

CLARENCE E. HINKLE  
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S. B. CHRISTY IV  
LEWIS C. COX, JR.  
PAUL W. EATON, JR.  
CONRAD E. COFFIELD  
HAROLD L. HENSLEY, JR.  
MICHAEL R. WALLER  
STUART D. SHANOR

LAW OFFICES  
**HINKLE, BONDURANT & CHRISTY**  
600 HINKLE BUILDING  
ROSWELL, NEW MEXICO 88201

MIDLAND, TEXAS OFFICE  
521 MIDLAND TOWER  
(915) MU 3-4691  
OF COUNSEL: HIRAM M. DOW

April 10, 1968

TELEPHONE (505) 622-6510  
POST OFFICE BOX 10

Mr. A. L. Porter, Jr.  
Oil Conservation Commission  
Box 2088  
Santa Fe, New Mexico 87501

45th CIVIL  
'68 APR 11 AM 8

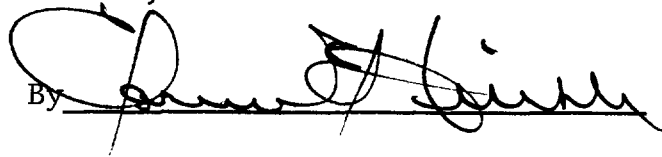
Dear Mr. Porter:

We enclose herewith in triplicate application of Humble Oil & Refining Company for approval of the conversion of one additional producing well to a water injection well in connection with the Northwest Cha Cha-Gallup Unit. This application was prepared by the Denver office of Humble and seeks administrative approval pursuant to Order R-2154 entered by the Commission on January 3, 1962, which was the order authorizing Humble to institute a pressure maintenance project in the Cha Cha-Gallup Pool, San Juan County.

We trust that you will find the application in order and containing all the information which you need for approval. If there is anything additional which you require, please let us know as quickly as possible.

Yours sincerely,

HINKLE, BONDURANT & CHRISTY

By 

CEH:cs  
Enc.  
cc: William S. Livingston

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

APPLICATION OF HUMBLE OIL & )  
REFINING COMPANY FOR AN ORDER )  
APPROVING THE CONVERSION OF )  
ONE ADDITIONAL PRODUCING WELL )  
TO WATER INJECTION SERVICE )  
IN THE NORTHWEST CHA CHA-GALLUP )  
PRESSURE MAINTENANCE PROJECT, )  
SAN JUAN COUNTY, NEW MEXICO )

*DMX-230*  
*due May 1*

Case No. \_\_\_\_\_

Order No. \_\_\_\_\_

COMES NOW, the Applicant herein, HUMBLE OIL & REFINING COMPANY, a Delaware corporation, authorized 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 conversion of one additional producing well to water injection service in the project area of the Northwest Cha Cha-Gallup Unit. This application is made pursuant to Order No. R-2154 of the Commission. In support hereof, Applicant respectfully alleges and states:

I.

On January 3, 1962, this Commission entered its Order No. R-2154 in this case, which said order authorized Applicant to institute a Pressure Maintenance Project in the Cha Cha-Gallup Pool, San Juan County, New Mexico, by injecting water into the Gallup formation in certain wells described in paragraph 1 of said order in accord with the Special Rules and Regulations governing the operation of said project, all as set forth in Rules 1 through 11, inclusive, promulgated in said order.

II.

Rule 11 of said order provides that conversion of additional producing wells to water injection service and the expansion of the project area shall be accomplished only after approval thereof by the Secretary-Director of the Commission, such permission to be obtained according to the procedure prescribed in Rule 11.

III.

Applicant now requests authority to convert into water injection and to operate as a water injection well, that certain well now producing from the Gallup formation as follows:

<u>Well</u>	<u>Location</u>
Northwest Cha Cha Unit Well No. 12-22	SW $\frac{1}{4}$ NW $\frac{1}{4}$ of Section 22-29N-14W

Northwest Cha Cha Unit Well No. 12-22 is owned and operated by said unit and lies within the presently existing project area.

IV.

In support of this application, Applicant attaches hereto as Exhibit "A" a plat showing:

1. The present project area of the Northwest Cha Cha-Gallup Unit Pressure Maintenance Project.
2. The location of the proposed well more particularly described above in Section III which it is proposed to convert to a water injection well.
3. All wells completed in the Gallup formation located within the project area and all wells within one mile of the proposed injection well.
4. All offsetting operators within one mile of the proposed injection well.

V.

