

T.R.

cc: Mr. Williams, Dept. of Geology  
USGS, Mr. H. H. Schell, Director  
Phoenix, Phil McGee

Salt Water Injection

P-W

Humble #4 Navajo-08  
SE NW-25-36N-29E Apache County

sl

COUNTY Apache AREA Dineh bi Keyah LEASE NO. Nav 14-20-0603-8812

WELL NAME Kerr. Mc Gee 1-1-73  
Humble #4 Navajo-88

LOCATION SE NW SEC 25 TWP 36N RANGE 29E FOOTAGE 1980 FNL 1980 FWL  
ELEV 8665 GR 8670 KB SPUD DATE 1-9-68 STATUS SHD P+A 10-17-74 TOTAL DEPTH 4500  
CONTRACTOR Mesa Drilling, Lubbock, TEXAS COMP. DATE 3-5-68 P&A 9-28-74 DEPTH 4464 PBTD

CASING SIZE DEPTH CEMENT LINER SIZE & DEPTH DRILLED BY ROTARY x  
9 5/8 928' 900 Sks NA DRILLED BY CABLE TOOL  
7 4500 155 SKS PRODUCTIVE RESERVOIR Dineh bi Keyah  
INITIAL PRODUCTION P&A

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Chinle	Surface	x	x	
Coconino	1850'			
Cutler	2602'			
Hermosa	3716'			
Ismay	3924'			
Desert Creek	4030'			
Akah	4081'			
Black Shale	4200'			
Sill	4384'			
Mississippian	4554'			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
IE, Borehole Comp.	4373-4420;4286-4322	NA	Am Strat
Sonic GR			SAMPLE DESCRP.
			SAMPLE NO. <u>1441</u>
			CORE ANALYSIS
			DSTs

REMARKS Operations suspended 3-5-68 3-22-68 Temp. Abd. approved APP. TO PLUG x  
7-10-68 Application on inject salt water approved PLUGGING REP. x  
EFFECTIVE 1-1-73 OPERATIONS TRANSFERRED FROM HUMBLE OIL TO COMP. REPORT x

WATER WELL ACCEPTED BY KERR MCGEE

BOND CO. The Firemen's Insurance Co. BOND NO. BND 188 98 10-528  
BOND AMT. \$ 25,000 CANCELLED DATE ORGANIZATION REPORT 6-27-69  
FILING RECEIPT 9533 LOC. PLAT x WELL BOOK x PLAT BOOK x  
API NO. 02-001-20069 DATE ISSUED 1-4-68 DEDICATION NW/4

PERMIT NUMBER 447

(over)



PLUGGING RECORD					
Operator <b>Kerr-McGee Corporation</b>			Address <b>Box 250, Amarillo, Texas 79105</b>		
Federal, State, or Indian Lease Number, or lessor's name if fee lease. <b>Arizona No. 447</b>		Well No. <b>4</b>	Field & Reservoir <b>Dineh-Bi-Keyah, Hermosa Intrusive</b>		
Location of Well <b>NW SE NW (1980' FNL &amp; 1980' FWL) Sec. 25 - 36N - 29E G&amp;SRM</b>				County <b>Apache</b>	
Application to drill this well was filed in name of <b>Humble Oil &amp; Refining Co.</b>	Has this well ever produced oil or gas <b>No</b>	Character of well at completion (initial production):			
		Oil (bbls/day) <b>0</b>	Gas (MCF/day) <b>0</b>	Dry? <b>XX</b>	
Date plugged: <b>9-28-74</b>	Total depth: <b>TD 4,500'</b> <b>PBTD 4,464'</b>	Amount well producing when plugged:			
		Oil (bbls/day) <b>0</b>	Gas (MCF/day) <b>0</b>	Water (bbls/day) <b>0</b>	
Name of each formation containing oil or gas. Indicate which formation open to well-bore at time of plugging	Fluid content of each formation	Depth interval of each formation		Size, kind & depth of plugs used. Indicate zones squeeze cemented, giving amount cement	
<b>Black Shale</b>	<b>Some Gas</b>	<b>4,286'-4,322' (closed)</b>			
<b>Sill</b>	<b>Some Gas</b>	<b>4,373'-4,420' (Open to well bore at time of plugging)</b>		<b>See reverse side of this page for details.</b>	
CASING RECORD					
Size pipe	Put in well (ft.)	Pulled out (ft.)	Left in well (ft.)	Give depth and method of parting casing (shot, ripped, etc.)	Packers and shoes
<b>9 5/8"</b>	<b>928</b>	<b>None</b>	<b>928</b>		<b>None</b>
<b>7"</b>	<b>4,500</b>	<b>None</b>	<b>4,500</b>		<b>None</b>
Was well filled with mud-laden fluid, according to regulations? <b>Yes</b>			Indicate deepest formation containing fresh water. <b>600' Est.</b>		
NAMES AND ADDRESSES OF ADJACENT LEASE OPERATORS OR OWNERS OF THE SURFACE					
Name	Address		Direction from this well:		
<b>None</b>					
In addition to other information required on this form, if this well was plugged back for use as a fresh water well, give all pertinent details of plugging operations to base of fresh water sand, perforated interval to fresh water sand, name and address of surface owner, and attach letter from surface owner authorizing completion of this well as a water well and agreeing to assume full liability for any subsequent plugging which might be required.					
Use reverse side for additional detail.					
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <b>Associate Engineer</b> of the <b>Kerr-McGee Corporation</b> (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.					
<b>10-17-74</b>		Signature			
Date					
<b>RECEIVED</b> <b>OCT 23 1974</b> <b>O &amp; G CONS. COMM.</b>			STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Plugging Record File One Copy		
Permit No. <b>447</b>			Form No. 10		

1. A 7" EZ Drill-SV Halliburton Packer was set at 4250' in 7" 20# casing.
2. The zone squeeze cemented was the Hermosa Intrusive Sill. This zone was squeeze cemented through perforations at 4373' to 4420' with 78 sacks of Class "B" cement with 8% Bentonite. A volume of 150 cu.ft. was actually squeezed into the formation.
3. 26 sacks of Class "B" cement with 8% Bentonite was used to fill the 7" 20# casing from 4,250' to 4,464'. Thus a total of 104 sacks cement was pumped below the cement retainer set at 4,250'.
4. 6 sacks of Class "B" cement with 8% Bentonite was dumped on top of the cement retainer, for a 50' plug from 4250' to 4200'.
5. The 7" 20# casing was filled with 10#/gal mud from 4,200' to 30' below ground level.
6. The 7" 20# casing was filled with Class "B" cement with 8% Bentonite from 30' below ground level to 1 1/2' above ground level.
7. The 7" 20# casing was then cut off at ground level.
8. The location of the abandoned well was marked according to Rule 202.A7 and Rule 104.A.
9. All equipment and materials were moved to a warehouse and the location was cleaned and prepared for inspection.

**WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG**

DESIGNATE TYPE OF COMPLETION: RECOMPLETE AS SALT WATER DISPOSAL

New Well  Work-Over  Deepen  Plug Back  Same Reservoir  Different Reservoir  Oil  Gas  Dry

DESCRIPTION OF WELL AND LEASE

Operator: **Humble Oil & Refining Company** Address: **P. O. Box 120, Denver, Colorado 80201**

Federal, State or Indian Lease Number or name of lessor if fee lease: **Navajo Tract 88 - 14-20-0603-8812** Well Number: **4** Field & Reservoir: **Dineh bi Keyah - Hermosa**

Location: **NW SE NW (1980' FNL & 1980' FWL) of Sec. 25** County: **Apache**

Sec. TWP-Range or Block & Survey: **Sec. 25-36N-29E - G&SRM**

Date spudded: **1-9-68** Date total depth reached: **1-27-68** Date completed, ready to inject: **Water - 10-11-68** Elevation (DF, RKB, RT or Gr.) feet: **8670' RKB** Elevation of casing hd. range feet: **8660'**

Total depth: **4500'** P.B.T.D.: **4260'** Single, dual or triple completion?: **Salt Water Disposal** If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: **Dry Hole - Converted to Salt Water Disposal** Rotary tools used (interval): **0-4500'** Cable tools used (interval): **None**

Was this well directionally drilled? **No** Was directional survey made? **-** Was copy of directional survey filed? **-** Date filed: **-**

Type of electrical or other logs run (check logs filed with the commission): **IES & Gamma-Ray Sonic** Date filed: **3-11-68**

CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)						
Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	13-3/4"	9-5/8"	32#	928'	900	None
Production	8-3/4"	7"	20#	4500'	155 / 25# Gilsonite/sx.	None

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
3 in.	4380 ft.	4350 ft.	None	ft.	ft.	ft.	ft.

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
1 ea. 2 1/2'	4" Hyperjet	4373-4420'	NO STIMULATION ON RECOMPLETION (THESE ARE ALL OLD PERFORATIONS)	
1 per ft.	4" Hyperjet	4286-4322'		

INITIAL PRODUCTION

Date of first production: **Dry Hole - Converted to Salt Water Disposal** Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump): **First Produced water injected 10-11-68.**

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
			bbls.	MCF	bbls.	* API (Corr)

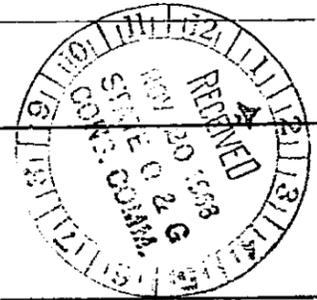
Tubing pressure	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
			bbls.	MCF	bbls.	

Disposition of gas (state whether vented, used for fuel or sold):

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Dist. Supt.** of the **Humble Oil & Refining Company** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date: **11-18-68**

*J. Roy Dorough*  
Signature **J. Roy Dorough**



Permit No. **447**

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Well Completion or Recompletion Report and Well Log  
Form No. 4 File One Copy

APPLICATION TO ABANDON AND PLUG

FIELD Dineh-Bi-Keyah  
 OPERATOR Kerr-McGee Corporation ADDRESS P.O. Box 250, Amarillo, Texas  
 Federal, State, or Indian Lease Number or Lessor's Name if Fee Lease Arizona No. 447 WELL NO. Tract 88#4  
 SURVEY G & SRM SECTION 25 COUNTY Apache  
 LOCATION 1980' FNL & 1980' FWL, Sec. 25-T36N-R29E  
Apache Co., Arizona TOTAL DEPTH 4500' TD, 4464' PB

TYPE OF WELL Dry Hole (SWD)  
 (Oil, Gas or Dry Hole)  
 ALLOWABLE (If Assigned) \_\_\_\_\_ (Bbls.) WATER \_\_\_\_\_ (Bbls.)  
 LAST PRODUCTION TEST OIL \_\_\_\_\_ (Bbls.) DATE OF TEST \_\_\_\_\_  
 GAS \_\_\_\_\_ (MCF) Disposal  
 Disposal XXXXXXXXXX FROM 4373' TO 4420'  
 PRODUCTION HORIZON Hermosa

1. COMPLETE CASING RECORD  
 Surface: 9 5/8" 32#, Depth Set 928', Sxs Cem. 900, None pulled.  
 Production: 7" 20#, Depth Set 4500', sxs Cem. 155 w/25# Gilsonite/sx. None pulled.

2. FULL DETAILS OF PROPOSED PLAN OF WORK
1. Unseat Packer and Pull Tubing
  2. Set EZ Drill SU Packer at 4250'
  3. Squeeze below retainer 190 sxs of cem.
  4. Spot 10 sxs cem. for 50' plug on top of retainer.
  5. Pull tubing and fill 7" casing to 20' below ground level with heavy mud laden fluid and set top 20' cement plug.
  6. Cut casing at ground level, set P&A marker & clean location.

If well is to be abandoned, does proposed work conform with requirements of Rule 202? Yes If not, outline proposed procedure above.

DATE COMMENCING OPERATIONS Upon approval  
 NAME OF PERSON DOING WORK James C. Brothers ADDRESS P.O. Box 250, Amarillo, Texas  
 CORRESPONDENCE SHOULD BE SENT TO Warren E. Richardson  
 Name District Manager  
 Title P.O. Box 250, Amarillo, Texas  
 Address August 8, 1974  
 Date

Date Approved 8-12-74  
 STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 By: [Signature]

Permit No. 447

STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 Application to Abandon and Plug  
 File Two Copies  
 Form No. 9 RECEIVED

AUG 12 1974  
 O & G CON. COMM.

INJECTION WELL REPORTS

Filed in cabinet of Enforcement Director

Form 9-331  
(May 1963)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN REPLICATE\*  
(Other instructions on reverse side)

Form approved  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8812

6. INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

Navajo Tract 88

8. WELL NO.

10. FIELD AND POOL, OR WILDCAT  
Dineh-bi-Keyah

11. SEC. T., R., M., OR BLK. AND  
SURVEY OR AREA  
Sec. 25, 36N, 29E  
GASRM

12. COUNTY OR PARISH  
Apache

13. STATE  
Arizona

SUNDRY NOTICES AND REPORTS ON WELLS  
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL  GAS WELL  OTHER SWD Well

2. NAME OF OPERATOR  
Kwee-McGee Corporation

3. ADDRESS OF OPERATOR  
P. O. Box 250, Amarillo, Texas 79105

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)  
At surface  
SE NW (1,980' FNL & 1,980' FWL) of Sec. 25

14. PERMIT NO.  
Arizona 1447

16. ELEVATIONS (Show whether DF, RT, OR, etc.)  
8,175' KB ← Elev. from 58-1

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF   
FRACTURE TREAT   
SHOOT OR ACIDIZE   
REPAIR WELL   
(Other)

PULL OR ALTER CASING   
MULTIPLE COMPLETE   
ABANDON\*   
CHANGE PLANS

Change in Operator

SUBSEQUENT REPORT OF:

WATER SHUT-OFF   
FRACTURE TREATMENT   
SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL   
ALTERING CASING   
ABANDONMENT\*

Change in Operator

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Effective January 1, 1973, operation of this well was transferred from Humble Oil and Refining Company to Kerr-McGee Corporation

RECEIVED

JAN 10 1973

COMM

18. I hereby certify that the foregoing is true and correct

SIGNED C. J. Breeden

TITLE District Prod. Supt.

