

HUMBLE OIL/NAVAJO  
NE SE 4-T41N-R28E APACHE CO. 28

P-W

COUNTY Apache <sup>field:</sup> AREA E. Boundary Butte LEASE NO. 14-20-603-413

WELL NAME Humble Oil & Refinery Co. Navajo (Merrion & Bayless Operators) <sup>Oil & Gas Corp. (10-1-81)</sup>

LOCATION NE/SE/4 SEC 4 TWP 41N RANGE 28E FOOTAGE 990 FEL & 1980 FSL  
 ELEV GR 5373' KB SPUD DATE 7-1-55 STATUS Shut-in TOTAL DEPTH 6382'  
 COMP. DATE 11-3-55

CONTRACTOR Durham Drilling Co. (when originally drilled) PBTD 4830'

CASING SIZE	DEPTH	CEMENT	LINER SIZE & DEPTH	DRILLED BY ROTARY
10 3/4 O.D.	893'	650 SKS	NA	<input checked="" type="checkbox"/>
5 1/2"	5670'	610 SKS		<input type="checkbox"/>
				DRILLED BY CABLE TOOL <input type="checkbox"/>
				PRODUCTIVE RESERVOIR <input type="checkbox"/>
				INITIAL PRODUCTION <u>47.41 BOD</u>
				<u>87,344 CECD</u>

FORMATION TOPS	DEPTHS	SOURCE		REMARKS
		L.L.	E.L.	
Permain	2860	x		For various members within the listed age groups and Am Strat log
Penn.	3840			
Miss.	5510			
Devonian	5815			

ELECTRIC LOGS	PERFORATED INTERVALS	PROD. INTERVALS	SAMPLE LOG
Micro Electric	4596-4647-4662-66	4806-16	SAMPLE DESCRP. <input checked="" type="checkbox"/>
	4682-4712, 4782-4808	original complet	SAMPLE NO. <input type="checkbox"/>
	4808-16, 5584-5772		CORE ANALYSIS <input checked="" type="checkbox"/>
			DSTs <u>12</u>

REMARKS This well is now owned & operated by Merrion & Bayless. It is presently a shut-in gas well/w very heavy water production \* Purchased by Central Resources. APP. TO PLUG   
 PLUGGING REP.   
 COMP. REPORT

WATER WELL ACCEPTED BY \_\_\_\_\_

BOND CO. U.S.F. & G. filed with P/N 518 BOND NO. 010130-972-74 <sup>91372</sup>  
 (BIA) Frontier Gas Co. DATE 12/1/57  
 BOND AMT. \$ 25,000 CANCELLED 6/9/77 ORGANIZATION REPORT   
 FILING RECEIPT \_\_\_\_\_ LOC. PLAT  WELL BOOK  PLAT BOOK   
 API NO. \_\_\_\_\_ DATE ISSUED 5-18-55 DEDICATION All

PERMIT NUMBER 28

(over)

DRILL STEM TEST

NO.	FROM	TO	RESULTS
			Total of twelve DSTS taken on this hole - all but test #8 had some shows of oil or gas. See file.

CORE RECORD

NO.	FROM	TO	RECOVERY	REMARKS
	4610	6338		Cut 16 cores - see file

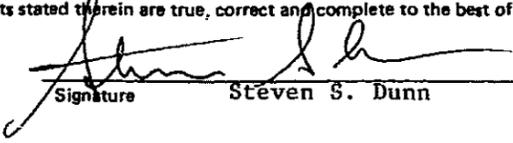
REMEDIAL HISTORY

DATE STARTED - COMPLETED	WORK PERFORMED	NEW PERFORATIONS
1-12-69	1-29-69	Tested various zones using bridge plug & packer. Left BP 4744 & Packer 4588. Prod. Interval 4596-4712
	1970	Pulled tbg w/packer - removed BP to expose perf. 4782-4816
		All perf. exposed above 4830 PBD

ADDITIONAL INFORMATION

This well originally drilled and completed by Humble as an oil well. Later converted to gas well by Humble. Sold to Merrion & Bayless effective 8-1-70.

Distributions: ( Well File; 1-Navajo Tribe

WELL COMPLETION OR RECOMPLETION REPORT AND WELL LOG								
DESIGNATE TYPE OF COMPLETION:								
New Well <input type="checkbox"/>	Work-Over <input type="checkbox"/>	Deepen <input checked="" type="checkbox"/>	Plug Back <input type="checkbox"/>	Same Reservoir <input type="checkbox"/>	Different Reservoir <input checked="" type="checkbox"/>	Oil <input checked="" type="checkbox"/>	Gas <input type="checkbox"/>	Dry <input type="checkbox"/>
DESCRIPTION OF WELL AND LEASE								
Operator Merrion Oil & Gas Corporation				Address P.O. Box 840, Farmington, NM 87499				
Federal, State or Indian Lease Number or name of lessor if free lease NOOC-14-20-603-413 Navajo				Well Number 1		Field & Reservoir Mississippian Leadville (East Boundary Butte)		
Location NE/SE, 1980' FSL & 990' FEL				County Apache				
Sec. TWP-Range or Block & Survey Section 4, T41N, R28E								
Date spudded 7/01/55	Date total depth reached 9/20/55	Date completed, ready to produce 1/04/93	Elevation (DF, RKB, RT or Gr.) 5374' RKB	Elevation of casing hd. flange feet		feet		
Total depth 6382'	P.B.T.D. 5622'	Single, dual or triple completion? Single		If this is a dual or triple completion, furnish separate report for each completion.				
Producing interval (s) for this completion 5570' - 5582'			Rotary tools used (interval) 0-TD		Cable tools used (interval) --			
Was this well directionally drilled? No	Was directional survey made? No	Was copy of directional survey filed? No		Date filed --				
Type of electrical or other logs run (check logs filed with the commission) --				Date filed --				
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	12-1/4"	10-3/4"	32.75#	909'	650	Circulate		
Production	8-3/4"	5-1/2"	14# & 15.5#	5670'	610	None		
TUBING RECORD				LINER RECORD				
Size 2-7/8 in.	Depth set ft.	Packer set at 5550 ft.	Size in.	Top ft.	Bottom ft.	Sacks cement	Screen (ft)	
PERFORATION RECORD				ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD				
Number per ft.	Size & type	Depth Interval		Am't. & kind of material used		Depth Interval		
2 JSPF	0.50"	5570' - 5582'						
INITIAL PRODUCTION								
Date of first production 12/29/93		Producing method (indicate if flowing, gas lift or pumping--if pumping, show size & type of pump.) Flowing						
Date of test 1/1/93	Hrs. tested 24	Choke size 3/4"	Oil prod. during test 0 bbls.	Gas prod. during test 1800 MCF	Water prod. during test 0 bbls.	Oil gravity *API (Corr)		
Tubing pressure 1250	Casing pressure 0	Cal'ed rate of Production per 24 hrs.	Oil 0 bbls.	Gas 1800 MCF	Water 0 bbls.	Gas-oil ratio		
Disposition of gas (state whether vented, used for fuel or sold): Vented during test, 1st delivery January 14, 1993								
CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the <u>Operations Manager</u> of the <u>Merrion Oil &amp; Gas Corporation</u> (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.								
6/28/94 Date		 Signature <u>Steven S. Dunn</u>						
Permit No. <u>28</u>								
STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION Well Completion or Recompletion Report and Well Log Form No. 4 File One Copy								

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE		
<b>NAVAJO #1</b>		
Federal, State or Indian Lease Number, or lessor's name if fee lease Navajo 14-20-603-413	Field East Boundary Butte	Reservoir Paradox
Survey or Sec-Twp-Rge Section 4, T41N, R28E	County Apache	State Arizona
Operator Merrion Oil & Gas Corporation		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P. O. Box 840	City Farmington	State New Mexico 87499
Above named operator authorizes (name of transporter) Giant Refining Company		
Transporter's street address P. O. Box 12999	City Scottsdale	State Arizona 85267
Field address Red Mesa, Arizona		
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 Western Gas Resources	% transported 100	Product transported Gas
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. Effective 9/01/95 -- change of gatherer from Meridian Oil, Inc.		

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 Operation Manager of the Merrion Oil & Gas Corporation (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.

9/15/95  
Date

Signature

Steven S. Dunn

Date approved: 9-18-95

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rainey

Permit No. 28



<p>STATE OF ARIZONA OIL &amp; GAS CONSERVATION COMMISSION Operator's Certificate of Compliance &amp; Authorization to Transport Oil or Gas from Lease File Two Copies Form No. 1</p>
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Distribution: 0+4 (BLM); Crystal; 1-Earleen; Bob Baress; Navajo Tribe; *AOAGC*

Form 1162-2  
(June 1993)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT—" for such proposals

5. Lease Designation and Serial No.

14-20-603-413

6. If Indian, Allottee or Tribe Name

Navajo Tribe

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

1. Type of Well:  
 G. Well  Gas Well  Other

2. Name of Operator:  
Merrion Oil & Gas Corporation

3. Address and Telephone No.  
P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1980' FSL & 990' FEL (NESE)  
Section 4, T41N, R28E

8. Well Name and No.  
Navajo No. 1 *P/N 28*

9. API Well No.  
02-001-05199

10. Field and Pool, or Exploratory Area  
East Boundary Butte

11. County or Parish, State  
Apache County,  
Arizona

CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Install gas line</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)

3/14/94 Move in equipment. Commence removing existing fiberglass and plastic lines. Uncovered 3", ready to cover up.

3/15/94 Four-Four Pipeline Company completed building of ROW. Open ditch from Navajo No. 3 (SWD) to road intersect to Navajo #1.

3/16/94 Began welding on 6" gas line. Open ditch from Navajo #1 to mainline tie-in. Open ditch from Navajo #3-11 to mainline for fuel gas line.

3/17/94 2000' of 6" steel welded out. 3000' of ditch open, ditch open across Navajo #2 location.

3/19-21/94 Shut down for weekend.

\*\*\*CONTINUED OTHER SIDE\*\*\*

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

Signed: *[Signature]* Title: Operations Manager

Date: 4/14/94

(This space for Federal or State Agency use)

Approved by: \_\_\_\_\_ Title: \_\_\_\_\_

Date: \_\_\_\_\_

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side



- 3/21/94 6" steel line welded out, trenching complete, padding complete. Fabrication work on dog legs and tie-ins begun.
- 3/22/94 Doped and wrapped 6" steel and lay pipe in ditch. 2" and 3" plastic strung along ROW and welded together. Fabrication work on dog legs and tie-ins continue.
- 3/23/94 Dog leg fabrication completed. 6" tie-ins continuing.
- 3/24/94 All dog legs and pig launchers installed. 50% ROW padded and backfilled. All road, ditch and wash crossing backfilled.
- 3/25-27/94 Shut down for weekend.
- 3/28/94 Tie-ins complete, all dog legs and valve settings complete. Tested 2" and 3" plastic to 100 psi for 2 hours each. Tested good on both.
- 3/29/94 Tested 6" - .188 wall steel pipe to 750 psi for 8 hours using lease gas from Navajo #1 - tested good.
- 3/30/94 Tested 3" steel line from Navajo #2 battery to WGP custody transfer point (CPD). Tested to 750 psi for 8 hours. Tested good. Project 100% complete.
- 3/31/94 1st delivered at 12:30 PM. SI 1500#/0. Serviced and started new Pesco separator dehydrator, combination unit and turned well on. Started selling 2900 MCF/d, tubing 1225 psi, no fluid, 2" plate - 1000# spring line pressure 385 psi.

Distribution: 0-4 (BLM); 1-Well File; 1-ystal; 1-Earleen, 1-Arizona Oil & Gas Conservatio; 1-Navajo Tribe

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir  
Use "APPLICATION FOR PERMIT-" for such proposals

5. Lease Designation and Serial No.	14-20-603-413
6. If Indian, Allottee or Tribe Name	Navajo Tribal
7. If Unit or CA, Agreement Designation	Permit 28
8. Well Name and No.	Navajo No. 1
9. API Well No.	02-001-05199
10. Field and Pool, or Exploratory Area	East Boundary Butte
11. County or Parish, State	Apache County, Arizona

**SUBMIT IN TRIPLICATE**

1. Type of Well	<input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other
2. Name of Operator	MERRION OIL & GAS CORPORATION
3. Address and Telephone No.	P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)	1980' FSL & 990' FEL (NESE) Section 4, T41N, R28E

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	
TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment <input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion <input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back <input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair <input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Altering Casing <input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other <u>See below</u> <input type="checkbox"/> Dispose Water

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

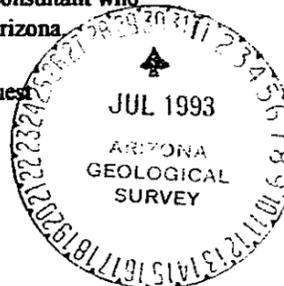
13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

By sundry notice dated January 29, 1993, Merrion Oil & Gas requested BLM's approval for a lease extension under the Navajo No. 1 well through the end of July, 1993. The extension was requested in order to allow Merrion time to receive a permit from the Navajo Tribe to install a gas sales line without risking loss of lease due to non-production.

While Merrion realizes the BLM cannot extend the lease, only the BIA can do that, we feel it is vital you understand that Merrion is seeking approval for the permit with all the due diligence we can muster. In fact, we have hired a consultant who specializes in Navajo permitting to walk this application through the quagmire of red tape in Window Rock, Arizona.

Unfortunately, despite his efforts we are still waiting on the permit to receive final approval and, therefore request an extension of time through December, 1993 to get the project done.

Direct any questions to me at (505) 327-9801.



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

Signed: Steven S. Dunn Title Operations Manager Date 7/28/93

(This space for Federal or State office use)  
Approved by \_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_  
Conditions of approval, if any: \_\_\_\_\_

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See instruction on Reverse Side

Distribution: O+4 (BLM); 1-Well File

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED  
APR 12 1993

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS  
Do not use this form for proposals to drill or to deepen or reentry to a different reservoir  
Use "APPLICATION FOR PERMIT" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Designation and Serial No. 14-20-603-413
2. Name of Operator MERRION OIL & GAS CORPORATION	6. If Indian, Allottee or Tribe Name Navajo Tribal
3. Address and Telephone No. P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801	7. If Unit or CA, Agreement Designation P/N 28
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1980' FSL & 990' FEL Section 4, T41N, R28E (NESE)	8. Well Name and No. Navajo No. 1
12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA	9. API Well No. 02-001-05199
	10. Field and Pool, or Exploratory Area East Boundary Butte
	11. County or Parish, State Apache County, Arizona

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <u>Install Pipelines</u>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

13. 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.)

Merrion Oil & Gas Corporation requests your approval to install the following:

- 3" plastic line buried, approx 5000' ± to be used to carry produced water from the Navajo No. 2 in Section 3, T41N, R28E, Apache County, AZ, to our injection facility in Section 4. O.P. 0-75 PSI  
TEST PR. 200 PSI
- 2" plastic line buried, approx 5000' ± will be placed in same ditch as above and will be used to transport fuel gas between the producing wells and the injection facility. O.P. 5-10
- 6" steel line buried, approx 6000' ± will be placed in same ditch as above, except 1000' of line will tie-in the Navajo No. 1 in Section 4 for gas sales. (See attached schematic.) O.P. 150-600 PSI  
TEST PR. 900 PSI

We have applied to the BIA and The Navajo Tribe for approval of this project and they require that the BLM approve the project prior to issuing their final approval. Therefore, please provide an approved copy to the BIA, Attn: Mary Lujan, Shiprock Agency, Branch of Real Estate Services, P. O. Box 966, Shiprock, NM 87420. Please contact Steve Dunn with any questions.

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

Signed: Steven S. Dunn Title: Operations Manager Date: 3/9/93

(This space for Federal or State official use)

Approved by: [Signature] Title: Acting Br. Chief LCR&EP Date: APR - 7 1993

Conditions of approval, if any: **SEE ATTACHED FOR CONDITIONS OF APPROVAL**

**APPROVED**  
**DISTRICT MANAGER**

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

# MERRION OIL & GAS CORP. EAST BOUNDARY BUTTE PROPOSED FLOW LINES

APACHE COUNTY, ARIZONA

(NOT TO SCALE)

G.F. SHARPE

DRAFTING: S.R.V.

DATE: 1-27-93

AZ OIL & GAS  
CONSERVATION COMMISSION

JUN 3 1994

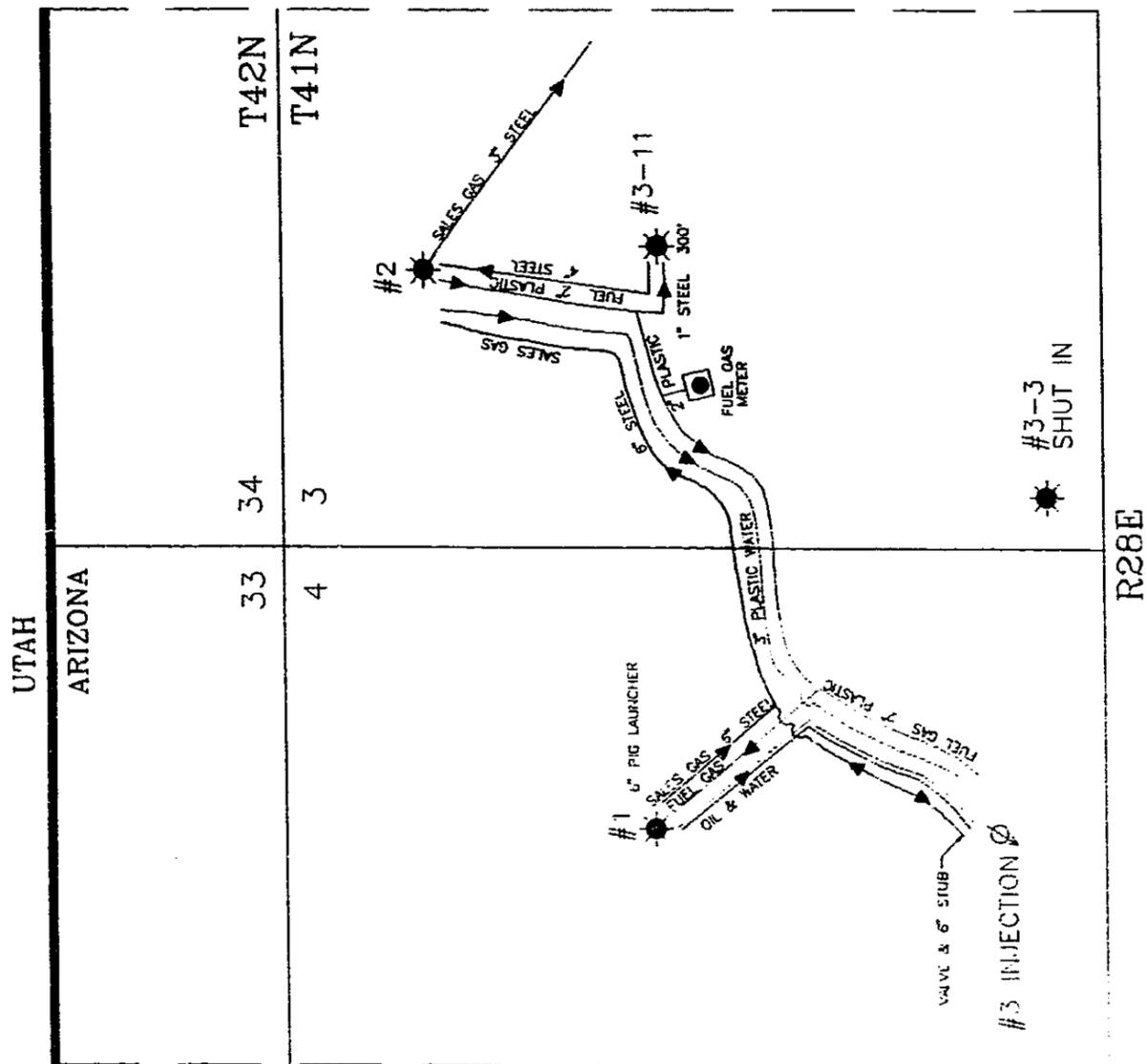


**NEW LINE**

5000' 3" PLASTIC WATER  
6000' 3" STEEL  
3300' 2" PLASTIC  
300' 1" STEEL

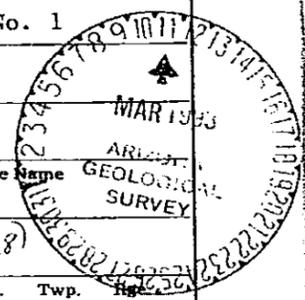
**LEGEND**

— TOTAL PRODUCTION  
— OIL  
— WATER  
— FUEL GAS  
— SALES GAS



**ARIZONA OIL AND GAS CONSERVATION COMMISSION**  
**MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL**

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 1/4/93	Well Name Navajo No. 1	
Company Merrion Oil & Gas Corporation		Connection Western Gas resources		Permit No. 28
Pool East Boundary Butte		Formation leadville		Unit
Completion Date 1/4/93	Total Depth 6382'	Plug Back TD 5634'	Elevation 5363'	Farm or Lease Name Navajo
Csg. Size 5-1/2"	Wt. 15.5	d	Set At 5670'	Perforations: From To
Tbg. Size 2-7/8"	Wt.	d	Set At 5550'	Perforations: From 5570' To 5582'
Type Well — Single — Bradenhead — G.G. or G.O. Multiple Single			Packer Set At 5550'	County Apache
Producing Thru Tubing	Reservoir Temp. °F 120° @ 5570'	Mean Annual Temp. °F 60°	Baro. Pres. — P <sub>a</sub> 12.1	State Arizona
I. 5550'	H. 5550'	Gg. .825	% CO <sub>2</sub> 11.2	% N <sub>2</sub> 35.2
			% He 4.4	Prover Meter Run 2"
Taps				
FLOW DATA		TUBING DATA		CASING DATA
NO.	Prover Line Size	X	Choke Orifice Size	Press. p.s.i.g.
				Diff. h <sub>w</sub>
				Temp. °F
				Press. p.s.i.g.
				Temp. °F
				Bottomhole Press.
				Duration of Flow
SI				1500
1.	2"	1.5	360	5.1
2.	2"	1.5	366	6.8
3.	2"	1.5	384	8.9
4.	2"	1.5	422	11.0
5.				
RATE OF FLOW CALCULATIONS				
NO.	Coefficient (24-Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>
				Gravity Factor F <sub>g</sub>
				Super Compress. Factor, F <sub>pv</sub>
				Rate of Flow Q, Mcfd
1.	36.97			
2.	36.97			
3.	36.97			
4.	36.97			
5.				
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z
				Gas Liquid Hydrocarbon Ratio
				A.P.I. Gravity of Liquid Hydrocarbons
				Specific Gravity Separator Gas
				Specific Gravity Flowing Fluid
				Critical Pressure
				Critical Temperature
	P <sub>c</sub> 1805	P <sub>c</sub> <sup>2</sup> 3285		
NO.	P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>
1.				337
2.				519
3.				806
4.				1205
5.				
				(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 6.33$
				(2) $\frac{P_c^2}{P_c^2 - P_w^2} = 4.38$
				AOF = Q $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4950$
Absolute Open Flow 4950 Mcfd @ 15.025 f Angle of Slope e Slope, n .80				
Remarks:				



CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the **Engineer** of the **Merrion Oil & Gas Corporation** 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 3/8/93 Signature [Signature]

**STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION**  
 Multipoint and One Point Back Pressure Tests for Gas Well  
 Form No. 18 (File two copies)

**ARIZONA OIL AND GAS CONSERVATION COMMISSION**  
**MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL**

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special			Test Date 1/4/93		Well Name Navajo No. 1						
Company Merrion Oil & Gas Corporation			Connection Western Gas resources		Permit No. 28						
Pool East Boundary Butte			Formation leadville		Unit						
Completion Date 1/4/93		Total Depth 6382'	Plug Back TD 5634'	Elevation 5363'	Farm or Lease Name Navajo						
Csg. Size 5-1/2"	Wt. 15.5	d	Set At 5670'	Perforations: From                      To		Well No. 1 (P/W 28)					
Tbg. Size 2-7/8"	Wt.	d	Set At 5550'	Perforations: From 5570'              To 5582'		Sec. Twp. Rge. NE SE 4    41N    28E					
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single			Packer Set At 5550'		County Apache						
Producing Thru Tubing		Reservoir Temp. °F 120° @ 5570'	Mean Annual Temp. °F 60°	Baro. Pres. - P <sub>a</sub> 12.1		State Arizona					
L 5550'	H 5550'	Gg. .825	% CO <sub>2</sub> 11.2	% N <sub>2</sub> 35.2	% He 4.4	Prover    Meter Run    Taps 2"					
<b>FLOW DATA</b>			<b>TUBING DATA</b>		<b>CASING DATA</b>						
NO.	Prover Line Size	X	Choke Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Bottomhole Press. p.s.i.g.	Temp. °F	Duration of Flow
Sl							1500		1805	120°	72
1.	2"		1.5	360	5.1		1415		1709		1.5
2.	2"		1.5	366	6.8		1340		1655		1.5
3.	2"		1.5	384	8.9		1300		1566		1.5
4.	2"		1.5	422	11.0		1150		1433		1.5
5.											
<b>RATE OF FLOW CALCULATIONS</b>											
NO.	Coefficient (24-Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor. F <sub>pv</sub>	Rate of Flow Q, Mcfd				
1.	36.97						333				
2.	36.97						1131				
3.	36.97						1510				
4.	36.97						2180				
5.											
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio    Dry gas		Mcf/bbl.				
1.					A.P.I Gravity of Liquid Hydrocarbons    Dry gas		Deg.				
2.					Specific Gravity Separator Gas    .825						
3.					Specific Gravity Flowing Fluid    .825						
4.					Critical Pressure                      p.s.i.a.		p.s.i.a.				
5.					Critical Temperature                      R		R				
	P <sub>c</sub> 1805	P <sub>c</sub> <sup>2</sup> 3285			P <sub>c</sub> <sup>2</sup>						
NO.	P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	(1) $\frac{P_c^2}{P_c^2 - P_w^2} = 6.33$	(2) $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4.38$					
1.				337							
2.				519							
3.				806							
4.				1205	AOF=Q	$\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 4950$					
5.											
Absolute Open Flow		4950		Mcf/d @ 15.025' Angle of Slope		Slope. n		.80			
Remarks:											

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Engineer of the Merrion Oil & Gas Corporation 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.

3/8/93

*M.A. Sh...*

MAR 11 1993

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION  
 Multipoint and One Point Back Pressure Tests for Gas Well  
 Form No. 18 (File two copies)

Distribution: O+4 (BLM-Farmington); 1-Well File; 1-Arizona Oil & Gas; 1-Navajo Tribe; 1-(Pam-Land)

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir  
Use "APPLICATION FOR PERMIT" for such proposals

FORM APPROVED

Budget Bureau No. 1004-0135  
Expires: March 31, 1993

5. Lease Designation and Serial No.

14-20-603-413

6. If Indian, Allottee or Tribe Name

Navajo Tribal

7. If Unit or CA, Agreement Designation

Permit 28

8. Well Name and No.

Navajo No. 1

9. API Well No.

02-001-05199

10. Field and Pool, or Exploratory Area

East Boundary Butte

11. County or Parish, State

Apache, Arizona

SUBMIT IN TRIPLICATE

1. Type of Well

Oil Well  Gas Well  Other

2. Name of Operator

MERRION OIL & GAS CORPORATION

3. Address and Telephone No.

P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1980' FSL & 990' FEL  
Section 4, T41N, R28E (NESE)

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

Notice of Intent  
 Subsequent Report  
 Final Abandonment Notice

Abandonment  
 Recompletion  
 Plugging Back  
 Casing Repair  
 Altering Casing  
 Other

Change of Plans  
 New Construction  
 Non-Routine Fracturing  
 Water Shut-Off  
 Conversion to Injection  
 Dispose Water

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

13. 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.)

The subject well was recently completed in the Leadville formation and is shut-in waiting on facilities. We have received approval from the BLM and the Navajo Tribe extending the lease without having to produce the subject well for 4 months from the completion of the workover (testing completed January 5, 1993). This was to allow for the time necessary to install a gas line and facilities. Unfortunately, we failed to include in our application to the BLM and to the Navajo Tribe a small section of line on the Navajo No. 1 lease we previously didn't feel we would need. We are in the process of doing the survey, arch survey, EA, and applications for that segment of line. However, the application and approval process alone may take over 4 months. Therefore, we need approval to extend the lease through the end of July, at which time we should have everything approved, installed, and on line. Please contact Pam Mason (505) 327-9801 with any questions.

*BIA approval is required for the lease extension*

FEB 11 1993

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

Signed George F. Sharpe  
George F. Sharpe

Title Reservoir Engineer

Date 1/29/93

(This space for Federal or State office use)

ACCEPTED FOR RECORD

Approved by \_\_\_\_\_

Title \_\_\_\_\_

Date FEB 09 1993

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See Instruction on Reverse Side  
OPERATOR

Distribution: O+4 (BLM-Farmington); 1-Well File; 1-Arizona Oil & Gas; 1-Navajo Tribe; 1-(Pam-Land)

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir  
Use "APPLICATION FOR PERMIT-" for such proposals

5. Lease Designation and Serial No.  
**14-20-603-413**

6. If Indian, Allottee or Tribe Name  
**Navajo Tribal**

7. If Unit or CA, Agreement Designation

8. Well Name and No. *PIN 28*  
**Navajo No. 1**

9. API Well No.  
**02-001-05199**

10. Field and Pool, or Exploratory Area  
**East Boundary Butte**

11. County or Parish, State  
**Apache, Arizona**

SUBMIT IN TRIPLICATE

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
**MERRION OIL & GAS CORPORATION**

3. Address and Telephone No.  
**P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**1980' FSL & 990' FEL  
Section 4, T41N, R28E (NESE)**

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)

The subject well was recently completed in the Leadville formation and is shut-in waiting on facilities. We have received approval from the BLM and the Navajo Tribe extending the lease without having to produce the subject well for 4 months from the completion of the workover (testing completed January 5, 1993). This was to allow for the time necessary to install a gas line and facilities. Unfortunately, we failed to include in our application to the BLM and to the Navajo Tribe a small section of line on the Navajo No. 1 lease we previously didn't feel we would need. We are in the process of doing the survey, arch survey, EA, and applications for that segment of line. However, the application and approval process alone may take over 4 months. Therefore, we need approval to extend the lease through the end of July, at which time we should have everything approved, installed, and on line. Please contact Pam Mason (505) 327-9801 with any questions.

FEB 1 1993

14. I hereby certify that the foregoing is true and correct  
Signed *George F. Sharpe*  
George F. Sharpe

Title **Reservoir Engineer** Date **1/29/93**

(This space for Federal or State office use)

Approved by \_\_\_\_\_  
Conditions of approval, if any:

Title \_\_\_\_\_ Date \_\_\_\_\_

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See Instruction on Reverse Side

28

Distribution: O+4 (BLM-Farmington); 1-Well File; 1-Arizona Oil & Gas; 1-Navajo Tribe; 1-(Pam-Land)

Form 3160-5  
(June 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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Use "APPLICATION FOR PERMIT-" for such proposals

5. Lease Designation and Serial No.  
**14-20-603-413**

6. If Indian, Allottee or Tribe Name  
**Navajo Tribal**

7. If Unit or CA, Agreement Designation

8. Well Name and No.  
**Navajo No. 1**

9. API Well No.  
**02-001-05199**

10. Field and Pool, or Exploratory Area  
**East Boundary Butte**

11. County or Parish, State  
**Apache, Arizona**

SUBMIT IN TRIPLICATE

1. Type of Well  
 Oil Well  Gas Well  Other

2. Name of Operator  
**MERRION OIL & GAS CORPORATION**

3. Address and Telephone No.  
**P. O. Box 840, Farmington, New Mexico 87499 (505) 327-9801**

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  
**1980' FSL & 990' FEL  
Section 4, T41N, R28E (NESE)**

12 CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input checked="" type="checkbox"/> Other <b>Workover</b>
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

FEB 1 1993

13 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.)

Workover: November 5, 1992 to January 5, 1993

Squeeze Ismay/Desert Creek perms 4596'-4712' with 150 sx CI H (1.19 cu.ft./sx, 15.6#/gal 32 bbls). Drill out and test csg to 500# - OK. Drill out CIBP @ 4746'. Swab Akah perms 4782'-4816'. Recover 112 bbls wtr with trace of oil. Squeeze Akah with 25 sx H cement (1.19 cu.ft./sx). Drill out and test. No test. Resqueeze w/20 sx H. Drill out cmt. Drill out CIBP @ 4832'. Drill out cmt to CIBP @ 5550'. Press test to 500#. Lost 300# in 3 mins. Test for leak with RBP and pkr. Ismay/Desert Creek/Akah leaking. Resqueeze Ismay/Desert Creek/Akah with 50 sx H. Drill out Ismay/Desert Creek and test. No test. Breakdown with 250 gal 15% HCl. Resqueeze with 50 sx H. Drill out Desert Creek/Ismay. Swab test. Minimal fluid recovered. Drill out Akah. Swab test. Minimal fluid entry. Drill out CIBP @ 5550'. Clean out to 5622' PBDT. RIH with 5-1/2" pkr on 2-7/8" lbg. Set pkr @ 5550'. Pump pkr fluid on backside. Swab in Leadville perms 5570'-5582'. Flow test well for 3 days at = 1660 MCFD, 0 bbls oil, 0 bbls wtr, at 1245# tubing press. Shut in well for facility installation.

FEB 1 1993

14 I hereby certify that the foregoing is true and correct

Signed George F. Sharpe  
George F. Sharpe

Title Reservoir Engineer Date 1/29/93

(This space for Federal or State office use)

Approved by \_\_\_\_\_  
Conditions of approval, if any:

Title \_\_\_\_\_ Date \_\_\_\_\_

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\*See Instruction on Reverse Side

28

32 x 1

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

Navajo #1		
Federal, State or Indian Lease Number, or lessor's name if fee lease Navajo 14-20-603-413	Field East Boundary Butte	Reservoir Paradox
Survey or Sec-Twp-Rge Section 4, T41N, R28E	County Apache	State Arizona
Operator Merrion Oil & Gas Corporation		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P. O. Box 840	City Farmington	State New Mexico 87499
Above named operator authorizes (name of transporter) Meridian Oil, Inc.		
Transporter's street address P. O. Box 4289	City Farmington	State New Mexico 87499
Field address Red Mesa, Arizona		
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 Western Gas Resources	% transported 100	Product transported Gas
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. Effective 8/92 Change of gatherer from El Paso Natural Gas Company		

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 President of the Merrion Oil & Gas Corporation (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.

October 28, 1992  
Date

*T. Greg Merrion*  
Signature T. Greg Merrion

Date approved: 10-30-92

Distribution: 0+1 (AOGCC)  
- 1 (Well File)

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rain

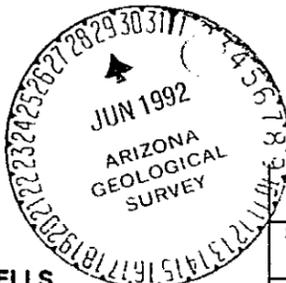
Permit No. 28



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

Distribution:  
 0+4 (BLM-Farmington, NM)  
 1 - (AO&GCD) 1- Well File  
 1 - (BIA-Window Rock, AZ)  
 Form 3160-5  
 (June 1990)

UNITED STATES  
 DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT



FORM APPROVED  
 Budget Bureau No. 1004-0135  
 Expires: March 31, 1993

**SUNDRY NOTICES AND REPORTS ON WELLS**

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.  
 Use "APPLICATION FOR PERMIT—" for such proposals

**SUBMIT IN TRIPLICATE**

1. Type of Well <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other	5. Lease Designation and Serial No. 14-20-603-413
2. Name of Operator Merrion Oil & Gas Corporation	6. If Indian, Allottee or Tribe Name Navajo Tribal
3. Address and Telephone No. P. O. Box 840, Farmington, NM 87499 (505) 327-9801	7. If Unit or CA, Agreement Designation
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 1980' FSL & 990' FEL Section 4, T41N, R28E (NESE)	8. Well Name and No. Navajo 1 PIN 28
	9. API Well No. 02-001-05199
	10. Field and Pool, or Exploratory Area East Boundary Butte
	11. County or Parish, State Apache, Arizona

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input checked="" type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Other
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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.)

Attached for your approval is a procedure to squeeze off the current Ismay/Desert Creek perms, drill out several bridge plugs, and test the well from some open Leadville perforations. We plan to flare the gas during a 30 day production test, inject the water in the Navajo #3, and put the oil in the sales tank. If the Leadville test appears commercial, we will shut in the well until we can install a permanent separator and tie in the gas for sales (approx. 4 months). If the Leadville is not commercial, we will plug back and complete the well in either the Akah or the Ismay.

In either of the above cases, the well may be shut in following the test for a period of up to 4 months, depending upon receipt of the necessary governmental approvals which will allow us to install facilities for the final completion scenario. Because this lease is in the extended term and is only held by the production from this well, we need permission to conduct this work to insure that the associated lease remains active. Therefore, approval of this sundry will be interpreted as approval of the proposed workover and that the said lease will remain active so long as we are conducting the work set out in this sundry notice.

If the above meets with BLM's approval, please indicate such approval and return an original copy. We shall also provide a copy of this sundry notice to Gene Denetson of the BIA, Window Rock, AZ office to provide an advance review to insure expedience of approval.

