. J. Longyear Co., Representative (San Mateo Dome Project) McKinley County, N. Mex.

Enclosed are the original and 4 copies of each the subject report and the operator's report that comprises a narrative section, a location map, and geologic and radiometric logs. Included with the original of the operator's report are certified invoices covering the costs of drilling, probing and core boxes. Also inclosed are 4 extra copies of subject report.

My inspection of the project was made October 14 and 16, 1958 in the company of W. L. Emerick, geologist, U. S. Geological Survey and B. F. Sorensen, project engineer. It included a review of maps and geologic and radiometric logs at the company's office in Grants, N. Mex. and a field inspection of drill sites, cores and sludges. Pertinent findings from the inspection are as follows:

1. All work of Stage I was finished with the completion of holes G-9-27, 1 of the 2 that was cored in part, and G-13-27.

2. Four holes, G-14-32, G-15-32, G-16-32, and G-17-32, of the authorized 6 holes of stage III were completed.

3. The total footage drilled in the 6 completed holes was 12,177 of which 12,137 is allowable after deducting 40 feet of non-core drilling (20 feet in hole G-13-27 and 10 feet in each hole G-15-32 and G-16-32) that penetrated the Recapture formation more than the specified maximum of 20 feet, Excessive drilling is based on the written geologic logs.

CC Exec. Officer (Orig. & 8)
DMEA-4842
DF

TMRomslo:frj

4. The 6 completed holes were geologically and radiometrically logged.

5. Radiometric logging of the holes supplemented by testing of sludges and core with a geiger counter indicates that above background radioactivity is confined to holes G-15-32 and G-16-32 where zones of insignificant thickness and meager mineralization are present at depths of about 1,880 feet.

6. Mr. Sorensen continues to supervise the project in an excellent manner and apparently devotes full time to the work.

ANALYSIS OF THE OPERATOR'S REPORT

Form MF-104

Drilling. - The $23,321.00 is the cost of the 12,137 feet of approved drilling. It includes $13,500 for 900 feet at $1.50 per foot, $6,480.00 for 2,880 feet at $2.25 a foot and $3,341.00 for 257 feet at $13.00 a foot.

You will find as shown on the correctly completed sheet 1 of Form MF-104 that the Stage 1 vouchered units of 1,500 - 2,000 feet non-core drilling and incidental allowances exceed the authorized units by 170 feet and 61 feet. In accordance with the contract, the operator in a letter to you of October 6, 1958 requested that the necessary drilling and funds to cover the excess be transferred and deducted from Stage II. I recommended that the request be approved as all of the vouchered drilling was needed to reach the desired horizon.

Original invoices covering the costs of drilling, probing, bulldozing, stand-by time and core boxes are attached to the original copy of the report. The driller's invoices totalling $23,411.00 for 12,177 feet of drilling include the 40 feet of excessive drilling at $2.25 a foot which has not been included in the operator's invoice.

Bulldozing - The $225.00 is for the documented 15 hours spent in preparing drill sites and access roads with an RD-6 tractor-dozer at the specified rate of $15.00 per hour. Bulldozing time vouchered to date totals 46 hours of which 38 of the allowable 40 hours was consumed in completing Stage I work. The remaining 8 hours of work was used on Stage III for which a maximum of 12 hours is provided.

Probing. - The $1,364.25 is an acceptable cost that includes $443.56 for the Gamma-R and S. P. logging of the allowable 3,857 feet of Stage I hole at $0.115 a foot plus $921.14 for allowable Stage III logging that includes 8,280 feet of Gamma-R at 10 cents a foot and 6,209 of S.P. at 1.5 cents a foot.

Stand-by time. - The $179.50 is an acceptable cost that includes $142.50 for 9.5 hours of drill crew time at $15.00 per hour and $37.00 for 3.7 hours of logging crew time at $10.00 per hours. Of the maximum allowable 13 hours for each operation under Stage I, a total of 5.5 hours of drill-crew time and 8.6 hours of logging crew time has been vouchered. For Stage III, 8.5 hours of drilling-crew time and 0.7 hours of logging-crew time has now been charged against the allowable maximum of 9 hours for each operation.

Incidental Allowance. - The $2,184.66 is the additional allowable cost of drilling the approved 12,137 feet at 18 cents a foot

Core boxes. - The $41.06 is the documented cost of 35 core boxes at approximately $1.17 each. It is an acceptable cost as the unit cost is less than the allowable $1.25 and the total boxes purchased to date equals the allowable 70 of Stage I.

Totals. - The monthly total of $27,315.92 appears to be correct. The other totals, $48,884.18 and $76,200.10 also appear to be correct before the $0.81 disallowance of the July voucher.

FORM MF-104A

The 2 sheets of this form have been properly completed.

Narrative Report

The narrative report with map and geologic and radiometric logs is acceptable.

Original signed by
T. M. Romslo

T. M. Romslo

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

U. S. BUREAU OF MINES
SOUTHWEST EXPERIMENT STATION
OCT 20 1958
TUCSON, ARIZONA

FORM 311A 10M 3-56

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941
CABLE ADDRESS
"LONGCODENVER"

Grants, New Mexico
October 5, 1958

OME
DEPARTMENT OF THE INTERIOR
OCT 24 1958
REGION III
DENVER, COLORADO

United States Dept. of the Interior
Office of Mineral Exploration
224 New Customhouse
Denver 2, Colorado

Attention: E. M. Kerchmar, Acting Executive Officer
OME Field Team, Region III

RE: Docket No. DMEA 4042 (Uranium)
Contract IDM-5118)
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Enclosed are the original and four copies of Operators' Unit Cost and Progress Report" covering work completed during September, 1958, on the San Mateo Dome Project under Docket No. DMEA 4042.

The original Report is supported by original or certified documentation of expenses.

We would appreciate having the check for reimbursement sent to our Denver Office.

Very truly yours,

E. J. LONGYEAR COMPANY

B F Sorenson

B. F. Sorenson
Project Engineer

Encl.

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

Budget Bureau No. 42-R1066.5

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

U. S. BUREAU OF MINES
SOUTHWEST EXPERIMENT STATION
OCT 20 1958
TUCSON, ARIZONA

RECEIVED
NOV 14 1958
O.M.E.

Month of September, 1958 Docket No. DMEA [illegible] Contract No. [illegible]
Operator's Name J. J. Lonyear Company, Agent, San Pedro Dam Project Minerals [illegible]
Address Box 96 Cuba, New Mexico
Contract Amount, $ 176,770.00 Government Participation: 75% [illegible] Amount, $ [illegible]

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:		Stage I & Stage III				
Drilling	23,321.00	41,625.50	64,946.50			
Bulldozing	325.00	365.00	690.00			
Crushing material	—	62.00	62.00			
Drifting Probing	1,364.70	2,015.39	3,380.09			
Standby time	179.50	123.50	303.00			
(2) Labor and Supervision:						
Labor Incidental Allowance	2,181.66	4,032.72	6,217.30			
Supervision						
Technical Services						
(3) Operating Mat'ls. and Supplies:						
Timber						
Explosives						
Pipe						
Track						
(4) Operating Equipment:						
Rental						
Purchase						
Depreciation						
(5) Initial Rehabilitation and Repairs						
(6) New Bldgs., Improvements, etc.						
(7) Miscellaneous:						
Repairs to Equipment				Stage I		
Sampling and Analysis						
Payroll Taxes				75% of 10,519.88 = 7889.91		
Liability Insurance						
Gross Taxes	11.05	11.07	22.12	Stage III 50% of 16,796.04 = 8398.02		
(8) Contingencies (specify):						
TOTALS	27,315.92	48,884.18	76,200.10	27,315.92	48,884.18	76,200.10

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

Date Oct. 5, 1958 *Payee J. J. Lonyear Company

Per [signature], Title Project Manager

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

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

(Instructions on reverse)

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

$ 16,287.93

Signature [signature]
(Authorized Certifying Officer)

Date 11-10-58 Vou. No. DMEA-59-61

(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-E1183 in accordance with the terms of the contract.

Signature [illegible] Title Mining Engineer Date Oct. 21, 1958

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Checked for Engineering Allowability

Signature [illegible] Title Executive Officer Date NOV 7 1958

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR

DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

U.S. BUREAU OF MINES SOUTHWEST EXPERIMENT STATION TUCSON, ARIZ. RECEIVED NOV 14 1958 OME

Month of September 195 8 Docket No. DMEA 4842 Contract No. DMA-E1183

Operator's Name E. J. Longyear Company, Agent, San Mateo Dome Proj. Minerals Uranium

Address Box 998, Grants, New Mexico

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		SHEET 1 -		STAGE 1				
Crosscutting								
Raising								
Drill Crew Standby	hr	15.00	1	82.50	5.5	15.00	13	15.00
Logging crew Standby	hr	30.00	3	86.00	8.6	10.00	13	10.00
Drilling: Core	feet	3,341.00	257	7,683.00	591	13.00	700	13.00
Non-Core 0-1500	feet	4,900.00	3000	29,250.00	19,500	1.50	19,500	1.50
Non-Core 1500-2000	feet	1,350.00	600	13,882.50	6,170	2.25	6,000	2.25
Circul Material		----	---	82.00	2.05	40.00	13	40.00
Probing	feet	443.56	3,857	2,958.95	26,166	0.113	26,200	0.113
Core Boxes	Boxes	41.06	35	82.13	70	1.17	70	1.25
Pulldoug	hr	105.00	7	570.00	38	15.00	40	15.00
Incidental Allowances	feet	694.26	3,857	4,726.98	26,261	0.18	26,200	0.18
Total Distributed Costs		10,519.88		59,404.06				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		10,519.88		59,404.06				61,261.50

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 Oct. 5, 1958 Operator E. J. Longyear Company

Per B. F. Sorensen Title Project Engineer

Remarks: Stage I drilling has been completed and the above tabulation represent all totals expended under Stage I, however, footage totals are above that which is authorized under Stage I but is here tabulated with the thought that the excess footage can be taken from the alloted Stage II drilling. A request for such action is being submitted under separate cover.