Further in support of this application and as required by said Order No. 2154, Applicant attaches hereto as Exhibit "B" a schematic diagram of the Northwest Cha Cha-Gallup Unit Well No. 12-22, said diagram describes fully the cementing, casing, tubing, perforated intervals, and depth of said well and further shows that the injection of water will be confined to the Gallup formation in said well.

VI.

Further in support of this application and as required by Order No. R-2154, Applicant attaches hereto as Exhibits "C" and "D" notice of application and proof of service of a complete copy of this application on all operators of oil and gas leasehold estates offsetting the proposed injection well and the date of such service.

VII.

Applicant attaches hereto for informational purposes as Exhibit "E", an induction-electric well survey run in the Northwest Cha Cha-Gallup Unit Well No. 12-22.

VIII.

Further in support of this application, Applicant attaches hereto as Exhibit "F" a table indicating with respect to the proposed injection well,

the zone into which water will be injected into said well, the kind of fluid to be injected into said well, the anticipated daily amount of water that will be injected into said well, and the source of said water.

IX.

Further in support of this application, Applicant attaches hereto as Exhibit "G" form C-116 issued by this Commission entitled "Gas-Oil Ratio Report," setting forth information with respect to all Northwest Cha Cha-Gallup Unit wells which have responded to the existing Pressure Maintenance Project heretofore authorized in Order No. R-2154.

X.


Applicant believes and states that it will be in the interest of conservation and the prevention of waste to convert the well more particularly described in Section III hereof to water injection service and to operate said well as a water injection well as herein requested. Conversion of said well is necessary to obtain the greatest ultimate recovery of oil and gas from the Gallup formation within the area.

WHEREAS, Applicant respectfully requests that an order be entered granting Applicant authority to convert the aforescribed well to a water injection well and operate the entire Pressure Maintenance Project and the wells located therein as heretofore authorized by this Commission and its Order No. R-2154 and according to all of the terms and provisions set forth in Special Rules and Regulations governing the operation of said project as contained in said order.

Dated this 3 day of April, 1968.

Respectfully submitted,


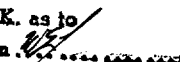
HUMBLE OIL & REFINING COMPANY

  
William S. Livingston  
Humble Oil & Refining Company  
Box 120  
Denver, Colorado  
Telephone: 303-534-1251

Hinkle, Bondurant & Christy  
Attorneys at Law  
600 Hinkle Building  
Roswell, New Mexico

