

HONOLULU OIL CORPORATION

P. O. DRAWER 1391

MIDLAND, TEXAS

July 12, 1960

New Mexico Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Re: Waterflood Application
Horseshoe Gallup Pool
San Juan County, New Mexico

Enclosed herewith are triplicate copies of Exhibits Nos. 1 through 4, which are to be attached to the application by Honolulu Oil Corporation for permission to waterflood a portion of the Horseshoe Gallup Oil Pool, San Juan County, New Mexico. These are the Exhibits mentioned by Mr. S. B. Christy in his letter dated July 6, 1960, accompanying the application.

Very truly yours,

HONOLULU OIL CORPORATION

By



George R. Hoy
Division Drilling and
Proration Engineer

GRH:bm
enc.

cc: Mr. S. B. Christy
Hervey, Dow & Hinkle
P. O. Box 547
Roswell, New Mexico

Deckel
Stadel
7-15-60
K

Case 2023

J. M. HERVEY 1874-1953

HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.

PAUL W. EATON, JR.
ROBERT C. BLEDSOE

LAW OFFICES
HERVEY, DOW & HINKLE

HINKLE BUILDING

ROSWELL, NEW MEXICO

July 6, 1960

TELEPHONE MAIN 2-6510
POST OFFICE BOX 547

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Water Flood Application
in Horseshoe-Gallup Pool
San Juan County, New Mexico

Dear Mr. Porter:

I am enclosing herewith triplicate copies of Honolulu's application for the above water flood project. I believe Mr. Hinkle today sent you Humble's water flood application on companion lands, and we would appreciate it if these two cases could be heard together since the testimony is almost identical and a consolidation hearing would result in a substantial saving of time and personnel.

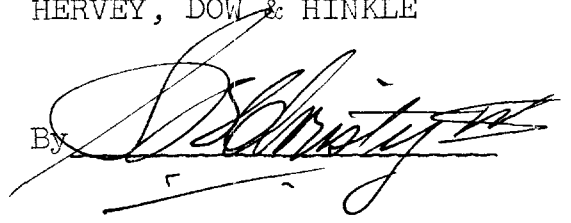
Both Mr. Hinkle and I will be "out of pocket" July 27, but Howard Bratton will handle the cases for Humble and Honolulu.

Thanking you in advance, we are,

Respectfully,

HERVEY, DOW & HINKLE

By



SBC:mke

cc: Honolulu Oil Corporation

P.S. : The exhibits will be finished and
in your office about the 1st of
next week.

SBC

*Robert
M. Hinkle
7-15-60
JH*

C O P Y

HERVEY, DOW & HINKLE, ATTORNEYS
ROSWELL, NEW MEXICO

Case 2023

July 6, 1960

Mr. S. E. Reynolds
New Mexico State Engineer
P. O. Box 1079
Santa Fe, New Mexico

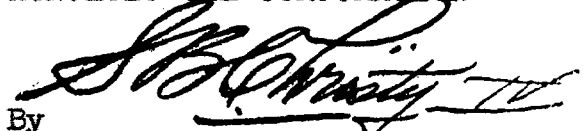
Dear Sir:

In behalf of Honolulu Oil Corporation, we are in the process of requesting an Oil Conservation Commission hearing for permission to conduct a pressure maintenance project by water injection on our Navajo lease in the Horseshoe-Gallup Field, San Juan County, New Mexico. Attached for your information is a copy of the Application and Exhibit 1. The water source is the same as that set forth in Humble Oil & Refining Company's letter of July 1, 1960, and Honolulu proposes to purchase such water from Humble; it is our understanding that Humble has previously furnished you with a water analysis, but if an additional copy thereof is desired we will be happy to furnish the same upon request. This water is Morrison formation water produced from Humble's Navajo "F" - water Well No. 1 located 990 feet from the north and west lines of Section 10, T-31-N, R-17-W, San Juan County, New Mexico. This well was drilled to a total depth of 2308 feet, 8-5/8" casing set and cemented in two stages back to 200 feet from the surface. The water will be produced from the following perforated intervals; 1936 - 1949, 1996 - 2017, 2023 - 2034, 2042 - 2054, 2066 - 2084, 2091 - 2099, 2102 - 2108, 2126 - 2146, 2160 - 2164, 2169 - 2176, 2182 - 2204 and 2242 - 2266 feet.