→ 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)

T M Tomsho

INSTRUCTIONS

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

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

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

GPO 872894

Form MF-104A
(April 1952)

Budget Bureau No. 42-R1151.2

U.S. BUREAU OF MINES
SOUTHWEST EXPERIMENT STATION
OCT 30 1958
RECEIVED
NOV 14 1958

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of September 1958 Docket No. DMEA 4962 Contract No. Ion-E1183
Operator's Name E.J. Longyear Company, Agent, San Mateo Dome Project Minerals Uranium
Address Box 998, Grants, New Mexico

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		SHEET II -		STAGE III				
Crosscutting								
Raising								
Shafts								
Drill Crew Standby	hr	127.50	8.5	127.50	8.5	15.00	9	15.00
Logging "	hr	7.00	0.7	7.00	.7	10.00	9	10.00
Drilling:								
Non-Core 0-1500	ft	9,000.00	6000	9000.00	6000	1.50	13500	1.50
Non-Core 1500-2000	ft	5,130.00	2280	5130.00	2280	2.25	5600	2.25
Circulating Material	--	---	--	----	----	----	9	40.00
Probing	ft	921.14	8280	921.14	8280	0.111	18900	0.113
Bulldozing	hr	120.00	8	120.00	8	15.00	12	15.00
Incidental Allowance	ft	1,490.40	8280	1,490.40	8280	0.18	18900	0.18
Total Distributed Costs		16,796.04		16,796.04				Total Costs Authorized by Contract
Operating Equipment Purchased								38,815.50
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		16,796.04		16,796.04				38,815.50

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 Oct. 3, 1958 Operator E. J. Longyear Company

Per B F Sorensen S. F. Sorensen Title Project Engineer

Remarks: Because Stage I was completed in September both Stage I and Stage III will appear on Form MF104 and MF 104A-therefore Stage I is reported on Sheet I, and Stage III reported on Sheet II of Form MF 104 and MF 104A.

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)

T. M. Pounds

INSTRUCTIONS

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

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

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

GPO 872894

FORM 311A 10M 3-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941
CABLE ADDRESS
"LONGCODENVER"

BUREAU OF MINES
GOVERNMENT STATION
OCT 20 1958
TUCSON, ARIZONA

Grants, New Mexico
October 5, 1958

United States Dept. of the Interior
Office of Mineral Exploration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Marshman, Acting Executive Officer
OME Field Team, Region III

Progress Report No. 5 (September, 1958) RE: Docket No. DMEA 4842 (Uranium)
Contract IBM-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley, County, New Mexico

Gentlemen:

Drilling under DMEA Docket No. 4842 continues on the San Mateo Dome Project at the rate of approximately 12,000 feet per month. During September 6 holes were completed. Stage I drilling was completed when holes G-9-27 and G-13-27 were bottomed, and Stage III drilling started with the completion of holes G-14-32, G-15-32, G-16-32, and G-17-32. Holes G-18-32 and G-19-32 were started and are expected to be bottomed during the first week of October.

Probing results from holes G-9-27 and G-13-27 show the holes to be barren. Thus, 13 holes have been drilled to complete Stage I drilling and all 13 holes are considered barren.

Probing results under Stage III drilling indicate holes G-14-32 and G-17-32 are barren and holes G-15-32 and G-16-32 are mineralized. The indicated mineralization is in the Poison Canyon sand at a depth of approximately 1880 feet. The mineralization is only slight, amounting to an estimated 1-3 feet of 0.03-0.04 % U_3O_8.

It is expected that Stage III drilling will be completed before October 15.

<u>Drilling</u>: (See attached map for hole locations)

Two rigs were in operation throughout the month on a schedule of 10 straight days on and 4 days off. Drill crews worked 24 days and were off 6 days. Footage drilled was 10,432 feet in 6 completed holes, and 3,800 feet in

two other holes, as yet incomplete. Average feet drilled per calendar day was 593, or 296 per day per rig. Of the total footage represented by the completed holes (12,177), only 12,137 is submitted to NMMA for reimbursement. Some 190 feet were drilled in excess of the number allowed in the 1500-2200 foot interval of Stage I drilling; however, this footage is being submitted for reimbursement on Forms 104 and 104A in the hopes that this footage and funds can be transferred from Stage II.

Stage I (Completed September 10)

Hole G-9-27 - Started August 20 and completed September 6. Bottomed at 1907 feet after penetrating and Recapture approximately 19 feet. Coring started at 1650 feet and continued to 1907 feet. Core recovery was 91%. Average footage cored per calendar day was 28 feet. Average footage drilled per calendar day was 106 feet or 53 feet per day per shift.

Hole G-13-27 - Started September 2 and completed September 10. Bottomed at 1970 feet after penetrating the Recapture approximately 39 feet. The hole was drilled in 9 days at an average of 212 feet per day. Drill crews were off 4 days.

Stage I drilling was started June 13 and completed September 10, 1958. A total of 26,376 feet were drilled in 13 holes. Two holes were cored through the Westwater member. A total of 301 feet were cored at an average recovery of 98%. Average drilling advance per calendar day was 293 feet.

Stage III

Hole G-14-32 - Started September 8 and completed September 15 at a total depth of 2000 feet. The Recapture was penetrated approximately 12 feet. The 2000 feet were drilled in 8 days for an average advance of 250 feet per day.

Hole G-15-32 - Started September 10 and bottomed September 15 at 2070 feet. The Recapture was penetrated approximately 25 feet. Six calendar days were required for completion of the hole for an average advance of 345 feet per day. Two cones from the bit remain at bottom of the hole.

Hole G-16-32 - Started on September 15. Bottomed September 25 at 2080 feet. The Recapture was penetrated approximately 30 feet. The hole was completed in 11 days at an average drilling speed of 190 feet per calendar day. The drill crews were off September 18, 19, 20, and 21.

Hole G-17-32 - Started September 16 and finished September 25. About 30 feet of Recapture was penetrated in this 2070-foot hole. Drilling was done in 10 days at an average rate of 207 feet per day. The drill crews were off September 18, 19, 20, and 21. Some difficulty with loss of circulation was encountered in the hole.

Hole G-18-32 - Started September 26. Depth at the end of the month was 1900 feet. It is expected that the hole will bottom on October 1 or 2.

Hole G-19-32 - Started September 26. Depth at the end of the month was 1900 feet. It is expected that the hole will bottom on October 1 or 2.

COPY

Sampling (See attached lithologic logs)

Dust and/or sludge samples were collected from every 10 feet of hole drilled. The samples were logged by a geologist and those through the Westwater were checked for radioactivity with a geiger counter. None of the samples checked showed radioactivity above background. Samples through the Westwater were sacked and saved for study by the Government.

Contacts cannot be definitely determined from samples because of contamination. Therefore, there exists some discrepancies between contacts picked from a study of the sludge samples and those picked from the geophysical logs. This difference is not great; however, contacts used as reference points are taken from geophysical logs because of their greater accuracy. In all holes drilled sludge samples indicated that the Recapture had been penetrated at least 20 feet.

When core drilling, all core is checked for radioactivity, stored in core boxes, and saved for future study.

Hole G-9-27 was cored through the bottom 257 feet. Core recovery was 234 feet or 91%. Contacts were difficult to pick because of their gradational nature; however, the Brushy Basin-Westwater contact was picked at 1705 feet and the Westwater Recapture contact was picked at 1888 feet.

Core through the Westwater appears gray or bleached and contains coarse grained, poorly sorted, subangular sands; however, no above background radioactivity was noted and none of the core was deemed worthy of chemical assay.

Probing (See attached Electric Logs and Cross-sections)

Stage I

Hole G-9-27 - Probed to 1905 feet on September 6. No above background radioactivity was noted and the hole is considered barren. The Westwater is thought to extend from 1720 to 1900 feet. No Poison Canyon sand was recognized in the interval.

Hole G-13-27 - Probed to 1970 feet on September 10. No above background radioactivity was noted and the hole is considered barren. The Westwater extends from 1760 to 1911 feet. Poison Canyon sand was not recognized and it is thought to be missing in the area.

Stage III

Hole G-14-32 - Probed to 2090 feet on September 15. Above background count was noted at 1915 feet but of slight intensity and is not considered significant. The hole is considered barren. The Westwater extends from 1863 feet to 2038 feet. The top 57 feet of the interval is thought to be Poison Canyon sand.

COPY

Hole G-15-32 - Probed to 2070 feet on September 15. Mineralization is noted between 1876 and 1877 feet where a reading of 300 counts per second indicates the presence of a 1-foot interval at an estimated grade of 0.09% eU_3O_8. The Westwater extends from 1857 feet to 2065 feet. The upper 38 feet of the interval is thought to be Poison Canyon sand and is where the indicated mineralization exists.

Hole G-16-32 - Probed to 2073 feet on September 25. Mineralization is noted between 1884 and 1885 feet where a reading of 96 counts per second indicates the presence of a 1-foot interval at an estimated grade of 0.03% eU_3O_8. The Westwater extends from 1822 to 2030 feet. The upper 64 feet of the interval is thought to be Poison Canyon sand and is where the indicated mineralization exists.

Hole G-17-32 - Probed to 2049 feet on September 25. No above background radioactivity was recorded and the hole is considered barren. The Westwater extends from 1842 to 2041 feet. The upper 73 feet of the interval is thought to be the Poison Canyon sand.

General

Stage I drilling was completed on September 10. Stage III drilling is now 65% complete and is scheduled for completion about the middle of October. Any requests to be made concerning Stages II and IV drilling await evaluation of the results of Stage III holes, and should a request be made it will be submitted late in the month of October.