DATE 1-4-73

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

TITLE \_\_\_\_\_

\*See Instructions on Reverse Side

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

- SUBMIT IN TRIPLICATE\*  
(Other instructions on reverse side)

Form approved  
Budget Bureau No. 42-R1424

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL  GAS WELL  OTHER  Salt Water Disposal

2. NAME OF OPERATOR  
Humble Oil & Refining Company

3. ADDRESS OF OPERATOR  
P. O. Box 120, Denver, Colorado 80201

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\* See also space 17 below.)  
At surface  
SE NW (1980' FWL & 1980' FWL) of Section 25.

14. PERMIT NO.  
Arizona 447

15. ELEVATIONS (Show whether DT, RT, CR, etc.)  
8,175' KB ← Base from 88-1

5. LEASE DESIGNATION AND SERIAL NO.  
14-20-060-8812

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Navajo

7. UNIT AGREEMENT NAME  
-

8. FARM OR LEASE NAME  
Navajo Tract 88

9. WELL NO.  
4

10. FIELD AND POOL, OR WILDCAT  
Dinah bi Keyah

11. SEC., T., R., OR BLK. AND SUBMERGENCE AREA  
Sec. 25-30N-29E Q68RM

12. COUNTY OR PARISH  
Apache

13. STATE  
Arizona

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REMAINING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input checked="" type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	(Other) <input type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and notes pertinent to this work.)\*

44 Pumped in 1000 gals. 15% regular acid. Starting pressure 1800#, raised to 2000# in 15 mins. pumping at rate of 2 BPM. Pressure before pumping in acid was 1400#. After acid all in tubing and on bottom, pressure dropped to 1500#. Flushed with 67 bbls. water and pressure continued at 1500# at pumping rate of 5 BPM.

cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe

18. I hereby certify that the foregoing is true and correct

SIGNED J. Roy Dorrrough TITLE Dist. Supt.

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:



Form 9-331  
(May 1963)

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPlicate  
(Other Instructions reverse side)

Form approved  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-0693-8812**

6. IF INDIAN ALLOTTEE OR TRIBE NAME  
**Navajo**

7. UNIT AGREEMENT NAME  
**-**

8. FARM OR LEASE NAME  
**Navajo Tract 88**

9. WELL NO.  
**4**

10. FIELD AND POOL, OR WILDCAT  
**Dineh Bl Keyah**

11. SEC., T., R. OR NE. AND SURVEY OR AREA  
**Sec. 25 T. 36N R. 29E GAZR**

12. COUNTY OR PARISH AND STATE  
**Apache Arizona**

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL  GAS WELL  OTHER **Salt Water Disposal**

2. NAME OF OPERATOR  
**Humble Oil & Refining Company**

3. ADDRESS OF OPERATOR  
**P. O. Box 120, Denver, Colorado 80201**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface  
**SE NW (1980' FNL & 1980' FWL) of Section 25**

14. PERMIT NO.  
**Arizona No. 447**

15. ELEVATIONS (Show whether DP, ET, GR, etc.)  
**8175' KB ← Elev from 82-1**

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL (Other)	<input type="checkbox"/>	(Other)	<input type="checkbox"/>
PULL OR ALTER CASING	<input type="checkbox"/>	ALTERING CASINGS	<input type="checkbox"/>
MULTIPLE COMPLETE	<input type="checkbox"/>	ABANDONMENT	<input type="checkbox"/>
ABANDON*	<input type="checkbox"/>	(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	
CHANGE PLANS	<input type="checkbox"/>		

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting and proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and points pertinent to this work.)\*

Humble proposes to acidize perforations 4373-4420' with 1,000 gallons 15% HCL Acid in an effort to clean the well bore and perforations to increase injection capacity.



18. I hereby certify that the foregoing is true and correct

SIGNED J. Roy Burroughs TITLE Dist. Supt. DATE 7-24-69

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

447

47

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8812

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

-

8. FARM OR LEASE NAME

Navajo Tract 88

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Dineh bi Keyah

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 25-36N-29E

12. COUNTY OR PARISH 13. STATE

Apache

Arizona

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL  GAS WELL  OTHER  **Salt Water Disposal**

2. NAME OF OPERATOR  
**Humble Oil & Refining Company**

3. ADDRESS OF OPERATOR  
**P. O. Box 120, Denver, Colorado 80201**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\* See also space 17 below.)  
At surface  
**SE NW (1980' FWL & 1980' FWL) of Section 25**

14. PERMIT NO. **Arizona #447**

15. ELEVATIONS (Show whether DF, ET, GR, etc.)  
**8175' KB**

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	FULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <b>Convert to Salt Water Disposal XI</b>	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work).\*

TD 4500' - PBTD 4464'.

Cleaned out to 4464'. Ran 3 1/2" tubing with packer, set packer at 4350'. Pumped into perforations 4373-4420' at rate of 1/2 RPM with 5 1/2 surface pressure. Shut down on 9-9-68 and installed surface equipment. First produced water injected on 10-11-68.

cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe

18. I hereby certify that the foregoing is true and correct

SIGNED

*J. Roy Borroughs*  
(This space for Federal or State office use)

TITLE **Dist. Supt.**

DATE **10-23-68**

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE



60 447

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Form approved.  
Budget Bureau No. 42-B356.5.

LAND OFFICE \_\_\_\_\_  
LEASE NUMBER 14-20-0603-8812  
UNIT \_\_\_\_\_

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Arizona County Apache Field Dineh bi Keyah  
The following is a correct report of operations and production (including drilling and producing wells) for the month of September, 19 68,  
Agent's address P. O. Box 120 Company Emble Oil & Refining Company  
Denver, Colorado 80201 Signed [Signature]  
Phone 534-1251 Agent's title Dist. Supt.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline contact of gas)
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NAVAJO TRACT 88 - ARIZONA PERMIT NO. 447

Sec. 25  
SE NW

36N 29E

4

0

(4474)

Cleaned out well to 4774'. Ran 3 1/2" tubing with packer, set at 4350'. Pumped into perforations 4373-4420' at rate of 1/2 BFM with 5/8" surface press. Shut down on 9-9-68 to install surface equipment for disposal.

NOTE: CONTINUE IN TEMPORARY ABANDONED STATUS PER LETTER DATED 3-14-68 AND YOUR APPROVAL DATED 3-22-68. INJECTION REPORTS WILL BE SUBMITTED WHEN INJECTION STARTS.



cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe

NOTE.—There were no runs or sales of oil; no M cu. ft. of gas sold;

no runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

## WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG

DESIGNATE TYPE OF COMPLETION:

New Well  Work-Over  Deepen  Plug Back  Same Reservoir  Different Reservoir  Oil  Gas  Dry

### DESCRIPTION OF WELL AND LEASE

Operator <b>Humble Oil &amp; Refining Company</b>		Address <b>P. O. Box 120, Denver, Colorado 80201</b>	
Federal, State or Indian Lease Number or name of lessor if fee lease <b>Navajo Tract 88 - 14-20-0603-8812</b>		Well Number <b>4</b>	Field & Reservoir <b>Dineh bi Keyah</b>
Location <b>SE NW (1980' FNL &amp; 1980' FWL) of Sec. 25</b>		County <b>Apache</b>	
Sec. TWP-Range or Block & Survey <b>Sec. 25-36N-29E - G&amp;SRM</b>			
Date spudded <b>1-9-68</b>	Date total depth reached <b>1-27-68</b>	Date completed, ready to produce <b>* Dry - 3-5-68</b>	Elevation (DE, RKB, RT or Gr.) feet <b>8670" KB</b>
Total depth <b>4500'</b>	P.B.T.D. <b>4360'</b>	Single, dual or triple completion? <b>Dry - Temporarily Abandoned</b>	Elevation of casing hd. flange feet <b>8660</b>
Producing interval (s) for this completion * Dry - Well not plugged - holding for Salt Water Disposal.		Rotary tools used (Interval) <b>0-4500'</b>	Cable tools used (Interval) <b>None</b>
Was this well directionally drilled? <b>No</b>	Was directional survey made? <b>No</b>	Was copy of directional survey filed? <b>No</b>	Date filed <b>-</b>
Type of electrical or other logs run (check logs filed with the commission) <b>IES &amp; Gamma-Ray Sonic</b>			Date filed <b>3-11-68</b>

### CASING RECORD

Casing (report all strings set in well—conductor, surface, intermediate, producing, etc.)						
Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	13-3/4"	9-5/8"	32#	928'	900	None
Production	8-3/4"	7"	20#	4500'	155 / 25#	None
					Gilsonite/sx.	

### TUBING RECORD

### LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
in.	ft.	ft.	in.	ft.	ft.	ft.	
None							

### PERFORATION RECORD

### ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
1 ea. 2 1/2'	4" Hyperjet	4373-4420'	1000 gal. HF Acid & 42800 gal. oil / 30000# Sand	
1 per ft.	4" Hyperjet	4286-4322'	1000 gal. HF Acid & 43300 gal. oil / 29000# Sand	

### INITIAL PRODUCTION

Date of first production <b>** 2-10-68</b>	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump:) <b>Swab and flow.</b>					
Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
<b>SEE SUMMARY ON REVERSE SIDE</b>			bbls.	MCF	bbls.	* API (Corr)
Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
			bbls.	MCF	bbls.	

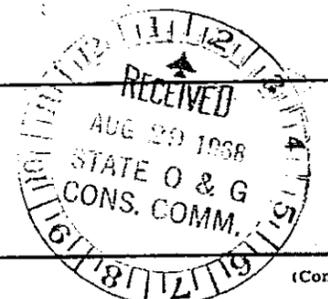
Disposition of gas (state whether vented, used for fuel or sold):  
**Vented**

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Supt. of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date 8-27-68

Signature J. Roy Dorrough

Permit No. 447



STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Well Completion or Recompletion Report and Well Log  
Form No. 4 File One Copy

**DETAIL OF FORMATIONS PENETRATED**

Formation	Top	Bottom	Description*
Chinle	-	1850	Red shale & silt.
Coconino	1850	2602	Sandstone & conglomerate.
Cutler	2602	3716	Shale, siltstone & fine sandstone.
Hermosa	3716	3924	Varigated shale & siltstone, thin limestone.
Ismay	3924	4030	Limestone, buff to light grey. Cherty. Shaley at base.
Desert Creek	4030	4081	Limestone, white to light grey & shale, grey.
Akah	4081	4200	Limestone, dark grey, green, waxy.
Black Shale	4200	4384	Shale, black.
Sill	4384	4454	Igneous sill injected into altered limestone & shale.
Mississippian	4454	4500 TD	Limestone, white to buff, dense, oolitic.

NO CORES CUT, NO DST'S TAKEN.

\*\* - Perforations 4373-4420' tested gas at rate of 89 MCFPD. Failed to recover 799 bbls. of load & frac oil.

Perforations 4286-4322'. After swabbing several days tested at rate of 33 MCFPD. Failed to recover 642 bbls. of load & frac oil.

\* Show all important zones of porosity, detail of all cores, and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures, and recoveries.

**INSTRUCTIONS:**

Attach drillers log or other acceptable log of well.

This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

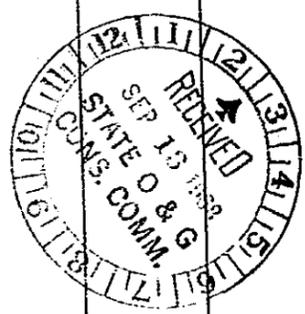
Form approved.  
Budget Bureau No. 42-RS56.5.

LAND OFFICE \_\_\_\_\_  
LEASE NUMBER 14-20-0603-8812  
UNIT \_\_\_\_\_

**LESSEE'S MONTHLY REPORT OF OPERATIONS**

State Arizona County Apache Field Dineh bi Keyah  
The following is a correct report of operations and production (including drilling and producing wells) for the month of August, 1968,  
Agent's address P. O. Box 120 Company Humble Oil & Refining Company  
Denver, Colorado 80201 Signed JOHN R. CROUCH  
Phone 534-1251 Agent's title Dist. Administrative Supr.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline contact of gas)
<b>NAVAJO TRACT 88 - ARIZONA PERMIT NO. 447</b>										
Sec. 25 SE NW	36N	29E	4	0						Preparing to convert to Salt Water Disposal.



cc: 12 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe

NOTE.—There were no runs or sales of oil; no M cu. ft. of gas sold;

no runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

SUNDY NOTICES AND REPORTS ON WELLS

1. Name of Operator Humble Oil & Refining Company, P. O. Box 120, Denver, Colorado 80201  
 2. OIL WELL  GAS WELL  OTHER  (Specify) Salt Water Disposal  
 3. Well Name Navajo Tract 88 #4  
 Location SE NW (1980' FNL & 1980' FWL) of Section 25.  
 Sec. 25 Twp. 36N Rge. 29E County Apache, Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8812

5. Field or Pool Name Dineh bi Keyah

6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:			SUBSEQUENT REPORT OF:		
TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input type="checkbox"/>	FRACTURE TREATMENT	<input type="checkbox"/>
SHOOT OR ACIDIZE	<input type="checkbox"/>	PERFORATE CASING	<input type="checkbox"/>	SHOOTING OR ACIDIZING	<input type="checkbox"/>
REPAIR WELL	<input type="checkbox"/>	CHANGE PLANS	<input type="checkbox"/>	MONTHLY PROGRESS	<input type="checkbox"/>
(OTHER) <u>Convert to Salt Water Disposal</u>	<input checked="" type="checkbox"/>			REPAIRING WELL	<input type="checkbox"/>
				ALTERING CASING	<input type="checkbox"/>
				ABANDONMENT	<input type="checkbox"/>
				(OTHER)	<input type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

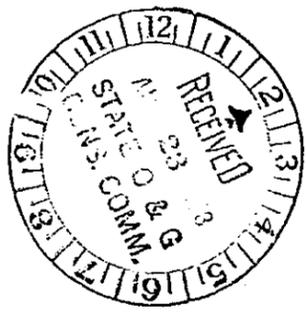
7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

This well is non-productive of oil or gas and currently has open perforations from 4286-4322' and 4373-4420'. Humble requests approval to set a packer at 4350', between the two perforated intervals, on 3" tubing and inject produced water from other wells in the field into the lower perforations from 4373-4420'.