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

Signed George P. Sharp Title Petroleum Engineer Date 6/25/92

(This space for Federal or State office use)

Approved by SL Rauzi Title OGPA Date 6/29/92

Conditions of approval, if any: see letter of 6/29/92

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\*See instruction on Reverse Side

Navajo #1  
Leadville Recompletion Procedure

Prepared By: George F. Sharpe

Date: June 24, 1992

- 1.) MIRU. POOH w/ rods and pump. POOH w/  $\pm$  4588' 2 7/8" tbg, SN, perf pup, MA.
- 2.) RIH w/ tbg open ended to  $\pm$  4720'. Spot  $\pm$  50 sx class G w/ 2% CaCl 4720 - 4290'. Pull to 4350' and reserve clean. Squeeze away  $\pm$  4.0 Bbls max to 500 psi into Ismay and Desert Creek Perfs (4596 - 4712). This will leave 70' of cmt above perfs. WOC.
- 3.) POOH. RIH w/ 4 3/4" bit and tag cement. Press test csg to 500 psi. Drill out to CIBP @ 4746'. Test csg to 500 psi. Drill out CIBP. POOH w/ bit.
- 4.) RIH w/ 5 1/2" pkr. Swab test Akah perfs 4782 - 4816.
- 5.) RIH w/ tbg open ended to CIBP @ 4832'. Spot 25sx class G w/ 2% CaCl from 4832 to 4616'. Pull to 4650' and reverse clean. Squeeze away  $\pm$  1.5 Bbls max into Akah perfs (4782' - 4816'). WOC. (This will leave  $\pm$  70' above perfs.)
- 6.) POOH. RIH w/ 4 3/4" bit and drill out to CIBP @ 4832'. Press test to 500 psi. Drill out CIBP. RIH and tag cmt @  $\pm$  5500'. Press test to 500 psi. Drill out cmt and CIBP @ 5550'. RIH and tag PBDT @ 5634'. Roll hole clean. POOH.
- 7.) RIH w/ 5 1/2" PKR on tbg. Set PKR @ 5550'. Test backside. ND BOPs, NU WH. Swab in well and cleanup to tank. Acidize if necessary. When well clean, shut-in well. RDMOL.
- 8.) Rig up flowline to rental 3 phase separator on Navajo #3 location. Test well for 30 day test, venting gas, selling oil. Run buildup test. Leave well SI for final facilities installation. (Make sure wellhead and flowline can withstand 1500 psi pressure).

Approved \_\_\_\_\_

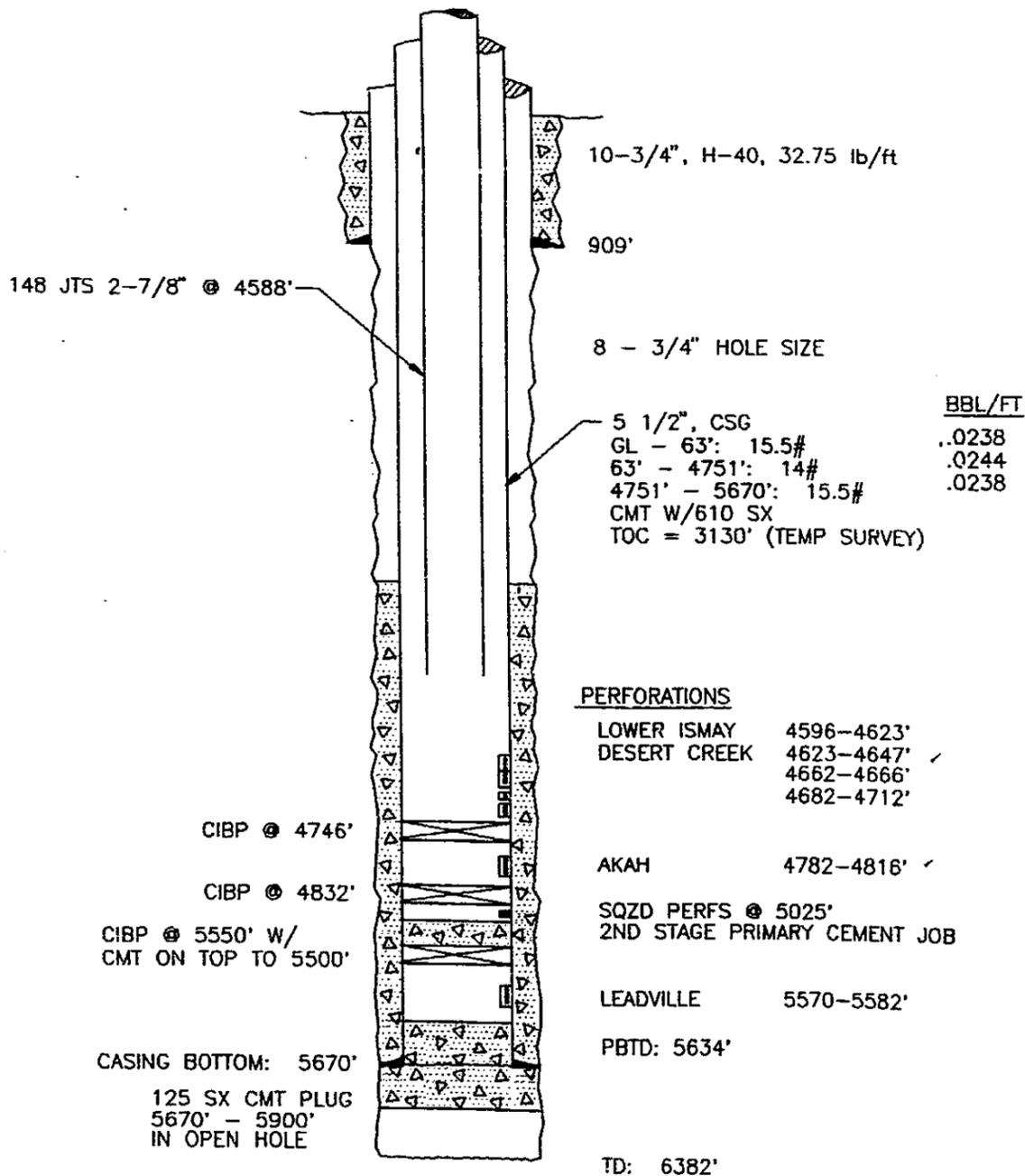
Date \_\_\_\_\_

MERRION OIL AND GAS CORP.  
WELLBORE SCHEMATIC

NAVAJO NO. 1

1980' FSL & 990' FEL, SEC. 4, T41N, R28E  
APACHE COUNTY, ARIZONA

ENG: G.F. SHARPE DRFT: M.E.G.  
DATE: 6-23-92



**Navajo #1**  
**Leadville Facility Installation**

**Navajo #1 Location**

- 1.) Tie-in the old sales gas line to bring fuel back to Navajo #1.

**Navajo #3 Location**

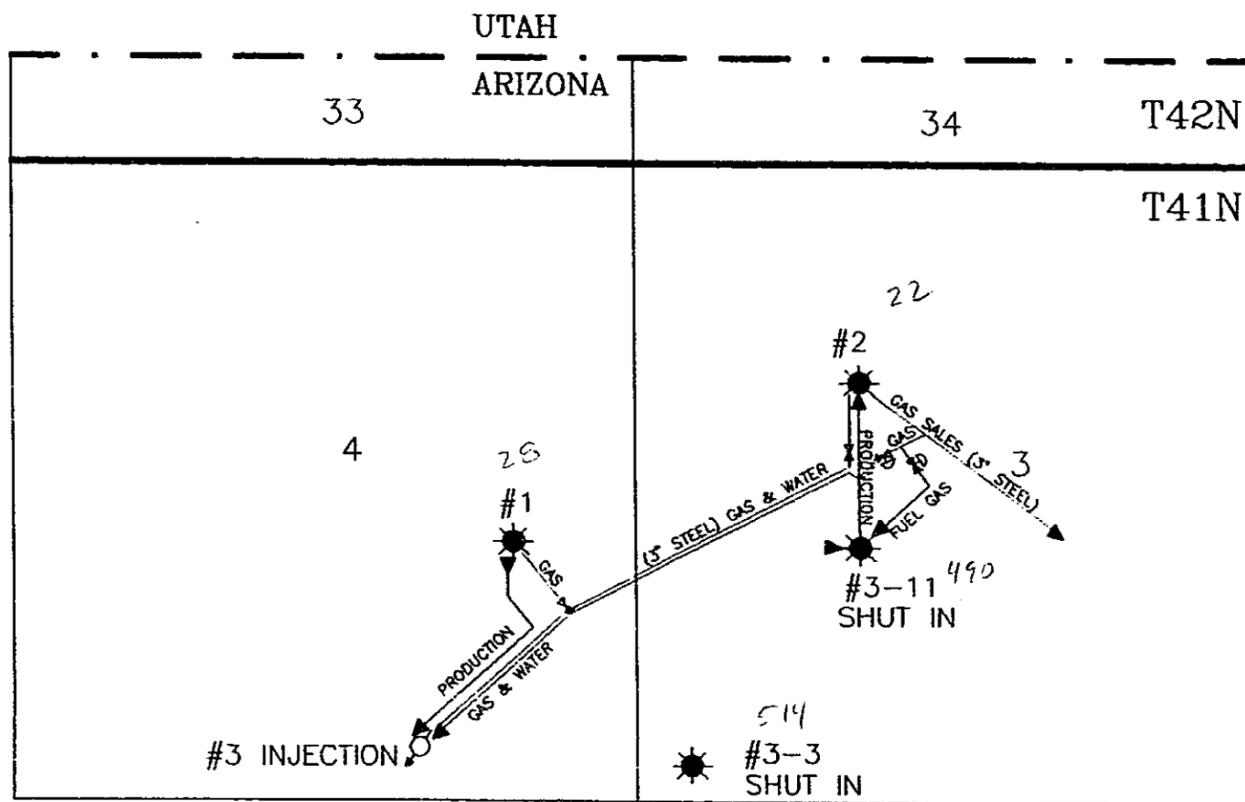
- 1.) Install 3" plastic water line and 1" plastic fuel gas line from Navajo #2 to Navajo #3 (Fig 1).
- 2.) Install 3 phase 1440 psi 2 stage heated separator to handle Navajo #1 Production (Fig 2).
- 3.) Tie in gas off Navajo #1 separator to 4MMCFD dehydrator and then to gas line going back towards Navajo #2 (Fig 2) for gas sales.

Approved \_\_\_\_\_

Date \_\_\_\_\_

# MERRION OIL & GAS CORP. EAST BOUNDARY BUTTE CURRENT FLOW LINES

APACHE COUNTY, ARIZONA  
(NOT TO SCALE)  
G.F. SHARPE  
DRAFTING: MYRA GREEN  
DATE: 6-24-92



- OIL
- WATER
- GAS
- PRODUCTION

# MERRION OIL & GAS CORP. EAST BOUNDARY BUTTE FUTURE FLOW LINES

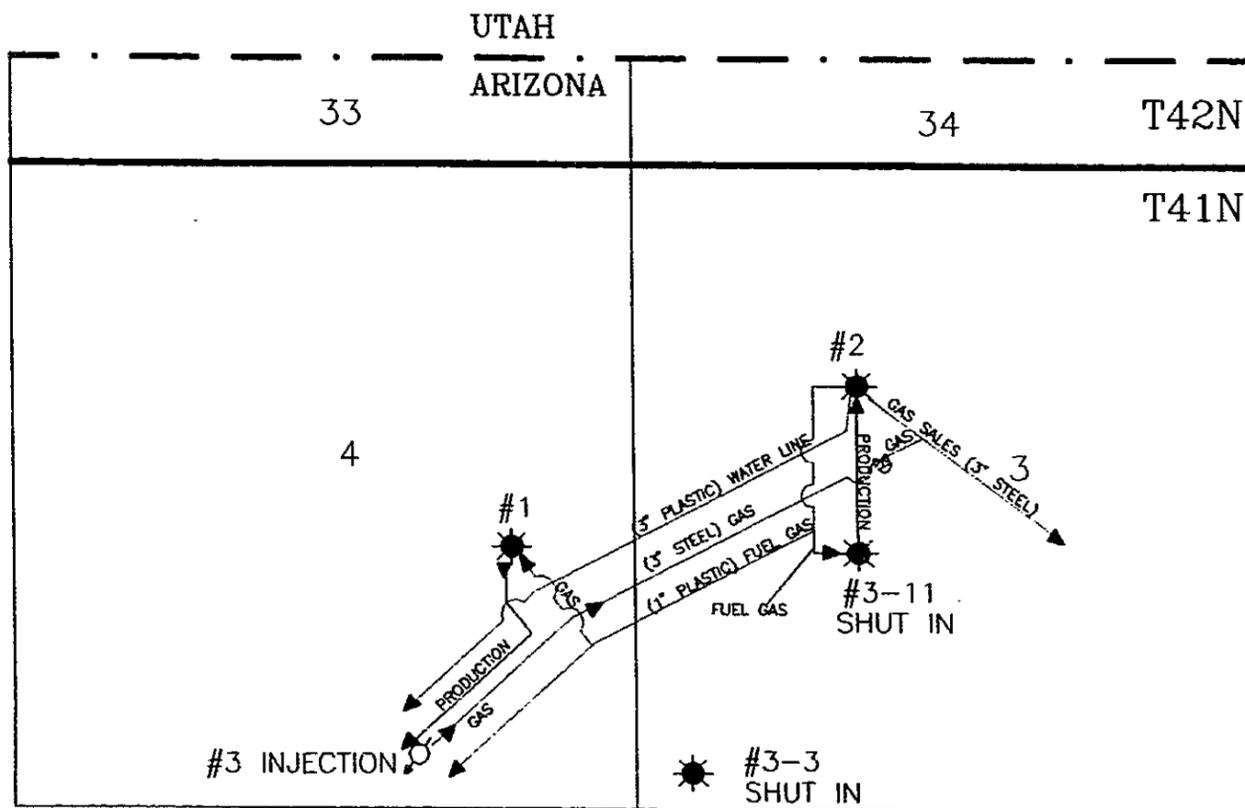
APACHE COUNTY, ARIZONA

(NOT TO SCALE)

G.F. SHARPE

DRAFTING: MYRA GREEN

DATE: 6-24-92

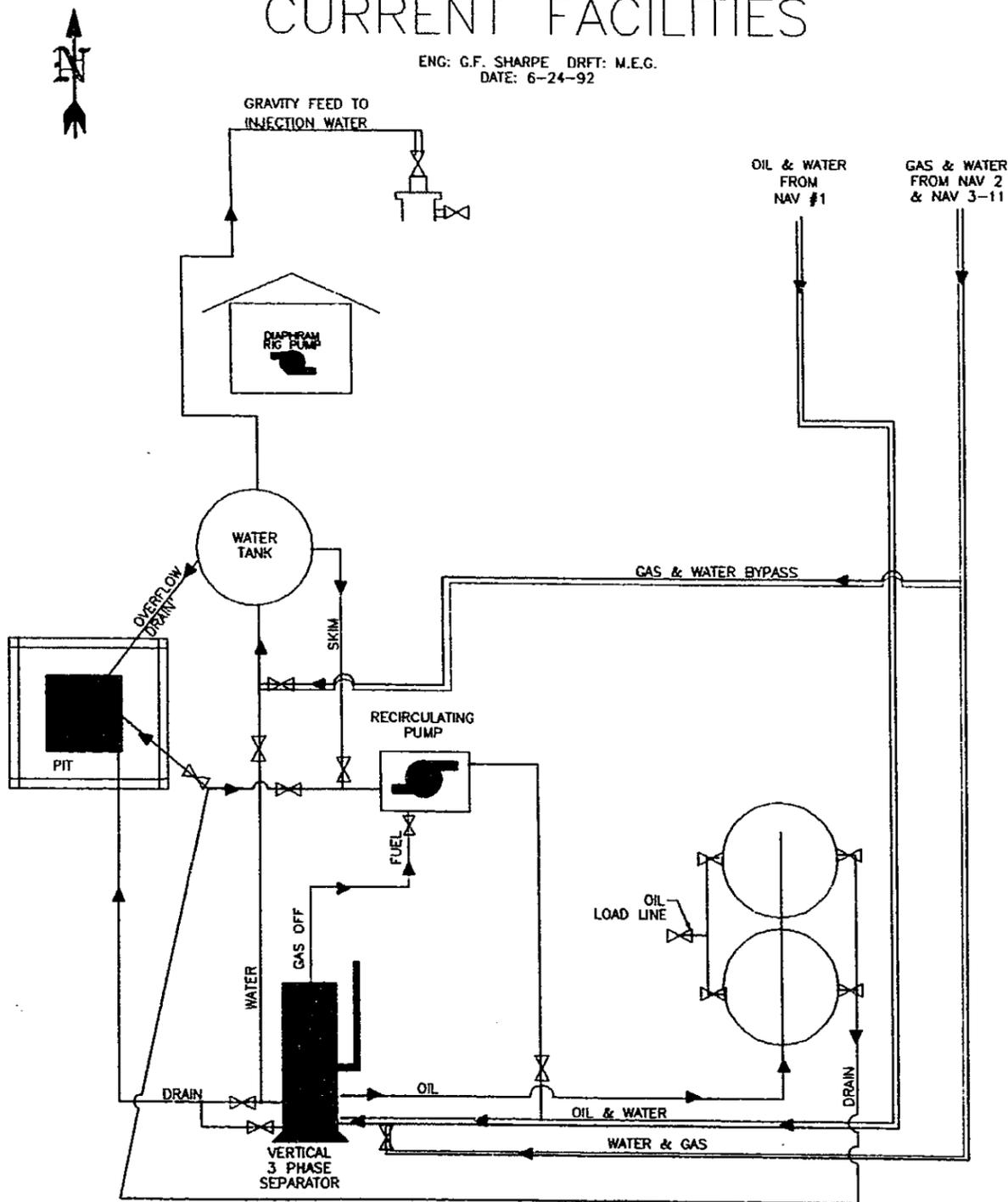


R28E

- OIL
- WATER
- GAS
- PRODUCTION

# MERRION OIL & GAS NAVAJO #3 CURRENT FACILITIES

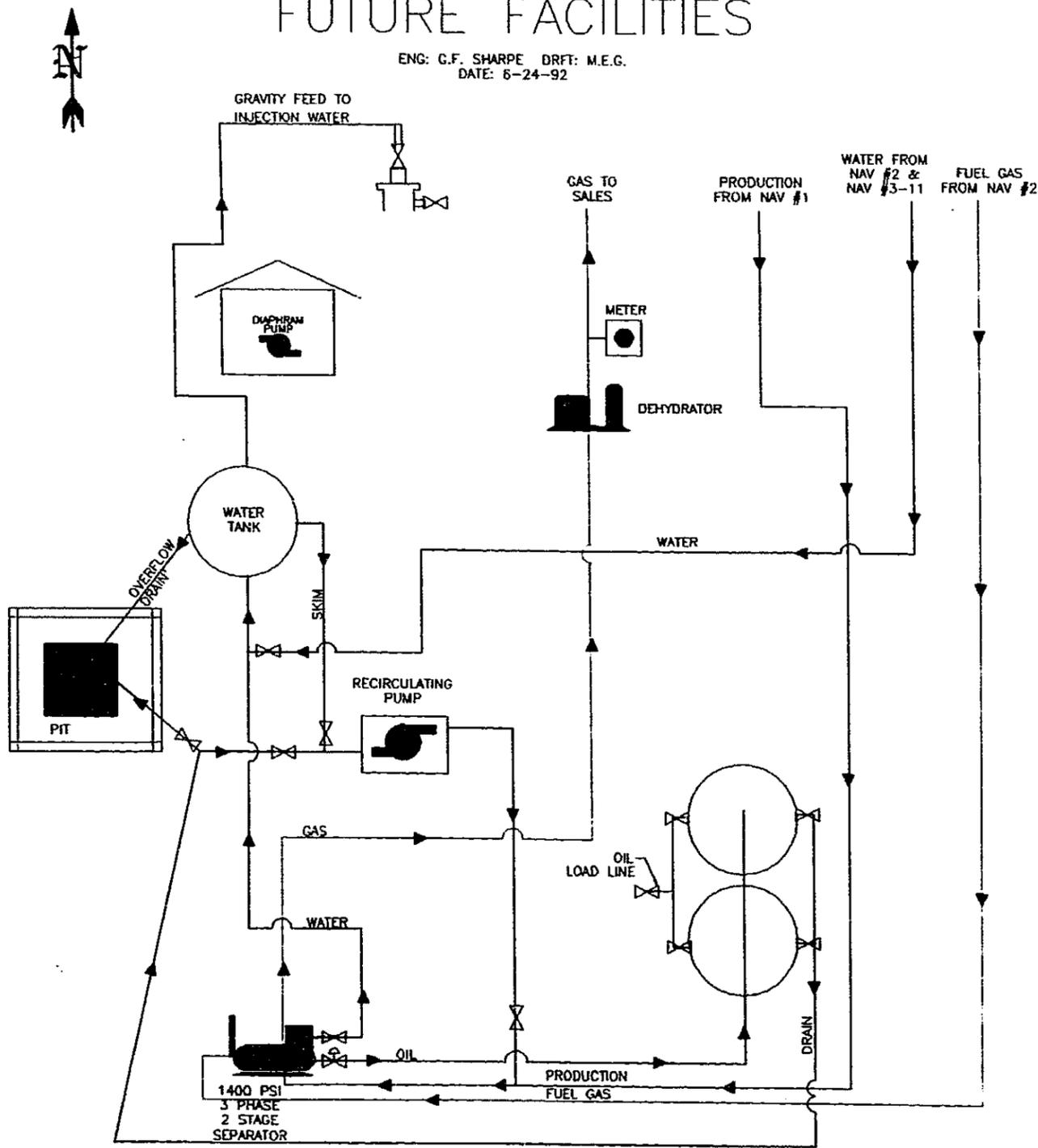
ENG: G.F. SHARPE DRFT: M.E.G.  
DATE: 6-24-92



**FLUID FLOW LEGEND**  
 ——— TOTAL PRODUCTION  
 ——— OIL  
 ——— WATER  
 ——— GAS

# MERRION OIL & GAS NAVAJO #3 FUTURE FACILITIES

ENG: G.F. SHARPE DRFT: M.E.G.  
DATE: 6-24-92



**FLUID FLOW LEGEND**  
 ——— TOTAL PRODUCTION  
 ——— OIL  
 ——— WATER  
 ——— GAS

ARIZONA  
APACHE COUNTY  
WILDCAT

PETROLEUM INFORMATION  
DENVER CASPER  
ROCKY MOUNTAIN  
OIL INFORMATION

Top 41n-28e  
Sp. on 4  
: ss

OPR: Humble Oil & Refining

WELL #: 1 Navajo Tribal

FLEV: 5373 DF

DSTS. & CORES:

SPUD: 7-2-55 COMPL: 11-3-55

\*TOPS: Log-SXXXXX

TD: 6282 PB: 5670

Hermosa 3812  
Paradox 4576  
Molas 5380  
Mississippian 5510  
Ouray 5697

Crd 4608-27, rec 11  
lime bleeding gas, 4  
lime, ppp bleeding  
bas. DST 4600-29,  
1 hr, gas in 2 min @  
rate 145 MCF sour gas,  
rec 1500 heavily GCM,  
FP 194-410#, SIP (30  
min) 1070#, HP 2250#.

CSG: 10-3/4" @ 909 w/150  
5 1/2" @ 5670 w/610

PERF: 2" tubing @ 5584.

Crd 4629-40, rec 11 fine lime bleeding 0 & G in  
fractures, stained. DST 4640-89, rec 49 tan to  
gray, fine crystalline lime fractured bleeding  
0 & G traces of sulfur wtr. DST 4629-89, 1 hr,  
rec gas in 2 min @ rate 9035 MCFPD, rec 300  
heavily GC & sll sulfur wtr cut mud, FP 240#,  
SIP (30 min) 1410#. Crd 4689-4706, rec 17 tan  
to gray lime, no show. Crd 4706-28, rec 22 fossiliferous  
lime w/vertical fractures. DST 4683-4728, 45 min, gas in  
2 min @ rate 1160 MCFPD, rec 30 HGCM w/sulfur odor, FP 230#, SIP (30 min) 1450#. Crd  
4702-93, rec 15 gray to brown pore & fractured. DST 4778-98, 1 hr, gas in 2 1/2 min, @  
rate 2210 MCFPD, rec 370 mud cut oil, est 50% oil, 90 GCM, 90 salty sulfur wtr, FP  
230-510#, SIP (20 min) 1400#. Crd 4793-4818, rec 15 gray to brown lime bleeding gas,  
trace of oil. Crd 4818-51, rec 14 gray fractured dolomite bleeding gas. DST 4799-4831,

PROD. ZONE: 4806-16

INIT. PROD: IPF 47 BOPD, 4% BS & W,  
4141 MCFGPD thru 1/2" ck, TP 810#,  
GOR 87344-1, oil 39.4 gty.

\*For Electric Logs on Rocky Mountain Wells—Ask Us! Log Order #A 3062. (Continued)

HUMBLE OIL & REFINING #1 NAVAJO TRIBAL,  $\frac{1}{2}$  ne se 4-41n-28e, APACHE COUNTY, ARIZONA, CONTD.  
PAGE 2

2 hrs, 52 min, gas in 2 min @ rate 1800 MCFGPD, fluid in 22 min, clear oil in 39 min, flowed 2.46 BO in 1 hr, 32 gty, rec 390 oil in pipe, 20 salty sulfur wtr, FP 390-530#. SIP (30 min) 1370#. Crd 4858-4902, rec 44 black sh, 1 tight sd, 7 black sh, 6 gray lime slight stain, 1 brown lime, slight bleeding O & G, 6 dense lime w/vertical frac, 4 lime, slight bleeding, gas fair P & P, 8 shaley dolo, w/slight odor, DST 4856-5902, 1 hr, rec 185 slightly GCM w/trace oil, FP 0#, SIP (30 min) 340#, HP 2340#. DST 5560-95, 2 hrs, 15 min, gas in 4 min, est 4970 MCFPD, mud & sulfur wtr in 14 min, oil, mud & sulfur wtr in 54 min, flowed @ rate 3 BFPD, est 5-20% oil, 37.1 gty, rec 250 sulfur wtr, FP 500-950#, SIP (30 min) 1875#. Crd 5606-17, rec 10 ls. DST 5595-5616, 1 hr, rec 15 sli GCM, pressure zero. Crd 5616-22, rec 6 ls, trace of gas sulfur odor. Crd 5622-30, rec 7 dolo, sandstone & sh. DST 5651-72, 1 hr, rec 10 sli GCM, no pressure. Crd 5702-10, rec 7 1/2 ls & dolo w/sli to fair poro, bleeding oil, last 3 appeared wet. Crd 5710-20, rec 10 1/2 dolo & chert w/trace good poro & stain, bleeding oil in top 2 1/2. DST 5689-5720, 1 1/2 hrs, rec 540 sli O & GC sulfur wtr, 2744 GC salty sulfur wtr, FP 150-1550#, SIP (30 min) 1825#. DST 6119-39, 2 1/2 hrs, rec 3880 gassy, salty sulfur wtr, FP 275-1850#, SIP (30 min) 1950#, HP 3025#. Crd 6322-37, rec 15 dolo, bottom 3 stained. DST 6319-37, 1 hr, 20 min, rec 90 muddy salt wtr, 540 salt wtr, FP 0-425#, SIP 2200#, HP 3125#. PB 5670. Perf 5570-82 w/40. Flowed gas @ rate 4251 MCFGPD, no wtr, Flowed 32 BO, 4315 MCFGPD thru 1/2" ck in 13 hrs.

"NEW FIELD - PARADOX DISCOVERY"

12-30-55

TO TRANSPORT OIL OR GAS FROM LEASE

Navajo #1		
Federal, State or Indian Lease Number, or lessor's name if fee lease <b>Navajo 14-20-603-413</b>	Field <b>East Boundry Butte</b>	Reservoir <b>Paradox</b>
Survey or Sec-Twp-Rge <b>Sec 4, T41N, R28E</b>	County <b>Apache</b>	State <b>Arizona</b>
Operator <b>Merrion Oil &amp; Gas Corporation</b>		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street <b>P. O. Box 840</b>	City <b>Farmington</b>	State <b>New Mexico 87499</b>
Above named operator authorizes (name of transporter) <b>Meridian Oil, Inc.</b>		
Transporter's street address <b>P. O. Box 4289</b>	City <b>Farmington</b>	State <b>New Mexico 87499</b>
Field address <b>Red Mesa, AZ</b>		
Oil, condensate, gas well gas, casinghead gas		
To transport <b>100%</b>	% of the <b>oil</b>	from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer <b>Merrion Oil &amp; Gas/El Paso Natural Gas</b>	% transported <b>100%</b>	Product transported <b>gas</b>
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.		

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 Vice President of the Merrion Oil & Gas Corp. (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 9-25-90 Signature T. Greg Merrion  
 Date approved: 10-5-90 cc: Well File  
 STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 By: Stewart L. Rainz AZ OCD, 2  
 Permit No. 28

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

1. Name of Operator Merrion Oil & Gas Corporation RECEIVED  
 2. OIL WELL  GAS WELL  OTHER  (Specify) \_\_\_\_\_ JUL 1 1985  
 3. Well Name Navajo Tribe No. 1 P/N = 28 O & G CONS. COMM:  
 Location 1980 feet from the South Line and 980 feet from the East Line  
 Sec. 4 Twp. 41N Rge. 28S County Apache Arizona.

4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-603-413  
 5. Field or Pool Name East Boundary Butte

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 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"/>
(OTHER) <u>Change Oil Transporter</u> <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.)

Please change the transporter of oil from Conoco Inc., Surface Transportation to:

The Mancos Corporation  
 P. O. Box 1320  
 Farmington, New Mexico 87499

Effective 7/1/85.

8. I hereby certify that the foregoing is true and correct.  
 Signed [Signature] Title Operations Manager Date 6/27/85

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

Permit No. 28

SUNDRY NOTICES AND REPORTS ON WELLS

RECEIVED

NOV 5 1984

1. Name of Operator Merrion Oil & Gas Corporation *28*  
 2. OIL WELL  GAS WELL  OTHER  (Specify) \_\_\_\_\_ O & G CONS. COMM.  
 3. Well Name Navajo Tribe No. 1  
 Location 1980 feet from the South line and 980 feet from the East line.  
 Sec. 4 Twp. 41N Rge. 28S County Apache Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-603-413  
 5. Field or Pool Name East Boundary Butte

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>Change of transporter</u>	<input type="checkbox"/>	(OTHER) _____	<input type="checkbox"/>	REPAIRING WELL	<input type="checkbox"/>
				ALTERING CASING	<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.)

We are changing the transporter of oil from the Permian Corporation, Post Office Box 1702, Farmington, New Mexico 87499 to:

Conoco Inc. Surface Transportation  
 555 17th Street, 9th Floor  
 Denver, Colorado 80202

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

Signed *Steve Sab* Title Operations Manager Date 11/01/84

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

Permit No. \_\_\_\_\_

**BOUNDARY BUTTE, EAST  
(GAS)**

Located in Northern Apache County, near the Utah State line in Township 41 North, Range 28 East, on the north flank of the Black Mesa Basin.

**DISCOVERY DATA**

Shell Oil Company No. 2 East Boundary Butte, Sec. 3, - 41 N - 28 E completed December 8, 1954.

Exploration Method: Seismograph.  
Total Depth: 6339 ft; PBD 4730.  
Casing: 10-3/4 to 697 ft.; 5 1/2 to 4930 ft.  
Producing Zone: Hermosa, perfs at 4540 - 85 ft., 4650 - 90 ft.  
Elevation: 5296 (gr) T/pay 4540.  
Initial Flow: 3,150 MCF gas per day.

**GEOLOGICAL NOTES**

Field is located on a structural anticline. Deepest test in the vicinity is Humble Oil No. 1 Navajo, 4-41 N-28E, which drilled to a total depth of 6382 feet in the Pre-Cambrian.

Shell's discovery found 150 feet of Hermosa pay and tested 38-gravity oil in the Upper Paradox.

**Formation Record (Shell No. 2 East Boundary Butte):**

Kayenta 135  
Wingate 150  
Chinle 640  
Shinarump 1555  
Moenkopi 1600  
Cutler Rico 1803  
Hermosa 3757  
Paradox 4746  
Molas 5347  
Leadville 5492  
Ouray 5637  
Elbert 5787  
Devonian 6092  
Cambrian 6325

**DEVELOPMENT - PRODUCTION**

This field includes 3 wells, currently shut in. Reported production in 1955 was 122,116 MCF gas plus 750 barrels of condensate.

Excerpts from: Oil and Gas in the Four Corners  
Compiled and Edited by Paul J. Kuhn  
Published by National Petroleum Bibliography  
Amarillo, Texas

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

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 Form 9-331-C for such proposals.)

1. oil well  gas well  other

2. NAME OF OPERATOR  
J. Gregory Merrion & Robert L. Bayless

3. ADDRESS OF OPERATOR  
P.O. Box 507, Farmington, NM 87401

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)  
AT SURFACE: 1980' FSL & 980' FEL  
AT TOP PROD. INTERVAL: same  
AT TOTAL DEPTH: same

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:	SUBSEQUENT REPORT OF:
TEST WATER SHUT-OFF <input type="checkbox"/>	<input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	<input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	<input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	<input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	<input type="checkbox"/>
MULTIPLE COMPLETE <input type="checkbox"/>	<input type="checkbox"/>
CHANGE ZONES <input type="checkbox"/>	<input type="checkbox"/>
ABANDON* <input type="checkbox"/>	<input type="checkbox"/>
(other) Install pumping unit <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

5. LEASE  
14-20-603-413

6. IF INDIAN, ALLOTTEE OR TRIBE NAME  
Navajo

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME  
Navajo Tribe

9. WELL NO.  
1

10. FIELD OR WILDCAT NAME  
East Boundary Butte

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA  
Section 4, T41N, R28S

12. COUNTY OR PARISH  
Apache

13. STATE  
Arizona

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)  
5373 DF

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

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.)\*

Pulled tubing and removed packer. Ran tubing with anchor catcher and pump. Set pumping unit. Commenced pumping 9-29-79. Ran rods

Subsurface Safety Valve: Manu. and Type \_\_\_\_\_

18. I hereby certify that the foregoing is true and correct  
SIGNED J. Gregory Merrion TITLE Co-Owner DATE October 16, 1979

(This space for Federal or State office use)  
APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

RECEIVED

\*See Instructions on Reverse Side

G. & G. CONS. COMM.

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 14-20-603-413	Field East Boundary Butte	Reservoir
Survey or Sec-Twp-Rge 4-41N-28E	County Apache	State Arizona
Operator J. Gregory Merrion and Robert L. Bayless		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P.O. Box 1541	City Farmington	State New Mexico 87401
Above named operator authorizes (name of transporter) The Permian Corporation		
Transporter's street address P.O. Box 1183	City Houston	State Texas 77001
Field address Petroleum Plaza 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 El Paso Natural Gas Company	% transported 100	Product transported Natural Gas
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.  Change of purchaser September 28, 1973		

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 Co-Owner of the Merrion & Bayless (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 11, 1974 Signature J. Gregory Merrion

Date approved: 3-14-74  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: W. B. Coe  
Permit No. 284515

RECEIVED  
MAR 13 1974  
O & G CON. COMM.

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

# 28 9

**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 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 14-20-603-413		Well Number 1	Field & Reservoir East Boundary Butte - Paradox
Location 1980' FSL & 990' FEL of Section 4		County Apache	
Sec. TWP-Range or Block & Survey NE/4 SE/4 Section 4-41N-28E			
Date spudded 6-27-55	Date total depth reached Oct 55	Date completed, ready to produce 11-3-55	Elevation (DF, RKB, RT or Gr.) 5373 DF feet
Elevation of casing hd. Range 5363 feet			
Total depth 6382	P.B.T.D. 4746'	Single, dual or triple completion? Single	If this is a dual or triple completion, furnish separate report for each completion.
Producing interval (s) for this completion 4596-4647; 4662-66; 4682-4712		Rotary tools used (interval) 0-6382'	Cable tools used (interval) -
Was this well directionally drilled? No	Was directional survey made? NO	Was copy of directional survey filed?	Date filed
Type of electrical or other logs run (check logs filed with the commission) GR, Micro Survey			Date filed

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	Unknown	10-3/4"	32.75	909'	650	None
Production	Unknown	5 1/2"	14 & 15.5#	5670'	610	None

TUBING RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2-3/8" in.	ft.	4578 ft.	in.	ft.	ft.		

PERFORATION RECORD

Number per ft.	Size & type	Depth Interval	Am't. & kind of material used	Depth Interval
		4596-4647; 4662-66		
		4682-4712' 4752-4866'		

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

INITIAL PRODUCTION After Workover

Date of first production 6-7-70	Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump): Flowing					
Date of test 6-7-70	Hrs. tested 24	Choke size	Oil prod. during test 0 bbla.	Gas prod. during test 600 MCF	Water prod. during test 0 bbla.	Oil gravity ° API (Corr)
Tubing pressure 420	Casing pressure	Cal'ed rate of Production per 24 hrs.	Oil 0 bbla.	Gas 600 MCF	Water 0 bbla.	Gas-oil ratio

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

District Chief Engineer

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the \_\_\_\_\_ 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: 6-17-71

Signature: *John F. Richards* RECEIVED JUN 21 1971

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

Permit No. 28

(Complete Reverse Side)

**OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION** # 28  
**TO TRANSPORT OIL OR GAS FROM LEASE**

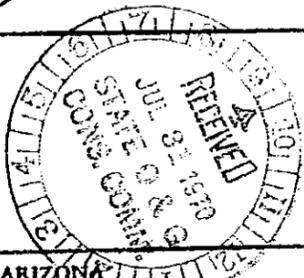
Federal, State or Indian Lease Number, or lessee's name if fee lease 14-20-603-413	Field East Boundary Butte	Reservoir
Survey or Sec-Twp-Rge Sec. 4, T41N, R28E	County Apache	State Arizona
Operator Merrion & Bayless		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P.O. Box 1541	City Farmington,	State New Mexico
Above named operator authorizes (name of transporter) El Paso Natural Gas Company		
Transporter's street address P.O. Box 1492	City El Paso	State Texas 79999
Field address P.O. Box 990 Farmington, New Mexico 87401		
Oil, condensate, gas well gas, casinghead gas		
To transport	100 % of the	Casinghead gas from said lease.
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
Four Corners Pipeline	100	Crude Oil

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 Owner of the Merrion & Bayless (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 July 27, 1970  
 Date approved: 7-31-70  
 Signature [Handwritten Signature]

STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 By John Bennett, Jr. W.C.A.  
 Permit No. 284515



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

SUBMIT IN TRIP E\*  
(Other instructions on re-verse side)

Form approved  
Budget Bureau No. 42-R1424

5. LEASE DESIGNATION AND SERIAL NO.

14-20-603-413

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

-

8. FARM OR LEASE NAME

Navajo Tribe of Indians

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Boundary Butte, East

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

Sec. 4-41E-28E - G4SEM

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

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

NE SE (1980' FBL & 990' FEL) of Section 4

14. PERMIT NO.

Arizona #23

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

5373' DF

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

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

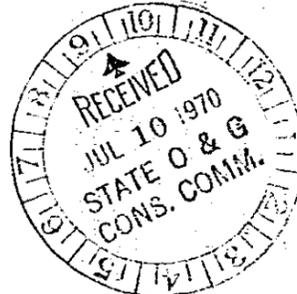
Test (Add, Interval & Set Compressor)

(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.)