Drilling and Related Costs (For Month of September, 1958)

Part I (Stage I)

Actual Costs (Stage I)

Category (1) Independent Contracts	Cost to RMP	Cost submitted to DMEA
3,000 feet of non-core drilling 0 - 1,300 ft. depths, @ $1.50/ft.	$4,500.00	$ 4,500.00
620 feet non-core drilling 1,300 - 2,200 ft. depths, @ $2.25/ft.	1,395.00	1,350.00
237 feet core drilling @ $13.00/ft.	3,341.00	3,341.00
1 hr. drill crew standby time @ $15.00/hr.	15.00	15.00
3,875 feet probing and logging @ $0.115/ft.	445.63	443.56
3 hrs. logging & standby time @ $10.00/hr.	30.00	30.00
Cost of lost circulation material in excess of $100.00 per hole	----	----
7 hrs. bulldozing @ $15.00/hr.	105.00	105.00

COPY

Actual Costs (Stage I Continued)

Category (1) Independent Contracts	Cost to BMGP	Cost submitted to DMEA
35 core boxes @ $1.25/box	$ 41.06	$ 41.06
Fixed Unit Costs		
Incidental Allowance for each foot of hole drilled, 3,877 feet @ $0.18/ft.	697.86	694.26
2% New Mexico School Tax	187.12	----
Grand Total:	$10,757.67	$10,519.88

Total Expenditure (Stage I) submitted to DMEA for September, 1958: $10,519.88

Government participation @ 75% 7,889.91

PART II (Stage III)

Actual Costs (Stage III)

Category (1) Independent Contracts	Cost to BMGP	Cost submitted to DMEA
6,000 feet of non-core drilling 0 - 1,300 ft. depths, @ $1.50/ft.	$ 9,000.00	$ 9,000.00
2,300 feet non-core drilling 1,300 - 1,300 ft. depths, @ $2.25/ft.	5,175.00	5,130.00
8.5 hrs. drill crew standpipe @ $15.00/hr.	127.50	127.50
8,312 feet probing and logging @ $0.115/ft.	934.34	921.14
0.7 hrs. logging and standby time @ $10.00/hr.	7.00	7.00
Cost of lost circulation material in excess of $100.00 per hole	----	----
8 hrs. bulldozing @ $15.00/hr.	120.00	120.00
Fixed Unit Costs		
Incidental Allowance for each foot of hole drilled, 8,300 feet @ $0.18/ft.	1,494.00	1,490.40
2% New Mexico School Tax	288.43	-----
Grand Total:	$17,136.29	$16,796.04

COPY

Total Expenditure (Stage III) submitted to HHEA for September, 1958	$16,796.04
Government participation @ 50%	$ 8,398.02
Combined Stage I and Stage III expenditures submitted to HHEA for September, 1958:	$27,313.92
Government participation (Total for September):	$16,287.93

COPY

K. J. LONGYEAR COMPANY

B. F. Sorensen
Project Engineer

OFFICIAL FILE COPY
O. M. E.
RECEIVED DEC 1 1958

DATE	INITIALS	CODE
12/1		220
12/4		110
		700

FINAL DISTRIBUTION
MADE NOV 28 1958

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

Administrative Audit Difference Statement

Date: November 26, 1958
Payee's Reference: October 1958

DMEA-484 v

San Mateo Project
R. J. Longyear Co.
416 Colorado Bldg.
Denver, Colorado

Gentlemen:

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

Amount Claimed $ 20,696.39

Difference $

Amount Approved *$ 20,696.39

The reason for the difference was due to:

* $700.00 withheld pending performance of additional work or closing the account.

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

RRC

Randal R. Cooper
Audit Section

R-III-B & F Form No. 4
4-15-52 D

OFFICIAL FILE COPY
DMEA
RECEIVED AUG 25 1958

DATE	INITIALS	CODE
8/25		220
8/25		110
8/26		700

FINAL DISTRIBUTION

MADE AUG 21 1958

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

Administrative Audit Difference Statement

[redacted]

Date: [redacted]
Payee's Reference: [redacted]

DMEA-484V

[redacted]

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

Amount Claimed $ [redacted]

Difference $ [redacted]

Amount Approved $ [redacted]

The reason for the difference was due to:

[redacted]

[redacted]

[redacted]

[redacted]

Any reclaim for deductions made above must be supported by the ORIGINAL of this form.

Very sincerely yours,

N. E. Stokes
Audit Section

R-III-B & F Form No. 4
4-15-52 D

FINAL DISTRIBUTION
MADE AUG 4 1958

RECEIVED AUG 6 1958

DATE	INITIAL	CODE
8-6	C	220
"	JK	110
"	Christy	700

224 New Customhouse
Denver 2, Colorado
July 31, 1958

Memorandum

To: T. A. Christensen

From: Alternate Acting Executive Officer, DMEA Field Team, Region III

Subject: Docket No. DMEA 4842 (Uranium) Contract Idm-[illegible], E. J. Longyear Company, Agent, (San Mateo Dome Project) McKinley County, New Mexico - Operator's Monthly Progress Report for the month of June, 1958

Enclosed are the original and four copies each of Forms MF-104 and MF-104A, Operator's Narrative Report, and Engineer's Report for the above period.

The work is being performed partly under independent subcontract, and partly at fixed unit costs. The drilling rates are as low or lower than the rates contained in the lowest and best bid submitted with the application. Bids were not submitted for bulldozer work; however, the bulldozing rates are in line with the standard rates prevailing in the project locality for the size and make of bulldozer used on the project. Under the circumstances, the rates for the work performed under independent subcontract are considered to be reasonable.

We consider that the Operator has complied with the intent of the contract, and the work for which payment is recommended is acceptable to the Government. Payment is recommended for 75 percent of the amount reported on Form MF-104 for June, 1958, contingent on your verification of the correctness of applicable rates and arithmetical accuracy of computations.

It is noted that the Unit Costs to Date for probing and core boxes entered on Form MF-104A are in error. The Unit Costs to Date for probing is $0.10, and for core boxes, $1.15.

Remarks: Date of Report----------July 2, 1958
Date Received in Field Office----------July 9, 1958
Date Received in Region Office---------July 25, 1958

nclosures
M:hmh
: Chmn. Op. Comm (2)
DMEA/Tucson
MF-104 file, Reg.III
Harshman } w/copy of Engr's report
Emerick }
Chron

Original signed by
J. W. TOWNSEND

J. W. Townsend

DMEA
DEPARTMENT OF THE INTERIOR
JUL 25 1958
REGION III
DENVER, COLORADO

July 23, 1958

Memorandum

To: Executive Officer, DMEA Field Team, Region III

From: T. M. Romslo, Mining Engineer, Tucson, Ariz.

Subject: Progress Report for May and June 1958, Docket DMEA-4842 (Uranium) Contract Idm-E1183, E. J. Longyear Co., Representative, (San Mateo Dome Project) McKinley County, N. Mex.

Enclosed are the original and 4 copies of each the captioned report and the Operator's report that contains a narrative section, Forms MF-104 and 104A, a map, and a geologic log and a gamma ray, resistivity and self-potential log of drill hole No. G-1-33. Original or certified copies of invoices covering the purchase of core boxes and the cost of each drilling and the logging services are attached to the original of the Operator's report. Also enclosed are 4 extra copies of subject report.

The exploratory project of subject contract was inspected by me July 15, 1958 in the company of W. L. Emerick and J. W. Hosler, geologists, U. S. Geological Survey and B. F. Sorensen, project engineer. The inspection included a visit to the sites of drill holes Nos. G-1-33 and G-2-4, and inspection of core and sludges from hole G-1-33, the only hole completed during the report period. Information obtained during the inspection indicates that the work performed from the initiation of the project on May 13, 1958 to July 1, 1958 and the findings are as stated in the Operator's report.

CC Executive Officer (Orig. & 8)
DMEA-4842
DF

TMRomslo:fr]

No above background radioactivity was encountered in hole G-1-33 nor in hole G-2-4 that reportedly was started June 16 and was completed July 3 at a depth of 2,020 feet. Hole G-3-4 had reached a depth of 1,780 on the day of the inspection. By the way, in numbering the holes the G stands for Government, the first figure is the number shown on the location map and the last figure is the section in which the hole is located.

Model 1500, Failing drill rigs are being used by the drilling contractor, Scott Bros., Albuquerque, N. Mex. Rotary holes are drilled to a diameter of 4-3/4 inches and cores obtained where specified are 2-15/16 inches in diameter.

Mr. Sorensen, the project engineer who is a geologist, is supervising the operations in a creditable manner. He apparently devotes full time to the project work.

ANALYSIS OF THE OPERATOR'S REPORT

Form MF - 104

Drilling -

The $7,042.00 is the cost of the authorized 2,034 feet of drilling in hole G-1-33 at the specified rates of $1.50 for non-core drilling from 0 to 1,500 feet, $2.25 a foot for non-core drilling from 1,500 to 1,700 feet, and $13.00 per foot for core drilling the remaining 334 feet.

The coring is considered to have been done in accordance with the contract as less than the maximum allowable 350 feet was done and it started at a depth that can be considered as approximating 1,650 feet.

Bulldozing -

The $45.00 is the cost of 3 hours spent in preparing the drill site and access road of hole G-1-33 with an RD-6 tractor-dozer at the specified rate of $15.00 per hour.

Circulation Material -

The $2.00 is the cost in excess of $100.00 for circulation material lost in drilling hole G-1-33. The cost of the circulation material is shown in the letter attached to Scott Bros. original invoice that documents the costs of drilling, bulldozing and allowable portion of the circulating material. The 2 percent New Mexico School Tax has not been included as it is not an allowable cost.

Probing -

The Century Geophysical Corporation probed hole G-1-33 and found that it is 2,040 feet deep, 6 feet more than recorded and charged for by the drilling contractor. The project engineer has made the reasonable assumption that the probed depth is correct and that the error of 6 feet can be accounted for by the drillers use of 20 feet for drill pipe that often is up to a few inches longer. However, the Operator has elected to absorb the cost of the 6 feet of probing and has charged the project $203.40 for the 2,034 feet at 10 cents a foot. The per foot cost of 10 cents as shown on the attached original invoice is less than the allowable 11.5 cents.

Incidental Allowance -

The $366.12 is an additional allowable cost of drilling the 2,034 feet in hole G-1-33 at the specified rate of $0.18 a foot.

Core Boxes -

The $41.07 represents the cost of 35 core boxes at $1.15 each plus the New Mexico 5 haul Tax of 2 percent. It is documented by the attached 3 invoices, 2 from Industrial Mine Supply, Grants, N. Mex. and the other from the Exploration Drilling Supply & Repair Co., Albuquerque, N. Mex.

Totals -

The total cost of $7,699.59 is correct.

Form MF-104A

The form has been properly completed with the exception that the respective unit costs for Casing and Core boxes should be $0.10 and $1.17 in place of the reported $0.115 and $1.25.

Narrative Report

The narrative report with location map and 2 hole logs meet requirements in all respects.