**APPROVED**

By J. A. LaPorte  
 Administrative Assistant  
 Date 8/26/68

OIL & GAS CONSERVATION COMMISSION  
 STATE OF ARIZONA  
 1624 WEST ADAMS - SUITE 202  
 TELEPHONE: 271-5161  
 PHOENIX, ARIZONA, 85007



8. I hereby certify that the foregoing is true and correct.  
 Signed J. Roy Dorrrough Title Dist. Supt. Date 8-20-68

STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 Sundry Notices and Reports On Wells  
 File Two Copies  
 Form No. 25

Permit No. 447

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Form approved.  
Budget Bureau No. 42-R356.5.  
OFFICE 14-20-0603-8812  
LEASE NUMBER \_\_\_\_\_  
UNIT \_\_\_\_\_

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Arizona County Apache Field Dineh bi Keyah

The following is a correct report of operations and production (including drilling and producing wells) for the month of July, 1968.

Agent's address P. O. Box 120 Company Humble Oil & Refining Company

Denver, Colorado 80201

Signed [Signature]

Phone 534-1251

Agent's title Dist. Supt.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATE PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<b>NAVAJO TRACT 88 - ARIZONA PERMIT NO. 447</b>										
Sec. 25 SE NW	36N	29E	4 K	0						Operations suspended as of 3-5-68. See Sundry Notice dated 3-11-68. No work has been done since this date.
NOTE: CONTINUE IN TEMPORARY ABANDONED STATUS PER LETTER DATED 3-14-68 AND YOUR APPROVAL DATED 3-22-68.										
<i>Salt water inject</i>										

cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe



Note.—There were no runs or sales of oil; no runs or sales of gasoline during the month. (Write "no" where applicable.)

Note.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

**APPLICATION TO DISPOSE SALT WATER BY INJECTION INTO A POROUS FORMATION**

Operator <b>Humble Oil &amp; Refining Company</b>		Address <b>P. O. Box 120, Denver, Colorado 80201</b>	
Federal, State or Indian Lease Number, or lessor's name if fee lease <b>14-20-0603-8812</b>	Well No. <b>Tract 88 #4</b>	Field <b>Dineh bi Keyah</b>	County <b>Apache</b>
Location <b>1980 feet from north line &amp; 1980 feet from west line Section 25-T36N-R29E, G&amp;SRM</b>			

CASING AND TUBING DATA			
Name of string	Size	Length	Cement Data
Surface Casing	9-5/8"	928 ft.	Cemented to surface
Intermediate			
Long String	7"	4500 ft.	Top of cement at 3450 feet
Name, Model and Depth of Tubing Packer			
Tubing	2-3/8"	4350 ft.	Baker Model D set at 4350'

Name of Top and Bottom of Injection Zone  
**Lower Igneous Sill**

Is Injection through Tubing, Casing or Annulus? <b>Tubing</b>	Perforations or Open Hole? <b>Perforations</b>	Is this a new well Drilled for Disposal? <b>No - dry oil well</b>
--	---	--

List all Cement Squeeze Operations, Giving Interval and Number Sacks Cement

Is Injection Zone Productive of Oil or Gas in This Field? <b>Yes, updip in Tract 88 #3 only</b>	Depth of Deepest Fresh Water Zone <b>Coconino 1850'-2602'</b>	Depth of Shallowest Productive Zone
--	--	-------------------------------------

Anticipated Daily Injection Volume (bbls.)	Minimum <b>100 BWPD</b>	Maximum <b>500 BWPD</b>	Open or Closed System? <b>Closed</b>
Is Injection to be by Gravity or Pressure? <b>Pressure</b>	Approx. Pressure (Psi) <b>1400</b>	Source of Water to be Injected <b>Igneous Sill</b>	

Are there any other Salt Water Disposal Wells using this same Zone in this Field?  
**No**

If so name one such well below

Name of Operator of Disposal Well in same zone	Lease Name	Well No.
Is this well so cased and completed that water can enter no other formation than the above set out injection zone? <b>Yes</b>	Yes or No <b>Yes</b>	Have notices of this application been mailed or given to all operators within 1/2 mile of this injection well? <b>Yes</b>

List names and addresses of all operators within one-half (1/2) mile of this injection well:  
**Kerr-McGee Corporation, Kerr-McGee Building, Oklahoma City, Oklahoma 73102**

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Denver District Superintendent** of the **HUMBLE OIL & REFINING** (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

- INSTRUCTIONS:**
1. Attach a complete full-scale electrical log of this well, if available. Indicate on electrical log, or by other evidence, the base of fresh water zones in this field.
  2. Attach waivers from all operators within one-half (1/2) mile of injection well, or copies of letters notifying such operators of this application. Also attach waiver from surface owners of land on which the disposal well is located, or copy of letter from operator making this application notifying such surface owners of this application and requesting waivers.
  3. Should all necessary waivers not accompany application, the State of Arizona Oil & Gas Conservation Commission shall hold such application for a period of ten (10) days from date of receipt. If, after said ten (10) day period, no protest or request for a hearing is received, the application will then be processed.

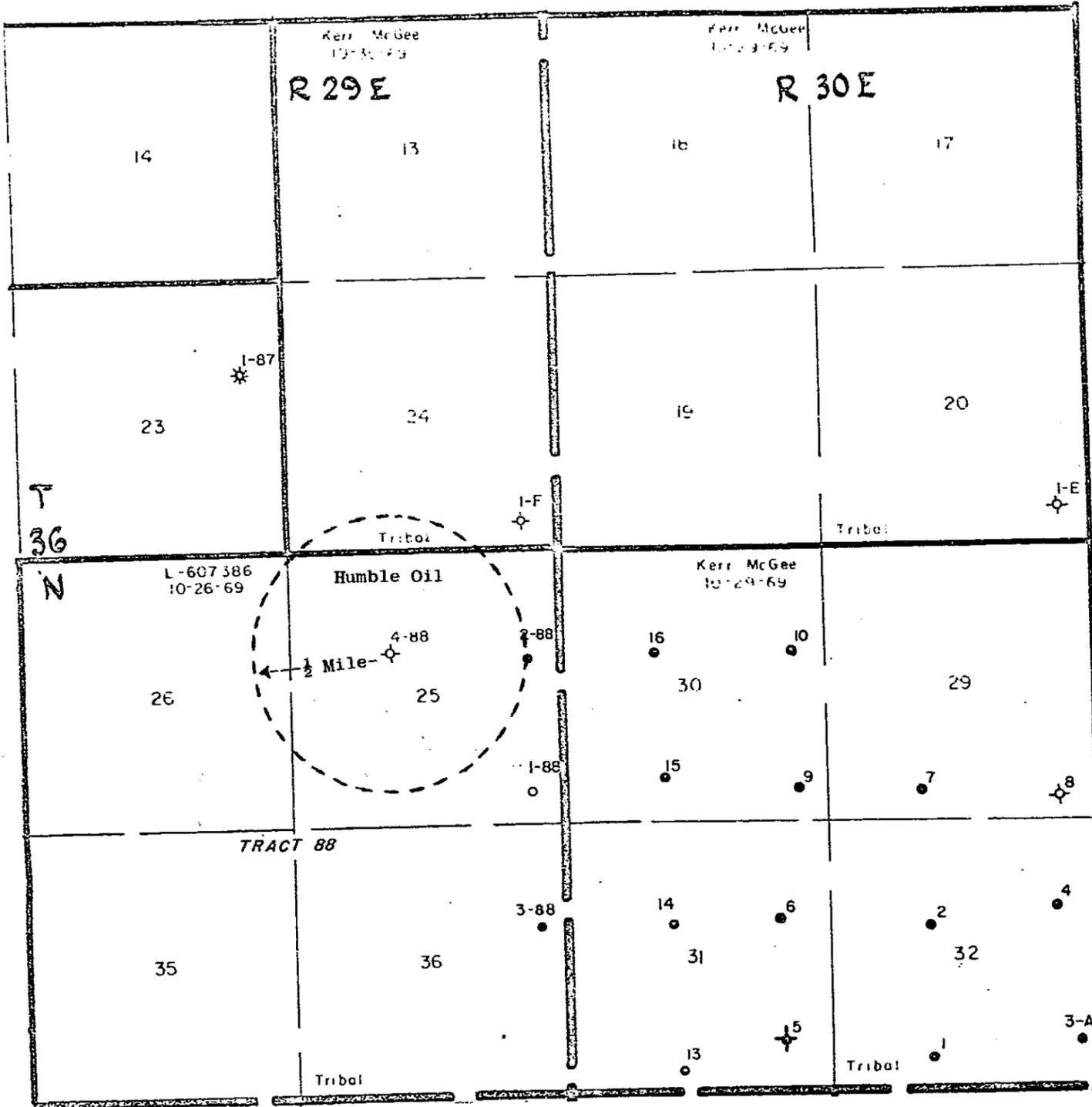
Signature *[Handwritten Signature]*  
Date **June 13, 1968**

Date approved **7-10-68**  
By **John Jannister**  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Application To Dispose of Salt Water by Injection  
Into a Porous Formation  
File Two Copies

RECEIVED  
O & G  
COMM.  
JUN 13 1968

Form No. 15



HUMBLE OIL & REFINING COMPANY  
 DINEH bi KEYAH FIELD  
 APACHE COUNTY, ARIZONA  
 PROPOSED NAVAJO TRACT 88 NO. 4 SWD

EXHIBIT NO. 3

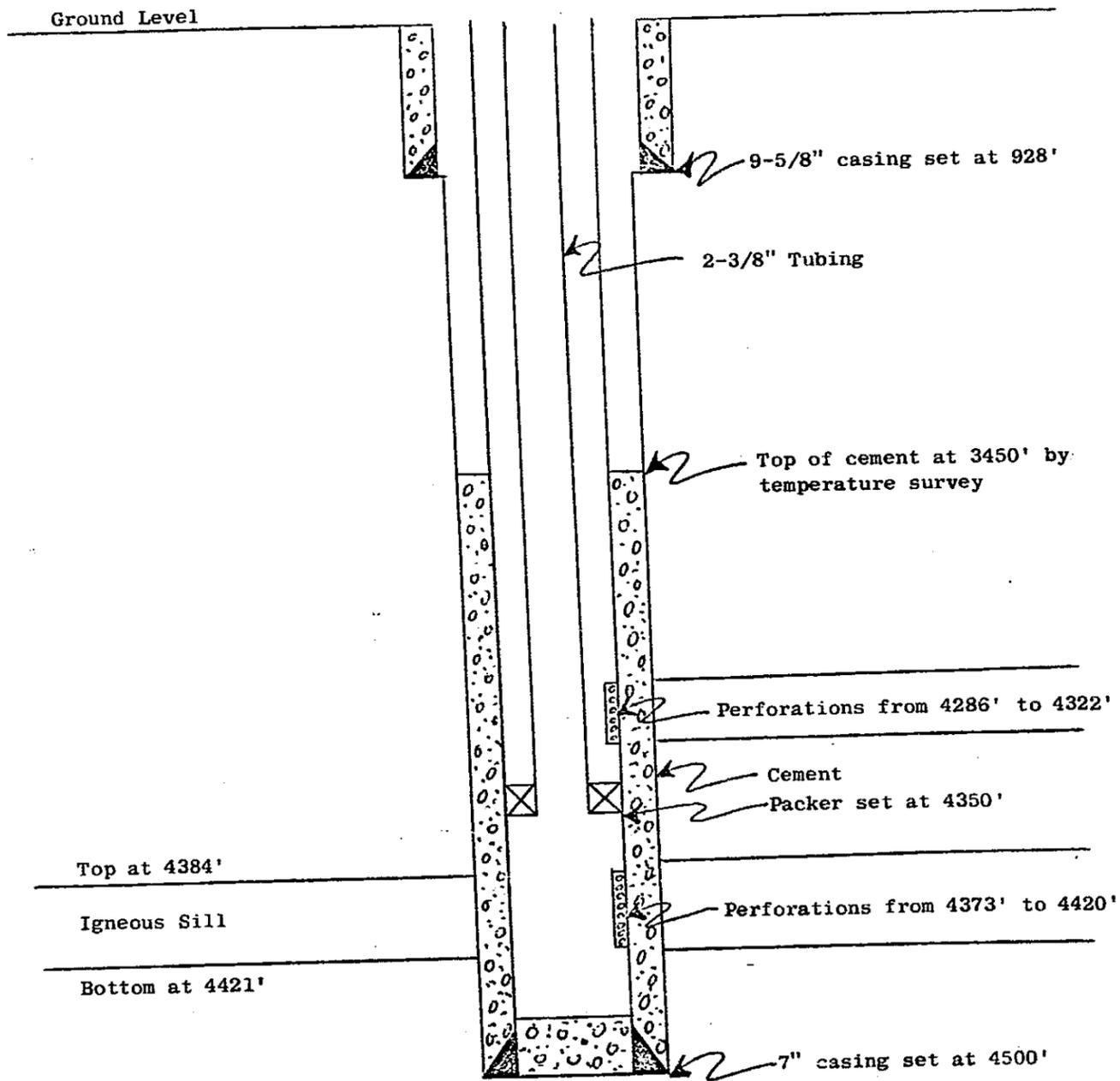


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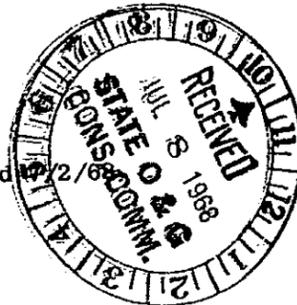
NAVAJO TRACT 88 NO. 4 SWD

DINEH bi KEYAH FIELD



CORRECTED  
EXHIBIT NO. 4

Revised 2/68



# 447

**OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION  
TO TRANSPORT OIL OR GAS FROM LEASE**

Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
Navajo Tract 88 - 14-20-0603-8812	Dineh bi Keyah	Hermosa
Survey or Sec-Twp-Rge	County	State
Sec. 25 & 36-36N-29E - G&SRM	Apache	Arizona
Operator Humble Oil & Refining Company		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street	City	State
P. O. Box 120	Denver,	Colorado 80201
Above named operator authorizes (name of transporter)		
Kerr-McGee Pipeline Corporation		
Transporter's street address	City	State
Kerr-McGee Building	Oklahoma City	Oklahoma 73102
Field address		
P. O. Box 989, Farmington, New Mexico 87401		
Oil, condensate, gas well gas, casinghead gas		
To transport	100 % of the	from said lease.

**OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:**

Name of gatherer	% transported	Product transported
None		

Our report dated 3-4-68 was partially in error. Please change your records as follows:

Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.  
Permian Corporation ceased hauling oil from Navajo Tract 88 #2 as of 5:55 PM on 2-28-68, at which time the IACT on the lease went into operation. Permian continued to haul oil from Well #3 (As Humble Agent Only) to our Navajo Tract 138 battery, where it went into the pipeline, until the morning of 3-20-68. At that time all production from the Navajo Tract 88 started being run through the pipeline hooked to the Navajo Tract 88 battery.

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

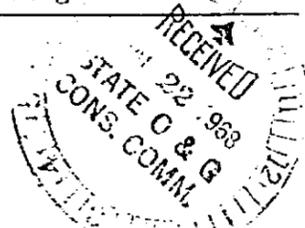
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Supt. of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date March 20, 1968  
Signature J. Roy Dorrough

Date approved: 3-22-68  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: John Bannister  
Permit No. 421,431,443,447

cc: Minerals Supervisor, Navajo Tribe  
U. S. Geological Survey - Farmington

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Operator's Certificate of Compliance & Authorization to  
Transport Oil or Gas from Lease  
File Two Copies  
Form No. 8



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Form approved.  
Budget Bureau No. 42-R356.5.

LAND OFFICE \_\_\_\_\_  
LEASE NUMBER 14-20-0603-8812  
UNIT \_\_\_\_\_

LESSEE'S MONTHLY REPORT OF OPERATIONS

State Arizona County Apache Field Dineh bi Keyah  
The following is a correct report of operations and production (including drilling and producing wells) for the month of March, 1968,  
Agent's address P. O. Box 120 Company Humble Oil & Refining Company  
Denver, Colorado 80201 Signed COPY (Original) J. ROY DORROUGH  
Phone 534-1251 Agent's title Dist. Supt.

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL NO.	DATA PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and results of test for gasoline content of gas)	
<b>NAVAJO TRACT 88</b>											
Sec. 25 SE SE	36N	29E	1	4	41					This production will not appear on the Oklahoma City Report for Well Nos. 2 & 3.	Pulled tubing & packer. Squeezed perms 3407-63' with 75 sacks cement. Testing squeeze job. Will perforate 3448-63' & test.
Sec. 36 SE NE	36N	29E	3							Production will be reported by our Oklahoma City Office on same report as well #2.	Slow testing.
Sec. 25 SE NW	36N	29E	4								Operations suspended as of 3-5-68. See Sundry Notice dated 3-11-68. No work has been done since that date. <i>Three June 1968</i>

cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor, Navajo Tribe

NOTE.—There were See Above runs or sales of oil; \_\_\_\_\_ M cu. ft. of gas sold;

\_\_\_\_\_ runs or sales of gasoline during the month. (Write "no" where applicable.)  
NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 5th of the succeeding month, unless otherwise directed by the supervisor.

UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN THIS CATEGORY  
(Other instructions on reverse side)

Form approved  
Budget Bureau No. 42-R1424

**SUNDRY NOTICES AND REPORTS ON WELLS**  
(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL  GAS WELL  OTHER  **Temporarily Abandoned**

2. NAME OF OPERATOR  
**Humble Oil & Refining Company**

3. ADDRESS OF OPERATOR  
**P. O. Box 120, Denver, Colorado 80201**

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.)  
At surface  
**SE NW (1980' FNL & 1980' FWL) of Section 25**

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-0603-8812**

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
**Navajo**

7. UNIT AGREEMENT NAME  
**-**

8. FARM OR LEASE NAME  
**Navajo Tract 88**

9. WELL NO.  
**4**

10. FIELD AND POOL, OR WILDCAT  
**Dineh bi Keyah**

11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA  
**Sec. 25-36N-29E - GASRM**

12. COUNTY OR PARISH  
**Apache**

13. STATE  
**Arizona**

14. PERMIT NO.  
**Arizona #447**

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**8175' KB and 8166 GR. These have been measured.**

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <b>Well History to Date</b> <input checked="" type="checkbox"/>	
(Other) <b>Temporary Abandonment</b> <input checked="" type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Drilled to TD of 4500' - FBTD 4464'. No cores or DST's. Set 7" OD 20# J-55 casing at 4500' and cemented with 155 sacks plus 25# Gilsomite per sack. Perforated 4373' & 4380' and then every 2 1/2' from 4380' to 4420' (total of 18 holes). Ran 3 1/2" tubing with packer set at 4367', swabbed dry. Swabbed additional 4 hours, no recovery. Acidized with 1000 gallons HF acid. Maximum breakdown 2200#, broke to 700#, increased to 900#. Instant SI 400#, zero in 15 min. Swabbed back acid, no oil. Casing pressure 60# after overnight SI. Fractured with 42,800 gallons (1,019 bbls.) oil and 30,000# sand. AIR 67.2 BPM, maximum pressure 3200#, minimum pressure 2800#, on vacuum after 2 hours SI. Cleaned out sand to 4464'. Swabbed and flowed back 220 bbls. load oil. Gas measured from 78 to 89 MCFPD. Set bridge plug at 4286'. Perforated 4286-4322', 1 SF2 feet, (total of 19 holes). Swabbed dry, making no fluid. Acidized with 1000 gallons HF acid, dropping 1 ball sealer every 50 gallons. Swabbed back load oil and acid water, measured gas at 64 MCFPD, no oil. Fractured with 43,300 gallons (1031 bbls.) oil and 29,000# sand. Sanded out with 1000# in casing. Cleaned out to 4360'. Set packer at 4279', swabbed for several days, recovered 384 bbls. load oil. Last two days of testing gas measured 33 MCFPD. Operations suspended as of 3-5-68 for an indeterminate time pending further study. Notice of intention will be submitted prior to resuming operations and "Log of Well" when disposition is determined. (Electric Logs Attached)

cc: 1/2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor - Navajo Tribe

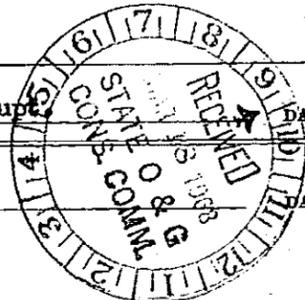
18. I hereby certify that the foregoing is true and correct

SIGNED J. Roy DeGroot TITLE Dist. Supt. DATE 3-11-68

(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:



447

**OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION  
TO TRANSPORT OIL OR GAS FROM LEASE**

Federal, State or Indian Lease Number	Field	Reservoir
Navajo Tract 83 - 14-20-0603-0812	Dineh bi Keyah	Hermosa
Survey or Sec-Twp-Rge	County	State
Sec. 25-36N-29E - G&SRM	Apache	Arizona
Operator <b>Humble Oil &amp; Refining Company</b>		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street	City	State
P. O. Box 120	Denver,	Colorado 80201
Above named operator authorizes (name of transporter)		
<b>Kerr-McGee Pipeline Corporation (No change - See Below).</b>		
Transporter's street address	City	State
Kerr-McGee Building	Oklahoma City	Oklahoma 73102
Field address		
P. O. Box 989, Farmington, New Mexico 87401		
Oil, condensate, gas well gas, casinghead gas		
To transport	100 % of the	Oil from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
None		

Indicate whether or not this certificate is for a new lease. If not a new lease, indicate whether or not it is a change of operator, change of lease name, change of gatherer, or a consolidation or subdivision of leases and give effective date of change.

This is to advise of a change of method in moving oil from the above lease. LACT equipment has been installed and pipeline connection made with Kerr-McGee Pipeline. The Permian Corporation will no longer haul the oil (As Humble Agent Only) as stated in our certificate dated 11-22-67. LACT operation began at 5:55 PM on 2-28-68.

The undersigned certifies that the rules and regulations of the State of Arizona Oil & Gas Conservation Commission have been complied with in drilling and producing operations on this lease, except as noted above, and that the above transporter is authorized to transport the above specified percentage of the allowable oil or gas produced from the above described property, and that this authorization will be valid until further notice or until cancelled by the State of Arizona Oil & Gas Conservation Commission.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Supt. of the Humble Oil & Refining Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

Date: March 4, 1968 Signature: J. Roy Dorrrough

Date approved: 3-7-68  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: John Bannister  
Permit No. 421, 431, 447



cc: Minerals Supervisor, Navajo Tribe

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Operator's Certificate of Compliance & Authorization to  
Transport Oil or Gas from Lease  
File Two Copies  
Form No. 8

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Form approved.  
Budget Bureau No. 42-R356.5.

LAND OFFICE \_\_\_\_\_  
LEASE NUMBER 14-20-0603-8812  
UNIT \_\_\_\_\_

**LESSEE'S MONTHLY REPORT OF OPERATIONS**

State Arizona County Apache Field Dineh bi Keyah  
The following is a correct report of operations and production (including drilling and producing wells) for the month of February, 1968,  
Agent's address P. O. Box 120 Company Humble Oil & Refining Company  
Denver, Colorado 80201 Signed COPY (Original) J. ROY DORROUGH  
Phone 534-1251 Agent's title District Superintendent

SEC. AND 1/4 OF 1/4	TWP.	RANGE	WELL No.	DAYS PRODUCED	BARRELS OF OIL	GRAVITY	CU. FT. OF GAS (In thousands)	GALLONS OF GASOLINE RECOVERED	BARRELS OF WATER (If none, so state)	REMARKS (If drilling, depth; if shut down, cause; date and result of test for gasoline content of gas)
<b>NAVAJO TRACT 88</b>										
Sec. 25 SE SE	36N	29E	1	18	131					This production will not appear on the Oklahoma City Report for Well #2 & #3. Pump testing periodically.
Sec. 36 SE NE	36N	29E	3							Production will be reported by our Oklahoma City Office on same report as Well #2. Flow tested at rates from 34 to 364 BOPD & gas at estimated rate of 1100 MCFPD. Currently flowing and testing.
Sec. 25 SE NW	36N	29E	4							Perforated, acidized and fractured 4373-4420'. Recovered no oil and small amount of gas. Perforated, acidized and fractured 4286-4322'. Recovered no oil and small amount of gas.

cc: 2 - Arizona Oil & Gas Conservation Commission  
1 - Minerals Supervisor, Navajo Tribe

NOTE.—There were See Above runs or sales of oil; \_\_\_\_\_ M cu. ft. of gas sold;

\_\_\_\_\_ runs or sales of gasoline during the month. (Write "no" where applicable.)

NOTE.—Report on this form is required for each calendar month, regardless of the status of operations, and must be filed in duplicate with the supervisor by the 6th of the succeeding month, unless otherwise directed by the supervisor.

Harold Farris - Humboldt - Phone 2-22-68

88-3 (#443)

flowing 200 BOPD - not completed  
making 1000 MCF gas (non-flammable)  
paying trucking chgs of 32¢ per bbl  
" pipeline chg of 35¢ " "  
must keep cost (for trucks) 1800 per hr.

88-4 (#447)

will ~~not~~ ~~be~~ ~~performed~~ to 4200'  
perf. at 4280' to 4320' ~~will~~ ~~be~~ ~~performed~~  
1000 gal mud acid  
fracked 43,300 gal oil, 40,000 gal sand  
Swabbing 7 to 8 100' mud 2" tubing  
700 Bbls of Oil (frack) to recover

88-1 (#421)

making 5 to 7 BOPD  
will shut-in and wait on orders

Humble 1-151  
#1 Navajo 151

SUNDY NOTICES AND REPORTS ON WELLS

1. Name of Operator Humble Oil & Refining Company  
 2. OIL WELL  GAS WELL  OTHER  (Specify) \_\_\_\_\_  
 3. Well Name Navajo Tract 88 Well #4  
 Location SE NW (1980' FNL & 1980' FWL) of Section 25  
 Sec. 25 Twp. 36N Rge. 29E County Apache Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-0603-8812

5. Field or Pool Name Dineh Bi Keyah

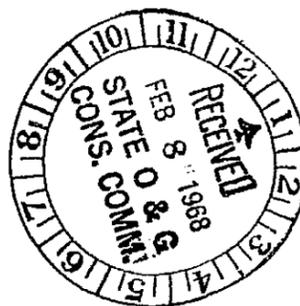
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	MONTHLY PROGRESS <input checked="" type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	DIRECTIONAL DRILL <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	PERFORATE CASING <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(OTHER) <input type="checkbox"/>	ABANDONMENT <input type="checkbox"/>

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

7. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Drilled to TD of 4500' - PBTD 4464'. No cores or DST's. Ran 140 jts. of 7" OD 20# J-55 casing. Set at 4500' and cemented with 155 sacks 50-50 Pozmix cement, 2% gel, 2% CaCl plus 25# Gilsonite per sack. Bumped plug and pressured to 1250#, held ok. Job complete 1-29-68. Released rotary rig on 1-29-68. Waiting on completion rig.



8. I hereby certify that the foregoing is true and correct.

Signed [Signature] Title \_\_\_\_\_ Date 2-7-68

Permit No. 447

STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 Sundry Notices and Reports On Wells  
 File Two Copies  
 Form No. 25

Form 9-331  
(May 1963)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN THIS MANNER  
(Other Instructions on reverse side)

Form approved.  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

14-20-0603-8812

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

-

8. FARM OR LEASE NAME

Navajo Tract 88

9. WELL NO.

4

10. FIELD AND POOL, OR WILDCAT

Dineh bi Keyah

11. SEC. T. R. M., OR BLK. AND SURVEY OR AREA

Sec. 25-36N-29E - G4SRM

14. PERMIT NO.

Arizona #447

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

8665' Ungraded Ground

12. COUNTY OR PARISH

Apache

13. STATE

Arizona

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	FULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Spud &amp; Surface Casing</u> <input checked="" type="checkbox"/>	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)\*

Spudded 1-9-68. Drilled 13-3/4" hole to 928'. Ran 29 jts. 9-5/8" GD 32# H-40 casing (916') set at 928'. Cemented with 900 sacks Class A cement plus 2% CaCl. Cement circulated okay, maximum pressure 900#. Job complete 1-11-68.