Removed bridge plug at 4744'. Exposed all perforations, swabbed down and tested 9 hours, recovered 5 BO, 207 BW and some gas. Set bridge plug at 4746', shutting off perforations 4782-4813'. Ran tubing with plunger lift and packer. Set packer at 4576'. Swabbed, well kicked off flowing with plunger lift operating at 3 hour intervals. Produced at rate of 1,000 MCFPD. Declined rapidly due to sales line pressure.

Installed compressor, now stabilized and producing at rate of 600 MCFPD (capacity of compressor) with tubing pressure of 420#.



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

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

SIGNED

TITLE

Dist. Supt.

DATE

7-8-70

(This space for Federal Bureau of Investigation use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

### Instructions

General: This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, on all lands in such State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 17: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection looking to approval of the abandonment.

U.S. GOVERNMENT PRINTING OFFICE: 1963-O-608229  
847 - 405

1. 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 Tribe of Indians #1  
 Location 1980' FSL & 990' FEL  
 Sec. 4 Twp. 41N Rge. 28E County Apache, Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease Navajo - 14-20-603-413  
 5. Field or Pool Name Boundary Butte, East

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 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"/>		ABANDONMENT <input type="checkbox"/>
(OTHER) <u>Pressure Survey</u> <input checked="" type="checkbox"/>		(OTHER) _____	

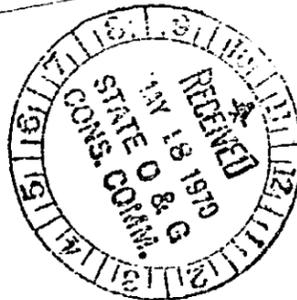
(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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.)

Due to declining reservoir pressure the above gas well will no longer produce against the current sales line pressure of 900 psi. Humble Oil & Refining Company plans to immediately set a compressor at this well on a temporary basis to test sales deliverability and evaluate reserves at reduced well head pressure.

This Sundry Notice also confirms telephone approval on May 12, 1970 from Mr. John Bannister of waiver of annual capacity testing of the above well in accordance with Regulation 401 as long as compression is employed.

*OK JB 5-27-70*



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

Signed [Signature] Title Dist. Supt. Date 5-15-70

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

Permit No. 28

8

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 <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. <b>1b-20-603-413</b>
2. NAME OF OPERATOR <b>Humble Oil &amp; Refining Company</b>		6. IF INDIAN, ALLOTTEE OR TRIBE NAME <b>Navajo</b>
3. ADDRESS OF OPERATOR <b>P. O. Box 120, Denver, Colorado 80201</b>		7. UNIT AGREEMENT NAME <b>-</b>
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface <b>NE SE (1980' FSL &amp; 990' FEL) of Section 4</b>		8. FARM OR LEASE NAME <b>Navajo Tribe of Indians</b>
14. PERMIT NO. <b>Arizona #28</b>	15. ELEVATIONS (Show whether DF, RT, GR, etc.) <b>5373' DF</b>	9. WELL NO. <b>1</b>
		10. FIELD AND POOL, OR WILDCAT <b>Boundary Butte, East</b>
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA <b>Sec. 4-41N-28E - GASRM</b>
		12. COUNTY OR PARISH <b>Apache</b>
		13. STATE <b>Arizona</b>

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

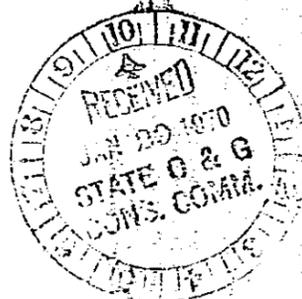
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	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) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <b>Produce additional interval X</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.)\*

During the past year an extensive test has been conducted on perforations 4596-4647', 4662-4666' & 4682-4712'. This interval produces slightly over 1,000 MCFD. Recently small volumes of fluid have logged off the well.

We now request approval to remove the temporary bridge plug set at 4744' and to produce the interval 4782-4816', which previously tested 51 BO & 101 BW per day. It is proposed to install a plunger lift to produce the well fluids with the gas.

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 <i>[Signature]</i>	TITLE <b>Dist. Supt.</b>	DATE <b>1-26-70</b>
(This space for Federal or State office use)	OIL & GAS CONSERVATION COMMISSION STATE OF ARIZONA 1624 WEST ADAMS SUITE 202 PHOENIX, ARIZONA, 85007	DATE <b>2-3-70</b>
APPROVED BY <i>[Signature]</i>	TITLE	DATE
CONDITIONS OF APPROVAL, IF ANY:		

\*See Instructions on Reverse Side

10 28

**Instructions**

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U.S. GOVERNMENT PRINTING OFFICE: 1963-O-653220

Malco

Number 042

ANALYSIS OF CRUDE OIL FROM NAVAJO WELL #1

Gravity 37.2

Salt content 90.3# per thousand barrels

Distillation Cuts:

Gasoline	28.7%
Kerosene	14.17%
Diesel	14.67%
Bottom	42.46%

Gravity

Gasoline	55.0 api
Kerosene	41.3
Diesel	37.1
Bottom	26.5

Octane on gasoline 48.0 clear  
3 cc. of lead was 61.0 Octane

Doctor's Test was sour on Gasoline, Kerosene and Diesel

Distillation - Gasoline

Initial boiling point was 112 degrees

10% - 200 degrees	60% - 274 degrees
20% - 216 degrees	70% - 288 degrees
30% - 230 degrees	80% - 318 degrees
40% - 252 degrees	90% - 340 degrees
50% - 267 degrees	End point was 404 degrees

Distillation - Kerosene

Initial boiling point was 320 degrees

10% - 404 degrees	60% - 440 degrees
20% - 408 degrees	70% - 448 degrees
30% - 418 degrees	80% - 460 degrees
40% - 426 degrees	90% - 476 degrees
50% - 432 degrees	End point was 512 degrees

Flash test on Kerosene - 88 degrees

Distillation - Diesel

Initial boiling point was 432 degrees

10% - 518 degrees	60% - 550 degrees
20% - 526 degrees	70% - 558 degrees
30% - 530 degrees	80% - 574 degrees
40% - 538 degrees	90% - 590 degrees
50% - 544 degrees	End point was 632 degrees

Flash test on Diesel - 86 degrees

28/45

August 20, 1969

8:30 a.m.

Memo to Mr. Bannister

Memo from J. Lambert

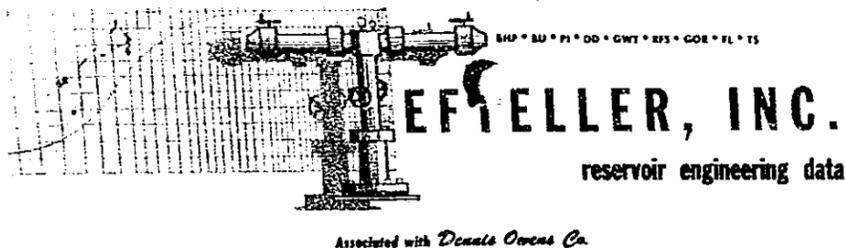
*East Boundary Butte  
T41N, R28E, Apache County*

Roy Dorrough, Humble Oil, called this date. He discussed spudding of a well in Section 4. A legal location would be the SW/4 SE/4 with the dedication the W/2 SE/4. He spoke of the drilling site as being 330' FSL and 1980' FEL. We discussed the fact that Humble's #1 Navajo well, Permit #28, was a gas well producing in Section 4 with a 640-acre dedication. The present producing interval for this well is 4596' to 4647' per report dated 5-14-69---Hermosa formation according to their Form 20 dated 7-24-69.

I told him that an oil well would be permitted with an objective depth other than this producing zone. They are concerned about the drainage from the area by AAA/s proposed well in the NW/4 NE/4 of Section 9 and Globe's #E4 well in the NE/4 NW/4 of Section 9.

He indicated that Humble would take the matter under advisement and seek a permit if they decide that they must protect their interest from drainage by the two Globe wells and the proposed AAA well.

12 28



MIDLAND, TEXAS / FARMINGTON, NEW MEXICO

P. O. Box 5247  
Midland, Texas 79701

July 17, 1969

Humble Oil & Refining Co.  
Production Dept.  
P. O. Box "I"  
Farmington, New Mexico

Subject: Open Flow Potential Measurements  
Navajo No. 1  
East Boundary Butte Field  
Apache County, Arizona  
Our File No. 2-3372-0FP

Gentlemen:

Attached hereto are the results of open flow potential measurements which were made on the above captioned well June 16, 1969.

The data presented are in tabular and graphical form. Arizona Oil and Gas Conservation Commission form 18 is enclosed.

It has been our pleasure to have conducted this service for you. If we may be of further assistance, please call us at anytime.

Respectfully submitted,

TEFTELLER, INC.

*Neil Tefteller*  
Neil Tefteller

NTct

3cc Oil & Gas Conservation Comm.  
1624 West Adams  
Phoenix, Arizona 85007



*Serving the Permian Basin & Rocky Mountain Area*

TEFTELLER, INC.  
RESERVOIR ENGINEERING DATA  
Midland, Texas

Well : NAVAJO NO. 1

Page 1 of 3

Field : EAST BOUNDARY BUTTE

File 2-3372-0FP

GAS PRODUCTION DATA

Date of Test	6-16-69	6-16-69	6-16-69	6-16-69
Rate No.	1	2	3	4
Choke Size (Inch)	19/64	22/64	24/64	26/64
Stabilization Period (Hours)	1	1	1	1
Type of Meter	Diff.	Diff.	Diff.	Diff.
Pressure Range of Meter	0-100	0-100	0-100	0-100
Size Line (Inch)	4.026	4.026	4.026	4.026
Size Orifice (Inch)	3.000	3.000	3.000	3.000
Type Connections: Flange or Pipe	Flg	Flg	Flg	Flg
Primary Separator Pressure (Psig)	26	32	36	38
Primary Separator Temperature (*F)	40	40	40	40
Flowing Temperature (*F)	40	40	40	40
Coefficient (MCF/D)	51.64	51.64	51.64	51.64
Differential ( $h_w$ )	18	27	33	36
Static Pressure ( $P_m$ )	38	44	48	50
Flowing Temperature Factor ( $F_{tf}$ )	1.0198	1.0198	1.0198	1.0198
Specific Gravity Factor ( $F_g$ )	1.000	1.000	1.000	1.000
GAS VOLUME (MCF/D)	1377	1815	2096	2234
$P_f$ (Psia)	1163	1163	1163	1163
$P_s$ (Psia)	1128	1096	1072	1049
$P_f^2$ (Thousands)	1333	1333	1333	1333
$P_s^2$ (Thousands)	1272	1201	1149	1100
$P_f^2 - P_s^2$ (Thousands)	61	132	184	233

15

28

TEFTELLER, INC.  
RESERVOIR ENGINEERING DATA  
Midland, Texas

Well : NAVAJO NO. 1

Page 2 of 3

Field : EAST BOUNDARY BUTTE

File 2-3372-0FP

CHRONOLOGICAL PRESSURE AND PRODUCTION DATA

1969 Date	Status of Well	Time	Elapsed Time Hrs. Min.	Wellhead Pressure Tubing	BHP @ 4570' Psig	BHP @ 4631' Psig
6-16	Flowing in sales line	08:00				
"	Opened well to pit to clear liquids	09:30				
"	Shut in	10:00	0 00			
"	"	10:30	0 30	976		
"	"	10:45	0 45	987		
"	"	11:00	1 00	998	1134	1136
"	"	11:15	1 15	1002		
"	"	11:30	1 30	1005	1140	1142
"	"	11:45	1 45	1008		
"	"	12:00	2 00	1009	1144	1146
"	"	12:15	2 15	1010		
"	"	12:30	2 30	1011	1149	1151
"	Rate #1 19/64" ck	12:30	0 00			
"	"	12:45	0 15	951	1129	1131
"	"	13:00	0 30	945	1120	1122
"	"	13:15	0 45	944	1115	1117
"	"	13:30	1 00	943	1114	1116
"	Rate #2 22/64" ck	13:30	0 00			
"	"	13:45	0 15	893	1096	1098
"	"	14:00	03 30	879	1089	1091
"	"	14:15	0 45	840	1085	1087
"	"	14:30	1 00	848	1082	1084
"	Rate #3 24/64" ck	14:30	0 00			
"	"	14:45	0 15	755	1069	1071
"	"	15:00	0 30	772	1066	1068
"	"	15:15	0 45	770	1062	1064
"	"	15:30	1 00	770	1058	1060
"	Rate #4 26/64" ck	15:30	0 00			
"	"	15:45	0 15	722	1050	1052
"	"	16:00	0 30	718	1044	1046
"	"	16:15	0 45	710	1038	1040
"	"	16:30	1 00	705	1035	1037

16

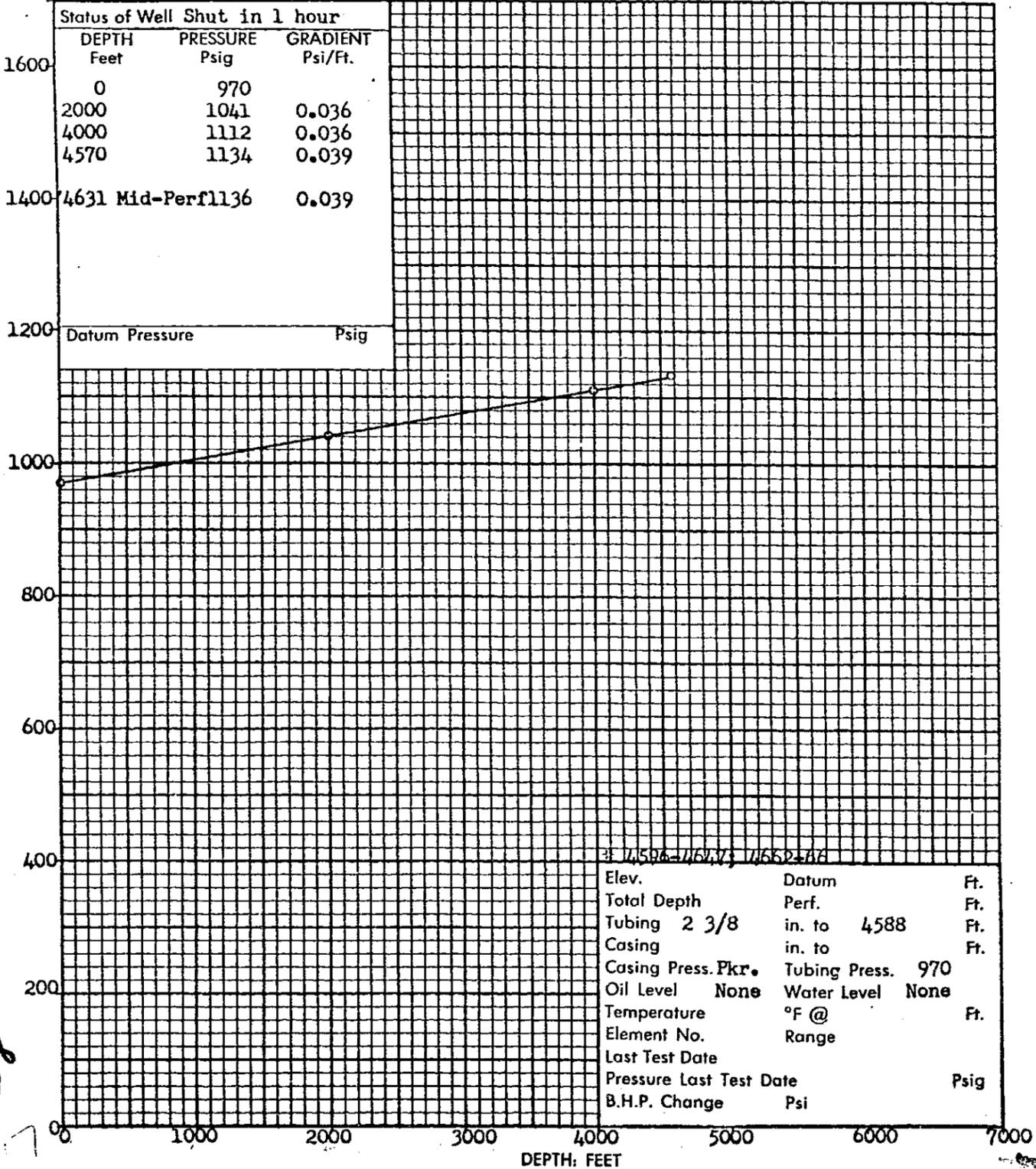
28



Company HUMBLE OIL & REFINING COMPANY Lease NAVAJO Well No. 1  
Field EAST BOUNDARY BUTTE County APACHE State ARIZONA  
Formation \_\_\_\_\_ Test Date JUNE 16, 1969

Status of Well Shut in 1 hour		
DEPTH	PRESSURE	GRADIENT
Feet	Psig	Psi/Ft.
0	970	
2000	1041	0.036
4000	1112	0.036
4570	1134	0.039
1400-4631	Mid-Perf	1136 0.039

PRESSURE POUNDS PER SQUARE INCH GAUGE



# 11506-11607; 11652-116

Elev.	Datum	Ft.
Total Depth	Perf.	Ft.
Tubing 2 3/8	in. to 4588	Ft.
Casing	in. to	Ft.
Casing Press. Pkr.	Tubing Press. 970	
Oil Level None	Water Level None	
Temperature	°F @	Ft.
Element No.	Range	
Last Test Date		
Pressure Last Test Date		Psig
B.H.P. Change	Psi	

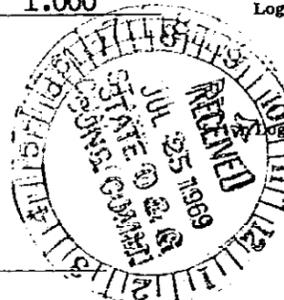
28

**ARIZONA OIL AND GAS CONSERVATION COMMISSION  
DELIVERABILITY TEST REPORT**

Type Test <input type="checkbox"/> Initial <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 6-16-69		Well Name Navajo Tribe of Indians #1						
Company Humble Oil & Refining Company		Connection El Paso		Permit No. 28						
Pool Boundary Butte, East		Formation Hermosa		Unit -						
Completion Date 11-3-55		Total Depth 6382'		Plug Back TD 4744'						
				Elevation 5363' GR						
Csg. Size 5 1/2"		Wt. 14# & 15.5#		Set At 5670'						
				Perforations: From 4596' To 4666'						
Tbg. Size 2-3/8"		Wt. 4.6#		Set At 4588'						
				Perforations: From - To -						
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single				Packer Set At 4588'						
Producing Thru Tubing		Reservoir Temp. °F 116 @ 4570		Mean Annual Temp. °F -						
				Baro. Pres. - P <sub>a</sub> 12.0						
L		H		Gg.						
				% CO <sub>2</sub>						
				% N <sub>2</sub>						
				Prover						
				% He						
				Meter Run						
				Taps						
County Apache		State Arizona		Farm or Lease Name Navajo Tribe of Indians						
Well No. 1		Sec. 4		Twp. 41N						
				Rge. 28E						
FLOW DATA			TUBING DATA			CASING DATA			Duration of Flow	
NO.	Prover Line Size	X Choke Orifice Size	Press. p.s.i.g.	Diff. h w	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	Duration of Flow
1.	19/64"	26	18	40	943	1011	943	Packer		1 hr.
NO.	Coefficient (24-Hour)	√ h <sub>w</sub> P <sub>m</sub>	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd			
1.	51.64	21.154	1.0198	1.000			1377			
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.					
1.					A.P.I Gravity of Liquid Hydrocarbons _____ Deg.					
					Specific Gravity Separator Gas _____					
					Specific Gravity Flowing Fluid _____					
					Critical Pressure _____ p.s.i.a. _____ p.s.i.a.					
					Critical Temperature _____ R _____ R					
					p <sub>f</sub> _____ p <sub>f</sub> <sup>2</sup> _____					
NO.	P <sub>t</sub>	P <sub>d</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	P <sub>s</sub>	P <sub>s</sub> <sup>2</sup>	P <sub>f</sub> <sup>2</sup> - P <sub>s</sub> <sup>2</sup>	
1.				1128	1272	81				

$$\frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \frac{81}{81} = 1.000 \quad \text{Log} \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \text{---}$$

$$\left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = \text{---} \quad \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} = \text{---}$$



Deliv. = Q  $\left[ \frac{P_c^2 - P_d^2}{P_c^2 - P_w^2} \right]^n = \text{---}$   
 Deliv. 1,377 Mcfd  
 n \_\_\_\_\_  
 (Source of n)

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Supt. of the Humble Oil & Refining Co. (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 therein are true, correct and complete to the best of my knowledge.

Date 7-24-69  
 Signature J. Royborough

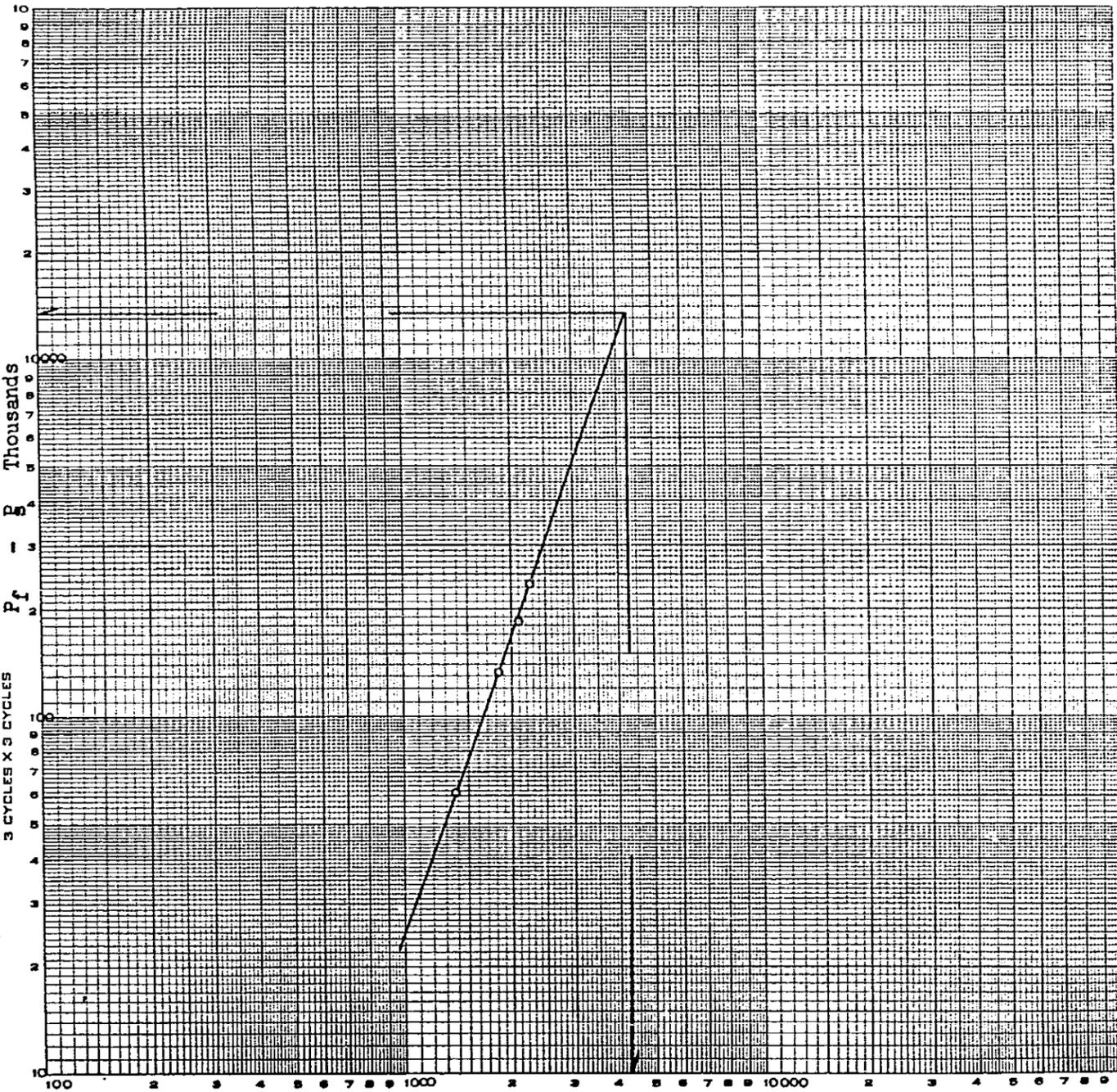
STATE OF ARIZONA OIL & GAS  
 CONSERVATION COMMISSION  
 Deliverability Test Report (File two copies)  
 Form No. 20

(1) Rate is against approximate line pressure.  
 28

Company : Humble Oil Refining Co.  
 Well : Navajo No.  
 Field : East Boundary Butte  
 County : Apache  
 State : Arizona  
 Date : June 16, 1969

EUGENE DIETZGEN CO.  
MADE IN U. S. A.

NO. 340R-133 DIETZGEN GRAPH PAPER  
 LOGARITHMIC  
 3 CYCLES X 3 CYCLES



Q = MCF/D

AOF = 4230 MCF/D  
 $\theta$  = 70°  
 n = 0.36397

21B 28

32-8

**ARIZONA OIL AND GAS CONSERVATION COMMISSION**  
**MULTIPOINT ( ) ID ONE POINT BACK PRESSURE ( ) T FOR GAS WELL**

Type Test <input type="checkbox"/> Initial <input checked="" type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 6-16-69		Well Name	
Company Humble Oil & Refining Co.				Connection El Paso Natural Gas Co.		Permit No.	
Pool East Boundary Butte				Formation		Unit	
Completion Date		Total Depth 6382		Plug Back TD 4675		Elevation 5363	
Csg. Size 5.5		Wt. d Set At 5670		Perforations: From 4596 To 4666		Farm or Lease Name Navajo	
Tbg. Size 2.375		Wt. d Set At 4588		Perforations: From To		Well No. 1	
Type Well - Single - Bradenhead - G.G. or G.O. Multiple				Packer Set At 4588		County Apache	
Producing Thru		Reservoir Temp. °F 116 @ 4570		Mean Annual Temp. °F		Baro. Pres. - P <sub>a</sub> 12.0	
L		H		Gg.		% CO <sub>2</sub> % N <sub>2</sub> % He	
						Prover Meter Run Taps	

FLOW DATA				TUBING DATA				CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Choke Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	
SI							1011		Pkr.	
1.			19/64	26	18	40	943		"	1 Hour
2.			22/64	32	27	40	848		"	1 Hour
3.			24/64	36	33	40	770		"	1 Hour
4.			26/64	38	36	40	705		"	1 Hour
5.										

NO.	Coefficient (24-Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor Ft.	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>pv</sub>	Rate of Flow Q, Mcfd
1.	51.64	21.154		1.0198	1.000		1377
2.	51.64	34.465		1.0198	1.000		1815
3.	51.64	39.801		1.0198	1.000		2096
4.	51.64	42.426		1.0198	1.000		2234
5.							

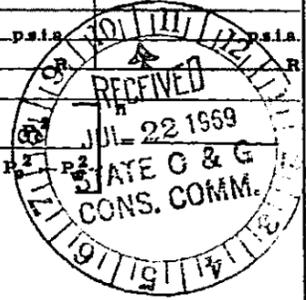
NO.	P <sub>r</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.					A.P.I Gravity of Liquid Hydrocarbons	Deg.
2.					Specific Gravity Separator Gas	
3.					Specific Gravity Flowing Fluid	
4.					Critical Pressure	p.s.i.a.
5.					Critical Temperature	°R

P <sub>c</sub> 1163 P <sub>c</sub> <sup>2</sup> 1333		(1) $\frac{P_c^2}{P_c^2 - P_w^2} =$		(2) $\frac{P_c^2}{P_c^2 - P_w^2} =$	
NO.	P <sub>t</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>	P <sub>c</sub> <sup>2</sup> - P <sub>w</sub> <sup>2</sup>	
1.		1128	1272	61	
2.		1096	1201	132	
3.		1072	1149	184	
4.		1049	1100	233	
5.					

Absolute Open Flow	4230	Mcf/d @ 15.025	Angle of Slope $\theta$	70°	Slope, n	0.36397
Remarks:						



828  
 CERTIFICATE: I, the undersigned, under the penalty of perjury state that I am the Agent of the Humble Oil & Refining Co. (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 7-20-69 Signature *Frank J. [Signature]*

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION  
 Multipoint and One Point Back Pressure Tests for Gas Well  
 Form No. 18 (File two copies)

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

9

DESIGNATE TYPE OF COMPLETION:

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 Tribe of Indians - 14-20-603-413 Well Number: 1 Field & Reservoir: Boundary Butte, East - Hermosa

Location: NE SE(1980' FSL & 990' FEL) of Section 4 County: Apache

Sec. TWP-Range or Block & Survey: Section 4-41N-28E - G&SRM (This Workover)

Date spudded: 7-1-55 Date total depth reached: 9-20-55 Date completed, ready to produce: 5-10-69 Elevation (DF, RKB, RT or Gr.) feet: 5373 DF Elevation of casing hd. flange feet: 5363

Total depth: 6382' P.B.T.D.: 4744' w/BP Single, dual or triple completion?: 3 zones commingled If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: 4596-4647', 4662-66' & 4682-4712' Rotary tools used (interval): None on this W.O. Cable tools used (interval): Used this W. O.

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): None on this Workover Date filed: -

CASING RECORD

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	12 1/4"	10-3/4"	32.75#	909	650	None
Production	7"	5"	14# & 15.5#	5670	610	None

TUBING RECORD

LINER RECORD

Size	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2 in.	4588 ft.	4588 ft.	None in.	ft.	ft.		

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
SEE ATTACHED SUMMARY			SEE ATTACHED SUMMARY	

INITIAL PRODUCTION

Date of first production: \_\_\_\_\_ Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump): Flow

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
2-6-69	24	22/64"	-0- bbls.	2,200 MCF	-0- bbls.	- * API (Corr)

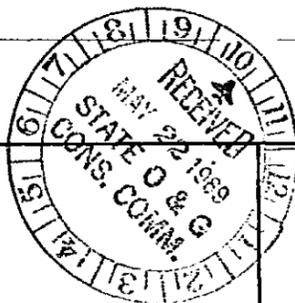
Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
960	1040		-0- bbls.	2,200 MCF	-0- bbls.	-

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

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Chief Engineer 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: 5-20-69

Signature: John F. Richardson



STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Well Completion or Recompletion Report and Well Log  
File One Copy

Permit No. 28

Form No. 4

(Complete Reverse Side)

NAVAJO TRIBE OF INDIANS #1

5-14-69

RECOMPLETION SUMMARY

Perforated 4596-4647', 4662-66', 4682-4712' and 4782-4808' with 2 SPF. Ran tubing with retrievable bridge plug and packer. Set bridge plug at 4820'. Packer at 4754' to isolate and test perforations 4782-4808'. Swabbed and flowed to clean up. Flow tested 24 hours for 51 BO and 101 BW on 56/64" choke. Tubing pressure ranged from 435# to 500#, separator pressure 140#. Killed well.

Moved bridge plug to 4744' and packer to 4672' to isolate and test perforations 4682-4712'. Swabbed load water, flowed at approximately 200 MCFPD. Pumped in 250 gallons mud acid. Flowed back acid and load water and cleaned up. Tested at rate of 2,100 MCFPD, tubing pressure 920#. Killed well.

Moved bridge plug to 4676' and packer to 4585' to isolate and test perforations 4662-66' and 4596-4647'. Swabbed load water, well started flowing approximately 150 MCFPD. Pumped in 250 gallons mud acid at 800#. Flowed to clean up and shut in over night. SI tubing pressure next AM 1125#. Flow tested at rate of 600 MCFPD. Killed well.

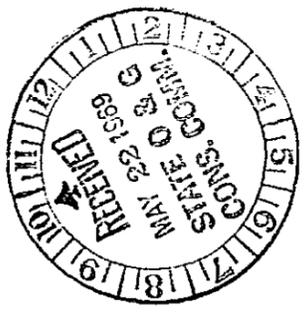
Moved bridge plug to 4744' and packer to 4587', leaving perforations 4596-4647', 4662-66' and 4682-4712' open to tubing. Swabbed load water and well started flowing. Cleaned up and tested at rate of 1,700 MCFPD on 20/64" choke, tubing pressure 920#. Shut in, pressured up to 2000# on annulus, held OK.

Moved bridge plug to 4655' and set packer at 4587'. Treated perforations 4596-4647' with 5000 gallons acid with inhibitor and 60 nylon balls dropped in intervals of 20 at a time. Flushed with 4000 gallons water, maximum pressure 3000#, on vacuum at end of job. Flowed back acid and flush water, cleaned up. Flowed well with 400# pressure on tubing through 1" choke for 7 hours, recovered 100 barrels water and 70 barrels oil. Raised tubing pressure to 925#, flowed for 16 hours, recovered 70 barrels water, gas rate of 2,100 MCFPD. Flowed an additional 8 hours, recovered 30 barrels fluid (water and oil) and gas at a rate of 2,100 MCFPD.

Set bridge plug at 4744' and packer at 4655' to isolate perforations 4682-4712' and 4662-66' from perforations 4596-4647'. Flowed upper perforations through annulus and lower perforations through tubing, shut in over night. Casing and tubing pressure both 1125# next AM. Opened casing and blew down to 500#, pressure on tubing decreased to 800#. Recovered 33 barrels fluid (3BO and 30 BW) in 2 hours. Pinched in casing and pressure raised to 920#, tubing increased to 1000#. Casing flowing at rate of 4,200 MCFPD. Shut in casing, pressure increased to 1060# and tubing to 1050#. Opened tubing, lowered pressure to 920#, casing stayed at 1040#. Tubing flowed at rate of 2,200 MCFPD, no fluid. Shut in, casing and tubing increased to 1160#. Killed well and moved packer to 4588'. Hooked into sales line on approximately 2-10-69 and have produced and sold gas since that time.

It has now been decided that this will be the final completion for this workover. The well will be produced from perforations 4596-4647' as long as feasible before considering opening up the lower zones.

Complete 5-10-69.



SUNDRY 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) \_\_\_\_\_  
 3. Well Name Navajo Tribe of Indians #1  
 Location NE SE (1980' FSL & 990' FEL) of Section 4  
 Sec. 4 Twp. 41N Rge. 28E County Apache Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-603-413

5. Field or Pool Name Boundary Butte, East

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"/>
(OTHER)	<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.)

46 Well is being produced and gas sold through sales line. No work has been done since report of 2-7-69.



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

Signed John F. Richardson  
 John F. Richardson

Dist. Chief Engineer Date 5-12-69

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

Permit No. 28

1. SUNDRY 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) \_\_\_\_\_  
 3. Well Name Navajo Tribe of Indians #1  
 Location NE SE (1980' FSL & 990' FEL) of Section 4  
 Sec. 4 Twp. 41N Rge. 28E County Apache, Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-603-413

5. Field or Pool Name Boundary Butte, East

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

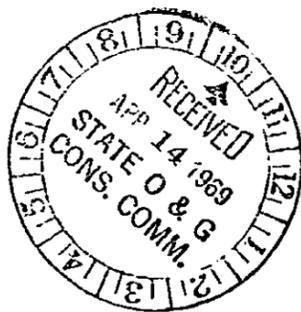
NOTICE OF INTENTION TO:			SUBSEQUENT REPORT OF:				
TEST WATER SHUT-OFF	<input type="checkbox"/>	PULL OR ALTER CASING	<input type="checkbox"/>	WATER SHUT-OFF	<input type="checkbox"/>	MONTHLY PROGRESS	<input checked="" type="checkbox"/>
FRACTURE TREAT	<input type="checkbox"/>	DIRECTIONAL DRILL	<input 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)	_____	ABANDONMENT	<input type="checkbox"/>
(OTHER)	_____	(OTHER)	_____	(OTHER)	_____	(OTHER)	_____

(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.)

9 Well is being produced and gas sold through sales line. No work has been done since report of 2-7-69.

*Oil to Four Corners  
Gas to EPNG*



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

Signed J. Roy Dorrrough Title Dist. Supt. Date 4-10-69

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

Permit No. 28

OPERATOR'S CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL OR GAS FROM LEASE		
Navajo Tribe of Indians		
Federal, State or Indian Lease Number, or lessor's name if fee lease	Field	Reservoir
14-20-603-413	Boundary Butte, East	Paradox
Survey or Sec-Twp-Rge	County	State
Sec. 4-41N-28E - G&SRM	Apache	Arizona
Operator Humble Oil & Refining Company, P. O. Box 120, Denver, Colorado 80201		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street	City	State
P. O. Box 120	Denver,	Colorado 80201
Above named operator authorizes (name of transporter)		
Four Corners Pipeline Company (1/2 Shell Oil Company)		
Transporter's street address	City	State
P. O. Box 2648	Houston,	Texas 77001
Field address P. O. Box 1588, 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
El Paso Natural Gas Company	100	Gas
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.  To show gas gatherer.		

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 2-18-69  
Signature J. Roy Dorrough

Date approved: 2-24-69

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: John Gamm  
Permit No. 28



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

NAVAJO TRIBE OF INDIANS #1

2-7-69

WORKOVER PROGRESS REPORT

Continued from Form 9-331

Moved bridge plug to 4655' and set packer at 4587'. Treated perforations 4596-4647' with 5000 gallons acid with inhibitor and 60 nylon balls dropped in intervals of 20 at a time. Flushed with 4000 gallons water, maximum pressure 3000#, on vacuum at end of job. Flowed back acid and flush water, cleaned up. Flowed well with 400# pressure on tubing through 1" choke for 7 hours, recovered 100 barrels water and 70 barrels oil. Raised tubing pressure to 925#, flowed for 16 hours, recovered 70 barrels water, gas rate of 2,100 MCFPD. Flowed an additional 8 hours, recovered 30 barrels fluid (water and oil) and gas at a rate of 2,100 MCFPD.

Set bridge plug at 4744' and packer at 4655' to isolate perforations 4682-4712' and 4662-66' from perforations 4596-4647'. Flowed upper perforations through annulus and lower perforations through tubing, shut in over night. Casing and tubing pressure both 1125# next AM. Opened casing and blew down to 500#, pressure on tubing decreased to 800#. Recovered 33 barrels fluid (3 BO and 30 BW) in 2 hours. Pinched in casing and pressure raised to 920#, tubing increased to 1000#. Casing flowing at rate of 4,200 MCFPD. Shut in casing, pressure increased to 1060# and tubing to 1050#. Opened tubing, lowered pressure to 920#, casing stayed at 1040#. Tubing flowed at rate of 2,200 MCFPD, no fluid. Shut in, casing and tubing increased to 1160#. Killed well and moved packer to 4588'. Hooking up to put on sales line.

