



SCHMATIC DIAGRAM OF WELL NO. 32-25

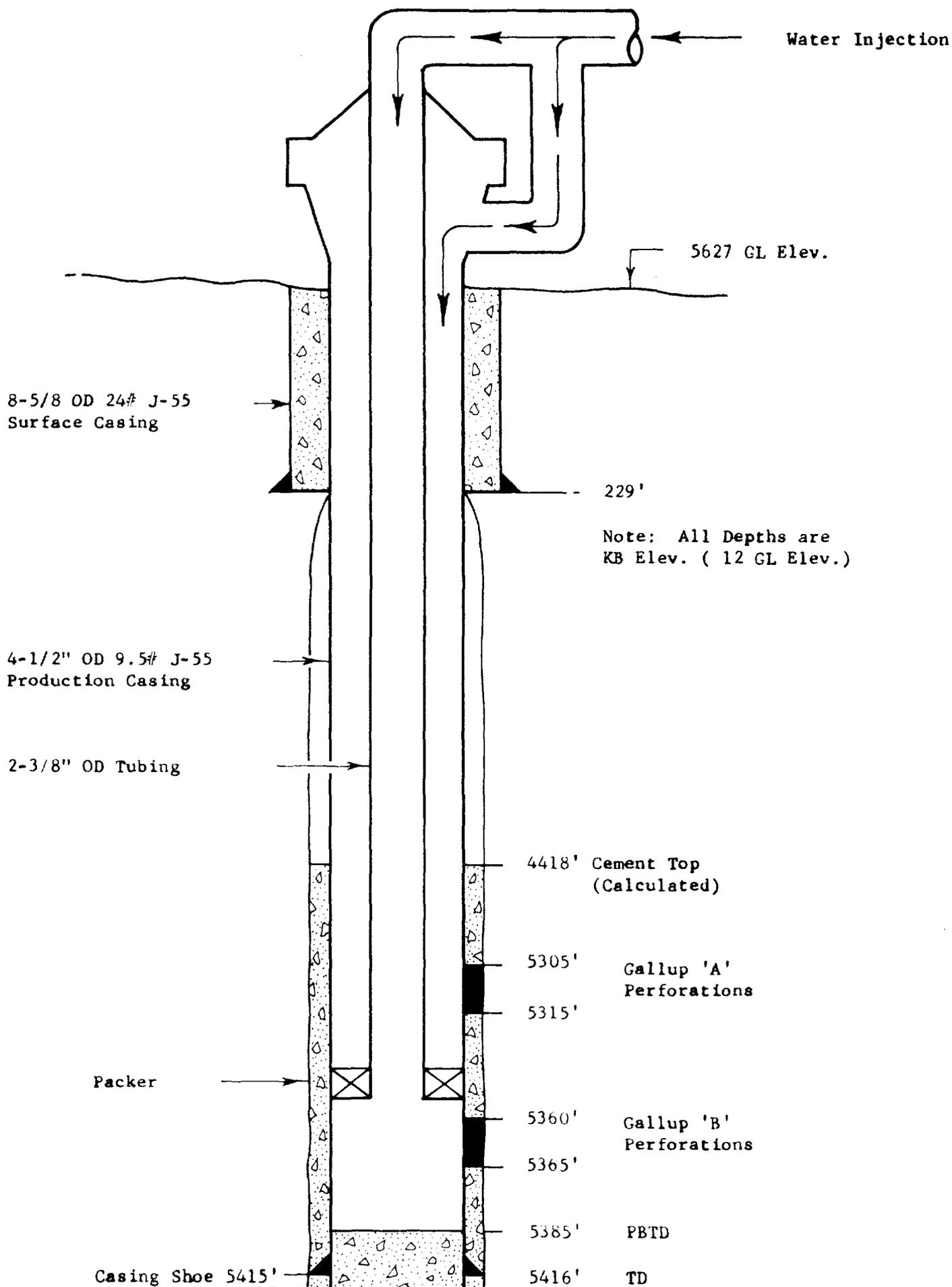


EXHIBIT "B"