Contractor: Mesa Drillers  
P. O. Box 108  
Lubbock, Texas 79408



cc 2 - Arizona Oil & Gas Conservation Commission  
1 - Mr. Henry F. Pohlmann, Minerals Supervisor, Navajo Tribe

18. I hereby certify that the foregoing is true and correct

SIGNED J. Roy Darrrough TITLE Dist. Supt. DATE 1-16-68  
(This space for Federal or State office use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

447

\*See Instructions on Reverse Side

**APPLICATION FOR PERMIT TO DRILL OR RE-ENTER**

APPLICATION TO DRILL

RE-ENTER OLD WELL

**Humble Oil & Refining Company**  
NAME OF COMPANY OR OPERATOR

**P. O. Box 120,** **Denver,** **Colorado 80201**  
Address City State

**Will notify when selected.**  
Drilling Contractor

Address

DESCRIPTION OF WELL AND LEASE

Federal, State or Indian Lease Number, or if fee lease, name of lessor <b>Navajo Tract 88 - 14-20-0603-8812</b>	Well number <b>4</b>	Elevation (ground) <b>8665' Ungraded</b>
Nearest distance from proposed location to property or lease line: <b>1980</b> feet	Distance from proposed location to nearest drilling, completed or applied—for well on the same lease: <b>2640</b> feet	
Number of acres in lease: <b>2560</b>	Number of wells on lease, including this well, completed in or drilling to this reservoir: <b>Four</b>	
If lease, purchased with one or more wells drilled, from whom purchased:	Name	Address

Well location (give footage from section lines) <b>1980' FNL &amp; 1980' FWL</b>	Section—township—range or block and survey <b>Sec. 25-36N-29E - G&amp;SRM</b>	Dedication (Comply with Rule 105) <b>160 - NW<math>\frac{1}{4}</math></b>
---	--	--

Field and reservoir (if wildcat, so state) <b>Dineh bi Keyah - Hermosa</b>	County <b>Apache</b>
---	-------------------------

Distance, in miles, and direction from nearest town or post office  
**Appr. 40 miles SW of Shiprock, New Mexico**

Proposed depth: <b>4550'</b>	Rotary or cable tools <b>Rotary</b>	Approx. date work will start <b>1-20-68</b>
Bond Status <b>On File</b> Amount <b>Blanket</b>	Organization Report On file <input checked="" type="checkbox"/> Or attached	Filing Fee of \$25.00 Attached <b>Check No.</b>

Remarks: **Mud Program: 0-1000' - Native mud with sufficient properties to maintain hole for safe drilling. 1000'-TD - Low solids water base.**  
**Testing: No cores or DST's anticipated.**  
**Logs: IES & Gamma Ray/Sonic with Caliper.**  
**Stimulation: Fracture treat if necessary.**

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Dist. Supt.** of the **Humble Oil & Refining Company** (company) and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

*(Signature)*  
**J. Roy Dorrrough**  
Date **1-3-68**

Permit Number: **447**  
Approval Date: **1-4-68**  
Approved By: *John Bannister*

Notice: Before sending in this form be sure that you have given all information requested. Much unnecessary correspondence will thus be avoided.

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Application to Drill or Re-enter  
File Two Copies

RECEIVED  
JAN 4 1968  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

Form No. 3

**API 02-001-20069**

(Complete Reverse Side)

- Operator shall outline the dedicated acreage for both oil and gas wells on the plat.
- A registered professional engineer or land surveyor registered in the State of Arizona or approved by the Commission shall show on the plat the location of the well and certify this information in the space provided.
- All distances shown on the plat must be from the outer boundaries of the Section.
- Is the Operator the only owner in the dedicated acreage outlined on the plat below? YES XX NO \_\_\_\_\_
- If the answer to question four is "no," have the interests of all the owners been consolidated by communitization agreement or otherwise? YES \_\_\_\_\_ NO \_\_\_\_\_ If answer is "yes," Type of Consolidation \_\_\_\_\_
- If the answer to question four is "no," list all the owners and their respective interests below:

Owner	Land Description

**CERTIFICATION**

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Name \_\_\_\_\_

Position J. Roy Dorrough

Dist. Supt.

Company Humble Oil & Refining Co.

Date 1-3-68

I hereby certify that the well location shown on the plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed 11-15-67

Registered Professional Engineer and/or Land Surveyor Ernest V. Echohawk

**SEE ATTACHED PLAT**

Certificate No. \_\_\_\_\_

**PROPOSED CASING PROGRAM**

Size of Casing	Weight	Grade & Type	Top	Bottom	Cementing Depths	Sacks Cement
9-5/8"	32.30#	J-55	0	1000'	Circ. to surface.	
7"	20#	J-55	0	4550'	Sufficient to cover all pays.	
<u>Or Possibly</u> 5"	14#	J-55	0	4550'	Same.	

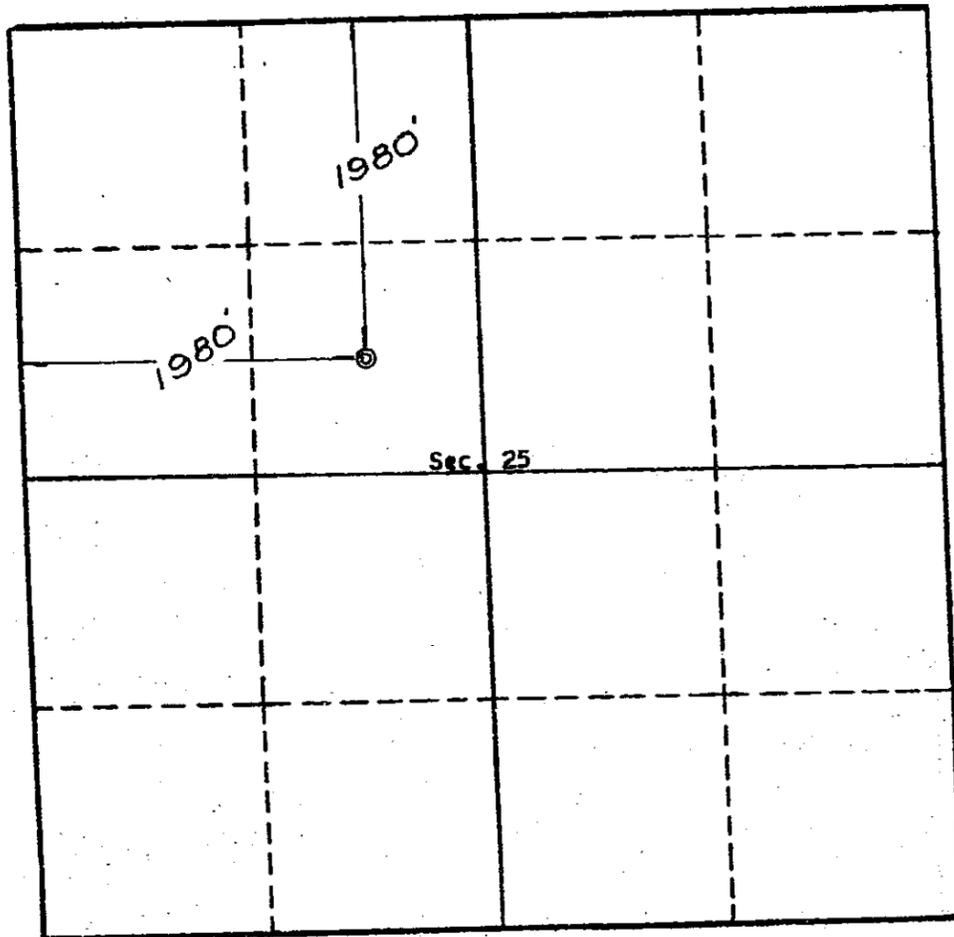
Company HUMBLE OIL & REFINING COMPANY

Well Name & No. ~~JB 75~~ NAVAJO TRACT 88 #4

Location 1980 feet from the North line and 1980 feet from the West line.

Sec. 25, T. 36 N., R. 29 E., G. & S. R. M., County Apache, Arizona

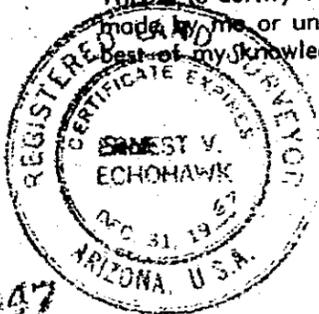
Ground Elevation 8665, ungraded ground.



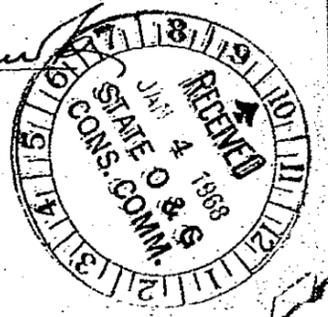
Scale, 1 inch = 1,000 feet

Surveyed November 15, 1967

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.



Ernest V. Echohawk  
Ernest V. Echohawk  
Registered Land Surveyor  
Arizona Registration No. 2311





# PERMIT TO DRILL

This constitutes the permission and authority from the  
OIL AND GAS CONSERVATION COMMISSION,  
STATE OF ARIZONA,

To: HUMBLE OIL & REFINING COMPANY  
(OPERATOR)

to drill a well to be known as

Humble #4-88 Navajo  
(WELL NAME)

located 1980' FNL and FWL (SE/4NW/4)

Section 25 Township 36N Range 29E, Apache County, Arizona.

The NW/4 of said  
Section, Township and Range is dedicated to this well.

Said well is to be drilled substantially as outlined in the attached Application and must be drilled  
in full compliance with all applicable laws, statutes, rules and regulations of the State of Arizona.

Issued this 4th day of January, 1968.

OIL AND GAS CONSERVATION COMMISSION

By John Bunnister  
EXECUTIVE SECRETARY

PERMIT N<sup>o</sup> 447

RECEIPT NO. 9533

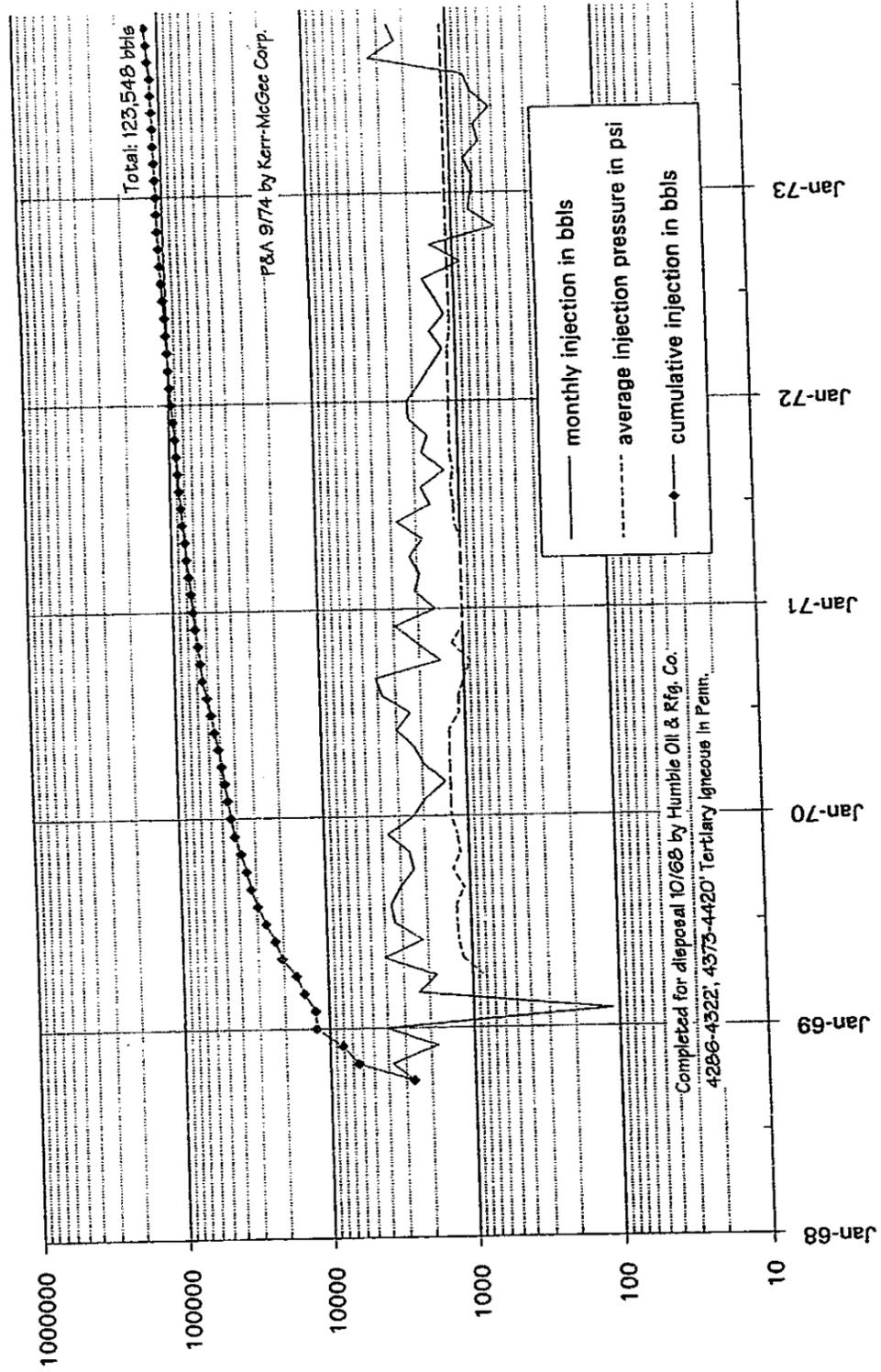
API02-001-20069

State of Arizona  
Oil & Gas Conservation Commission  
Permit to Drill

FORM NO. 27

"Forms-When to File" attached  
AG Opinion 7-18-67 "  
Order 24 (Case 26) "

WATER DISPOSAL AT 4 NAVAJO-88 (447), DINEH-BI-KEYAH FIELD, ARIZONA: 10/68 -- 11/73  
se nw 25-36n-29e, Apache County



MONTHLY WATER DISPOSAL AT 4 NAVAJO-88 (447), DINEH-BI-KEYAH FIELD, ARIZONA  
(per SLR audit of producer's injection reports 10/68 - 11/73)