We now request approval to leave bridge plug set at 4744' and packer at 4588' and produce both upper gas zones commingled through tubing, leaving the lower oil zone blanked off. After extensive testing through separation equipment and sales line, we will consider how permanent completion will be made and so recommend through Sundry Notices.

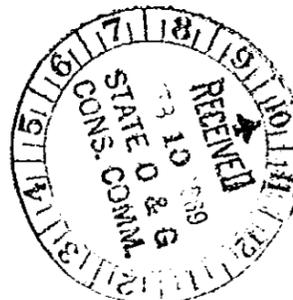
\*\*\*\*\*

BOTTOM HOLE PRESSURE DATA:

Pressures at mid-point of perforations as follows:

Zone	SI Period	Mid-Point Pressure	Fluid Level	Surface Pressure
4806-16' (Orig. Compl.)	7 days	1293 psig	1917'	Zero
4596-4647' & 4662-66'	67 hours	1267 psig	None in hole	1112
4682-4712'	12 hours	1450 psig	" " "	1290

\*\*\*\*\*



UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIP (Other instruction verse 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

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  
**NES SE (1930' FSL & 990' FEL) of Section 4.**

14. PERMIT NO. \_\_\_\_\_

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**5373' BF**

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-603-413**

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

7. UNIT AGREEMENT NAME  
-

8. FARM OR LEASE NAME  
**Navajo Tribe of Indians**

9. WELL NO.  
**1**

10. FIELD AND POOL, OR WILDCAT  
**Boundary Butte, East**

11. SEC., T., R., M. OR BLM. AND SURVEY OR AREA  
**Sec. 4-41N-23E - GSRM**

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"/>	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>Workover Progress</b> <input checked="" type="checkbox"/>	

(Other) **Do extensive testing**

(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.)

Perforated 4596-4647', 4662-66', 4682-4712' and 4782-4803' with 2 SPT. Ran tubing with retrievable bridge plug and packer. Set bridge plug at 4820'. packer at 4754' to isolate and test perforations 4782-4803'. Swabbed and flowed to clean up. Flow tested 24 hours for 51 BW and 101 BW on 56/64" choke. Tubing pressure ranged from 435# to 500#, separator pressure 140#. Killed well.

Moved bridge plug to 4744' and packer to 4672' to isolate and test perforations 4682-4712'. Swabbed load water, flowed at approximately 200 MCFPD. Pumped in 250 gallons mud acid. Flowed back acid and load water and cleaned up. Tested at rate of 2,100 MCFPD, tubing pressure 920#. Killed well.

Moved bridge plug to 4676' and packer to 4585' to isolate and test perforations 4662-66' and 4596-4647'. Swabbed load water, well started flowing approximately 150 MCFPD. Pumped in 250 gallons mud acid at 800#. Flowed to clean up and shut in over night. SI tubing pressure next AM 1125#. Flow tested at rate of 600 MCFPD. Killed well.

Moved bridge plug to 4744' and packer to 4587', leaving perforations 4596-4647', 4662-66' and 4682-4712' open to tubing. Swabbed load water and well started flowing. Cleaned up and tested at rate of 1,700 MCFPD on 20/64" choke, tubing pressure 920#. Shut in, pressured up to 2000# on annulus, held OK.

CONTINUED ON ATTACHED SHEET

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

SIGNED J. Roy Dorough TITLE Dist. Supt. DATE 2-7-69

(This space for Federal or State office use)

APPROVED BY John J. Bannister TITLE Asst. Sec. DATE 2-10-69

CONDITIONS OF APPROVAL, IF ANY:

28

\*See Instructions on Reverse Side

**Instructions**

**General:** This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated, on Federal and Indian lands pursuant to applicable Federal law and regulations, and, if approved or accepted by any State, pursuant to applicable State law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. Consult local

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 17:** Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by local Federal and/or State offices. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones; or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well; and date well site conditioned for final inspection, looking to approval of the abandonment.

U.S. GOVERNMENT PRINTING OFFICE: 1964-O-355229  
GPO 8 37-498

See instructions on Reverse Side

DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
SUNDRY NOTICE AND REPORTS ON WELLS

Blank area for text and tables, including a section for 'Check Appropriate Box To Indicate Points of Interest, Report, or Other Data'.

APPROVED BY \_\_\_\_\_  
COMMISSIONER OF LAND MANAGEMENT

BU.

PRODUCTION AND PRODUCTIVITY

#28

- 1-13-69: Ran BHP survey. Pulled tubing.
- 1-14-69: Perforated with Schlumberger 4596-4647', 4682-4712', 4782-4808' 2 SPF. Ran tubing with set bridge plug and retrievable packer. Set bridge plug at 4820', packer at 4754'. Found fluid at 1600'. Swabbed tubing 1 hr. rec. 14 bbls. fluid from perfs 4818'. SI for night
- 1-15-69: TP 7 at 500#. Swabbed 4 hrs., rec. 9 bbls. fluid. Flowed 5 hrs., rec. 90 bbls. fluid. Total rec. 111 bbls. water, 70 bbls. oil.
- 1-16-69: Flowed well 6 hrs., rec. 100 B.O., 200 B.W. (water est.). Flowed well 6 hrs. on 1/2" choke with TP 800#, flowed 10 hrs. on 1/2" choke with TP 600 from perfs 4782-4818' TP this AM 1250#, CP 200#.
- 1-17-69: Flowed well 24 hrs. from perfs 4782-4818', 51 B.O., 101 B.W., 56/64" choke. TP ranged from 435 to 50 sep. press. 140.
- 1-18-69: Killed well and moved bridge plug up to .74 packer to 4672'. Swabbed tubing from perfs 4682-4712' 1 hour, rec. 22 bbls. load water and some gas, approx. 50 MCF. SI for night.
- 1-19-69: TP 1250# at 7 AM. Opened well, well flowed. Pumped 250 gals. mud clean out acid into perfs 4682-4712'. Well flowed back 250 gals. acid water plus 20 bbls. load water. Well flowing gas, no fluid, est. 1 million cubic feet, with 500# pressure on tubing thru 1/2" choke.
- 1-20-69: Prep. to measure gas from perfs 4682-4712'.
- 1-21-69: Flowing well to check gas measurement from perfs 4682-4712'.
- 1-22-69: Flowing well. Measured gas 23 hrs. at rate of 2.1 MCFG from perfs 4672-4712', 4" run, 3" orifice plate, static pressure 46#, differential press. 35", TP 900#. Killed well. Moved BP from 4744' to 4676' and packer from 4672' to 4585' to test perfs 4662-66' and 4596-4647'. Swabbed tubing with one pull, rec. 15 bbls. load water. Well started flowing approx. 150 MCFGD. Press. on tubing at 7 AM 1-23-69 1115#, CP zero.
- 1-23-69: Pumped in 250 gals. 15% mud acid at 800# pressure in perfs 4662-66' and 4596-4647'. Flowed well 4 hrs., 800# pressure on tubing. Measured with orifice well tester at rate of 400 MCFGD. Gas meter bellows broke. TP this AM 1125#
- 1-24-69: Flow tested perfs 4662-66' and 4596-4647' 8 hrs., rec. gas measured at 600 MCFD. SI for bottom hole pressure.
- 1-25-69: SI.
- 1-26-69: SI.
- 1-27-69: Prep. to run bottom hole pressure and change packers.
- 1-28-69: Ran BHP on perfs 4662-66' and 4596-4647'. Killed well, moved BP down to 4744', reset packer at 4587', leaving perfs 4662-66, 4596-4647 and 4682-4712' open to tubing. Swabbed tubing one pull, well started flowing. Put on test. After 5 hrs. measured 900 MCFGD. After 17 hrs. well is producing at rate of one million cubic feet per day.
- 1-29-69: SI. Flowed well 5 hrs. at rate of 1.7 million CFGD. Rec. 10 bbls. load water. Flowed well on 20/64" choke. TP 920, 2" orifice, 65" differential, 4" run, 92# static pressure.

Flowed reports  
informal perforation



#28

**SUNDRY 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) \_\_\_\_\_  
 3. Well Name Navajo Tribe of Indians #1  
 Location NE SE (1980' FSL & 990' FEL) of Section 4.  
 Sec. 4 Twp. 41N Rge. 28E County Apache Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease 14-20-603-413

5. Field or Pool Name Boundary Butte, East.

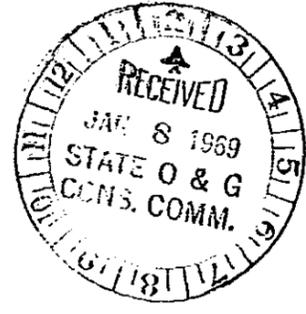
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:			SUBSEQUENT REPORT OF: <u>December, 1968</u>				
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"/>
(OTHER)	<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.)

Work should begin within a few days.



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

Signed [Signature] Title Dist. Supt. Date 1-2-69

Permit No. 28

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

33

SUNDRY 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) \_\_\_\_\_  
 3. Well Name Navajo Tribe of Indians #1  
 Location NE SE (1980' FSL & 990' FEL) of Section 4.  
 Sec. 4 Twp. 41N Rge. 28E County. Apache Arizona.  
 4. Federal, State or Indian Lease Number, or lessor's name if fee lease. 14-20-603-413  
 5. Field or Pool Name Boundary Butte, East

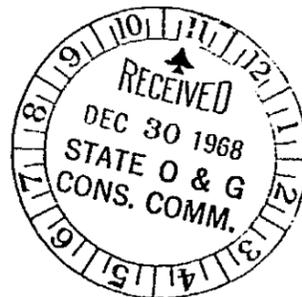
6. Check Appropriate Box to Indicate Nature of Notice, Report, or Other Data

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) _____	ABANDONMENT <input type="checkbox"/>
(OTHER) _____		(OTHER) _____	

(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 report was overlooked as of 12-1-68. As of 12-24-68 work has not begun. Should begin within one or two weeks.



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

Signed [Signature] Title \_\_\_\_\_ Date 12-26-68

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

Permit No. 28

Form 9-331  
(May 1963)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE  
(Other instructions  
verse 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

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  
**NE SE (1980' FSL & 990' FEL) of Section 4.**

14. PERMIT NO. **Arizona #28**

15. ELEVATIONS (Show whether DF, RT, GR, etc.)  
**5373 DF**

5. LEASE DESIGNATION AND SERIAL NO.  
**14-20-603-413**

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

7. UNIT AGREEMENT NAME  
**-**

8. FARM OR LEASE NAME  
**Navajo Tribe of Indians**

9. WELL NO.  
**1**

10. FIELD AND POOL, OR WILDCAT  
**Boundary Butte, East**

11. SEC., T., R., M. OR BLK. AND SURVEY OR AREA  
**Sec. 4, T. 1 N, R. 28 E, G. 4 SRM**

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 ON:	
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 checked="" type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	REPAIRING 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) <input type="checkbox"/>	(Other) <input type="checkbox"/>
(Other) <input type="checkbox"/>		(Note: Report results of multiple completion or 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.)

Well is currently producing from perforations 4806-16' at rate of 37 BO & 114 BW per day. We now propose to open additional zones in an effort to increase production as follows:

Perforate 4596-4647'; 4662-66'; 4682-4712' and 4782-4808' with 2 SP. Each zone will be tested individually and acidized if sufficient flow is obtained to warrant the stimulation.



*All Pardon Form*

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

SIGNED John F. Richardson TITLE Dist. Chief Engineer DATE 12-10-68

(This space for other signatures)

APPROVED BY [Signature] TITLE [Blank] DATE [Blank]

CONDITIONS OF APPROVAL IF ANY:  
By [Signature] DATE 12/12/68

\*See Instructions on Reverse Side  
OIL & GAS CONSERVATION COMMISSION  
STATE OF ARIZONA  
1624 WEST ADAMS, SUITE 202  
PHOENIX, ARIZONA 85007

320 28

GAS-OIL RATIO TEST REPORTS

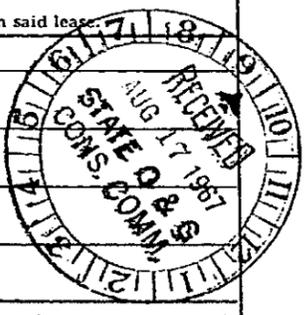
*from Oct. 9, 1967*

Filed under GAS-OIL RATIO TESTS REPORTS, EAST BOUNDARY BUTTE FIELD,  
in cabinet in office of Enforcement Director

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

**Navajo Tribe of Indians**

Federal, State or Indian Lease Number, or lessor's name if fee lease <b>14-20-603-413</b>	Field <b>East Boundary Butte</b>	Reservoir <b>Paradox</b>
Survey or Sec-Twp-Rge <b>Sec. 4-41N-28E G&amp;SR</b>	County <b>Apache</b>	State <b>Arizona</b>
Operator <b>Humble Oil &amp; Refining Company</b>		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street <b>P. O. Box 120</b>	City <b>Denver,</b>	State <b>Colorado 80201</b>
Above named operator authorizes (name of transporter) <b>Four Corners Pipeline Company (½ Shell Oil Company)</b>		
Transporter's street address <b>P. O. Box 2648</b>	City <b>Houston,</b>	State <b>Texas 77001</b>
Field address <b>P. O. Box 1588, Farmington, New Mexico 87401</b>		
Oil, condensate, gas well gas, casinghead gas		
To transport	<b>100</b>	% of the <b>Oil</b> from said lease
OTHER GATHERERS TRANSPORTING FROM THIS LEASE ARE AS FOLLOWS:		
Name of gatherer	% transported	Product transported
<b>None</b>		



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 District Superintendent 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.

August 16, 1967  
Date

*[Signature]*  
Signature

Date approved: 8-17-67

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

By: 8-17-67 John Lunnester

Permit No. 28

- CC: 1 - Mr. Henry F. Pohlman, Minerals  
Supr., Navajo Tribe  
2 - U.S.G.S. - Farmington  
1 - Worth Nelson - Oklahoma City

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

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 14-20-603-413	Field East Boundary Butte	Reservoir Hermosa
Survey or Sec-Twp-Rge NE SE Sec 4-41N-28E	County Apache	State Arizona
Operator Humble Oil & Refining Company		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street P O Box 120	City Denver	State Colorado 80201
Above named operator authorizes (name of transporter) The Permian Corporation		
Transporter's street address P O Box 3119	City Midland	State Texas 79701
Field address P O Box 1702, 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 El Paso Natural Gas Company	% transported 100	Product transported Gas Well Gas
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. Change of Oil Gatherer. Effective March 1, 1967		

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 District Production Superintendent 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.

February 21, 1967  
Date

*[Signature]*  
Signature

Date approved: 2-24-67

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

By: *[Signature]*

Permit No. 28



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

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

DESIGNATE TYPE OF COMPLETION: \* See Below

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 Tribe of Indians 14-20-603-413  
 Well Number: 1  
 Field & Reservoir: East Boundary Butte

Location: 1980' FNL & 990' FEL  
 County: Apache

Sec. TWP-Range or Block & Survey: Sec. 4-41N-28E G&SR - Meridian

Date spudded: 7-1-55  
 Date total depth reached: P.B.T.D. 4830'  
 Date completed, ready to produce: [blank]  
 Elevation (DF, RKB, RT or Gr.) feet: DF 5373  
 Elevation of casing hd. flange feet: 5363

Total depth: 6382'  
 Single, dual or triple completion?: Single  
 If this is a dual or triple completion, furnish separate report for each completion.

Producing interval (s) for this completion: 4806' - 4816'  
 Rotary tools used (interval): Surface - 6382'  
 Cable tools used (interval): None

Was this well directionally drilled?: No  
 Was directional survey made?: Yes-Max: 5 1/4° @ 5582'  
 Was copy of directional survey filed?: -  
 Date filed: -

Type of electrical or other logs run (check logs filed with the commission): Temp. Survey, Dip-meter; Electric Ind; GR-N; Section Gauge; Micro; Neutron & M/S Neutron  
 Date filed: -

CASING RECORD

Purpose	Size hole drilled	Size casing set	Weight (lb./ft.)	Depth set	Sacks cement	Amt. pulled
Surface	12-1/4"	10-3/4"	32.75	909'	650	None
Production	7"	5-1/2"	14# & 15.5#	5670'	610	None

TUBING RECORD

LINER RECORD

Size	OD	Depth set	Packer set at	Size	Top	Bottom	Sacks cement	Screen (ft.)
2-3/8	in.	4816 ft.	4774 ft.	None	ft.	ft.		

PERFORATION RECORD

ACID, SHOT, FRACTURE, CEMENT SQUEEZE RECORD

Number per ft.	Size & type	Depth Interval	Amt. & kind of material used	Depth Interval
4	Jet	5570 - 5582	500 Mud-Acid	5570 - 5582
4	Jet	4806 - 4816	500 Mud-Acid	5570 - 5582

INITIAL PRODUCTION

Date of first production: 10/2/55  
 Producing method (indicate if flowing, gas lift or pumping—if pumping, show size & type of pump): Flow

Date of test	Hrs. tested	Choke size	Oil prod. during test	Gas prod. during test	Water prod. during test	Oil gravity
11/2/55	24	1/2"	47.41 bbls.	MCF	2.18 bbls.	39.4° API (Corr)

Tubing pressure	Casing pressure	Cal'd rate of Production per 24 hrs.	Oil	Gas	Water	Gas-oil ratio
810	Packed Off		47.41 bbls.	4141 MCF	2.18 bbls.	87,344:1

Disposition of gas (state whether vented, used for fuel or sold):  
 Vented during test-Shut in from completion until commenced selling gas 2-7-63.

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Dist. Operations 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: October 1, 1965  
 Signature: *[Signature]*

Well was originally classified as an oil well. Has been changed and is now classified as Gas Well.

Permit No. 28  
 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	Total Feet	Description*
	0	70	70	Sand
	70	710	640	Sand, Red Bed & Shells
	710	887	177	Sand, & Red Bed
	887	912	25	Red Bed
	912	1039	127	Sand
	1039	1847	808	Sand & Shale
	1847	1855	8	Red Bed
	1855	2305	450	Sand & Shale
	2305	2940	635	Red Bed & Shale
	2940	3040	100	Red Shale & Shells
	3040	3177	137	Shale, Sand & Gyp
	3177	3273	96	Red Bed, Shale & Lime
	3273	3328	55	Shale w/streaks of Lime & Gyp
	3328	3468	140	Shale, Sand & Gyp
	3468	3607	139	Shale
	3607	3635	28	Red Shale & Quartz
	3635	3778	143	Shale
	3778	4037	259	Lime & Shale
	4037	4108	71	Sand, Lime & Shale
	4108	4610	502	Lime & Shale
	4610	4627	17	Lime
	4627	4689	62	Lime & Shale
	4689	4750	61	Cherty Lime & Shale Streaks
	4750	4782	32	Lime, Stone & Shale
	4782	4850	68	Shale
	4850	5096	246	Lime & Shale
	5096	5130	34	Lime
	5130	5143	13	Lime, Cherty Streak
	5143	5163	20	Lime & Chert
	5163	5357	194	Lime
	5357	5386	29	Lime, Shale & Chert
	5386	5459	73	Lime
	5459	5502	43	Lime & Shale
	5502	5540	38	Red Shale & Lime
	5540	5672	132	Lime & Shale
	5672	5698	26	Lime, Shale & Chert
	5698	5720	22	Lime & Shale
	5720	5778	58	Lime
	5778	5809	31	Lime & Shale
	5809	5833	24	Lime
	5833	5883	50	Lime & Shale
	5883	5954	71	Lime
	5954	5970	16	Lime & Shale
	5970	5974	4	Lime & Hard Sand
	5974	6035	61	Sand
	6035	6084	49	Lime
	6084	6120	36	Lime & Dolomite
	6120	6143	23	Sand & Dolomite
	6143	6204	61	Dolomite, Lime & Shale
	6204	6211	7	Lime
	6211	6243	32	Shale, Sand & Dolomite
	6243	6260	17	Lime, Sand & Shale
	6260	6300	40	Lime
	6300	6382 TD	82	Dolomite

\* 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.

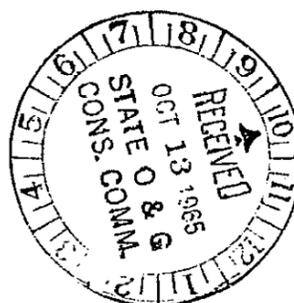
This Well Completion or Recompletion report and well log shall be filed with the State of Arizona Oil & Gas Conservation Commission not later than thirty days after project completion.

Form No. 4

DRILL STEM TESTS - NAVAJO #1

Date	Type	Formation Tested		Size Choke		Minutes Tool Open	Formation Pressure		Recovery
		From	To	Top	Bottom		Flow	Shut In	
8/3/55	OH	4600	4629	1	3/4	60	410	1070	1500 (a)
8/6/55	OH	4629	4689	1	3/4	60	240	1410	300 (b)
8/7/55	OH	4683	4738	1	3/4	45	230	1450	30 (c) 460 (c)
8/9/55	OH	4778	4798	1	3/4	60			90 (d)
8/10/55	OH	4799	4831	1	3/4	120	530	1370	390 (e) 20 (d)
8/12/55	OH	4856	4902	1	3/4	60	0	340	185 (f)
8/23/55	OH	5560	5595	1	3/4	135	950	1875	250 (g)
8/24/55	OH	5595	5616	1	1	60	0	0	15 (h)
8/26/55	OH	5651	5672	1	3/4	60	0	0	10 (h)
8/27/55	OH	5689	5720	1	3/4	90	1550	1825	540 (i) 2744 (j)
9/8/55	OH	6119	6139	1	3/4	150	1850	1950	3880 (k)
9/17/55	OH	6319	6337	1	5/8	80	425	2200	90 (l) 540 (m)

- a. Heavily gas cut drilling mud - no show of oil.
- b. Heavily gas cut drilling mud and sulphur water.
- c. Drilling mud cut with estimated 50% oil.
- d. Salty sulphur water.
- e. PIO
- f. Slightly gas cut drilling mud with trace of oil.
- g. Sulphur water.
- h. Slightly gas cut drilling mud.
- i. Slightly oil & gas cut muddy sulphur water.
- j. Gasey sulphur water.
- k. Gassy salty sulphur water.
- l. Muddy salt water.
- m. Clean salt water.



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CORING RECORD - NAVAJO #1

Core No.	Date	Formation		Recovered	Description
		From	To		
1	8/2/55	4610	4627	15'	2' grey fractured lime w/sour oil odor, 11' of grey dense lime, 2' grey frac. tan lime slightly oil stained w/fair fluorescence.
2	8/3/55	4629	4640	10'	1' grey lime, 3' grey sandy lime bleeding oil & gas, 3' grey-brown lime w/pin point fracture & good porosity bleeding oil & gas, 3' highly frac. sandy lime sli bleeding gas & slight oil stain.
3	8/4/55	4640	4689	49'	22' grey dense lime, 3' tan dense lime w/vertical fractures, 2' tan dense lime w/vert. frac. bleeding salt wtr, 13 $\frac{1}{2}$ ' gry dense lime, 2 $\frac{1}{2}$ ' dark gry limey shale, 1 $\frac{1}{2}$ ' tan dense lime w/light vertical frac., 2' tan lime, tr poro, large vertical fractures, light stain, sli bleed of oil, 1 $\frac{1}{2}$ ' gry dense lime, tight frac, 1' brn lime, sli poro, tr gas & sulphur odor.
4	8/6/55	4689	4706	17'	3' tan lime, sli poro, tr stn, good fluorescence bleeding sulphur wtr 9' gry dense lime, 4' gry lime, fair fluor. along fractures. 1' gry dense lime.
5	8/7/55	4706	4728	22'	11' gry dark fossiliferous lime, 2' dark grey lime w/vertical fractures & sulphur odor, 4' grey fossiliferous lime, 3' grey dense lime, vertical frac., sulphur water odor, 2' grey dense fossiliferous lime.
6	8/9/55	4782	4798	16'	2' gry-brn lime, sli poro, fair stn, bleeding oil & gas, tr wtr, 1' gry-brn lime, irregular frac, trace poro, sli bleeding oil & gas, 4' grey-brn lime, irregular frac, fair stain, tr oil & gas & water. 4' light tan lime w/sulphur odor, 2' gry brn cherty lime, irregular frac, fair stain.
7	8/9/55	4798	4817	19'	2' grey brown lime, 3' dark grey dense dolomite, sulphur water bleeding from fractures, 2' grey cherty dolomite, tr poro, 2' gry cherty dolomite, sli poro, sour gas odor, 5' gry cherty dolomite, good poro, sour gas odor, 1' gry cherty dolomite, sli poro, sour gas odor, 4' gry cherty dolomite, sli poro, gas odor, vertical fractures.
8	8/10/55	4817	4831	14'	3' gry-brn dense dolomite w/chert nuggets, irreg. frac., bleeding gas, 2' gry shaley dolo, irreg. frac., bleeding wtr, 5' gry-brn dolo & chert, 4' blk shale.

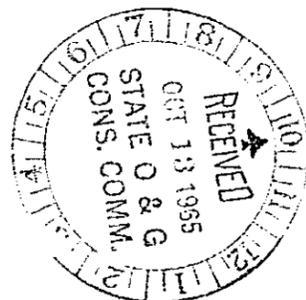


28

Coring Data - Navajo #1

2.

Core No.	Date	Formation		Recovered	Description
		From	To		
9	8/12/55	4858	4902	44'	11' black shale & grey tight sand, 1' gry tight sand, 7' black shale, 6' dark gry lime, sli stn, bleeding gas in frac, 1' brn lime, fair pin point poro, fair stn, sli bleeding oil & gas, 6' gry dense lime w/vert. frac. & sli stn, 4' gry lime, sli bleeding oil & gas & water, fair vuggy poro, 8' dark grey shaly dolo w/vert frac & sulphur odor.
10	8/24/55	5606	5616	10'	10' grey dense lime w/2½' having vertical frac. & trace of fluorescence.
11	8/24/55	5616	5622	6'	6' tan gry dense lime, vert frac, tr of bleeding gas, sli fluor. along fractures. Sulphur odor.
12	8/25/55	5622	5630	7'	1½' gry dnse dolo, 1½' lt gry, reddish lime frac, 1' lt gry reddish lime w/streaks of red & green shale, vert frac, 2' lt gry reddish lime, 1' green & red shale, streaks lime, 1' no recovery.
13	8/27/55	5702	5710	8'	1' lt dnse gry lime, 2½' lt gry & tan dolo, sli poro tight w/fair bleed dark sour oil, 1' lt gry limey dolo, dnse tr of poro, tr bleed oil, good fluor. 3½' gry brn dolo, fair poro, tight fair bleeding oil, chert, no dule, gen wet appearance. Good fluorescence.
14	8/28/55	5710	5720	10½'	10½' tan brn dolo, sli to good poro, good stain, good fluor., chert, no dules.
15	9/3/55	5974	5988	14'	4' lt gry sand, sulphur odor, tr stn & fluor., 4' brn tight sand, bleeding oil & sulphur water, 2' tight fine sand, 2' brn tight sand, bleeding oil & sulphur water, 2' white sand & green shale.
16	9/17/55	6322	6338	15'	15' dolomite with bottom 3' showing stain & good porosity.



28

HUMBLE OIL & REFINING COMPANY - NAVAJO TRIBE #1

Location: 1980' SL and 990' EL of Section 4, Township 41 N., Range 28 E., Apache County  
(NE $\frac{1}{4}$  of SE $\frac{1}{4}$ )

Elevation: 5373'

Commenced: May, 1955  
Completed: November, 1955

<u>FORMATION RECORD</u>			
<u>From</u>	<u>To</u>	<u>Total Feet</u>	<u>Formation</u>
0	70	70	Sand
70	710	640	Sand, Red Bed & Shells
710	887	177	Sand & Red Bed
887	912	25	Red Bed
912	1039	127	Sand
1039	1847	808	Sand & Shale
1847	1855	8	Red Bed
1855	2305	450	Sand & Shale
2305	2940	635	Red Bed & Shale
2940	3040	100	Red Shale & Shells
3040	3177	137	Shale, Sand & Gyp
3177	3273	96	Red Bed, Shale & Lime
3273	3328	55	Shale with streaks of Lime & Gyp
3328	3468	140	Shales, sand & Gyp
3468	3607	139	Shale
3607	3635	28	Red Shale & Quartz
3635	3778	143	Shale
3778	4037	259	Lime & Shale
4037	4108	71	Sand, Lime & Shale
4108	4610	502	Lime & Shale
4610	4627	17	Lime
4627	4689	62	Lime & Shale
4689	4750	61	Cherty lime & Shale Streaks
4750	4782	32	Lime, Stone & Shale
4782	4850	68	Shale
4850	5096	246	Lime & Shale
5096	5130	34	Lime
5130	5143	13	Lime, Cherty Streak
5143	5163	20	Lime & Chert
5163	5357	194	Lime
5357	5386	29	Lime, Shale & Chert
5386	5459	73	Lime
5459	5502	43	Lime & Shale
5502	5440	38	Red Shale & Lime
5440	5672	132	Lime & Shale
5672	5698	26	Lime, Shale & Chert
5698	5720	22	Lime & Shale
5720	5778	58	Lime
5778	5809	31	Lime & Shale
5809	5833	24	Lime
5833	5883	50	Lime & Shale
5883	5954	71	Lime
5954	5970	16	Lime & Shale
5970	5974	4	Lime & Hard Sand
5974	6035	61	Sand
6035	6084	49	Lime
6084	6120	36	Lime & Dolomite
6120	6143	23	Sand & Dolomite
6143	6204	61	Dolomite, Lime & Shale
6204	6211	7	Lime
6211	6243	32	Shale, Sand & Dolomite
6243	6260	17	Lime, Sand & Shale
6260	6300	40	Lime
6300	6382 TD	82	Dolomite

ARIZONA STATE LAND DEPARTMENT  
~~THE NEW MEXICO OIL AND GAS COMMISSION~~  
Phoenix, ~~NEW MEXICO OIL AND GAS COMMISSION~~ Arizona

Form ~~OG-57~~ OG-57  
Revised 7/1/55

*Jill*

(File the original and 4 copies with the appropriate district office)

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION  
TO TRANSPORT OIL AND NATURAL GAS

Company or Operator Humble Oil & Refining Company Lease Navajo Tribe of Indians Lease

Well No. 1 Unit Letter I S 4 T 41N R 28E Pool East Boundary Butte  
Federal (Indian)

County Apache Kind of Lease (State, Fed. or Patented) No. 14-20-603-413

If well produces oil or condensate, give location of tanks: Unit I S 4 T 41N R 28E

Authorized Transporter of Oil or Condensate Humble Oil & Refining Co. (Leased Trucks)

Address Box 1600, Midland, Texas (Field office: Box 1268, Farmington, New Mexico)  
(Give address to which approved copy of this form is to be sent)

Authorized Transporter of Gas None  
Address \_\_\_\_\_  
(Give address to which approved copy of this form is to be sent)

If Gas is not being sold, give reasons and also explain its present disposition:  
Only oil produced to date has been to test well. Gas blown to air while testing.

Reasons for Filing: (Please check proper box) New Well \_\_\_\_\_ (x)

Change in Transporter of (Check One): Oil ( ) Dry Gas ( ) C'head ( ) Condensate ( )

Change in Ownership \_\_\_\_\_ ( ) Other \_\_\_\_\_ ( )

Remarks: \_\_\_\_\_ (Give explanation below)

Form OG-57 prepared to move oil produced while testing.

The undersigned certifies that the Rules and Regulations of the ~~Oil and Gas Commission~~ State Land Department have been complied with.

Executed this the 17th day of March, 19 56

Approved May 2 19 56

~~STATE LAND DEPARTMENT COMMISSION~~  
STATE LAND DEPARTMENT COMMISSION

By [Signature]  
Title State Land Commissioner

By Russell M. Lilly  
Russell M. Lilly  
Title District Superintendent

Company Humble Oil & Refining Company

Address Box 1268  
Farmington, New Mexico

Navajo Farmington, N. M.

U. S. LAND OFFICE

SERIAL NUMBER

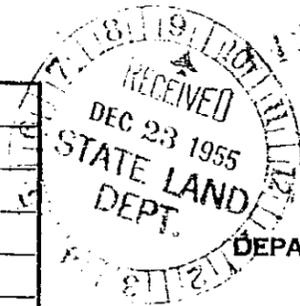
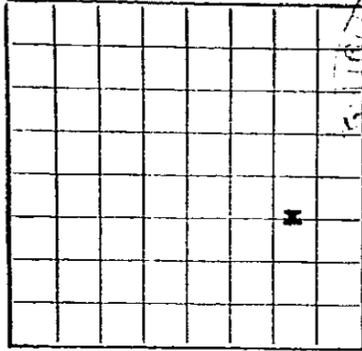
LEASE OR PERMIT TO PROSPECT

Lease No. 14-20-603-413

UNITED STATES Co. Lse. No. 196195

DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY



LOG OF OIL OR GAS WELL

LOCATE WELL CORRECTLY

Company Humble Oil & Refining Company
Address 2180, Houston 1, Texas
Lessor or Tract Navajo Tribe of Indians
Field Boundary Butte State Arizona
Well No. 1 Sec. 4 T. 41N R. 28E Meridian G & SR County Apache

Location 1980 ft. N of Line and 990 ft. W of Line of Section 4 Elevation 5373

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed Russell M. Lilly District Superintendent
Date November 11, 1955

The summary on this page is for the condition of the well at above date.

Commenced drilling July 1, 1955 Finished drilling September 26, 1955

OIL OR GAS SANDS OR ZONES

No. 1 from 4806 to 4816 (G) No. 2 from 5270 to 5282 (G)

No. 3 from 5282 to 5292 No. 4 from 5292 to 5302

No. 5 from 5302 to 5312 No. 6 from 5312 to 5322

IMPORTANT WATER SANDS

No. 1 from 5322 to 5332 No. 2 from 5332 to 5342

No. 3 from 5342 to 5352 No. 4 from 5352 to 5362

CASING RECORD

Table with columns: Size casing, Weight per foot, Threads per inch, Make, Amount, Kind of shoe, Cut and pulled from, Date, Purpose.

MUDDING AND CEMENTING RECORD

Table with columns: Size casing, Weight per foot, Number sacks of cement, Method used, Mud gravity, Amount of mud used.

PLUGS AND ADAPTERS

Heaving plug - Material
Adapters - Material

SHOOTING RECORD

Table with columns: Size, Shell used, Explosive used, Quantity, Date, Depth shot, Depth cleaned out.

Rotary tools were used from 0 feet to 4382 feet, and from 220 feet to 220 feet

Cable tools were used from 0 feet to 0 feet, and from 370 feet to 370 feet

DATES

Put to producing Presently shut-in - No pipe line connection

The production for the first 24 hours was 49.59 barrels of fluid of which 95.66% was oil;

emulsion, % water, and % sediment. Gravity °Bé 37.4

If gas well, cu. ft. per 24 hours Gallons gasoline per 1,000 cu. ft. of gas

Rock pressure, lbs. per sq. in. 1370

EMPLOYEES

J. R. Hale Driller F. M. Hariston Driller

Aaron Nichols Driller

FORMATION RECORD

Date: November 11, 1955

Signed

Russell M. Lilly  
District Superintendent

The summary on this page is for the condition of the well at above date.

Commenced drilling July 1, 1955 Finished drilling September 26, 1955

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

No. 1, from 4806 to 4816 (OG) No. 4, from ... to ...  
No. 2, from 5570 to 5582 (G) No. 5, from ... to ...  
No. 3, from ... to ... No. 6, from ... to ...

IMPORTANT WATER SANDS

No. 1, from ... to ... No. 3, from ... to ...  
No. 2, from ... to ... No. 4, from ... to ...

CASING RECORD

Table with columns: Size casing, Weight per foot, Threads per inch, Make, Amount, Kind of shoe, Cut and pulled from, Perforated (From-To), Purpose. Includes entries for 10 3/4" and 5 1/2" casing.

MUDDING AND CEMENTING RECORD

Table with columns: Size casing, Where set, Number sacks of cement, Method used, Mud gravity, Amount of mud used. Includes entries for 10 3/4" and 5 1/2" casing.

PLUGS AND ADAPTERS

Heaving plug - Material ...  
Adapters - Material ...

SHOOTING RECORD

Table with columns: Size, Shell used, Explosive used, Quantity, Date, Depth shot, Depth cleaned out. Includes entries for Schlumberger Jet, Lane Well, and Welco Jet.

TOOLS USED

Rotary tools were used from 0 feet to 6302 feet, and from ... feet to ... feet  
Cable tools were used from ... feet to ... feet, and from ... feet to ... feet

DATES

Put to producing Presently shut-in - No. 10  
The production for the first 24 hours was 49.59 barrels of fluid of which 95.6% was oil; 4.4% emulsion; % water; and % sediment. Gravity, °Bé. 39.4  
If gas well, cu. ft. per 24 hours ... Gallons gasoline per 1,000 cu. ft. of gas ...  
Rock pressure, lbs. per sq. in. 1370

EMPLOYEES

J. R. Hale, Driller F. M. Hariston, Driller  
Aaron Holmes, Driller

FORMATION RECORD

Table with columns: FROM, TO, TOTAL FEET, FORMATION. Lists depth intervals and corresponding geological formations like Sand, Red Bed, Shale, etc.