SCHMATIC DIAGRAM OF WELL NO. 32-36

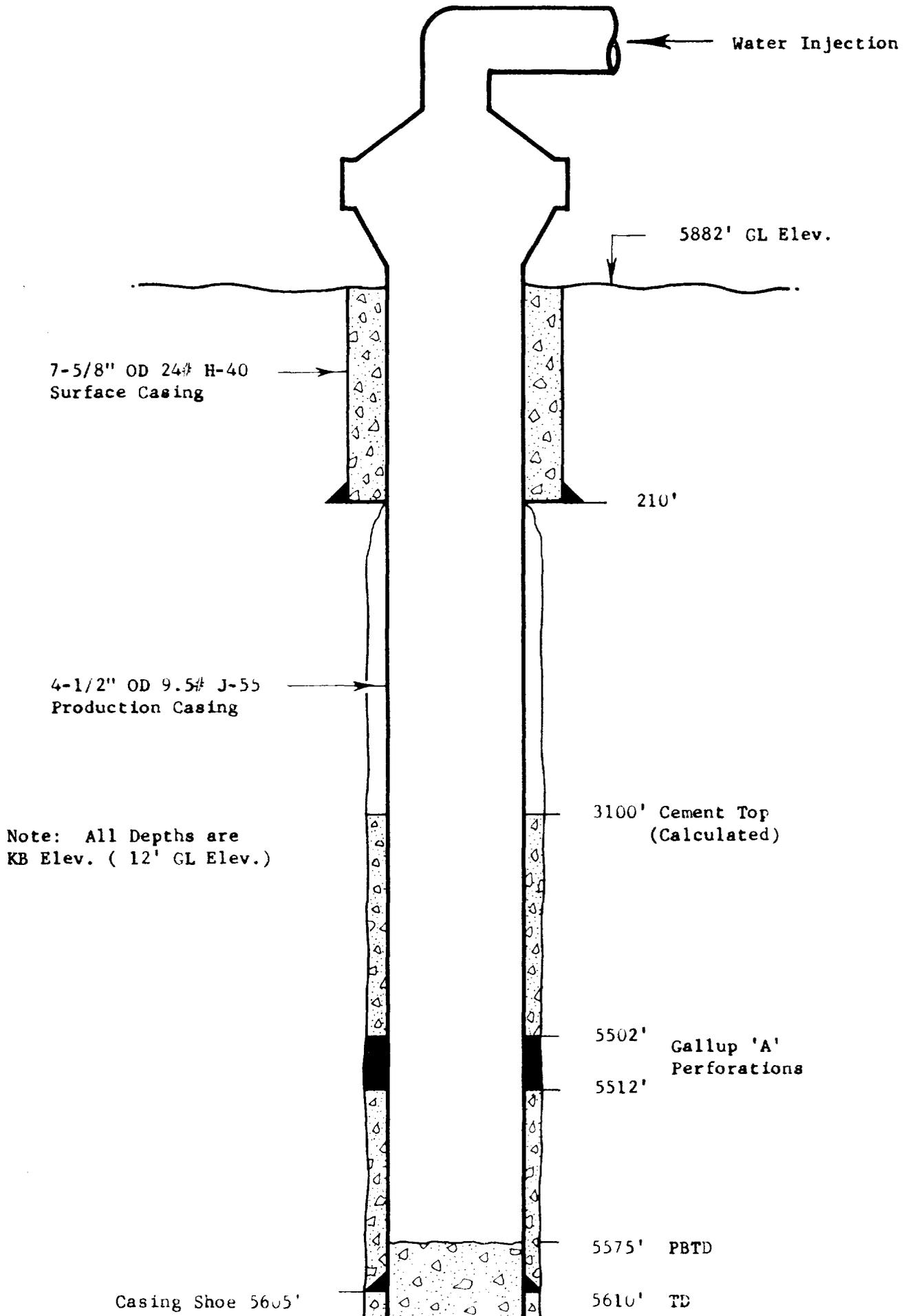


EXHIBIT "C"

