December 15, 1971

DEC 17 1971
Denver, Colorado

Memorandum

To: Chief, Washington TRU

From: Chief, Office of Minerals Exploration

Subject: Request to open file material on San Mateo Dome Project, McKinley County, New Mexico

Please prepare for open file release the enclosed material which is identified in the following proposed draft of a press release. Permission to release this material is indicated in the enclosed letter from the E. J. Longyear Company.

The U. S. Geological Survey is releasing in open files the following report and material prepared by the E. J. Longyear Company under a Defense Minerals Exploration Administration contract in 1958 and 1959. Copies are available for inspection in the Geological Survey Libraries, 1033 GS Building, Washington, D. C. 20242, and 1012 Federal Building, Denver, Colorado 30202.

PIO

1. (a) Operator's final report on results of work completed on the San Mateo Dome Project, McKinley County, New Mexico, by E. J. Longyear Company, 1959. 8 p., 1 map (scale 1 inch equals 1,000 feet), 1 table.

(b) Lithologic drill logs, 32 p.

(c) Geologic sections of drill holes, 22 p.

(d) Gamma ray logs, 22 sheets

Harold Kirkemo

Harold Kirkemo

Enclosures

Original and 1 copy to:
Norman L. Hatch, Jr.
Washington TRU, U. S. Geological Survey
1625 I Street, N. W.

cc: OME Region III w/cy EJLongyear letter 9/16/71
OME File
Mr. Kirkemo

HKirkemo/gla 12-15-71

P. S. One copy of this material will be furnished Denver TRU by our Denver office.

Operator's Final Report
San Mateo Dome Project
McKinley County, New Mexico

by
E. J. Longyear Company, Operator
under
DMEA Docket No. 4822 (Uranium)
Contract No. Idm-E1183
May-October 1958

E. J. LONGYEAR COMPANY
General Offices, 76 South 8th St.
Minneapolis 2, Minnesota, U. S. A.
TELEPHONE: FEDERAL 9-7631 • CABLE LONGCO

March 7, 1959

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

OME
DEPARTMENT OF THE INTERIOR
MAR 11 1959
DENVER, COLORADO

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

Final Report (March, 1959)

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

Gentlemen:

The following is submitted as a Final Report on results of work completed on the San Mateo Dome Project, McKinley County, New Mexico, under DMEA Contract Idm-E1183.

INTRODUCTION

An application for assistance on a drilling program was first submitted to the Defense Minerals Exploration Administration in October of 1957. The application was approved in April, 1958 and a Contract with the Government was signed allowing for some 23 holes to be drilled in two stages of drilling, Stage II (10 holes) to be drilled only if Stage I results warranted and Government approval was given in writing. Government participation was to be at 75%. The approved program covered drilling in sections 27, 33, and 34, T. 14N., R. 8W., and sections 3 and 4, T. 13 N., R. 8W., NMPM, McKinley County, New Mexico.

In April, 1958 a second DMEA application was submitted covering a drilling program in the E $\frac{1}{2}$ of section 32, T. 14 N., R. 8 W., NMPM, McKinley County, New Mexico. The drilling covered all of the area in the E $\frac{1}{2}$ of the section south of the mesa slope, on a spacing of approximately 700 feet. Government participation was to be at 50%.

On June 28, 1958, an Amendment was made to the existing Contract (Idm-E1183), providing for additional work and funds as requested in the application of April, 1958. The Government Contract, as amended, covered

drilling 40 exploratory holes at an estimated cost of $176,770.00, of which the Government would contribute up to $114,235.00. The additional work allowed drilling up to 17 holes in the E ½ of section 32 in two stages of drilling.

The overall program (40 holes) was to be carried out in four stages of drilling. Stages I and III were to be drilled first, Stages II and IV to be drilled only if results of drilling in Stages I and III warranted, and Government approval was given in writing. Drilling under the Contract commenced May 13, 1958.

GENERAL GEOLOGY

For details of straigraphy and structure in the area of which the San Mateo Dome Project is a part, reference is made to V. C. Kelley's Report on Geology and Uranium Possibilities of the San Mateo Dome Area, McKinley County, New Mexico. Mr. Kelley's Report was previously submitted to DMEA as Appendices to the applications for DMEA assistance which resulted in the Contract covered by this report. A general picture of the geology follows.

Stratigraphy

The rocks exposed in the San Mateo Dome area are the Mesaverde Group of Upper Cretaceous age. The broad valleys throughout the area and the steep canyons on the west and south are in the Mulatto shale member of the Crevasse Canyon formation. Covering most of the center and the western edge of the area steep cliffs occur, composed in ascending order, of the flat-lying Dalton sandstone and Gibson coal members of the Crevasse Canyon formation, and capped by the Point Lookout sandstone. Unexposed but lying below the Mulatto shale, in descending order, are the Dilco coal members of the Crevasse Canyon formation, Gallup sandstone, Mancos shale, and Dakota sandstone (Upper Cretaceous); Brushy Basin member of the Morrison formation (Jurrasic), the Westwater Canyon member of the Morrison (an upper Westwater Canyon sandstone lens intertongues with the overlying Brushy Basin shale in parts of the area, and is locally known as the Poison Canyon sandstone); and the Recapture Creek member of the Morrison formation.

The uranium ore deposits of the Ambrosia Lake area occur in the main body of the Westwater Canyon member of the Morrison formation and also in the Poison Canyon sand-tongue. In the San Mateo Dome area mineralization has been noted only in the Poison Canyon sand-tongue.

Structure

Reconnaissance drilling on the San Mateo Dome has confirmed the existence of an assymmetrical dome of post-Cretaceous age. Offset drilling in section 32 suggests that the axis of the dome passes through the center

of that section in a northeast direction. The dome is broken by numerous northeast-trending faults. Other faults with a different trend, not apparent on the surface, are indicated by drill hole information, as is pre-Cretaceous folding in the Morrison formation.

EXPLORATION

On May 13, 1958, drilling on the San Mateo Dome Project, under DMEA Contract Idm-E1183 was initiated. Drilling was continuous through October 24, 1958, at which time Stages I and III were completed. Results of drilling in Stages I and III did not justify completing Stages II and IV; however, a request was made on November 1, 1958 for an amendment to the Contract to allow for further drilling in the W ½ of section 32 (see Fig. 1 attached). The request was for 6 holes. On December 9, 1958, tentative approval was given by the Government to drill 2 of the requested holes, with the provision to be made for additional holes should either of the first 2 penetrate ore-grade material. Because executed Consents to Lien forms covering additional ground to be subordinated under the Contract could not be obtained from all parties concerned, the request of November 1, 1958, was withdrawn on February 17, 1959.

During the term of the Contract, 45,016 feet were drilled in 22 completed holes. Total cost of the project was approximately $98,147.79, of which the Government contributed approximately $63,294.50.

Details of drilling, probing, and sampling under each Stage of the work follows.

Drilling

All holes were drilled by Scott Bros. Drilling Company of Grants, New Mexico, with a Failing truck-mounted Model 1500 drill rig and using 4 3/4 inch bits. When coring, a 4 inch bit was used to get a 2 5/16 inch core. Samples of drill cuttings indicated that all holes penetrated the Recapture member of the Morrison formation at least 20 feet.

Of the 45,016 feet drilled only 44,851 feet were submitted to the Government for reimbursement. The difference is explained by the fact that some of the holes penetrated the Recapture more than 20 feet and the Government only recognized depths up to 20 feet into the Recapture member.

Stage I - Drilling commenced May 13, 1958 and was completed September 10, 1958. A total of 26,376 feet were drilled in 13 completed holes (see Drill Hole Data Sheet attached). One hole was drilled in section 33, 5 in section 4, 2 in section 3, 4 in section 27, and 1 in section 34 (see attached Fig. 1 for hole locations).

Two holes, G-1-33 and G-9-27, were cored through the Westwater member. Total feet cored were 591; 334 feet in hole G-1-33, and 257 feet in hole G-9-27.

A total of 25,500 feet of non-core drilling and 700 feet of core drilling was allowed by the Contract. Of the 26,376 feet drilled, 26,261 feet were submitted to DMEA for reimbursement. The excess footage turned in was approved by DMEA by letter of November 10, 1958, to the San Mateo Dome Project from Mr. J. W. Townsend; the footage being covered by a transfer from that footage allowed under Stage II drilling.

Stage II - Results of Stage I drilling did not justify continuing with Stage II drilling, therefore no work was done under Stage II.

Stage III - Drilling started September 8, and was completed October 24, 1958. A total of 18,640 feet were drilled in 9 completed holes (see Drill Hole Data Sheet attached). All holes were drilled in the E $\frac{1}{2}$ of section 32, spacing between holes being approximately 1000 feet north to south and 2000 feet east to west. None of the holes were cored. Of the 18,640 feet drilled, 18,590 feet were submitted to DMEA for reimbursement. The footage not submitted was deducted from the total because certain of the holes were drilled more than 20 feet into the Recapture member.

None of the holes penetrated ore-grade material.

Stage IV - Because Stage IV holes were to be drilled as offsets to Stage III holes that penetrated ore-grade material, no work was done under Stage IV.

Probing

All holes were probed by Century Geophysical Corporation of Tulsa, Oklahoma, using a truck-mounted Logging Control Unit, Model 2201. In each hole, there were recorded (when possible) three logs, gamma-ray, resistivity, and self-potential.

The geophysical logs indicated that all holes except one were drilled into the Recapture member at least 20 feet. The log on hole G-7-3 indicates that the Recapture was penetrated only 11 feet. The Drill Hole Date Sheet attached is a compilation of all data obtained from an interpretation of the gamma-ray, resistivity, and self-potential curves recorded on the geophysical logs. Because of their bulk (they are each 20 feet long) and the cost of reproduction, plus the fact that 5 copies of each log have previously been submitted, no logs will be submitted with this report. Should it be necessary that copies of the logs are needed arrangements can be made to submit them at a later date.

A total of 44,930 feet were probed in 22 completed holes. Of the total feet only 44,756 feet were submitted to DMEA for reimbursement. The difference is explained by the fact that some of the holes could not be probed to their entire depth because of caving, and by the fact that

some of the holes were drilled more than 20 feet into the Recapture but the Government only recognized depths up to 20 feet into the Recapture member.

Stage I - a total of 26,377 feet were logged in 13 completed holes. No above background radioactivity was recorded in any of the holes and all are considered barren (see Drill Hole Data Sheet attached).

The Westwater member ranges in thickness from 73 feet in hole G-7-3 to 202 feet in hole G-1-33. Average thickness is 132 feet. The Poison Canyon sand is thought to be present only in holes G-3-4 and G-4-4. In most of the other holes there exists several shale splits within what is interpreted as the Westwater and it is possible that the upper sand beds could be the Poison Canyon sand; however, this cannot be determined because of the distance between holes which makes correlation difficult, and the entire interval is called the Westwater member.

Of the total feet probed, only 26,166 feet were submitted for reimbursement.

Stage II - No holes were drilled under Stage II.

Stage III - A total of 18,653 feet were logged in 9 completed holes. No above background radioactivity was recorded in 7 of the 9 holes probed, indicating that they are barren. Two of the holes, G-15-32 and G-16-32, contained above background radioactivity and are considered mineralized. The indicated mineralization is in the Poison Canyon sand at a depth of approximately 1880 feet. Only slight mineralization, amounting to an estimated 1 - 3 feet of 0.03 -0.04% eU308 is indicated (see Drill Hole Data Sheet attached).

The Westwater member ranges in thickness from 106 feet in hole G-16-32 to 211 feet in hole G-22-32. Average thickness is 151 feet. The Poison Canyon sand unit is present in all but 3 holes. Average thickness of the Poison Canyon sand is approximately 50 feet. Thickness of the sand has no noticeable effect on the mineralization.

Of the total feet probed, only 18,590 feet were submitted to DMEA for reimbursement.

Stage IV - No holes were drilled under Stage IV.

Sampling

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 member had been penetrated at least 20 feet.

When core drilling, all core was checked for radioactivity, stored in core boxes, and saved for future study. No samples were deemed worthy of chemical assay.

Stage I - Core and sludge samples from the holes indicate that bleached Westwater sand in excess of 100 foot thicknesses is present, and that coarse grained sand zones exist in the Westwater. In spite of these favorable conditions, gamma-ray logs show that all holes contain no above background radioactivity.

Stage II - No samples taken.

Stage III - As in Stage I sampling, sludge samples indicate that bleached Westwater sand in excess of 100 feet thicknesses is present, and that coarse grained sand zones exist in the Westwater. However, 7 of 9 holes are shown to be barren by the geophysical logs. In none of the holes were samples deemed worthy of chemical assay. Neither the samples from the barren holes nor the mineralized holes showed any above background radioactivity when checked with a geiger counter.

Stage IV - No samples taken.

Summary of Costs

Actual Costs (Stage I)

Category (1) Independent Contracts	Cost to SMDP	Cost submitted to DMEA
19,500 feet of non-core drilling 0-1,500 ft. depths, @ $1.50/ft.	$29,250,00	$29,250.00
6,285 ft. of non-core drilling,1,500 -2,200 ft. depths, @ $2.25/ft.	14,141.25	13,882.50
591 feet core drilling,1,600-2,200 ft. depths, @ $13.00/ft.	7,683.00	7,683.00

Category (1) Independent Contracts	Cost to SMDP	Cost submitted to DMEA
5.5 hours drill crew standby time @ $15.00/hr.	82.50	82.50
26,377 feet probing and logging @ $ 0.115/ft.	2,971.55	2,958.95
18.6 logging crew stand-by time @ $10.00/hr.	186.00	86.00
Cost of lost circulation material in excess of $100.00/hole (13 holes)	497.10	82.00
42 hrs. bulldozing @ $14.00/hr.	630.00	570.00
Categories (2) through (6) None		
Category (7) Miscellaneous		
70 cardboard core boxes @ $1.17 each	82.13	82.13
Chemical analyses - none taken		
Fixed Unit Costs		
Incidental allowance for each foot of hole drilled, 26,376 feet @ $0.18/ft.	4,747.68	4,726.98
TOTAL COST OF STAGE I	$60,271.21	$59,404.06

Actual Costs (Stage III)

Category (1) Independent Contracts	Cost to SMDP	Cost submitted to DMEA
13,500 feet non-core drilling 0-1,500 ft. depths @ $1.50/ft.	20,250.00	20,250.00
5,140 feet non-core drilling 1,500-2,200 ft. depths, @ $2.25/ft.	11,565.00	11,452.50
22.5 hrs. drill crew stand-by time @ $15.00/hr.	337.50	135.00
18,653 feet probing and logging @ $ 0.115/ft.	2,055.98	2,045.23
9 hrs. logging crew stand-by @ $10.00/hr. & $17.00/hr.	102.90	74.00

	Cost to SMDP	Cost submitted to DMEA
Cost for lost circulation material in excess of $100.00/hole - none		
14 hrs. bulldozing @ $15.00/hr.	210.00	180.00
Categories (2) through (6) None		
Fixed Unit Costs		
Incidental allowance for each foot of hole drilled, 18,640 ft. @ $0.18/ft.	3,355.20	3,346.20
TOTAL COST OF STAGE III	$ 37,876.58	$37,482.93
TOTAL COST STAGE I & STAGE III.....	$ 98,147.79	$96,886.99
GOVERNMENT PARTICIPATION.....		$63,294.50

SUMMARY AND CONCLUSIONS

A total of 45,016 feet were drilled in 22 completed holes, in two stages of drilling. Stage I drilling was distributed over an area covering approximately three land sections with holes being drilled in each of five different sections. An evaluation of results of Stage I drilling indicate that all of the holes are barren and that there is no justification for further drilling in that area. Stage III drilling was distributed over an area covering only ½ section. An evaluation of results show two holes to be mineralized and seven holes to be barren. The two mineralized holes are 1000 feet apart with no holes between them, and although the mineralization encountered cannot be considered ore-grade, it does indicate the presence of near by ore-grade material. However, mineralization noted in holes SM 2-32 and SM 29-32, located immediately to the west and on the northeast end of a presently known ore zone where the known ore appears to be thinning out, indicates that the mineralization noted in holes G-15-32 and G-16-32 is probably a halo around the known ore to the west rather than mineralization on the sides of an eastern extension of that ore.

Sincerely yours,

E. J. LONGYEAR COMPANY

B. F. Sorensen
Project Engineer

BFS/emr

E. J. LONGYEAR COMPANY, AGENT
SAN MATEO DOME PROJECT

DRILL HOLE DATA — JOB NO. DMEA Docket No. 4842 CONTRACT Idm-E1183 STAGES I & III

Sections 33, 34, 27 and T14N, R8W; 3, 4, T13N, R8W

SECTION ___, T ___ N, R ___ W, McKINLEY COUNTY, NEW MEXICO

HOLE NO	CORED (C) PLUGGED (P)	COLLAR ELEV	COORDINATES	DEPTH DRILLED	DEPTH LOGGED	DATE COMP	Kd D	Kd E	Kd T	Jmbb D	Jmbb E	Jmbb T	JmPc D	JmPc E	JmPc T	JmPc (Base) D	JmPc (Base) E	JmPc (Base) T	Jmwc D	Jmwc E	Jmwc T	Jmrc D	Jmrc E	MINERALIZATION Depth of Top-Base	Elev. of Top-Base	Thickness cps, grade product	Rock Type B'k-Sill	Depth of Top-Base	Elev of Top-Base	Thickness cps, grade product	Rock Type B'k-Sill	Depth of Top-Base	Elev of Top-Base	Thickness cps, grade product	Rock Type B'k-Sill	Depth of Top-Base	Elev of Top-Base	Thickness cps, grade product	Rock Type B'k-Sill
STAGE I			N																																				
Sec. 33, T14N, R8W			E																																				
G-1-33	P & C	7426.6	311,221 N 564,854 E	2036	2040	6/11/58	1602	5825	45	1647	5780	150	Missing	—	—	—	—	1828	5599	202	2030	5397	Barren															
Section 4 T13N, R8W			N E																																				
G-2-4	P	7383.4	304,200 N 564,800 E	2020	2012	7/3/58	1604	5779	39	1643	5740	157	Missing	—	—	—	—	1800	5583	199	1999	5384	Barren															
G-3-4	P	7444.5	307,200 N 564,800 E	2030	2027	7/17/58	1625	5820	38	1663	5782	191	1816	5629	25	1841	5604	—	1854	5591	124	1978	5467	Barren															
G-4-4	P	7353.2	309,635 N 566,908 E	2020	2025	7/31/58	1613	5740	46	1659	5694	201	1828	5525	20	1848	5505	—	1860	5493	120	1980	5373	Barren															
G-5-4	P	7383.3	307,539 N 566,831 E	2060	2073	7/31/58	1703	5680	47	1750	5633	135	Missing	—	—	—	—	1885	5498	135	2020	5363	Barren															
G-6-4	P	7289.7	308,200 N 568,800 E	2050	2034	8/7/58	1655	5635	49	1704	5586	150	Missing	—	—	—	—	1854	5436	160	2014	5276	Barren															
Section 3 T13N, R8W			N E																																				
G-7-3	P	7277.8	307,700 N 570,800 E	2070	2081	8/13/58	1801	5477	45	1846	5432	151	Missing	—	—	—	—	1997	5281	73	2070	5208	Barren															
G-8-3	P	7354.7	308,500 N 572,600 E	2295	2295	8/16/58	1929	5426	42	1971	5384	155	Missing	—	—	—	—	2126	5229	114	2240	5115	Barren															
Section 27 T14N, R8W			N E																																				
G-9-27	P & C	7419?	317,400 N 571,200 E	1907	1905	9/6/58	1506	5913	43	1549	5870	171	Missing	—	—	—	—	1720	5699	180	1900	5519	Barren															
G-10-27	P	7410?	316,200 N 569,200 E	1940	1950	8/20/58	1600	5810	42	1642	5768	118	Missing	—	—	—	—	1760	5650	128	1888	5522	Barren															
G-12-27	P	7370?	315,900 N 573,200 E	2090	2090	8/31/58	1707	5663	38	1745	5625	151	Missing	—	—	—	—	1896	5474	131	2027	5343	Barren															
G-13-27	P	7447?	317,900 N 573,200 E	1970	1970	9/10/58	1527	5920	38	1565	5882	195	Missing	—	—	—	—	1760	5687	151	1911	5536	Barren															
Section 34 T14N, R8W			N E																																				
G-11-34	P	7380?	315,400 N 571,200 E	1880	1875	8/25/58	1509	5871	44	1553	5827	104	Missing	—	—	—	—	1657	5723	181	1838	5542	Barren															
STAGE III			N E																																				
Section 32 T14N, R8W			N E																																				
G-14-32	P	7516.0	314,302 N 561,190 E	2080	2090	9/15/58	1690	5826	41	1731	5785	198	1863	5653	57	1920	5596	—	1929	5587	129	2058	5458	Barren															
G-15-32	P	7501.2	313,303 N 561,188 E	2070	2070	9/15/58	1682	5819	34	1716	5785	206	1857	5644	38	1895	5606	—	1922	5579	123	2045	5456	1876 -1877	5625 -5624	1 x 300 = 300													
G-16-32	P	7485.9	312,304 N 561,187 E	2080	2073	9/25/58	1641	5845	47	1688	5798	225	1822	5664	64	1886	5600	—	1913	5573	137	2050	5436	1884 -1885	5602 -5601	1 x 96 = 96													
G-17-32	P	7509.3	311,305 N 561,186 E	2070	2049	9/25/58	1656	5853	44	1700	5809	235	1842	5667	73	1915	5594	—	1935	5574	106	2041	5468	Barren															
G-18-32	P	7457.6	312,303 N 562,188 E	2050	2066	10/1/58	1632	5826	44	1676	5782	170	1784	5674	51	1835	5623	—	1846	5612	211	2057	5401	Barren															
G-19-32	P	7517.4	313,301 N 562,189 E	2080	2090	10/1/58	1699	5818	41	1740	5777	189	1887	5630	15	1902	5615	—	1929	5588	149	2078	5439	Barren															
G-20-32	P	7496.9	313,300 N 563,188 E	2100	2100	10/24/58	1689	5808	40	1729	5768	191	Missing	—	—	—	—	1920	5577	164	2084	5413	Barren															
G-21-32	P	7456.4	312,301 N 563,187 E	2090	2080	10/13/58	1648	5808	44	1692	5764	171	Missing	—	—	—	—	1863	5593	178	2041	5415	Barren															
G-22-32	P	7428.1	311,303 N 563,186 E	2030	2035	10/24/58	1620	5808	40	1660	5768	174	Missing	—	—	—	—	1834	5594	186	2020	5408	Barren															

Lithologic drill logs
San Mateo Dome Project
McKinley County, New Mexico

Drilling conducted by
E. J. Longyear Company, Operator
under
DMEA Docket No. 4822 (Uranium)
Contract No. Idm-E1183
May-October 1958

FORM A

[redacted]

Re: Docket No. DMEA 4842
(Uranium)
Contract IGm-E1183
San Mateo Dome Project
E.J.Longyear Company, Agent
(San Meteo Dome Project)
McKinley County, New Mex.

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-1-33

SAN MATEO DOME PROJECT

Exploration at Sec. 33, T.14 N., R. 8 W. (mine, prospect, or place), McKinley (county), New Mexico (state)

For SAN MATEO DOME PROJECT (company, group, or individual)

Date started 5/13/58 Completed 6/10/58

Driller Scott Bros.

Sampler B. F. Sorensen (Project Engineer)

Collar elevation 7425 (?)

Coordinates (or bearing and distance from a reference point) 311,200 N 564,800 E

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from ____ ft.= ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	250	250	Sludge		4-3/4	light to dark gray		Mulatto	
						shale & silt-mudstone		shale	
250	290	40	Sludge		4-3/4	gray fine to medium			
						grained sandstone.			
				(drilled on		air to 460 feet.)			
290	520	230	Sludge		4-3/4	dark gray shale &		Dilco	
						mudstone.			
520	610	90	Sludge		"	light gray fine to		Gallup sand	
						medium grained sandstone.			
610	1580	970	Sludge		"	light to dark gray		Mancos shale	
						siltstone shale & mud-			
						stone sand beds at			
						1460 - 1480.			
1580	1640	60	Sludge		"	fine to medium grained		Dakota (?)	
						light colored sandstone.			

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-1-33

SAN MATEO DOME PROJECT

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record From	To
1640	1700	60	Sludge		4-3/4	gray-green shale	Brushy Basin	
						Brushy Basin (?)	shale at 1640	
Started coring at 1700 ft. using a 15' core barrel-2 5/16" core -4" bit.								
1700	1715	15	9.1	61	4"	1700-1703.5 fine grained		
						gray-green ss. well		
						sorted non-calcareous.		
						1703.5-1707 fine to		
						medium grained gray		
						arkosic ss. Some		
						calcareous material.		
						1707-1709.1 gray-green		
						shale to mudstone.		
						Calcareous material		
						present.		
1715	1730	15	14.8	99	4"	gray-green shale with		
						interbedded mudstones.		
						Some reddish inter-		
						bedded shales.		
1730	1745	15	3	20	"	core dropped out of		
						the core barrel - gray		
						mudstone.		
1745	1760	15	14.3	95	"	6 ft. light gray fine		
						grained ss. 1 ft. coarse		

(continued Page 2)

E. J. LONTE[illegible]

DRILL HOLE NO. [illegible]

SAN MATEO DOME PROJECT

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
						grained unsorted ss.			
						arkosic with 1/4"			
						pebbles.			
						2.3 ft. light gray			
						fine grained ss.			
						5 ft. green shale mudstone.			
1760	1775	15	14	93	4"	green shale & mudstone.			
1775	1790	15	14.7	98	"	green shale & mudstone			
1790	1805	15	15.0	100	"	3' fine grained dark			
						gray greenish ss. Some			
						Carbonate zones. 11'			
						dark red shale and			
						mudstone. 1' fine			
						grained reddish-green ss.			
1805	1818	13	13	100	"	2.5' fine grained gray-			
						green to reddish arkosic			
						ss.			
1805	1818	13	13	100	"	2.5' fine grained gray-	Westwater		
						green to reddish	sand at 1804'		
						arkosic ss.			
						1' coarse grained un-			
						sorted arkosic ss.			
						4.8' green-reddish			

(Continued on Page 4)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-1-33

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
						fine grained ss.			
						4.7' fine to med.			
						grained dark gray			
						dirty ss.			
1818	1832	14	13.6	97	4"	3' fine grained greenish			
						ss-arkosic, 1' medium			
						to coarse grained green			
						ss, 9 .6' fine grained			
						arkosic ss.			
1832	1847	15	14.3	95	"	fine grained greenish			
						arkosic ss. Some			
						medium grained zones			
						shaly zone at 1835,			
						possible fault, very			
						calcareous.			
1847	1862	15	14.9	99	"	fine grained greenish ss.			
1862	1877	15	15	100	"	6' unsorted coarse			
						grained arkosic green ss.			
						9' fine grained vari-			
						gated red, white & green			
						ss.			
1877	1892	15	10.7	71	"	fine grained greenish ss.			
1892	1907	15	13.3	89	"	fine grained greenish			
						gray ss.			

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-1-33

SAN MATEO DOME PROJECT

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Box No.	From
1907	1922	15	14.5	97	4"	fine to medium grained		
						greenish gray ss. to		
						1917'		
						5' green to red very		
						fine grained shaly ss.		
1922	1937	15	14.7	98	"	fine grained variegated		
						red to gray-green ss.		
1937	1952	15	15	100	"	fine to medium grained		
						gray-green arkosic ss.		
1952	1967	15	15	100	"	fine to medium grained		
						unsorted gray-green		
						arkosic ss, some local		
						coarse grained beds.		
1967	1982	15	7.5	50	"	same as above		
1982	1997	15	15	100	"	same as above		
1997	2012	15	14.9	99	"	same as above		
2012	2027	15	13.5	90	"	same as above to 2022		
						5' interbedded ss and		
						red & green shale		
						possibly Recapture		
2027	2036	9	9	100	"	red and green shale Recapture.		
		Contacts picked as follows:						
				Dakota	-	1580 - 1610		

All core was checked with a Model 1000 Geiger Counter - No above background radioactivity was noted.

(Continued on Page 5)

DRILL

SAN MATE

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks
		Contacts picked as follows: (Continued)				
		Brushy Basin			-	1[illegible] - 180'
		Westwater			-	180' - 2022
		Recapture			-	2022 - 2027
		Total footage ~~drilled~~ - ~~327~~ feet				
		Total core recovered - ~~290~~ feet				
		% core recovery = 89%				
		% core recovery through Westwater = [illegible]				

IT IS HEREWITH CERTIFIED THAT [illegible] TRUE [illegible] OF THE ORIGINAL LOG.

B. F. Sorenson

Page

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-2-4

SAN MATEO DOME PROJECT

Exploration at Section 4, T 13N, R 8W (mine, prospect, or place), Mc Kinley (county), New Mexico (state)

For San Mateo Dome Project (E. J. Longyear Co. - Agent) (company, group, or individual)

Date started 6-16-58 Completed 7-3-58

Driller Scott Bros.

Sampler D. S. Frotto

Collar elevation 7389.39

Coordinates (or bearing and distance from a reference point) 309,200N 564,800E

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from ____ ft.= ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
0	60	60	Sludge		4-3/4	Light Brown sandy overburden			
60	80	20	Sludge		"	Dark fine grained to medium grained sandy shale and Siltstone.			
80	380	300	Sludge		"	Dark grey silt, shale and mudstone.			
380	410	30	Sludge		"	Light fine grained sandstone			
410	450	40	Sludge		"	Dark grey shale silt and mudstone.			
450	540	90	Sludge		"	Light grey medium to fine grained arkosic sandstone	(Gallup ss.)		
540	1600	1060	Sludge		"	Dark gray shale silt and mudstone. Sand zone at 1300 ft, 1500 ft and 1550 ft.	(Mancos Shale)		
1600	1650	50	Sludge		"	Light grey fine grained Sandstone	(Dakota ss.)		
1650	1810	160	Sludge		"	Dark grey and green shale Silt and mudstone	(Brushy Basin Shale)		
1810	2000	190	Sludge		"	Fine to medium grained arkosic sandstone. Local red zones & local coarse grained zones.	(Westwater Sandstone)		
2000	2020	20	Sludge		"	Dark grey to green to red shale and mudstone			

Hole bottom at 2020 feet

No above background radioactivity was noted on samples thru the Westwater.