Original signed by
T. M. Romslo

T. M. Romslo

FORM 311A 10M 8-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941

July 9, 1958

United States Dept. of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting ~~Executive~~ Officer
DMEA Field Team, Region III

RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Enclosed are the original and four copies of "Operators Unit Cost and Progress Report" covering work completed during June, 1958, on the San Mateo Dome Project under Docket No. DMEA 4842.

The original Report is supported by original or certified documentation of expense.

We would appreciate having the check for reimbursement sent to our Denver Office.

Very truly yours,

E. J. LONGYEAR COMPANY

B. F. Sorensen

B. F. Sorensen
Project Engineer

Encl.

FORM 311A 10M 8-56

Longyear

E. J. LONGYEAR COMPANY
General Offices, Foshay Tower
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 2-2447 • CABLE LONGCO

ADDRESS REPLY TO
416 COLORADO BUILDING
DENVER 2, COLORADO
AMHERST 6-1941

July 5, 1958

United States Dept. of the Interior
Defense Minerals Exploration Administration
224 New Customhouse
Denver 2, Colorado

Attention: E. N. Harshman, Acting Executive Officer
DMEA Field Team, Region III

Progress Report No. 2 - RE: Docket No. DMEA 4842 (Uranium)
Contract Idm-E1183
San Mateo Dome Project
E. J. Longyear Company, Agent
(San Mateo Dome Project)
McKinley County, New Mexico

Gentlemen:

Since drilling started on May 13 under subject contract one hole has been completed and the results evaluated. The following is a report on the work performed, conditions encountered, and results obtained. Another hole has been started and is scheduled for completion the first week of July.

Drilling (See attached map for hole locations)

As reported in Progress Report No. 1 submitted to DMEA June 5, 1958, drilling started May 13 with one rig operating. Work was on a one-shift basis of 12 hours each day. The drill crews worked a schedule of 10 straight days on and 4 days off.

Hole G-1-33 - Started May 13 and bottomed June 10 at a depth of 2034 feet. On May 25 the hole was at 1700 feet and coring was started. At 1760 the hole gave indications of caving when left idle overnight. As a precaution against this a 12-hour night shift was started and after June 2, drilling was on a 24-hour per day basis.

On June 8, a depth of 2027 feet was reached and the core showed that the last 5 feet of the hole were in what we

COPY

believe to be the Recapture shale. It was decided that one more run would be made to confirm that the Recapture had been penetrated. On the last run, drilling was very hard and advance was slow, indicating that the Recapture shale was being drilled. After 7 feet were cored the driller reported that he thought the bit was blocked and that he was going to pull the rods from the hole. On coming out of the hole the driller found that a rod had twisted off at 1690 feet and 344 feet of rods were still on the bottom of the hole. Fishing operations were started and the broken rods were caught with an overshot tool; however, the rods were stuck and could not be moved. At this point a request was made, in writing, to DMEA to consider the hole as completed even though a geophysical log had not been run on the hole. However, fishing operations continued and on June 10 the stuck rods were removed and the hole was probed.

The hole penetrated the Recapture member of the Morrison formation approximately 12 feet. The hole was cored from 1700 feet to 2034 feet. Core recovery was 89%. All of the Westwater was cored and recovery through the Westwater was 95%.

Hole G-2-4 - Started June 16. Reached a depth of 1610 feet on June 24, at which time a cone broke off the drilling bit and lodged in the bottom of the hole. Fishing tools were put into the hole and the cone was fished out on June 28. It is expected that the hole will bottom during the first week of July.

Probing

The holes are being probed by Century Geophysical Corporation of Tulsa, Oklahoma. A truck-mounted Logging Control Unit, Model 2201, is being used and three logs, gamma ray, resistivity, and self-potential, are recorded.

Hole G-1-33 - Probed June 11, 1958. No trouble was encountered in getting to the bottom of the hole and a total hole depth of 2040 feet was recorded. This is six feet deeper than was reported by the drill crew, but can be explained by the fact that the 20-foot lengths of drill pipe used by the drillers often exceed 20 feet in length and could account for as much as a six-foot error in total depth.

No above background radioactivity was recorded in the hole and the hole is considered barren.

COPY

United States Dept. of the Interior July 5, 1958

No. 3

The Westwater Canyon member first shows on the log at 1828 feet and is approximately 202 feet thick. The upper 20 feet of the Westwater may be a sand unit locally termed the Poison Canyon sand. It is separated from the main body of the Westwater by a 15 - 17-foot sandy shale bed. This is typical of the Poison Canyon sand in other parts of the District.

Contacts noted on the geophysical log differ somewhat from those picked from examination of the core. An explanation of this follows under Sampling.

Sampling (See attached lithologic log)

Sludge samples are collected from every 10 feet of hole drilled. The samples are laid out on the ground near the drill holes and logged by a geologist. When drilling through the Westwater Canyon member or any other favorable or mineralized horizon, the samples are checked for radioactivity, sacked and saved for inspection by the Government.

When core drilling, all the core is checked for radioactivity, stored in core boxes and saved.

Hole G-1-33 - Sludge samples were saved to 1700 feet. Coring started at 1700 feet and continued to the bottom of the hole. All core was checked for radioactivity and none deemed worthy of chemical assay.

Correlating the contacts picked on the basis of core samples against those interpreted from the geophysical log showed a difference in contact depths and also in formation thicknesses. Some of the differences were attributed to the loss of core (89% recovery), but a study of the geophysical log and the core together showed the greatest difference to be based on the grain size of the sandstone units, e.g. - the geophysical log shows relatively sharp contacts between the formation members, but actual observation of core from the hole shows the contacts to be gradational in that the Brushy Basin - Westwater contact and the Westwater - Recapture contact is not a sharp break from shale to sandstone and back to shale again, but rather a gradual change from shale to very fine grained sandstone to medium and then coarse grained sandstone, followed by a reverse of this when going from the Westwater to

COPY

the Recapture member. It is difficult to pick the actual contact from the core but the sensitivity of the probe is such that it picks up the slightest change in compactness as well as lithological changes and the result is a more defined contact. Figure 1 shows a log of the drill hole as taken from both the geophysical log and core.

Hole G-2-4 - Present depth is 1610 feet and the bottom of the hole is still in the Mancos shale. It is expected that the Westwater member will appear at approximately 1800 - 1820 feet.

COPY

General

Progress to date has been slow. Other commitments on the San Mateo Dome Project, started previous to the DMEA Program, necessitated the use of only one rig on DMEA work during the month of June. It is anticipated that this work will carry over into the month of July; however, plans now are to employ two rigs on DMEA work after the 1st of July. It is hoped that this will speed up progress and put us on the schedule that was set up in our DMEA Application.

Drilling and Related Costs (For month of June, 1958)

Actual Costs (Stage 1)

Category (1) Independent Contracts

1,500 feet of non-core drilling, 0 - 1,500 ft. depths @ $1.50/ft.	$ 2,250.00
200 feet non-core drilling, 1,500 - 2,200 ft. depths, @ $2.25/ft.	450.00
334 feet core drilling, 1,600 - 2,200 ft. depths, @ $13.00/ft.	4,342.00
2,034 feet probing and logging, @ $0.10/ft. (Century did not charge for the self-potential log because it started out somewhat erratic)	203.40

United States Dept. of the Interior July 5, 1958

No. 5

Cost of lost circulation material in excess of $100.00	2.00
3 hours bulldozing work @ $15.00 per hour	45.00
Category (7) Miscellaneous	
35 cardboard core boxes @ $1.17 per box	41.07
Fixed Unit Costs	
Incidental allowance for each foot of hole drilled, 2,034 feet @ $0.18/ft.	366.12
Grand Total	$ 7,699.59
Total expenditures submitted to DMEA during June, 1958	$ 7,699.59
Government participation @ 75%	$ 5,774.69

E. J. LONGYEAR COMPANY

B.F. Sorensen

B. F. Sorensen
Project Engineer

COPY

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

Budget Bureau No. 4

RECEIVED
AUG 6 1958
D.M.E.A.

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

Month of June, 1958 Docket No. DMEA 4842 Contract No. IDU-E1183
Operator's Name E. J. Longyear Co., Agent, San Mateo Dome Pro- Minerals Uranium
Address 416 Colorado Bldg., Denver, Colo. (ject
Contract Amount, $ 176,770.00 Government Participation: 75% 50% Amount, $ 114,235.00

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:	STAGE I					
Drilling	7042.00					
Bulldozing	45.00					
Circulation Material	2.00					
~~Crosscutting~~						
~~Drilling~~ Probing	203.40					
Incidental Allowance	366.12					
(2) ~~Labor and Supervision~~						
~~Labor~~						
~~Supervision~~						
~~Technical Services~~						
(3) Operating Mat'ls. and Supplies:						
Timber						
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						
Liability Insurance						
Core Boxes	41.07					
(8) Contingencies (specify):						
TOTALS	7699.59			7,699.59		7,699.59

DMEA
DEPARTMENT OF THE INTERIOR
JUL 25 1958
REGION III
DENVER, COLORADO

I certify that the above bill is correct and just and that payment therefor has not been received.
Date July 2, 1958 Payee E. J. Longyear Company
B. F. Sorensen
Per B. F. Sorensen Title Project Engineer

Pursuant to authority vested in me, I certify that this account is correct and proper for payment in the amount of:
$5,774.69
Signature
(Authorized Certifying Officer)
Date 8/1/58 Vou. No. DMEA 59-14
(See other side)

*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)

(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-E1183 in accordance with the terms of the contract.

Signature D.W. Ramalo Title Mining Engineer Date 7/23/58

APPROVAL BY DMEA EXECUTIVE OFFICER OR ALTERNATE: Checked for Engineering Allowability

Signature J.W. Forrmed Title Alternate acting Executive Officer Date JUL 31 1958

MONTHLY REPORT OF OPERATOR

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Form MF-104A
(April 1962)

Budget Bureau No. 42-R1151.2

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

RECEIVED AUG 6 1958 D.M.E.A.