If any additional information is desired, please advise.

Respectfully,

HONOLULU OIL CORPORATION



By
S. B. Christy, IV for Hervey
Dow & Hinkle
Box 547
Roswell, New Mexico

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

APPLICATION OF HONOLULU OIL
CORPORATION FOR AN ORDER
AUTHORIZING THE INJECTION OF
WATER FOR PRESSURE MAINTENANCE
AND SECONDARY RECOVERY PURPOSES
INTO THE GALLUP FORMATION UNDER-
LYING APPLICANT'S NAVAJO LEASE
IN THE HORSESHOE-GALLUP OIL POOL,
SAN JUAN COUNTY, NEW MEXICO PUR-
SUANT TO RULE 701 OF THE RULES
AND REGULATIONS OF THE NEW MEXICO
OIL CONSERVATION COMMISSION AND
FOR THE PROMULGATION OF SPECIAL
RULES GOVERNING THE OPERATION OF
SAID PROJECT.

CASE NUMBER

2023

TO THE HONORABLE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO:

Comes the Honolulu Oil Corporation, with a certificate of authority to do business in the State of New Mexico, and hereby makes application to the New Mexico Oil Conservation Commission for an order authorizing the injection of water for pressure maintenance and secondary recovery purposes into the Gallup formation underlying Applicant's Navajo lease embracing lands within the Horseshoe-Gallup Oil Pool, San Juan County, New Mexico, pursuant to Rule 701 of the Commission, and for the promulgation of special rules governing the operation of said project, and in support thereof respectfully shows:

1. That there is attached hereto, made a part hereof, and for purposes of identification marked Exhibit "1", a plat showing the Navajo lease of applicant embracing lands within the Horseshoe-Gallup Oil Pool, together with the location of all wells drilled thereon and all wells drilled within a radius of two miles from the proposed injection well hereinafter referred to, which said proposed injection well located upon said lease is producing from the Gallup formation which is a member of the Mancos formation of Cretaceous

age. Said Exhibit "1" also shows the location of the proposed injection well and the ownership of the respective leasehold interests within a radius of two miles from applicant's oil and gas lease.

2. That there is outlined in red on Exhibit "1" attached hereto, the proposed project area which is a part of the lands embraced in applicant's Navajo lease, and which embrace the following described lands, to-wit:

Township 21 North, Range 17 West, N.M.P.M.

31 ?

Section 5: NW $\frac{1}{4}$, SE $\frac{1}{4}$
Section 6: NW $\frac{1}{4}$, SE $\frac{1}{4}$
Section 7: All
Section 8: All

containing 1920 acres, more or less.

3. That there is filed herewith and for purposes of identification marked Exhibit "2", an electrical log of the proposed injection well, more particularly described as follows:

Honolulu's No. 4 Well - - - SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 5.

4. With respect to a description of the proposed injection well casing program, applicant states that said proposed injection well now has thirty feet of surface pipe cemented to the surface and 4 $\frac{1}{2}$ or 5 $\frac{1}{2}$ casing cemented from top to bottom with perforations between approximately 1150 and 1160 feet.

5. Applicant proposes to inject water through the injection well above set forth into the Gallup-Sandstone producing formation underlying the project area, the water to be injected at rates ranging between 75 barrels and 350 barrels per day per well.

Applicant proposes to obtain the water for injection purposes from Humble Oil & Refining Company's water Well No. 1 located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 10, Township 31 North, Range 17 West, N.M.P.M., and which is shown on Exhibit "1" attached hereto, and which said well is capable of producing water in quantities believed to be sufficient

for the proposed pressure maintenance and secondary recovery project from the Morrison formation. That applicant has furnished the Office of the State Engineer with a description of said well, together with a water analysis report of the water which complies with Commission Memorandum No. 5-58 dated January 31, 1958.