To Application of Humble Oil & Refining Company  
For  
Approval of Expansion of Pressure Maintenance Project  
Northwest Cha Cha Unit  
San Juan County, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE  
STATE OF NEW MEXICO

APPLICATION OF HUMBLE OIL & REFINING )  
COMPANY FOR AN ORDER APPROVING THE )  
EXPANSION OF ITS CHA CHA-GALLUP PRES- )  
SURE MAINTENANCE PROJECT, SAN JUAN )  
COUNTY, NEW MEXICO BY CONVERTING TWO )  
ADDITIONAL PRODUCING WELLS IN THE )  
NORTHWEST CHA CHA UNIT TO WATER IN- )  
JECTION SERVICE )

CASE NO. 2447  
NOTICE AND PROOF OF SERVICE

TO: Pan American Petroleum Corporation  
Production Department  
Farmington, New Mexico

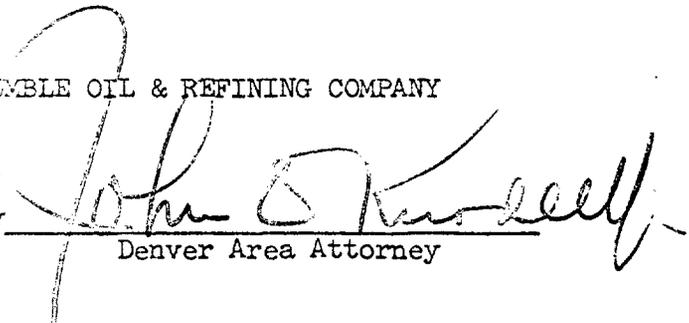
Tenneco Oil Company  
P. O. Box 1714  
Durango, Colorado

Please take notice that on the 12th day of June, 1963, Humble Oil & Refining Company did file with the New Mexico Oil Conservation Commission its application for an order approving the expansion of its Cha Cha-Gallup Pressure Maintenance Project, San Juan County, New Mexico by converting two additional producing wells in the Northwest Cha Cha Unit to water injection service. A copy of said application is served upon each of you herewith. This notice is given and Proof of Service hereinbelow made in support of said application and pursuant to the provisions of Rule 11(3) of the Special Rules and Regulations for the Humble Oil & Refining Company Cha Cha-Gallup Pressure Maintenance Project which said rule is fully set forth in Order No. R-2154 in this case.

P. O. Box 120  
Denver, Colorado

HUMBLE OIL & REFINING COMPANY

By

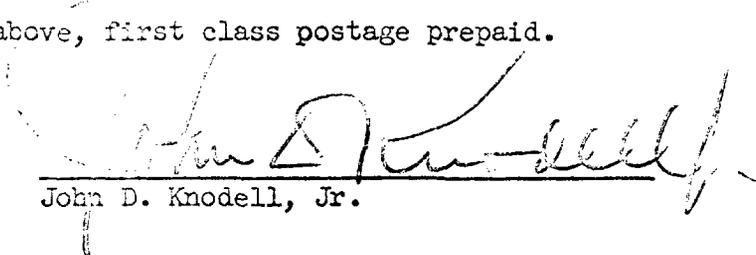
  
Denver Area Attorney

PROOF OF SERVICE

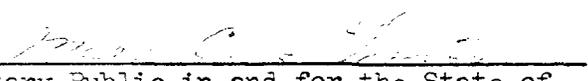
JOHN D. KNODELL, JR., Affiant herein, being first duly sworn on oath deposes and says that on June 12, 1963, he did give notice of the appli-

EXHIBIT "D"  
TO APPLICATION OF HUMBLE OIL & REFINING COMPANY  
FOR  
APPROVAL OF EXPANSION OF PRESSURE MAINTENANCE PROJECT  
NORTHWEST CHA CHA UNIT  
SAN JUAN COUNTY, NEW MEXICO

cation of Humble Oil & Refining Company described above to Pan American Petroleum Corporation and Tenneco Oil Company by depositing a copy of the above notice, together with copies of the application and exhibits attached thereto (which said application and exhibits are exact copies of the application and exhibits filed with the Commission in this matter) in the United States mail box at 1845 Sherman Street, Denver, Colorado, addressed to the operators named above at the addresses set forth above, first class postage prepaid.