OPERATOR'S UNIT COST AND PROGRESS REPORT

Month of June 1958 Docket No. DMEA 4042 Contract No. 1DM-21103
Operator's Name E.J. Longyear Co., Agent, San Mateo Dome Pro Minerals Uranium
Address 416 Colorado Bldg., Denver, Colorado (Ject

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				STAGE I				
Shafts								
Winzes								
Drilling: Core 1700-2034	feet	4342.00	334	4,342.00	334	13.00	700	13.00
non-core Churn 0-1500	feet	2250.00	1500	2,250.00	1500	1.50	60,000	1.50
non-core Auger 1500-2200	feet	450.00	200	450.00	200	2.25	21,700	2.25
circulation material		2.00	---	2.00	---	---	13	40.00
Stripping								
Trenching Probing	feet	203.40	2034	203.40	2034	0.115	82,400	0.115
Test Pits Core boxes	boxes	41.07	35	41.07	35	1.25	70	1.25
Roads and Trails	hr.	45.00	3	45.00	3	15.00	40	15.00
Incidental Allowance	feet	366.12	2034	366.12	2034	0.18	82,400	0.18
Total Distributed Costs		$7699.59		7,699.59				Total Costs Authorized by Contract
Operating Equipment Purchased								
Initial Rehabilitation and Repairs								
New Buildings, Improvements, etc.								
Total Costs		~~7699.59~~		~~7,699.59~~				~~176,770.00~~

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

Date July 2, 1958 Operator E.J. Longyear Company

Per B. P. Sorensen Title Project Engineer

B. P. Sorensen

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)

M Romero

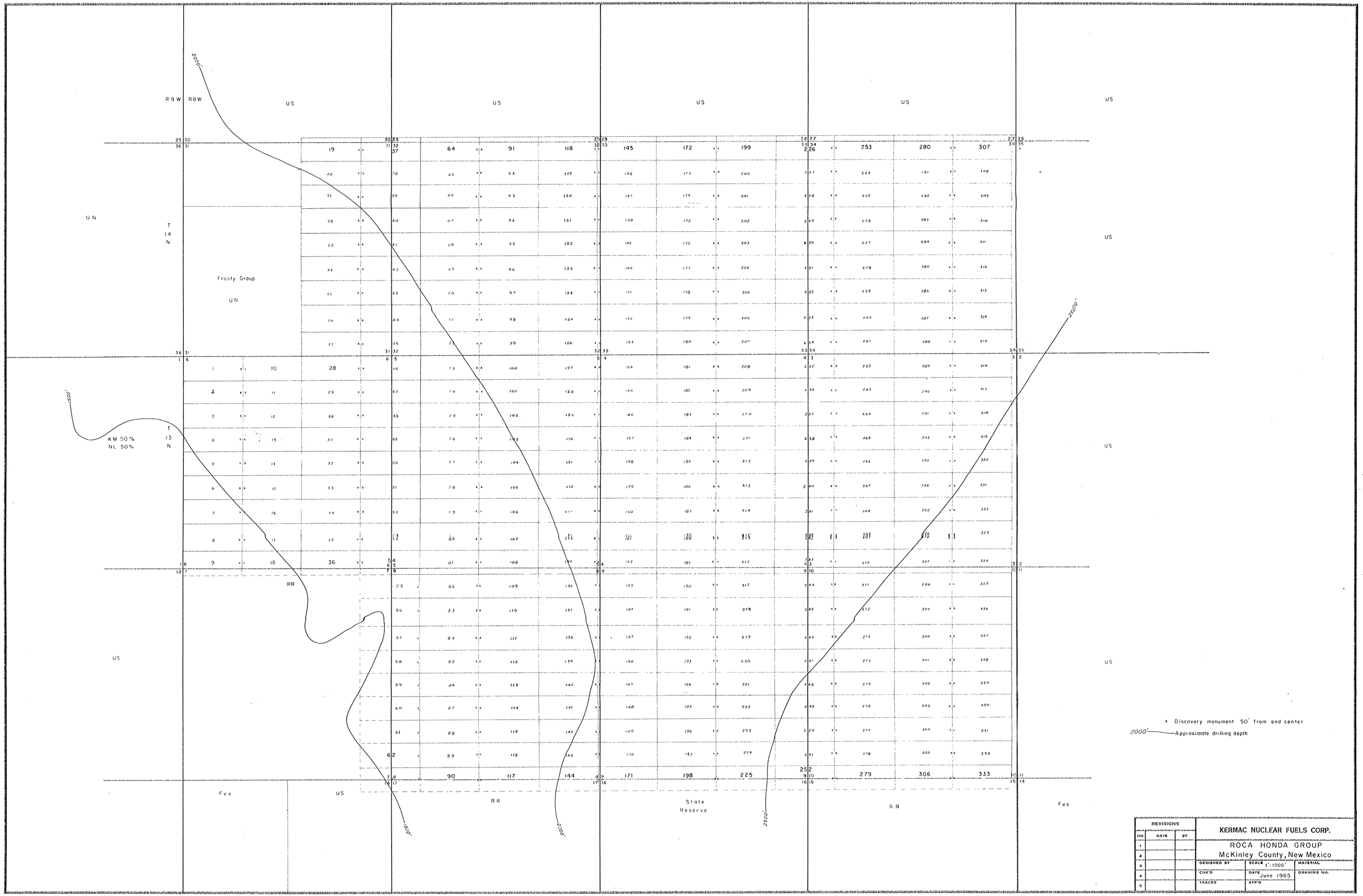
INSTRUCTIONS

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

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

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

GPO 872894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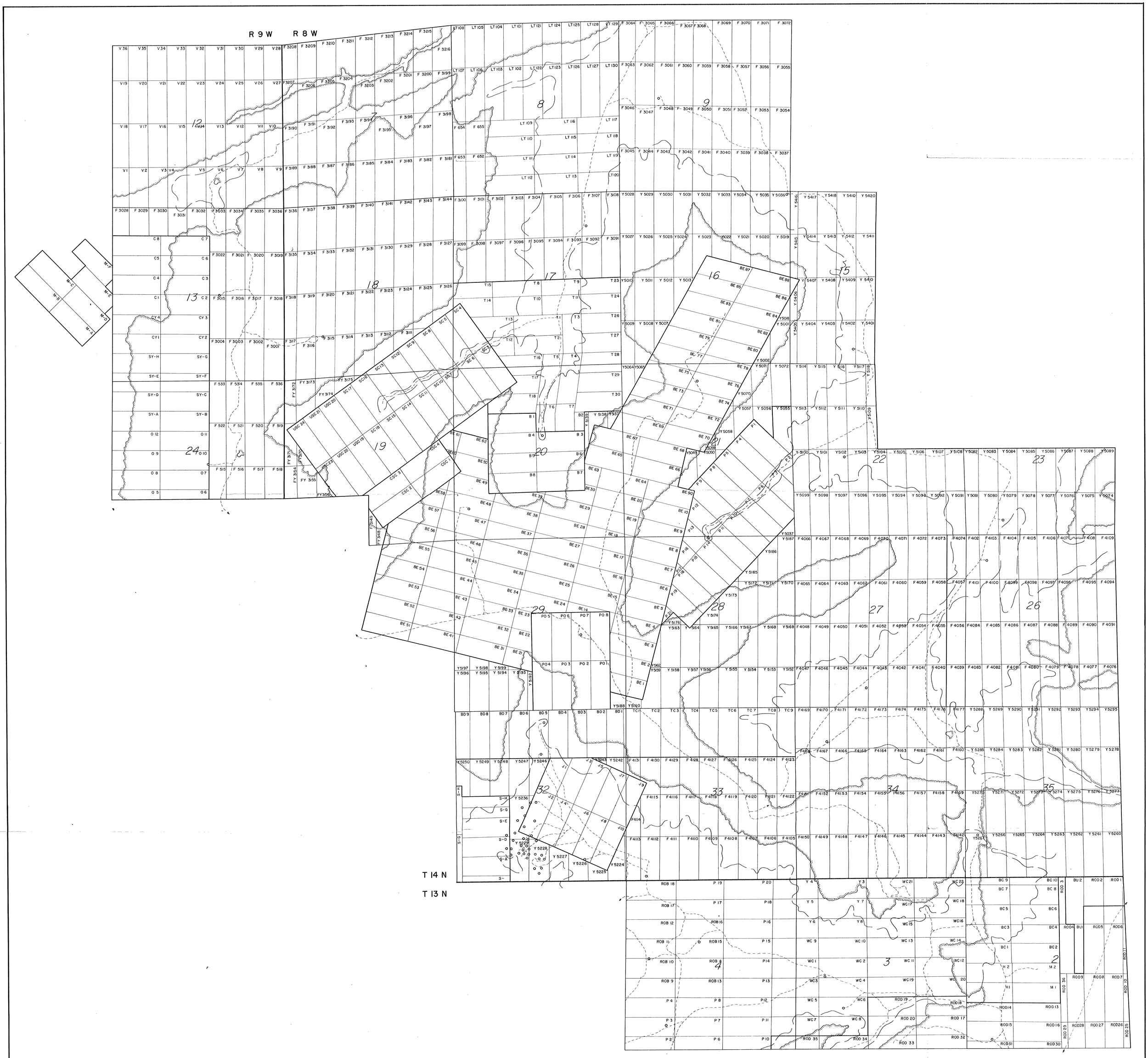
UN
KM 50%
NL 50%
RR
Fee
State Reserve
2000'
1500'
2500'
x Discovery monument 50' from end center
2000' Approximate drilling depth
REVISIONS
NO. DATE BY
KERMAC NUCLEAR FUELS CORP.
ROCA HONDA GROUP
McKinley County, New Mexico
DESIGNED BY
SCALE 1"=1000'
MATERIAL
CHK'D
DATE June 1965
DRAWING NO.
TRACED
APP'D