6. That applicant is the sole owner of the oil and gas lease shown on Exhibit "1" attached hereto, and which embraces all of the proposed project area, and applicant believes that it will be in the interest of conservation and the prevention of waste to inaugurate a water injection program for pressure maintenance and secondary recovery purposes as soon as possible by the injection of water into the injection well above referred to, and that said project is in the interest of obtaining the greatest ultimate recovery of oil and gas from said formation. Applicant therefore respectfully requests that the area hereabove described be designated as the project area, and that an allowable formula be fixed therefor, and in connection therewith recommends the adoption of special field rules governing said project as follows:

(a) The conversion of the producing well listed in paragraph 3 hereof to water a injection well.

(b) That the allowable for the project area be the sum of the allowables of the several wells within the project area including those wells which may be shut in, curtailed, or used as injection wells.

(c) That allowables for injection wells be transferred to producing wells within the project area as well as allowables for producing wells which, in the interest of more efficient operation of the project, are shut in or curtailed because of high gas-oil ratio or are shut in for any of the following reasons: pressure regulation, control of pattern or sweep efficiencies, or to observe changes in pressure or changes in characteristics of reservoir liquids or progress of sweep.

(d) That the allowable assigned to any well which is shut in or which may be curtailed in accordance with the applicable special rules, and which allowable is to be transferred to any well or wells in the project area for production, shall in no event be greater than its ability to

produce during the test period prescribed by the special rules, or greater than the top unit allowable for the pool during the month of transfer, whichever is less.

(e) That the allowable assigned to any injection well on a 40-acre proration unit shall be the top unit allowable for the Horseshoe-Gallup Oil Pool.

(f) That the allowable assigned to any well which is shut in or curtailed in accordance with the special rules shall be determined by a 24-hour test at a stabilized rate of production, which shall be the final 24-hour period of a 72-hour test throughout which the well should be produced in the same manner and at a constant rate. The daily tolerance limitation set forth in Commission Rule 502 I (a) and the limiting gas-oil ratio (2,000 to 1) for the Horseshoe-Gallup Oil Pool shall be waived during such tests. The project operator shall notify all operators offsetting the well, as well as the Commission, of the exact time such tests are to be conducted. Tests may be witnessed by representatives of the offsetting operators and the Commission if so desired.

(g) That the top allowable assigned to each producing well in the project shall be equal to the well's ability to produce or to the top unit allowable of the Horseshoe-Gallup Oil Pool, whichever is less, provided that any producing well in the project area which directly or diagonally offsets a well outside the project area producing from the same common source of supply shall not produce in excess of two times top unit allowable for the pool. Each producing well shall be subject to the limiting gas-oil ratio (2,000 to 1) for the Horseshoe-Gallup Oil Pool, except that any well or wells within the project area producing with a gas-oil ratio in excess of 2,000 cubic feet of gas per barrel of oil may be produced on a "net gas-oil ratio basis", which net gas-oil ratio shall be determined in accordance with such equitable formula as may be determined by the Commission including credit for daily average net water injected through any injection well located within the project area.

(h) That the project operator submit each month, within a reasonable time after the normal unit allowable for Northwest New Mexico has been established, to the Commission, a pressure maintenance project operator's report on a form prescribed by the Commission requesting allowables for each of the several wells in the project area as well as the total project allowable.

(i) That the Commission calculate the allowable for each well in the project area, and that the sum of the allowables so calculated be assigned to the project so that the same may be produced from the wells in the project in any proportion except that no well in the project which directly or diagonally offsets a well outside the project producing from the same common source of supply shall produce in excess of two times top unit allowable for the Horseshoe-Gallup Oil Pool.

(j) That provision be made for the administrative approval by the Commission of the conversion of additional producing wells to injection wells, and the drilling of additional producing and injection wells, and the expansion of the project area under such reasonable conditions as may be prescribed by the Commission.

WHEREFORE, Applicant requests that this application be set down for hearing before an examiner after due notice as required by law and the rules and regulations of the Commission.