It is hereby certified that this is a true copy of the original log.

B F Sorenson
Project Engineer.

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. [illegible]

SAN MATEO DOME PROJECT

Exploration at Sect. 4, T 21N, R 8W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 7-1-58 Completed 7-17-58

Coordinates (or bearing and distance from a reference point) N 307,200 E 564,800

Driller Scott Bros.

Sampler D. C. Pratto

Inclination from horizontal Vertical

Collar elevation 7444.52

Bearing

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
						Water level [illegible]			
0	40	40	Started with bit [illegible]		4-3/4	Overburden			
40	80	40	Dust		"	Light gray to white, fine grained sandstone with small [illegible]	Dalton (?)	Mancos Shale	
						amounts of dark gray shale, siltstone & sandstone. Dark gray carbonaceous			
80	240	260	Dust		"	sandstone shale & siltstone. Shale & siltstone - a sil-			
						stone bed from 270' to 290' Dark gray carbonaceous	Dilco Coal		
240	480	240	Dust		"	shale, sandstone & siltstone Light gray to white, slightly	Member (?)		
480	570	90	Dust		"	arkosic, medium to fine grained sandstone	Gallup	Sandstone	
			Dust to 760			Light to dark gray shale,			
570	1590	1020	Sludge		"	sandstone & siltstone, occasional light green shale abundant	Mancos		
						from 750 to 770'. Sandstone	Shale		
						members at 1110-1150 & 1290-1400'.			
						Light gray to tan, medium	Bay to		
1590	1670	80	Sludge		"	to fine grained, slightly arkosic sandstone.	Lakota	Sandstone	

E. J. LONGYEAR COMPANY

DRILL HOLE NO. 6-3-4

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
1670	1790	120	Sludge		4-3/4	Dark gray to green shale silt & mudstone		Drayby	
					"	Sandstone member from 1700 to 1720		Basin (?)	
1790	2010	220	Sludge		"	Light tan to dark red medium to coarse grained arkosic sandstone		Westwater Sandstone(?)	
2010	2030	20	Sludge		"	Dark gray to green shale silt and mudstone		Recapture	
			Hole bottom at 2030 feet						
			Geiger counter readings were taken on all samples thru the Westwater member. No above background radioactivity was noted.						
It is hereby certified that this is a true copy of the original log.									
			D. F. Sorensen Project Engineer						

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. 6-4-4

SAN MATEO DOME PROJECT

Exploration at Sect. 4, T 13N, R 6W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 7-4-58 Completed 7-31-58

Coordinates (or bearing and distance from a reference point) N 309,635.35 E 566,905.11

Driller Scott Brodi

Sampler Dan S. Fratto

Inclination from horizontal Vertical

Collar elevation 7353.24

Bearing

(Specific gravity of core from _____ft.= _____; _____ft.= _____; _____ft.= _____; _____ft.= _____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
0	40	40	Sludge		4-3/4	Light brown sandy Overburden			
40	60	20	Sludge		"	Light brown medium to fine grained sandstone		Dalton SS	(?)
60	350	290	Sludge		"	Light to dark gray mudstone siltstone & shale		Mancos Shale	
350	510	160	Sludge		"	Dark gray, carbonaceous shale and mudstone		Niobrara (?)	
510	570	60	Sludge		"	Light gray to white, medium to fine grained sandstone		Gallup SS	(?)
570	1620	1050	Sludge		"	Dark gray mudstone, shale & siltstone		Mancos	
					"	(Sandstone beds from 790-800 & from 1320-1340)		Shale	
1620	1650	30	Sludge		"	Gray to tan medium to fine grained sandstone		Dakota SS	
1650	1800	150	Sludge		"	Gray & green shale		Brushy Basin	
1800	2000	200	Sludge		"	Light to dark gray medium to fine grained sandstone		Westwater	
2000	2020	20	Sludge		"	Green and red shale		Recapture	(?)
				Bottom at 2020 feet	Note:	All samples through the Westwater were checked with a geiger counter & no radioactivity above the base count was noted.			
It is hereby certified that this is a true copy of the original log.									
		B. F. Sorensen Project Engineer							

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-5-4

SAN MATEO DOME PROJECT

Exploration at Sect. 4, T 13N, R 6W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 7-19-53 Completed 7-31-53

Coordinates (or bearing and distance from a reference point) N-307,539.19 E-566,831.15

Driller Scott Gree

Sampler Don D. Fratto

Inclination from horizontal Vertical

Collar elevation 7382.30

Bearing

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
0	40	40	Dust		4-3/4	Light brown sandy overburden			
40	70	30	Dust		"	Light brown to white medium to fine grained sandstone	Dalton SS (?)		
70	370	300	Dust & Sludge		"	Light to dark gray mudstone siltstone & shale	Mancos shale		
						(Started using mud at 260)			
370	560	190	Sludge		"	Dark gray carbonaceous shale	Dilco (?)		
560	650	90	Sludge		"	Light gray to white, medium to fine grained sandstone	Gallup SS (?)		
650	1710	1060	Sludge		"	Dark gray mudstone, siltstone & shale	Mancos shale		
						(Sandstone members from 710-720 and 1040 to 1060)			
1710	1760	50	Sludge		"	Gray to tan, medium to fine grained sandstone	Dakota SS		
1760	1900	140	Sludge		"	Gray & green shale with local sand units	Morrison Basin		
1900	2040	140	Sludge		"	Light to dark gray, medium to fine grain arkosic sandstone	Westwater		
2040	2060	20	Sludge		"	Green & red shale	Moenkopi (?)		
				Bottom at 2060 feet	Note:	All samples through the Westwater sandstone			
It is hereby certified that this is a true copy of the original log.						were checked with a geiger counter & no radioactivity above the base count was noted.			

B. T. Hoenes
Project Engineer

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. [illegible]

SAN MATEO DOME PROJECT

Exploration at [illegible], [illegible] (county), New Mexico (state)
(mine, prospect, or place)

For San Mateo Dome [illegible]
(company, group, or individual)

Date started 8/[illegible] Completed 8/7/58

Driller Scott Brothers

Sampler D. S. [illegible]

Collar elevation 7[illegible]

Coordinates (or bearing and distance from a reference point) N. 308,200.00 [illegible] 568,800.00

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
0	60	60	Sludge		4-3/4	Tan sandy overburden			
60	140	80	Sludge		4-3/4	Gray-white, medium to fine grained sandstone	(Dakota?)		
140	430	290	Sludge		4-3/4	Gray mudstone, siltstone and shale	Mulatto shale		
430	580	150	Sludge		4-3/4	Dark gray carbonaceous shale.	Dilco		
						(510'-530 sandstone member)			
580	640	60	Sludge		4-3/4	Light gray to white, medium to fine grained sandstone	Galisteo		
640	1670	1030	Sludge		4-3/4	Dark gray mudstone, siltstone and shale	Menefee		
						(Sandstone members at 840-870, 1390-1400 & 1560-1600. Green shale at 710-730)			
1670	1710	40	Sludge		4-3/4	Tan to gray, medium to fine grained sandstone	(Dakota?)		
1710	1860	150	Sludge		4-3/4	Green and Gray shale	Brushy Basin		
1860	1880-2050		Sludge		4-3/4	Light to dark gray, medium to fine grained arkosic sandstone	(Westwater?)		
	Hole bottomed at 2050 feet.				Note:	Circulation was lost at 1880 and no samples were received.			
	CERTIFIED TRUE COPY								
	B. Thomas					The samples from 1860-1880 were checked with a model 107B Geiger counter - no above background radioactivity was noted.			
	Project Engineer								

FORM A

(Primarily for core data. Use Form B when sludge is used.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. 6-7-3

SAN MATEO DOME PROJECT

Exploration at Sect. 3, T13 N, R8W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 8/1/53 Completed 8/13/53

Coordinates (or bearing and distance from a reference point) N. 307,700.00 E. 572,800.00

Driller Scott Brothers

Sampler

Inclination from horizontal Vertical

Collar elevation

Bearing

(Specific gravity of core from ____ ft.= ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To

B Kranser

Form A
(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-8-3

SAN MATEO DOME PROJECT

Exploration at _____ (mine, prospect, or place), _____ (county) _____ (state)

For _____ (company, group, or individual)

Date started _____ Completed _____

Driller _____

Sample: _____

Collar elevation _____

Coordinates (or bearing and distance from a reference point) _____

Inclination from horizontal _____

Bearing _____

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] shale [illegible]	Gibbson Coal		
						[illegible] sandstone members at [illegible]	Member		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible] sandstone	[illegible]ton		
380	500	120	[illegible]	[illegible]	[illegible]	Dark gray mudstone and shale	Mullette		
500	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Dark gray carbonaceous [illegible]	(Dilco?)		
620	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	White [illegible] gray medium [illegible] sandstone	[illegible] Salina		
880	1900	1050	[illegible]	[illegible]	[illegible]	[illegible] mudstone, siltstone and shale	Marcos		
						(Limestone members at 1[illegible] [illegible] 1610-1650 & 1800-1830)	Shale		
1900	1950	50	[illegible]	[illegible]	[illegible]	Tan to gray, medium to fine grained sandstone	(Dakota?)		
1950	2100	150	[illegible]	[illegible]	[illegible]	Gray and Green Shale	Brushy Basin		
2100	2260	160	[illegible]	[illegible]	[illegible]	Gray to white medium to fine grained arkosic sandstone	Westwater		
2260	2295	35	[illegible]	[illegible]	[illegible]	Red and Green Shale	(Recapture?)		
	CERTIFIED TRUE COPY				[illegible]	All samples through the Westwater section were checked with a model [illegible] Geiger Counter - no radioactivity above the background was noted.			
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-9-27

SAN MATEO DOME PROJECT

Exploration at Sect. 27, T14N, R8W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 8/20/58 Completed 9/6/58

Coordinates (or bearing and distance from a reference point) N 317,400 E 571,200

Driller Scott Brothers

Sampler D. S. Fratto

Inclination from horizontal Vertical

Collar elevation 7419

Depth 1907 feet

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
0	370	370	Sludge		4-3/4	Light to dark gray mudstone, siltstone & shale.		Mulatto	
370	520	150	Sludge		4-3/4	Gray carbonaceous shale & mudstone with local ss beds.		Dilco	
520	590	70	Sludge		4-3/4	Gray to white, medium-fine grained sandstone		Gallup?	
590	1510	920	Sludge		4-3/4	Gray mudstone, shale, & siltstone. (Sandstone beds at 760-770 and 1350-1370)		Mancos	
1510	1550	40	Sludge		4-3/4	Tan to gray, medium to fine grained sandstone.		Dakota?	
1550	1650	100	Sludge		4-3/4	Gray and green shale		Brushy Basin	
Started coring at 1650 feet using a 15-foot core barrel, a 4" bit to get 2 5/16" core									
1650	1658	8	7.3	91.0	4"	2.7' Red, mottled red and green shale with interbedded mudstone.			
						0.3' Gray carbonaceous material. 4.3' Mottled red, green shale			
						with interbedded mudstone and			
						some calcareous nodules.			
1658	1673	15	13.7	91.0	4"	3.0'-Mottled red & green shale with interbedded mudstone.			
						1.7'-Light green to gray, fine grained sandstone.			
						0.8'-Mottled red & green shale			
						0.5'-Light green to gray, fine grained sandstone.			
						2.2'-Red & green sandy shale, with interbedded mudstone			

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-9-27

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
					4"	5.5'- Light green to gray, medium to fine grained, slightly			
						arkosic sandstone with interbedded green mudstone and some			
1673	1687	14	13.5	96.0		calcareous material. 1.0- Same as above.			
						2.1- Mottled red and green shale with interbedded mudstone.			
						0.8'- Green sandy shale. 0.6'- Green to gray, medium-fine			
						grained arkosic sandstone with interbedded streamers of green			
						silt. 8.3'- Gray to white, medium to			
						fine grained, medium sorted, arkosic sandstone with flecs of			
						green silt disseminated throughout core.			
						0.7'- Gray-white, med-coarse grained, poorly sorted, loosely			
						compacted arkosic sandstone with green silt.			
1687	1702	15	15	100		4.6'- Same as above. 4.0'- Gray-white, med-fine			
						grained, porous, arkosic sandstone with particles of green			
						silt & white calcareous material. 6.4'- Green & mottled red & green			
						shale with white calcareous material & interbedded mudstone.			
1702	1717	15	13.6	91.0		1.1'- Same as above. Contact between green shale &		(Westwater	
						gray sandstone is gradational. 10.3'- Gray-white, med-fine		Contact at 1705 feet)	
						grained, medium sorted sandstone with particles green silt.			
						2.2'- No core-must have dropped out of barrel.			
1717	1732	15	15	100		4.4'- Gray to white, med.-coarse grained, poorly sorted, loosely			
						compacted arkosic sandstone with abundant green silt.			
						10.6'- Same as above except sandstone is med-fine grained and			
						more compacted.			

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-9-27

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
1732	1745	13	13	100	4"	11.5'- Gray to white, med-fine grained, poorly sorted, arkosic			
						sandstone with particles of green silt.			
						1.5'- Same as above except coarse grained & contains calcareous			
						material.			
1745	1757	12	12	100		7.9'- Gray-white, med-coarse grained, poorly sorted, arkosic			
						sandstone.			
						2.6'- Sandstone med-fine grained			
						& contains streaks of carbonaceous material.			
						0.4'- Sandstone coarse grained			
						contains large green siltstone			
						nodules.			
						1.1'- Sandstone med-fine grained.			
1757	1772	15	14.9	99.0		7.7'- Sandstone same as above medium-fine grained.			
						1.6'- Sandstone coarse grained.			
						1.6'- Sandstone med-fine grained.			
						3.0'- Sandstone coarse grained			
						& has interbedded green & red			
						siltstone & large silt nodules.			
						1.0'- Sandstone med-fine grained.			
						1.0'- Sandstone is med-coarse			
						grained and is porous.			
1772	1785	13	6	46.0		5.0'- Sandstone same as above.			
						1.0'- Green shale with inter-			
						bedded mudstone.			
						7.4'- No core-must have dropped			
						out of barrel.			
1785	1796	11	10.9	99.0		3.0'- Mottled red & green shale			
						0.9'- Shale grades into sand-			
						stone.			
						3.5'- Gray-white, med-fine			
						grained sandstone.			
						3.5'- Green shale with calcareous			
						material & interbedded silt &			
						sandstone.			
1796	1806	10	10	100		3.1'- Gray-white, med-fine			
						grained, poorly sorted laminated			
						sandstone.			
						0.8'- Sandstone is coarser grained.			

E. J. LONGYEAR COMPANY

DRILL HOLE NO. 9-9-27

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
					4"	7.1'- Mottled red & green shale with gray calcareous material & interbedded mudstone.			
1806	1821	15	12	80.0		10.5'- Gray-white, med-fine grained, poorly sorted, arkosic sandstone with some coarse grained zones. 0.6'- Mottled red & green shale. 1.0'- Gray-white, med-fine grained arkosic sandstone with abundant red & green silt particles.			
1821	1836	15	13	87.0		3.5'- Sandstone same as above. 0.4'- Red shale & mudstone. 9.1'- Gray-white, med-fine grained arkosic sandstone with zones which are bleached white. 2.0'- No core, must have drained from barrel.			
1836	1849	13	11.5	89.0		5.4'- Bleached zones are absent. 6.2'- Bleached zones are present.			
1849	1863	14	10.3	73.6		4.1'- Sand contains interbedded thin zones of red silt. 3.7'- Sandstone contains no silt. 2.5'- Red & green sandy, porous shale.			
1863	1877	14	13.6	97		3.5'- Red & green shale with white calcareous material & interbedded mudstone. 6.0'- Gray-white, med-fine grained slightly arkosic sandstone with bleached zones and zones containing red silt. 4.0'- Sand contains streamers of limonite after pyrite.			
1877	1892	15	15	100		6.7'- Sandstone fine grained & laminated. 0.5'- Sand not laminated 1.4'- Pink, med-fine grained arkosic, poorly sorted sandstone with abundant red silt particles. 1.2'- Gray-white, med-fine grained, fairly well sorted sandstone. 1.3'- Sandstone and shale			

Page 5 of 5

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-9-27

SAN MATEO DOME PROJECT

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
						contact gradational.		(Recapture	
						3.9'- Red shale with inter-		Contact	
						bedded calcareous material,		possibly	
						mudstone & pink sandstone.		at 1888)	
1892	1907	15	13.8	92.0		13.8'- Mottled red & green			
						shale with interbedded pink			
						& white sandstone and mudstone.			
					Note:	The entire core was checked with a			
						model 107B Geiger counter and no above			
						background radioactivity was recorded.			
			Contacts Picked ---			Dakota - 1510			
						Brushy Basin - 1550			
						Westwater - 1705			
						Recapture - 1888			
			Total feet cored --- 257'						
			Total feet recovered --- 234.2'						
			Per cent recovery --- 91%						
	CERTIFIED TRUE COPY								
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. ____

SAN MATEO DOME PROJECT

Exploration at _____ (mine, prospect, or place) _____ (county) _____ (state)

For _____ (company, group, or individual)

Date started _____ Completed _____

Driller _____

Sampler _____

Collar elevation _____

Coordinates (or bearing and distance from a reference point) _____

Inclination from horizontal _____

Bearing _____

(Specific gravity of core from ____ ft.= ____ ; ____ ft.= ____ ; ____ ft.= ____ ; ____ ft.= ____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
1940									
1920									

Page ____ of ____

(county) (state)

Date started _____ completed _____ Coordinates (or bearing and distance from a reference point) _____

Inclination from horizontal _____

Bearing _____

(geologic gravity core from ____ ft. ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
157[illegible]	185[illegible]	[illegible]							
185[illegible]	19[illegible]								
	CERTIFIED [illegible]					[illegible] section [illegible] radioactivity			
	PROJECT UNIT [illegible]								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. 6-12-27

SAN MATEO DOME PROJECT

Exploration at _____ (mine, prospect, or place), _____ (county) _____ (state)

For _____ (company, group, or individual)

Date started _____ Completed _____

Driller _____

Sampler _____

Collar elevation _____

Coordinates (or bearing and distance from a reference point) _____

Inclination from horizontal _____

Bearing _____

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-13-27

SAN MATEO DOME PROJECT

Exploration at Sect. 27, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/2/58 Completed 9/10/58

Coordinates (or bearing and distance from a reference point) N 317,900 E 573,200

Driller Scott Brothers

Sampler R. S. Foster

Inclination from horizontal Vertical

Collar elevation 7447

Depth 1970 feet

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
0	40	40	Sludge		4-3/4	Tan sandy overburden			
40	360	320	Sludge		4-3/4	Gray shale, siltstone, and mudstone	Mulatto		
360	510	150	Sludge		4-3/4	Gray carbonaceous shale with local sandstone beds	(Dilco?)		
510	580	70	Sludge		4-3/4	Gray to white, medium to fine grained sandstone	Gallup		
580	1500	920	Sludge		4-3/4	Gray shale, siltstone, and mudstone. (Sandstone	Mancos		
						beds at 1230-1250, 1430-1440, and 1480-1490)			
1500	1540	40	Sludge		4-3/4	Tan to gray, medium to fine grained sandstone	(Dakota?)		
1540	1720	180	Sludge		4-3/4	Gray and green shale	Brushy Basin		
1720	1930	210	Sludge		4-3/4	Gray to white, medium-fine grained arkosic sandstone.	Westwater		
						(With some local coarse zones)			
1930	1970	40	Sludge		4-3/4	Red and green shale.	(Recapture?)		
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater section were checked with a model 107B Geiger			
						counter and no above-background radioactivity was recorded.			
	B. Kinney PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-14-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/8/58 Completed 9/15/58

Coordinates (or bearing and distance from a reference point) N 314,302 E 561,190

Driller Scott Brothers

Sampler Bruce Russell

Inclination from horizontal Vertical

Collar elevation 7515.95

Bearing

(Specific gravity of core from _____ft.= _____; _____ft.= _____; _____ft.= _____; _____ft.= _____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
0	80	80	Sludge		4-3/4	Buff sandy overburden			
80	370	290	Sludge		4-3/4	Gray shale, sandstone, siltstone, & mudstone.		Mulatto	
370	520	150	Sludge		4-3/4	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
520	620	100	Sludge		4-3/4	Gray to white, medium-fine grained sandstone.		Gallup	
620	1690	1070	Sludge		4-3/4	Gray shale, siltstone, & mudstone. Sandstone lenses		Mancos	
						at 740-750, 760-770, 1180-1220, and 1490-1530.			
1690	1730	40	Sludge		4-3/4	Tan to gray, medium-fine grained sandstone.		Dakota	
1730	1880	150	Sludge		4-3/4	Variegated red, green and gray shale.		Brushy Basin	
1880	2060	180	Sludge		4-3/4	White to gray, medium-fine grained arkosic sandstone.		Westwater	
2060	2080	20	Sludge		4-3/4	Red and green shale.		Recapture?	
	CERTIFIED TRUE COPY				Note:	All samples were checked through the Westwater sand with a Model 107B Geiger			
						counter and no above-background radioactivity was recorded.			
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-15-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/10/58 Completed 9/15/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7501.17

Coordinates (or bearing and distance from a reference point) N 313,303 E 561,188

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from ____ft.= ____; ____ft.= ____; ____ft.= ____; ____ft.= ____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	40	40	Sludge		4-3/4	Buff sandy overburden			
40	380	340	Sludge		"	Gray shale, sandstone, siltstone & mudstone.		Mulatto	
380	530	150	Sludge		"	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
530	630	100	Sludge		"	Gray to white, medium-fine grained sandstone.		Gallup	
630	1690	1060	Sludge		"	Gray shale, siltstone, & mudstone. Sandstone lenses		Mancos	
						at 770-800, 820-870, and 1380-1400.			
1690	1730	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1730	1860	130	Sludge		"	Variegated red, green and gray shale.		Brushy Basin	
1860	2040	180	Sludge		"	White to gray, medium to fine grained arkosic sandstone		Westwater	
2040	2070	30	Sludge		"	Red and green shale.		Recapture?	
	CERTIFIED TRUE COPY				Note:	All samples were checked through the Westwater sand with a Model 107			
						Geiger counter and no above-background radioactivity was recorded.			
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-16-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinely (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/15/58 Completed 9/25/58

Coordinates (or bearing and distance from a reference point) N 312,204 E 561,187

Driller Scott Brothers

Sampler Bruce Russell

Inclination from horizontal Vertical

Collar elevation 7485.86

Bearing

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	50	50	Sludge		4-3/4	Buff sandy overburden			
50	350	300	Sludge		4-3/4	Gray shale, sandstone, siltstone, & mudstone		Mulatto	
350	500	150	Sludge		"	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
500	600	100	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
600	1660	1060	Sludge		"	Gray shale, siltstone, & mudstone. Sandstone lenses at 1360-1380 and 1560-1600.		Mancos	
1660	1700	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1700	1830	130	Sludge		"	Variegated red, green and gray shale.		Brushy Basin	
1830	2050	220	Sludge		"	White to gray, medium to fine grained arkosic sandstone.		Westwater	
2050	2080	30	Sludge		"	Red and green shale		Recapture	
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater sand were checked with a Model 107B Geiger counter and no above-background radioactivity was recorded.			
	B. Kumar PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-17-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/16/58 Completed 9/25/58

Coordinates (or bearing and distance from a reference point) N 311,305 E 561,186

Driller Scott Brothers

Sampler Bruce Russell

Inclination from horizontal Vertical

Collar elevation 7509.25

Bearing

(Specific gravity of core from ____ft.= ____; ____ft.= ____; ____ft.= ____; ____ft.= ____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
0	35	35	Sludge		4-3/4	Buff sandy overburden			
35	370	335	Sludge		"	Gray shale, sandstone, siltstone, & mudstone.		Mulatto	
370	520	150	Sludge		"	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
520	630	110	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
630	1680	1050	Sludge		"	Gray shale, siltstone, & mudstone. Sandstone lens at 1350-1390.		Mancos	
1680	1720	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1720	1850	130	Sludge		"	Variegated red, green, and gray shale.		Brushy Basin	
1850	2050	200	Sludge		"	White to gray, medium to fine grained arkosic sandstone. (With some local coarse zones)		Westwater	
2050	2070	20	Sludge		"	Red and green shale		Recapture?	
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater sand were checked with a Model 107B Geiger counter and no above-background radioactivity was recorded.			
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-18-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/25/58 Completed 10/1/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7457.62

Coordinates (or bearing and distance from a reference point) N 312,303 E 562,188

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from ____ ft.= ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled			Core Recovery		Bit Size	Character of Material and Remarks	Sample Record		
From	To	Feet	Feet	%			No.	From	To
0	50	50	Sludge		4-3/4	Buff sandy overburden			
50	370	320	Sludge		"	Gray shale, sandstone, siltstone and mudstone.		Mulatto	
370	520	150	Sludge		"	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
520	620	100	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
620	1640	1020	Sludge		"	Gray shale, siltstone & mudstone. Sandstone lenses at 1340-1360, and 1550-1580.		Mancos	
1640	1680	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1680	1810	130	Sludge		"	Variegated red, green, and gray shale.		Brushy Basin	
1810	2020	210	Sludge		"	White to gray, medium to fine grained arkosic sandstone. (With some local coarse zones.)		Westwater	
2020	2050	30	Sludge		"	Red and green shale.		Recapture?	
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater sand were checked with a Model 107B Geiger counter and no above-background radio-activity was recorded.			
	R. [illegible] PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-19-32

SAN MATEO DOME PROJECT

Exploration at Sect. 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 9/25/58 Completed 10/1/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7517.39

Coordinates (or bearing and distance from a reference point) N 313,301 E 562,189

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from _____ft.= ____; _____ft.= ____; _____ft.= ____; _____ft.= ____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	60	60	Sludge		"	Buff sandy overburden			
60	390	330	Sludge		"	Gray shale, sandstone, siltstone and mudstone.		Mulatto	
390	540	150	Sludge		"	Gray carbonaceous shale with some local sandstone beds.		Dilco?	
540	660	120	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
660	1700	1040	Sludge		"	Gray shale, siltstone & Mudstone. Sandstone lenses		Mancos	
						at 1410-1440, 1540-1560, and 1620-1660.			
1700	1740	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1740	1890	150	Sludge		"	Variegated red, green, and gray shale.		Brushy Basin	
1890	2060	170	Sludge		"	White to gray, medium to fine grained arkosic sandstone.		Westwater	
						(With some local coarse zones.)			
2060	2080	20	Sludge		"	Red and green shale.		Recapture?	
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater sand were checked with a Model 107B Geiger			
						counter and no above-background radio-			
						activity was recorded.			
	PROJECT ENGINEER								

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-20-32

SAN MATEO DOME PROJECT

Exploration at Section 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 10/1/58 Completed 10/22/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7496.92

Coordinates (or bearing and distance from a reference point) N 313,300 E 563,188

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from _____ft.= _____; _____ft.= _____; _____ft.= _____; _____ft.=_____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	30	30	Sludge		4-3/4	Buff sandy overburden.			
30	410	380	Sludge		"	Gray shale, siltstone and mudstone.		Mulatto	
410	560	150	Sludge		"	Gray carbonaceous shale with local sandstone beds.		Dilco?	
560	670	110	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
670	1690	1020	Sludge		"	Gray shale, siltstone and mudstone. Sandstone lenses		Mancos	
						at: (1400-1430), (1530-1560), and (1600-1620).			
1690	1730	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1730	1860	130	Sludge		"	Gray and green shale.		Brushy Basin	
1860	2070	210	Sludge		"	Gray to white, medium to fine grained arkosic sandstone.		Westwater	
						(with some local coarse zones).			
2070	2090	20	Sludge		"	Red and green shale		Recapture	
	CERTIFIED TRUE COPY								
					Note:	All samples through the Westwater sand were checked with a Model 107B Geiger			
	B. F. Sorensen Project Engineer					counter and no above-background radio-activity was recorded.			

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-21-32

SAN MATEO DOME PROJECT

Exploration at Section 32, T14N, R8W (mine, prospect, or place), McKinley (county) New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 10/1/58 Completed 10/12/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7456.37

Coordinates (or bearing and distance from a reference point) N 312,301 E 563,187

Inclination from horizontal Vertical

Bearing

(Specific gravity of core from ____ ft.= ____; ____ ft.= ____; ____ ft.= ____; ____ ft.= ____.)

Interval Drilled			Core Recovery		Bit	Character of	Sample Record		
From	To	Feet	Feet	%	Size	Material and Remarks	No.	From	To
0	40	40	Sludge		4-3/4	Buff, sandy overburden			
40	350	310	Sludge		"	Gray shale, siltstone and mudstone.		Mulatto	
350	500	150	Sludge		"	Gray carbonaceous shale with lenal sandstone beds.		Dilco?	
500	600	100	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
600	1650	1050	Sludge		"	Gray shale, siltstone, and mudstone. Sandstone lenses		Mancos	
						at: 1340-1380, 1480-1500, and 1610-1630.			
1650	1690	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1690	1850	160	Sludge		"	Gray and green shale.		Brushy Basin	
1850	2050	200	Sludge		"	Gray to white, medium to fine grained arkosic sandstone.		Westwater	
						(With some local coarse zones).			
2050	2090	40	Sludge		"	Red and green shale.		Recapture	
CERTIFIED TRUE COPY									
					Note:	All samples through the Westwater sand were checked with a Model 107B Geiger			
						counter and no above-background radioactivity was recorded.			