  
\_\_\_\_\_  
John D. Knodell, Jr.

Subscribed and sworn to before me this 12th day of June,  
1963.

  
\_\_\_\_\_  
Notary Public in and for the State of  
Colorado  
Residing at D e n v e r  
My commission expires September 13, 1965

FORM 252'S M.I. (1-19-51) PRINTED IN U.S.A.

**SCHLUMBERGER**

**INDUCTION - ELECTRICAL LOG**

SCHLUMBERGER WELL SURVEYING CORPORATION  
Houston, Texas

COUNTY <u>SAN JUAN, N.M.</u> FIELD or LOCATION <u>CHA CHA GALLUP</u> WELL <u>NAVAJO 15-L</u> COMPANY <u>HUMBLE OIL &amp; REFINING COMPANY</u>	COMPANY <u>HUMBLE OIL &amp;</u>	Other Surveys NONE
	<u>REFINING COMPANY</u>	
	WELL <u>NAVAJO 15-L (32-25)</u>	Location of Well  2110' FNL 1950' FEL  SEC. 25-29N-14W  Elevation: D.F.: <u>5638'</u> K.B.: <u>5639'</u> or G.L.: <u>5627'</u>
	FIELD <u>CHA CHA GALLUP</u>	
	LOCATION <u>SEC. 25-29N-14W</u>	
COUNTY <u>SAN JUAN</u>	FILING No. _____	
STATE <u>NEW MEXICO</u>		

RUN No.	ONE				
Date	8-10-61	MUD RECHECKED			
First Reading	5416	@ 1330'			
Last Reading	230				
Feet Measured	5186				
Csg. Schlum.	230				
Csg. Driller	230				
Depth Reached	5417				
Bottom Driller	5407				
Depth Datum	KB				
Mud Nat.	CHEM GEL				
Dens.   Visc.	9.5   54	9.6   95			
Mud Resist.	2.25 @ 83 °F	2.2 @ 90 °F	@ °F	@ °F	@ °F
" Res. BHT	@ 138 °F	1.4 @ 138 °F	@ °F	@ °F	@ °F
Rmf	0.90 @ 83 °F	1.7 @ 90 °F	@ °F	@ °F	@ °F
Rmc	- @ - °F	- @ - °F	@ °F	@ °F	@ °F
" pH	9.0 @ - °F	9.0 @ - °F	@ °F	@ °F	@ °F
" Wtr. Loss	5.8 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	6 3/4"				
Spcgs.—AM	16"				
MN	34'6"				
IND.	6FF40				
Opr. Rig Time	1 1/2 HR.				
Truck No.	1588FARM				
Recorded By	ALLE!!				
Witness	MR. PHIPPS				

CONVERSION TO WATER INJECTION

	<u>Well No. 32-25</u>	<u>Well No. 32-36</u>
INJECTION FORMATION	Gallup "A" & "B"	Gallup "A"
KIND OF FLUID	Fresh Water	Fresh Water
ANTICIPATED INJECTION VOLUME	400 BPD	800 BPD
SOURCE OF INJECTION FLUID	Alluvian Wells San Juan River	Alluvian Wells San Juan River

EXHIBIT "G"

To Application of Humble Oil & Refining Company  
For  
Approval of Expansion of Pressure Maintenance Project  
Northwest Cha Cha Unit  
San Juan County, New Mexico

NEW MEXICO OIL CONSERVATION COMMISSION

GAS-OIL RATIO REPORT

OPERATOR Humble Oil & Refining Company POOL NW Cha Cha Unit

ADDRESS..... MONTH OF....., 19.....

SCHEDULED TEST..... COMPLETION TEST..... SPECIAL TEST..... (Check One)

(See Instructions on Reverse Side)

NW Cha Cha Unit wells which have responded to flood with increased oil production. Tests near flood start (6-1-62) and at present are shown.