FORMATION RECORD—Continued

FROM-	TO-	TOTAL FEET	FORMATION
4850	5096	246	Lime & Shale
5096	5130	34	Lime
5130	5143	13	Lime, <i>Chert &amp; Shale</i>
5143	5163	20	Lime & Chert
5163	5357	194	Lime
5357	5386	29	Lime, Shale & Chert
5386	5459	73	Lime
5459	5502	43	Lime & Shale
5502	5440	38	Red Shale & Lime
5540	5672	132	Lime & Shale
5672	5698	26	Lime, Shale & Chert
5698	5720	22	Lime & Shale
5720	5778	58	Lime
5778	5809	31	Lime & Shale
5809	5833	24	Lime
5833	5883	50	Lime & Shale
5883	5954	71	Lime
5954	5970	16	Lime & Shale
5970	5974	4	Lime & Hard Sand
5974	6035	61	Sand
6035	6084	49	Lime
6084	6120	36	Lime & Dolomite
6120	6143	23	Sand & Dolomite
6143	6204	61	Dolomite, Lime & Shale
6204	6211	7	Lime
6211	6243	32	Shale, Sand & Dolomite
6243	6260	17	Lime, Sand & Shale
6260	6300	40	Lime
6300	6382 TD	82	Dolomite
Top Pay	4806		

DRILL STEM TESTS - NAVAJO # 1

DATE	TYPE	FORMATION TESTED		TOP	BOTTOM	SIZE	MINUTES	FORM. PRESSURE		RECOVERY
		FROM	TO					FLCH	SHUT IN	
8-3-55	OH	4600	4629	1	3/4	60	410	1070	1500 (a)	
8-6-55	OH	4629	4689	1	3/4	60	240	1410	300 (b)	
8-7-55	OH	4689	4728	1	3/4	45	230	1450	30 (c)	
8-9-55	OH	4778	4798	1	3/4	60			160 (d)	
8-10-55	OH	4799	4831	1	3/4	120	530	1370	90 (e)	
									390 (e)	
									20 (d)	
8-12-55	OH	4858	4902	1	3/4	60	0	340	185 (f)	
8-23-55	OH	5560	5595	1	3/4	135	950	1875	250 (g)	
8-24-55	OH	5595	5616	1	1 1/2	60	0	0	15 (h)	
8-26-55	OH	5651	5672	1	3/4	60	0	0	10 (h)	
8-27-55	OH	5689	5720	1	3/4	90	1550	1825	540 (i)	
									2774 (j)	
9-8-55	OH	6119	6139	1	3/4	150	1850	1950	3880 (k)	
9-17-55	OH	6319	6337	1	5/8	80	425	2200	90 (l)	
									540 (m)	

SHOOTING RECORD

- a. Heavily gas cut drilling mud - no show of oil
  - b. Heavily gas cut drilling mud and sulphur water
  - c. Drilling mud cut with estimated 50% oil
  - d. Salty sulphur water
  - e. FLO
  - f. Slightly gas cut drilling mud with trace of oil
  - g. Sulphur water
  - h. Slightly gas cut drilling mud
  - i. Slightly oil & gas cut muddy sulphur water
  - j. Gassy sulphur water
  - k. Gassy salty sulphur water
1. Muddy salt water  
m. Clean salt water

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was sidetracked or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or bailing.

This well was drilled to a total depth of 6382' but was plugged back from 5900 to 5600 with 125 sacks neat cement. Set a total of 5656' 5" casing and cemented with 175 sacks neat cement. Perforated 5 1/2" casing with 300 1/2" Jet shots at 5025'. Ran second stage of cement using 310 sacks 8% gel cement and 125 sacks neat cement. Ran temperature survey and found top of cement at 5130'. Drilled through top plug to 5025' and washed to bottom. Tested perforations at 5025' with 1850# pressure for 30 minutes. Test O.K. Ran total of 5572' (182 Jts.) 2" tubing. Packed tubing and perforated 5 1/2" with 48 Jet shots from 5570' to 5582'. Reran 5572' (182 Jts.) tubing with Wilson Packer and holddown set at 5552'. Swabbed lead water down to 2500'. Well kicked off and started flowing. Flowed to pits 3 hrs. Well cleaned up to dry gas. No show of oil or water. On 2 1/2 hr. test, well produced dry gas at rate of 1,512,000 cu. ft. per day through 3/4" choke with 130# tubing pressure behind choke. Treated formation through perforations from 5570' to 5582' with 500 gals. low tension acid. Swabbed well in. Produced at rate of 4,261 MCF per day on 3/8" choke with tubing pressure of 1180#. Shut in pressure after 25 minutes 1540#. Killed well with water and pulled tubing and packer. Set bridge plug 25 minutes 1540#. Killed well with water and pulled tubing and packer. Set bridge plug at 4830'. Set second bridge plug at 4830'.

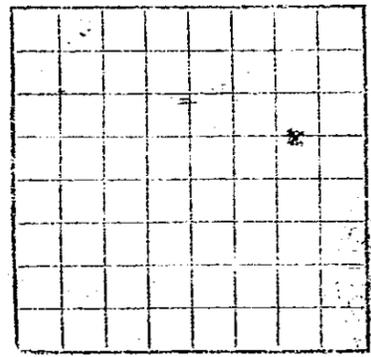
DATE	TYPE	FORMATION TESTED		TOP	BOTTOM	TOOL OPEN	FLOW PRESSURE		RECOVERY
		FROM	TO				FLOW	SHUT IN	
8-3-55	OH	4600	4629	1	3/4	60	410	1070	1500 (a)
8-6-55	OH	4629	4689	1	3/4	60	240	1410	300 (b)
8-7-55	OH	4688	4728	1	3/4	45	230	1450	30 (c)
8-9-55	OH	4778	4798	1	3/4	60			160 (d)
8-10-55	OH	4799	4831	1	3/4	120	530	1370	90 (d)
8-12-55	OH	4856	4902	1	3/4	60	0	340	390 (e)
8-23-55	OH	5560	5595	1	3/4	135	950	1875	20 (d)
8-24-55	OH	5595	5616	1	1 1/2	60	0	0	185 (f)
8-26-55	OH	5651	5672	1	3/4	60	0	0	250 (g)
8-27-55	OH	5689	5720	1	3/4	90	1550	1825	15 (h)
									10 (h)
9-8-55	OH	6119	6139	1	3/4	150	1850	1950	540 (i)
9-17-55	OH	6319	6337	1	5/8	80	425	2200	27 1/4 (j)
									3680 (k)
									90 (l)
									540 (m)

- 28
- SHOOTING RECORD
- a. Heavily gas out drilling mud - no show of oil
  - b. Heavily gas out drilling mud and sulphur water
  - c. Drilling mud out with estimated 5000 oil
  - d. Salty sulphur water
  - e. FLO
  - f. Slightly gas out drilling mud with trace of oil
  - g. Sulphur water
  - h. Slightly gas out drilling mud
  - i. Slightly oil & gas out maddy sulphur water
  - j. Gassy sulphur water
  - k. Gassy salty sulphur water
1. Maddy salt water  
2. Clean salt water
- SHOOTING AND CEMENTING RECORD

HISTORY OF OIL OR GAS WELL

It is of the greatest importance to have a complete history of the well. Please state in detail the dates of redrilling, together with the reasons for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "sidetracked" or left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shots. If plugs or bridges were put in to test for water, state kind of material used, position, and results of pumping or balling.

This well was drilled to a total depth of 6382' but was plugged back from 5900 to 5600 with 125 sacks neat cement. Set a total of 5656' 5 1/2" casing and cemented with 175 sacks neat cement. Perforated 5 1/2" casing with 2" 1/2" jet shots at 5025'. Ran second stage of cement using 310 sacks 8% gel cement and 125 sacks neat cement. Ran temperature survey and found top of cement at 5130'. Drilled through top plug to 5025' and washed to bottom. Tested perforations at 5025' with 1850' pressure for 30 minutes. Test O.K. Ran total of 5572' (182 Jts.) 2" tubing. Palled tubing and perforated 5 1/2" with 48 jet shots from 5570' to 5582'. Reran 5572' (182 Jts.) tubing with Wilson Packer and hold down set at 5552'. Swabbed lead water down to 2500'. Well kicked off and started flowing. Flowed to pits 3 hrs. Well cleaned up to dry gas. No show of oil or water. On 2 1/2 hr. test, well produced dry gas at rate of 1,512,000 cu. ft. per day through 3/4" choke with 1300' tubing pressure behind choke. Treated formation through perforations from 5570 to 5582' with 500 gals. low tension acid. Swabbed well in. Produced at rate of 4,261 MCF per day on 3/8" choke of tubing pressure at 2180'. Shut in pressure after 25 minutes 1540'. Killed well with water and pulled tubing and packer. Set bridge plug at 5550' and dumped 50' of cement on top of plug. Set second bridge plug at 4830'. Perforated 5 1/2" casing with 4 jet shots per foot from 4806' to 4816'. Ran tubing and packer. Swabbed well in. On 23-hour test on 1/2" choke, well flowed 135.77 bbls. fluid 114.05 bbls. oil. Average shakeout 16% BS corrected gravity 37.9. Flowed gas at rate of 3,105 MCF per day. Treated well through perforations from 4806' to 4816' with 500 gals. low tension acid. On 24-hour potential test on 1/2" positive choke, well flowed 49.59 bbls. fluid, 47.41 bbls. oil, 2.18 bbls. or 4.44 B34W and 4.14 MCF gas. Completed as flowing oil well through perforations in 5 1/2" casing from 4806' to 4816'. Well shut in.



LOG OF OIL OR GAS WELL

GEOLOGICAL SURVEY  
DEPARTMENT OF THE INTERIOR  
UNITED STATES GOVERNMENT  
WASHINGTON, D. C.

NO. 100-100-100  
SERIES NO. 100-100-100  
DATE OF REPORT TO BUREAU  
BY FIELD OFFICE  
BY FIELD OFFICE

RECEIVED  
OCT 20 1955  
GEOLOGICAL SURVEY  
WASHINGTON, D. C.

Log of Oil or Gas Well  
Navajo Tribe of Indians Well No. 1

CORING RECORD

CORE NO.	DATE	FORMATION		RECOVERED	DESCRIPTION
		FROM	TO		
1	8-2-55	4610	4627	15'	2' grey fractured lime with sour oil odor, 11' of grey dense lime, 2' grey fractured tan lime slightly oil stained w/fair fluorescence.
2	8-3-55	4629	4640	10'	1' grey lime, 3' grey sandy lime bleeding oil & gas, 3' grey brown lime w/pin point fracture & good porosity bleeding oil & gas, 3' highly fractured sandy lime slightly bleeding gas & slight oil stain.
3	8-4-55	4640	4689	49'	22' grey dense lime, 3' tan dense lime w/vertical fractures, 2' tan dense lime w/vertical fractures bleeding salt water, 13 1/2' grey dense lime, 2 1/2' dark grey limy shale, 1 1/2' tan dense lime w/light vertical fractures, 2' tan lime, trace porosity, large vertical fractures, light stain, slight bleed of oil, 1 1/2' grey dense lime, tight fractures, 1' brown lime, slight porosity, trace gas and sulphur odor.
4	8-6-55	4689	4706	17'	3' tan lime, slight porosity, trace stain, good fluorescence, bleeding sulphur water 9' grey dense lime, 4' grey lime, fair fluorescence along fractures. 1' grey dense lime.
5	8-7-55	4706	4728	22'	11' grey dark fossiliferous lime, 2' dark grey lime w/vertical fractures & sulphur odor, 4' grey fossiliferous lime, 3' grey dense lime, vertical fractures, sulphur water odor, 2' grey dense fossiliferous lime.
6	8-9-55	4782	4798	16'	2' grey brown lime, slight porosity, fair stain, bleeding oil & gas trace water, 1' grey brown lime, irregular fractures, trace porosity slight bleeding oil & gas, 4' grey brown lime, irregular fractures, fair stain, trace oil & gas & water. 4' light tan lime w/sulphur odor, 2' grey brown cherty lime, irregular fractures, fair stain.
7	8-9-55	4798	4817	19'	2' grey brown lime, 3' dark grey dense dolomite, sulphur water bleeding from fractures, 2' grey cherty dolomite, trace porosity, 2' grey cherty dolomite, slight porosity, sour gas odor, 5' grey cherty dolomite, good porosity, sour gas odor, 1' grey cherty dolomite, slight porosity, sour gas odor, 4' grey cherty dolomite, slight porosity, gas odor, vertical fractures.
8	8-10-55	4817	4831	14'	3' grey brown dense dolomite w/chert nuggets, irregular fractures, bleeding gas, 2' grey shaley dolomite, irregular fractures, bleeding water, 5' grey brown dolomite & chert, 4' black shale.
9	8-12-55	4858	4902	44'	11' black shale and grey tight sand, 1' grey tight sand, 7' black shale, 6' dark grey lime, slight stain, bleeding gas in fractures, 1' brown lime, fair pin point porosity, fair stain, slight bleeding oil & gas, 6' grey dense lime w/vertical fracture and slight stain, 4' grey lime, slight bleeding oil & gas & water fair vuggy porosity, 2' dark grey shaly dolomite w/vertical fractures & sulphur odor.
10	8-24-55	5606	5616	10'	10' grey dense lime w/2 1/2' having vertical fractures & trace of fluorescence.

## Log of Oil or Gas Well

Navajo Tribe of Indians Well No. 1

CORING RECORD CONT'D

<u>CORE NO.</u>	<u>DATE</u>	<u>FORMATION</u>		<u>RECOVERED</u>	<u>DESCRIPTION</u>
		<u>FROM</u>	<u>TO</u>		
11	8-24-55	5616	5622	6'	6' tan grey dense lime, vertical fractures, trace of bleeding gas, slightly fluorescent along fractures. Sulphur odor.
12	8-25-55	5622	5630	7'	1½' grey dense dolomite, 1½' light grey reddish lime fractured, 1' light grey reddish lime w/streaks of red and green shale, vertical fractures, 2' light grey reddish lime, 1' green & red shale, streaks lime, 1' no recovery.
13	8-27-55	5702	5710	8'	1' light dense grey lime, 2½' light grey & tan dolomite, slight porosity tight w/fair bleed dark sour oil, 1' light grey limey dolomite, dense trace of porosity, trace bleeding oil, good fluorescence. 3½' grey brown dolomite, fair porosity, tight fair bleeding oil, chert, no dull, general wet appearance. good fluorescence.
14	8-28-55	5710	5720	10½'	10½' tan brown dolomite, slight to good porosity, good stain, good fluorescence, chert no dules
15	9-3-55	5974	5988	14'	4' light grey sand, sulphur odor, trace stain & fluorescence, 4' brown tight sand, bleeding oil & sulphur water, 2' tight fine sand, 2' brown tight sand, bleeding oil & sulphur water, 2' white sand & green shale.
16	9-17-55	6322	6338	15'	15' dolomite with bottom 3' showing stain & good Porosity.

ACID RECORD

<u>DATE</u>	<u>FROM</u>	<u>TO</u>	<u>GALLONS</u>	<u>KIND</u>	<u>MIN. PRESSURE</u>	<u>MAX. PRESSURE</u>	<u>SERVICE CO.</u>
10-3-55	5570	5582	500	Mud Acid	300	1200	Dowell
10-11-55	4806	4816	500	Mud Acid	0	600	Dowell

28

*Humace Or B.*  
El Paso Natural Analysis

San Juan Division Laboratory  
Analysis #33-688  
December 5, 1955

Subject:

A.S.T.M. distillation (Method D-86) and related data from Humble Oil and Refining Co.'s Navajo #1. Sample secured on November 9, 1955 by Mr. Lilly. Location: SE4, T 4 N, R 28 E, Apache County, Arizona.

Results:

Gravity °API at 60°F	37.9
Basin Sediment and Water, %	0.3
I. B. P., °F	146
55	200
10	240
20	304
30	378
40	465
50	520
End Point, °F	538
Recovery, %	55
Residue, %	44
Loss, %	1

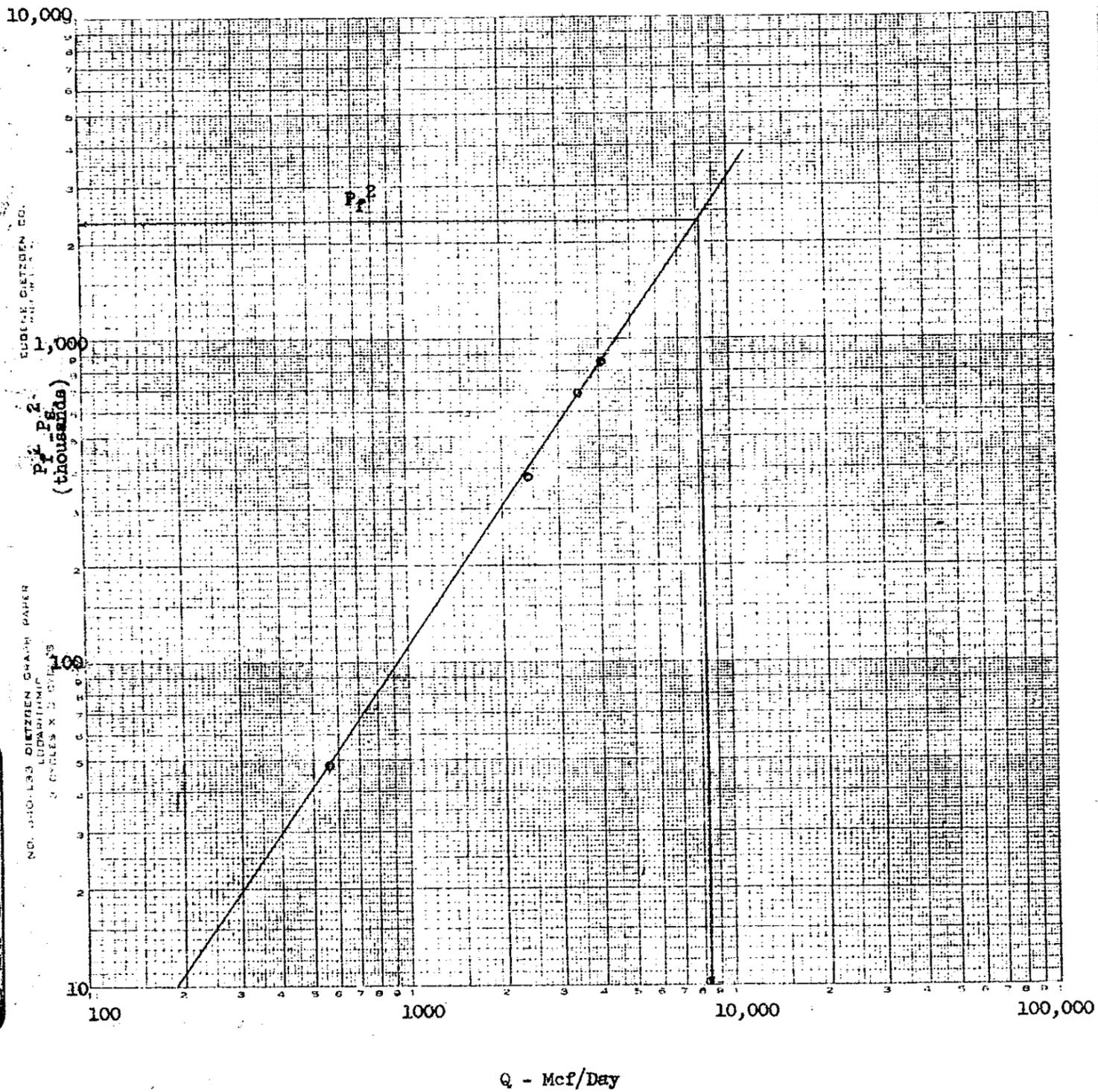
*F. W. Sattler*

F. W. Sattler, Chemist

cc: J. F. Eichelmann  
M. M. Atcheson  
D. C. Klein  
L. D. Galloway  
R. W. Allen  
E. J. Coel  
C. C. Kennedy (3)  
file







New Well X

Workover

Re-Test

Reclassified

Oil to Gas

State

RAILROAD COMMISSION OF TEXAS  
OIL AND GAS DIVISION

Form GWT-1  
Back Pressure Test  
for Gas Wells  
(Rev. 9-28-53)

Butte

Field Arizona Field East Boundary Reservoir Paradox Reef County Apache

Operator Humble Oil & Refining Co. Lease Navajo Tribe of Indians Well No. 1

Field Office Address Box 1268, Farmington, New Mexico; Nearest Town: Shiprock, N. M.

Date of Test 11-1-55 Acres 640 Pipe Line Conn. -- Survey 6 S. & R.

Gravity (Raw Gas) 0.7875 Avg. Shut-In Temp. 69° F Bottom Hole Temp. 109° F @ 4816

Size CSG 5-1/2 Wt./Ft. 15.4 Lbs. I. D. CSG. 4.892 Set at 5670

Size TBG 2 Wt./Ft. 4.70 Lbs. I. D. TBG. 1.995 Set at 4815

Prod. Section From 4806 - 4816 Avg. Prod. Length. (L) --

Elevation 5373 Date of Completion 11-3-55 Producing through Tubing X through Casing

Angle of Slope,  $\theta = 56.33^\circ$ ;  $n = 691$

FIELD DATA

Run No.	Time of Run Min.	Choke Size	Coefficient	Choke Press PSIA	Choke Temp. °F	Wellhead Press $P_w$ PSIA *	Wellhead Flow Temp. °F	$P_w^2$ (Thousands)
Shut-In	0					1303	69	
1	90	12/64				1268	78	
2	130	24/64				1085	69	
3	90	32/64				804	58	
4	60	40/64				594	56	
5								

\* Dead weight tester + 12.0 lbs. atmosphere

VOLUME CALCULATIONS

Run No.	Size Line Fig.-Tap	Size a Orifice	Meter Coeff. 24 Hrs.	Static Pm	Diff. hw	Flow Temp. °F	Temp. Factor $F_T$	Gravity Factor $F_g$	Compress Factor $F_{pv}$	Volume MCF/Day
1	4"-Fig.	1.5	632	12.0	12	54	1.0058	.8814	1.0000	560
2	"	2.5	2642	"	20	18	1.0430	"	"	2429
3	"	"	3775	"	36	16	1.0452	"	"	3477
4	"	"	4426	"	46	14	1.0474	"	"	4086
5										

a - Orifice well tester

PRESSURE CALCULATIONS

Gas Liquid Hydrocarbon Ratio 188.8 MCF per Bbl.

Gravity of Liquid Hydrocarbon 42.5 Deg.

Gas produced into pipe line during test 655 MCF.

$$(D e_{ff})^{8/3} = \frac{V}{\sqrt{T}} = \frac{V}{F} = \dots$$

$$C = \frac{1118 \times (D e_{ff})^{8/3}}{\sqrt{T}} = \dots$$

$$\sqrt{GL} = \frac{V}{C} = \dots$$

$$G_{mix} = \dots$$

Pressures measured with subsurface gauge

Run No.	R	$R^2$ (Thousands)	$P_i$	$R_w/P_i$	F	K	$S = \frac{1}{Z}$	$E^{KS}$	$\frac{P_i^2}{P_s^2}$	$\frac{P_i^2}{P_s^2} \times a$	$P_i^2 - P_s^2$ ***
Shut-In									1522	2316	2316
1									1506	2268	48
2									1393	1940	376
3									1279	1636	680
4									1214	1474	842
5											

\*\*\* Thousands

OPEN FLOW TEST:

Shut-In Press	Paig		
Time Shut-In	Hrs.		
Producing Through			
In. H <sub>2</sub> O	In. Hg.	Paig	
Time	Reading	Time	Reading
15		25	
20		30	

Absolute Open Flow 8200 MCF/Day

Comm: \_\_\_\_\_

Conn: \_\_\_\_\_

Co: \_\_\_\_\_

Other: \_\_\_\_\_

Signatures

Prepared by: DCP  
Typed by: RS

(See Reverse Side)

\*If Field is unnamed or name has not been accepted by the Commission's Austin Office give the name of the nearest town and the distance and direction the well is located from that town.

Miles in a ..... Direction from .....

REMARKS:

Volumes calculated were based on the following:  
Base Pressure 15.025 lbs. observed barometric pressure 12.0 lbs.;  
specific gravity 0.600, base temperature 60° F.

AFFIDAVIT

STATE OF TEXAS

COUNTY OF Midland

BEFORE me, the undersigned authority, on this day personally appeared R. S. Dewey

*R. S. Dewey*, known to me to be the person whose name is subscribed to this instrument, who, after being by me duly sworn on oath, states that he is employed by or associated with Humble Oil & Refining Company in the capacity of Division Petroleum Engineer;

that these tests were made by affiant or under the supervision of affiant; that the test data and factual data shown hereon are true and correct; and that no pertinent matter inquired about in said report has been omitted.

Subscribed and Sworn to before me on this the 10 day of November, 19 55

*M. Ruth Smith*  
M. RUTH SMITH  
Notary Public in and for Midland County, Texas



THE INDEPENDENT LABORATORY #28

DIVISION OF U. J. BRAMMER & SONS  
HYDROCARBON ANALYSIS

PHONE 7-7952  
P. O. Box 909  
ODESSA, TEXAS

NESE 4 41N 28E

LABORATORY REPORT

Charge Humble Oil & Ref.  
Test No. 88-11-885  
Date of Run 10-16-68  
Date Received 10-18-68

A Sample of Gas From Navajo #1

Secured from Pay Zone 5570' - 5582'

At Farmington, N. M.

Secured by R. Lilly

Purpose \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

Sampling Conditions: \_\_\_\_\_

LOW-TEMPERATURE ANALYSIS

	Gas Vol. or Mol %	Liquid Vol. %	GPM
Hydrogen Sulfide	0.12		
Carbon Dioxide	10.58		
Air			
Nitrogen (Inerts)	37.16		
Oxygen			
Methane	47.69		
Ethane	2.86		
Propane	0.32		0.225
Iso-Butane	0.12		0.039
N-Butane	0.27		0.088
Iso-Pentane	0.12		0.044
N-Pentane	0.06		0.022
Iso-Hexane			
N-Hexane			
Pentanes (2)			
Hexanes (2)	0.20		0.045
Heptane (2)			
TOTAL	100.00		0.458

(1) and lighter  
(2) and heavier

ANALYSIS INFORMATION

Volume of Sample \_\_\_\_\_ cc. @ \_\_\_\_\_ °F  
Sp. Gr. Residue \_\_\_\_\_ Vol. of Residue \_\_\_\_\_ cc.  
Molecular Wgt. of Residue \_\_\_\_\_

VAPOR PRESSURE

Calculated \_\_\_\_\_ lbs. @ 100°F  
\_\_\_\_\_ lbs. @ 100°F

GASOLINE CONTENT

Gasoline \_\_\_\_\_ G.P.M.  
% Propane \_\_\_\_\_ G.P.M.  
Butanes \_\_\_\_\_ G.P.M.

TOTAL \_\_\_\_\_ G.P.M.

OTHER DATA

P-(Propane) \_\_\_\_\_ %  
B-(Butane) \_\_\_\_\_ %  
C-(Casing-head) \_\_\_\_\_ %  
BTU Content (Actual) \_\_\_\_\_ (Calc.) 582  
Sp. Gravity (Actual) \_\_\_\_\_ (Calc.) 0.6475  
A.P.I. Gr. (Actual) \_\_\_\_\_ (Calc.) \_\_\_\_\_

Run by: J. D. Keeshen

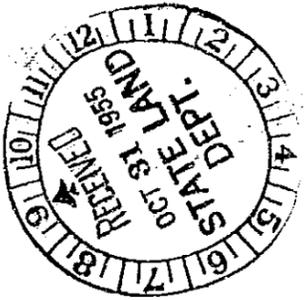
Checked by: J. D. Keeshen

Approved: \_\_\_\_\_

Additional Data and Remarks

COPIES

3-Harold Hensley  
Humble Oil & Ref. Co.  
Box 1600, Midland, Texas  
2-Russell Lilly  
Humble Oil & Ref. Co.  
Farmington, N. M.  
1-A. A. Phillips, Box 1287  
Roswell, N. M.  
1-File



12542

# THE INDEPENDENT LABORATORY

DIVISION OF L. J. BRAMMER & SONS  
HYDROCARBON ANALYSIS

Phone 7-7982  
P. O. Box 608  
ODESSA, TEXAS

Duplicate

## LABORATORY REPORT

Charge Humble Oil & Ref.  
Test No. 88-11-288  
Date of Run 10-16-55  
Date Received 10-18-55

A Sample of Gas From Navajo #1

Secured from Pay Logs 5370' - 5382'

At Farmington, N. M.

Secured by R. Lilly

Purpose \_\_\_\_\_

Time \_\_\_\_\_

Date \_\_\_\_\_

Sampling Conditions: \_\_\_\_\_

### LOW-TEMPERATURE ANALYSIS

	Gas Vol. or Mol %	Liquid Vol. %	GPM
Hydrogen Sulfide	0.12		
Carbon Dioxide	10.55		
Air			
Nitrogen (Inerts)	57.16		
Oxygen			
Methane	47.89		
Ethane	2.86		
Propane	0.89		0.225
Iso-Butane	0.12		0.039
N-Butane	0.27		0.086
Iso-Pentane	0.12		0.044
N-Pentane	0.95		0.282
Iso-Hexane			
N-Hexane			
Pentanes (S)			
Hexanes (S)	0.20		0.045
Heptane (S)			
<b>TOTAL</b>	<b>100.00</b>		<b>0.458</b>

(1) and lighter  
(S) and heavier

### ANALYSIS INFORMATION

Volume of Sample \_\_\_\_\_ cc. @ \_\_\_\_\_ °F  
Sp. Gr. Residue \_\_\_\_\_ Vol. of Residue \_\_\_\_\_ cc.  
Molecular Wgt. of Residue \_\_\_\_\_

#### VAPOR PRESSURE

Calculated \_\_\_\_\_ lbs. @ 100°F  
\_\_\_\_\_ lbs. @ 100°F

#### GASOLINE CONTENT

	Gasoline	G.P.M.
_____	_____	_____
_____	% Propane	G.P.M.
_____	Butanes	G.P.M.
<b>TOTAL</b>		<b>G.P.M.</b>

#### OTHER DATA

P—(Propane) \_\_\_\_\_ %  
B—(Butane) \_\_\_\_\_ %  
C—(Casing-head) \_\_\_\_\_ %  
BTU Content (Actual) \_\_\_\_\_ (Calc.) **552**  
Sp. Gravity (Actual) \_\_\_\_\_ (Calc.) **0.8475**  
A.P.I. Gr. (Actual) \_\_\_\_\_ (Calc.) \_\_\_\_\_

Run by: Jo B. Keeshan

Checked by: J.D. Keeshan

Approved: \_\_\_\_\_

Additional Data and Remarks

COPIES

3-Harold Humbley  
Humble Oil & Ref. Co.  
Box 1600, Midland, Texas  
2-Russell Lilly  
Humble Oil & Ref. Co.  
Farmington, N. M.  
L. A. Phillips, Box 1287  
Marvell, N. M.  
L-1112

28



12489

THE INDEPENDENT LABORATORY #28  
 DIVISION OF L. J. BRAMMER & SONS  
 HYDROCARBON ANALYSIS

NESE 4, 41N-28E

PHONE 7-7952  
 P. O. Box 909  
 ODESSA, TEXAS

LABORATORY REPORT

Charge Humble Oil & Ref.  
 Test No. 55-11-386  
 Date of Run 10-15-55  
 Date Received \_\_\_\_\_

A Sample of Gas from Navajo #1  
 Secured from Pay Zone 4806' - 4816'  
 At Farmington, N. M. Secured by R. Lilly  
 Purpose \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_  
 Sampling Conditions: \_\_\_\_\_

LOW-TEMPERATURE ANALYSIS

	Gas Vol. or Mol %	Liquid Vol. %	GPM
Hydrogen Sulfide	1.53		
Carbon Dioxide	11.97		
Air			
Nitrogen (Inerts)	9.71		
Oxygen			
Methane	70.64		
Ethane	3.57		
Propane	1.54		0.421
Iso-Butane	0.18		0.059
N-Butane	0.38		0.120
Iso-Pentane	0.08		0.029
N-Pentane	0.08		0.029
Iso-Hexane			
N-Hexane			
Pentanes (2)			
Hexanes (2)	0.32		0.139
Heptane (2)			
TOTAL	100.00		0.799

ANALYSIS INFORMATION

Volume of Sample \_\_\_\_\_ cc. @ \_\_\_\_\_ °F  
 Sp. Gr. Residue \_\_\_\_\_ Vol. of Residue \_\_\_\_\_ cc.  
 Molecular Wgt. of Residue \_\_\_\_\_

VAPOR PRESSURE

Calculated \_\_\_\_\_ lbs. @ 100°F  
 \_\_\_\_\_ lbs. @ 100°F

GASOLINE CONTENT

Gasoline \_\_\_\_\_ G.P.M.  
 % Propane \_\_\_\_\_ G.P.M.  
 Butanes \_\_\_\_\_ G.P.M.

TOTAL

G.P.M.

OTHER DATA

P--(Propane) \_\_\_\_\_ %  
 B--(Butane) \_\_\_\_\_ %  
 C--(Casing-head) \_\_\_\_\_ %  
 BTU Content (Actual) \_\_\_\_\_ (Calc.) 857  
 Sp. Gravity (Actual) \_\_\_\_\_ (Calc.) 0.7724  
 A.P.I. Gr. (Actual) \_\_\_\_\_ (Calc.) \_\_\_\_\_

(1) and lighter  
 (2) and heavier

Run by: J. D. Keeshan Checked by: J. D. Keeshan Approved: \_\_\_\_\_

Additional Data and Remarks

COPIES

- 3-Harold Hensley  
 Humble Oil & Ref. Co.  
 Box 1600, Midland, Texas
- 2-Russell Lilly  
 Humble Oil & Ref. Co.  
 Farmington, N. M.
- 1-A. A. Phillips, Box 1287  
 Roswell, N. M.
- 1-File



12542

# THE INDEPENDENT LABORATORY

DIVISION OF U. J. BRAMMER & SONS  
HYDROCARBON ANALYSIS

PHONE 7-7952  
P. O. BOX 909  
ODESSA, TEXAS

Duplicate

## LABORATORY REPORT

Charge Humble Oil & Ref.  
Test No. 55-11-386  
Date of Run 10-15-55  
Date Received \_\_\_\_\_

A Sample of Gas from Nava jo #1  
Secured from Pay Zone 4806' - 4816'  
At Farmington, N. M.

Secured by R. Lilly

Purpose \_\_\_\_\_ Time \_\_\_\_\_ Date \_\_\_\_\_  
Sampling Conditions: \_\_\_\_\_

### LOW-TEMPERATURE ANALYSIS

	Gas Vol. or Mol %	Liquid Vol. %	GPM
Hydrogen Sulfide	1.53		
Carbon Dioxide	11.97		
Air			
Nitrogen (Inerts)	9.71		
Oxygen			
Methane	70.64		
Ethane	3.57		
Propane	1.54		0.423
Iso-Butane	0.18		0.059
N-Butane	0.38		0.120
Iso-Pentane	0.08		0.029
N-Pentane	0.08		0.029
Iso-Hexane			
N-Hexane			
Pentanes (2)			
Hexanes (2)	0.32		0.139
Heptane (2)			
TOTAL	100.00		0.799

(1) and lighter  
(2) and heavier

### ANALYSIS INFORMATION

Volume of Sample \_\_\_\_\_ cc. @ \_\_\_\_\_ °F  
Sp. Gr. Residue \_\_\_\_\_ Vol. of Residue \_\_\_\_\_ cc.  
Molecular Wgt. of Residue \_\_\_\_\_

### VAPOR PRESSURE

Calculated \_\_\_\_\_ lbs. @ 100°F  
\_\_\_\_\_ lbs. @ 100°F

### GASOLINE CONTENT

Gasoline \_\_\_\_\_ G.P.M.  
% Propane \_\_\_\_\_ G.P.M.  
Butanes \_\_\_\_\_ G.P.M.

TOTAL \_\_\_\_\_ G.P.M.

### OTHER DATA

P--(Propane) \_\_\_\_\_ %  
B--(Butane) \_\_\_\_\_ %  
C--(Casing-head) \_\_\_\_\_ %  
BTU Content (Actual) \_\_\_\_\_ (Calc.) 857  
Sp. Gravity (Actual) \_\_\_\_\_ (Calc.) 0.7724  
A.P.I. Gr. (Actual) \_\_\_\_\_ (Calc.) \_\_\_\_\_

Run by: J. D. Keeshen Checked by: J. D. Keeshen Approved: \_\_\_\_\_

Additional Data and Remarks \_\_\_\_\_

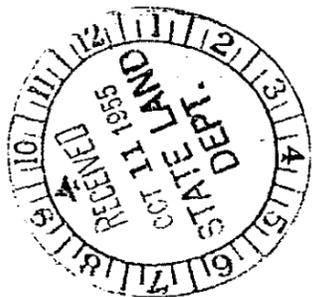
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Humble Oil & Ref. Co.  
Farmington, N. M.
- 1-A. A. Phillips, Box 1287  
Roswell, N. M.
- 1-File



12489





11855

FORM F-8

**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX Page 1 of 7  
 Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
 Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
 County APACHE State ARIZONA Elevation 5373'DF Analysts WER:WJC  
 Location N $\frac{1}{2}$ -NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**

*(Figures in parentheses refer to footnote remarks)*

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY AIR	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
1	4608.5	.04	1.1			(2)	Gray, Xln. Limestone
2	4609.5	.13	4.7			(2)	"
3	4610.5	0.0	0.4			(2)	"
4	4611.5	0.0	3.7			(2)	"
5	4612.5	0.0	3.5			(2)	"
6	4613.5	.13	12.2			(2)	"
7	4614.5	0.0	0.7			(2)	"
8	4615.5	0.0	0.7			(2)	"
9	4616.5	0.0	0.4			(2)	"
10	4617.5	0.0	1.1			(2)	"
11	4618.5	0.0	1.5			(2)	"
12	4619.5	0.0	1.8			(2)	"
13	4620.5	0.0	0.7			(2)	"
14	4621.5	.64	3.9			(2)	"
15	4622.5	0.0	1.1			(2)	"
16	4629.5	0.0	1.0			(2)	"
17	4630.5	.38	6.9			(2)	"
18	4631.5	.94	8.5			(2)	"
19	4632.5	.13	8.0			(2)	"
20	4633.5	3.18	17.7			(2)	Gray to Tan, Very Vug. Limestone
21	4634.5	3.95	20.2			(2)	"
22	4635.5	.81	22.3			(2)	"
23	4636.5	0.0	6.6			(2)	Gray, Xln. Limestone
24	4637.5	0.0	8.0			(2)	"
25	4638.5	0.0	8.7			(2)	"
26	4640.5	0.0	5.6			(2)	"
27	4641.5	0.0	3.8			(2)	"
28	4642.5	0.0	2.3			(2)	"
29	4643.5	.38	2.5			(2)	"
30	4644.5	0.0	3.6			(2)	"
31	4645.5	0.0	0.4			(2)	"
32	4646.5	0.0	0.7			(2)	"
33	4647.5	0.0	0.5			(2)	"
34	4648.5	0.0	0.8			(2)	"
35	4649.5	0.0	0.5			(2)	Dark Gray, Xln. Limestone
36	4650.5	0.0	0.4			(2)	"
37	4651.5	0.0	0.6			(2)	"
38	4652.5	0.0	1.1			(2)	"

- CONTINUED -

NOTE:

(\*) REFER TO ATTACHED LETTER.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

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**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX Page 2 of 7  
 Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
 Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
 County APACHE State ARIZONA Elevation 5373' DF Analysts WER:WJC  
 Location W<sub>1/2</sub>-NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**

(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY AIR	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
39	4653.5	0.0	0.4			(2)	Dark Gray, Xln. Limestone
40	4654.5	0.0	1.1			(2)	"
41	4655.5	0.0	0.5			(2)	"
42	4656.5	0.0	0.5			(2)	"
43	4657.5	0.0	0.5			(2)	"
44	4658.5	0.0	0.6			(2)	"
45	4659.5	0.0	1.1			(2)	"
46	4660.5	0.0	0.7			(2)	"
47	4661.5	0.0	2.1			(2)	"
48	4662.5	0.0	0.3			(2)	Gray, Xln. Limestone
49	4663.5	0.0	0.4			(2)	"
50	4664.5	0.0	0.7			(2)	"
51	4665.5	0.0	1.2			(2)	"
52	4666.5	0.0	1.3			(2)	"
53	4667.5	0.0	1.1			(2)	"
54	4668.5	0.0	0.7			(2)	"
55	4669.5	0.0	0.9			(2)	"
56	4670.5	0.0	1.0			(2)	"
57	4671.5	0.0	0.4			(2)	"
58	4672.5	0.0	0.3			(2)	"
59	4673.5	0.0	0.5			(2)	"
60	4674.5	0.0	0.6			(2)	"
61	4675.5	0.0	0.4			(2)	"
62	4676.5	0.0	0.3			(2)	"
63	4677.5	0.0	0.1			(2)	"
64	4678.5	0.0	1.8			(2)	"
65	4679.5	0.0	1.0			(2)	"
66	4680.5	0.0	0.4			(2)	"
67	4681.5	0.0	0.3			(2)	"
68	4682.5	0.0	0.4			(2)	"
69	4683.5	0.0	1.2			(2)	"
70	4684.5	0.0	1.5			(2)	"
71	4685.5	0.0	1.4			(2)	"
72	4686.5	0.0	2.4			(2)	"
73	4687.5	3.18	1.0			(2)	Tan, Vug. Limestone
74	4688.5	.81	0.7			(2)	"
75	4689.5	0.0	3.8			(2)	"
76	4690.5	0.13	8.5			(2)	"

- CONTINUED -

NOTE:

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(2) OFF LOCATION ANALYSES—NO INTERPRETATION OF RESULTS.