E. F. Sorensen
Project Engineer

FORM A

(Principally for core data. See Form B when sludge is saved.)

E. J. LONGYEAR COMPANY

DRILL HOLE NO. G-22-32

SAN MATEO DOME PROJECT

Exploration at Section 32, T14N, R8W (mine, prospect, or place), McKinley (county), New Mexico (state)

For San Mateo Dome Project (company, group, or individual)

Date started 10/12/58 Completed 10/24/58

Driller Scott Brothers

Sampler Bruce Russell

Collar elevation 7428.08

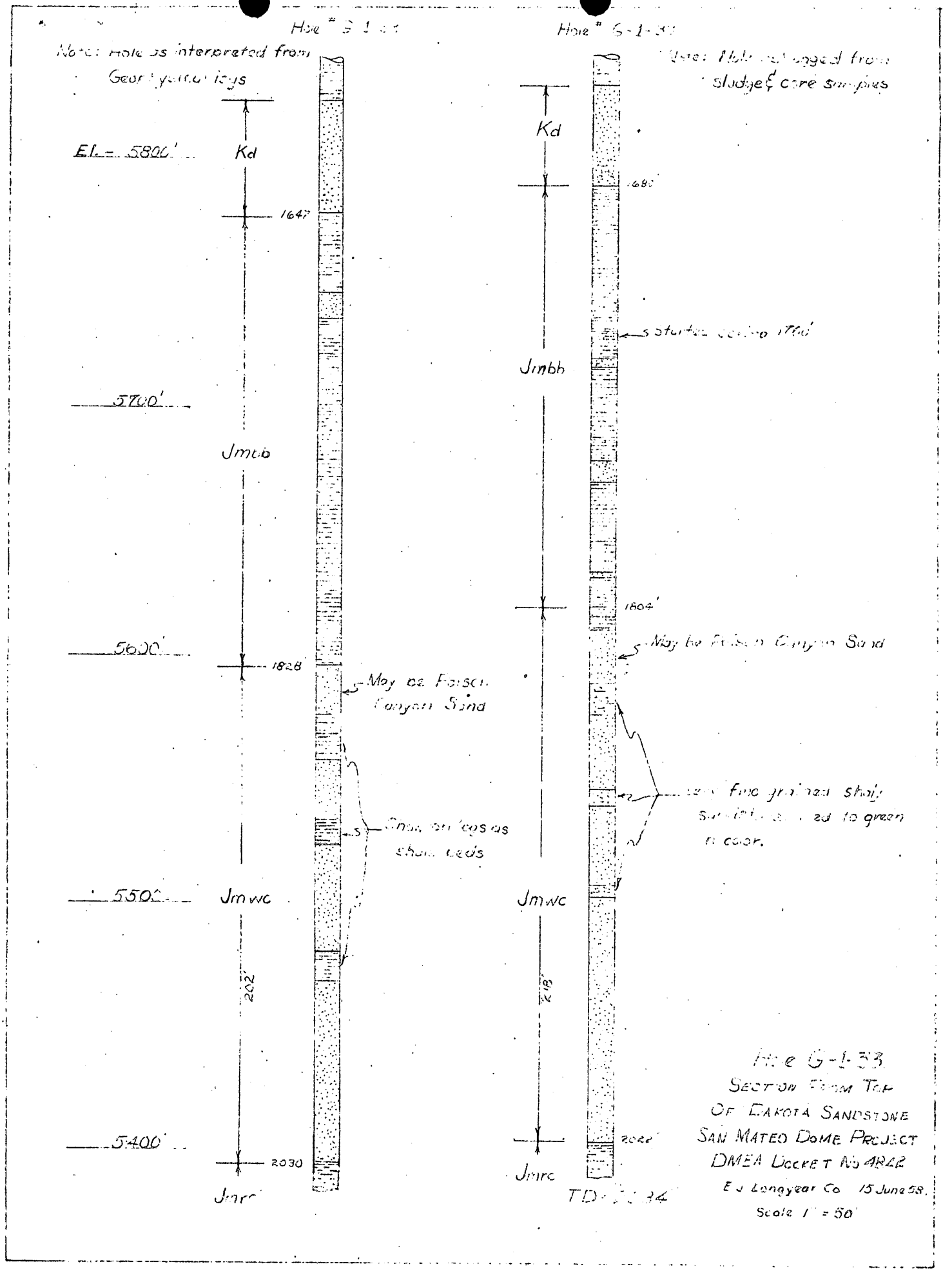
Coordinates (or bearing and distance from a reference point) N 311,303 E 563,186

Inclination from horizontal Vertical

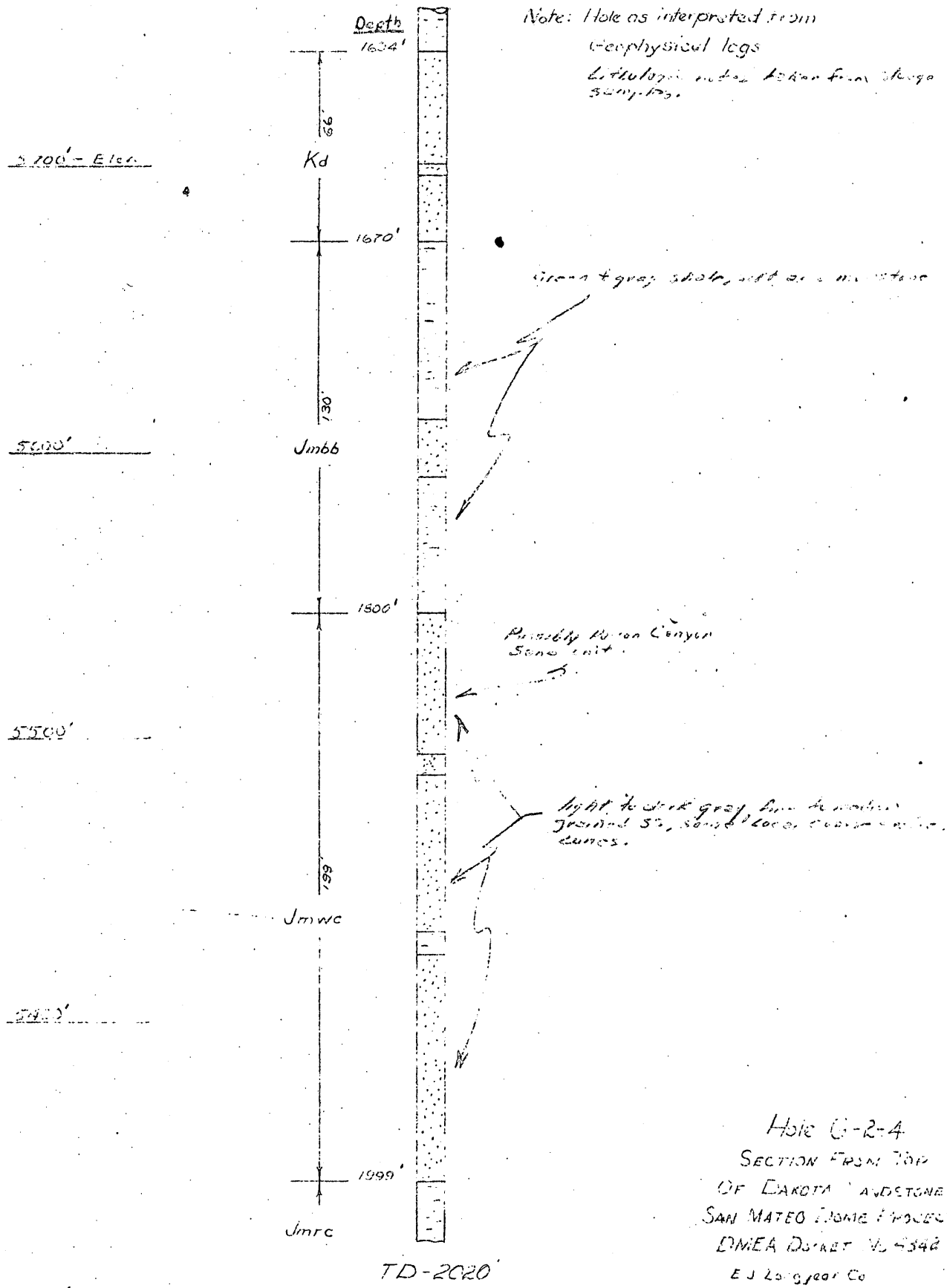
Bearing

(Specific gravity of core from _____ ft.= _____; _____ ft.= _____; _____ ft.= _____; _____ ft.= _____.)

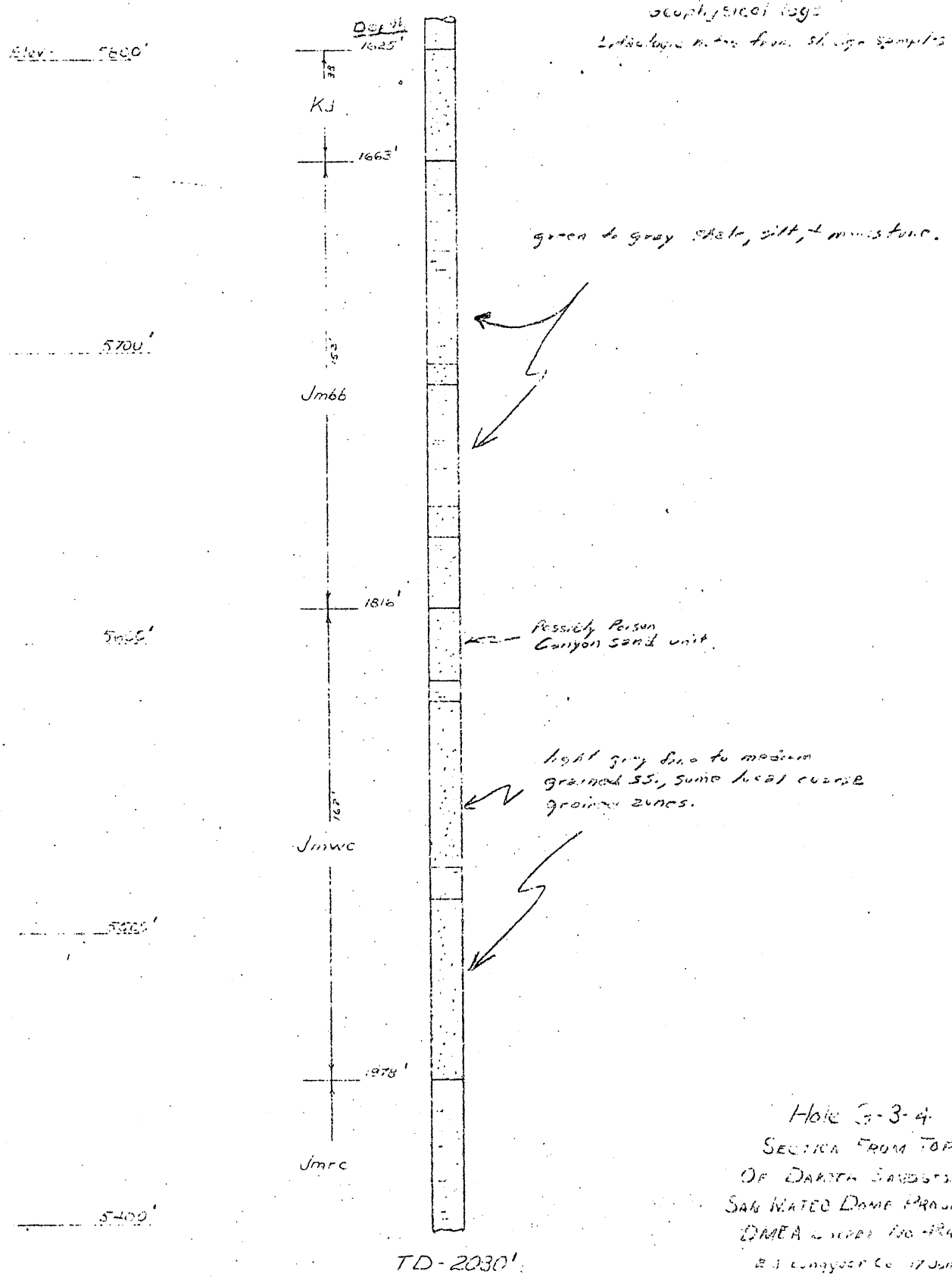
Interval Drilled From	To	Feet	Core Recovery Feet	%	Bit Size	Character of Material and Remarks	Sample Record No.	From	To
0	50	50	Sludge		4-3/4	Buff sandy overburden			
50	320	270	Sludge		"	Gray shale, siltstone, and mudstone.		Mulatto	
320	470	150	Sludge		"	Gray carbonaceous shale with local sandstone beds.		Dilco?	
470	580	110	Sludge		"	Gray to white, medium to fine grained sandstone.		Gallup	
580	1620	1040	Sludge		"	Gray shale, siltstone and mudstone. Sandstone lenses at: (1340-1360) and (1530-1550).		Mancos	
1620	1660	40	Sludge		"	Tan to gray, medium to fine grained sandstone.		Dakota	
1660	1800	140	Sludge		"	Gray and green shale.		Brushy Basin	
1800	2010	210	Sludge		"	Gray to white, medium to fine grained arkosic sandstone. (with some local coarse zones).		Westwater	
2010	2030	20	Sludge		"	Red and green shale.		Recapture	
	CERTIFIED TRUE COPY				Note:	All samples through the Westwater sand were checked with a Model 107B Geiger counter and no above-background radioactivity was recorded.			
	B. F. Sorensen Project Engineer								


Hole # G-1-33
Note: Hole as interpreted from Goodyear logs
EL = 5800'
Kd
1647
5700'
Jmcb
5600'
1828
May be Folson Canyon Sand
Shale or less as shale beds
5500'
Jmwc
202'
5400'
2030
Jmrc
Hole # G-1-33
Note: Hole as logged from sludge & core samples
Kd
1680'
Started coring 1700'
Jmbb
1804'
May be Folson Canyon Sand
Very fine grained shaly sandstone and to green in color.
Jmwc
218'
2022'
Jmrc
TD = 2034'
Hole G-1-33
Section From Top
Of Dakota Sandstone
San Mateo Dome Project
DMEA Docket No 4842
E J Longyear Co 15 June 58.
Scale 1" = 50'

Hole No. G-2-4


Depth
1634'
66'
Kd
1670'
130'
Jmbb
1800'
199'
Jmwc
1999'
Jmrc
TD-2020'
5700' - Elev.
5000'
5500'
Note: Hole as interpreted from Geophysical logs
Lithologic index taken from sample samples.
Probably Morrison Canyon Sand unit.
Hole G-2-4
SECTION FROM TOP OF DAKOTA SANDSTONE
SAN MATEO DOME PROJECT
DMEA DOCKET No. 5346
E J Longyear Co
Scale 1" = 50'

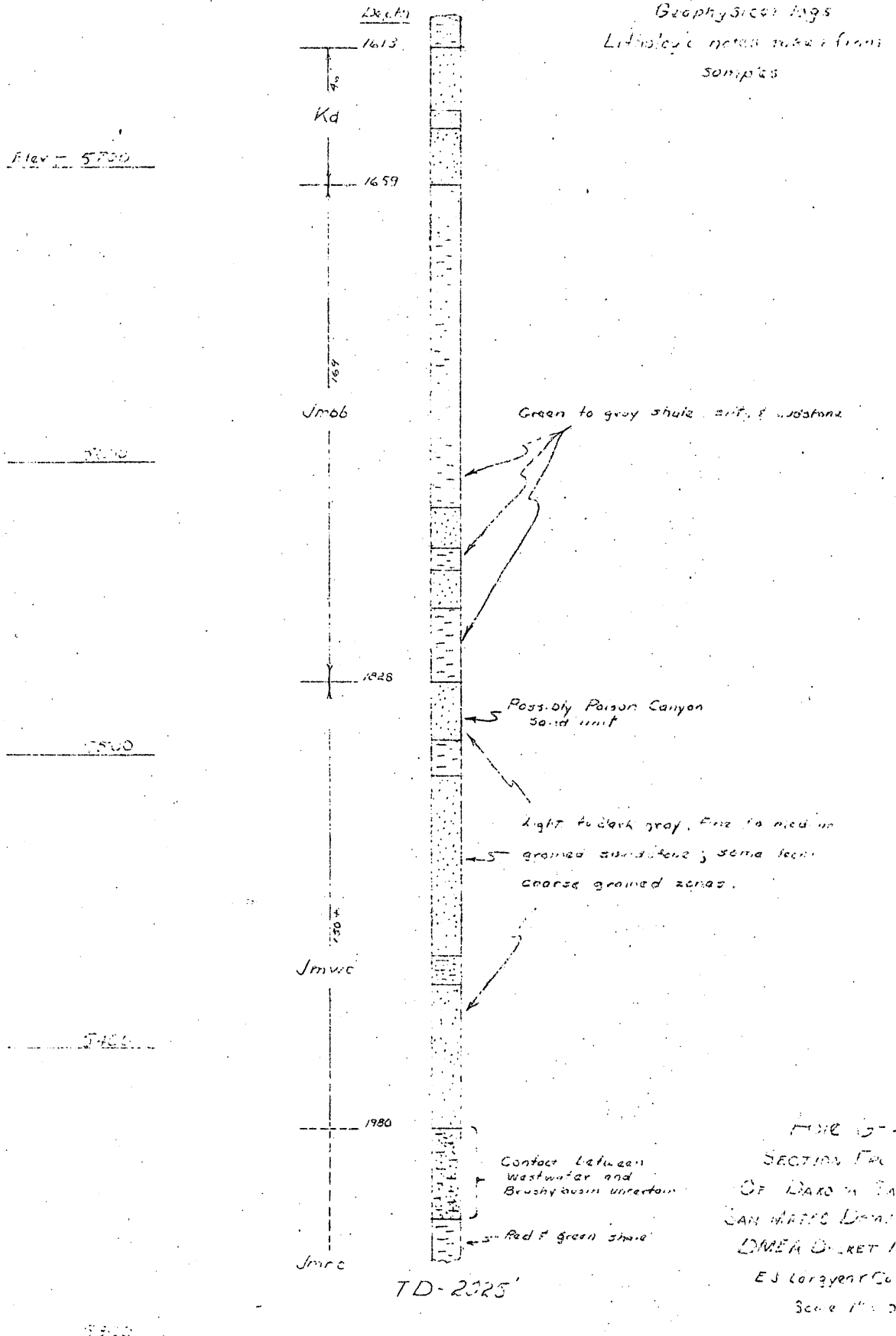
Hole No. G-3-4



Hole G-3-4
Section from Top
Of Dakota Sandstone
San Mateo Dome Project
DOE/GJ Contract No. [illegible]
Sandoval Co. [illegible]
Scale [illegible]

Hole No G-4-4

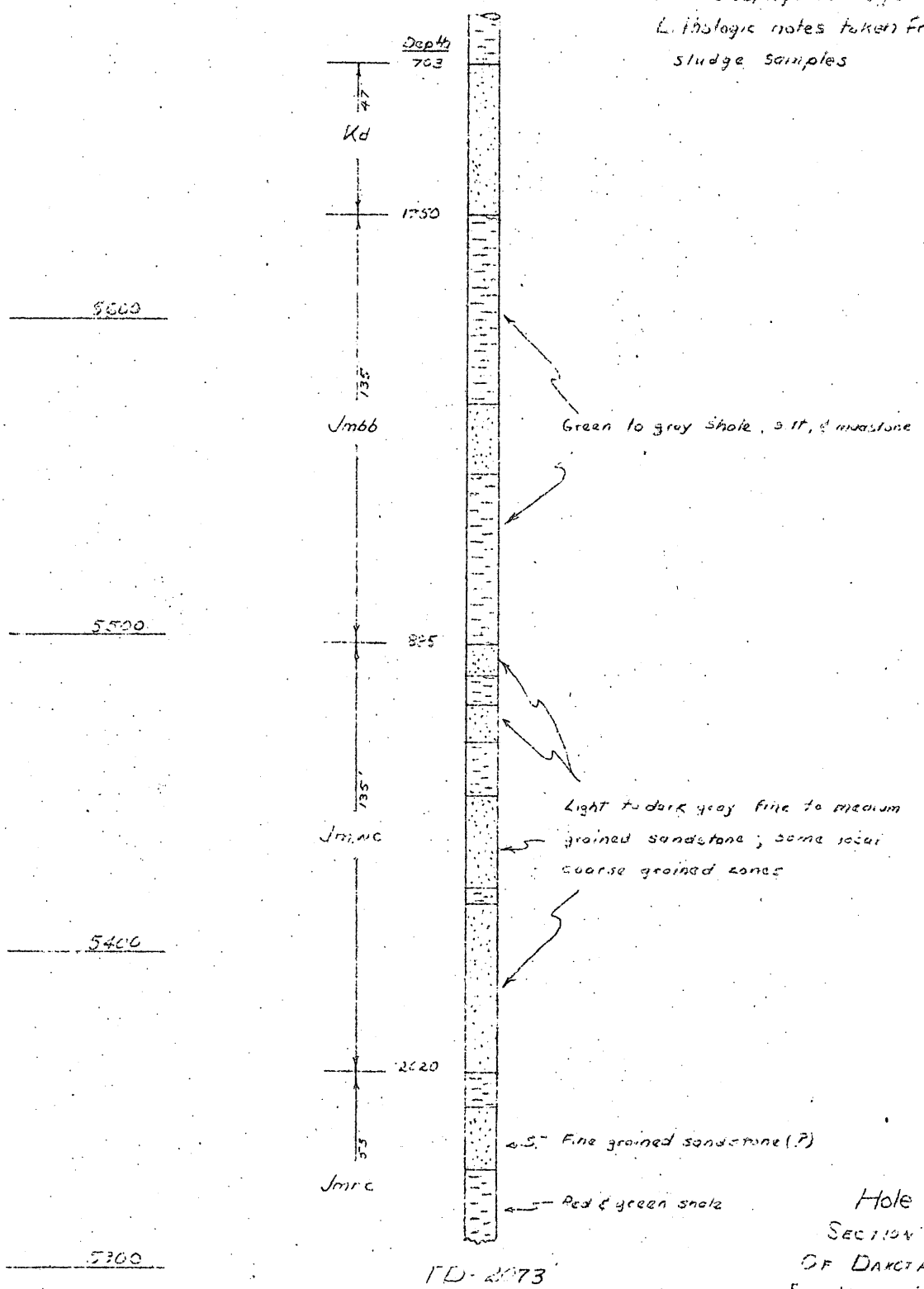
Note: Contacts as interpreted from Geophysical logs. Lithologic notes taken from samples



Hole G-4-4
Section Four Corners
Of Dakota Sandstone
San Juan Basin
DMEA Docket No 4642
E J Lorgyen & Co
Scale 1" = 20'

Hole No G-5-4

Note: Contacts as interpreted from Geophysical logs
Lithologic notes taken from sludge samples



Hole G-5-4.
Section From Top
Of Dakota Sandstone
San Mateo Dome
Dakota Project No 4926
E J Longyear Co 7/9/58
Scale 1" = 50'

Hole No G-6-4

Notes: [illegible]

Surface [illegible]

Equip

1695

Ka

1704

Umbb

Green to gray shale [illegible]

1862

May be Poison Canyon Sandstone [illegible]

Circulation was lost at [illegible] other [illegible] no samples were [illegible] from this point on.

Umwc

2014

Red & green shale

Umc

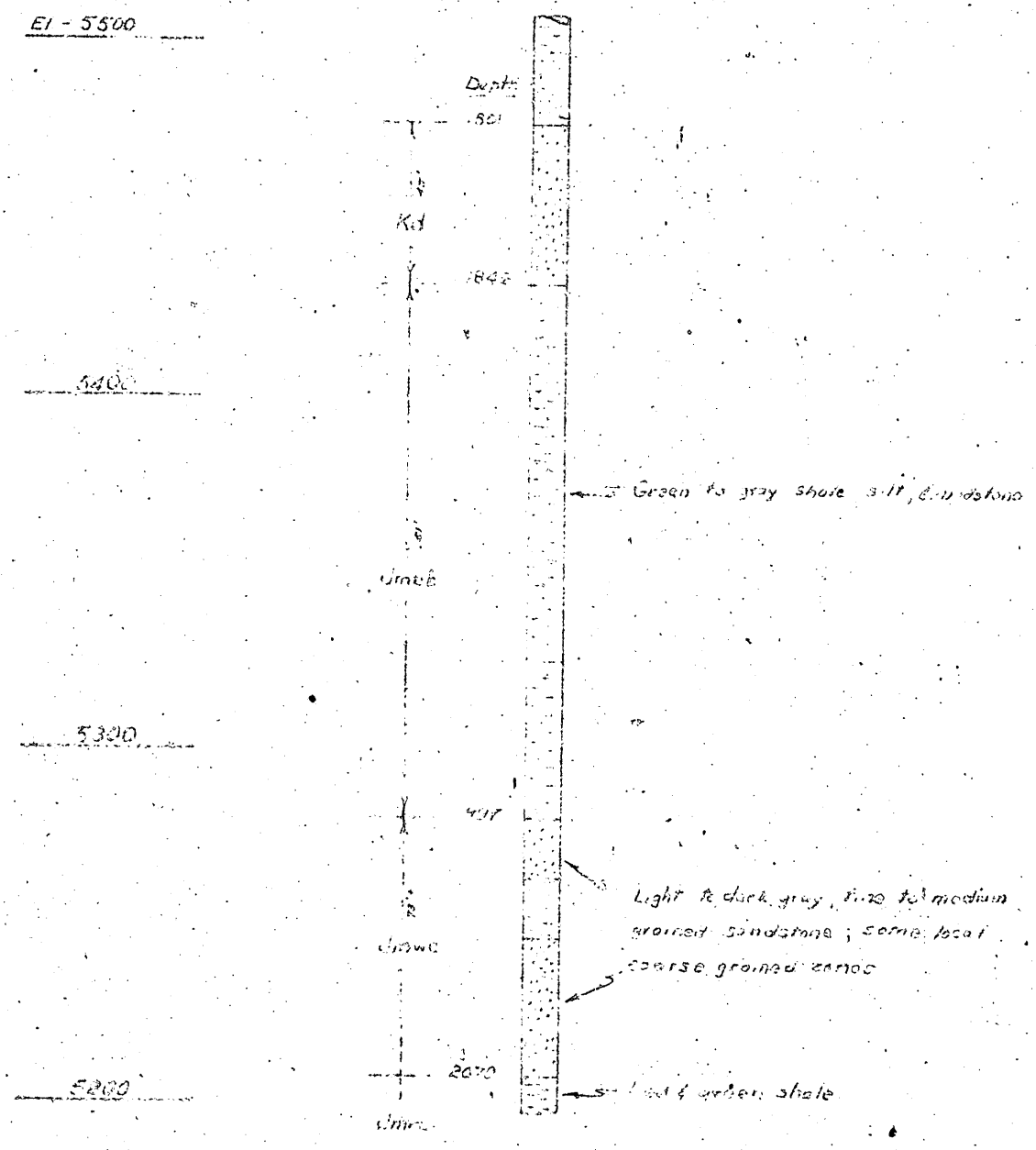
TD 2050

Hole G-6-4

[illegible] from [illegible] Sandstone [illegible] appear to [illegible]

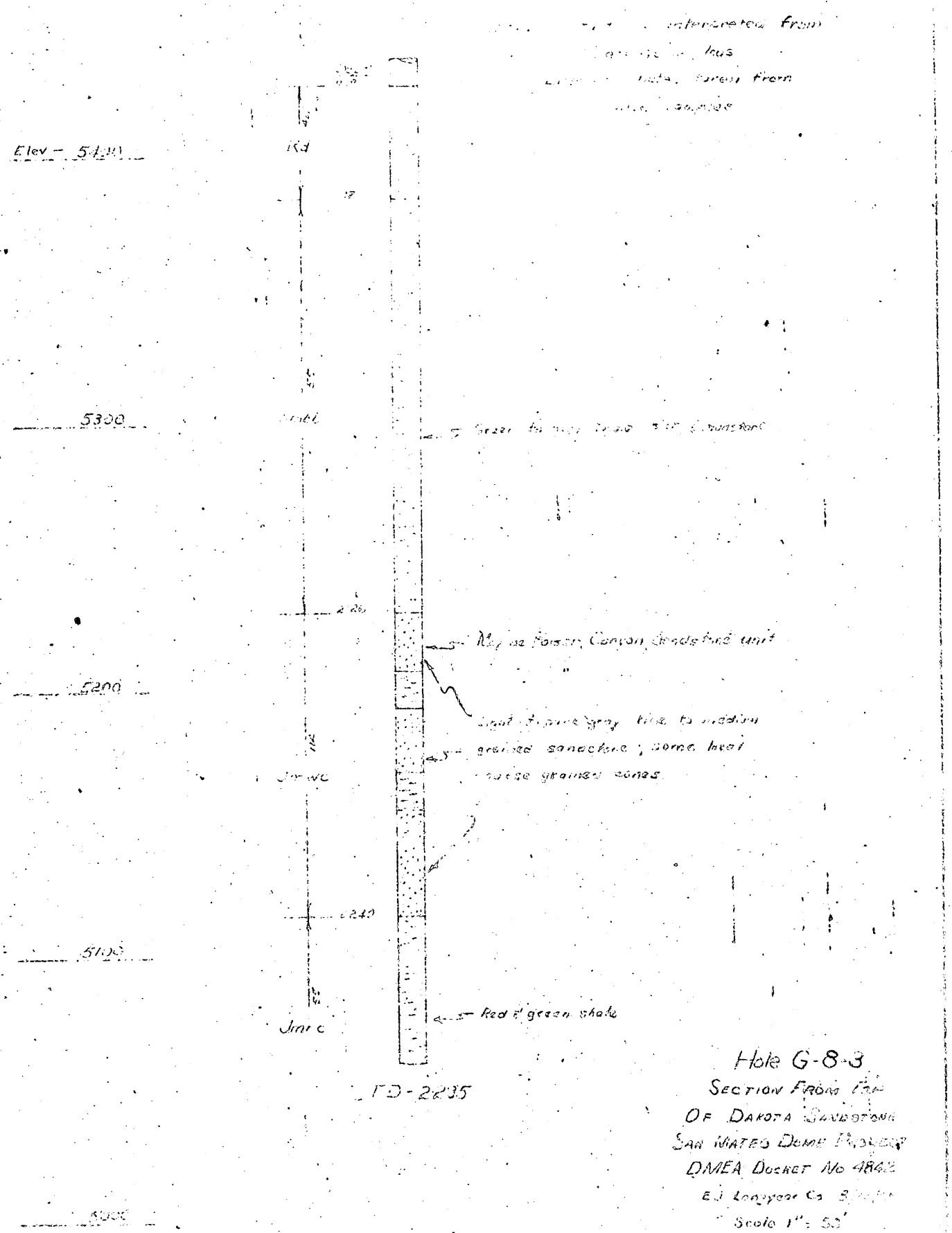
Hole No. 5 T-3

Note: Contacts as interpreted from Geophysical logs
Lithologic notes taken from Hydrologic samples