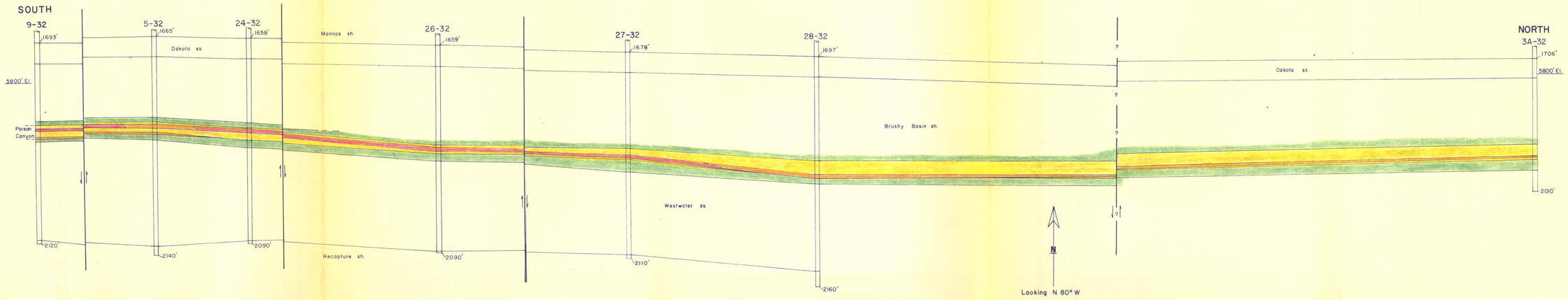
TO BE RETURNED TO:
E. J. LONGYEAR COMPANY
416 COLORADO BUILDING
DENVER 2, COLORADO

CLAIM LOCATION MAP
SAN MATEO DOME PROJECT
MC KINLEY COUNTY, NEW MEXICO

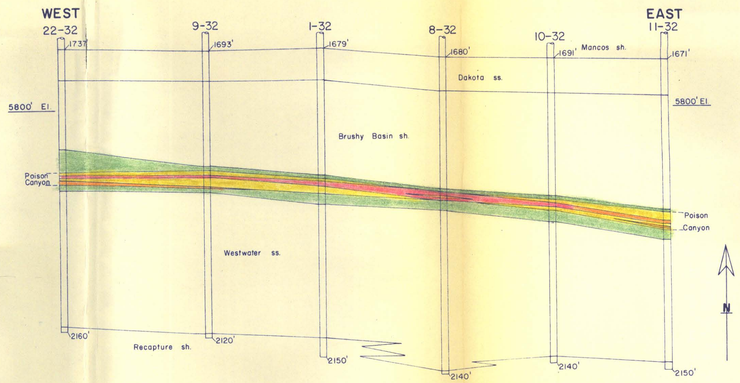
SCALE: 1" = 1000'
500 0 1000 2000
FEET

E. J. LONGYEAR COMPANY APRIL 15, 1958

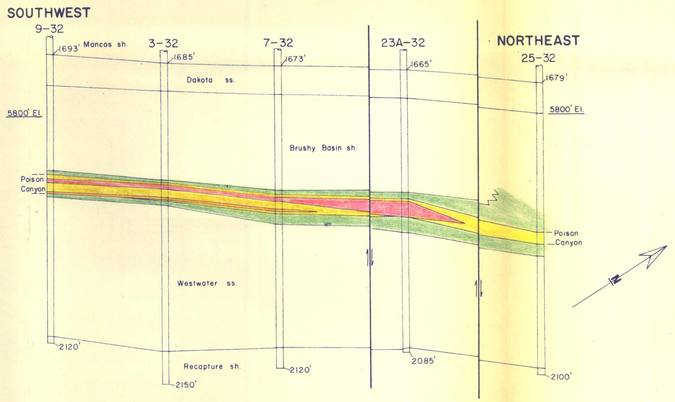
EXHIBIT C



SOUTH-NORTH CROSS SECTION



WEST-EAST CROSS SECTION



SOUTHWEST-NORTHEAST CROSS SECTION

EXPLANATION

- Shale above Poison Canyon
- Poison Canyon sandstone
- Ore - 5' or more of at least 0.15% e U_3O_8
- Mineralization - below 0.15% e U_3O_8
- Shale below Poison Canyon

TO BE RETURNED TO:
E. J. LONGYEAR COMPANY
416 COLORADO BUILDING
DENVER 2, COLORADO

SAN MATEO DOME PROJECT
CROSS SECTIONS THROUGH DRILL HOLES

SHOWING

ORE ZONE IN SECTION 32

T. 14 N., R. 8 W.

GRANTS - MT. TAYLOR MINING DISTRICT
McKINLEY COUNTY, NEW MEXICO

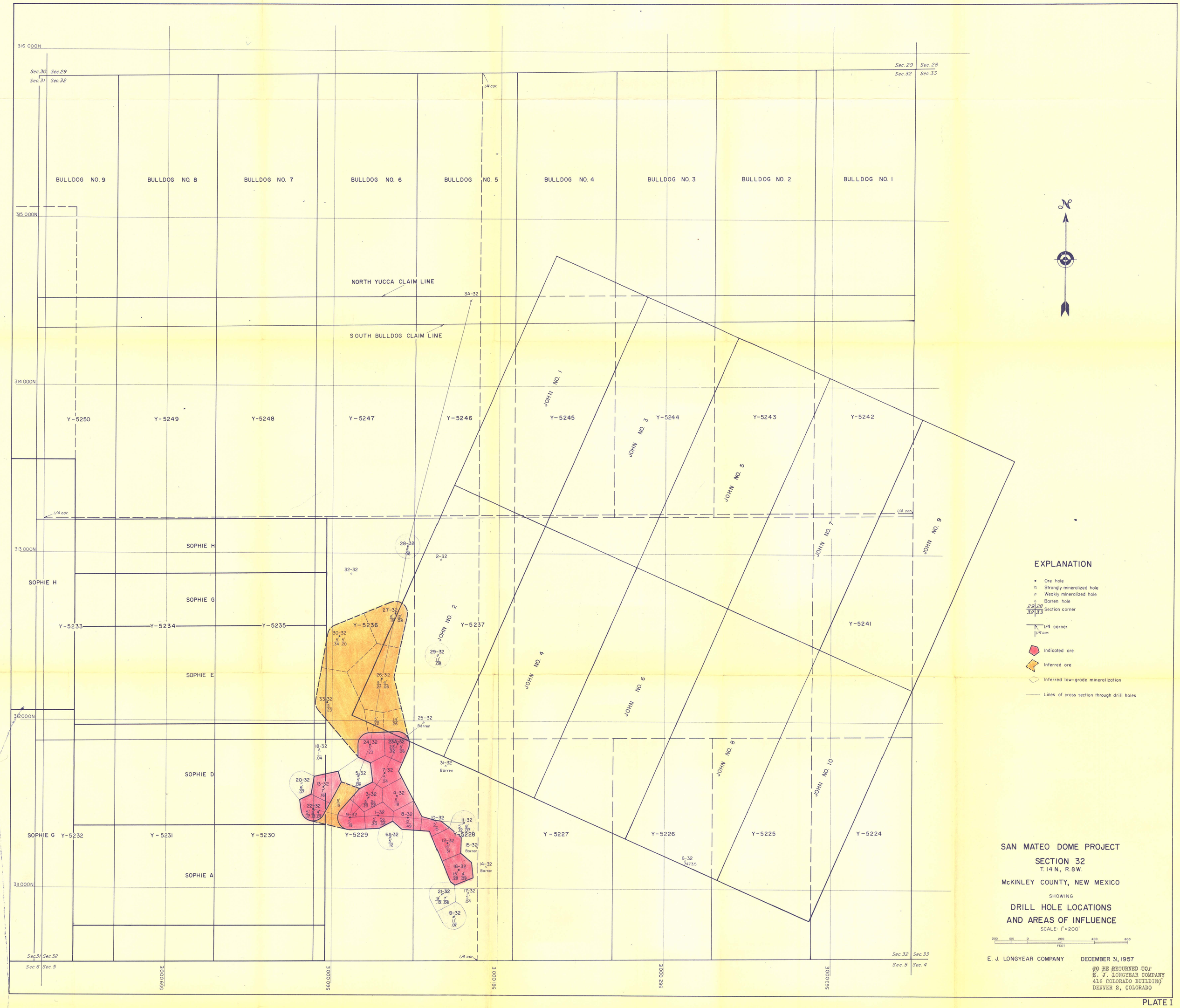
SCALE: 1" = 100'