Respectfully submitted,

HONOLULU OIL CORPORATION

By 

S. B. Christy, IV for Hervey,
Dow & Hinkle
Attorneys for Applicant
Box 547
Roswell, New Mexico

WELEX



RADIOACTIVITY LOG

COMPANY HONOLULU OIL
CORPORATION

WELL NAVAJO NO. 3-5

FIELD CHIMNEY ROCK VERDE GALLUP

COUNTY SAN JUAN

STATE NEW MEXICO

COMPANY HONOLULU OIL CORPORATION

WELL NAVAJO NO. 3-5

FIELD CHIMNEY ROCK VERDE GALLUP

COUNTY SAN JUAN STATE NEW MEXICO

Location

Other Logs

2310' FSL & 1650' FWL

Sec. 5 Twp 31N Rge 17W

Elevation

Permanent Datum 5-1/2' ABOVE 4-1/2" Elev.

Log Measured From CASING COLLAR

Drilling Measured From

KB. 5304'
DF. 5299'
GL. 5299'

Type Log	GAMMA RAY	NEUTRON	SCATTERED GAMMA RAY
Run No.	ONE	ONE	ONE
Date	6-14-59	6-14-59	6-14-59
Total Depth Driller	1203'	1203'	1203'
Present Depth Driller	1155'	1155'	1155'
Total Depth Welex	1156'	1156'	
Survey Begins	1143'	1155'	870'
Survey Ends	50'	50'	80'
Mud Data			
Type Fluid in Hole	OIL	OIL	OIL
Salinity PPM Cl			
Weight lb./gal.			
Fluid Level	54'	54'	54'
Max. Hole Temp.			
Recorded By	WAGGONER & SMYLLIE		
Witnessed By	MR. BENDLER		

BORE HOLE RECORD				CASING RECORD			
Run	Bit	From	To	Size	Wgt.	From	To
ONE				8-5/8"		29'	SURF.
ONE	6-3/4	1203'	29'	4-1/2"	9-1/2	1170'	SURF.

COMPANY HONOLULU OIL
CORPORATION
WELL NAWAJO NO 4 -5

FIELD SAN JUAN
County NEW MEXICO
State
File

Run	Bit	From	To	Size	Wgt.	From	To
ONE		28'	SURF.	8-5/8		28'	SURF.
ONE	6-3/4	1242'	28'				

SCHLUMBERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

SIMULTANEOUS



Gamma Ray-Neutron

COUNTY <u>SAN JUAN, N.M.</u> FIELD or LOCATION <u>UNNAMED</u> WELL <u>HONOLULU-NAVAJO</u> # <u>2-5</u> COMPANY <u>HONOLULU OIL CO.</u>	COMPANY <u>HONOLULU OIL</u>	Other Surveys <u>NONE</u>
	COMPANY	Location of Well
	WELL <u>HONOLULU-NAVAJO</u>	330' FR E/L 2310' FR S/L SEC. 5-31N-17W
	# <u>2-5</u>	<u>OFFICE</u>
	FIELD <u>UNNAMED</u>	Elevation: D.F. <u>5288</u> K.B. <u>5288</u> or G.L. <u>5287</u> <u>5284</u>
LOCATION <u>SEC. 5-31N-17W</u>	FILING No. _____	
COUNTY <u>SAN JUAN</u>		
STATE <u>NEW MEXICO</u>		

Log Depths Measured From KB 4 Ft. above GL

RUN NO.	ONE	
Date	11-7-58	
First Reading	1105	
Last Reading	54	
Footage Measured	1051	
Max. Depth Reached	1106	
Bottom Driller	1170	
Maximum Temp. °F.	--	
Fluid Nature	AIR DRILLED	
Fluid Level	OIL TO 973'	
Casing Size	8 5/8 in.	in.
Casing Weight	lb. SURF. to 31'	lb. to
Casing Size	in.	in.
Casing Weight	lb. to	lb. to
Bit Size	6 3/4 in. to	in. to
Bit Size	in. to	in. to
No. Counters Used	TWO	
Type Equipment	GNAM-4	
Type Panel	GNP-C	
Op. Rig Time	1 1/2 HRS.	
Truck No.	1559 FARMINGTON	
Observer	PARSLOW	
Witness	CARTER	