TD - 2081

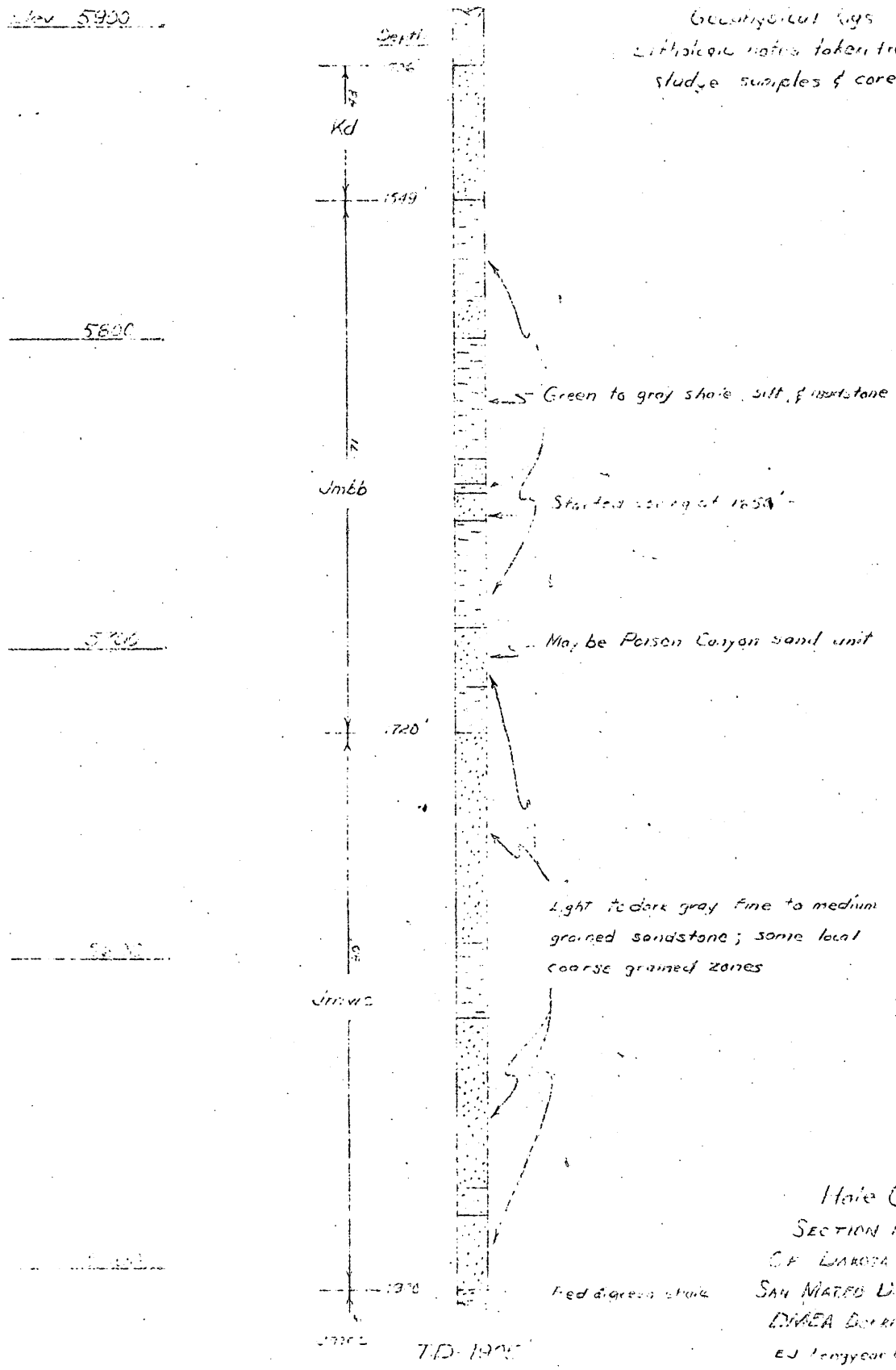
Hole No. T-3
Section
Of Dawson
San Mateo
DMEA



Hole G-8-3
Section From Top
Of Dakota Sandstone
San Mateo Dome Project
DMEA Docket No 4842
E.J. Longyear Co
Scale 1" = 50'

Hole No G-9-27

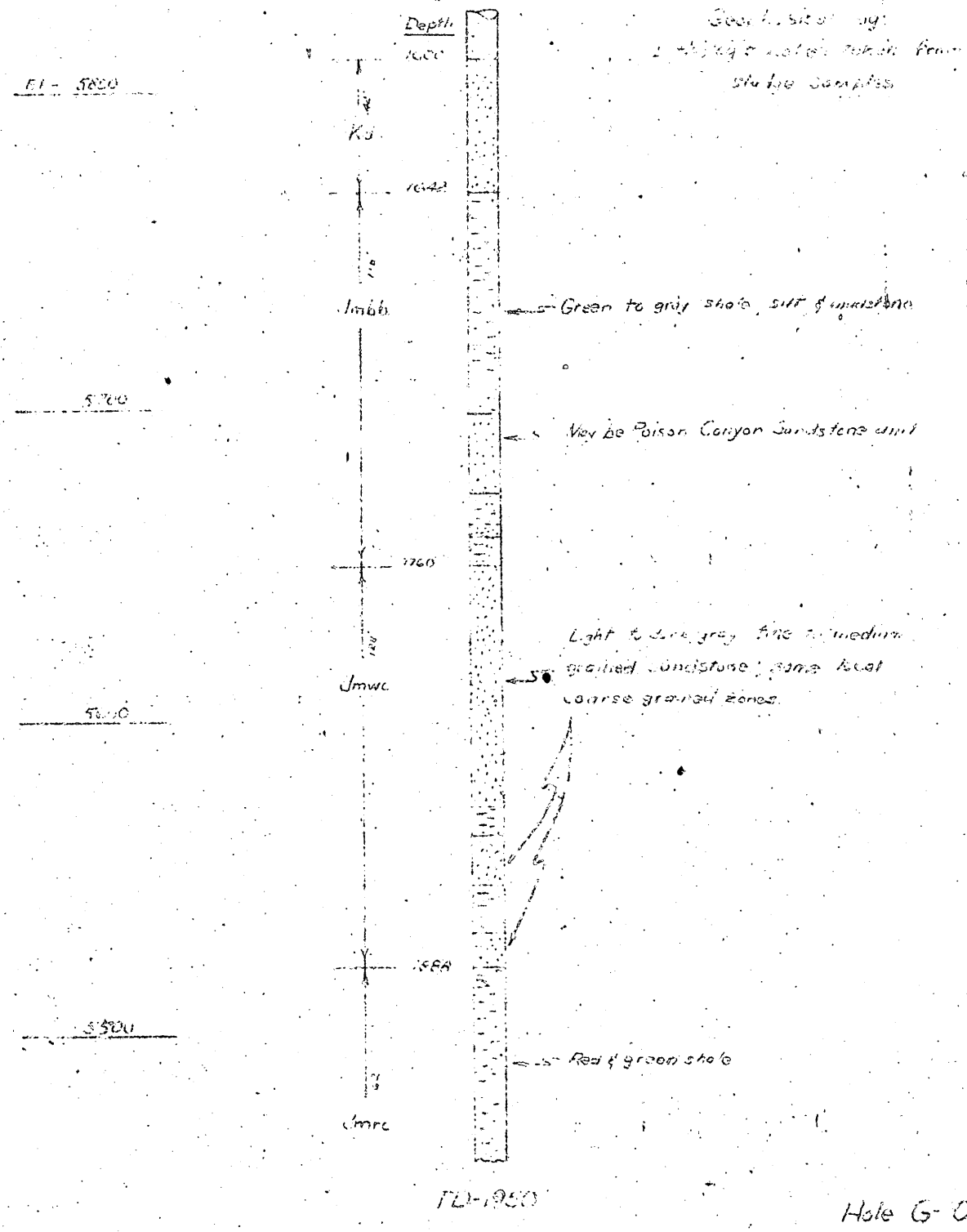
Note: Contacts interpreted from Geophysical logs
Lithologic notes taken from sludge samples & core



Hole G-9-27
SECTION FROM TOP OF DAKOTA SANDSTONE
SAN MATEO DRAW PROSPECT
DNREA DRILL NO [illegible]
EJ Longyear Co. [illegible]
Scale [illegible]

Hole No G-0-27

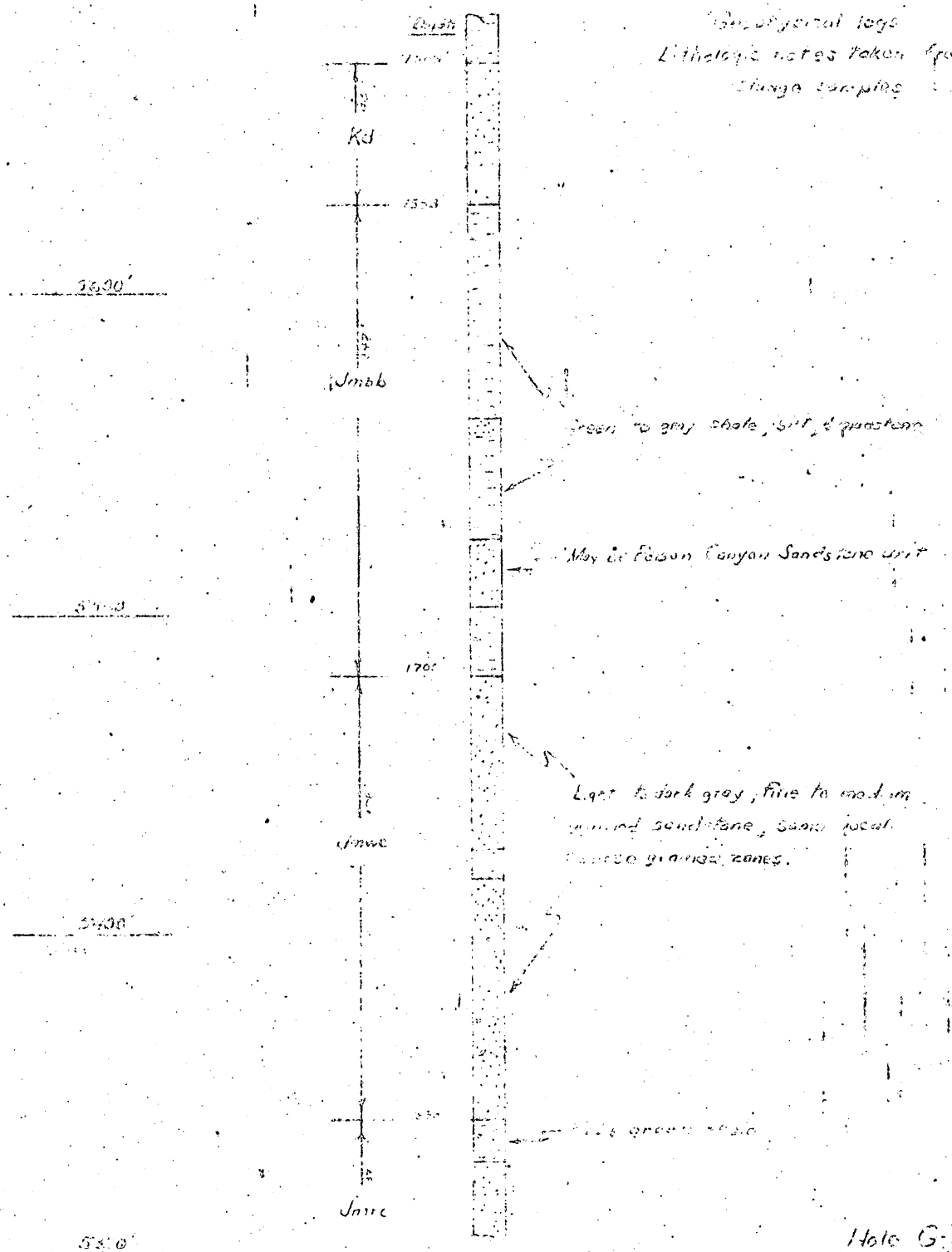
Note: Contacts as interpreted from Geologist's log; [illegible] notes taken from shake samples



Hole G-0-27
Section from Tol
Oil Canyon Sandstone
San Mateo Dome and [illegible]
D.VEA Dome [illegible]
E.B. Longyear Co. [illegible]
Scale 1" = 50'

Hole No. G-11-34

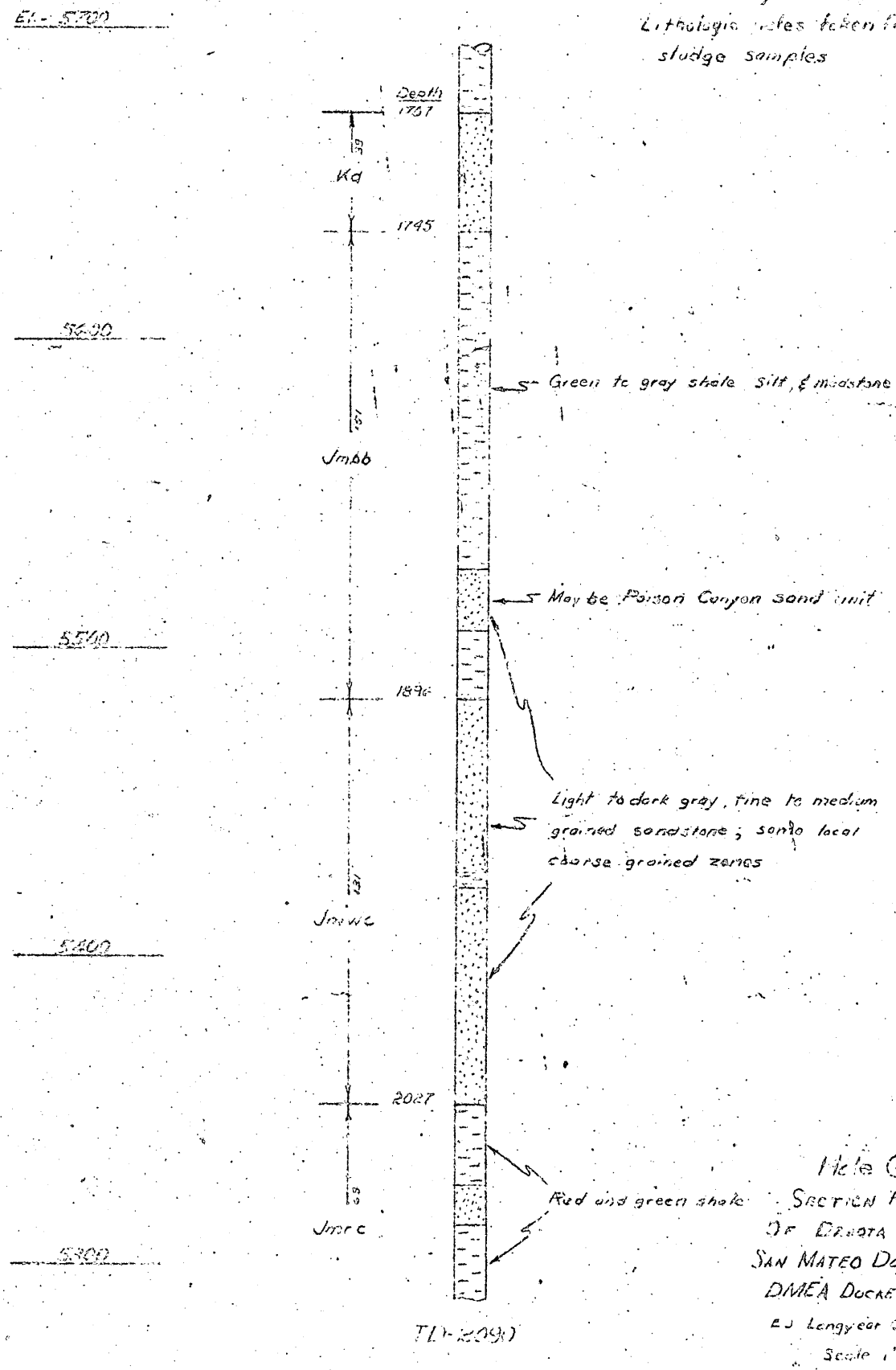
Note: Contacts as interpreted from Gamma Ray logs
Lithologic notes taken from cuttings samples



Hole G-11-34
Section from the
Gulf Oil Corporation
San Antonio Dome Project
Dolores County, Colorado
Montezuma Co. Utah

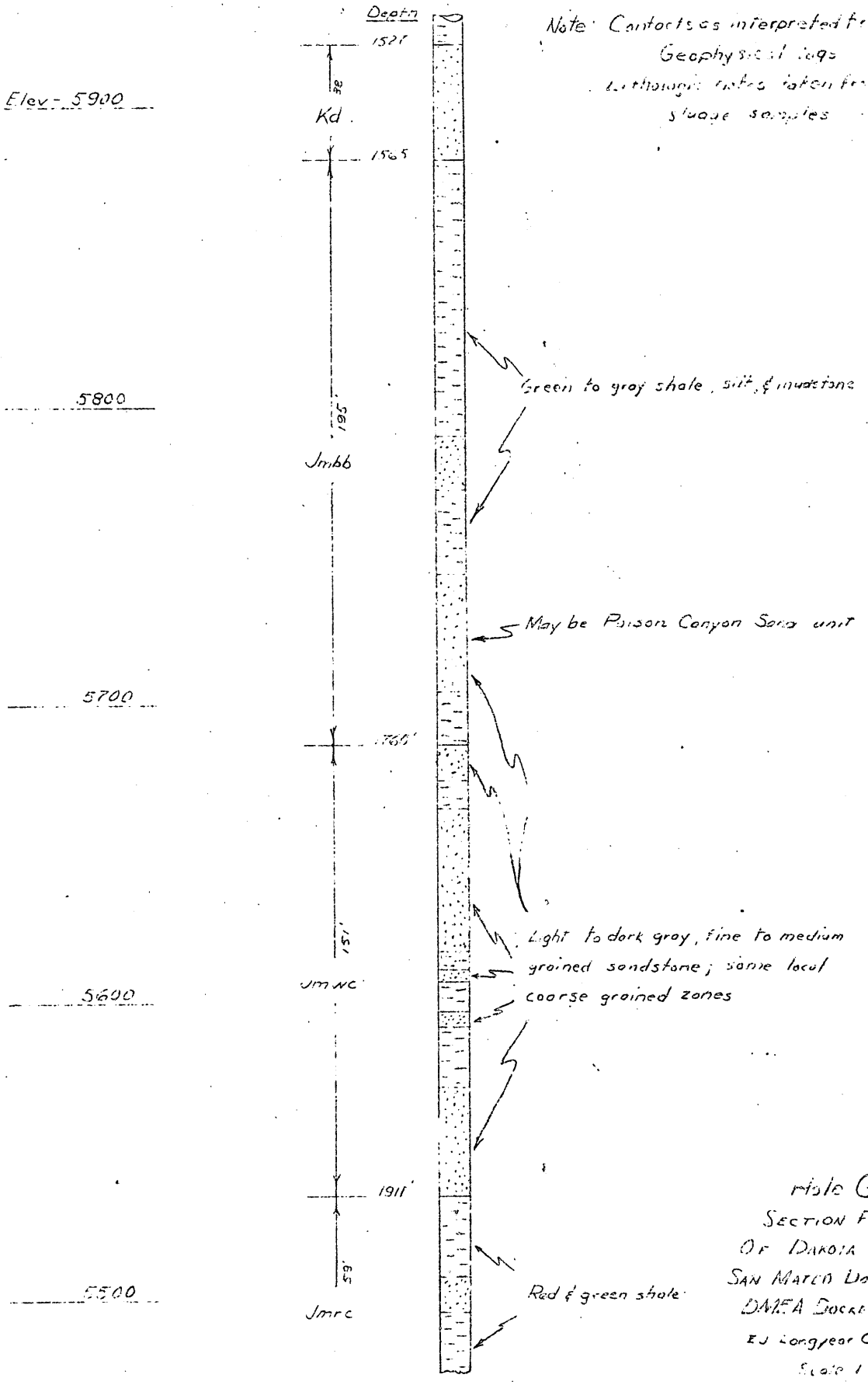
Hole No G-12-27

Note: Contacts as interpreted from Geophysical logs
Lithologic notes taken from sludge samples



Hole G-12-27
SECTION FROM TOP OF DAKOTA SANDSTONE
SAN MATEO DOME PROJECT
DMEA DOCKET No 1842
EJ Longyear Co 8/31/58
Scale 1" = 50'

Hole No G-13-27

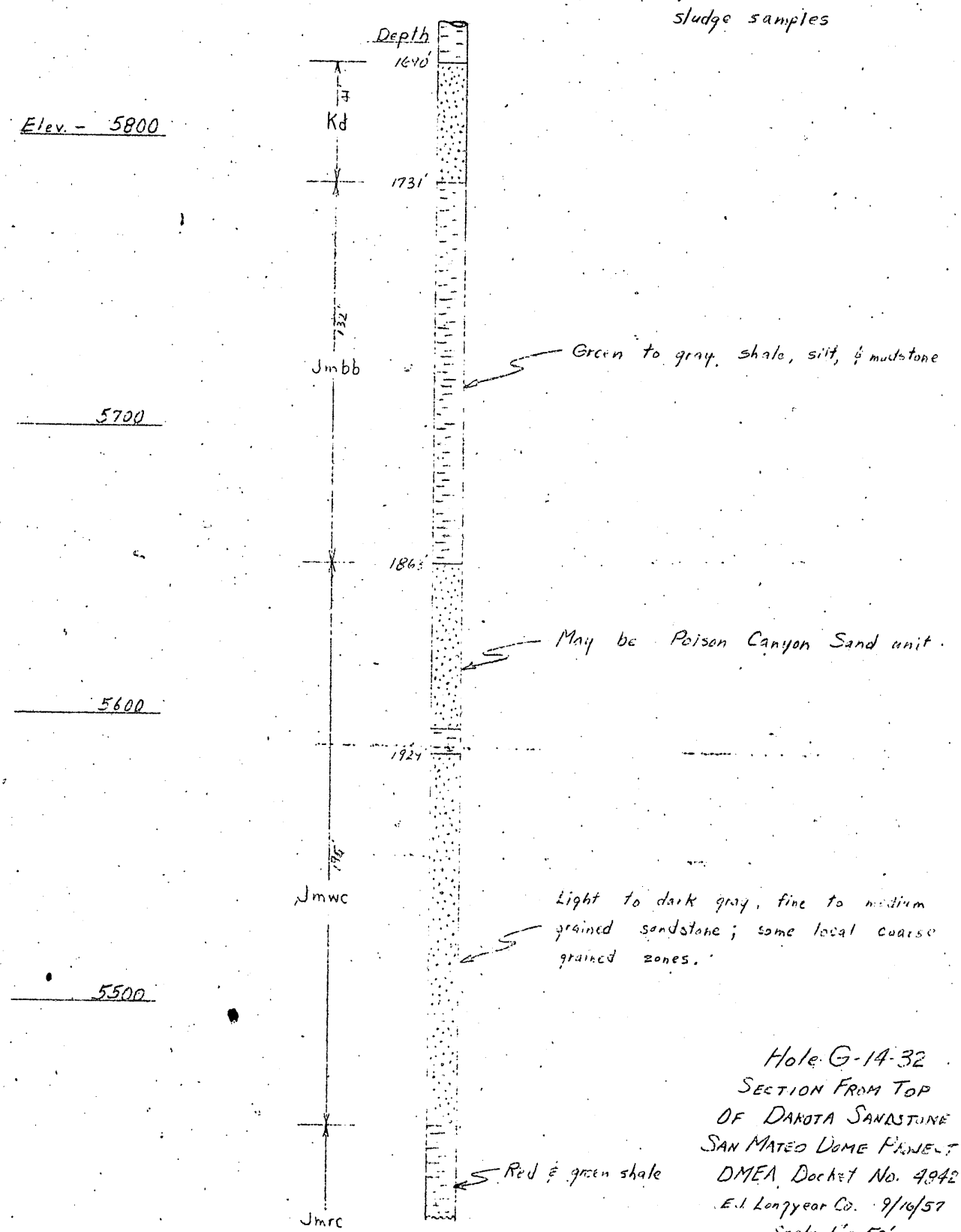


Note: Contacts as interpreted from Geophysical logs. Lithologic notes taken from sludge samples.