DATE	inj bbls	ave psi	cum bbls	comment
Jan-68				
Feb-68				
Mar-68				
Apr-68				
May-68				
Jun-68				Humble Oil & Rfg. Co.
Jul-68				#4 Navajo-88 (permit447)
Aug-68				
Sep-68				
Oct-68	2639		2639	1st injection 10/11/68
Nov-68	3715		6354	4286'-4322' & 4373'-4420'
Dec-68	1794		8148	Tert. igneous in Penn. ls & sh
Jan-69	4058		12206	
Feb-69	110		12316	
Mar-69	2355		14671	
Apr-69	1777	850	16448	
May-69	4041	1160	20489	
Jun-69	2164	1220	22653	
Jul-69	3394	1250	26047	
Aug-69	3577	1250	29624	
Sep-69	3058	1100	32682	
Oct-69	2409	1300	35091	
Nov-69	2587	1150	37678	
Dec-69	3632	1200	41310	
Jan-70	2360	1300	43670	
Feb-70	1943	1300	45613	
Mar-70	1417	1300	47030	
Apr-70	1950	1300	48980	
May-70	2250	1300	51230	
Jun-70	3000	1300	54230	
Jul-70	2403	1100	56633	
Aug-70	3720	1100	60353	
Sep-70	4091	1000	64444	
Oct-70	1449	900	65893	
Nov-70	2051	1200	67944	
Dec-70	2950	1000	70894	
Jan-71	1541	1000	72435	
Feb-71	2100	1000	74535	
Mar-71	1929	1000	76464	
Apr-71	2250	1000	78714	
May-71	1816	1000	80530	
Jun-71	2733	1100	83263	
Jul-71	1601	1100	84864	
Aug-71	1834	1150	86698	
Sep-71	1264	1100	87962	
Oct-71	1785	1150	89747	

MONTHLY WATER DISPOSAL AT 4 NAVAJO-88 (447), DINEH-BI-KEYAH FIELD, ARIZONA  
(per SLR audit of producer's injection reports 10/68 - 11/73)

DATE	inj bbls	ave psi	cum bbls	comment
Nov-71	1623	1150	91370	
Dec-71	2192	1150	93562	
Jan-72	2211	1150	95773	
Feb-72	1795	1150	97568	
Mar-72	1500	1150	99068	
Apr-72	1250	1150	100318	
May-72	1500	1100	101818	
Jun-72	1200	1100	103018	
Jul-72	1397	1100	104415	
Aug-72	1635	1100	106050	
Sep-72	889	1100	106939	
Oct-72	1426	1100	108365	
Nov-72	500	1100	108865	
Dec-72	755	1100	109620	
Jan-73	726	1100	110346	Kerr-McGee new operator 1/73
Feb-73	706	1100	111052	
Mar-73	801	1100	111853	
Apr-73	628	1100	112481	
May-73	670	1100	113151	
Jun-73	520	1100	113671	
Jul-73	700	1100	114371	
Aug-73	775	1100	115146	
Sep-73	3518	1100	118664	
Oct-73	2296	1100	120960	
Nov-73	2588	1100	123548	Last injection
Dec-73				Well P&A 9/74 by Kerr-McGee

Humble No. 607386  
KM No. P687-73

FORM 5-5429  
AUG. 1961

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS

LEASE No. 40678  
CONTRACT No. 14-20-0603-8812

ASSIGNMENT OF MINING LEASE

WHEREAS, the Secretary of the Interior or his authorized representative has heretofore approved  
oil and gas mining lease, dated October 12, 194, entered into by and between Chairman, Navajo Tribal Council, lessor,  
and Humble Oil & Refining Company, lessee,

covering the following-described lands in the Navajo Tribal Indian Lands  
(Insert name of Reservation, Pueblo, Nation, etc., as needed)  
in the State of Arizona, County of Apache, to-wit:

All of Sections 25, 26, 35 and 36, Township 36 North, Range 29 East,  
G&ERM, Apache County, Arizona, containing 2560.00 acres, more or less.

Now, THEREFORE, for and in consideration of TEN DOLLARS (\$10.00) and other good  
and valuable consideration, the receipt of which is hereby acknowl-  
edged, the said Humble Oil & Refining Company

the owner of the above-described lease, hereby bargains, sells, transfers, assigns, and conveys  
all of its right, title, and interest in and to said lease,

subject to the approval of the Secretary of the Interior or his authorized representative to Kerr-McGee  
Corporation, Kerr-McGee Building, Oklahoma City, Oklahoma 73102

December 31, 1972 at 11:59 p. m., F. S. T., upon  
Said assignment to be effective from the date of approval hereby by the Secretary  
of the Interior or his authorized representative.

IN WITNESS WHEREOF, the said assignor has hereunto set its hand and seal, this 12  
day of December, 1972.

ATTEST:  
AJP  
Assistant Secretary

HUMBLE OIL & REFINING COMPANY  
By: [Signature]  
Vice President

447

ACKNOWLEDGMENT OF CORPORATIO

STATE OF Texas } ss:
COUNTY OF Harris }

Before me, a notary public, in and for said county and State on this 22 day of December, 1972, personally appeared H. L. Siegele Vice President and acknowledged to me that he executed the same as his free and voluntary act and deed, and as the free and voluntary act and deed of such corporation, for the uses and purposes therein set forth.

My commission expires June 1, 1973

Notary Public signature

ACKNOWLEDGMENT OF INDIVIDUAL 1, 1973

STATE OF } ss:
COUNTY OF }

Before me, a notary public, in and for said county and State, on this day of 19 personally appeared to me known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that executed the same as free and voluntary act and deed for the uses and purposes therein set forth.

My commission expires 19

Notary Public

ACCEPTANCE BY ASSIGNEE

The assignee in the above and foregoing assignment, made subject to the approval of the Secretary of the Interior, hereby accepts such assignment and agrees to fulfill all the obligations, conditions, and stipulations in said described indenture of lease, when assigned, and the rules and regulations of the Secretary of the Interior applicable thereto, and to furnish proper bond guaranteeing a faithful compliance with said lease and this agreement.

IN WITNESS WHEREOF, the said assignee has hereunto set its hand and seal this 29th day of December, 1972

ATTEST:

Assistant Secretary

ICRR-1033E CORPORATION

by J. G. Taylor Vice President - J. G. Taylor

CONSENT OF SURETY

The surety for on the bond accompanying the lease above described, hereby consents to the assignment and transfer of said lease as above made and agrees that said bond shall remain in force and effect covering obligations of assignee.

Dated at this day of 19

DEPARTMENT OF THE INTERIOR BUREAU OF INDIAN AFFAIRS

FEB 15 1973

APPROVED:

Area Director signature and stamp



**KERR-McGEE CORPORATION**

626 AMARILLO PETROLEUM BUILDING  
P. O. BOX 250 • AMARILLO, TEXAS 79105

PHONE  
806 376-7256

October 21, 1974

Oil and Gas Conservation Commission  
State of Arizona  
4515 North 7th Ave.  
Phoenix, Arizona 85013

ATTENTION: Mr. W.E. Allen

Re: Form 10, Plugging Record  
Navajo Tract 88 #4 (Humble)  
Dineh-Bi-Keyah Field  
1980' FNL and 1980' FWL  
Sec. 25 - T36N - R29E  
Apache County, Arizona

Dear Mr. Allen:

Enclosed please find one (1) copy of Form 10, Plugging Record, for  
the above captioned well with the additional information you requested.

Very truly yours,

KERR-McGEE CORPORATION

*James C. Brothers, dt*

James C. Brothers  
Associate Engineer  
Southwestern District

JCB:dt  
Attch.

cc: Navajo Tribe Mineral Department  
Window Rock, Arizona 86515

RECEIVED

OCT 23 1974

O & G CONS. COMM.

*117*

October 10, 1974

Mr. James C. Brothers  
Associate Engineer  
Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Plugging Record  
Navajo Tract 88#4 (Humble)  
Sec 25-T36N-R29E  
Apache County  
Our File No. 447

Dear Mr. Brothers:

We are returning to you Form 10, Plugging Record, for completion. Your submitted form fails to indicate whether or not a top plug was set in this well, neither does it indicate that the hole between 4250' and the top plug was filled with heavy mud. Also, it does not indicate that the required dry hole marker was permanently installed.

Please complete this form and return for our records.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Enc.



**KERR-McGEE CORPORATION**

626 AMARILLO PETROLEUM BUILDING  
P. O. BOX 250 • AMARILLO, TEXAS 79105

October 3, 1974

PHONE  
806 376-7256

Arizona Oil & Gas Conservation Commission  
4515 North Seventh Ave.  
Phoenix, Arizona 85013

ATTENTION: Mr. John Bannister

Re: Plugging Record  
Navajo Tract 88#4  
Dineh-Bi-Keyan Field  
1980' FNL & 1980' FWL  
Sec.25 - T36N - R29E  
Apache County, Arizona

Gentlemen:

Enclosed please find one (1) copy of Form No.10, Plugging Record,  
for the above captioned well.

Very Truly yours,

KERR-McGEE CORPORATION

*James C. Brothers*

James C. Brothers  
Associate Engineer

JCB:dt  
Attch.

cc: Navajo Tribe Mineral Department  
Window Rock, Arizona 86515 w/attch.

447

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OCT 10 1974

O & G CORP. COMM.

WR



**KERR-McGEE CORPORATION**

626 AMARILLO PETROLEUM BUILDING  
P. O. BOX 250 - AMARILLO, TEXAS 79105

August 8, 1974

PHONE  
806 376-7256

Arizona Oil and Gas Conservation Commission  
4515 North Seventh Ave.  
Phoenix, Arizona 85013

ATTENTION: Mr. John Bannister

Re: Application to Abandon and Plug  
Navajo Tract 88#4  
Dineh-Bi-Keyah Field  
1980' FNL and 1980' FWL  
Sec. 25-T36N-R29E  
Apache County, Arizona

Gentlemen:

Enclosed please find two (2) copies of Notice of Intention to Abandon  
and Plug above captioned well. Your approval of this work is requested.

Very truly yours,

KERR-McGEE CORPORATION

*James C. Brothers*

James C. Brothers  
Associate Engineer

JCB:dt  
Attachments

cc: Navajo Tribe Mineral Department  
Window Rock, Arizona 86515

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O & G CONS. Comm.

447

W.A.



**KERR-McGEE CORPORATION**

626 AMARILLO PETROLEUM BUILDING  
P. O. BOX 250 • AMARILLO, TEXAS 79105

March 18, 1974

PHONE  
806 376-7256

Mr. W.E. Allen, Director  
Enforcement Section  
State of Arizona  
Oil and Gas Conservation Commission  
4515 North 7th Ave.  
Phoenix, Arizona 85013

Re: Kerr-McGee Corporation  
Navajo Tract 88 No.4 SWD Well  
SE NW of Sec.25, T36N,R29E  
Dineh-Bi-Keyah Field  
Apache County, Arizona

Dear Mr. Allen:

Your assumption is correct that Kerr-McGee is disposing of all the produced water from the Navajo Tract 88 Lease in the Navajo E No. 1. Also, all of the Navajo Tract 138 Lease produced water is being disposed of in the Navajo E No.1.

Yours truly,

KERR-McGEE CORPORATION

C.J. Breeden  
District Production Superintendent

CJB:dt

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MAR 20 1974

O & G CONS. COMM.

file 447 & 441

March 11, 1974

Mr. Joe Breeden  
Kerr-McBee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Humble Navajo #88-4  
SE/NW Sec 25-T36N-R29E  
Apache County, File #447

Dear Mr. Breeden:

We have noticed that according to your Water Injection Report that there has been no water injected in this well since the month of November 1973. We are assuming that you now dispose of all of your water through your injection well, Navajo E-1.

Will you please advise if this assumption is correct and if it is not correct, what is the disposition of the water producing old leases.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/r1b

February 19, 1974

Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Water Injection Report  
Humble Navajo #88-4  
SE/NW Sec 25-T36N-R29E  
Apache County, File #447

Gentlemen:

As of this date we have not received your Water Injection Report for the months of December and January.

We would appreciate receiving these reports at your earliest convenience.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

Mrs. R. L. Brandt  
Secretary to W. E. Allen

/rlb

*Mailed 2<sup>nd</sup> Request for Dec Inj. Report 3-4-74.  
Called 3-8-74 regarding Water Injection Report  
for December.*

WR



**KERR-MCGEE CORPORATION**  
KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

B. G. TAYLOR, VICE PRESIDENT  
OIL AND GAS PRODUCTION DIVISION

February 23, 1973

Arizona Oil & Gas Conservation  
Commission  
4515 North 7th Avenue  
Phoenix, Arizona 85013

Attention Mr. John Bannister

As advised in our letter of January 2, 1973, we are enclosing for your file one xerox copy each of approved Assignment of Oil and Gas leases on Contract Nos. 14-20-0603-8812 and 14-20-0603-8879. The Bureau of Indian Affairs furnished us a carbon copy of each of these Assignments retaining the originals for their files.

*B. G. Taylor*

B. G. Taylor

BGT/bs

Enclosures

RECEIVED

MAR 03 1973

O & G CONS. COMM.

497



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS  
Navajo Area Office  
Window Rock, Arizona 86515

IN REPLY REFER TO:  
ARPM/Minerals

February 20, 1973

Kerr-McGee Corporation  
Kerr-McGee Building  
Oklahoma City, Oklahoma 73102

Attention: B. G. Taylor

Dear Mr. Taylor:

Enclosed are your copies of Assignment of Oil and Gas  
leases on Contract Nos. 14-20-0603-8812 and 14-20-0603-  
8879 which are approved effective February 15, 1973.  
We have retained the original copies for our files.

Sincerely yours,

*Thomas J. Fink*  
Realty Officer

Enclosures

RECEIVED

MAR 02 1973

O & G CONS. COMM.