(1) INCOMPLETE CORE RECOVERY—INTERPRETATION RESERVED.

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**CORE LABORATORIES, INC.**  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX Page 3 of 7  
Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
Field WILBCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
County APACHE State ARIZONA Elevation 5373'DF Analysts WER:WJC  
Location W<sub>2</sub>-NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**

(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCYS AIR	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
77	4691.5	0.0	3.6			(2)	Gray, Xln. Limestone
78	4692.5	0.0	0.7			(2)	"
79	4693.5	0.0	0.9			(2)	"
80	4694.5	0.0	0.7			(2)	"
81	4695.5	0.0	0.4			(2)	"
82	4696.5	0.0	0.8			(2)	"
83	4697.5	0.0	1.0			(2)	"
84	4698.5	0.0	2.0			(2)	"
85	4699.5	0.0	2.3			(2)	"
86	4700.5	0.0	0.9			(2)	"
87	4701.5	0.0	0.2			(2)	"
88	4702.5	0.0	1.2			(2)	"
89	4703.5	0.0	0.9			(2)	"
90	4704.5	.38	0.6			(2)	"
91	4705.5	0.0	0.8			(2)	"
92	4706.5	0.0	0.5			(2)	"
93	4707.5	.13	0.7			(2)	"
94	4708.5	0.0	0.3			(2)	"
95	4709.5	0.0	0.4			(2)	"
96	4710.5	0.0	0.5			(2)	"
97	4711.5	0.0	0.4			(2)	"
98	4712.5	0.0	0.4			(2)	"
99	4713.5	0.0	0.6			(2)	"
100	4714.5	0.0	0.8			(2)	"
101	4715.5	0.0	0.9			(2)	"
102	4716.5	0.0	0.2			(2)	"
103	4717.5	0.0	0.5			(2)	"
104	4718.5	0.0	0.8			(2)	"
105	4719.5	0.0	0.8			(2)	"
106	4720.5	0.0	0.5			(2)	"
107	4721.5	.64	1.5			(2)	"
108	4722.5	0.0	1.9			(2)	"
109	4723.5	0.0	1.3			(2)	"
110	4724.5	0.0	1.2			(2)	"
111	4725.5	0.0	1.7			(2)	"
112	4726.5	0.0	1.2			(2)	Gray, Vug. Limestone
113	4727.5	0.0	1.1			(2)	"
114	4782.5	.04	3.5			(2)	Gray, Xln. Limestone

- CONTINUED -

## NOTE:

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**CORE LABORATORIES, INC.**  
*Petroleum Reservoir Engineering*  
 DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX Page 4 of 7  
 Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
 Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
 County APACHE State ARIZONA Elevation 5373'DF Analysts WER:WJC  
 Location W $\frac{1}{4}$ -NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**

*(Figures in parentheses refer to footnote remarks)*

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY AIR	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
115	4783.5	.85	4.3			(2)	Gray, Xln. Limestone
116	4784.5	0.0	2.7			(2)	"
117	4785.5	0.0	1.3			(2)	"
118	4786.5	0.0	3.3			(2)	"
119	4787.5	0.0	6.2			(2)	"
120	4788.5	0.0	5.7			(2)	"
121	4789.5	0.0	4.3			(2)	"
122	4790.5	1.63	14.4			(2)	Tan, Granular Limestone
123	4791.5	1.20	10.0			(2)	"
124	4792.5	.93	12.3			(2)	"
125	4793.5	.04	12.0			(2)	"
126	4795.5	1.63	16.3			(2)	"
127	4795.5	.81	1.4			(2)	"
128	4796.5	1.46	7.9			(2)	"
129	4799.5	0.0	2.9			(2)	"
130	4800.5	0.0	7.3			(2)	"
131	4801.5	0.0	10.8			(2)	"
132	4802.5	0.0	11.0			(2)	"
133	4803.5	8.54	10.0			(2)	Tan, Limey Dolomite
134	4804.5	183	24.6			(2)	"
135	4805.5	48	16.0			(2)	"
136	4806.5	209	12.6			(2)	"
137	4807.5	209	15.8			(2)	"
138	4808.5	348	16.5			(2)	"
139	4809.5	93	16.4			(2)	"
140	4810.5	81	17.5			(2)	"
141	4811.5	55	19.7			(2)	"
142	4812.5	699	16.1			(2)	Gray, Limey Dolomite
143	4813.5	0.0	13.4			(2)	"
144	4814.5	0.0	11.5			(2)	"
145	4815.5	.81	10.7			(2)	"
146	4816.5	.30	15.1			(2)	"
147	4817.5	.38	11.9			(2)	"
148	4818.5	.30	9.5			(2)	"
149	4819.5	.13	12.5			(2)	"
150	4820.5	.21	9.6			(2)	"
151	4821.5	0.0	10.1			(2)	"
152	4822.5	.13	8.5			(2)	"

- CONTINUED -

## NOTE:

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CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX Page 5 of 7  
Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
County APACHE State ARIZONA Elevation 5373' DF Analysts WER:WJC  
Location W $\frac{1}{2}$ -NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**  
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY AIR	DENSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
153	4823.5	.21	12.5			(2)	Gray, Limey Dolomite
154	4824.5	.21	4.5			(2)	"
155	4825.5	.04	2.0			(2)	"
156	4877.5	.04	0.8			(2)	"
157	4878.5	.04	2.3			(2)	"
158	4879.5	.30	4.1			(2)	"
159	4880.5	.81	6.6			(2)	"
160	4881.5	.64	7.7			(2)	"
161	4882.5	.30	5.4			(2)	"
162	4883.5	4.75	6.4			(2)	"
163	4884.5	1.84	7.5			(2)	"
164	4885.5	1.20	2.7			(2)	"
165	4886.5	.64	3.0			(2)	Gray Limestone
166	4887.5	4.75	0.7			(2)	"
167	4888.5	.47	1.6			(2)	"
168	4889.5	.38	1.5			(2)	"
169	4890.5	.04	1.1			(2)	"
170	4891.5	0.0	2.1			(2)	"
171	4892.5	.13	2.4			(2)	"
172	4893.5	0.0	1.1			(2)	"
173	4894.5	0.0	7.5			(2)	"
174	4895.5	.04	5.7			(2)	"
175	4896.5	0.0	3.7			(2)	"
176	4897.5	0.0	9.9			(2)	"
177	4898.5	0.0	9.7			(2)	"
178	4899.5	.38	9.4			(2)	"
179	5516.5	0.0	3.2			(2)	Gray, Xln. Limestone, VF
180	5517.5	0.0	3.1			(2)	"
181	5518.5	0.0	2.6			(2)	"
182	5519.5	0.0	7.6			(2)	Gray Dolomite, VF
183	5520.5	0.0	8.2			(2)	"
184	5521.5	0.0	4.6			(2)	"
185	5606.5	.04	1.0			(2)	Gray, Xln. Limestone, VF
186	5607.5	0.0	2.8			(2)	"
187	5608.5	0.0	2.0			(2)	"
188	5609.5	0.0	2.1			(2)	"
189	5610.5	0.0	2.0			(2)	"
190	5611.5	0.0	1.9			(2)	"

- CONTINUED -

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CORE LABORATORIES, INC.  
 Petroleum Reservoir Engineering  
 DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation PARADOX & MISSISSIPPIAN Page 6 of 7  
 Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
 Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
 County APACHE State ARIZONA Elevation 5373'DE Analysts WER:WJC  
 Location W<sub>2</sub>-NE-SE Sec. 4-41N-28E Remarks SERVICE NO. 8

CORE ANALYSIS RESULTS  
 (Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCY AIR	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME % PORE	TOTAL WATER % PORE		
							<u>PARADOX</u>
191	5612.5	.04	3.5			(2)	Gray, Xln. Limestone, VF
192	5613.5	.13	2.0			(2)	"
193	5614.5	0.0	3.1			(2)	"
194	5615.5	0.0	2.0			(2)	"
195	5622.5	0.0	3.1			(2)	"
196	5623.5	0.0	1.0			(2)	"
197	5624.5	.04	1.2			(2)	Buff, Xln. Limestone
198	5625.5	0.0	1.0			(2)	"
199	5626.5	0.0	1.2			(2)	"
200	5627.5	0.0	1.3			(2)	"
201	5628.5	0.0	1.5			(2)	"
202	5702.5	0.0	1.4			(2)	Tan, Vuggy, Granular Dolomite
203	5703.5	4.40	15.3			(2)	"
204	5704.5	.93	12.2			(2)	"
205	5705.5	1.11	7.3			(2)	"
206	5706.5	0.0	2.0			(2)	"
207	5707.5	3.31	11.2			(2)	"
208	5708.5	1.63	15.4			(2)	"
209	5709.5	3.78	12.8			(2)	"
210	5710.5	2.40	7.5			(2)	"
211	5711.5	.38	10.2			(2)	"
212	5712.5	4.32	3.5			(2)	"
213	5713.5	1.63	6.8			(2)	"
214	5714.5	2.23	11.9			(2)	"
215	5715.5	7.44	14.4			(2)	"
216	5716.5	2.40	8.2			(2)	"
217	5717.5	1.46	7.8			(2)	"
218	5718.5	2.87	11.2			(2)	"
219	5719.5	13.30	7.8			(2)	"
							<u>MISSISSIPPIAN</u>
220	5974.5	51	11.5			(2)	Fine-grain, Tan, Sandstone
221	5975.5	56	12.2			(2)	"
222	7976.5	179	11.3			(2)	"
223	5977.5	20	8.2			(2)	"
224	5978.5	6.7	7.2			(2)	"
225	5979.5	5.0	5.8			(2)	"
226	5980.5	.81	3.5			(2)	"
227	5981.5	.38	3.9			(2)	"

- CONTINUED -

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CORE LABORATORIES, INC.  
Petroleum Reservoir Engineering  
DALLAS, TEXAS

Company HUMBLE OIL & REFINING COMPANY Formation MISSISSIPPIAN Page 7 of 7  
Well NO. 1 NAVAJO TRIBAL Cores DIAMOND File RP-3-188  
Field WILDCAT Drilling Fluid WATER BASE MUD Date Report 9-22-55  
County APACHE State ARIZONA Elevation 5373'DF Analysts WER:WJC  
Location W<sub>4</sub>-NE-S<sub>4</sub> Sec. 4-41N-28E Remarks SERVICE NO. 8

**CORE ANALYSIS RESULTS**  
(Figures in parentheses refer to footnote remarks)

SAMPLE NUMBER	DEPTH FEET	PERMEABILITY MILLIDARCS	POROSITY PERCENT	RESIDUAL SATURATION		PROBABLE PRODUCTION	REMARKS
				OIL % VOLUME	TOTAL WATER % PORE		
		<b>AIR</b>					
228	5982.5	.30	4.2			(2)	<u>MISSISSIPPIAN</u> Fine-grain, White Sandstone
229	5983.5	.30	2.4			(2)	"
230	5984.5	2.32	5.5			(2)	Fine-grain, Tan Sandstone
231	5985.5	0.0	3.3			(2)	"
232	5986.5	0.0	1.1			(2)	Green Shale
233	5987.5	0.04	0.8			(2)	Fine-grain, White Sandstone <u>MISSISSIPPIAN (?)</u>
234	6622.5	0.0	1.1			(2)	Black Dolomite
235	6623.5	0.0	0.5			(2)	"
236	6624.5	0.0	0.3			(2)	"
237	6625.5	0.0	0.8			(2)	Black, Xln. Limestone
238	6626.5	0.0	0.5			(2)	"
239	6627.5	0.0	0.3			(2)	"
240	6628.5	0.0	1.5			(2)	"
241	6629.5	0.0	0.8			(2)	"
242	6630.5	0.0	0.6			(2)	"
243	6631.5	.04	4.2			(2)	"
244	6632.5	0.0	2.7			(2)	"
245	6633.5	0.0	2.3			(2)	"
246	6634.5	0.0	4.9			(2)	"
247	6635.5	0.0	0.9			(2)	"
248	6636.5	0.0	1.1			(2)	"
249	6637.5	0.0	0.9			(2)	"

Xln. - Crystalline  
VF - VERTICAL FRACTURE

## NOTE:

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Form 9-331b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.3  
Approval expires 12-31-55.

Indian Agency Navajo

Allottee \_\_\_\_\_

Lease No. 14-20-603-413

Co. #196195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<b>Report of Drill Stem Test</b>	<b>X</b>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Hobbs, New Mexico September 9, 1955

Well No. 1 is located 1980 ft. from N line and 990 ft. from E line of sec. 4  
NE/4 of SE/4 of Sec. 4 41-N 28- G. & SR.  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)  
East Boundary Butte Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5373 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill Stem Test #11. From 6119' to 6139'. Tool open 2 1/2 hours. Good blow at start gradually fading to fair blow at end of test. 1" top and 3/4" bottom chokes. Initial Mud 3025#, Minimum flow 275#, Maximum flow 1850#, Build Up Pressure after 30 minutes 1950#. Final mud 2900#. Recovered 3880' of gassy salty sulfur water. No show of oil.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Co.

Address Box 2347

Hobbs, New Mexico

By M. M. Ryan

Title Agent

28



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Form 9-331 b  
(April 1952)

			X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.3  
Approval expires 12-31-55.

Indian Agency - Navajo

Allottee

Lease No. 14-20-603-413

Co. #195195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem test</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians                      Hobbs, New Mexico      August 29, 1955

Well No. 1 is located 1980 ft. from  $\begin{matrix} N \\ S \end{matrix}$  line and 990 ft. from  $\begin{matrix} E \\ W \end{matrix}$  line of sec. 4

NE 1/4 of SE 1/4 of Sec. 4      41-N      29-E      063R  
(1/4 Sec. and Sec. No.)      (Twp.)      (Range)      (Meridian)

East Boundary Butte                      Apache                      Arizona  
(Field)                      (County or Subdivision)                      (State or Territory)

The elevation of the derrick floor above sea level is 5373 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill stem test #9 on 8-26-55 from 5651 to 5672: Tool open one hour, weak blow to surface for 45 minutes and died. Initial mud 2750#, minimum and maximum flow 0#, 30-minute shut-in pressure 0#. Final mud 2700#, recovered 10' slightly gas cut mud, one-inch top and 3/4" bottom chokes.

Drill stem test #10 on 8-27-55 from 5689 to 5720: Tool open 1-1/2 hours, strong blow throughout test. Initial mud 2800#, minimum flow 150#, maximum flow 1550#, 30-minute shut-in pressure 1825#, final mud 2750#, recovered 540' slightly oil and gas cut muddy sulfur water, 2744' of gassy sulfur water.

Drilling.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

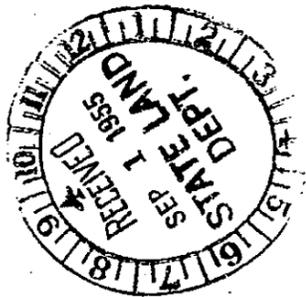
Address Box 2347

Hobbs, New Mexico

By M. M. Rogan

Title Agent

28



10360

Form 9-331b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.3  
Approval expires 12-31-55.

Indian Agency Navajo

Allottee \_\_\_\_\_

Lease No. 14-20-603-413

Co. #196195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem test</u>	<u>X</u>

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mexico August 29, 1955

Well No. 1 is located 1960 ft. from N line and 990 ft. from E line of sec. 4

NE/4 of SE/4 of Sec. 4 41-N 28-E GNM  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

East Boundary Butte Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5973 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill stem test #8 on 8-24-55 from 5995 to 5616 feet: Tool open 60 minutes, weak blow throughout. One-inch top and bottom chokes. Initial mud 2800#, minimum and maximum flow 0#, 30-minute shut-in pressure 0#, final mud 2750#, recovered 15' slightly gas cut mud.

Coring.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

Address Box 2347

Hobbs, New Mexico

By [Signature]

Title Agent

28 57



10260

Form 9-331b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.3  
Approval expires 12-31-55.

Indian Agency Navajo

Allottee \_\_\_\_\_

Lease No. 11-20-603-413

Co. #196195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem test</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mex 100 August 24, 1955

Well No. 1 is located 1980 ft. from N line and 990 ft. from E line of sec. 4

NE/4 of SE/4 of Sec. 4 11-N 23-E G&SI  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

East Boundary State Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 5373 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill stem test #7 on 8-23-55 from 5560 to 5595 feet: Tool open 2 hours, 15 minutes, strong blow throughout test. One-inch top and 3/4" bottom chokes. Initial mud 2750#, minimum flow 500#, maximum flow 950#, final mud 2700#, 30 minute shut-in pressure 1875#. Recovered 250' sulfur water in drill pipe. Gas to surface in 4 minutes, mud and sulfurwater in 14 minutes, oil, mud and sulfur water in 54 minutes flowing at rate of 3 barrels per hour, 5 to 20% oil, remainder BSW. Gravity of oil 37.1 at 60° F. Gas volume 9,614 Mcf per day.

Corin.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

Address Box 2347

Hobbs, New Mexico

By M M Rozen

Title Agent

Job

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10074

Form 9-331 b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.3.  
Approval expires 12-31-55.

Indian Agency Navajo

Allottee \_\_\_\_\_

Lease No. 24-20-603-413

### SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem test</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mexico August 15, 1955

Well No. 1 is located 1980 ft. from N line and 890 ft. from E line of sec. 4

NE/4 of SE/4 of Sec. 4 T1-N 22-E CRS  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

East Boundary Water Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is later ft.

#### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work.)

Drill stem test #6 on 8-12-55 from 4856 to 4902 feet: Tool open one hour, fair blow throughout test. One-inch top and 3/4-inch bottom chokes. Initial mud 2340#, minimum flow 0#, maximum flow 0#, 30-minute shut-in pressure 340#, final mud 2450#. Recovered 185' slightly gas cut drilling mud with a trace of oil.

Drilling:

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

Address Box 2347,

Hobbs, New Mexico

By M. M. Ryznar

Title Agent

28

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Form 9-331b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau No. 42-R-359.2  
Approval expires 12-31-55.

Indian Agency Navajo

Allottee

Lease No. 14-20-603-413

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem tests</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mexico August 11, 1955

Well No. 1 is located 1980 ft. from N line and 990 ft. from E line of sec. 4

N 1/4 of SW 1/4 of Sec. 4 41-N 28-R 065E  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

east boundary Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is later ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill stem test #4 on 8-9-55 from 4778 to 4798 feet: Tool open one hour, good blow throughout. One-inch top and 3/4" bottom chokes. Initial and final mud 2310#. Minimum flow 230#, maximum flow 510#, 20-minute shut-in pressure 1440#. Recovered 370' drilling mud cut with estimated 50% oil, 90' drilling mud cut with oil, and 90' salty sulfur water. Gas to surface in 2-1/2 minutes at rate of 2210 Mcf per day.

Drill stem test #5 on 8-10-55 from 4799 to 4831 feet: Tool open 2 hours, 52 minutes, good blow thruout, one-inch top and 3/4" bottom chokes. Initial mud 2310#, minimum flow 390#, maximum flow 530#, 30-minute shut-in pressure 1370#, final mud 2310#. Gas to surface in 2 minutes at rate of 1800 Mcf per day, drilling mud cut with oil to surface in 22 minutes, oil to surface in 39 minutes. On one hour flowing test well produced 2.46 bbls PLU, corrected gravity 32°, thru 3/4" choke. Surface pressure 190#, recovered 390' (4 bbls) PLU and 20' salty sulfur water, chloride content 25,000 PPM. Now drilling.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

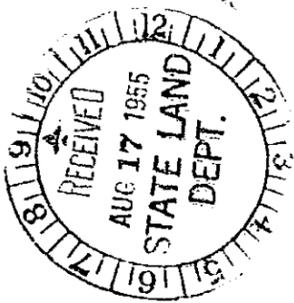
Address box 2347

Hobbs, New Mexico

By [Signature]

Title Agent

28



9806



Form 9-331b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

Budget Bureau No. 42-R-359.3  
Approval expires 12-31-55.

Indian Agency Navajo

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Allottee \_\_\_\_\_

Lease No. 14-20-603-413

Co. #196195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of drill stem tests</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mexico August 8, 1955

Well No. 1 is located 1980 ft. from N line and 990 ft. from E line of sec. 4

NE/4 of SE/4 of Sec. 4 41-N 28-E CRSR  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

East Boundary Butte Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is later ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Drill stem test #2 on 8-6-55 from 4629 to 4689 feet: Tool open one hour with strong blow at surface. Gas to surface in 2 minutes at rate of 903 Maf/day. 1" top and 3/4" bottom chokes. Initial mud 2290#, minimum flow 240#, maximum flow 240#, 30-minute shut-in pressure 1410#. Final mud 2290#. Recovered 30' heavily gas out drilling mud and sulfure water.

Drill stem test #3 on 8-7-55 from 4683 to 4728 feet: Tool open 45 minutes, good blow throughout test. One-inch top and 3/4-inch bottom chokes, initial mud 2280#, minimum flow 230#, maximum flow 230#, 30-minute shut-in pressure 1450#. Final mud 2320#. Gas to surface in 2 minutes at rate of 1160 Maf per day. Recovered 30' heavily gas out drilling mud. Surface pressure 95#.

Drilling.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

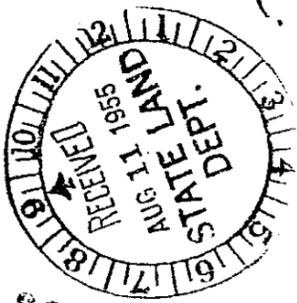
Address Box 2347

Hobbs, New Mexico

By M. M. Rogers

Title Agent

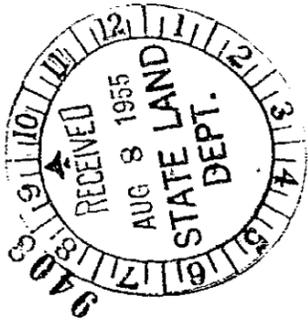
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STATE LAND DEPARTMENT  
STATE OF ARIZONA

Form O&G 63

Form Prescribed Under Oil and Gas Conservation Act of 1951

REPORT ON TEST OF WATER SHUT-OFF  
(Formation Tester)

Operator Humble Oil & Refining Company, Box 2347, Hobbs, New Mexico, Navajo Tribe of Indian  
Well No. 1 Sec. 4 T. 41-N R. 28-E, G & S R B. & M.  
East Boundary Butte Field, in Apache County, was tested for water shut-off on  
July 5, 19 55. Mr. \_\_\_\_\_ designated by the supervisor,  
was not (strike one) present as prescribed in Statewide Rule 11, there were also  
present \_\_\_\_\_

Shut-off data: 10-3/4 in. 40.5 lb. casing was cemented at 909 ft. on 7-4 19 55  
in 13-3/4" hole with 650 sacks of cement of which 20 sacks were left in  
casing. Casing record of well: The above is surface casing. Casing was tested  
before and after drilling plug with 1000# GWP for 30 minutes. No pressure drop  
observed. Test O.K. Drilled plug at 6:00 P.M., 7-5-55.  
Reported total depth 912 ft. Bridged with cement from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Cleaned out to \_\_\_\_\_ ft. for this test. A pressure of 1000 lb. was applied to  
the inside of casing for 30 min. without loss after cleaning out to 909 ft.  
A \_\_\_\_\_ tester was run into the hole on \_\_\_\_\_ in. drill pipe, with \_\_\_\_\_ ft.  
of water cushion, and packer set at \_\_\_\_\_ ft. with tailpiece to \_\_\_\_\_ ft.  
Tester valve, with \_\_\_\_\_ bean, was opened at \_\_\_\_\_ and remained open for \_\_\_\_\_  
hr. and \_\_\_\_\_ min. During this interval \_\_\_\_\_

REPORT ON TEST OF WATER SHUT-OFF  
(Bailing)

Operator \_\_\_\_\_  
Well No. \_\_\_\_\_ Sec. \_\_\_\_\_ T. \_\_\_\_\_ R. \_\_\_\_\_, \_\_\_\_\_ B&M.  
\_\_\_\_\_ Field, in \_\_\_\_\_ County, was tested for water shut off  
on \_\_\_\_\_, 19 \_\_\_\_\_. Mr. \_\_\_\_\_, designated by the super-  
visor, was not (strike one) present as prescribed in Statewide Rule 11, there were  
also present \_\_\_\_\_

Shut-off data: \_\_\_\_\_ in. \_\_\_\_\_ lb. casing was cemented at \_\_\_\_\_ ft. on \_\_\_\_\_ 19 \_\_\_\_  
in \_\_\_\_\_ hole with \_\_\_\_\_ sacks of cement of which \_\_\_\_\_ sacks were left in  
casing. Casing record of well: \_\_\_\_\_

Reported total depth \_\_\_\_\_ ft. Bridged with cement from \_\_\_\_\_ ft. to \_\_\_\_\_ ft.  
Cleaned out to \_\_\_\_\_ ft. for this test. Casing test data: \_\_\_\_\_

APPROVED BY: [Signature]  
State Land Commissioner

DATE: July 27, 1955

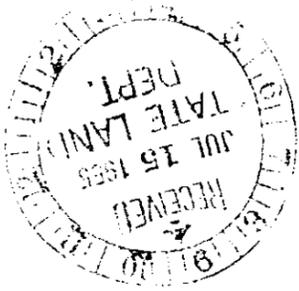
AFFIDAVIT

I, R. M. Gillette, being first duly sworn on oath state that I have  
knowledge of the facts and matter herein set forth and that the same are true and  
correct.

[Signature]  
Representative of Company

Subscribed and sworn to before me this 13th day of July 19 55  
Apache County, New Mexico. [Signature]  
My commission expires: Dec 23, 1957 Notary Public

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Second section of faint, mostly illegible typed text, continuing the document's content.

Third section of faint, mostly illegible typed text, possibly containing a signature or date.

Form 9-331 b  
(April 1952)

		X

(SUBMIT IN TRIPLICATE)

Budget Bureau No. 42-R-359.2  
Approval expires 12-31-55.

San Agency Navajo

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Allottee \_\_\_\_\_  
Lease No. 14-20-603-413

Co. #196195

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	X
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL	<u>Report of spudding</u>	X

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Navajo Tribe of Indians Hobbs, New Mexico July 12, 1955

Well No. 1 is located 1980 ft. from N line and 990 ft. from E line of sec. 4

NE/4 of SE/4 of Sec. 4 41-N 28-E 01-SR  
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)

East Boundary Hutto Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is later ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Spudded 9-5/8-inch hole at 4:00 A.M., 7-1-55.

Reamed hole to 13-3/8-inch to 910 feet and ran 21 joints 10-3/4-inch casing, 892.52 feet, set at 909.45 feet. Cemented with 500 sacks 4% gel and 150 sacks neat. Plug on bottom at 12:50 P.M., 7-4-55. Maximum pressure 600#, slurry weights 15.2 and 15.8#. Cement circulated.

Tested casing with 1000# GWP for 30 minutes. Test O.K. No drop in pressure.

Resumed drilling using compressed air for drilling mud.

Drilling contractor is Durham Drilling Company, Midland, Texas.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Humble Oil & Refining Company

Address Box 2347

Hobbs, New Mexico

By R. M. Brown

Title Agent

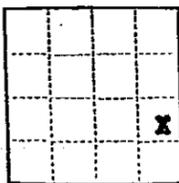
cc: ARIZONA STATE LAND OFFICE.

28

*Handwritten initials*



Form 9-331a  
(Feb. 1951)



(SUBMIT IN TRIPLICATE)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Budget Bureau 42-R358.3  
Approval expires 12-31-55.

Land Office Havajo  
Lease No. 14-20-603-415  
Unit \_\_\_\_\_

Co. No. 198185

See Attached Plat

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO RE-DRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF RE-DRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

May 10, 1955

Havajo Tribe of Indians  
Well No. 1 is located 1980 ft. from SW line and 990 ft. from E line of sec. 4

SE/4 SW/4 41-N 28-E G & S R  
(Twp.) (Range) (Meridian)  
East Boundary Butte Apache Arizona  
(Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is Later ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Casing Program (Tentative)

Size	Weight	Depth
10-3/4	40.5	500'
8-1/2	14 & 15.5#	6500'

Current Record

Cement to surface  
Circ. back to 10-3/4 casing

Coring Program

4540-4800' - Pennsylvanian  
5570-5800' - Devonian

Proposed total depth 6500 feet to test Devonian. Halliburton method of cementing to be used.

Well Program - Surface to total depth

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company NEBLE OIL & REFINING COMPANY

Address Box 1500

Midland, Texas

By [Signature]

Title Division Superintendent



Form Prescribed Under Oil and Gas Conservation Act of 1951

NOTICE OF INTENTION TO DRILL NEW WELL

This notice and surety bond must be filed and permit must be granted before drilling begins

Midland, Texas Arizona May 18, 19 55

State Land Commissioner

In compliance with Statewide Rule 3, notice is hereby given that it is our intention to commence the work of drilling well No. 1 Sec. 4, T. 41-N, R. 28-E, G&S B. & M., East Boundary Butte Field, Apache County.

Legal description of lease T-41-N, R-28-E, G & S R M (Attach map or plat to scale)

Section 4, 5 and 6, T-42-N, R-28-E, G & S R M. Fractional section 31, 32 & 33 Apache County, Arizona

Location of Well: 990' fr. East line and 1980' fr. South line of Section 4, (Give exact footage from section corners or other legal

T-41-N, R-28-E, Apache County subdivision or streets)

Proposed drilling depth 6500 feet. Acres in drilling unit 640. Has surety bond been filed? Yes. Is location a regular or exception to spacing rule? Regular.

Elevation of ground above sea level later feet. To be furnished later

All depth measurements taken from top of Kelly Drive Bushing (Derrick Floor, Rotary Table or Kelly approx. which is 12 feet above ground. Bushing)

PROPOSED CASING PROGRAM

Table with 6 columns: Size of Casing Inches A.P.I., Weight, Grade and Type, Top, Bottom, Cementing Depths. Rows include 10-3/4 and 5-1/2 casing sizes.

Intended Zone or Zones of completion:

Name Perforated Interval Devonian

AFFIDAVIT:

I J. W. ROUSE, being first duly sworn on oath, state that I have knowledge of the facts and matter herein set forth and that the same are true and correct.

Name J. W. ROUSE Title Division Superintendent Subscribed and sworn to before me this 18th day of May 19 55

Notary Public, County of Midland State Texas

Permit No. 28

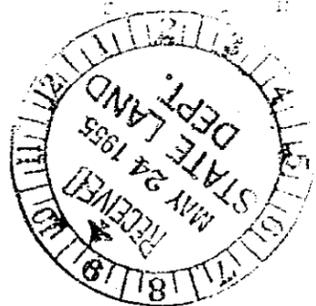
Act of Commissioner

Approved

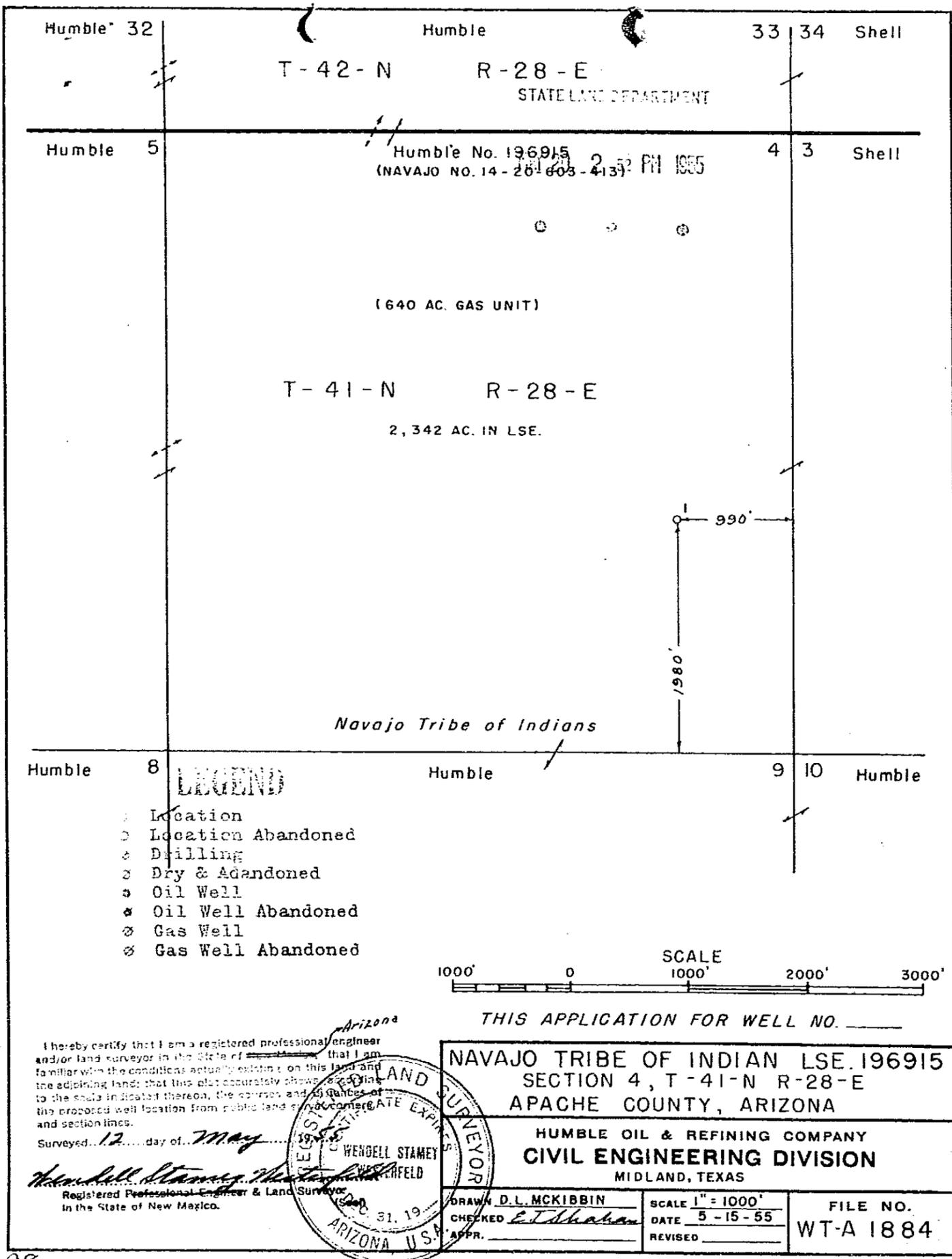
Date 5-27-55

Wanda Mae Ferguson

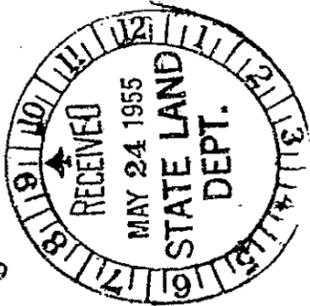
Handwritten notes and signatures at the bottom of the page, including 'Mr. J. H. Johnson, Division Superintendent' and 'Midland, Texas'.



6478



50 MILES NW OF SHIPROCK NEW MEXICO



6473

**EAST BOUNDARY BUTTE FIELD**

**Operator:** Elm Ridge Resources, Inc.

**Bond Company\*:** Indian lands, evidence of bond posted with BIA

Underwriters Indemnity Co. \$150,000 BIA Nationwide Bond No. B05973

**Date approved:** 8/01/96

**\* Pursuant to commission motion of October 31, 1997, no bond required with State of Arizona upon evidence of bond posted with the BIA.**

**Permits covered by this bond posted with the BIA:**

022

028 ✓

490

515

905



Jane Dee Hull  
Governor

State of Arizona  
**Arizona Geological Survey**  
416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

February 6, 2001

Ms. Kay Buchanan  
Elm Ridge Resources, Inc.  
12225 Greenville Ave, Suite 950  
Dallas TX 75243-9362

Dear Ms. Buchanan:

This will acknowledge receipt of evidence of Elm Ridge Resources' bonding with the U.S. Department of the Interior, Bureau of Indian Affairs, completed Organization Report (Form 1), and updated Operator's Certificate of Compliance and Authorization to Transport Oil or Gas from Lease (Form 8).