Hole G-13-27
SECTION FROM TOP OF DAKOTA SANDSTONE
SAN MATEO DOME FIELD
DMEA DOCKET No
EJ Longyear Co. 9/
Scale 1" = 50'

Hole No G-14-32

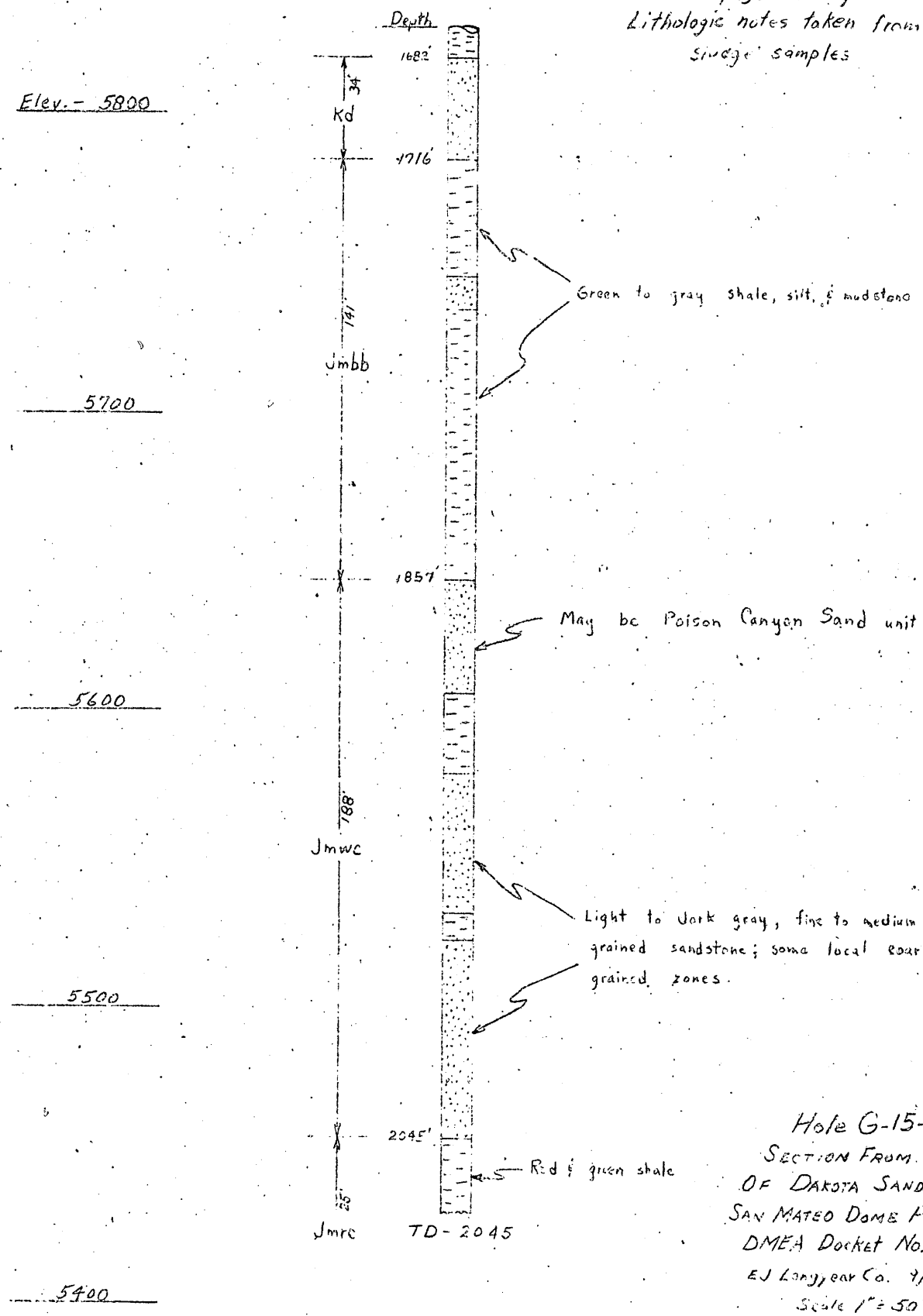
Note: Contacts as interpreted from Geophysical logs
Lithologic notes taken from sludge samples



Hole G-14-32
SECTION FROM TOP
OF DAKOTA SANDSTONE
SAN MATEO DOME PROJECT
DMEA Docket No. 4942
E.I. Longyear Co. 9/16/57
Scale 1" = 50'

Hole No G-15-32

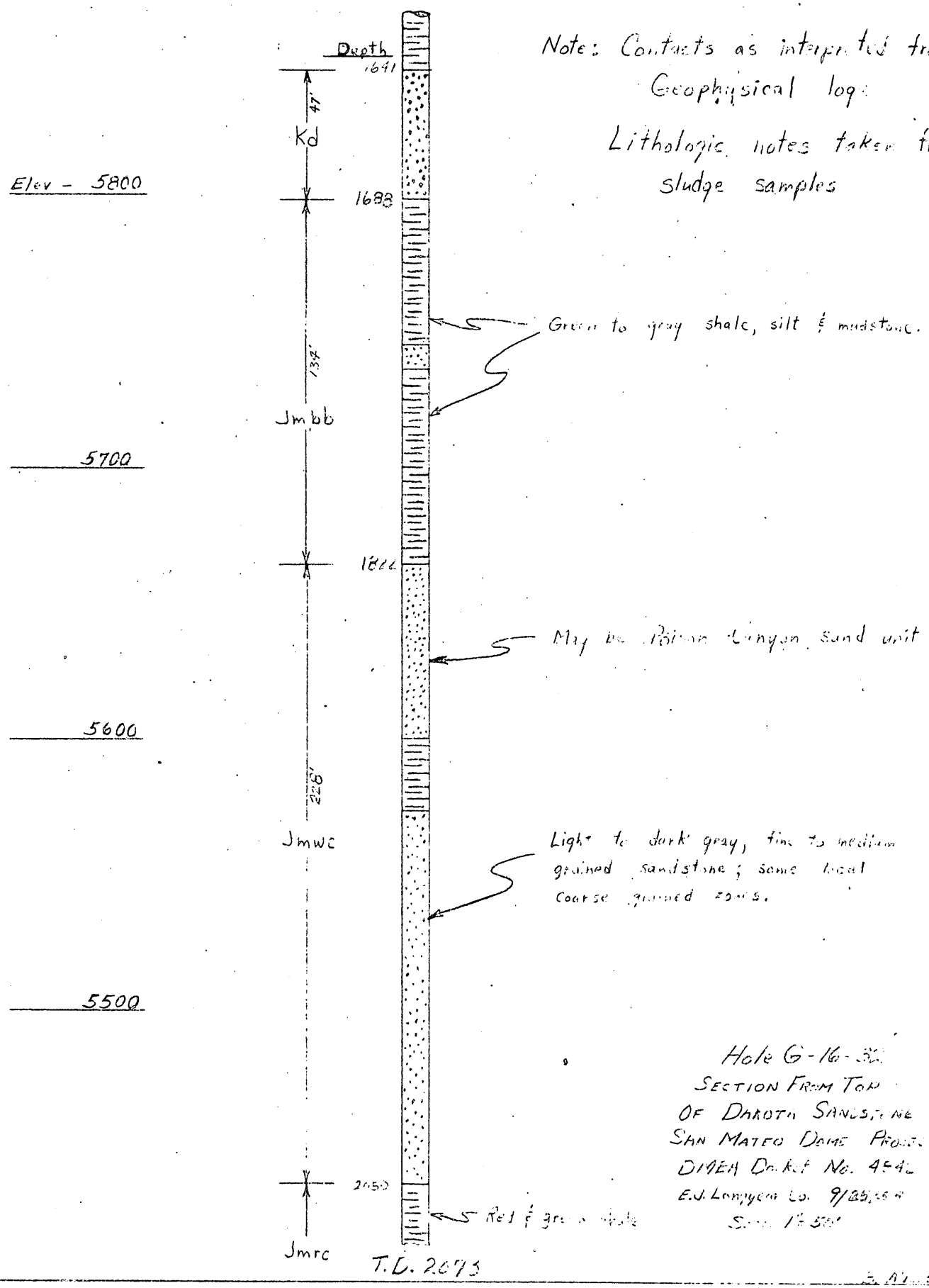
Note: Contacts as interpreted from Geophysical logs
Lithologic notes taken from sludge samples



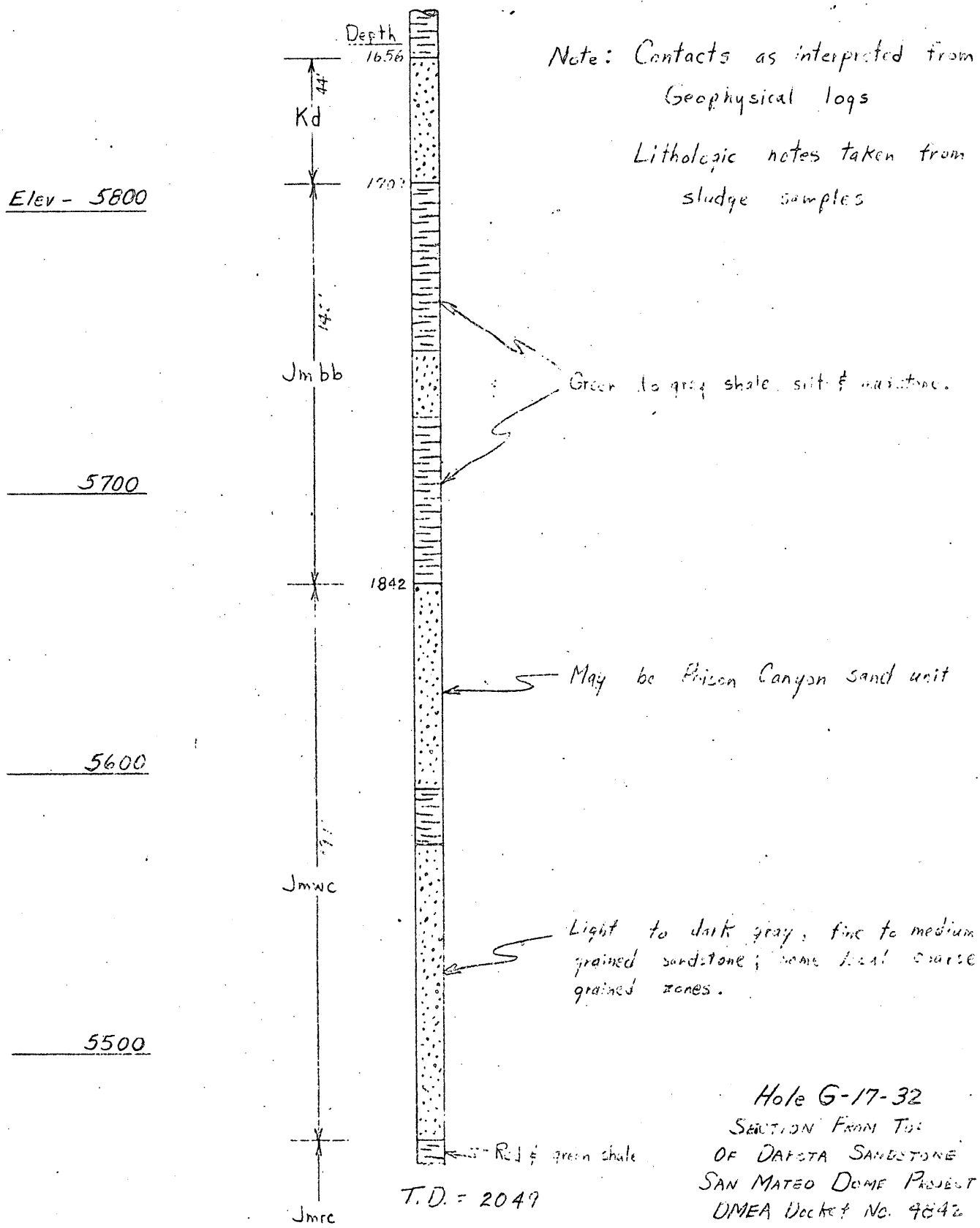
Hole G-15-32
SECTION FROM TOP
OF DAKOTA SANDSTONE
SAN MATEO DOME PROJECT
DMEA DOCKET No. 4842
EJ Longyear Co. 9/16/57
Scale 1" = 50'

B. Russell

Hole No. G - 16 - 32



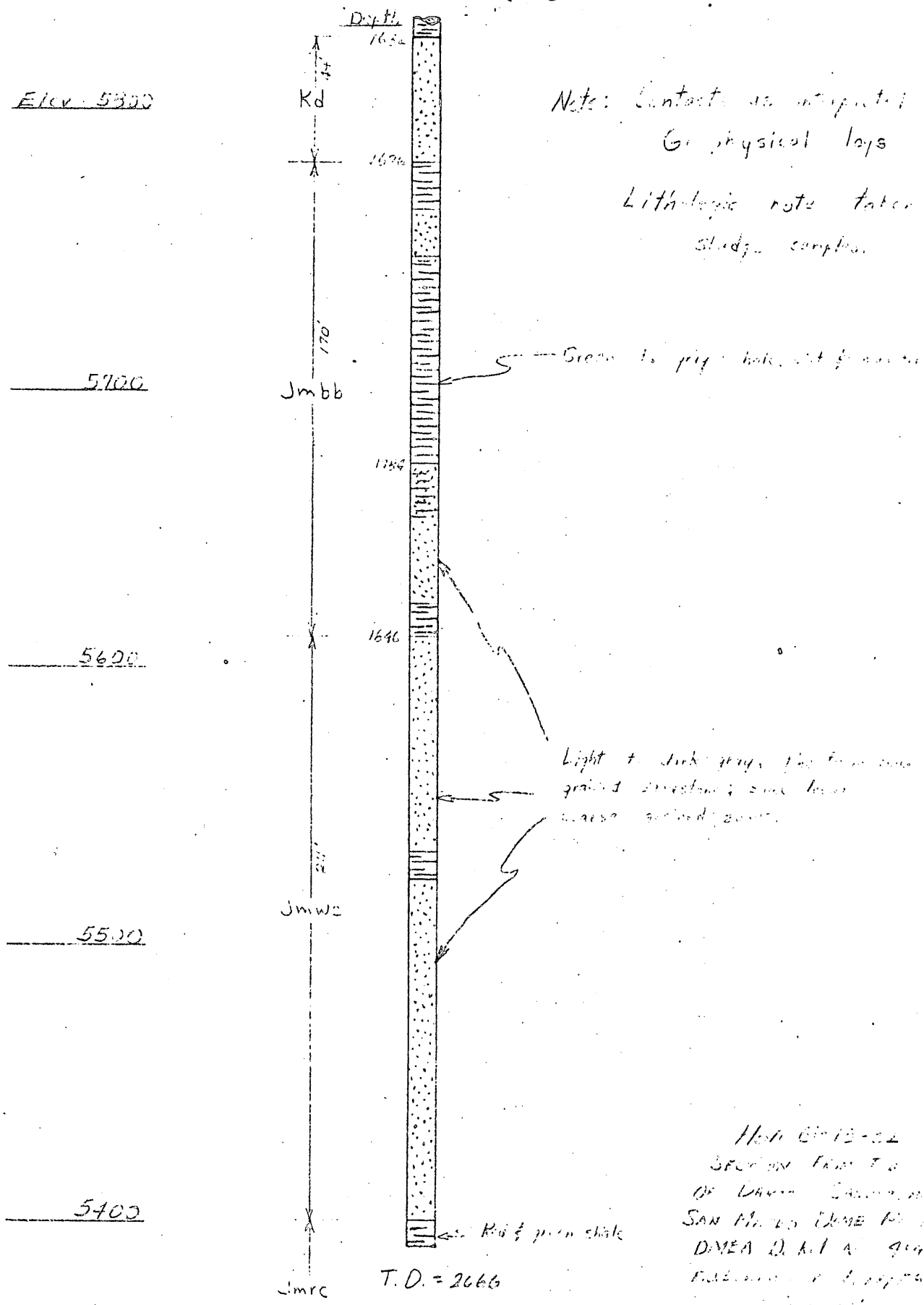
Hole No. G-17-32



Hole G-17-32
SECTION FROM TOP OF DAKOTA SANDSTONE
SAN MATEO DOME PROJECT
DMEA Docket No. 4642
E.J. Longyear Co. 9/25/54
Scale 1"=50'

R. Fr...

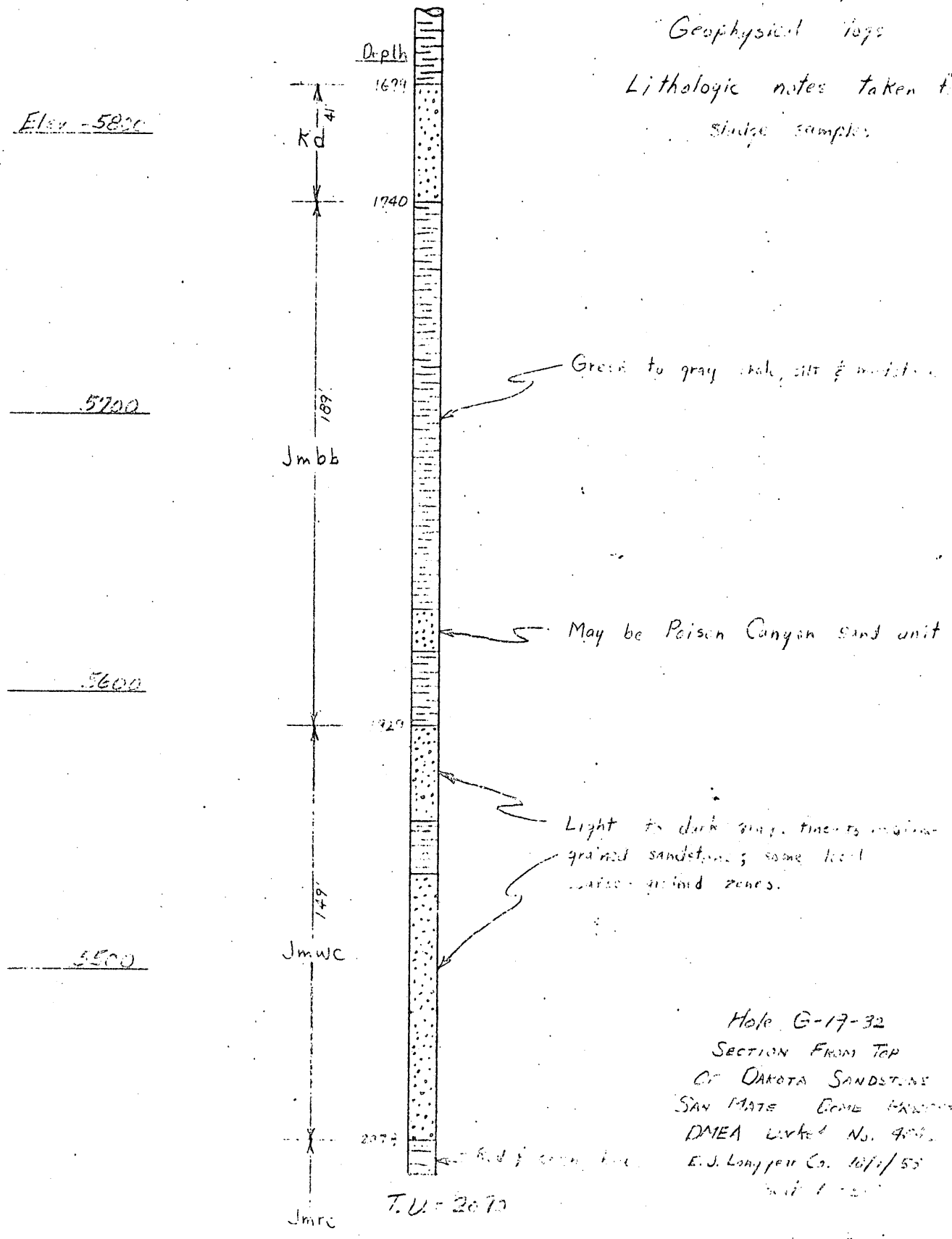
Hole No. G-[illegible]-32


Depth
Elev. 5900
Kd
170'
5700
Jmbb
1664
1646
5600
Jmwc
5500
5400
Jmrc
T.D. = 2666
Note: Contacts as interpreted from Geophysical logs
Lithologic note taken from sludge samples.

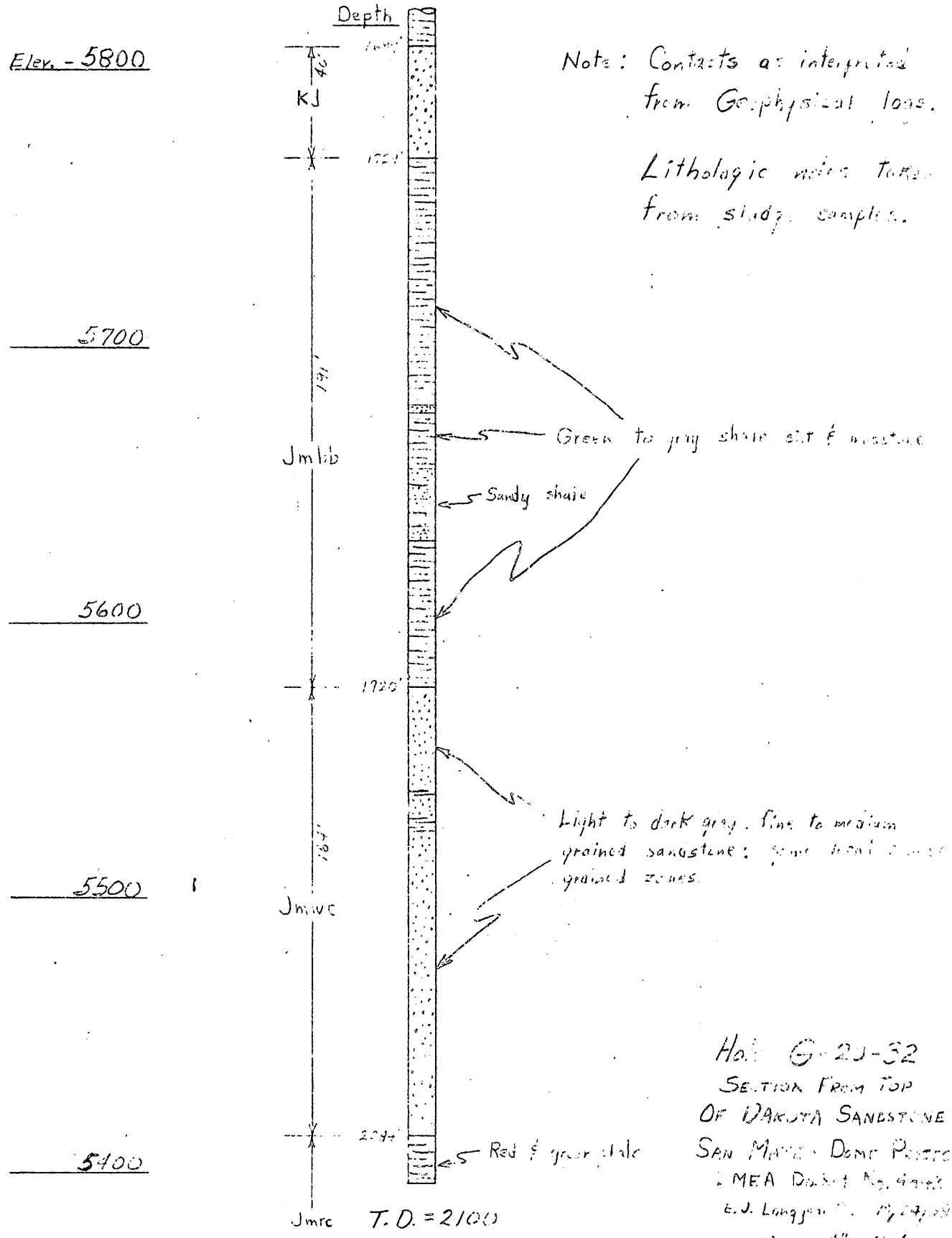
Hole No. G-17-32

Note: Contacts as interpreted from Geophysical logs

Lithologic notes taken from sludge samples

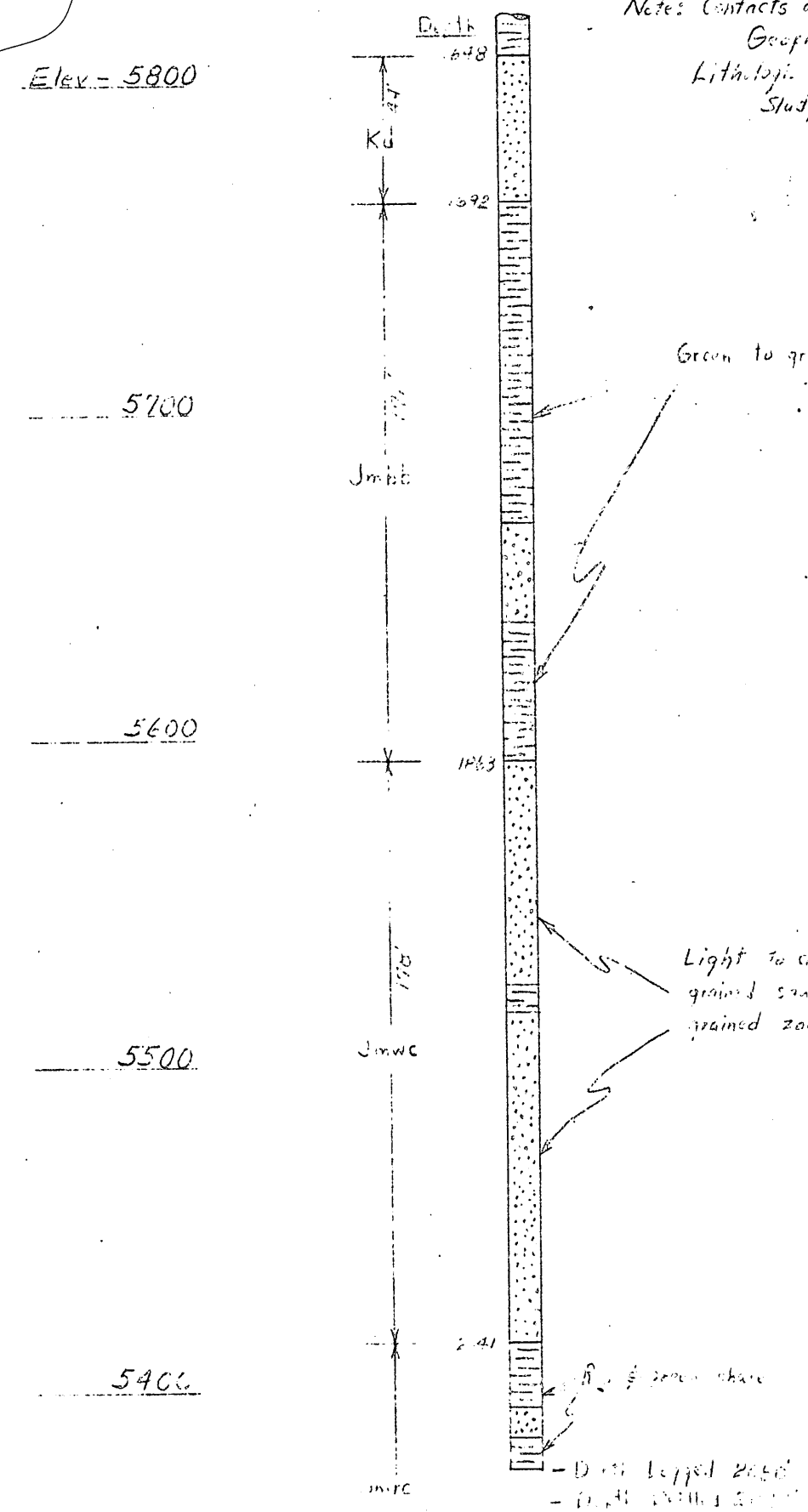


Hole No. G-20-32



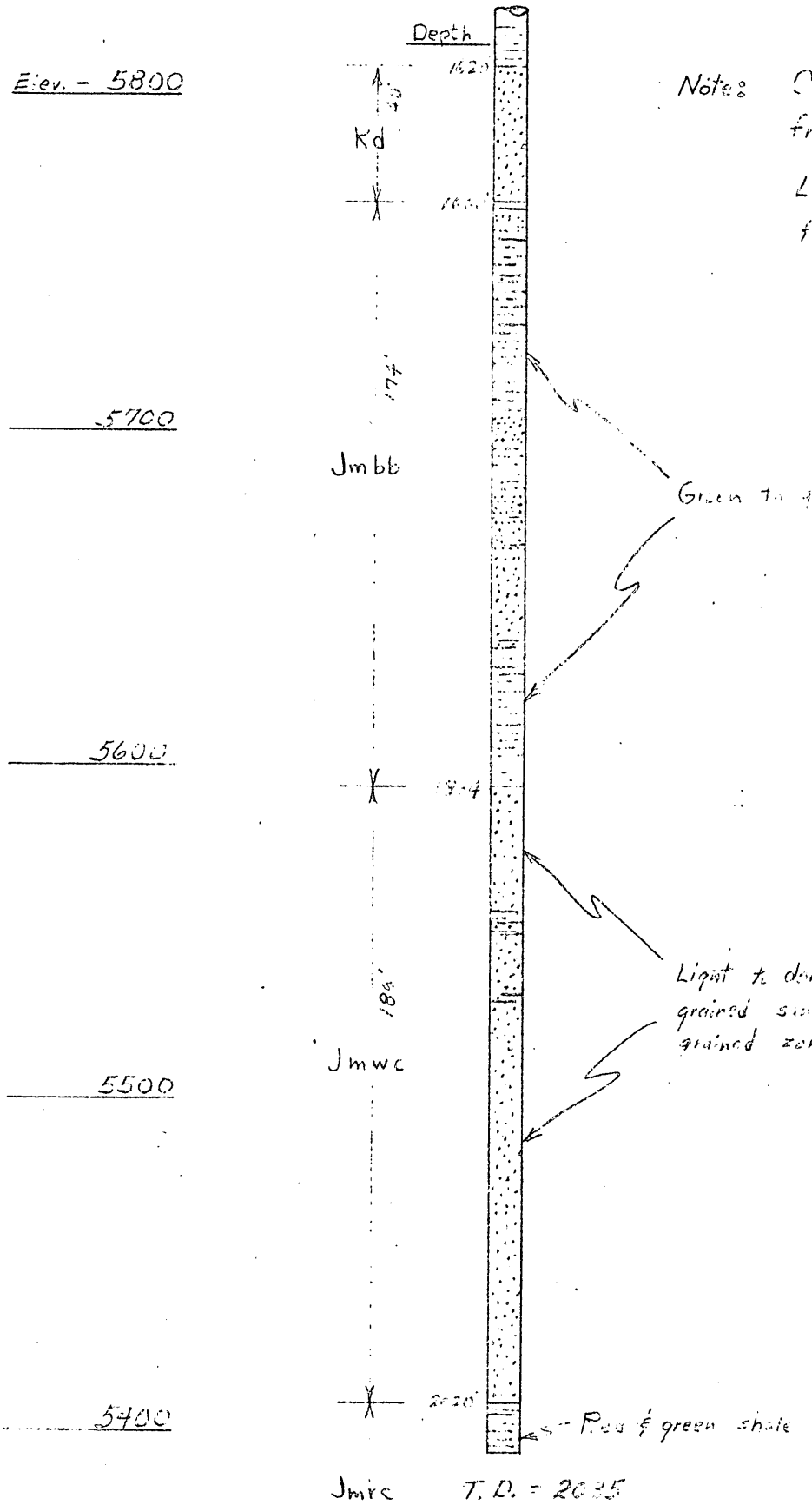
Hole No. G-21-32

Notes: Contacts as interpreted from Geophysical log. Lithologic notes taken from Sludge samples



Hole G-21-32.
Section from Top of Dakota Sandstone

Hole No. G-22-32



Notes: Contacts as interpreted from Geophysical logs. Lithologic notes taken from sample examination.