447



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA  
4515 NORTH 7TH AVE.  
PHOENIX, ARIZONA 85013  
PHONE: (602) 271-5161

January 8, 1973

Mr. C. D. Williams  
District Manager  
Kerr-McGee Corporation  
P. O. Box 250  
Amarillo, Texas 79105

Re: Humble Oil & Refining Navajo Tract 88 and Tract 138  
Dineh-bi-Keyah Field, Apache County

Dear Mr. Williams:

In my telephone conversation with Mr. Breeden concerning the transferring of ownership on the above referenced leases from Humble to Kerr-McGee, we advised Mr. Breeden that we would need a copy of the instruments transferring ownership from Humble to Kerr-McGee or some other acceptable expression. Since talking with Mr. Breeden, we have notified him by letter dated January 2, 1973, that we would also need an affidavit from your bonding company accepting the responsibility of all the unplugged holes formerly belonging to Humble that your Company is now operating. We would appreciate this information as quickly as possible.

Attached are the approved copies of the Operator's Certificate of Compliance, Form 8.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Enc.

447



**KERR-MCGEE CORPORATION**

626 AMARILLO PETROLEUM BUILDING  
P. O. BOX 250 • AMARILLO, TEXAS 79105

January 4, 1973

PHONE  
806 376-7256

Oil & Gas Conservation Commission  
State of Arizona  
4515 N. 7th Avenue  
Phoenix, Arizona 85013

Attention John Bannister,  
Executive Secretary

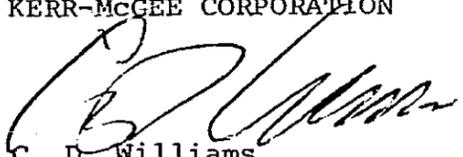
Dear Mr. Bannister:

As per the telephone conversation between Mr. Bill Allen with the Arizona Commission and Mr. Joe Breeden of Kerr-McGee's Amarillo office, Kerr-McGee Corporation took over operation of wells on Navajo Tract 138 and Navajo Tract 88, Dineh-bi-Keyah Field, Apache County, Arizona, from Humble Oil and Refining Company, effective January 1, 1973. Enclosed please find two copies of Form #8, Operator's Certificate of Compliance and Authorization to Transport Oil or Gas From Lease for Navajo Tract 138 and two copies for Navajo Tract 88.

Also enclosed for your files and records are two copies of U.S.G.S. Form 9-331, Sundry Notice and Reports on Wells, reporting the change in Operator for each of the wells on the two tracts. If additional information is needed at this time, please advise.

Yours very truly,

KERR-MCGEE CORPORATION

  
C. D. Williams  
District Manager  
Southwestern District  
Production Department

mw

cc: Navajo Tribe  
Minerals Dept.

RECEIVED

JAN 06 1973

O & G CONS. COMM.

447



B. G. TAYLOR, VICE PRESIDENT  
OIL AND GAS PRODUCTION DIVISION

January 2, 1973

Arizona Oil & Gas Conservation  
Commission  
4515 North 7th Avenue  
Phoenix, Arizona 85013

Attention Mr. John Bannister

This will confirm verbal advice by our Mr. C. J. Breeden to Mr. Bill Allen with the Arizona Oil & Gas Conservation Commission December 28, 1972, that Humble Oil & Refining Company has assigned to Kerr-McGee Corporation Lease #40678, Contract #14-20-0603-8812, covering Sections 25, 26, 35 and 36-T36N-R29E, Apache County, Arizona, and Lease #40915, Contract #14-20-0603-8876, covering Section 6-T35N-R30E, Apache County, Arizona, both being in the Navajo Tribal Indian Lands. Such Assignments effective 11:59 p.m., EST, December 31, 1972.

Fully executed copy of the Assignments will be furnished you when approved by the Bureau of Indian Affairs, Department of Interior. Necessary Arizona Oil & Gas Conservation Commission lease operating forms will be filed with you by our Amarillo, Texas office.

A handwritten signature in cursive script that reads 'B. G. Taylor'.

B. G. Taylor, Vice President  
Oil and Gas Production Division

BGT/bs

RECEIVED

JAN 03 1973

O & G CONS. COMM.

447

Arizona Oil & Gas  
Conservation Commission  
January 2, 1973  
Page -2-

cc: Kerr-McGee Pipeline Corporation  
Oklahoma City, Oklahoma

Mr. P. K. Hurlbut  
Navajo Tribe  
Window Rock, Arizona 86515

Humble Oil & Refining Company  
P. O. Box 1600  
Midland, Texas 79701

RECEIVED  
JAN 03 1973  
O & G CON. COMM.

Please send to Kerr-McGee Corporation, P. O. Box  
250, Amarillo, Texas 79105, five hundred (500) copies  
of Form 9-329A (December 1948).

Sincerely,

*W. Morris*  
W. Morris  
District Clerk

WM/mm

RECEIVED

SEP 13 1972

O & G CONS. COMM.

September 14, 1972

Mr. J. Roy Dorrrough  
Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Re: Water Injection Report, Form 14

Dear Mr. Dorrrough:

We have revised our Water Injection Report (Form 14) and are enclosing a supply of these revised forms for your use. We hope that you will find this form to be somewhat more convenient than the old form.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Encs.

January 7, 1972

Mr. J. Roy Dorrrough  
Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Re: Water Injection Report  
Humble Navajo #88-4  
SE/NW Section 25-T36N-R29E  
Apache County  
Our File #447

Dear Mr. Dorrrough:

As of this date we have not received the injection report for the  
Month of November and December. May we have this report at your  
earliest convenience.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

447

October 29, 1968

Mr. Ewell N. Walsh  
Petroleum Club Plaza Building  
P. O. Box 254  
Farmington, New Mexico 87401

Re: Humble #4-88 Navajo  
T36N, R29E, G & SRM  
Sec. 25: SE/4 NW/4  
Apache County, Arizona  
Permit #447

AAA Fishing Tool #E2 Navajo  
T41N, R28E, G & SRM  
Sec. 9: SW/4 NE/4  
Apache County, Arizona  
Permit #444

Dear Mr. Walsh:

Enclosed are the "Sundry Notices and Reports On Wells" pertaining to the captioned wells. Take note each indicates the date water first injected into these salt water disposal wells.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf  
Enclosures

October 7, 1968

Mr. Ewell N. Walsh  
Petroleum Club Plaza Building  
P. O. Box 254  
Farmington, New Mexico 87401

Re: Humble #4-88 Navajo  
T36N, R29E, G & SRM  
Sec. 25: SE/4 NW/4  
Apache County, Arizona  
Permit #447  
(Salt Water Disposal Well)

Dear Mr. Walsh:

Enclosed are Lessee's Monthly Report of Operations for July and August, Well Completion or Recompletion Report, Sundry Notices and Reports on Wells, Water Analysis dated 1-5-68, and a history of Water Production in the Dineh Bi Keyah Field.

We hope this material will be of use to you.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf  
Enclosures

447

August 26, 1968

Mr. J. Roy Dorrough  
Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Re: Humble #4-88 Navajo  
T36N, R29E, G & SRM  
Sec. 25: SE/4 NW/4  
Apache County, Arizona  
Permit #447

Dear Mr. Dorrough:

Enclosed is photocopy of our form No. 25. The operations  
proposed in item seven were approved this date.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf  
Enc.

447

August 23, 1968

Mr. J. Roy Dorrough  
Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Re: Humble #4-88 Navajo  
T36N, R29E, G & SRM  
Sec. 25: SE/4 NW/4  
Apache County, Arizona  
Permit #447

Dear Mr. Dorrough:

We received your Sundry Report dated August 20 this date. Please furnish us with a copy of our form No. 4, Well Completion Or Recompletion Report And Well Log. We enclose this form for your convenience.

*Recd 8/29*

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf  
Enc.

447

August 15, 1968

Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Attention: Mr. J. Roy Dorrough

Re: Humble #4-88 Navajo  
T36N, R29E, G & SRM  
Sec. 25: SE/4 NW/4  
Apache County, Arizona  
Permit #447

Gentlemen:

Sundry report for July, 1968, shows reported well to be temporarily abandoned.

However, on July 10, 1968, your application was approved making this a salt water injection well.

*recd 8/23*  
Sundry report of your operations to complete this well as a salt water injection well and well completion report should be filed.

Reports of injection should be submitted monthly. For your convenience in this monthly reporting a supply of Form 14 is enclosed.

Yours truly,

John Bannister  
Executive Secretary

JB:jf  
Enc.

447

July 16, 1968

Humble Oil & Refining Company  
P.O. Box 120  
Denver, Colorado 80201

Attention: Mr. William S. Livingston

Gentlemen:

Attached are approved copies of your applications to dispose of salt water by injection into the #4-88 Navajo and the #E-2 Navajo wells. We will of course need to have the sundry reports of operations to convert and well completion reports on both these wells.

Re ports of injection should be submitted monthly. A supply of Form 14 is enclosed for your convenience in this reporting.

As you were previously advised concerning the #E-2 Navajo well, we doo need evidence of change of ownership (operator), liability, etc. In addition, it is noted that our files do not contain a copy of the analysis of the water to be injected. Will you please forward this also.

Very truly yours,

John Bannister  
Executive Secretary  
mr  
enc

447

**EWELL N. WALSH**  
PETROLEUM ENGINEER CONSULTANT  
PETROLEUM CLUB PLAZA BLDG.  
P. O. BOX 254  
FARMINGTON, NEW MEXICO  
87401

July 11, 1968

TELEPHONE BUS. 325-8203  
RES. - 325-6455

Mr. John Bannister  
Executive Secretary  
Oil & Gas Conservation Commission  
State of Arizona  
1624 W. Adams, Room 202  
Phoenix, Arizona 85007

Ref: Humble Oil Company water  
disposal wells No. 4-88  
and No. E-2

Dear Mr. Bannister:

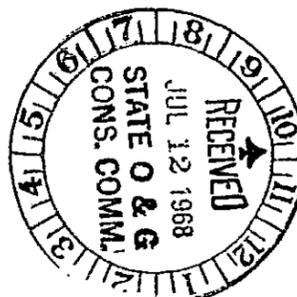
After reviewing the applicant's request for the above-referred-to matter, the exhibits presented with the request, your files and the information presented at the meeting of July 10, 1968, I would recommend that both of the requests be approved.

Very truly yours,



Ewell N. Walsh, P. E.  
Petroleum Engineer Consultant

ENW:lt



447

<u>Name</u>	<u>Company</u>	<u>Location</u>
Serge Eaton	Pan American	Farmington
Charles Boye	Pan American	Denver
JOHN I. FISHER	KERR-McGEE	OKLA CITY
(P.D.) "Bud" Williams	KERR-McGEE	Farmington
Wilbert C. Boye	NAVAJO TRIBE	WINDOW ROCK, Ariz
John A. Anderson	U.S.G.S.	Reswell, N. Mex
P.T. Mc Grath	U.S.G.S.	Farmington
M. L. SEELINGER		Farmington
H. Jarvis	Humble Oil Ref Co	Denver
Max E. Deneff	"	"
J. Roy Dorrington	"	"
JOHN F. RICHARDSON	"	"
JIM SCURLOCK	ARIZ OIL & GAS COMMISSION	PHOENIX
Ewell N. Walsh	PETROLEUM ENGINEER CONSULTANT	FARMINGTON
John Bannister	ARIZ OIL & GAS COMMISSION	PHOENIX

Meeting 10 AM  
 7-10-68  
 Pan Am - Rm 20.2  
 Farmington, N. Mex

July 2, 1968

Mr. Ewell N. Walsh  
Consulting Petroleum Engineer  
P.O. Box 254  
Farmington, New Mexico 97401

Dear Mr. Walsh:

I am transmitting our file on the Humble #4-88 Navajo well, SE NW 25-36N-29E, Apache County, Arizona, our file 447, together with a request from Humble that said well be converted into a salt water disposal well.

I am further enclosing our file, including the exhibits, in our Case 29, Kerr-McGee's salt water injection hearing.

As I advised you by telephone today, there will be a meeting on July 10, 1968 at 10:00 a.m. in Room 202, Petroleum Center Building, with Humble, Kerr-McGee, Pan Am, U.S.G.S., the Navajos, and this Commission. You are requested to sit as a consultant to this Commission at this meeting. Should you need any further information, please advise.

We are, further, enclosing another application from Humble to make the AAA Fishing Tool #E2 Navajo well, SW NE 9-41N-28E, our file 444, into a salt water disposal well.

While the AAA Fishing Tool well is not the subject of the call to meeting, I would appreciate it if you would review this file and should there be any apparent objections we could discuss this with Humble following the meeting.

There has been no "official" objection to date as to either of these disposal requests, although as I previously advised, U.S.G.S. has expressed concern about the Humble #4-88 Navajo.

Upon completion of your work, would you please submit a bill to this Commission.

Very truly yours, /

John Bannister  
Executive Secretary  
mr  
enc

*Certified No  
231634  
2.73 postage  
30¢  
10¢ net pay*

July 2, 1968

Ewell N. Walsh

Enclosures:

Humble Oil & Refining Company

Application to dispose of salt water by injection, #4-88 Navajo well  
all correspondence, exhibits, water analysis (I.E. log as exhibit 2)  
File 447, complete, and Borehole Compensated Sonic-GR log  
Case 29, Kerr-McGee salt water injection hearing, complete file,  
transcript, and all exhibits

Application to dispose of salt water by injection, AAA Fishing Tool #2 Navajo  
all correspondence, exhibits (I.E. log as exhibit 2)  
File 444, complete, and Perforating Depth Control log  
File 65, complete, and radioactivity and contact caliper logs

447

<b>INSTRUCTIONS TO DELIVERING EMPLOYEE</b>	
<input type="checkbox"/> Deliver <i>ONLY</i> to addressee	<input type="checkbox"/> Show address where delivered
<i>(Additional charges required for these services)</i>	
<b>RECEIPT</b>	
Received the numbered article described on other side.	
SIGNATURE OR NAME OF ADDRESSEE (must always be filled in)	
<i>James C. Vandiver</i>	
SIGNATURE OF ADDRESSEE'S AGENT, IF ANY	
DATE DELIVERED	SHOW WHERE DELIVERED (only if requested)
<i>7/3/68</i>	

CS-16-7144-3-7 800



# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

POST OFFICE BOX 120

WILLIAM S. LIVINGSTON  
ATTORNEY

June 20, 1968

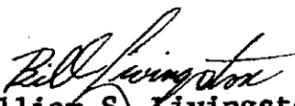
Mr. John Bannister  
Executive Secretary  
Arizona Oil & Gas Conservation Commission  
1624 West Adams  
Phoenix, Arizona 85007

Dear John:

Thank you very much for your telephone call noting that we had failed to include with our recent application to inject water, a copy of a letter showing notification to Kerr-McGee. We remedy that inadvertence by enclosing a copy of our letter to Kerr-McGee herewith.