100 50 0 100 200 300
FEET

E. J. LONGYEAR COMPANY
DECEMBER, 1957

GRANTS, NEW MEXICO
B. F. SORENSEN

PLATE II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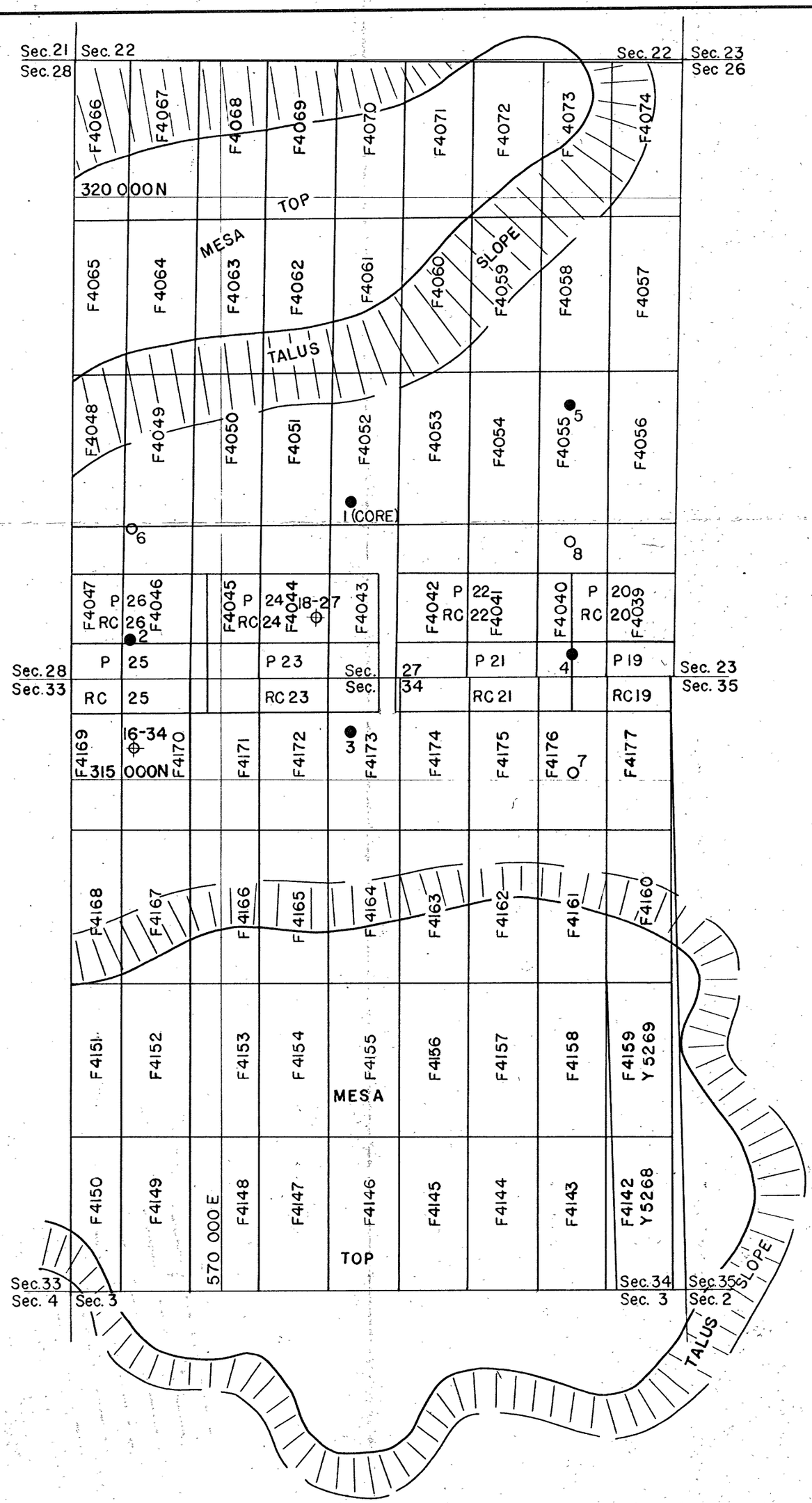
Sec. 30 Sec. 29
Sec. 31 Sec. 32
Sec. 29 Sec. 28
Sec. 32 Sec. 33
Sec. 31 Sec. 32
Sec. 6 Sec. 5
Sec. 32 Sec. 33
Sec. 5 Sec. 4
1/4 cor.
BULLDOG NO. 9
BULLDOG NO. 8
BULLDOG NO. 7
BULLDOG NO. 6
BULLDOG NO. 5
BULLDOG NO. 4
BULLDOG NO. 3
BULLDOG NO. 2
BULLDOG NO. 1
NORTH YUCCA CLAIM LINE
SOUTH BULLDOG CLAIM LINE
3A-32
Y-5250
Y-5249
Y-5248
Y-5247
Y-5246
Y-5245
Y-5244
Y-5243
Y-5242
JOHN NO. 1
JOHN NO. 2
JOHN NO. 3
JOHN NO. 4
JOHN NO. 5
JOHN NO. 6
JOHN NO. 7
JOHN NO. 8
JOHN NO. 9
JOHN NO. 10
SOPHIE H
SOPHIE G
SOPHIE E
SOPHIE D
SOPHIE A
Y-5233
Y-5234
Y-5235
Y-5236
Y-5237
Y-5241
Y-5232
Y-5231
Y-5230
Y-5229
Y-5228
Y-5227
Y-5226
Y-5225
Y-5224
28-32
2-32
32-32
27-32
30-32
29-32
26-32
33-32
25-32
Barren
24-32
23A-32
18-32
31-32
Barren
5-32
7-32
20-32
13-32
3-32
4-32
22-32
9-32
1-32
8-32
10-32
11-32
12-32
15-32
Barren
14-32
Barren
16-32
6A-32
21-32
17-32
19-32
6-32
EXPLANATION
Ore hole
Strongly mineralized hole
Weakly mineralized hole
Barren hole
Section corner
1/4 corner
Indicated ore
Inferred ore
Inferred low-grade mineralization
Lines of cross section through drill holes
SAN MATEO DOME PROJECT
SECTION 32
T. 14 N., R. 8 W.
McKINLEY COUNTY, NEW MEXICO
SHOWING
DRILL HOLE LOCATIONS
AND AREAS OF INFLUENCE
SCALE: 1" = 200'
200 100 0 200 400 600
FEET
E. J. LONGYEAR COMPANY
DECEMBER 31, 1957
TO BE RETURNED TO:
E. J. LONGYEAR COMPANY
416 COLORADO BUILDING
DENVER 2, COLORADO

PLATE I



EXPLANATION

- ⊕ Holes previously drilled
- ● Stage I holes
- ○ Stage II holes

Exhibit M

AREA III

PROPOSED DRILL HOLE LOCATIONS

MCKINLEY COUNTY, N. M.

SCALE 1" = 1000'

E J. LONGYEAR CO. GRANTS, N.M.

AUGUST 5, 1957 B. F. SORENSEN

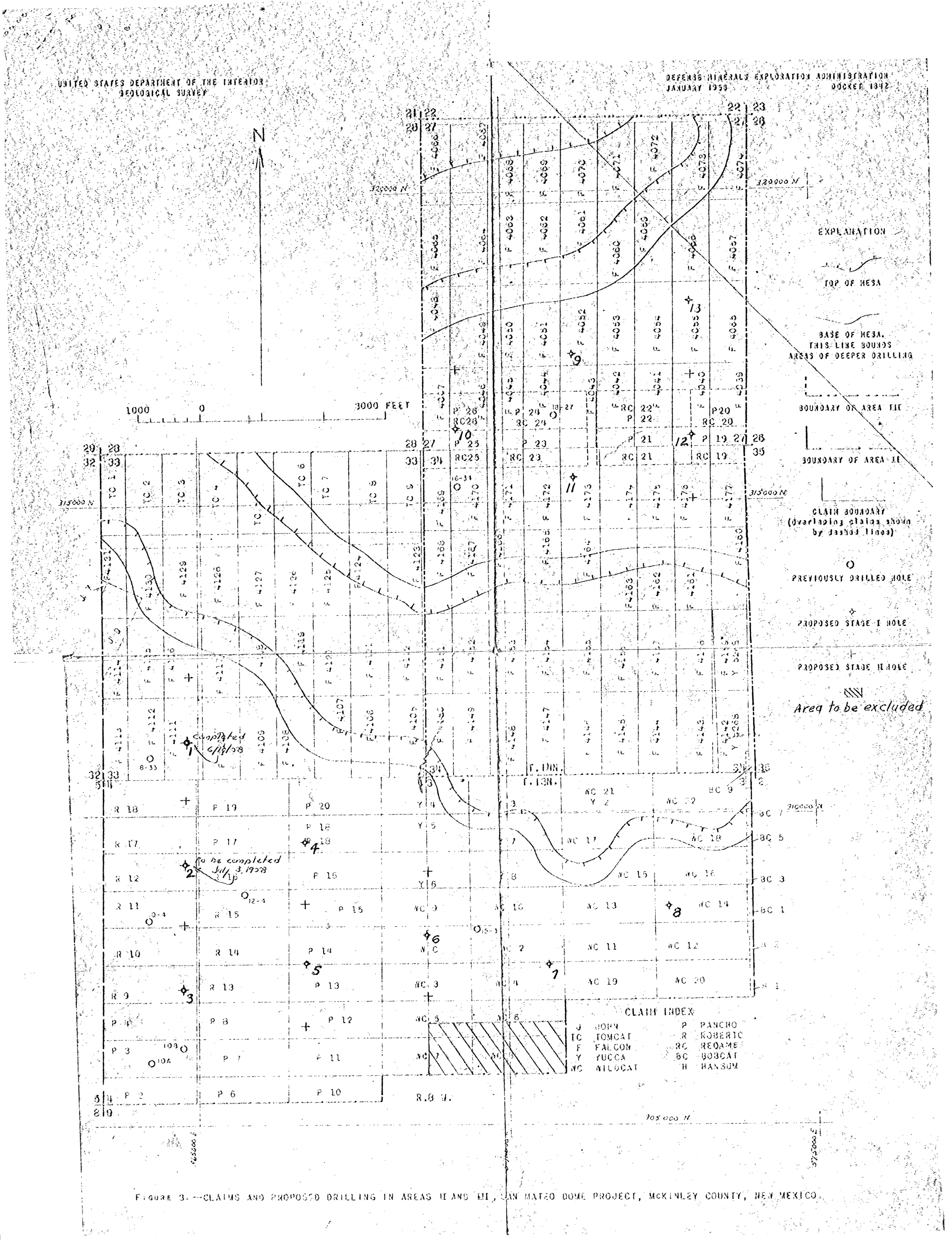


FIGURE 3.--CLAIMS AND PROPOSED DRILLING IN AREAS II AND III, SAN MATEO DOME PROJECT, McKINLEY COUNTY, NEW MEXICO.

