

ROTARY ENGINEERING COMPANY  
WELL LOGGING SERVICE  
1221 MILE HIGH CENTER DIAL ACOMA 2-4279  
DENVER 2, COLORADO

January 16, 1957

Humble Oil & Refining Co.  
P. O. Box 1268  
Farmington, New Mexico

ATT: Mr. H. F. Bushnell

Gentlemen:

We are submitting to you two copies of our hydro-carbon analysis log and the Schlumberger electric log on your Navajo D-1 well in San Juan County, New Mexico. The section logged was from 1000' to 7186'.

A description of the data shown on this log is given on the attached sheet.

In reviewing the results of our log we feel that all pertinent data contained is self-explanatory. If we can be of further service in the interpretation of this log please notify us and we will be glad to call on you at your convenience.

We wish to thank you and your personnel for the consideration and cooperation shown us in securing the information on this well.

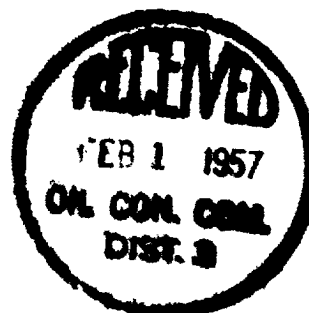
Very truly yours,

ROTARY ENGINEERING COMPANY

*Charles D. H. [Signature]*  
O. S. D. NOBLE  
Rocky Mountain Manager

bp

Distribution - Page 2



ROTARY ENGINEERING COMPANY  
WELL LOGGING SERVICE  
1521 MILL STREET  
DENVER 2, COLORADO



Distribution of Log;

- |   |  |
|---|--|
| 2 - Humble Oil & Refining Co.<br>ATT: Mr. H. L. Beckman<br>P. O. Box 1600<br>Midland, Texas | 2 - Humble Oil & Refining Co.<br>ATT: Mr. R. L. Pyhce<br>P. O. Box 1287<br>Roswell, New Mexico |
| 1 - Humble Oil & Refining Co.<br>ATT: Mr. D. E. Bell<br>P. O. Box 2180<br>Houston, Texas    | 2 - U. S. Geological Survey<br>Farmington, New Mexico  |
| 2 - Continental Oil Co.<br>ATT: Mr. L. W. Heiny<br>P. O. Box 1121<br>Durango, Colorado      | 1 - New Mexico Oil Conservation<br>Commission<br>Aztec, New Mexico                             |
| 3 - Gulf Oil Corporation<br>ATT: Mr. Otto E. Brown<br>P. O. Box 1589<br>Durango, Colorado   | 1 - Continental Oil Co.<br>ATT: Mr. V. F. Curtis<br>1735 Glenasm Place<br>Denver 2, Colorado   |

1. Drilling mud characteristics.
2. Bit record.
3. The drilling rate curve plotted in minutes per foot. It will be noted this is plotted so that on fast drilling the curve approaches the left margin of the log.
4. Depth.
5. Lithology.
6. Visual porosity column shown next to lithology column.
7. Leached residual oil units. This curve is obtained by applying solvent to the drill cuttings and evaluating by use of ultraviolet radiation the residual liquid hydrocarbons collected on the color reaction plates.
8. The percentage of sample showing oil fluorescence when viewed under ultraviolet radiation. All mineral fluorescence is excluded from this evaluation.
9. Two gas curves secured from the cuttings and shown in "gas from cuttings" column. The dotted curve is obtained by analyzing the cuttings for all combustible gases. The dashed curve is obtained by burning the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane.
10. Two gas curves secured from the mud return stream are plotted from the left margin of "gas from mud" column with increasing values extending to the right. The dotted curve is obtained by analyzing the mud for all combustible gases. The dashed curve is obtained by burning the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane.
11. Oil analyses are run on each two feet of samples.
12. Gas analyses are run on each two feet of samples.
13. All cuttings and mud samples are corrected for up-the-hole lag time.

1	Setting mud characteristics	1
2	Set record	2
3	The fitting rate curve plotted in minutes on (time) it will be noted this is plotted on (time) on (time) and the curve approaches the (time) of the log	3
4	Depth	4
5	Minology	5
6	Visual porosity column shown next to (time) column	6
7	Loaded residual oil units. This curve is obtained by applying (time) to the (time) curve and evaluating by use of (time) addition the residual liquid hydrocarbon collected in the (time) (time) (time)	7
8	The percentage of sample showing oil fluorescence when viewed under ultraviolet radiation. All (time) (time) is excluded from this evaluation	8
9	Two gas curves secured from the (time) and shown in "gas from (time)" column. The bottom curve is obtained by applying the (time) for all combustible gases. The dotted curve is obtained by plotting the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane	9
10	Two gas curves secured from the mud return stream are plotted from the left margin of (time) column with increasing values extending to the right. The dotted curve is obtained by evaluating the mud for all combustible gases. The dashed curve is obtained by evaluating the gas at a predetermined reduced temperature. This curve represents all combustible gases other than methane	10
11	Oil analysis, one run on each (time) (time) (time)	11
12	Gas analysis, one run on each (time) (time) (time)	12
13	All cuttings and (time) analysis are reviewed for up the hole log (time)	13