Lease	Well No.	Date of Test	Producing Method	Choke Size	Test Hours	Daily Allowable Bbls.	Production During Test			GOR Cu. Ft. Per Bbl.
							Water Bbls.	Oil Bbls.	Gas MCF	
Pan American Navajo E	21-21	6-28-62	Pump	14/34"	24	Unit Allowable	0	50	639	12,800
		4-6-63	Pump	15/74"	24		0	79	179	2,266
"	12-21	6-27-62	Pump	13/64"	24		0	40	400	10,000
		4-8-63	Pump	13/64"	24		0	56	63	1,125
"	12-22	6-29-62	Flow	32/64	24		0	70	350	5,000
		4-5-63	Pump	15/72"	24		0	101	34	337
"	24-22	5-30-62	Pump	12/64"	24		0	50	514	10,280
		5-5-63	Pump	14/50"	24		30	7	17	2,429
"	34-22	5-31-62	Pump	12/64"	24		0	80	1032	12,900
		5-3-63	Pump	14/64"	24		2	40	127	3,175
El Paso Ojo Amarillo	23-27	6-29-62	Pump	13/76"	24	0	94	1054	11,213	
		5-5-63	Pump	13/76"	24	0	110	120	1,091	
"	43-27	6-21-62	Pump	11/48"	24	0	81	148	1,827	
		5-4-63	Pump	13/54"	24	20	105	97	924	
Humble Navajo L	14-26	6-14-62	Pump	13/76"	24	Unit Allowable	0	65	605	9,307
		5-5-63	Pump	13/76"	24		0	94	132	1,404
"	14-25	6-20-62	Pump	13/86"	24		0	69	572	8,290
		4-30-63	Pump	13/86"	24		0	131	42	321
"	32-35	6-8-62	Pump	14/86"	24		0	85	582	6,847
		5-2-63	Pump	13/86"	24		0	119	54	454

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60 degrees F. Specific gravity base will be 0.60.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission. In accordance with Rule 301 and Appropriate Pool Rules.

EXHIBIT "H"

To Application of Humble Oil & Refining Company  
For  
Approval of Expansion of Pressure Maintenance Project  
Northwest Cha Cha Unit  
San Juan County, New Mexico

# SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS



## Induction-Electrical Log

COUNTY SAN JUAN, N. MEX. FIELD or LOCATION CHA CHA GALLUP WELL NAVAJO TRIBE OF INDIANS "L" NO. 8 COMPANY HUMBLE OIL & REFINING COMPANY	COMPANY	HUMBLE OIL & REFINING COMPANY	Other Surveys	ML
	WELL	NAVAJO TRIBE OF INDIANS "L" NO. 8 (32-36)	Location of Well	1980' FR N/L 1980' FR E/L SEC. 36-29N-14W
	FIELD	CHA CHA GALLUP	Elevation: D.F.:	K.B.: 5895' or G.L.: 5884'
	LOCATION	SEC. 36-29N-14W	FILING No.	
	COUNTY	SAN JUAN		
	STATE	NEW MEXICO		

RUN No.	ONE				
Date	1-8-61				
First Reading	5610				
Last Reading	211				
Feet Measured	5399				
Csg. Schlum.	211				
Csg. Driller	211				
Depth Reached	5616				
Bottom Driller	5610				
Depth Datum	KB				
Mud Nat.	CHEM-GEL				
Dens. Visc.	10 49				
Mud Resist.	3.5 @ 64 °F	@ °F	@ °F	@ °F	@ °F
" Res. BHT	1.7 @ 133 °F	@ °F	@ °F	@ °F	@ °F
Rmf	3.0 @ 64 °F	@ °F	@ °F	@ °F	@ °F
Rmc	3.8 @ 64 °F	@ °F	@ °F	@ °F	@ °F
" pH	9 @ -- °F	@ °F	@ °F	@ °F	@ °F
" Wtr. Loss	7.2 CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.	CC 30 min.
Bit Size	6-3/4"				
Spcgs.—AM	16"				
MN	27'-2"				
IND.	5FF40				
Opr. Rig Time	1-1/2 HR.				
Truck No.	2515 FARM.				
Recorded By	FEATHER				
Witness	MR. WHITTEN				