Hole G-22-32
Section from the
Oil & Gas Test Hole
John Mitchell Dome Fm.
Dome Dome No. 1

Gamma Ray Logs
San Mateo Dome Project
McKinley County, New Mexico

Drilling conducted by
E. J. Longyear Company, Operator
under
DMEA Docket No. 4822 (Uranium)
Contract No. Idm-E1183
May-October 1958

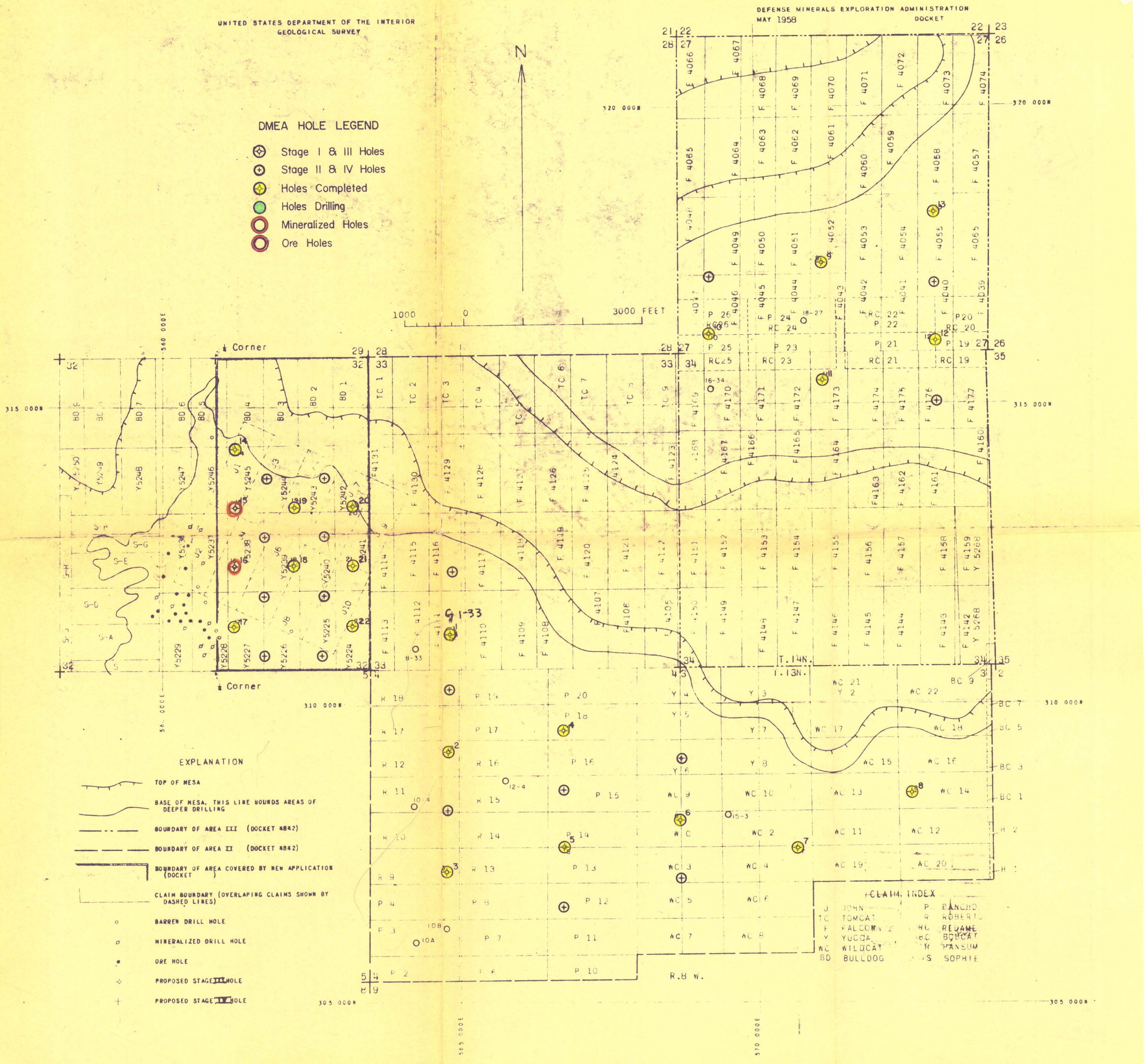
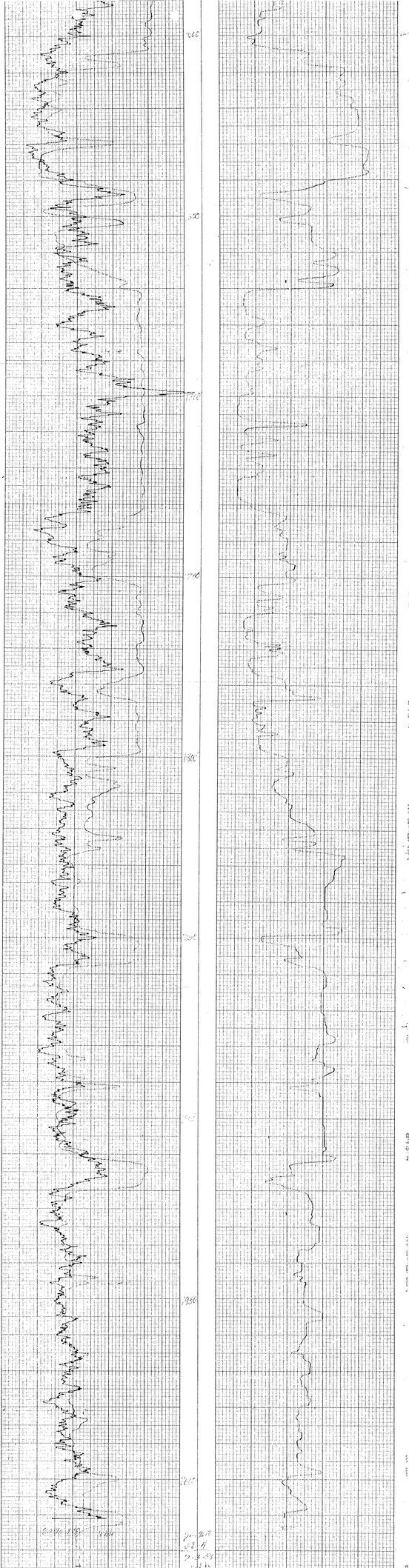


FIGURE 1.--CLAIMS AND PROPOSED DRILLING ON E½ SECTION 32, T.14 N., R.8 W., N.M.P.M., AND AREAS II AND III, SAN MATEO DOME PROJECT, MCKINLEY COUNTY, NEW MEXICO.



PROBE SIZE: 1¾ CALIBRATION: 100
DATE: 7-3-58 FIELD BOOKS: 6-24-4

	INITIAL RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN
HOLE DIAM.	6½-4					
CASING SIZE	7 5/8"					
CASING DEPTH	78.5m					
CASTER DEPTH	0-6m					0-6
GAMMA SCALE	2-5 CPS					
CASTER	5 MEC					
PAPER SPEED	10 FT/HR					
LOGGING DEVICE	10 FT/HR	FT/HR	FT/HR	FT/HR	FT/HR	FT/HR
RESISTIVITY SCALE	50-0					
SELF POT. SCALE	10 MV/CM			SELF POT.		
HOLE FLUID RESISTIVITY	10.0	WATER		FIELD BOOK		
MUD RESISTIVITY				FIELD BOOK		
RADIATION	SUSCEPTIBILITY			BALLISTIC		
	HEIGHT			GAIN CALI.		
CALIPER SCALE	INCH SIZE	LEG		PAPER SCALE		
TIME CONST.	1.5	SEC.				
GAIN	20	GAIN			I. D.	18
DIM	6.25	DIM			DIM	18

LOCATION	TIME
SEC. 4 TWP. N RGE. 8 W	OFFICE:
COUNTY: McLennan	DRIVE: 2.0
STATE: Texas	STANDBY: 4.0
AREA:	FIELD: 8.0
CLIENT: Gulf Oil Corp.	TOTAL:
Dr. Contractor: Scott	BREAKDOWN:
LOG REC'D BY:	OPERATOR: Black
	PARTY NO: 4-1

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: Gulf Oil Corporation
SORE HOLE NO: G-2-4
FIELD: Fort Hood Dome Project
COUNTY: McLennan
LOCATION: SEC. 4 TWP. N RGE. 8 W

LOG MEAS. FROM: FIEL
DRILL MEAS. FROM: MD

DATE: August 30 1958
TOTAL DEPTH (DR): 2050
HOLE DIAM.: 6¼
LOGGING SPEED
TIME CONSTANT
MUD TYPE
CASED TO

LOCATION OF HOLE
ELEVATION: GL 2183.71
KB
KRDG. COUNT
SLUSH PIT CT.

REMARKS:

COVER FOR SEC.	FED FOOTAGE	N S/B	COUR. CER.	N S/B
Disc No.	Depth	Dirn	Max Freq	Free Freq.

No above background radioactivity recorded.

Barrco Note

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY:

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Austin	1601	38'
Buda Lime	1639	157'
Washita	1800	199'
Paluxy	1999	

50 @ 11/50 P.O.

SELF POTENTIAL
10 — 0 — 10

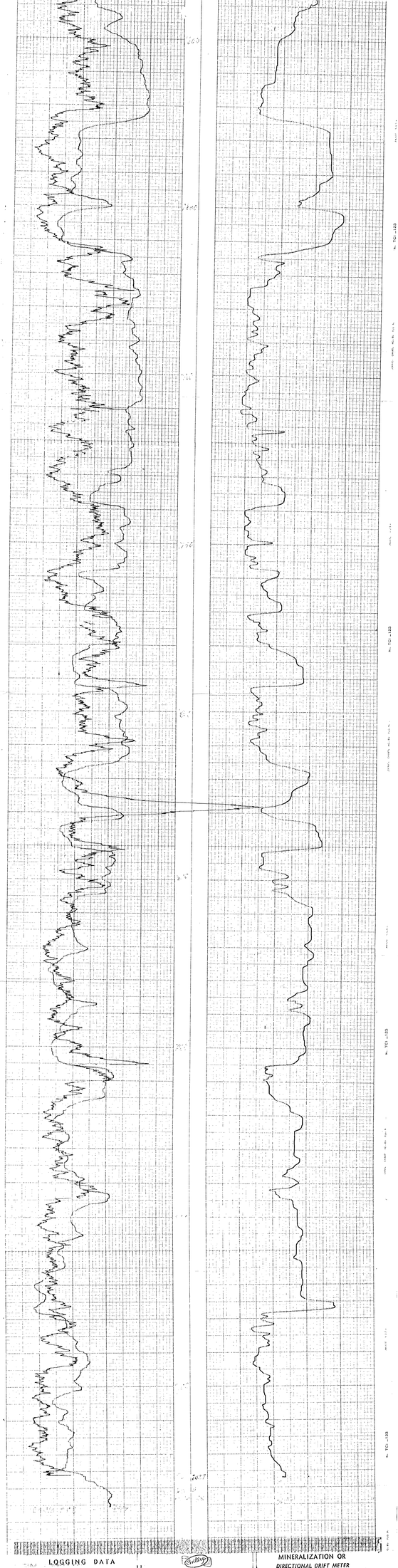
NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES
4 5 6 7 8 9
4 8 10 12 14
4 12 16 20 24

RESISTANCE
OHMS

G-2-4

G-2-4



LOGGING DATA

PROBE SIZE: 1 7/8 — CALIBRATION: 460

DATE: 2-12-58 — FIELD HEADERS: Gamma

	TRIPLE	FR.	FR.	FR.	FR.	FR.	FR.
	SHORT	FR.	FR.	FR.	FR.	FR.	FR.
DIA	4.5"						
DEPTH	1.71	1.66	1.46	1.42			
DENSITY	2.30						
DENSITY	2.22					2.00	
DENSITY	2.30						
DENSITY	2.30						
CURRENT	8	100					
SPEED	10	FEET					
SPEED	10	FEET/MIN	FEET/MIN	FEET/MIN	FEET/MIN	FEET/MIN	FEET/MIN
RECEIVER	28.2						
HIGH VOLT	1.0				FEET PER MIN.		
HIGH VOLT RECEIVER	16.0		WITH			LINE DRAG	
HIGH RECEIVER			HIGHLIGHTS			HIGHLIGHTS	
			HORIZONTAL			HORIZONTAL	
			BRIGHT		SLOW	SLOW BRIGHT	
CALIPER DEVICE			LINE DRAG		LINE DRAG		
LAB	17.00						A.D. 19
LAB	18.00						A.D. 19

LOCATION — TIME

SEC. 1 TWP. 16 RGE. 5 — OFFICE:
COUNTY: McMullen — DRIVE: 2.5
STATE: Tx — STANDBY: 1.5
AREA: — FIELD: 1.5
CLIENT: Texas Hydro — TOTAL: 5
Dr. Cummins Geol. — BREAKDOWN:
LOG RECD BY: — OPERATOR: Smith
PARTY NO: 21-1

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: Gulf Production Company
BORE HOLE NO. G-3-4
FIELD Spanish Camp Ranch
COUNTY McMullen
LOCATION: SEC. — TWP. — RGE.
LOG MEAS. FROM — FILE NO.
CALD. MEAS. FROM — NO.

DATE: 2-12-58
FOOTAGE: 2021
TOTAL DEPTH (LOG): 2016
HOLE DIAM.: 7 7/8
LOGGING SPEED: 10 ft
FSMB CONSTANT: 5.6
MUD TYPE
CASED TO: —

LOCATION OF HOLE — ELEVATIONS: GR 2499.52, KB, BASING COUNT, SLUSH PIT CK.

REMARKS:

50' @ 1600' fell

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

DEPTH PER DIV.	DIR. DIAGRAM	% LD	CORR. CPS.	% LIQ.
Div. No.	Dirn.	p.p.	Vw. Div.	Fur. Dirn.
Stops	1800			oil
Running hole				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY:

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Austin	1525'	34'
Austin Chalk	1559'	153'
Anacacho	1712'	85'
Navarro	1797'	16' Cretaceous
Kincaid	1813'	

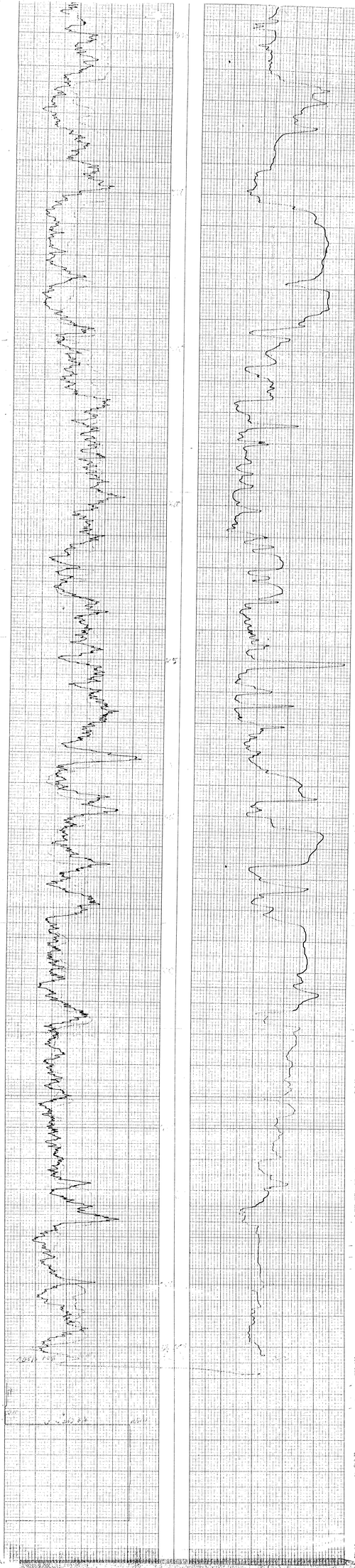
SELF POTENTIAL — 10 — 0

G-3-4 NATURAL GAMMA RAY COUNTS PER SECOND

CALIPER INCHES: 4 5 6 7 8 9 / 4 6 8 10 12 14

RESISTANCE OHMS: 4 8 12 16 20 24

G-3-4



LOGGING DATA

PROBE SIZE:	CALIBRATION:
DATE:	FIELD HOURS:
	OFFICE HOURS:
	DRIVE:
	STANDBY:
	FIELD:
	TOTAL:
	BREAKDOWN:
	OPERATOR:
	PARTY NO.

LOCATION	TIME
SEC. TWP. RGE.	OFFICE:
COUNTY:	DRIVE:
STATE	STANDBY:
AREA:	FIELD:
CLIENT:	TOTAL:
Dr. Contractor	BREAKDOWN:
LOG REC'D BY:	OPERATOR:

GEOPHYSICAL CORP.

TULSA, OKLA. U.S.A.

EXPLORATION LOG

COMPANY: [illegible]
BORE HOLE NO.: [illegible]
FIELD: [illegible]
COUNTY: [illegible]
LOCATION: SEC. [illegible] TWP. [illegible] RGE. [illegible]

LOG MEAS. FROM: [illegible] MLE
DRILL MEAS. FROM: [illegible] KB

DATE: [illegible]
FOOTAGE: [illegible]
TOTAL DEPTH (DR): [illegible]
HOLE DIAM.
LOGGING SPEED
TIME CONSTANT
MUD TYPE
CASED TO

LOCATION OF HOLE

ELEVATION: [illegible]

DEGREE COUNT SLUGS BIT CT.

REMARKS:

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COUNTS PER SEC.	CPS/CALIBRATED	K	CORR. CPS	% DUCK
Star No.	Start	End	Mid Pts	Fin Deflg.

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: [illegible]

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	

SELF POTENTIAL

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS

LOGGING DATA

PROBE SIZE: 1 3/8" CALIBRATION: 400 cps

DATE: 7-31-58 FIELD HDQTRS:

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G-4-4						
HOLE DIA.	IN						
DRILLED DEPTH	2025 FT						
LOGGED DEPTH	2025 FT						
GAMMA SCALE	25 CPS						
TIME CONSTANT	8 SEC						
PAPER SPEED	10 FT/IN						
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50 Ω						
SELF POT SCALE	10 MV/IN		SELF POT T.D.				
BORE HOLE MEDIUM	Mud	WITH					
MUD READINGS	RESISTIVITY		TYPE BASE				
	VISCOSITY		SALINITY				
	WEIGHT	LBS/GAL	LBS/CU FT				
CALIPER SCALE	INCH	LEG SIZE	PAPER SCALE				
TIME IN		CASED TO		I.D.	IN		
TIME OUT		CORE INT.		DIAM	IN		

LOCATION	TIME
SEC. 4 TWP. 13 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 0.8
STATE: New Mex	STANDBY: 2.6
AREA:	FIELD: 1.8
CLIENT: Longyear	TOTAL:
Dr. Contractor:	BREAKDOWN:
LOG REC'D BY:	OPERATOR:
	PARTY NO.:

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E.J. Longyear Co.
BORE HOLE NO. G-4-4
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 4 TWP. 13N RGE. 8W

LOG MEAS. FROM Surface FILE
DRLG. MEAS. FROM Surface NO.

		LOCATION OF HOLE
DATE:	7/31/58	
FOOTAGE	2025	
TOTAL DEPTH (DR)	2020	
HOLE DIAM.	4 3/4	
LOGGING SPEED	—	
TIME CONSTANT	—	ELEVATION KB 7353.24 GL
MUD TYPE	—	
CASED TO	—	BKGRD. COUNT SLUSH PIT CT.

REMARKS: No Remarks,

MINERALIZATION OR
DIRECTIONAL DRIFT METER

COUNTS PER SEC. *Disc No.*	BED THICKNESS *Depth*	K KD *Drift*	CORR. CPS. *Mag Brng*	% U_3O_8 *True Bearing*
Barren Hole				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: B.J. Sorensen

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1613	46'
Brushy Basin	1659	169
Poison Canyon	1828-1848(?)	20'
Westwater	1828	150+
Recapture	1980-1210(?)	

SELF POTENTIAL

G-4-4

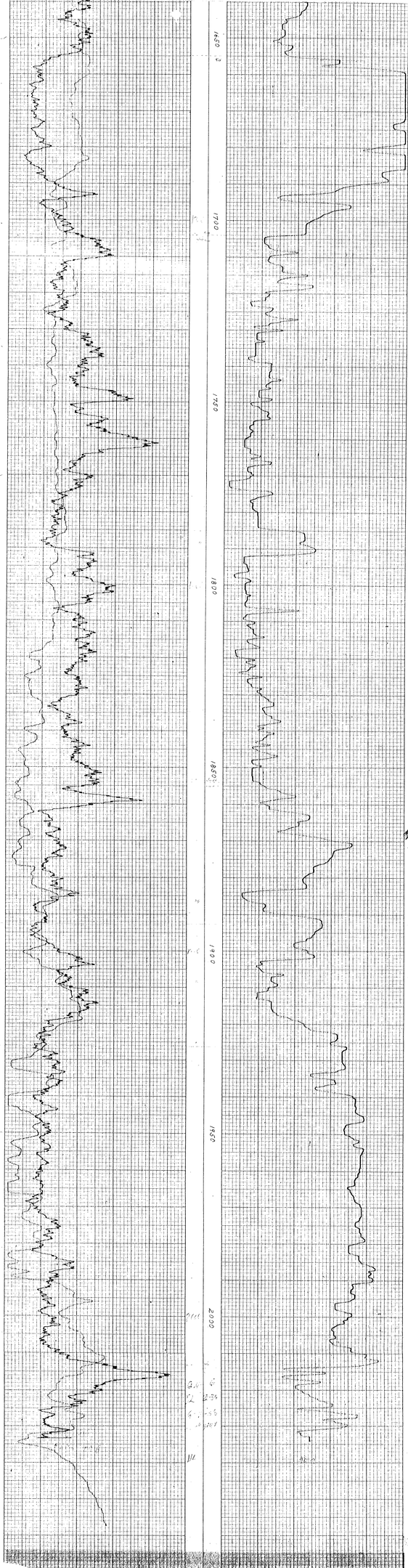
NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS

G-4-4



LOGGING DATA

PROBE SIZE: 1-38
DATE: 8-7-55
CALIBRATION: 400
FIELD HISOPTAS: Grants

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE SIZE	6 1/4-6						
HOLE DEPTH	4,4,600						
LOGGED DEPTH	2035 ft						2034
SENSOR GAMMA	2034 ft						
GAMMA SCALE	25 CPS						
CONSTANT	2 SEC						
PAPER SPEED	10 FT/HR						
LOGGING SPEED	10 FT/HR	FT/HR	FT/HR	FT/HR	FT/HR	FT/HR	FT/HR
CASING SIZE	10-3/4						
SELF POT SCALE	1/4 MV/CM			SELF POT ZERO			
MUD RESISTIVITY	1.2 OHM-M		MUD				
MUD DENSITY							
MUD VISCOSITY							
MUD WEIGHT							
CALIPER SCALE		LOG SCALE		CALIPER ZERO			
TIME IN	1800	CASED TO				I.D.	IN
TIME OUT	1945	COUR				DIAM	IN

LOCATION	TIME
SEC. 11 TWP. 13 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 2.0
STATE: N. Mex.	STANDBY: 3.0
AREA:	FIELD: 4.0
CLIENT: Anaconda	TOTAL: 6.0
Dr. Contractor Eccles	BREAKDOWN:
LOG REC'D BY: Don J. Scott	OPERATOR: Moody
	PART NO: 7-4

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: El Lunggren Co.
BORE HOLE NO. G-6-4
FIELD: San Mateo Dome Project
COUNTY: McKinley
LOCATION: SEC. 4 TWP. 13 N RGE. 8 W

LOG MEAS. FROM: FILE NO.
DRLG. MEAS. FROM:

DATE:
FOOTAGE (Logged): 2034
TOTAL DEPTH (DR): 2034
HOLE DIAM.: 4 7/8
LOGGING SPEED:
TIME CONSTANT:
MUD TYPE:
CASED TO:

LOCATION OF HOLE
ELEVATION: GL 7287.10
KB:
SKGRD. COUNT:
TSUSH PIT CFL:

REMARKS: RPM/NS:
Barren Hole
This hole Blind water 270'
10 P 1600 1/4

MINERALIZATION OR
DIRECTIONAL DRIFT METER

COUNTER PER SEC.	BED THICKNESS	E ED	CORR. CFR.	% U3O8
Fin No.	Depth	Dip	Var Dip	Fin Footag
No abnormal background radioactivity recorded.				
Barren Hole				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY:

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1455'	49'
Beaty Basin	1504'	180'
Westwater	1854'	160'
Morrison	2014'	

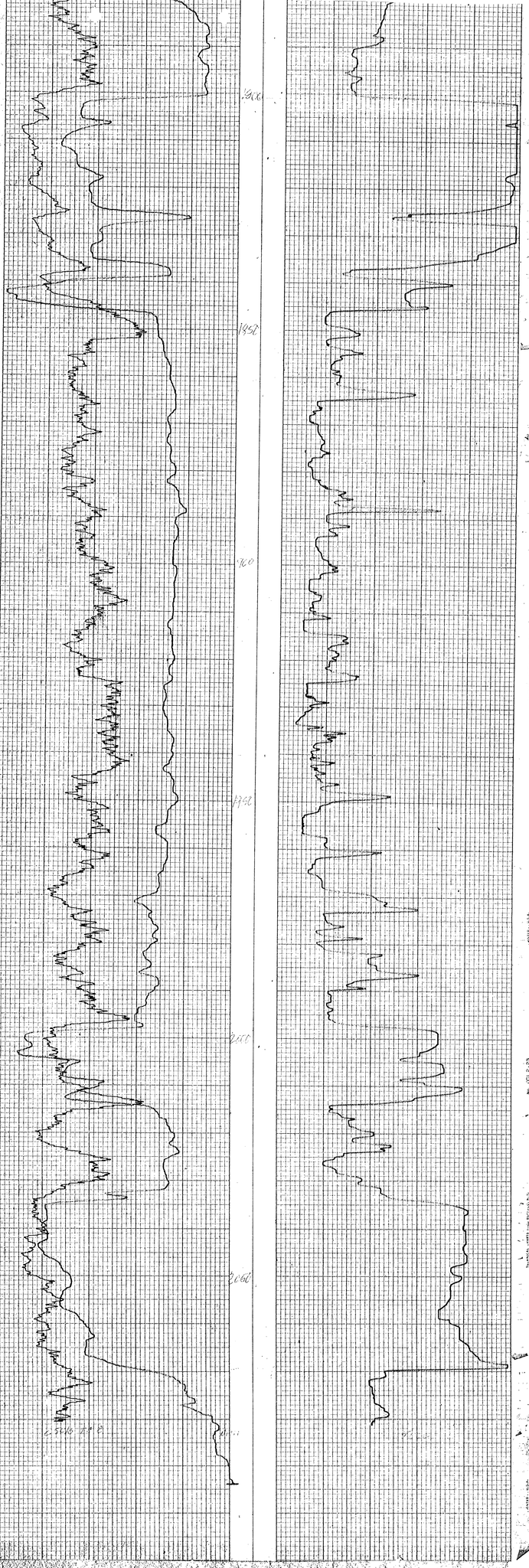
SELF POTENTIAL

G-6-4 (10")

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1 3/8			CALIBRATION: 1100		
DATE: 8-13-58			FIELD HOURS: 6 hrs		
	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G7-3					
HOLE DIA.	11 3/4 in					
DRILLED DEPTH	2100 ft					
LOGGED DEPTH	2081 ft					2081
GAMMA SCALE	25 CPS					
TIME CONSTANT	8 SEC					
LOGGING SPEED	10 FT/MIN					
	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	500					
SELF POT SCALE	mv/in			SELF POT P.O.		
BORE HOLE MEDIUM	H2O	MUD		STEEL BASE		
MUD HEADGUARD	RESISTIVITY					
	VISCOSITY			BALLINGS		
	WEIGHT		LBS/GAL	LBS/CU FT		
CALIPER SCALE	INCH	LEG SIZE		PAPER SCALE		
TIME IN	1600	CASED TO			I. D.	IN
TIME OUT	1740	CORE DIA.			DIAM	IN

LOCATION	TIME
SEC. 7 TWP. 19 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 1.5
STATE: N. Mex.	STANDBY: 1.0
AREA:	FIELD:
CLIENT: Long Year	TOTAL: 4.2
Dr. Contractor Scott	BREAKDOWN:
LOG REC'D BY: Don Fratto	OPERATOR: Mash
	PARTY NO: 21-1

Century

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. Longyear Co.
BORE HOLE NO. G-7-3
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 3 TWP. 13 N RGE. 8 W

LOG MEAS. FROM ..... FILE .....
DRLG. MEAS. FROM ..... NO. .....

DATE:	
FOOTAGE (Logged)	2081'
TOTAL DEPTH (DR)	2070'
HOLE DIAM.	4 3/4
LOGGING SPEED	
TIME CONSTANT	
MUD TYPE	
CASED TO	

LOCATION OF HOLE

ELEVATION KB 7477.76 GL
BKGRD. COUNT .....
SLUSH PIT CT. .....

REMARKS:

Barren Hole

5'E. 1150 N.W.

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COUNTS PER SEC.	RED THICKNESS	E RD	CORR. CPS.	% U3O8
Dim Vn.	Dark	Drift	Mag Freq	Fine Fracture

No above background radioactivity recorded

Barren Hole

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: D.S. Fratto

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1801	45'
Brushy Basin	1846	151'
Westwater	1997	73' (?)
Recapture	2070 (?)	