I have enclosed copies of the approved Form 8 for your files.

Sincerely,

Steven L. Rauzi  
Oil & Gas Administrator

Enclosures

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 San Juan	Reservoir San Juan
Survey or Sec-Twp-Rge 2, 3 & 4 T41N R28E	County Apache	State Arizona
Operator Elm Ridge Resources, Inc.		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street 12225 Greenville Ave #950	City Dallas	State Texas 75243-9362
Above named operator authorizes (name of transporter) Giant Industries Attn: Wanda		
Transporter's street address P. O. Box 12999	City Scottsdale	State AZ 85267
Field Address		
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 Western Gas Resources	% transported 100	Product transported
12200 North Pecos Street #230		
Denver, CO. 80234-3439		
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.  Change of Operator: From Central Resources, Inc. to Elm Ridge Resources, Inc.		

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 President of the Elm Ridge Resources, Inc. (company), and that I am authorized by said company to make this report; 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 1-08-01 Signature [Signature]

Date approved: 2-5-01

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: Steven L. Pariz

Permit No. 22, 28, 515, 490

Mail two copies of completed form to:  
Oil & Gas Program Administrator  
Arizona Geological Survey  
416 W. Congress #100  
Tucson, AZ 85701-1315

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

Form 5-166  
5-5438

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS

BOND NO. B05973

NATIONWIDE OIL AND GAS LEASE BOND

KNOW ALL MEN BY THESE PRESENTS, That we, Elm Ridge Resources, Inc., Elm Ridge  
Exploration Company of 4925 Greenville Ave., #1305, Dallas, TX 75206-4021

as principal, and Underwriters Indemnity Company

of 8 Greenway Plaza, #400, Houston, TX 77046 as suret... are held and firmly bound unto the United States of America in the sum of one hundred fifty thousand dollars (\$150,000), lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves and each of us, our and each of our heirs, successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

Sealed with our seals and dated this 10th day of June, 1996.

The condition of this obligation is such that whereas the said principal... has, heretofore or may hereafter enter into or otherwise acquire an interest in oil and gas mining leases and oil and gas prospecting permits of various dates and periods of duration covering lands or interests in lands held by the United States in trust for individual Indians, or tribes or bands of Indians, or subject to restrictions against alienation without the consent of the Secretary of the Interior or his authorized representative, which leases and permits have been or may hereafter be granted or approved by the Secretary of the Interior or his authorized representative, and the identification of which herein is expressly waived by both principal... and suret... hereto.

WHEREAS the principal... and suret... agree that the coverage of this bond shall extend to and include all extensions and renewals of leases and permits covered by this bond, such coverage to continue without any interruption due to the expiration of the term set forth therein.

WHEREAS the suret... hereby waives... any right to notice of any modification of any such lease or permit, or obligation thereunder whether effected by extension of time for performance, by commitment of such lease to unit, cooperative, or communitization agreement, by waiver, suspension, or change in rental, except an increase thereof, by minimum royalty payment, except an increase thereof, by compensatory royalty payment, or otherwise, this bond to remain in full force and effect notwithstanding.

WHEREAS the principal... and suret... agree that the neglect or forbearance of the obligee of any such lease or permit in enforcing the payment of any rental or royalty or the performance of any other covenant, condition, or agreement of any such lease or permit shall not in any way release the principal... and suret... or either of them, from any liability under this bond; and

WHEREAS the principal... and suret... agree that in the event of any default under any such lease or permit, the obligee may prosecute any claim, suit, action, or other proceeding against the principal... and suret..., or either of them, without the necessity of joining the other.

Now, if the said principal... herein shall faithfully carry out and observe all the obligations assumed in said leases and permits to which Elm Ridge Resources, Inc., Elm Ridge Exploration Company is now or may hereafter become a party, and shall observe all the laws of the United States and regula-

tions made, or which shall be made, thereunder, for the government of trade and intercourse with Indian tribes, and all rules and regulations that have been or shall hereafter be lawfully prescribed by the Secretary of the Interior relative to said oil and gas mining leases and permits, and shall in all particulars comply with the provisions of said leases, permits, rules and regulations, then this obligation shall become null and void; otherwise, to remain in full force and effect.

The rate of premium charged on this bond is \$.....; the total premium paid is \$.....

Signed and sealed in the presence of—

WITNESSES\*

BY: Kay Buchanan  
4925 Greenville Ave., #1305  
P.O. Dallas, Texas 75206  
BY: Boni Morjek  
4925 Greenville Ave., #1305  
P.O. Dallas, Texas 75206  
BY: Nancy Cox  
8 Greenway Plaza, Suite 400  
P.O. Houston, TX 77046  
BY: Sue Mason  
8 Greenway Plaza, Suite 400  
P.O. Houston, TX 77046  
P.O. ....  
P.O. ....  
P.O. ....  
P.O. ....

Elm Ridge Resources, Inc.  
Elm Ridge Exploration Company

as to BY: [Signature] [SEAL]

Underwriters Indemnity Company

as to BY: [Signature] [SEAL]  
Roy C. Die, Attorney-in-Fact

as to ..... [SEAL]

as to ..... [SEAL]

\*Two witnesses to each signature.

DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS  
Washington 25, D. C.

AUG 1 1996

Approved:

Approved pursuant to authority delegated  
at 270 DM 2.5(C), dated 11-4-83.

[Signature]  
Acting Director, Office of Trust Responsibilities

### ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual  
Elm Ridge Resources, Inc.

Mailing Address and Phone Number  
12225 Greenville Avenue #950, Dallas, Texas 75243-9362 (971) 889-2100

Plan of Organization (State whether organization is a corporation joint stock association, firm or partnership, or individual  
Corporation

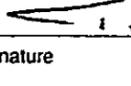
Purpose of Organization (State type of business in which engaged)  
Oil and Gas Industry

If a reorganization, give name and address of previous organization

If a foreign corporation give (1) State where incorporated	(2) Name and mailing address of state agent	(3) Date of permit to do business in state
Texas	C T Corporation System 3225 North Central Avenue Phoenix, AZ 85012	11/15/00
Principal Officers or Partners (if partnership) NAME	TITLE	MAILING ADDRESS
James M. Clark, Jr.	President	12225 Greeville Ave #950 Dallas, TX 75243-9362

DIRECTORS NAME	MAILING ADDRESS
James M. Clark, Jr., President	12225 Greenville Ave #950, Dallas, Tx 75243

CERTIFICATE I, the undersigned, under the penalty of perjury state that I am the President of the Elm Ridge Resources, Inc. (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  
1/8/01  
 Date

STATE OF ARIZONA  
 OIL & GAS CONSERVATION COMMISSION  
 Organization Report  
 File One Copy  
 Form No. 1

Mail completed form to  
 Oil and Gas Program Administrator  
 Arizona Geological Survey  
 416 W Congress, #100  
 Tucson, AZ 85701



February 2, 2001

State of Arizona  
Attn: Steve Rauzi  
416 West Congress Suite 100  
Tucson, Arizona 85701

Dear Mr. Rauzi:

Pursuant to our recent telephone conversation, enclosed please find the Organization Report with the address of state agent changed. Also, the principal officer has been added. As far as the Operator's Certificate of Compliance and Authorization, we have completed the form for the transport percentage, added the gas gatherer and indicated that this certificate was for a change of operator.

We apologize for any inconvenience and should you have any questions, please feel free to call.

Sincerely,

*Kay Buchanan*  
Kay Buchanan

CDB/kb

Enclosures



January 25, 2001

State of Arizona  
Oil & Gas Conservation Commission  
Attn: Steve Rauzi  
416 West Congress, Suite 100  
Tucson, Arizona 85701

Dear Mr. Rauzi:

Enclosed please find the Organization Report, Operator's Certificate of Compliance and Authorization to Transport Oil and Gas, and a copy of the Nationwide Oil and Gas Lease Bond.

Should you desire further information, please advise me.

Sincerely,

  
Kay Buchanan

ext. 103

CDB/kb

Enclosures

Form 3160-5  
(June, 1990)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

FORM APPROVED  
Budget Bureau No. 1004-0135  
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill, or to deepen or reentry to a different reservoir.  
Use "APPLICATION FOR PERMIT-" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well  
 Oil Well     Gas Well     Other

2. Name of Operator  
 Elm Ridge Resources, Inc.

3. Address and Telephone No. *632 3470*  
 312 W. LaPlata Street, Farmington, New Mexico (505) 326-7099

4. Location of Well (Footage, T, R, M, or Survey Description)  
 1980' FSL & 990' FEL (NE SE) Sec. 4-T41N-R28E

5. Lease Designation and Serial No.  
 N00C-14-20-603-413

6. If Indian, Allote or Tribe Name  
 Navajo Tribal

7. If Unit or CA, Agreement Designation

8. Well Name and No. *(28)*  
 Navajo #1

9. API Well No.  
 02-001-05199

10. Field and Pool, or Exploratory Area  
 East Boundary Butte

11. County or Parish, State  
 Apache County, AZ

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Plugging Back
	<input type="checkbox"/> Casing Repair
	<input type="checkbox"/> Altering Casing
	<input type="checkbox"/> Surface Casing/Cementing
	<input checked="" type="checkbox"/> Other: CHANGE OF OPERATOR
	<input type="checkbox"/> Change of Plans
	<input type="checkbox"/> New Construction
	<input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Water Shut-Off
	<input type="checkbox"/> Conversion to Injection
	<input type="checkbox"/> Dispose Water

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

13. 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 markets and zones pertinent to this work.)\*

Please be advised that effective October 1, 2000, Elm Ridge Resources, Inc. assumed operatorship of the above referenced well. Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Elm Ridge Resources, Inc. under their statewide bond, BLM Bond No. B05706. They will be responsible for compliance under the lease terms and conditions for that portion of the lease associated with this notice.

14. I hereby certify that the foregoing is true and correct.  
 Signed: *[Signature]* Title: Operations Manager Date: September 29, 2000

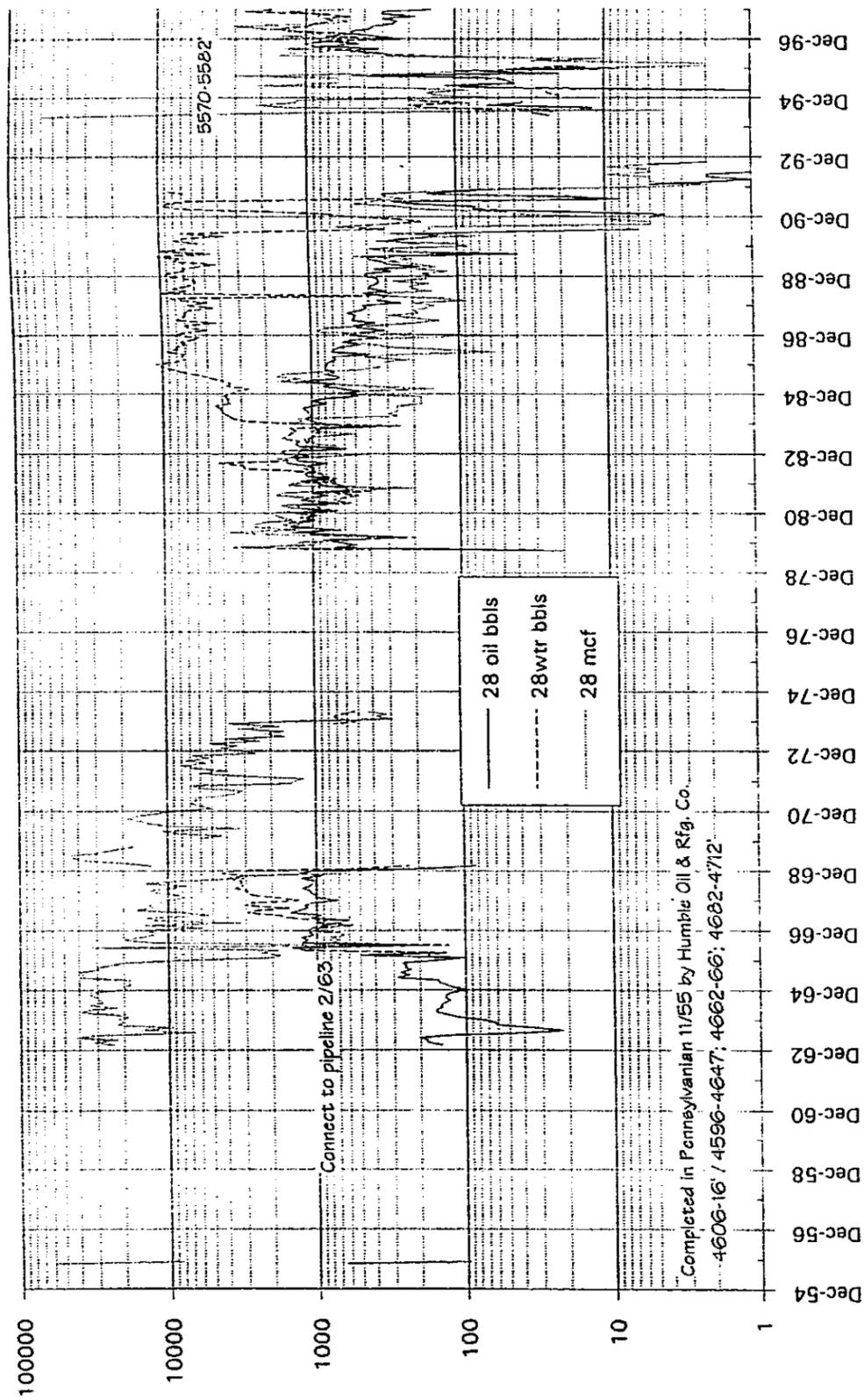
(This space for Federal or State office use)  
 Approved by: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

Conditions of approval, if any:  
 Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

\* See Instructions on Reverse Side

**MONTHLY PRODUCTION AT 1 NAVAJO (28), ARIZONA: OCT 1955 - DEC 1997**

ne se 4-41n-28e, East Boundary Butte Field, Apache County



1/27/98



Jane Dee Hull  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

December 1, 1997

Ms. Trina M. Duran  
Central Resources, Inc.  
2600 Mellon Center  
1775 Sherman Street  
Denver, CO 80203-4313

28

Re: Central Resources, Inc.  
\$25,000 Oil Drilling Blanket Bond #91372  
Frontier Insurance Company

Dear Ms. Duran:

This will acknowledge receipt of evidence of Central Resources' bonding with the BIA for operations on Indian leases in the State of Arizona.

In light of Central Resources' bonding with the BIA, this letter constitutes written permission by the Oil and Gas Conservation Commission of the State of Arizona to terminate liability under the referenced bond.

Let me know if we may be of further assistance.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

**CENTRAL**  
RESOURCES, INC.

---

November 10, 1997

Mr. Steven L. Rauzi  
State of Arizona  
Arizona Geological Survey  
416 W. Congress, Suite 100  
Tucson, Arizona 85701

28

Dear Mr. Rauzi:

Per our conversation of November 7th, please find copies of Central Resources, Inc. \$150,000 Nationwide BIA Bond and \$150,000 BIA Navajo Tribe Bond. These bonds provide coverage for the wells that Central Resources operates in Arizona on Indian leases.

Based upon the enclosed bonds, please release Central's bond #91372 to the State of Arizona for \$25,000.

Thank you for your assistance.

Regards,

*Trina M. Duran*

Trina M. Duran  
Executive Assistant

Enclosures



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

June 9, 1997

*file 28*

Ms. Crystal Williams  
Merrion Oil & Gas  
610 Reilly Ave.  
Farmington NM 87401

Re: Blanket Performance Bond No. 01-0130-00972-74-1  
United States Fidelity and Guaranty  
Amount \$25,000

Dear Ms. Williams:

Our records show that Central Resources has posted a blanket bond for its operations at the East Boundary Butte Field, Arizona, and that Merrion Oil and Gas has no current drilling or plugging obligations in the State of Arizona.

As a result, this letter will serve as written permission of the Oil and Gas Conservation Commission of the State of Arizona to cancel the referenced bond.

Sincerely,

Steven L. Rauzi  
Oil & Gas Administrator

enclosure: copy of referenced bond



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

June 9, 1997

*file 28*

Ms. Kris Fox  
Aon Risk Services, Inc.  
4100 E. Mississippi Ave. #1500  
Denver, CO 80222

Re: Central Resources, Inc. as Principal  
\$25,000 Blanket Performance Bond Serial No. 91372  
Frontier Insurance Company

Dear Ms. Fox:

This will acknowledge receipt and acceptance of the referenced blanket performance bond. I have enclosed a copy of the approved bond, effective June 9, 1997, for all wells operated by Central Resources in the State of Arizona.

Please advise if I may be of further assistance.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosure

c Irene Martinez, Central Resources

**PERFORMANCE BOND**                      Annual Premium \$500  
**KNOW ALL MEN BY THESE PRESENTS**

Bond Serial No. 91372

That we: CENTRAL RESOURCES, INC.  
of the County of \_\_\_\_\_ in the State of Colorado  
as principal, and FRONTIER INSURANCE COMPANY  
of Rock Hill, New York

**AUTHORIZED TO DO BUSINESS WITHIN THE STATE OF ARIZONA.**  
as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of Twenty Five Thousand and no/100 (\$25,000.00) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:

Blanket Bond

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. § 27-818, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission.

WITNESS our hands and seals, this 9th day of May, 1997.

CENTRAL RESOURCES, INC.

Arthur J. Carle  
Principal

WITNESS our hands and seals, this 9th day of May, 1997.

FRONTIER INSURANCE COMPANY

Tina E. Switzer  
Tina E. Switzer, Attorney-in-Fact

(Surety, Resident Arizona Agent  
if issued in a state other than Arizona)

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved 6-9-97  
Date \_\_\_\_\_  
**STATE OF ARIZONA**  
**OIL & GAS CONSERVATION COMMISSION**  
By: SLR

**STATE OF ARIZONA**  
**OIL & GAS CONSERVATION COMMISSION**  
Bond  
File Two Copies  
Form No. 2

Permit No. \_\_\_\_\_  
file 28



**POWER OF ATTORNEY**

Know All Men By These Presents: That FRONTIER INSURANCE COMPANY, a New York Corporation, having its principal office in Rock Hill, New York, pursuant to the following resolution, adopted by the Board of Directors of the Corporation on the 4th day of November, 1985:

"RESOLVED, that the Chairman of the Board, the President, or any Vice President be, and hereby is, authorized to appoint Attorneys-in-Fact to represent and act for and on behalf of the Company to execute bonds, undertakings, recognizances and other contracts of indemnity and writings obligatory in the nature thereof, and to attach thereto the corporate seal of the Company, in the transaction of its surety business;

"RESOLVED, that the signatures and attestations of such officers and the seal of the Company may be affixed to any such Power of Attorney or to any certificate relating thereto by facsimile, and any such Power of Attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company when so affixed with respect to any bond, undertaking, recognizance or other contract of indemnity or writing obligatory in the nature thereof;

"RESOLVED, that any such Attorney-in-Fact delivering a secretarial certification that the foregoing resolutions still be in effect may insert in such certification the date thereof, said date to be not later than the date of delivery thereof by such Attorney-in-Fact."

This Power of Attorney is signed and sealed in facsimile under and by the authority of the above Resolution.

DOES HEREBY MAKE, CONSTITUTE AND APPOINT: **ALTUS E. WILDER, III** **TINA E. SWITZER**

of **OKLAHOMA CITY**, in the State of **OKLAHOMA**  
its true and lawful Attorney(s)-in-Fact with full power and authority hereby conferred in its name, place and stead to sign, execute, acknowledge and deliver in its behalf, and as its act and deed, without power of re-delegation, as follows:

Bonds guaranteeing the fidelity of persons holding places of public or private trust; guaranteeing the performance of contracts other than insurance policies; and executing or guaranteeing bonds and undertakings required or permitted in all actions or proceedings or by law allowed; IN AN AMOUNT NOT TO EXCEED THREE MILLION FIVE HUNDRED THOUSAND (\$3,500,000.00) DOLLARS; and to bind FRONTIER INSURANCE COMPANY thereby as fully and to the same extent as if such bond or undertaking was signed by the duly authorized officers of FRONTIER INSURANCE COMPANY, and all the acts of said Attorney(s)-in-Fact pursuant to the authority herein given are hereby ratified and confirmed.

In Witness Whereof, FRONTIER INSURANCE COMPANY of Rock Hill, New York, has caused this Power of Attorney to be signed by its President and its Corporate seal to be affixed this 16th day of February, 19 96

FRONTIER INSURANCE COMPANY



BY: Walter A. Rhulen  
WALTER A. RHULEN, President

State of New York  
County of Sullivan ss.:

On this 16th day of February, 19 96, before the subscriber, a Notary Public of the State of New York in and for the County of Sullivan, duly commissioned and qualified, came WALTER A. RHULEN of FRONTIER INSURANCE COMPANY to me personally known to be the individual and officer described herein, and who executed the preceding instrument, and acknowledged the execution of the same, and being by me duly sworn, deposed and said, that he is the officer of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of the Company, and the Corporate Seal and signature as an officer were duly affixed and subscribed to the said instrument by the authority and direction of the Corporation, and that the resolution of the Company, referred to in the preceding instrument, is now in force.

In Testimony Whereof, I have hereunto set my hand, and affixed my official seal at Rock Hill, New York, the day and year above written.



Christine I. Lane  
CHRISTINE I. LANE  
Notary Public State of New York  
Sullivan County Clerk's No. 1996  
Commission Expires May 2, 1998

**CERTIFICATION**

I, JOSEPH P. LOUGHLIN, Secretary of FRONTIER INSURANCE COMPANY of Rock Hill, New York, do hereby certify that the foregoing Resolution adopted by the Board of Directors of this Corporation and the Powers of Attorney issued pursuant thereto, are true and correct, and that both the Resolution and the Powers of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the facsimile seal of the corporation this an day of

May, 19 97



Joseph P. Loughlin  
JOSEPH P. LOUGHLIN, Secretary

**AON**

*Aon Risk Services*

June 6, 1997

Steven L. Rauzi  
Oil & Gas Program Admin.  
Arizona Geological Survey  
416 W. Congress, Suite 100  
Tucson, AZ 85701

*file 28*

Re: Bond number 91372

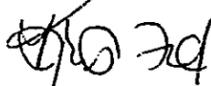
Dear Mr. Rauzi,

Enclosed please find the above referenced bond for Central Resources, Inc.

Please send written confirmation that this bond has been accepted by Arizona Geological Survey.

Please give me a call if you need anything or if I can be of further assistance.

Sincerely,



Kris Fox  
Technical Assistant  
Bond Department





Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

February 18, 1997

Ms. Irene Martinez  
Central Resources, Inc.  
1775 Sherman, Suite 2600  
Denver, CO 80203-4313

*file 28*

Dear Ms. Martinez:

An approved duplicate original *Operator's Certificate of Compliance and Authorization to Transport Oil or Gas from Lease* is enclosed for Navajo leases NOOC-14-20-603-226 (permits 28 and 515) and NOOC-14-20-603-413 (permits 22 and 490) at the East Boundary Butte Field, Arizona.

Please advise if I may be of further assistance.

Sincerely,

*Steven L. Rauzi*

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures

**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 Navajo NQOC-14-20-603-413	Field East Boundary Butte	Reservoir Paradox
Survey or Sec-Twp-Rge Sec 4-T41N-R28E	County Apache	State AZ
Operator Central Resources, Inc.		
ADDRESS ALL CORRESPONDENCE CONCERNING THIS FORM TO:		
Street 1775 Sherman St., #2600	City Denver	State CO 80203
Above named operator authorizes (name of transporter) Giant Refining Company		
Transporter's street address P.O. Box 12999	City Scottsdale	State AZ 85267
Field Address Red Mesa, Arizona		
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 Western Gas Resources	% transported 100	Product transported Gas
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.  Change of Owner/Operator		

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 Engineering Technician of the Central Resources, Inc. (company), and that I am authorized by said company to make this report; 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.

February 14, 1997

Date

Signature

Date approved: 2-18-97

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

By: Steven L. Rainey

Permit No. 28; 515

Mail two copies of completed form to:  
Oil & Gas Program Administrator  
Arizona Geological Survey  
416 W. Congress #100  
Tucson AZ 85701-1315

 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
---

### ORGANIZATION REPORT

Full Name of the Company, Organization, or Individual

CENTRAL RESOURCES, INC.

Mailing Address and Phone Number

1775 Sherman Street, Suite 2600, Denver, Colorado 80203-4313

Plan of Organization (State whether organization is a corporation, joint stock association, firm or partnership, or individual)

Corporation

Purpose of Organization (State type of business in which engaged)

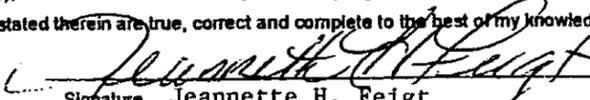
Oil and Gas

If a reorganization, give name and address of previous organization

If a foreign corporation, give (1) State where incorporated  <p style="text-align: center;">Colorado</p>	(2) Name and mailing address of state agent CT Corporation 3225 N. Central Avenue Phoenix, Arizona 85012	(3) Date of permit to do business in state  Applied for <u>1/31/97</u>
Principal Officers or Partners (If partnership) NAME	TITLE	MAILING ADDRESS
Paul J. Zecchi	President & CEO	1775 Sherman Street #2600 Denver, Colorado 80203-4313
Scotty A. Smith	Sr. Vice President	1775 Sherman Street #2600 Denver, Colorado 80203-4313
Catherine I. Eakle	Vice President & Secretary	1775 Sherman Street Denver, Colorado 80203-4313
Ray Hornsby	Vice President & Treasurer	1775 Sherman Street Denver, Colorado 80203-4313
Gary Davis	Vice President	1775 Sherman Street Denver, Colorado 80203-4313

DIRECTORS NAME	MAILING ADDRESS
Paul J. Zecchi	1775 Sherman Street, #2600, Denver, CO 80203-431

CERTIFICATE: I, the undersigned, under the penalty of perjury, state that I am the Assistant Secretary of the CENTRAL RESOURCES, INC. (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 Jeannette H. Feigt

February 14, 1997

Date

*file 28*



Mail completed form to:  
 Oil and Gas Program Administrator  
 Arizona Geological Survey  
 416 W. Congress., #100  
 Tucson, AZ 85701

STATE OF ARIZONA

**OIL & GAS CONSERVATION COMMISSION**

Organization Report  
 File One Copy

Form No. 1



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

February 11, 1997

Mr. Paul J. Zecchi, President  
Central Resources, Inc.  
1775 Sherman, Suite 2600  
Denver, CO 80203-4313

*file 28*

Dear Mr. Zecchi:

We recently received the attached notice that Central Resources purchased the East Boundary Butte Field in Arizona from Merrion Oil and Gas. As a result of that purchase, I am writing to advise you that this office provides administrative and staff support to the Arizona Oil and Gas Conservation Commission.

In order that our records be accurate and current, in accordance with Arizona Statutes and rules, please fill out and submit the enclosed *certificate of compliance* and *organization report* forms to this office as soon as possible. R12-7-183 and R12-7-194 require the operator to submit these forms within 10 days of any change in ownership, etc.

Also for your file and use are blank copies of our *monthly producer's report* and *water disposal report* forms, and a copy of our oil and gas rules. These blank forms may be copied or generated digitally as needed.

We welcome Central Resources to Arizona and hope your venture here is a profitable one. Please let me know if you have any questions about the enclosed forms or rules or if I may be of any further assistance.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures

Distribution: 0+2 (Arizona OCD); 1-Navajo Tribe; 1-File; 1-Central Resources

SUNDRY NOTICES AND REPORTS ON WELLS

1. Name of Operator MERRION OIL & GAS CORPORATION  
2. Oil Well  GAS WELL  OTHER  (Specify) \_\_\_\_\_  
3. Well Name NAVAJO No. 1  
Location 1980' fs1 & 990' fel (ne se)  
Sec. 4 Twp. 41N Rge. 28E County Apache Arizona.  
4. Federal, State or Indian Lease Number, or lessor's name if fee lease Indian - Navajo Tribe  
NOOC-14-20-603-413  
5. Field or Pool Name East Boundary Butte

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
<input type="checkbox"/> WATER SHUT-OFF	<input type="checkbox"/> FULL OR ALTER CASING	<input type="checkbox"/> WATER SHUT-OFF	<input type="checkbox"/> MONTHLY PROGRESS
<input 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) <u>Change of Operator</u>	<input checked="" type="checkbox"/> ABANDONMENT

(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 markets and zones pertinent to this work.)

Effective 1/01/97 new owner of the above well is:

CENTRAL Resources, Inc.  
2600 Mellon Center  
1775 Sherman Street  
Denver, Colorado 80203-4313  
Phone No.: (303) 830-0100



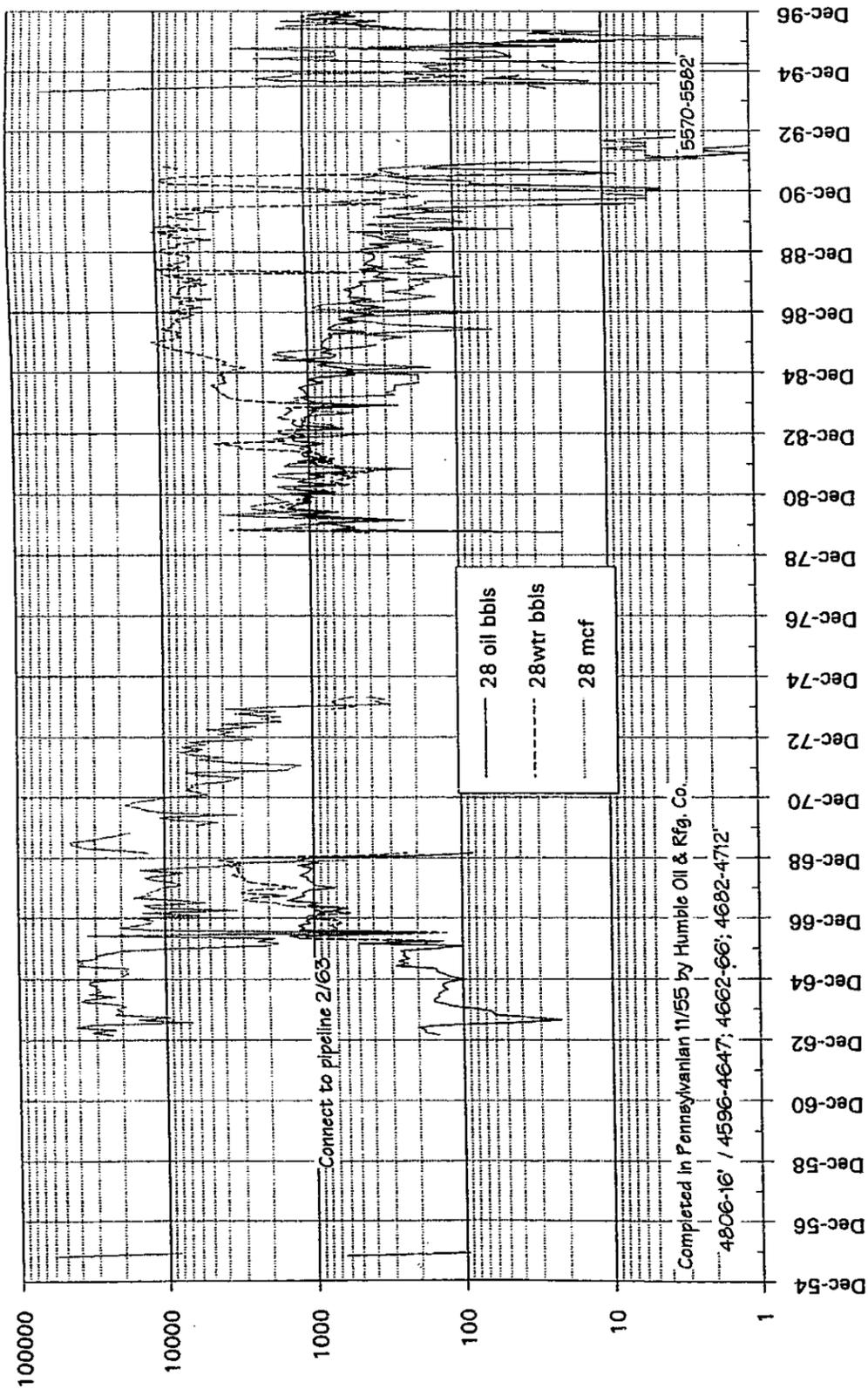
8. I hereby certify that the foregoing is true and correct.

Steven S. Dunn Title Drlg & Prod Manager Date 1/16/97

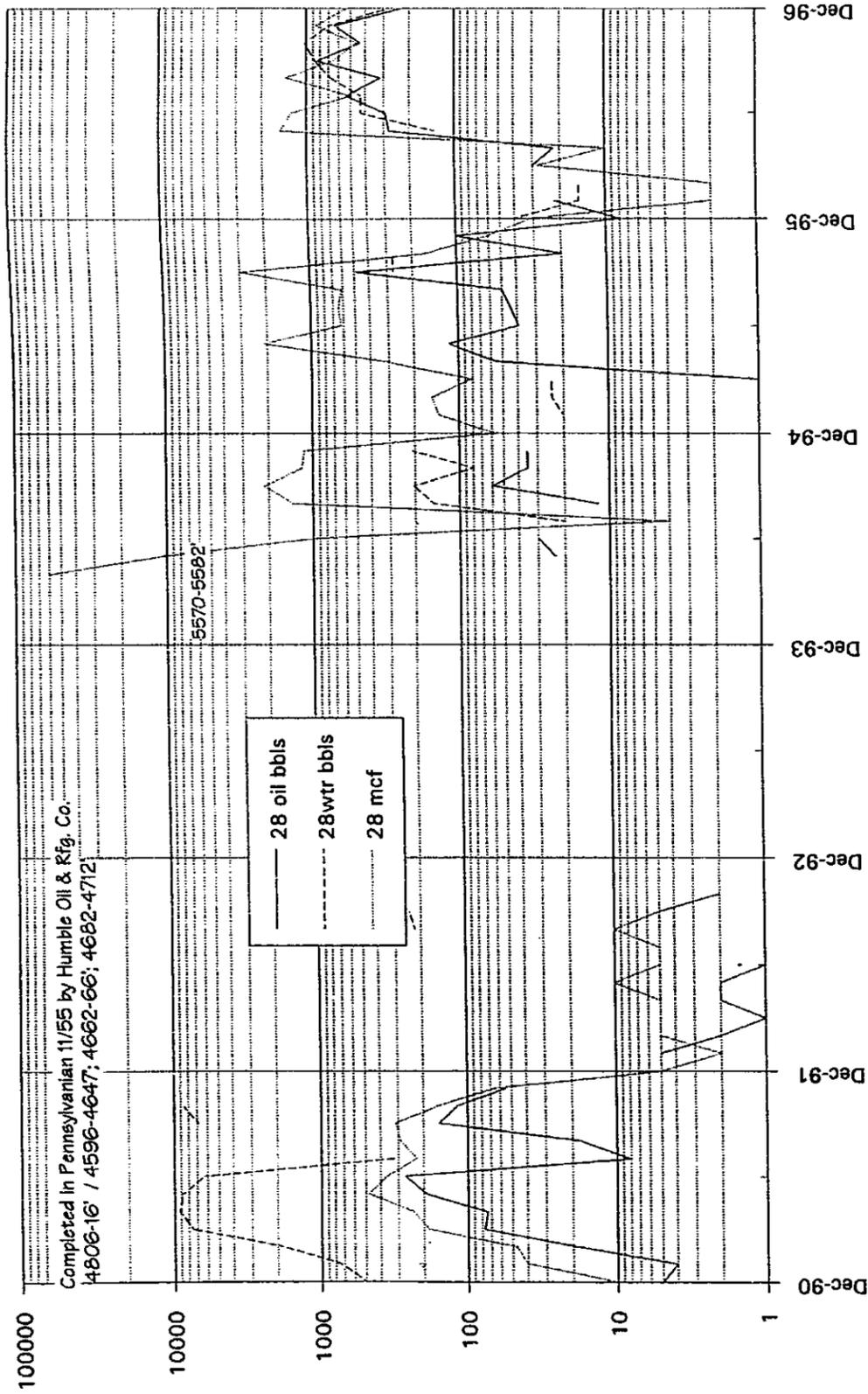
Permit No. 28

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Sundry Notices and Reports On Wells  
File Two Copies  
Form No. 28

**MONTHLY PRODUCTION AT 1 NAVAJO (28), ARIZONA: OCT 1955 - DEC 1996**  
 ne se 4-41n-28e, East Boundary Butte Field, Apache County



**MONTHLY PRODUCTION AT 1 NAVAJO (28), ARIZONA: DEC 1990 - DEC 1996**  
ne se 4-41n-28e, East Boundary Butte Field, Apache County





Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

416 W. Congress, Suite 100  
Tucson, Arizona 85701  
(520) 770-3500



Larry D. Fellows  
Director and State Geologist

September 18, 1995

Mr. Steven S. Dunn  
Operations Manager  
Merrion Oil & Gas Corporation  
P. O. Box 840  
Farmington, New Mexico 87499

Re: **Change of oil transporter**  
East Boundary Butte Field, Arizona

Dear Mr. Dunn:

Approved duplicate original Operator's Certificate of Compliance and Authorization to Transport Oil or Gas From Lease are enclosed for the Navajo #1, Navajo #2, and Navajo #3-11 wells at the East Boundary Butte Field, Arizona.

Let me know if I may be of further assistance.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures

c Giant Refining Co., Scottsdale, Arizona

28



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

June 6, 1994

28

Ms. Esther Greyeyes  
Drilling & Production Tech  
Merrion Oil & Gas Corporation  
P. O. Box 840  
Farmington, New Mexico 87499

Re: **Recompletion Reports for Navajo 1, 2, & 3-11 wells**  
East Boundary Butte Field, Arizona

Dear Esther:

Thank you for taking my telephone call last week during Mr. George Sharpe's absence from the office and for sending copies of the sundry notices on the referenced wells. We have copies of these sundry notices in our file.

We have not received, however, the *Well Completion or Recompletion Reports* (our Form 4) recording the details of the **recompletion** of the referenced wells. As a result, I have enclosed several blank copies of this report form and kindly ask that you forward them to the appropriate personnel to be completed and returned to my attention at the earliest convenience.