Attorneys for Applicant

By   
District Superintendent

O. K. as to  
transaction   
O. K. as to  
form 

LARGE FORMAT  
EXHIBIT HAS  
BEEN REMOVED  
AND IS LOCATED  
IN THE NEXT FILE

SCHEMATIC DIAGRAM OF UNIT WELL NO. 12-22

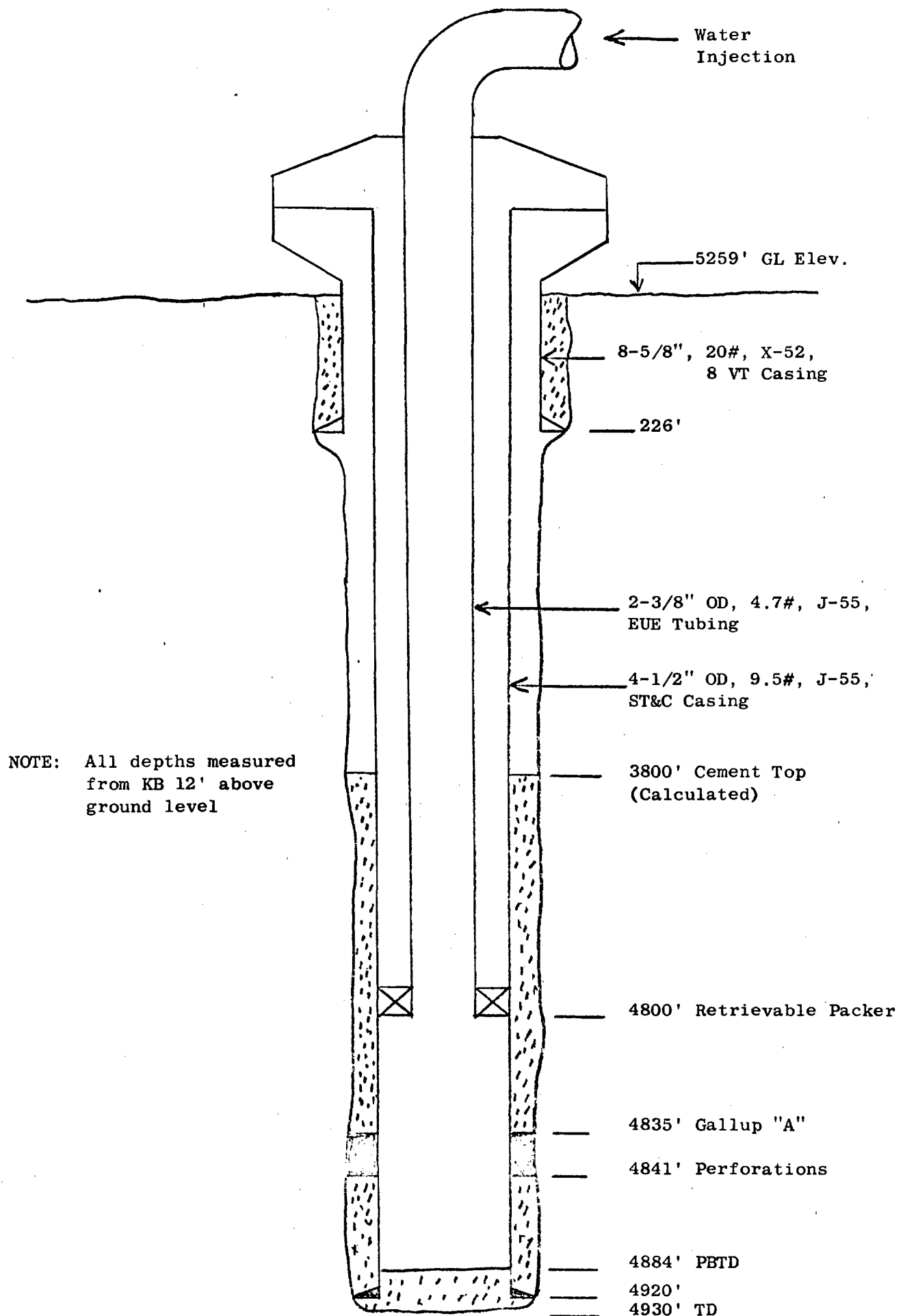


EXHIBIT "B"  
 TO APPLICATION OF HUMBLE OIL & REFINING COMPANY  
 RELATIVE TO PRESSURE MAINTENANCE PROJECT  
 NORTHWEST CHA CHA UNIT  
 SAN JUAN COUNTY, NEW MEXICO

BEFORE THE OIL CONSERVATION COMMISSION  
OF THE STATE OF NEW MEXICO

APPLICATION OF HUMBLE OIL & )  
REFINING COMPANY FOR AN ORDER )  
APPROVING THE CONVERSION OF )  
ONE ADDITIONAL PRODUCING WELL )  
TO WATER INJECTION SERVICE )  
IN THE NORTHWEST CHA CHA-GALLUP )  
PRESSURE MAINTENANCE PROJECT, )  
SAN JUAN COUNTY, NEW MEXICO )

NOTICE

To: Southwest Production Company  
3108 Southland Center  
Dallas, Texas

Roy Owen  
Petroleum Club Plaza  
Farmington, New Mexico

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado

Dugan Production Corporation  
Box 234  
Farmington, New Mexico

El Paso Natural Gas Products Company  
Box 1161  
El Paso, Texas

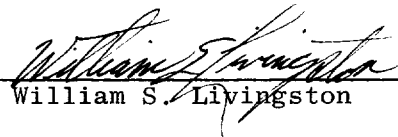
Please take notice that Humble Oil & Refining Company will file with the New Mexico Oil Conservation Commission its application for an order approving the conversion of one additional producing well to water injection service in the Northwest Cha Cha-Gallup Pressure Maintenance Project, San Juan County, New Mexico. 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.

Humble Oil & Refining Company  
Box 120  
Denver, Colorado 80201

STATE OF COLORADO                    )  
  ) SS.  
CITY AND COUNTY OF DENVER        )

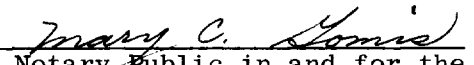
PROOF OF SERVICE

WILLIAM S. LIVINGSTON, affiant herein, being first duly sworn on oath deposes and says that on April 3, 1968, he did give notice of the application of Humble Oil & Refining Company described above to the parties listed above by sending 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 at Denver, Colorado, addressed to the operators named above at the addresses set forth above, first class postage prepaid.

  
William S. Livingston

Subscribed and sworn to before me this 3 day of  
April, 1968.

My commission expires:  
September 13, 1969

  
Notary Public in and for the  
State of Colorado.  
Residing at Denver.