SELF POTENTIAL

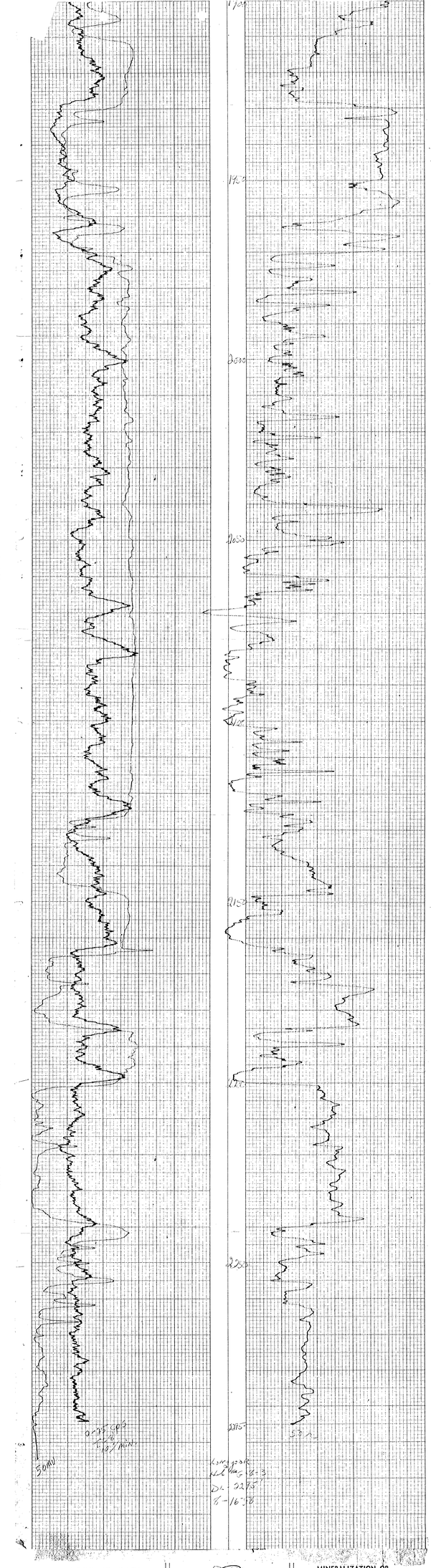
G-7-3 10 - 8

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE:	1 3/4	CALIBRATION:	4-16-55
DATE:	2-16-56	FIELD HOURS:	6 hrs

	INITIAL RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN
HOLE SIZE	6-3/4					
MUD WT.	9.2					
DRILLER DEPTH	2275					
LOGGED DEPTH	2275					
SPEED SCALE	2.3 CPM					2275
CONDUCTOR PAPER	3 MHO					
SELF POT SENSITIVITY	10 MV/CM					
SELF POT SPEED	10 MM/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTIVITY SENSITIVITY	5Ω-m					
SELF POT SENSITIVITY	10 MV/CM			SELF POT T.C.		
MUD RESISTIVITY	Mud		MEAS.		SURF. MEAS.	
MUD RESISTIVITY					SURF. MEAS.	
MUD VISCOSITY					BALLINGER	
	WEIGHT		LOST CIRC.		CASED	
CALIPER SCALE	INCH	LEG	UPPER SCALE			
TOP LOG	0	CASED TO				
BOTTOM LOG	2275	CORR. TO			L.D.	IN
		CORR.			DIAM.	IN

LOCATION	TIME
SEC. 2 TWP. 13 RGE. 3	OFFICE:
COUNTY: McKinley	DRIVE: 2.3
STATE: N.M.	STANDBY:
AREA: Mt. Dome Dome	FIELD: 1.3
CLIENT: Lone Star	TOTAL: 4.6
Dr. Contractor: Kerr	BREAKDOWN:
LOG REC'D BY:	OPERATOR: Joseph Gallegos
	PARTY NO. 6114

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: EJ Longyear Co.
BORE HOLE NO. G-8-3
FIELD: San Mateo Dome Project
COUNTY: Mc Kinley
LOCATION: SEC. 3 TWP. 13N RGE. 8W

LOG MEAS. FROM ..... FEE
DRLG. MEAS. FROM ..... NO.

DATE:	
FOOTAGE (drilled)	2275
TOTAL DEPTH (DR)	2275
HOLE DIAM.	4¾
LOGGING SPEED	
TIME CONSTANT	
MUD TYPE	
CASED TO	

LOCATION OF HOLE

ELEVATION
KB 7854.73
GL
BEGRAD. COUNT
SILICON PT CP.

REMARKS: All Reserved.

Barren Hole

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC.	BED THICKNESS	K OR	CORR. CPS.	% U3O8
Gas Sc.	Depth	Dip	Avg Avg	Eve Avg.
No above background radioactivity recorded				
Barren Hole				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: D.S. Frost

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1929	42'
Brushy Basin	1971	155'
Westwater	2126	114'
Recapture	2240	

SELF POTENTIAL

G-8-3 10 - 1

NATURAL GAMMA RAY

CALIPER INCHES

4 6 8 10 12 14

LOGGING DATA

PROBE SIZE: 1⅞ | CALIBRATION: 4CC
DATE: 9-6-58 | FIELD HDQTRS: Grants

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G-9-27						
HOLE DIA.	4¾						
DRILLED DEPTH	1907 FT						
LOGGED DEPTH	1905 FT						
GAMMA SCALE	25 CPS						
TIME CONSTANT	SEC						
PAPER SPEED	10 FT/IN						
LOGGING SPEED	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE							
SELF POT SCALE	MV/IN		SELF POT T.D.				
BORE HOLE MEDIUM		WITH					

MUD READINGS: RESISTIVITY — TYPE BASE — VISCOSITY — SALINITY — WEIGHT — LBS/GAL — LBS/CU FT

CALIPER SCALE — INCH — LEG SIZE — PAPER SCALE
TIME IN — CASED TO — I.D. — IN
TIME OUT — CORE INT. — DIAM — IN

LOCATION	TIME
SEC. 27 TWP. 14N RGE. 8W	OFFICE:
COUNTY: McKinley	DRIVE:
STATE: N. Mex.	STANDBY:
AREA:	FIELD:
CLIENT: Longyear	TOTAL:
Dr. Contractor	BREAKDOWN:
LOG REC'D BY:	OPERATOR:
Don Fratto	PARTY NO.:

Century GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: EJ Longyear Co.
BORE HOLE NO. G-9-27
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 27 TWP. 14N RGE. 8W

LOG MEAS. FROM ______ FILE
DRLG. MEAS. FROM ______ NO.

		LOCATION OF HOLE
DATE: Sept. 6, 1958		
FOOTAGE (Logged)	1905'	
TOTAL DEPTH (DR)	1907'	
HOLE DIAM.	4¾"	
LOGGING SPEED		ELEVATION KB 7419'(?)
TIME CONSTANT		GL
MUD TYPE		BKGRD. COUNT
CASED TO		SLUSH PIT CT.

REMARKS:

Hole Barren

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC. / Disc No.	BED THICKNESS / Depth	K KD / Drift	CORR. CPS. / Mag Brng	% U_3O_8 / True Bearing
No above background radioactivity recorded.				
Hole considered Barren.				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: D. S. Fratto

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1506'	43'
Brushy Basin	1549'	171'
Westwater	1720'	180'
Recapture	1900'	

G-9-27

SELF POTENTIAL — MV

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS

LOGGING DATA

PROBE SIZE: 13/8 CALIBRATION: 400
DATE: 8-20-58 FIELD HDQTRS: Grants

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G 10-27						
HOLE DIA.	4 3/4 tD						
DRILLED DEPTH	1940 FT						
LOGGED DEPTH	1950 FT					1950	
GAMMA SCALE	25 CPS						
TIME CONSTANT	8 SEC						
PAPER SPEED	10 FT/IN						
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50Ω						
SELF POT SCALE	10 MV/IN	SELF POT T.D.					
BORE HOLE MEDIUM	H2O	WITH					

MUD READINGS: RESISTIVITY — TYPE BASE — VISCOSITY — SALINITY — WEIGHT — LBS/GAL — LBS/CU FT
CALIPER SCALE: INCH — LEG SIZE — PAPER SCALE
TIME IN: 0230 — CASED TO — I. D. IN
TIME OUT: 0415 — CORE INT. — DIAM IN

LOCATION	TIME
SEC. 27 TWP. 14 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 3.0
STATE: N Mex	STANDBY: 1.0
AREA:	FIELD: 1.8
CLIENT: Longyear	TOTAL: 5.8
Dr. Contractor: Scott	BREAKDOWN:
LOG REC'D BY: D.S. Frotto	OPERATOR: Marsh
	PARTY NO: V-1

Century GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: E.J. Longyear Co.
BORE HOLE NO. G-10-27
FIELD: San Mateo Dome Project
COUNTY: McKinley
LOCATION: SEC. 27 TWP. 14N RGE. 8W
LOG MEAS. FROM ____ FILE
DRLG. MEAS. FROM ____ NO.

		LOCATION OF HOLE
DATE:		
FOOTAGE (Logged)	1950	
TOTAL DEPTH (DR)	1940	
HOLE DIAM.	4 3/4"	
LOGGING SPEED		
TIME CONSTANT		ELEVATION KB
MUD TYPE		GL
CASED TO		BKGRD. COUNT / SLUSH PIT CT.

REMARKS:
Barren Hole

40' C 1600 tc 4

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC.	BED THICKNESS	K KD	CORR. CPS.	% U_3O_8
Disc No.	Depth	Drift	Mag Brng	True Bearing

No above background radioactivity recorded

Barren Hole

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: D.S. Frotto

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1600'	42'
Brushy Basin	1642'	70'
Westwater	1712	176'
Recapture	1888	

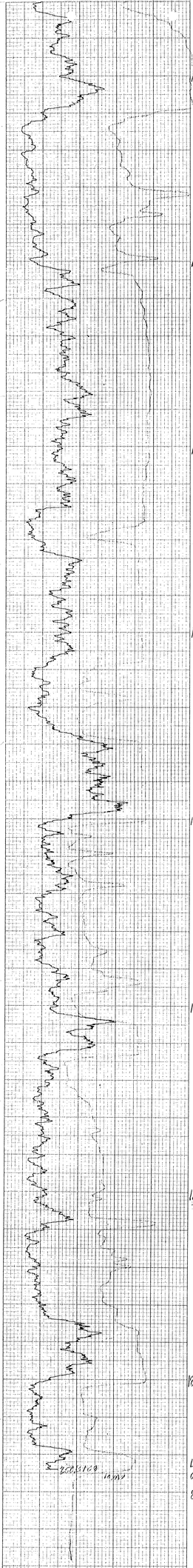
SELF POTENTIAL
G-10-27 10 MV

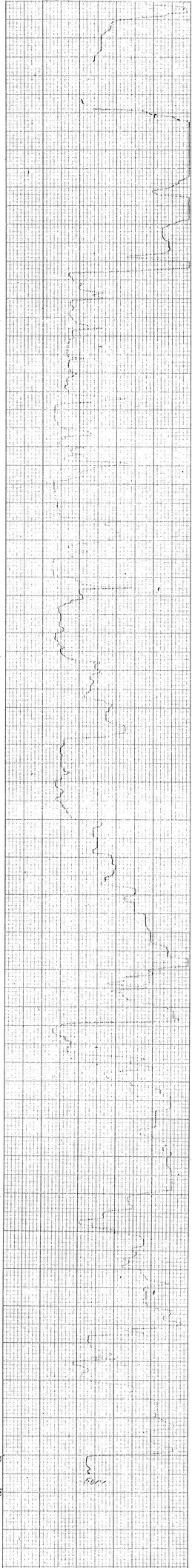
NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS





LOGGING DATA

PROBE SIZE: 1 3/8		CALIBRATION: 400	
DATE: 8-25-58		FIELD HOURS: 6 Hours	
	INITIAL RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN	RE. RUN
HOLE NO.	G-11-34					
DATE	8-25-58					
CALIBRATOR PERFORM	12 Pts					
LOGGER DEPTH	18 25'					1825
SHARK SCALE	0.5 CPS					
CONSTANT SPEED	5 SEC					
SPEED SCALE	10 FT/IN					
SPEEDER SPEED	10 FT/IN	FT/IN	FT/IN	FT/IN	FT/IN	FT/IN
REFERENCE SCALE	200 cps					
SELF POT SCALE	10 MVOLT		SELF POT T.O.			
SURF. GAIN RESISTOR	110	MUTE		FIXED GAIN		
BOR RESISTIVITY						
	MUDCAKE			BRINE		
				SALT	SALT	
		MEASUR		CONC.	CONC.	
CALIPER SCALE	INCH	LEG		FIXED SCALE		
TIME IN	1035	LEG	CASED TO		I. D.	IN
TIME OUT	1215	LEG	CASING		DIAM	IN

LOCATION	TIME
SEC. 24 TWP. 19 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 3.0
STATE: N. Mex	STANDBY: 1.0
AREA:	FIELD: 1.0
CLIENT: Gen Sylvan	TOTAL: 5.0
Dr. Contractor: Scott	BREAKDOWN:
LOG REC'D BY: Don Lett	OPERATOR: Wash
	PARTY NO: 5-1

Century

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E.J. Longyear Co.
BORE HOLE NO. G-11-34
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 24 TWP. 14 N RGE. 8 W

LOG MEAS. FROM ..... FEE
DTLG. MEAS. FROM ..... NO.

DATE:
FOOTAGE (Logged) 1875'
TOTAL DEPTH (DR) 1870
HOLE DIAM. 7 7/8"
LOGGING SPEED
TIME CONSTANT
MUD TYPE
CASED TO

LOCATION OF HOLE

ELEVATION
KB 7330.10
GL
PADDED ACCOUNT
SLUSH PIT CT.

REMARKS: Revisions:
Barren Hole

50'@ 1400 1C4

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTER PER SEC.	BED THICKNESS	% K2O	CORR. CPS.	% U3O8
Per Min.	Depth	Prob.	Mag Susp.	Pot. Reading

No above background radioactivity recorded.

Barren hole

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: D.S. Frost

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1399'	44'
Brushy Basin	1443'	104'
Westwater	1547'	121'
Recapture	1668	37'

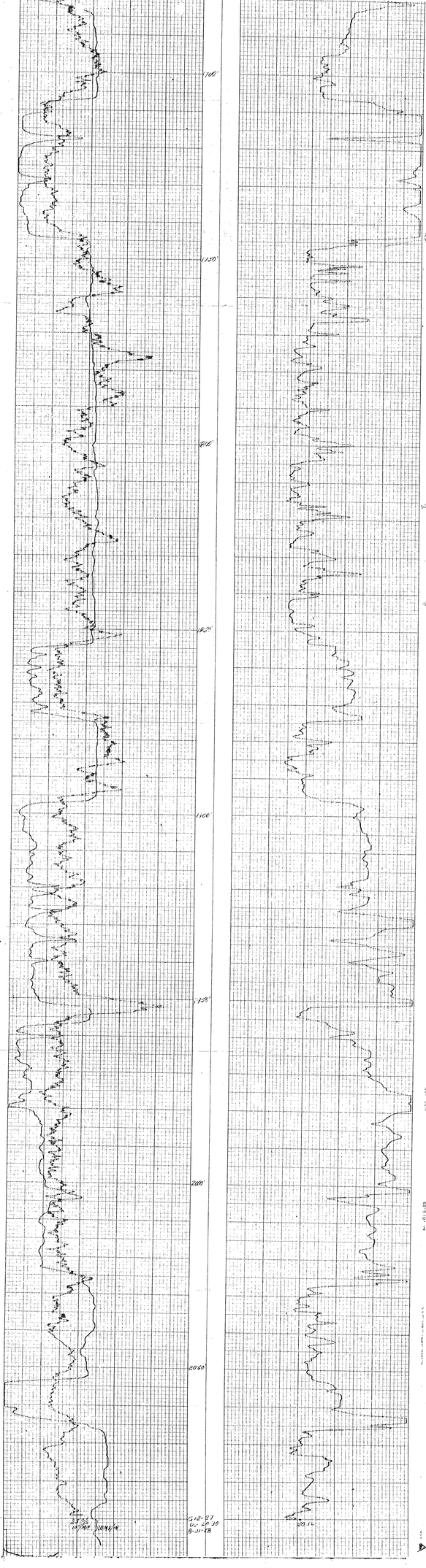
G-11-34

SELF POTENTIAL

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1 7/8 — CALIBRATION: 100
DATE: 8-31-78 — FIELD HIDITRS: GRANTS

HOLE NO.	G-12-27						
BIT SIZE							
CASING DEPTH	2090 ft						
CASING SIZE	2090 ft						
SCALE	20						
CURRENT	8	MA					
SPEED	10	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
LOCATION							
RESISTANCE SCALE	20 Ω						
SELF POT SCALE	10	MV/M			SELF POT TO	2090	
MUD HOLE MEDIUM			MUD				
MUD GRADIENT	MUD RESISTIVITY				BORE HOLE DIAM.		
	VISCOSITY				SALINITY		
	WEIGHT			SAND SOL.	LOSS CO RT		
CALIPER SCALE		INCH SIZE		LOG DIAM.	PIPE SIZE		
TIME	1945		CASED TO				
TOTAL					I. D.		IN
CAT	1800	ON	OFF				
					DIAM		IN

LOCATION	TIME
SEC. 27 TWP. 16 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 9 20
STATE: New Mexico	STANDBY:
AREA: Zuni	FIELD: 1.8
CLIENT: Goodyear	TOTAL: 3.8
Dr. Contractor Short	BREAKDOWN:
LOG REC'D BY:	OPERATOR: Gallup

PARTY NO: 4-15

(Courtesy)

GEOPHYSICAL CORP.
TULSA, OKLA. U.S.A.
EXPLORATION LOG

COMPANY: Goodyear Co.
BORE HOLE NO.: G-12-27
FIELD: San Mateo Dome Project
COUNTY: McKinley
LOCATION: SEC. 27 TWP. 14N RGE. 8W

LOG MEAS. FROM: ..... FILE
DRILL MEAS. FROM: ..... SOL.

DATE:
FOOTAGE (Logged): 2090
TOTAL DEPTH (DR): 2090
HOLE DIAM.: 5 3/4
LOGGING SPEED
TIME CONSTANT
MUD TYPE
CASED TO

LOCATION OF HOLE
ELEVATION KB 7220(C)
GL
DRILLER COUNT
SLUSH PIT CT.

REMARKS: No Records:

Barren Hole

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COUNTS PER SEC.	BED THICKNESS	K KS	CORR. CFR.	% SiO2
Elev. No.	Depth	Drift	Mag Freq	Flow Reading
No above background radioactivity recorded.				
Hole Barren				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: B.F. Sorensen

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1707	28'
Brushy Basin	1735	181
Westwater	1916	131'
Recurrence	2047	

SELF POTENTIAL

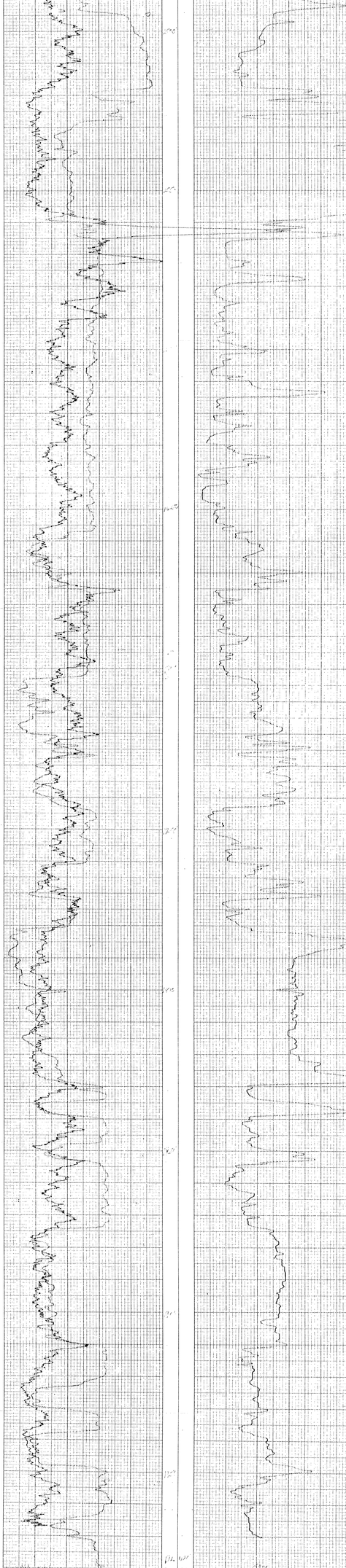
G-12-27

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1.78	CALIBRATION: good
DATE: 4-10-58	FIELD HOURS: 2 hrs.

	PROBE SIZE	DEPTH	TIME	DEPTH	TIME	DEPTH	TIME	DEPTH	TIME
MAIN SCALE	8								
SUPER SCALE	8								
SUPER SCALE	4								
SUPER SCALE	2								
SUPER SCALE	1								
SUPER SCALE	.5								
SUPER SCALE	.2								
SUPER SCALE	.1								
SUPER SCALE	.05								
SUPER SCALE	.02								
SELF CALIBRATOR	.02	1270	1310	1370	1410	1470	1510	1570	1610
SELF CALIBRATOR	.01								
SELF CALIBRATOR	.005								
BACKGROUND	0.5		MEA						
MUD RESISTIVITY	2								
	.02								
	.01								
	.005								
	.002								
	.001								
	.0005								
	.0002								
	.0001								
	.00005								
	.00002								
	.00001								
	.000005								
	.000002								
	.000001								
	.000005								
	.000002								
	.000001								

MAIN SCALE	2	SUPER SCALE	1
SUPER SCALE	.5	SUPER SCALE	.2
SUPER SCALE	.1	SUPER SCALE	.05
SUPER SCALE	.02	SUPER SCALE	.01
SUPER SCALE	.005	SUPER SCALE	.002
SUPER SCALE	.001	SUPER SCALE	.0005
SUPER SCALE	.0002	SUPER SCALE	.0001
SUPER SCALE	.00005	SUPER SCALE	.00002
SUPER SCALE	.00001	SUPER SCALE	.000005
SUPER SCALE	.000002	SUPER SCALE	.000001

CALIPER SCALE	INCH 1	CALIPER SCALE	INCH 2
CALIPER SCALE	INCH 3	CALIPER SCALE	INCH 4
TOP LOG	1270	BOTTOM LOG	1810

SEC. (TWP.) (RGE.)		OFFICE:	
COUNTY:	McKinley	DRIVER:	
STATE:	New Mex.	STANDBY:	
AREA:		FIELD:	
CLIENT:	Lonsdale Dr. Contractor	TOTAL:	
		BREAKDOWN:	
LOG REC'D BY:		OPERATOR:	
Don J. Seth		PARTY NO.:	

GEOPHYSICAL CORP.
TULSA, OKLA. U.S.A.

EXPLORATION LOG

COMPANY: E.J. Longyear Co.
BORE HOLE NO. G-13-27
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 27 TWP. 14N RGE. 8 W

LOG MEAS. FROM GROUND MEAS. FROM	RIG NO.
DATE	4/4/58
FOOTAGE (Logged)	1810
TOTAL DEPTH (DR)	1810
HOLE DIAM.	4¾"
LOGGING SPEED	
TIME CONSTANT	
MUD TYPE	
CASED TO	

LOCATION OF HOLE

ELEVATION
G.L. 7287(?)

REMARKS: Elevation

Hole Barren

40°E 50 1:4

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COUNTS PER SEC.	RES. INCHES/SEC	R RS	COUR. CTR.	% Volts
Zero No.	Scale	Divis	Max Freq	Cur. Reading

No above background radioactivity recorded.

Hole considered barren.

RADIOMETRIC IS VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: O.S. Fratto

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1267'	18'
Brushy Basin	1565'	178'
Westwater	1743'	181'
Recapture	1911'	

G-13-27

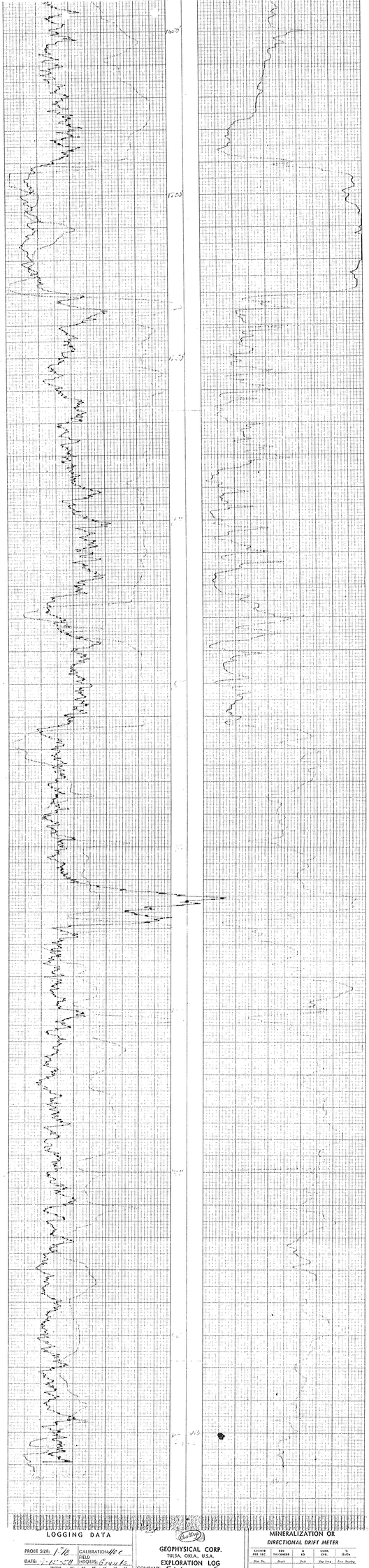
SELF POTENTIAL

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

4	5	6	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1 7/8 CALIBRATION: 1.10
DATE: 7-15-58 FIELD MODIFIS: 6 Ent 1.0

	TOTAL	RS.	RS.	RS.	RS.	RS.	RS.
	RS.	RS.	RS.	RS.	RS.	RS.	RS.
HOLE SIZE	6 7/8						
CASING SIZE	6 5/8						
CASING DEPTH	1 2014						
DEPTH	2020					2098	
SPEED	5 FPM						
DATE	7-15-58						
LINE CONTRACT	1 RRS						
PAPER SPEED	10 FPM						
RECORDER SPEED	20 FPM	FPM	FPM	FPM	FPM	FPM	FPM
RESISTANCE	20						
SELF POT. SCALE	10 MVM			SELF POT. F.S.			
RESISTIVITY SCALE	1.0	MFM					
BUR. RESISTIVITY		RESISTIVITY			STATIC SPONT.		
		RESISTIVITY			RESISTIVITY		
		MEDIUM		LONG SPL.	SPONT.		
CALIPER SCALE			INCH 2.25	INCH 2.25	PULSE ECHO		
TIME CONST.	1 SEC			LOGS DOWN			S.B.
GAIN	6020			CORE DIAM.			DIAM.

LOCATION: SEC. 32 TWP. 19 N RGE. 8 W; COUNTY: McKinley; STATE: New Mexico; AREA: ; CLIENT: Lewis & Lewis; Dr. Contractor: ; LOG REC'D BY: ; OFFICE: ; DRIVE: 1.0; STANDOFF: 1.0; FIELD: ; TOTAL: 1.0; BREAKDOWN: ; OPERATOR: Jones; PARTY NO: 2-1

TIME: 10:00 AM 16:30 PM

GEOPHYSICAL CORP.
TULSA, OKLA. U.S.A.
EXPLORATION LOG

COMPANY: E.J. Longyear Company
BORE HOLE NO. G-14-32
FIELD: San Mateo Dome Project
COUNTY: McKinley
LOCATION: SEC. 32 TWP. 19 N RGE. 8 W

LOG MEAS. FROM: Surface FILE
DRILL MEAS. FROM: Surface FILE

DATE: 7/15/58
FOOTAGE: 2098
TOTAL DEPTH (DR): 2086
HOLE DIAM.: 6 3/4
LOGGING SPEED: —
TIME CONSTANT: —
MUD TYPE: —
CASED TO: —
ELEVATION: GL 7515.9
CC
BKGRD. COUNT
SLUSH INT CF.

LOCATION OF HOLE

REMARKS: Barren Hole

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTER PER SEC.	DEG THICKNESS	% K2O	CORR. CPS.	% U3O8
Raw Cts.	Dect.	Dect.	Raw Cts.	Dect. Equiv.
Depth background count rate of 13.5 cpm - not significant				

RADIOMETRIC %: VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: B.S. Surgeon

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1690	41'
Burro Canyon	1731	132'
Westwater	1863	195' (Colorado Hole Age 5' 14 Mc Pisco Canyon)
Recapture	2058	

SELF POTENTIAL: + 10 −

NATURAL GAMMA RAY COUNTS PER SECOND: 4 5 6 7 8 9 / 4 6 8 10 12 14 / 8 12 16 20 24

CALIPER INCHES

RESISTANCE OHMS

G-14-32.

LOGGING DATA

PROJECT: [illegible] CALIBRATION: [illegible]
DATE: [illegible] FIELD FOOTERS: [illegible]

	RUN					
HOLE NO.	G-15-32					
HOLE DIA.	4 3/4 in					
DRILLED DEPTH	2070 FT.					
LOGGED DEPTH	2070 10 10				2090	
GAMMA SCALE	[illegible] 50 250					
TIME CONSTANT	8 SEC 2 2					
PAPER SPEED	10 FT/IN 5 5					
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	[illegible]					
SELF POT SCALE	10 MV/IN		SELF POT T.D.			
BORE HOLE MEDIUM	H2O	WITH				
MUD READING	SALINITY		TYPE BASE			
	VISCOSITY		SALINITY			
	WEIGHT	LBS/GAL	LBS/CU FT			
CALIPER SCALE	INCH SIZE		PAPER SCALE			
TIME IN	2140	CASED TO		I.D.	IN	
TIME OUT	2355	CORE INT.		DIAM	IN	

LOCATION		TIME	
SEC. TWP. RGE.	[illegible]	OFFICE:	
COUNTY:	McKinley	DRIVE:	1.6
STATE	N. Mex.	STANDBY:	1.5
AREA:		FIELD:	1.4
CLIENT	[illegible]	TOTAL:	4.1
DR. C	[illegible]	BREAKDOWN:	
LOGGED BY:		OPERATOR:	[illegible]

PARTY NO: [illegible]

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: Eu Longyear Co.
BORE HOLE NO. G-15-32
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 32 TWP. 14N RGE. 8W

LOG MEAS. FROM Surface FILE
DRLG. MEAS. FROM Surface NO.

		LOCATION OF HOLE
DATE:	9/15/58	
FOOTAGE	2070	
TOTAL DEPTH (DR)	2070	
HOLE DIAM.	4 3/4	
LOGGING SPEED	—	
TIME CONSTANT	—	ELEVATION KB 7501.17
MUD TYPE	—	GL
CASED TO	—	BKGRD. COUNT 5-10 cps. SLUSH PIT CT.