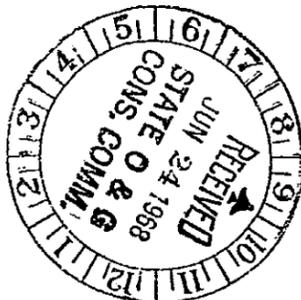
We also enclose for your noting and file a copy of a typical analysis of the waters which will be injected.

Cordially yours,

  
William S. Livingston

WSL:jf

Enclosures



June 14, 1968

Kerr-McGee Corporation  
Kerr-McGee Building  
Oklahoma City, Oklahoma 73102

Gentlemen:

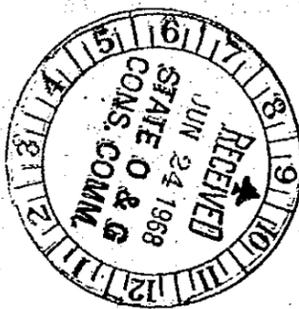
For your information and file, we attach a copy of our Application To Dispose of Salt Water By Injection Into a Porous Formation which has this date been filed with the Arizona Oil & Gas Conservation Commission.

Pursuant to discussions between our representative and your Mr. John Fisher, we understand that your company will not object to, but will be in favor of, our application. If this understanding is correct, we ask that you either furnish to the Arizona Commission written evidence of your support of our application, or that you take no action in order that our proposal may be processed by the Commission after the ten-day waiting period prescribed.

Very truly yours,

William S. Livingston

WSL:m  
Enclosure





# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

POST OFFICE BOX 120

WILLIAM S. LIVINGSTON  
ATTORNEY

July 3, 1968

Arizona Oil & Gas Conservation Commission  
1624 West Adams  
Phoenix, Arizona 85007

Attention: Mr. John Bannister, Executive Secretary

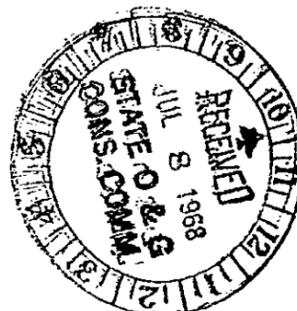
Gentlemen:

Under date of June 14, 1968 we mailed to the Commission our Application To Dispose of Salt Water By Injection Into a Porous Formation. Attached thereto was an Exhibit 4 illustrating the formation tops and showing the cementing, casing and tubing as well as the perforations.

We were embarrassed to learn that there were clerical errors made in the preparation of Exhibit 4. These were the circumstances: During the drilling of the well, some drilling mud was lost into the Pennsylvanian limestones and shales in the interval between 4290' and 4320' subsurface. There was no show of hydrocarbon in that particular interval, but to test adequately the section, the casing was perforated from depths of 4286' to 4322'. By inadvertence, the perforated interval last mentioned was labeled Upper Igneous Sill upon our Exhibit 4 as originally submitted.

The Igneous Sill in the well proposed for injection, the Navajo Tract 88 No. 4, extends from depths from 4384' to 4421'. The attached corrected Exhibit marked "Revised 7-2-68" so indicates. Another clerical error which is also corrected on the attached revised Exhibit was the showing of the top of the Lower Igneous Sill at 4371'. Re-examination shows the correct top to be 4384'.

# 447



Arizona Oil & Gas Conservation Commission  
July 3, 1968  
Page Two

These matters can be more fully discussed, should you  
so desire, at the meeting you suggested at 10:00 A.M. on  
July 10, 1968 in Farmington, New Mexico.

Very truly yours,

*William S. Livingston*  
William S. Livingston

WSL:jf

Attachments

cc: w/att. Mr. John A. Anderson  
United States Geological Survey  
Drawer 1857  
Roswell, New Mexico

Mr. Perry K. Hurlbut  
Minerals Supervisor  
The Navajo Tribe  
P. O. Box 146  
Window Rock, Arizona 86515

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# 447

June 21, 1968

Minerals Department  
The Navajo Tribe  
Window Rock, Arizona 86515

Attention: Mr. P.K. Hurlbut

Re: Humble Oil & Refining Company  
Application to Inject Salt Water  
Humble #4-88 Navajo  
SE NW 25-36N-29E Apache County, Arizona

Gentlemen:

Captioned application was filed with this Commission on June 17, 1968. Humble proposes that water be injected into the upper igneous sill through perforations from 4286' to 4322' and into the lower igneous sill through perforations from 4373' to 4420'.

U.S. Geological Survey has indicated to this Commission some concern about this request. Consequently, this Commission is calling a meeting of U.S. Geological Survey, Humble Oil & Refining Company, Kerr-McGee Corporation, and Pan American Petroleum Corporation.

We invite your representative to participate in this meeting.

The meeting will be Wednesday, July 10, 1968, at 10:00 a.m., in Room 202 Petroleum Center Building, 501 Airport Dr. Farmington, New Mexico.

Very truly yours,

John Bannister  
Executive Secretary  
mr

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June 21, 1968

Humble Oil & Refining Company  
P.O. Box 120  
Denver, Colorado 80201

Attention: Mr. William S. Livingston

Kerr-McGee Corporation  
Kerr-McGee Building  
Oklahoma City, Oklahoma 73102

Attention: Mr. Charles H. Miller

Pan American Petroleum Corporation  
501 Airport Dr.  
Farmington, New Mexico 87401

Attention: Mr. George W. Eaton, Jr.

Re: Humble Oil & Refining Company  
Application to Inject Salt Water  
Humble #4-88 Navajo  
SE NW 25-36N-29E Apache County

Gentlemen:

Captioned application was filed with this Commission on June 17, 1968. Humble proposes that water be injected into the upper igneous sill through perforations from 4286' to 4322' and into the lower igneous sill through perforations from 4373' to 4420'.

U.S. Geological Survey has indicated to this Commission some concern about this request. Consequently, this Commission is calling a meeting of the above addressees and U.S. Geological Survey.

This meeting will be held Wednesday, July 10, 1968, at 10:00 a.m., in Room 202 Petroleum Center Building, 501 Airport Dr., Farmington, New Mexico. Your cooperation will be greatly appreciated.

Very truly yours,

John Bannister  
Executive Secretary  
mr

447  
C.D. Williams, Kerr-McGee, Farmington  
cc: W.S.G.S., Roswell, John Anderson  
Farmington, Phil McGrath

June 21, 1968

Mr. J. Roy Dorrrough  
Humble Oil & Refining Company  
P. O. Box 120  
Denver, Colorado 80201

Dear Mr. Dorrrough:

Your letter of May 31, 1968 requests that certain gas wells be exempt from Capacity Testing in compliance with Rule 401. Our records do not reflect that any of these have been completed gas wells. Therefore, we will need the information indicated on the attached sheet.

We do have on file the application that the Humble 488 be considered as a salt water injection well.

As soon as we receive clarification on the above points, consideration will be given to your request.

Very truly yours,

John Bannister  
Executive Secretary  
jr

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# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

POST OFFICE BOX 120

WILLIAM S. LIVINGSTON  
ATTORNEY

June 14, 1968

Arizona Oil & Gas Conservation Commission  
1624 West Adams  
Phoenix, Arizona 85007

Attention: Mr. John Bannister, Executive Secretary

Gentlemen:

We enclose herewith in two copies our Application To Dispose of Salt Water By Injection Into a Porous Formation. We also attach a copy of the electric log of the well upon which is indicated the fresh water zone.

In accordance with the instructions of the Commission, we also enclose a copy of our letter notifying Kerr-McGee Corporation, the only operator within one-half mile of the proposed injection well other than the applicant, and copies of similar letters to the Minerals Supervisor of the Navajo Tribe, the surface owner, and to the United States Geological Survey.

Would you please hold our application for 10 days in accordance with the Commission's practice and then process the same in the absence of a protest or request for a hearing.

Sincerely yours,

*William S. Livingston*  
William S. Livingston

WSL:m  
Enclosures



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# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

POST OFFICE BOX 120

WILLIAM S. LIVINGSTON  
ATTORNEY

June 14, 1968

Mr. Perry K. Hurlbut  
Minerals Supervisor  
The Navajo Tribe  
P. O. Box 146  
Window Rock, Arizona 86515

Dear Mr. Hurlbut:

For your information and file, we enclose a copy of our Application To Dispose of Salt Water By Injection Into a Porous Formation as filed with the Arizona Oil & Gas Conservation Commission, together with a copy of the electric log filed with the application, upon which has been noted the fresh water zone in the field.

The procedures of the State Commission in Arizona require that you see that the Tribe, the surface owner, be notified of our application and also that we request a waiver from the Tribe of the right to protest or ask for a hearing. Since we believe that you will agree that the injection proposed is in accordance with sound oil field practices and is to the advantage of the Tribe, we request that you indicate to the Commission, attention Mr. John Bannister, Executive Secretary, that the Tribe has no objection to the water injection as set forth in the application.

Thank you for your cooperation.

Sincerely yours,

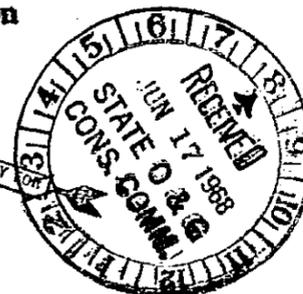
COPY Original Signed William S. Livingston

William S. Livingston

WSL:m

Enclosures

cc: Arizona Oil & Gas Conservation Commission



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**HUMBLE OIL & REFINING COMPANY**

DENVER, COLORADO 80201

POST OFFICE BOX 120

WILLIAM S. LIVINGSTON  
ATTORNEY

**June 13, 1968**

**Mr. John A. Anderson  
United States Geological Survey  
Drawer 1857  
Roswell, New Mexico**

**Dear Mr. Anderson:**

Attached for your information and file is a copy of our Application To Dispose of Salt Water By Injection Into a Porous Formation, involving Navajo Tribal lands, which we have this date filed with the Arizona Oil & Gas Conservation Commission. We are also enclosing a copy of the electric log which was required by the Commission's procedures on which has been noted the fresh water zone.

**Sincerely yours,**

**COPY Original Signed William S. Livingston**

**William S. Livingston**

**WSL:m  
Enclosures**

**cc: Arizona Oil & Gas Conservation Commission**



Humble Oil & Refining

CH

Well	Completion Report	Samples		
# 1 - 140 Permit 393	due			
# 2 - 138 Permit 400	due			
# 7 - 87 Permit 401	due			
# 1 - 88 Permit 421	due			
# 4 - 88 Permit 447	due	* due		Apply to convert to salt water injec
# 1 - 146 Permit 452	due	due		



# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

May 31, 1968

POST OFFICE BOX 120

Oil & Gas Conservation Commission  
State of Arizona  
1624 West Adams-Suite 202  
Phoenix, Arizona 85007

Attn: Mr. John Bannister

Dear Sir:

In compliance with Rule 401 and Directive D-2-67, we hereby request exemption from Capacity Tests of Gas Wells on the following shut-in gas wells during the month of June, 1968.

- 461 #1 Navajo Tract 87  
SE NE Section 23-36N-29E, Apache County
- 471 #1 Navajo Tract 88  
SE SE Section 25-36N-29E, Apache County
- 447 #4 Navajo Tract 88  
SE NW Section 25-36N-29E, Apache County
- 400 #2 Navajo Tract 138  
SE SE Section 6-35N-30E, Apache County
- 393 #1 Navajo Tract 140  
SE NE Section 8-35N-30E, Apache County
- 452 #1 Navajo Tract 146  
SE SW Section 15-35N-30E, Apache County

Your approval of these exemptions will be appreciated.

Very truly yours,

  
J. Roy Dorrough





# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

March 14, 1968

POST OFFICE BOX 120

Oil and Gas Conservation Commission,  
State of Arizona  
Suite 202, 1624 West Adams  
Phoenix, Arizona 85007

Attn: Mr. John Bannister

Gentlemen:

In accordance with Rule 202.B of the Arizona Oil and Gas Conservation Commission Rules and Regulations, we request permission for temporary abandonment of the following well:

Navajo Tract 88 #4 - Permit #447  
SE NE Section 8-35N-30E, Apache County, Arizona

Operations on this well have been suspended and the well is temporarily abandoned. We would like to hold it in this status for an indefinite period pending future disposition, such as water disposal, workover, secondary recovery, or deeper drilling possibilities.

Very truly yours,

  
J. Roy Dorrrough  
District Superintendent

JRD:mg

cc: U.S.G.S., Farmington  
Minerals Supv., Navajo Tribe

**APPROVED**

By John Bannister  
Date 3-22-68

OIL & GAS CONSERVATION COMMISSION  
STATE OF ARIZONA  
1624 WEST ADAMS - SUITE 202  
TELEPHONE: 271-5161  
PHOENIX, ARIZONA, 85007



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# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

January 3, 1968

POST OFFICE BOX 120

Oil & Gas Conservation Commission,  
State of Arizona  
1624 West Adams - Suite 202  
Phoenix, Arizona 85007

Attn: Mr. John Bannister

Gentlemen:

By this letter we request the Oil and Gas Conservation Commission,  
State of Arizona, to keep all information on the following well confidential:

Navajo Tract 88 No. 4  
SE NW Section 25-36N-29E  
Apache County, Arizona

*in field  
#4 of  
order  
(294)*

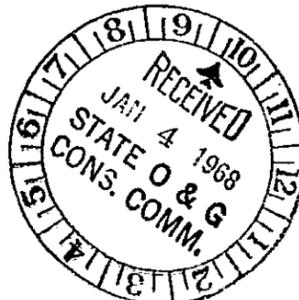
All reports on this well will be clearly marked "CONFIDENTIAL."  
Your cooperation will be greatly appreciated.

If any additional information is needed, please notify us and  
it will be furnished.

Very truly yours,

J. Roy Dorrrough  
District Superintendent

cc: United States Geological Survey  
Navajo Tribe - Mr. Henry F. Pohlmann



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*1-5-67: mailed copy of Atty Gen'l  
opinion dated 07-18-67  
copy of order 24 Case 76*