SCHLUMBERGER WELL SURVEYING CORPORATION  
HOUSTON, TEXAS

INDUCTION ELECTROCARD LOG

COUNTY SAN JUAN, NEW MEXICO  
FIELD or LOCATION CHA CHA GALLUP  
WELL LOCATION NAVAJO TRIBAL E #8  
COMPANY PAN AMERICAN PETROLEUM CORPORATION

COMPANY PAN AMERICAN  
PETROLEUM CORPORATION

WELL NAVAJO TRIBAL E #8

FIELD CHA CHA GALLUP

LOCATION SEC. 22-29N-14W

COUNTY SAN JUAN

STATE NEW MEXICO

Other Surveys  
NONE

Location of Well  
660' FR W/L  
1830' FR N/L  
SEC. 22-29N-14W

Elevation: D.F.:  
K.B.: 5271'  
or G.L.: 5259'

FILING No.

RUN No. ONE

Date 1-29-61

First Reading 4913

Last Reading 226

Feet Measured 4687

Csg. Schlum. 226

Csg. Driller 226

Depth Reached 4919

Bottom Driller 4930

Depth Datum KB

Mud Not. CHEM

Dens. Visc. 9.2 55

Mud Resist. 90 @ 68' OF

Res. BHT 5 @ 126' OF

Rmf 70 @ 66' OF

Rmc 8 @ 5' OF

pH 6.5 @ 30 min.

Wtr. Loss 6.5 @ 30 min.

Bit Size 7.75"

Spgrs. AM 16"

MN 27.2"

IND. 5FF40

Opr. Rig Time 1 HR

Truck No. 2516 FARM

Recorded By HAMILTON

Witness MR. JAMISON

FOOD HERE

Reproduced By  
Rocky Mountain Well Log Service  
Dallas 2, Texas

REFERENCE K3039C

ELSI

COMPLETION RECORD

SPUD DATE 3-22-85

COMP DATE

DST RECORD

CASING RECORD

PERFORATING RECORD

ACID. FRAC SHOT

IP

GOR GR

TP CP

REMARKS

REMARKS C.D. USED 1.50" 1.5"

Cartridge No. C182

Panel No. B237

Sonde No. E269

SPONTANEOUS-POTENTIAL millivolts	DEPTHS	CONDUCTIVITY millimhos/m = $\frac{1000}{\text{ohms. m}^2/\text{m}}$
$- \begin{matrix} 10 \\ \updownarrow \\ \text{mV} \end{matrix} +$	2"- 100'	INDUCTION
		400 200 0
		600 400
RESISTIVITY -ohms. m <sup>2</sup> /m		

CONVERSION TO WATER INJECTION

UNIT WELL NO. 12-22

Injection Formation	Gallup "A"
Kind of Fluid	Produced Water
Anticipated Injection Volume	600 to 800 BPD
Source of Injection Fluid	Water produced with oil from project area

EXHIBIT "F"  
TO APPLICATION OF HUMBLE OIL & REFINING COMPANY  
RELATIVE TO PRESSURE MAINTENANCE PROJECT  
NORTHWEST CHA CHA UNIT  
SAN JUAN COUNTY, NEW MEXICO

## Page 1 of 2

Boufford, J. E.

San Juan

Special ☐

	GAS - OIL RATIO
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4318	2120	4120	4320	2121	4221	1222	2422	3422	1423	3423	1225	1425	3425	1426	3226	2327	4127	4327	4128	4134	1235	3435	
I	C	A	I	C	H	E	M	M	O	M	O	E	M	O	M	G	K	A	O	A	A	E	O
18	20	20	20	21	21	22	22	22	23	23	25	25	25	25	26	27	27	27	28	34	35	35	
29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	29N	
14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	14W	
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P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P	
Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	Open	
100	100	100	80	100	100	60	180	190	60	280	190	100	190	90	180	180	190	170	200	170	100	110	
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119	4	20	84	123	28	175	152	187	131	2	119	327	13	276	7	197	97	214	197	15	3	5	
41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	41	
21	1	73	11	12	29	44	4	16	6	15	214	102	5	106	4	13	204	8	207	3	2	13	
3	TSTM	TSTM	2	TSTM	TSTM	4	4	6	6	6	60	58	10	52	8	19	54	19	49	11	6	23	
143	----	----	182	----	----	91	1900	267	1000	250	280	569	2000	491	2000	1462	265	2375	237	3667	3000	1769	

NORTHWEST CHA CHA UNIT  
SAN JUAN COUNTY, NEW MEXICO

(Duce)

C-116  
Revised 1-1-65

C-116  
Revised 1-1-65

7-7-67