REMARKS: Reruns:
1592 — 1632 250 10
1591 — 1671 250 "

Mineralized Hole

MINERALIZATION OF

DIRECTIONAL DRIFT METER

DEPTH	THICKNESS		CPS.	% eU_3O_8
1876-1877	(1 foot)		300 cps	0.09

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: B. Sorenson

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1682	34'
Brushy Basin	1716	141'
Westwater	1857	188' of which the top 38' is thought to be Poison Canyon ss
Recapture	2045	

SELF POTENTIAL

CALIPER INCHES

4 5 6 7 8
4 8 12
20

NATURAL GAMMA RAY

G-15-32

RESISTANCE

LOGGING DATA

PROBE SIZE: 1 3/8				CALIBRATION: 400			
DATE: 9-25-58				FIELD HDQTRS: Grants			
	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G16-32						
HOLE DIA.	4 3/4 KD						
DRILLED DEPTH	2080 FT						
LOGGED DEPTH	2073 FT	10				2023	
GAMMA SCALE	25 CPS	100					
TIME CONSTANT	8 SEC	2					
PAPER SPEED	10 FT/IN	5					
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50						
SELF POT SCALE	MV/IN	Rost	SELF POT T.D.				
BORE HOLE MEDIUM	H2O	WITH					
MUD READINGS	RESISTIVITY		TYPE BASE				
	VISCOSITY		SALINITY				
	WEIGHT	LBS/GAL	LBS/CU.FT				
CALIPER SCALE	INCH	LEG SIZE	PAPER SCALE				
TIME IN	1735	CASED TO		I. D.	IN		
TIME OUT	1925	CORE INT.		DIAM	IN		

LOCATION	TIME
SEC. 32 TWP. 14 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 1.0
STATE: N. Mex	STANDBY: 0.5
AREA:	FIELD: 1.8
CLIENT: Longyear	TOTAL: 3.3
Dr. Contractor	BREAKDOWN:
LOG REC'D BY:	OPERATOR: Nash
	PARTY NO: 7-1

(Century)

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. J. Longyear Company
BORE HOLE NO. G-16-32
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 32 TWP. 14 N RGE. 8 W

LOG MEAS. FROM Surface FILE
DRLG. MEAS. FROM Surface NO.

DATE:	9/25/58	LOCATION OF HOLE
FOOTAGE	2073	
TOTAL DEPTH (DR)	2080	
HOLE DIAM.	4 3/4"	
LOGGING SPEED	—	
TIME CONSTANT	—	ELEVATION KB 7485.86
MUD TYPE	—	GL
CASED TO	—	BKGRD. COUNT SLUSH PIT CT.

REMARKS: Reruns:
1888 - 1828 100 fcc

Slightly Mineralized Hole

10' @ 1600 fcil

MINERALIZATION OR DIRECTIONAL DRIFT METER

~~COUNTS PER SEC.~~ Disc No.	BED THICKNESS Depth	~~K~~ ~~KO~~ Drift	~~CONC.~~ CPS. Mag Brng	% e U_3O_8 True Bearing
	1884 - 1885	(1 foot)	96 cps	0.03

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1641	47'
Brushy Basin	1688	134'
Westwater	1822	228' (of which the top 64' is believed to be Poison Canyon s.s.)
Recapture	2050	

SELF POTENTIAL

MV

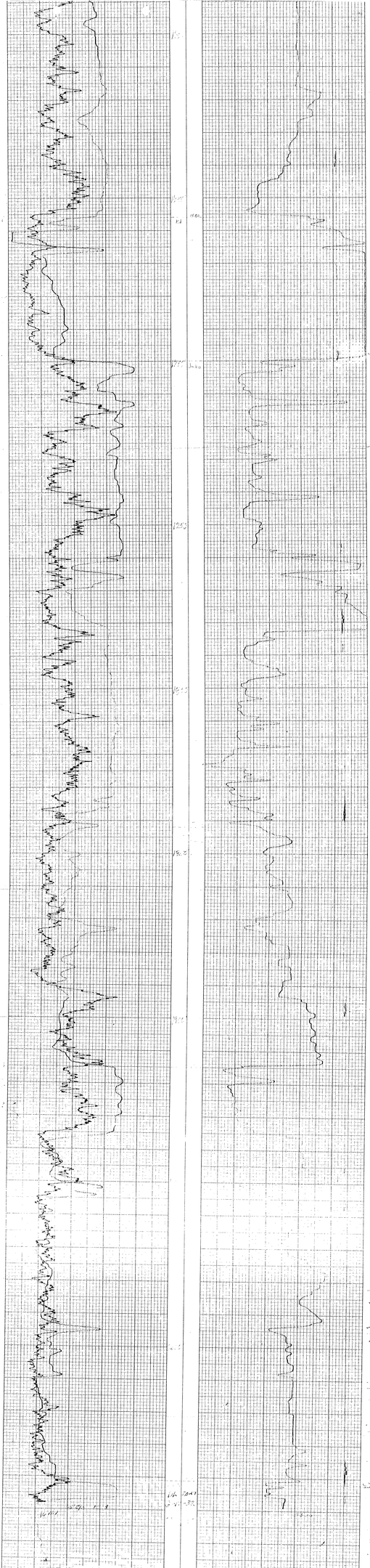
CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

G-16-32

NATURAL GAMMA RAY
COUNTS PER SECOND

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE:	1 7/8	CALIBRATION:	400
DATE:	4-25-58	FIELD VIEWERS:	Brunk

	INITIAL	FIN.	FIN.	FIN.	FIN.	FIN.
		FIN.	FIN.	FIN.	FIN.	FIN.
HOLE DIAM.	6 3/4					
HOLE DEPTH	2041 ft					
TOTAL DEPTH	2041					
DRILL PIPE	2041					
CASING	22 OPE					
CASING SHOE	5 ABO					
MUD WEIGHT	10					
MUD VISCOSITY	40					
MUD RESISTIVITY	1.0					
MUD RESISTANCE	1.0					
MUD TEMPERATURE	80					
BELT PUT ON	10 MIN					
HOLE MEAS. BOTTOM	1.5	HOLE				
MUD RESISTANCE	RMF/RMC			RWA		
	GEOLOGY			SALINITY		
	RMF/RMC			KCl		
CALIPER		CAL.		UPPER		
RUN		THICK	SIZE	SIZE		
UP	1.5					
DN	1.5					

LOCATION	TIME
SEC. 2 TWP. 14 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 1.0
STATE: New Mex.	STANDBY: 1.0
AREA:	FIELD: 1.5
CLIENT: Goodyear	TOTAL: 3.5
Dr. Cummins	BREAKDOWN:
LOG REC'D BY:	OPERATOR:
	PARTY NO.: 1

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY:	G.J. Longyear Company
BORE HOLE END:	6-12-58
FIELD	San Mateo Dome Project
COUNTY	McKinley
LOCATION:	SEC. 32 TWP. 14 N RGE. 8 W
LOG MEAS. FROM:	Surface
DRLG. MEAS. FROM:	Surface
DATE:	7/25/58
FOOTAGE	2049
TOTAL DEPTH (DR)	2070
HOLE DIAM.	4 3/4
LOGGING SPEED	—
TIME CONSTANT	—
MUD TYPE	—
CASED TO	—

LOCATION OF HOLE: + +

ELEVATION: GR 7809.25; GL —

BRGRD. COUNT: SLUSH PIT CK —

REMARKS:

Barren Hole

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC.	BED THICKNESS	% ORE	CORR. % ORE	% GRADE
Dip No.	Depth	Dip	Dip Dir.	Dip Degree

No above background radioactivity recorded.

Hole considered Barren

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

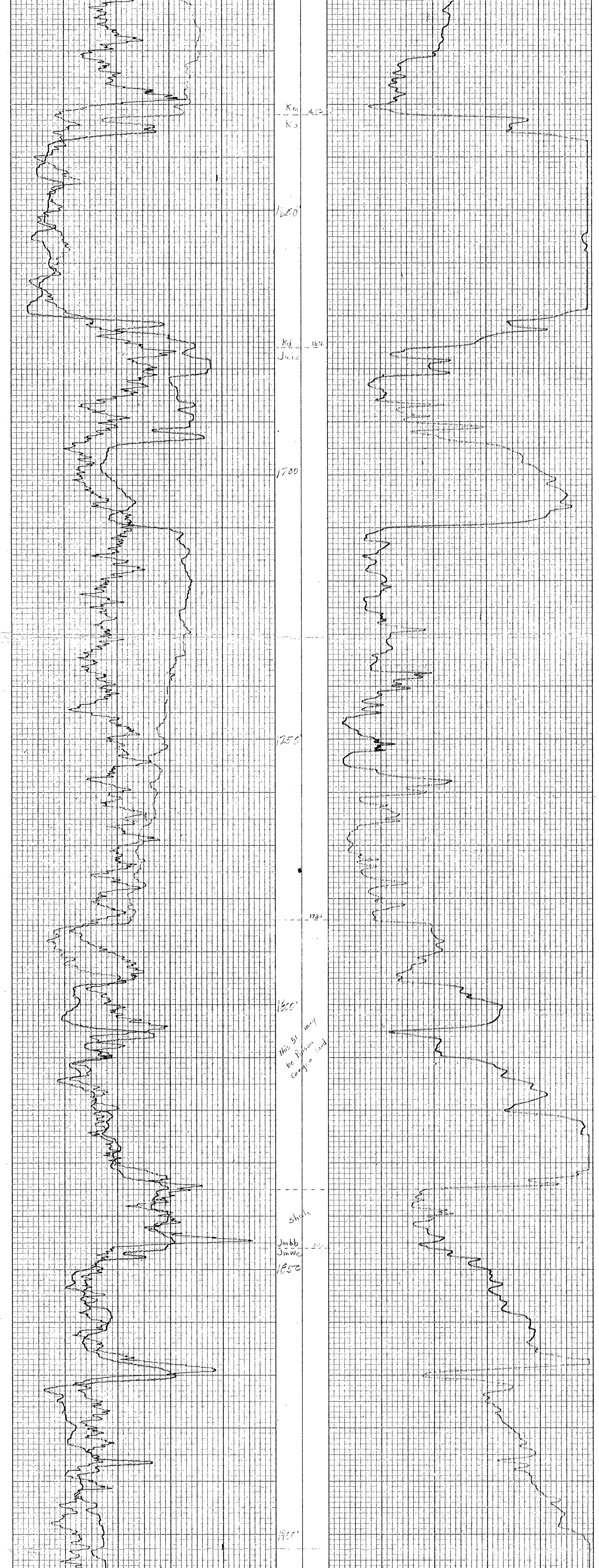
FORMATION	DEPTHS	THICKNESS
DaKota	1656	44'
Beesley Basin	1700	142'
Westwater	1842	199' (of which the top 75' is the Moran Canyon sandstone)
Recapture	2041	

SELF POTENTIAL

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER INCHES

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1 7/8 | CALIBRATION: 400
DATE: 10-1-58 | FIELD HDQTRS: Grants

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G 18-32						
HOLE DIA.	4 3/4 RD						
DRILLED DEPTH	2050 FT						
LOGGED DEPTH	2066 FT				2066		
GAMMA SCALE	25 CPS						
TIME CONSTANT	4 SEC						
PAPER SPEED	10 FT/IN						
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50						
SELF POT SCALE	10 MV/IN			SELF POT T.D.			
BORE HOLE MEDIUM	H_2O	WITH					

MUD READINGS: RESISTIVITY | TYPE BASE | VISCOSITY | SALINITY | WEIGHT | LBS/GAL | LBS/CU FT

CALIPER SCALE: INCH | LEG SIZE | PAPER SCALE
TIME IN: 1450 | CASED TO | I.D. IN
TIME OUT: 1620 | CORE INT. | DIAM IN

LOCATION	TIME
SEC. 32 TWP. 14 RGE. 8	OFFICE:
COUNTY: McKinley	DRIVE: 3.0
STATE: N. Mex	STANDBY: 0
AREA:	FIELD: 1.8
CLIENT: Longyear	TOTAL: 4.8
Dr. Contractor: Scott	BREAKDOWN:
LOG REC'D BY:	OPERATOR: Maslo
	PARTY NO: 3-1

Century GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. J. Longyear Company
BORE HOLE NO. G-18-32
FIELD: San Mateo Dome Project
COUNTY: McKinley
LOCATION: SEC. 32 TWP. 14 N RGE. 8 W

LOG MEAS. FROM Surface FILE
DRLG. MEAS. FROM Surface NO.

		LOCATION OF HOLE
DATE:	10/1/58	
FOOTAGE	2066	
TOTAL DEPTH (DR)	2050	
HOLE DIAM.	4 3/4"	
LOGGING SPEED	—	
TIME CONSTANT	—	ELEVATION KB 7457.6
MUD TYPE	—	GL
CASED TO	—	BKGRD. COUNT SLUSH PIT CT.

REMARKS:
Barren Hole

10' @ 1400 tc4

MINERALIZATION OR
DIRECTIONAL DRIFT METER

COUNTS PER SEC.	BED THICKNESS	K KD	CORR. CPS.	% U_3O_8
Disc No.	Depth	Drift	Mag Brng	True Bearing
		Barren Hole		

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1632	44
Brushy Basin	1676	170
Westwater	1846	211
Recapture	2057	

SELF POTENTIAL + 10 MV

NATURAL GAMMA RAY
COUNTS PER SECOND

G-18-32

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

RESISTANCE
OHMS

LOGGING DATA

PROBE SIZE: 1 3/8
CALIBRATION: 400 CPS
DATE: 10-1-58
FIELD HDQTRS: GRANTS, N.M.

	INITIAL RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN	RE-RUN
HOLE NO.	G-19-32						
HOLE DIA.	4 3/4 IN						
DRILLED DEPTH	2080 FT						
LOGGED DEPTH	2090 FT						
GAMMA SCALE	25 CPS						
TIME CONSTANT	8 SEC						
PAPER SPEED	10 FT/IN						
LOGGING SPEED	10 FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
RESISTANCE SCALE	50 Ω						
SELF POT SCALE	15 MV/IN			SELF POT T.D.			
BORE HOLE MEDIUM	WATER	WITH GX, HOLES, GRAN					
MUD READINGS	RESISTIVITY			TYPE BASE	GEL		
	VISCOSITY			SALINITY			
	WEIGHT	LBS/GAL		LBS/CU FT			
CALIPER SCALE	INCH	LEG SIZE		PAPER SCALE			
TIME IN	0300	CASED TO		I. D.	IN		
TIME OUT	0510	CORE INT.		DIAM	IN		

(2090)

LOCATION	TIME
SEC. 32 TWP. 14 RGE. 8	OFFICE:
COUNTY: McKINLEY	DRIVE: 3.
STATE: NEW MEXICO	STANDBY:
AREA: SAN MATEO	FIELD: 2.2
CLIENT: E.J. LONGYEAR	TOTAL: 5.2
Dr. Contractor: SCOTT	BREAKDOWN:
LOG REC'D BY:	OPERATOR: GENE CLARKSON
	PARTY NO: U-3

Century

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. J. Longyear Company
BORE HOLE NO. G-19-32
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 32 TWP. 14 N RGE. 8 W

LOG MEAS. FROM Surface FILE
DRLG. MEAS. FROM Surface NO.

		LOCATION OF HOLE
DATE:	10/1/58	
FOOTAGE	2090	
TOTAL DEPTH (DR)	2080	
HOLE DIAM.	4 3/4"	
LOGGING SPEED		ELEVATION KB 7517.4 GL
TIME CONSTANT		
MUD TYPE		BKGRD. COUNT
CASED TO		SLUSH PIT CT.

REMARKS:

Barren Hole

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC. / Disc No.	BED THICKNESS / Depth	K KD / Drift	CORR. CPS. / Mag Brng	% U3O8 / True Bearing
	Barren Hole			

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1699	41
Brushy Basin	1740	189
Westwater	1929	149
Recapture	2078	

SELF POTENTIAL + 15 MV -

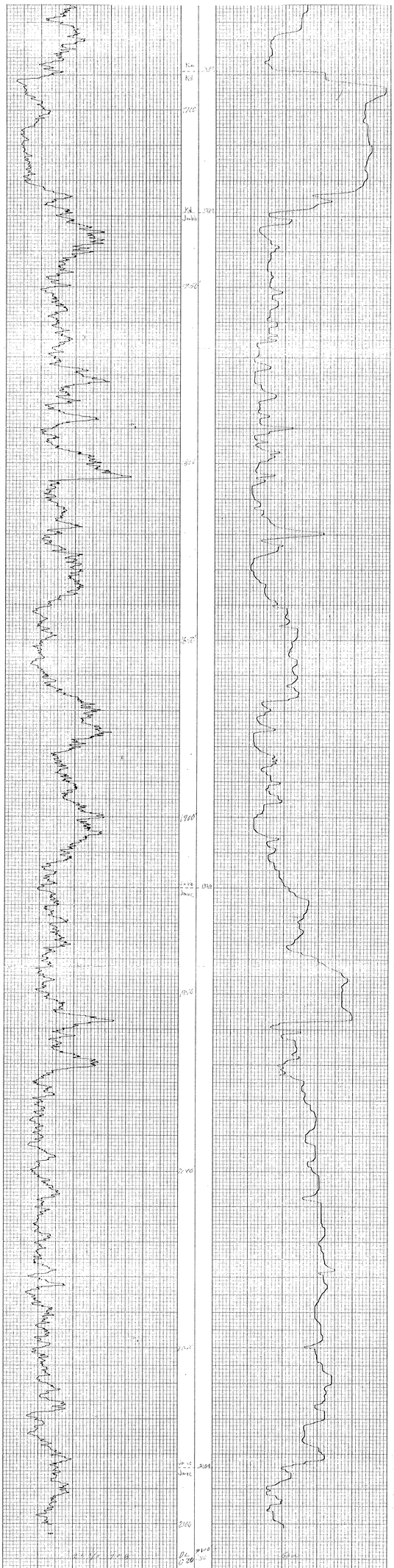
G-19-32

CALIPER INCHES

4	5	6	7	8	9
4	6	8	10	12	14
4	8	12	16	20	24

NATURAL GAMMA RAY
COUNTS PER SECOND

RESISTANCE
OHMS



LOGGING DATA

PROBE SIZE: 1 1/16 CALIBRATION: 4/20

DATE: 10-4-73 FIELD HOURS: 6 HRS

	MEAS.		MEAS.		MEAS.		MEAS.	
	DIV.	DIV.	DIV.	DIV.	DIV.	DIV.	DIV.	DIV.
MOD. NO.	6	5						
MOD. SIZE	1 1/4	1 1/4						
CALIBRATOR	4/20							
CALIBRATOR	1/4							
SAMPLE	1/4						2.5	
SAMPLE	2.5							
SCALE	1/4							
CURRENT	SEC							
SPEED	8	FT/MIN						
SPEED	10	FT/MIN	FT/MIN	FT/MIN	FT/MIN	FT/MIN	FT/MIN	FT/MIN
RESISTANCE	10							
SELF POT.		MV/IN	20	50	SELF POT.			
SENSITIVITY	10		MV/IN					
MUD RESISTIVITY					SIZE BIT			
MUD RESISTIVITY					BALLISTIC			
			SEC.	SEC.				
CALIPER SCALE			LEG SEC./DIV.		PAPER SCALE			
SUM	1.75		CASED					
SUM	1.75		CASE					
SUM	16.25		CASE					

LOCATION	TIME
SEC. 2 TWP. N RGE.	OFFICE:
COUNTY: McKinley	DRIVE: 1:00
STATE: N. Mexico	STANDBY: 1:00
AREA:	FIELD: 3:00
CLIENT: Gary Wood	TOTAL: 5:00
Dr. Contractor: Reed	BREAKDOWN:
Log Received and Approved By	OPERATOR:
	PARTY NO:

GEOPHYSICAL CORP.

TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. J. Longyear Company

BORE HOLE NO. G-20-32

FIELD: Sag Mesa Dome Project

COUNTY: McKinley

LOCATION: SEC. 32 TWP. 14 N RGE. 8 W

LOG MEAS. FROM: Surface FILE

DRILL MEAS. FROM: Surface NO.

		LOCATION OF HOLE
DATE:	10/4/69	
FOOTAGE (Logged)	2100	
TOTAL DEPTH (DR)	2100	
HOLE DIAM.	7 7/8	
LOGGING SPEED	7 7/8	
TIME CONSTANT		ELEVATION
MUD TYPE		GR 7496.9
CASED TO		DEGREE COUNT ELEVEN DEF CT.

REMARKS:

Barren Hole

No S.P. measurement. Dud Hole

L. Cuter

dc "C" ICUC

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COUNTS PER SEC.	BED THICKNESS	% AD	GEOM. CPS	% Uo2o4
Positive	Depth	Disp.	Mix Prop	Prop Positive
Hole	Considered	Barren		

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1687	40
Brushy Basin	1727	171
Westwater	1720	164
Recapture	2084	

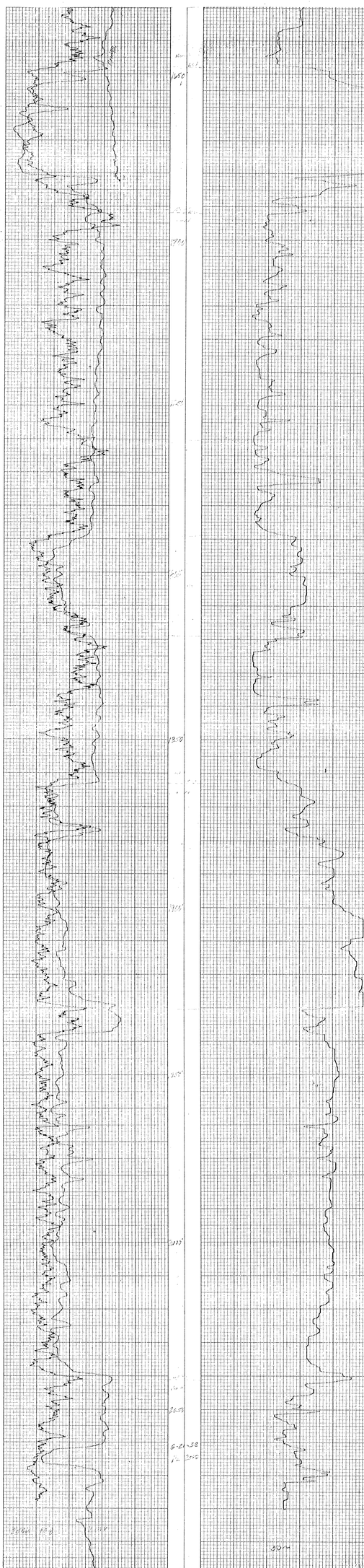
SELF POTENTIAL

NATURAL GAMMA RAY
COUNTS PER SECOND

CALIPER

RESISTANCE
OHMS

G-20-32



LOGGING DATA

PROBE SIZE:	1 1/2	CALIBRATION:	400
DATE:	10-12-58	FIELD HIGH'S:	Crook

HOLE SIZE	8 3/4								
BIT SIZE	4 3/4	IN							
CASING SIZE	8 5/8	IN							
CASING DEPTH	220	FT							
BOREHOLE DEPTH	2080	FT							
CONDITIONS	GOOD								
MUD TYPE	FRESH								
MUD WEIGHT	10	PSIG							
VISCOSITY	40	SEC	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M	FT/M
FLUID LOSS	12.5	CC							
SELF POT. MV	10	MV			SELF POT.				
MUD RESISTIVITY	1.60	OHMS	WITH						
MUD RESIGNER							RESIS. RESIG.		
	HIGHSHOT						BALLINLET		
	WELLAR			LAST			LAST		
CALIPER HOLE			CSG. TUB.			CALIPER HOLE			
TEMP.	145		TEMP.						
TIME	1145		TIME						
								F.R.	IN
								FT/M	IN

LOCATION		TIME	
SEC.	TOWN.	RGE.	OFFICE:
COUNTY:	McKinley		WAVE: 0.5
STATE:	N.M.		STANDBY: 0.5
AREA:			FIELD: 2.0
CLIENT:	Gulf Oil		TOTAL: 3.5
Dr. Contractor	Scott		BREAKDOWN:
LOG REC'D BY:			OPERATOR: Nichols

PARTY NO: 2-1 50'E 1450 FE

GEOPHYSICAL CORP.

TULSA, OKLA., U.S.A.

EXPLORATION LOG

COMPANY: E. J. Longyear Company
BORE HOLE NO. G-21-32
FIELD San Mateo Dome Project
COUNTY McKinley
LOCATION: SEC. 32 TWP. 14 N RGE. 8W

LOG MEAS. FROM	Surface RIG
DRILL MEAS. FROM	Surface IND.
DATE:	10/12/58
FOOTAGE LOGGED	2080
TOTAL DEPTH (DR)	2080
HOLE DIAM.	8 3/4
LOGGING SPEED	—
TIME CONSTANT	—
MUD TYPE	—
CASED TO	—

LOCATION OF HOLE

ELEVATION KB 7456 GL

DRILLING CONT. HUGHES REF CO.

REMARKS: Acronis:

Barren Hole

MINERALIZATION OR DIRECTIONAL DRIFT METER

COUNTS PER SEC.	FOOT THICKNESS	%	COND. CPS.	% SULFUR
Raw No.	Depth	Depth	Raw Freq.	Corr. Factor

No above-background radioactivity recorded.

Hole considered Barren.

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: B. F. Sorensen

GEOLOGIC TOPS

FORMATION	DEPTH	THICKNESS
Dakota	1648	44'
Brushy Basin	1692	171'
Westwater	1863	178'
Recapture	2041	

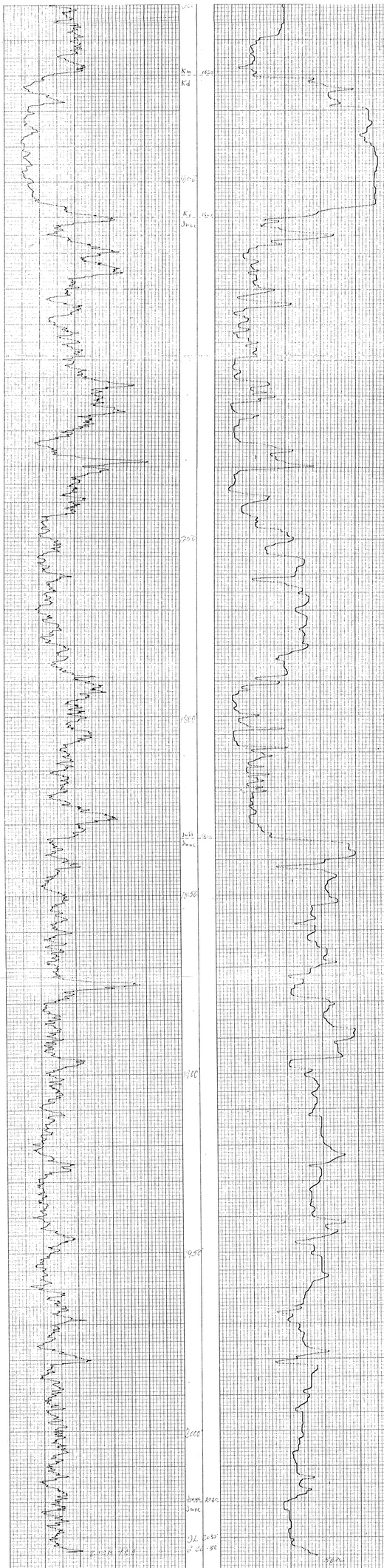
SELF POTENTIAL 10 mv

NATURAL GAMMA RAY COUNTS PER SECOND

G-21-32

CALIPER INCHES 4 6 8 10 12 14 16 18 20 22 24

RESISTANCE OHMS



LOGGING DATA

PROBE SIZE: 1 3/8 — CALIBRATION: 400
DATE: 10-24-58 — FIELD INDOTRS: Crook

HOLE NO.							
HOLE DIAM.							
CASING DEPTH							
CASING SIZE							
SENSE SPEED							
TIME CONSTANT							
SPEED							
SENSITIVITY							
RESISTIVITY							
BASELINE							
CALIBER SCALE							
DIRE							
TOP							
BOT							

LOCATION — TIME
SEC. — TWP. — RGE.
COUNTY:
STATE:
AREA:
CLIENT:
Dr. Contractor
Log Received and Approved By
OFFICE:
DRIVE:
STANDBY:
FIELD:
TOTAL:
BREAKDOWN:
OPERATOR:
PARTY NO:

GEOPHYSICAL CORP.
TULSA, OKLA., U.S.A.
EXPLORATION LOG

COMPANY: E. L. Lonyear Company
BORE HOLE NO. G-22-32
FIELD Jug Mates Dome Project
COUNTY McKinley
LOCATION: SEC. 12 TWP. 14 N RGE. 8W

LOG: MEAS. FROM Surface FILE
DRILL MEAS. FROM Surface NO.

DATE:	10/24/58	LOCATION OF HOLE
FOOTAGE (LOGGED)	2036	
TOTAL DEPTH (DR)	2030	
HOLE DIAM.	4 3/4	
LOGGING SPEED	—	
TIME CONSTANT	—	ELEVATION KB 7428.1 GL
MUD TYPE	—	
CASED TO	—	BEGRID. COUNT ..... SLUSH PIT CT. .....

REMARKS:
Barren Hole

MINERALIZATION OR *DIRECTIONAL DRIFT METER*

COURSE PER SEC.	BOD THICKNESS	+ KD	COND. CPS.	% WOA
Formation	Depth	Depth	Max Ring	Prior Reading
Hole Considered Barren				

RADIOMETRIC % VALUES COMPUTED WITHOUT BENEFIT OF LOCAL ORE EQUILIBRIUM FACTOR

INTERPRETATION BY: Bruce Russell

GEOLOGIC TOPS

FORMATION	DEPTHS	THICKNESS
Dakota	1620	40
Brushy Basin	1660	176
Westwater	1836	186
Recapture	2020	

SELF POTENTIAL — CALIPER

NATURAL GAMMA RAY COUNTS PER SECOND — RESISTANCE OHMS

G-22-32