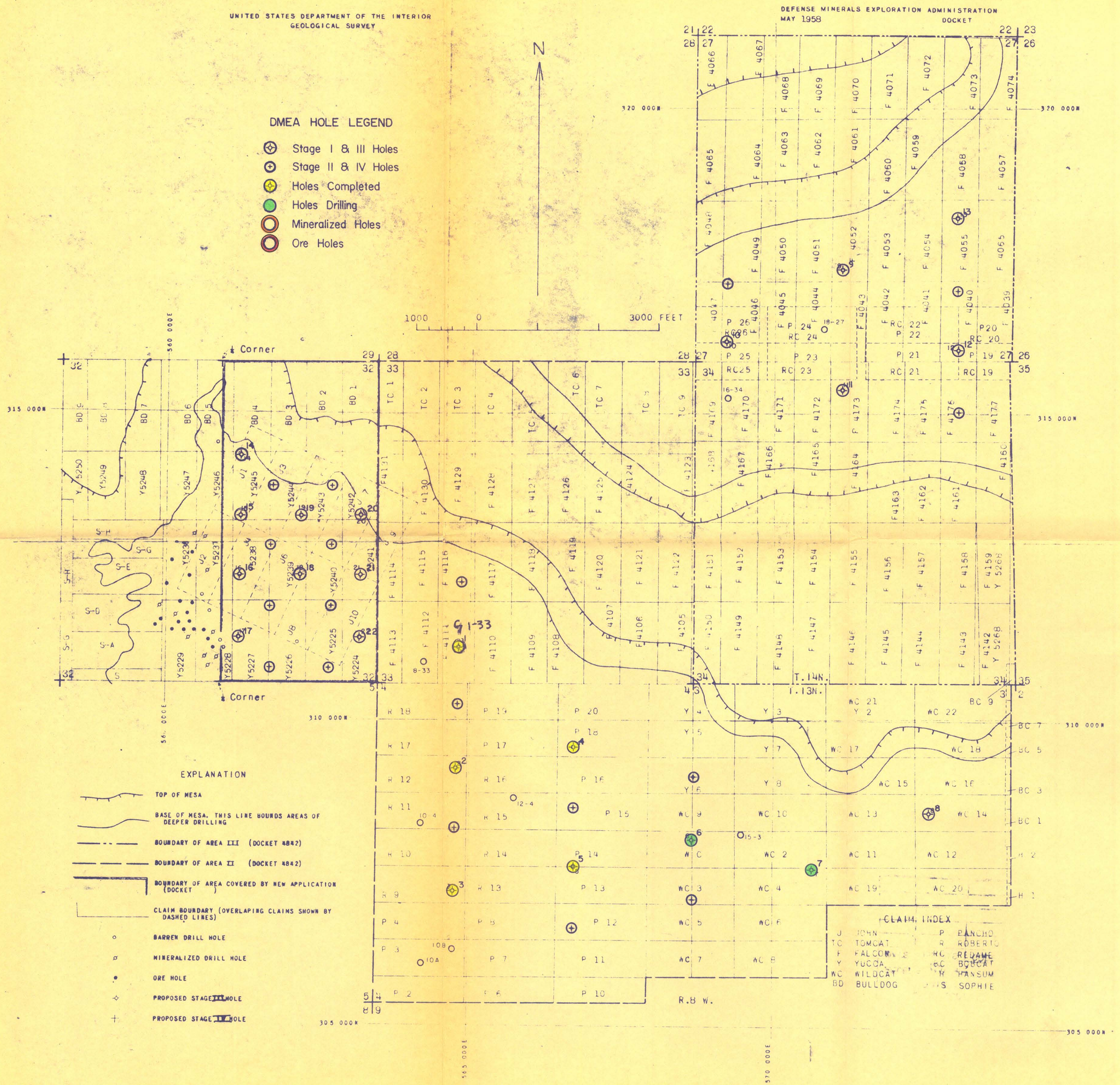
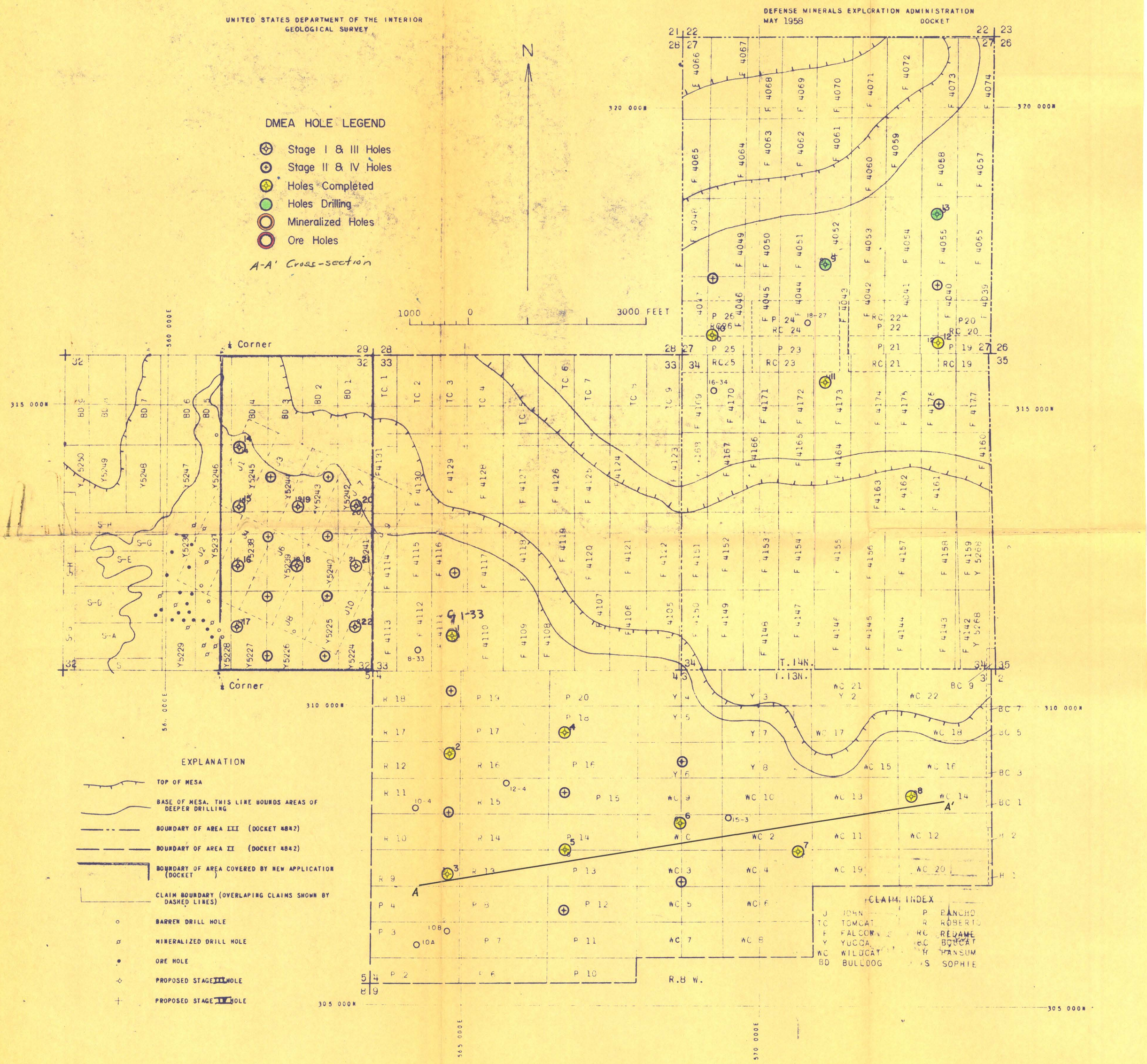


FIGURE 1.--CLAIMS AND PROPOSED DRILLING ON E½ SECTION 32, T.14 N., R.8 W., N.M.P.M., AND AREAS II AND III, SAN MATEO DOME PROJECT, McKINLEY COUNTY, NEW MEXICO.



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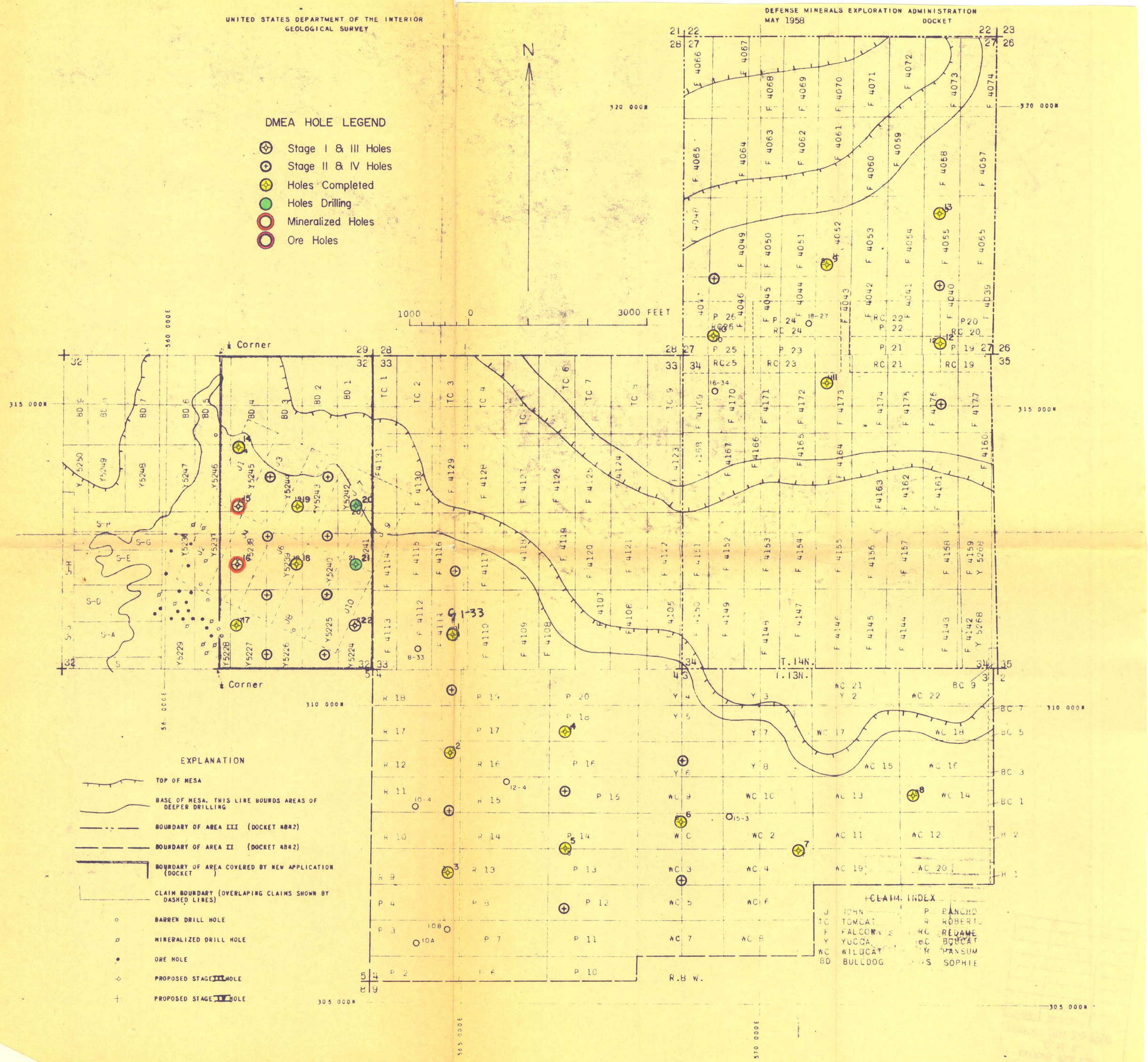

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