Thank you.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures

**MERRION**

OIL & GAS

May 31, 1994

Mr. Steve Rauzi  
Arizona Geological Survey  
845 North Park Avenue, Ste 100  
Tucson, Arizona 85719

RE: NAVAJO 1, 2, & 3-11

Dear Steve:

Enclosed are copies of sundry notices that we sent out on the above referenced wells, it looks like we had send several of the sundry notices to you, but never got an approval.

If you need more information, please give me a call.

Sincerely,

*Esther J. Greyeyes*  
Esther J. Greyeyes  
Drig & Prod Tech

Enclosures



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

August 11, 1993

(28)

Mr. Randy Dirks  
Western Gas Resources, Inc.  
12200 North Pecos Street, Suite 230  
Denver, Colorado 80234-3439

Dear Randy:

I have enclosed the *Operator's certificate of compliance and authorization to transport oil or gas from lease* for Merrion Oil and Gas Corporation's Navajo 1, Navajo 2, and Navajo 3-11 wells at the East Boundary Butte Field, Apache County, Arizona. As I mentioned on the phone, Navajo 1 is currently shut-in and Navajo 2 and Navajo 3-11 are producing.

Let me know if I can be of further assistance.

Sincerely,

Steven L. Rauzi  
Oil and Gas Program Administrator

Enclosures



Roc.  
Sect

## Merrion Completes Mississippian Pay Discovery in Northeastern Arizona Field

**G**AS FLOWED at the rate of 1,660,000 cu ft per day at a workover completed by Farmington-based Merrion Oil & Gas Corp 12 miles west-northwest of Tec Nos Pos in northeastern Apache County, Arizona.

The 1 Navajo, ne se 4-41n-28e, was tested through perforations in Mississippian at 5570-82 ft with a flowing tubing pressure of 1245 psi. Analysis of the sour gas (1,500 ppm hydrogen sulfide) indicates it is 30 percent nitrogen and 10 percent carbon dioxide.

The workover is on the northwestern flank of East Boundary Butte field, half a mile generally west of the remaining two Paradox producers in the pool.

The well originally was completed in 1955 by Humble Oil & Refining Co as the 1 Navajo Tribe of Indians, the discovery well for East Boundary Butte field. It initially flowed 47 bbls of oil per day from Paradox at 4806-16 ft. Prior to completion in Paradox, Humble production-tested Mississippian at 5570-82 ft, recovering 4,261,000 cu ft of gas and 36 bbls of oil per day through a 32/64-inch choke.

Humble recompleted the well in

1969 flowing 2,234,000 cu ft of gas per day from Paradox between 4596 and 4808 ft. Log tops, measured from a derrick floor elevation of 5373 ft, include Hermosa at 3812 ft, Paradox 4576, Molas 5300, Mississippian 5510 and Ouray at 5697 ft.

East Boundary Butte field has produced about 886,000 bbls of oil, 9.74 billion cu ft of gas and 1.7 mil-

lion bbls of water. Production in November 1992 averaged about four bbls of oil and 57,000 cu ft of gas per day. Productive Pennsylvanian zones in the field have included Hermosa and the Ismay, Desert Creek and Akah members of Paradox. The nearest production from Mississippian is six miles to the south-southeast, in Dry Mesa field.

*(Snyder, continued from Page 1)*

nesw 22-16n-48w, for an initial flowing potential of 75,000 cu ft of gas daily from perforations at 3518-26 ft in Niobrara. Total depth is 3695 ft.

Snyder gauged a flow of 325,000 cu ft of gas and 10 bbls of water per day at another workover, the 16-16B State in se se 16-16n-48w. Production at the latter well is from Niobrara between 3518 and 3526 ft. The 4470-ft well originally was plugged and abandoned in 1955 by Wytex Oil.

A south offset to the 16-16B State, Snyder's 21-1B Lippstrew in ne ne 21-16n-48w, was perforated in Niobrara at 3530-38 ft and flowed 188,000 cu ft of gas per day. Both the Lippstrew tests and the 16-16B State were fract.

The new producing area is about

two and a half miles west of Miller field, where Snyder has been developing Niobrara gas reserves since early 1992. The company recently completed a pair of new producers on that field's western flank, including the 18-14A Hunter in sesw 18-16n-47w, which initially flowed 965,000 cu ft of gas per day from 3448-56 ft. A southwest offset, the 19-4A Vogler Farms in nw nw 19-16n-47w, was completed flowing 415,000 cu ft of gas and 20 bbls of water daily from 3481-89 ft in Niobrara.

In November, eight Snyder-operated wells in Miller field combined to produce an average of 871,000 cu ft of gas and 50 bbls of water daily. Cumulative production at that time was 274 million cu ft of gas.

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Rocky Mountain Region Report (USPS 113-170). Price: \$1580 per year. "Northern Edition" Price: \$1320 per year. "Wyoming Edition" Price \$1320 per year. "Four Corners-Intermountain Edition" Price \$980 per year. "Southeastern Edition" Price \$980 per year. "Newsletter Edition" Price \$888 per year. Published by Petroleum Information Corporation, Monday through Friday except New Years Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and the day after, and Christmas Day and the day after, 4100 East Dry Creek Road, Littleton, CO 80122. Second class postage paid at Littleton, CO 80122 and additional mailing offices. Postmaster: Send address changes to: Rocky Mountain Region Report, P.O. Box 2612, Denver, CO 80201.



Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

October 30, 1992

George F. Sharpe  
Merrion Oil & Gas Corporation  
P. O. Box 840  
Farmington, New Mexico 87499

Dear George:

Enclosed are approved operator's certificate of compliance and authorization to transport oil or gas from lease for the East Boundary Butte Field, Arizona.

Sincerely,

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures

FAX 505-326-5900

PH. 505-327-9801

MERRION OIL & GAS CORPORATION

610 REILLY AVE. • P O Box 840  
FARMINGTON, NEW MEXICO 87499

June 26, 1992

Mr. Jack Jim  
Teec Nos Pos Chapter House  
Teec Nos Pos, Arizona 86514

Re: **Work Plans**  
**Apache County, Arizona**  
**East Boundary Butte Field**



Dear Mr. Jim,

This letter outlines Merrion's short term plans for the East Boundary Butte Field. Please notify the allottees that we will be working there over the next few months. Work will begin about July 8, 1992.

*Permit #28*  
**Navajo #1** - We plan to get a rig on this well to squeeze off the Desert Creek/ Issue perforations and complete the well in the Leadville Formation.

**Navajo #2** - We plan to get a rig on this well to stimulate the well in an attempt to increase production. We also plan to install a compressor to increase production.

**Navajo #3-11** - We plan to get a rig on this well to repair the down-hole pump and to return it to production.

I have enclosed a topo map showing the location of each well site where the work will be done.

**Facilities**

Depending on the success of the Navajo #1 recompletion, we may need additional facilities at the Navajo #3 location, which is where the production from the Navajo #1 is handled. The additional facilities should be on the existing well pad and should not require additional surface damages.

Also, we plan to install a water line and a fuel gas line from the Navajo #2 to the Navajo #3 disposal well. These lines will be laid together parallel to the existing gas lines to minimize damages. While our leases allow for line installations, we will honor our previous agreement with the Utah Land Office where we will pay \$250 per acre for damages. For a 5500' long 15' wide right of way that would total 1.9 acres, or \$474.00. Please let us know how to divide this up and who to make the checks out to. We need social security numbers of any individuals receiving money.

Mr. Jack Jim

Page 2

June 26, 1992

Part Time Employment

We understand that many of the allottees would appreciate the chance to earn some money. While we cannot hire these people for the rig work, there is a possibility we can use some of them on the facility and line installations. We will pay \$6.50/hour up to a maximum of 92 hours in one year for one individual. (If someone earns more than \$600 in one year, then we get into alot of reporting and tax complications).

In the past, we have coordinated this work through the Utah Land Office, but we understand that you are now the contact. Please provide a list of names, addresses, and social security numbers of all individuals who are interested in working. We will contact you when and if we need them and we will also send their paychecks through you.

Thank you for your assistance. Please call if you have any questions at phone: (505) 327-9801.

Sincerely,



Steve S. Dunn  
Operations Manager/Engineer

SSD/lt

cc: Melvin Capitan - Utah Land Office  
Farmington BLM  
Steve Rauzi - Arizona Oil Conservation Division  
BIA - Window Rock, Arizona  
J. Greg Merrion  
George F. Sharpe  
Pat Hegarty  
Field File





Fife Symington  
Governor

State of Arizona  
**Arizona Geological Survey**

845 North Park Avenue, #100  
Tucson, Arizona 85719  
(602) 882-4795



Larry D. Fellows  
Director and State Geologist

June 29, 1992

George F. Sharpe  
Merrion Oil & Gas Corporation  
P. O. Box 840  
Farmington, New Mexico 87499

Re: Workover on Navajo #1, State Permit #28

Dear Mr. Sharpe:

This will grant Merrion Oil & Gas Corporation approval to perform the referenced workover as described in your "Leadville Recompletion Procedure" dated June 24, 1992, provided that you

1. Advise this office of any modifications to this workover procedure; and
2. Report the final mechanical condition of the well on the enclosed Form 4, *Well completion or recompletion report* as required in A.A.C. R12-7-122.

Sincerely,

*Steven L. Rauzi*

Steven L. Rauzi  
Oil & Gas Program Administrator

Enclosures



**Oil and Gas Conservation Commission**

STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141  
PHOENIX, ARIZONA 85016  
PHONE: (602) 255-5161

October 5, 1990

*Permit # 28*

Meridian Oil, Inc.  
P. O. Box 4289  
Farmington, NM 87499

RE: R12-7-185, Transporter's and Storer's Monthly Report  
East Boundary Butte field, Arizona

Dear Sir:

Our records indicate that, effective June 1990, Meridian Oil is the authorized transporter of oil produced from the East Boundary Butte field in Township 41 North, Range 29 East, Apache County, Arizona.

I am writing to acquaint you with the reporting requirements of each transporter of oil or condensate within the state and have enclosed a copy of our rule R12-7-185 for your file.

In order that our records be accurate and current, in accordance with Arizona Statutes, we request that the enclosed form, Transporter's and Storer's Monthly Report, be completed and returned to this office on a monthly basis. Please feel free to make copies of this form as needed.

Thank you for your cooperation in this matter.

Sincerely,

*Steven L. Rauzi*

Steven L. Rauzi  
Oil & Gas Specialist

Enclosures



**Oil and Gas Conservation Commission**

STATE OF ARIZONA

5150 N. 16th STREET, SUITE B-141  
PHOENIX, ARIZONA 85016  
PHONE: (602) 255-5161

September 5, 1990

T. Greg Merrion, Production Engineer  
Merrion Oil & Gas Corporation  
P. O. Box 840  
Farmington, NM 87499

*P/N 22, 28, 49, 514, 515*

**RE: R12-7-183, Certificate of compliance and authorization to transport**

Dear Mr. Merrion:

I noticed from your production report that you have changed the transporter of oil from the East Boundary Butte field in Arizona effective June 1990.

Please be advised that this change requires you to file a new "certificate of compliance and authorization to transport oil or gas from lease". I have enclosed a copy of the pertinent rule (R12-7-183) and two copies of form 8 for your use.

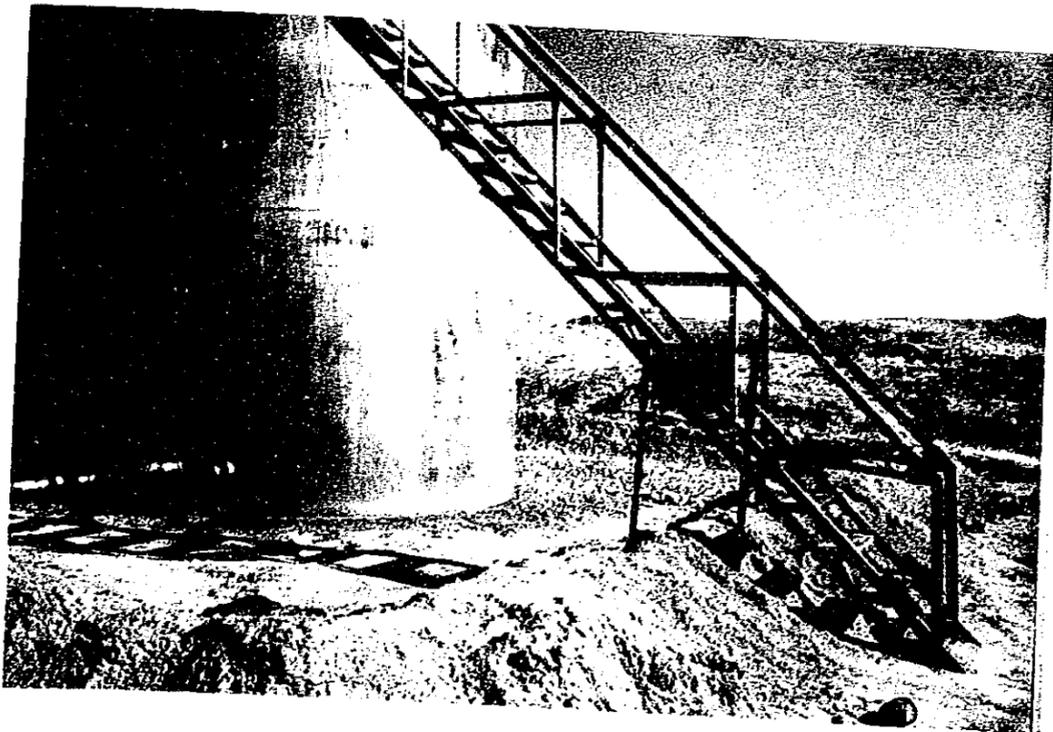
We appreciate your cooperation in this matter.

Sincerely,

*Steven L. Rauzi*

Steven L. Rauzi  
Oil & Gas Specialist

Enclosures



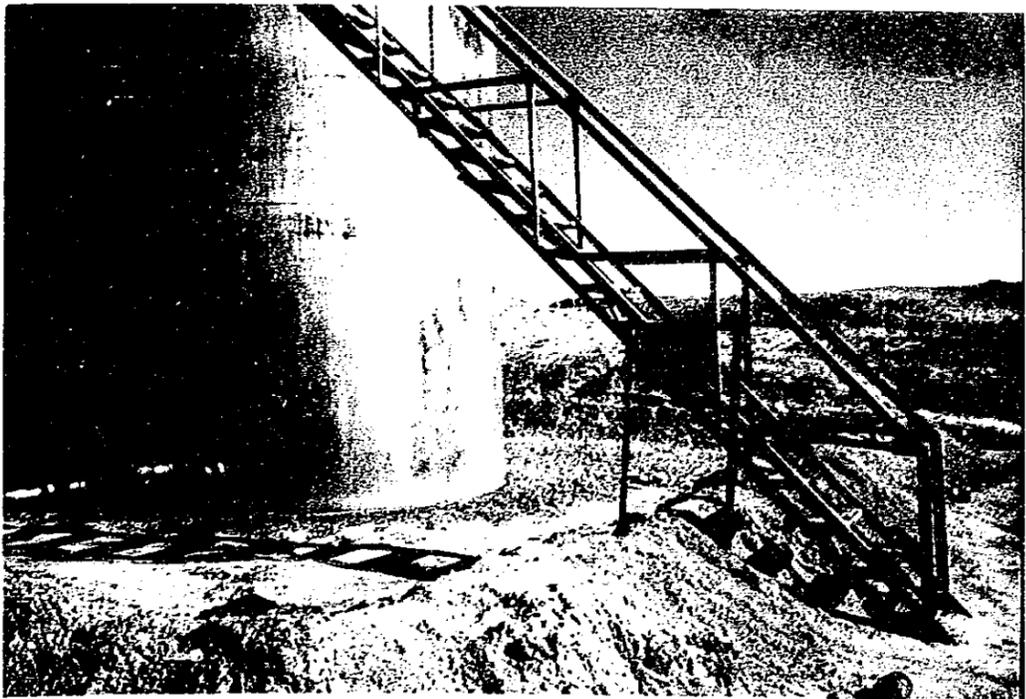
19A

Mission (Humble)  
Sec 4, 41N-28E

~~19A~~

Tech Butter cd 89

PN28



~~SA~~ ~~441N-28E~~

194

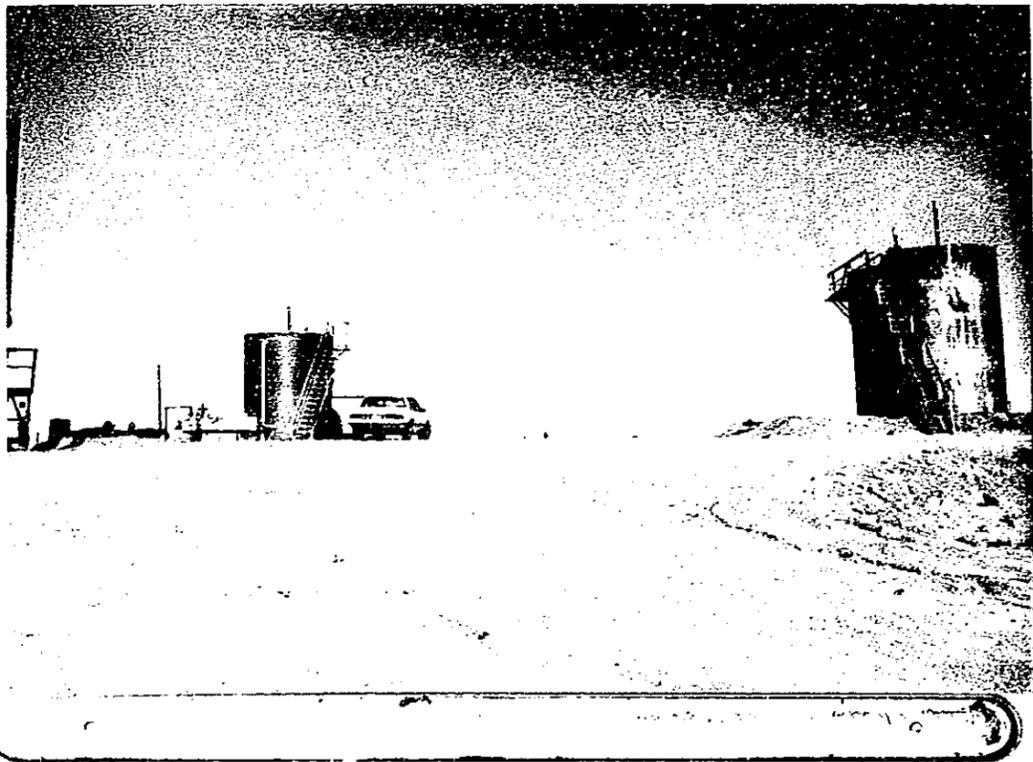
Sec 4

Merrion (Humble), Navajo Tank Batter 10/89

4,41N-28E

~~PN 27~~

PN 28

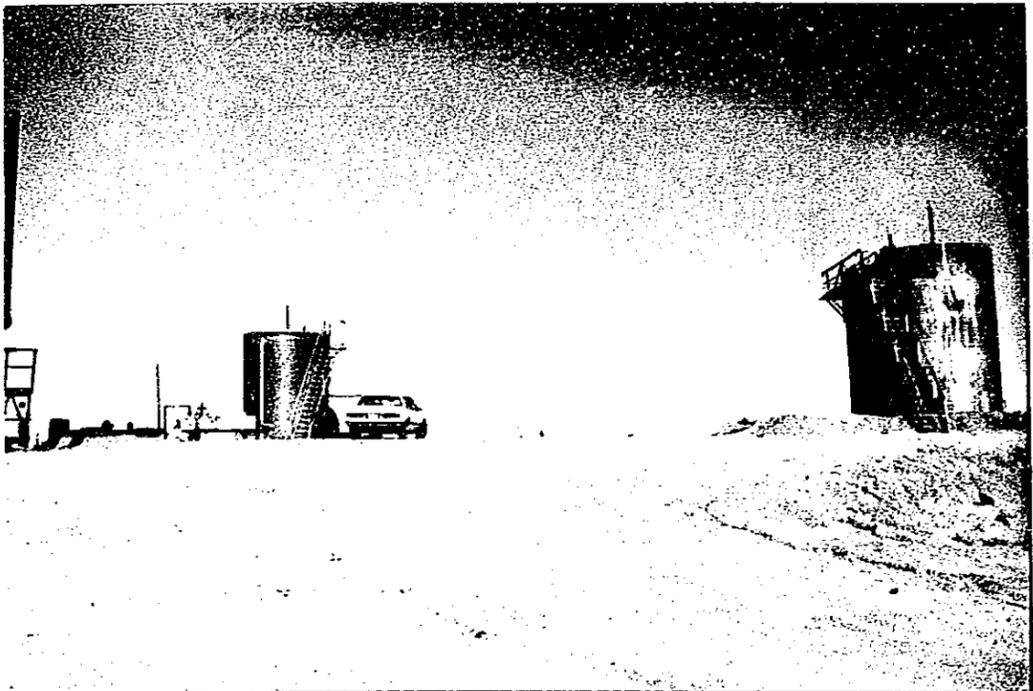


18A Merrick Handle 1 Nov 89

P028

4,410-28E

1489



18A

Merrill (Hubble) / Navajo

(PN-28)

1989

4, 41N-28E

MERRION OIL & GAS CORPORATION

610 REILLY AVE. • P. O. Box 840  
FARMINGTON, NEW MEXICO 87499

RECEIVED

PH. 505-327-9801

NOV 24 1986

O & G CONS. COMM.

November 20, 1986

Arizona Oil & Gas Conservation Commission  
3110 N. 19th Avenue, Suite 190  
Phoenix, Arizona 85007

Attention: Rudy Ybarra

Re: Well Status  
East Boundary Butte  
Apache Co., Arizona

Dear Mr. Ybarra:

Enclosed please find the "Notice of Intent to" and "Subsequent Report of" sundry notices for the plugging and abandonment of the Navajo 23-11 and the Navajo 2-11. Both wells are located in Section 11, T41N, R28E in Apache Co., Arizona.

The following is a list of the status of the wells which Merrion Oil and Gas operates in the East Boundary Butte Field, Apache Co., Arizona:

LEASE	WELL NAME	STATUS
14-20-603-226	Navajo No. 2 <i>22</i>	SI Gas Well
	Navajo No. 2-13 <i>451</i>	P & A
	Navajo No. 3-3 <i>514</i>	SI
	Navajo No. 3-11	SI
14-20-603-227	Navajo No. 2-11 <i>518</i>	P & A
	Navajo No. 23-11 <i>67</i>	P & A
14-20-603-412	Navajo No. E-1 <i>58</i>	P & A
14-20-603-413	Navajo No. <i>128</i>	Pumping Oil Well
	Navajo No. <i>3515</i>	Salt Water Disposal

*also 21000000E*

If you need any additional information, please advise.

Respectfully yours,

MERRION OIL & GAS CORPORATION

*T. Gregory Merrion*

T. Gregory Merrion, Production Engineer

TGM/am

Enc.

August 1981  
 S M T W T F S  
 3 4 5 6 7 8  
 10 11 12 13 14 15  
 17 18 19 20 21 22  
 24 25 26 27 28 29  
 Thursday, September 17

Delbert Fortner  
 U.S. Mineral Management  
 SERVICES  
 NM (505) 766-1173

October  
 S M T W T F S  
 4 5 6 7 8  
 11 12 13 14 15  
 18 19 20 21 22  
 25 26 27 28 29

Called from  
Act II & is  
was made - 11/10  
for from  
11/10/55

# HUMBLE O&G

NOI to drill - filed 5-20-55

Approved 5-24-55 as a 640-Ac\*  
drilling unit - target: "DEV"

\* very specific: on the NOI, a  
section asks whether the loc. is a  
regular or exception to the spacing  
rule Ans. REGULAR

5 1/2"

3840

PENK

Well Stems

4620-4629  
4629-4629  
4629-4728  
4728-4728  
4728-4728  
4728-4728  
4728-4728

4620  
4629  
4629  
4629  
4629  
4629  
4629  
4629

BP @ 4728  
this interval is initial compl. int. I.P. 2.18 Bo/D; 4141 McF/D  
BP @ 4830'  
47B/D = other fluid  
11-3-55 T  
S.I.

(5510)  
5510-5510  
5510-5510  
5510-5510  
5510-5510

1155'  
5570'  
5522'  
5170'  
BP @ 5550' + 50' of cement plug  
acid stim. 4761 McF/D

(5815)

"DEV"

609/2489  
T.D. 6392

\* 5-24-56 - AZ Lands Comm. was requested to make determination as to whether the well was an oil or gas well - request by Humble  
the determination that it was an oil well was on the basis that wells > 100,000 GOR = gas wells & < 100,000 GOR = oil wells. At time of determination the well was doing 87,000 CF/B

10-15-55 Gas Analysis of int. 4806'-4816' on a 23-hr test :  
114 Bo/D ; 3105 MCF/D

10-16-55 " " " " 5570'-5582' " " 24-hr " ;

~~initially tested~~ 47 Bo/D ; 4141 MCF/D  
After acid treatment on 4806'-4816' : 47 Bo/D ; 4141 MCF/D  
This compl. int. (4806'-4816') constitutes I.P. of this  
well — date : NOV. 3, 1955

Well SHUT IN ON NOV. 3, 1955

5-24-56 \* as shown in previous page : AZ Lands Comm.  
determination

8-17-67 Approval given to Humbly to transport oil to 4-  
Corners Pipeline Co.

12-10-68 (USGS Form) NOI to perf. additional intervals,  
as follows : 4597'-4647', 4662'-4666', 4682'-4712', &  
4782'-4804'. ea int. to be tested individually & acidized  
All proposed intervals = PARADOX

a) 1-22-69 - int. 4682'-4712' acidized & flowed <sup>21 MCF/D</sup> ~~to~~ D :

b) 4662'-4666' & 4597'-4647' tested 150 MCF/D ; after acid  
job : 600 MCF/D

c) tested the above intervals together : tested 900 MCF/D on  
5-hr test ; After 17 hours prod was 1,000,000 CF/D

Decided to complete & prod from int. <sup>Hermosa</sup> (4596'-4647')  
return as long as feasible before opening up lower intervals  
compl. date : 5-10-69 Remarks ; this int. had produced  
gas & some oil on tests — what the prod was on the  
compl. date = 2.

- 1-26-70 (USGS Sundry Report) Requested approval to add the other perf'd interval (4782-4816) & to remove temp BP @ 4744'. It stated in this report that the other 3 upper zones, <sup>combined</sup> produced over 1,000 MCF/D & that recently small volumes of fluid had been logged off the well.
- 7-8-70 (USGS Sundry Report) Remove BP @ 4744' & exposed all perf. intervals, snabbed & tested 9 hrs, recovering B<sub>0</sub>, 207 Bw & some gas. Reset BP @ 4746' (excl. 4782-4816). Snabbed well, kicked off flowing @ rate of 1,000 MCF/D. Declined rapidly due to sales line press. - installed compressor, now stabilized & prod. @ 600 MCF/D (capacity of compressor) w/ Hg press. of 420 #
- 7-27-70 Merriam & Bayless took over
- 9-28-73 Change of purchaser: El Paso → The Permian Corp
- 10-16-79 (USGS Sundry Report) - Pld Hg & removed Pkr (?) from 4746' (?) Recompl. pumping 9-29-79  
Removal of Pkr @ 4746' would open well to int. 4782-4816'. This int. was excluded fr. the upper 3 intervals after extensive testing (by Humble) - M & B probably found out quickly that this wouldn't help prod. any

miss. -  
 dip measurements →  
 USGS (preservation)  
 Merriam Management  
 Dennis

RECEIVED  
NOV 23 1981  
O & G CONS. COMM.

AKS  
RAY  
OS

NOTICE

Effective October 1, 1981 the operating entity known as Merrion and Bayless will cease to exist. Operations will thereafter be carried on as Merrion Oil & Gas Corporation. Offices will continue at 205 Petroleum Center Bldg. Farmington, New Mexico. The new mailing address will be P.O. Box 1017, Farmington, New Mexico. The phone number remains (505) 325-5093.

515 (also 22, 28, 58)

*llw*

OFF. 328-5093  
RES. 327-9094

J. GREGORY MERRION  
PETROLEUM ENGINEER  
P. O. BOX 507  
FARMINGTON, NEW MEXICO 87401

RECEIVED

NOV 1 1979

O & G CONS. COMM.

October 29, 1979

Oil & Gas Conservation Commission  
State of Arizona  
1645 West Jefferson, Suite 420  
Phoenix, AZ 85007

ATTENTION: Mr. Don Whittaker

RE: East Boundary Butte Field  
Navajo 1, Permit No. 28

Gentlemen:

Regarding your letter of October 23, we filed a sundry notice with the U.S.G.S and have always depended on them to forward a copy to your office. With the change in personnel there, they may have failed to do this. We therefore are sending you a xerox copy of our file copy and will, in the future, arrange to send you copies directly at the same time we file them with the U.S.G.S.

Yours very truly,

MERRION & BAYLESS

By

*J. Gregory Merrion*  
\_\_\_\_\_  
J. GREGORY MERRION

JGM/eh

Enclosures (2)

255-

October 23, 1979

J. Gregory Merrion  
Merrion & Bayless  
P.O. Box 1541  
Farmington, New Mexico 87401

Re: East Boundary Butte Field  
Navajo 1, Permit No. 28

Dear Mr. Merrion:

Your Monthly Producers Report for September shows the above captioned well as producing 20 barrels of oil and 50 MCF of gas. The last production reported prior to this was April 1974.

It will be necessary to file a Sundry Notice on this well. Also, if any additional work was performed, we will need a Recompletion Report. Forms are enclosed.

Yours truly,

Don Whittaker  
Director  
Enforcement Section

DW:os  
Enc.

**MONTHLY PRODUCERS REPORT**

Merrion & Bayless  
Company  
P. O. Box 1541  
Farmington, New Mexico 87401

Field East Boundary Butte  
County Apache  
Field Office Address

Month September, 19 79

O & G CONS. COMM.

General, State or Indian Lease Number or Lessor's Name if Fee Lease	Well No.	State Permit No.	Actual Oil Produced	Bbls. Water Produced	Gas Produced MCF	Days Produced	Disposition of Gas - MCF			Disposition of Oil - Bbls.					
							Sold	Other	Pur. Char. Code	Oil on Hand Beg. of Month	Bbls. to Transporter	Other	Pur. Char. Code	Oil on Hand End of Month	
Navajo 14-20-603-413	1	74	20	400	50	2	0	50	U	202	0	0	0	103	569
14-20-603-413	3	515	90	7800	950	30	0	770	U	202	0	0	0	103	181
LEASE TOTALS			110	8200	1000		0	1000	V		543	84			
Navajo E 14-20-603-412	1	58	144	15600	0	24	0	0	U	202	37	0	0	103	
Navajo 3-3	2	22	5	0	578	2	578	0	U	202	0	0	0	103	
14-20-603-226	3	490	0	0	0	0	0	0	U	202	0	0	0	103	
14-20-603-226	3-3	514	0	0	0	0	0	0	U	202	0	0	0	103	
LEASE TOTALS			5	0	578		578	0			294	227			72
Navajo 2-11	23-11	69	0	0	0	0	0	0	U	202	0	0	0	103	
14-20-603-227	2-11	513	0	0	0	0	0	0	U	202	0	0	0	103	
LEASE TOTALS			0	0	0		0	0			254	142			112

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

*[Signature]* (Signature) 10-19-79 (Date)  
CO-OWNER (Position)

**STATUS CODE**  
 F - Flowing  
 P - Pumping  
 G - Gas Lift  
 S - Shut In  
 T - Temp. Abandoned  
 I - Injection

**"OTHER" GAS DISPOSITION CODE**  
 X - Used Oil Lease  
 D - Used For Drilling  
 G - Gas Lift  
 L - Lost (MCF Estimated)  
 E - Explanation Attached  
 R - Repressuring or Pressure Maintenance  
 U - Used On Lease  
 V - Ventd

**"OTHER" OIL DISPOSITION CODE**  
 C - Circulating Oil  
 L - Lost  
 S - Sedimentation (BSAW)  
 E - Explanation Attached

**PURCHASER CODE**

<b>OIL</b>	<b>GAS</b>
Code No. Name	Code No. Name
201 Kerr-McGee Pipeline	1-OGCC
102 Rock Island Oil & Ref.	1-Navajo Tribe
103 Permian	1-File

**STATE OF ARIZONA**  
**OIL & GAS CONSERVATION COMMISSION**  
 Monthly Producers Report  
 File One Copy  
 Form No. 16

February 5, 1976

Mr. J. Gregory Merrion  
Merrion & Bayless  
P. O. Box 1541  
Petroleum Club Plaza  
Farmington, NM 87401

RE: U. S. Fidelity & Guaranty Company  
Surety Bond #01-0130-972-74

Dear Greg:

Back on October 23, 1974, you requested your surety, USF&G, to notify you of their acceptance of the wells that you had recently taken over from Consolidated Oil & Gas. A check of our files indicates that USF&G never responded to your request.

We have received a request for cancellation of a bond that technically still covers some wells that you as operator have also covered under the above referenced bond. Before, we can comply with the request for the release of this bond, we must have a written statement from USF&G assuming bonding responsibilities of these wells.

Will you please have USF&G write this Commission agreeing to assume bonding responsibilities for all the wells that you operate in this state. The reason that this acknowledgement from USF&G is necessary is because this blanket bond states, "any and all oil and gas wells drilled within the state of Arizona". Our opinion is that legally USF&G could claim that only wells actually drilled by you were covered under Bond #01-0130-972-74.

We will appreciate your cooperation in this matter.

Sincerely,

W. E. Allen, Director  
Enforcement Section

WEA/zl

28

June 25, 1975

Mr. J. Gregory Marrion  
Marrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

RE: Humble Oil Navajo #1 Sec 4-T41N-R28E Apache Co., File #28	Humble Navajo #E-1 Sec 10-T41N-28E Apache Co., File #58	Humble #e Navajo Sec 4-T41N-R28E Apache Co., File #515
---	---	--

Dear Greg:

On April 7, 1975, we sent you a reminder that the semi-annual GOR tests on the above referenced wells were due. As of this date, we have not received these reports.

Greg, if taking these semi-annual GOR tests are an undue burden on your people, write me a letter stating your reasons for not wishing to continue taking these tests and I will endeavor to have your wells exempt from semi-annual testing.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/sl

April 7, 1975

Mr. J. Gregory Merrion  
Merrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Oil Navajo #1      Humble Navajo #E-1      Humble #3 Navajo  
    Sec 4-T41N-R28E      Sec 10-T41N-R28E      Sec 4-T41N-R28E  
    Apache Co., File #28      Apache Co., File #58      Apache Co., File #515

Dear Mr. Merrion:

This is just a reminder that the March Gas-Oil-Ratio Tests on the above referenced wells are due this month.

Also please note the attached address change effective April 15, 1975.

Very truly yours,

Mrs. Rhema Brandt  
Secretary to W. E. Allen  
Director, Enforcement Section

/rlb

Enc.



OFFICE OF

**Oil and Gas Conservation Commission**

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

February 7, 1975

Mr. Robert L. Bayless  
Petroleum Club Plaza Building  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: East Boundary Butte Commingling

We fully concur with Mr. G. R. Daniel's letter of December 26, granting <sup>E. Boundary</sup> permission to commingle at the surface of production in the ~~Boundary~~ <sup>Butte</sup> Field. As you have mentioned, it will be necessary to meter the produced gas at each well and monthly production tests will be adequate to determine the oil production from each lease.

You mentioned that your plans are to convert the Consolidated No. 3-11 well, Permit No. 490, into a water disposal well. It will be necessary that you receive permission from this Commission prior to this conversion.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

28

**Robert L. Bayless**

PETROLEUM CLUB PLAZA BUILDING  
P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

February 4, 1975

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

ATTENTION: Mr. W. E. Allen  
Director

Re: East Boundary Butte Commingling

Dear Bill:

Enclosed please find a copy of our letter of October 21, 1974 requesting approval from the United States Geological Survey to commingle production from four Navajo leases and the reasoning behind the request. Also enclosed is a copy of the United States Geological Survey reply approving this request subject to approval by your Commission.

Please consider this a request to commingle the oil and gas produced as set forth in the letter of October 21, 1974.

Yours truly,

MERRION & BAYLESS

  
Robert L. Bayless

RLB/su

Enclosures: Letter to U.S.G.S. dated October 21, 1974  
Letter from U.S.G.S. dated December 26, 1974

RECEIVED  
FEB 9 1975  
O & G CON. COMM.



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857  
Roswell, New Mexico 88201

December 26, 1974

Mr. J. Gregory Merrion  
P. O. Box 507  
Farmington, New Mexico 87401

*Approval to  
Commingle EBB*

Dear Mr. Merrion:

Your letter of October 21, 1974 requests approval to commingle production on leases 14-20-603-412, -413, -226, and -227 located in secs. 1, 2, 3, 4, 10, 11, 12, 13, 14, 15 and 16, T. 41 N., R. 28 E., East Boundary Butte field, Apache County, Arizona.

As set forth in your request, the expense of operating the field does not justify the duplication of equipment and its maintenance. One tank battery would be located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$  sec. 3, T. 41 N., R. 28 E., and one compressor set in the SW $\frac{1}{4}$  sec. 2. One oil-gas separator would be set at each well where gas would be metered separately and oil volumes would be allocated back to each well based on monthly tests of each well. The working interest and royalty interest on the four leases are identical.

The method of commingling production is hereby approved subject to like approval by the Arizona Oil and Gas Commission. Any change in this system must receive prior approval from this office. Form 9-361-A, "Lessee's Monthly Report of Sales and Royalty", must show all computations used in oil production allocated to each well.

You are requested to notify the Farmington office when the installation has been completed so that a field inspection can be made.

Sincerely yours,

G. R. DANIELS  
Acting Area Oil and Gas Supervisor

28

October 21, 1974

United States Geological Survey  
P.O. Box 959  
Farmington, New Mexico 87401

ATTENTION: Mr. Phil McGrath

Re: Request for Permission to Co-  
mingle Production from Four  
Navajo Leases, East Boundary  
Butte Field, Apache County, Arizona.

Gentlemen:

We have heretofore operated the Navajo (14-20-603-413) and Navajo E (14-20-603-412) leases in Apache County, Arizona with production going to parallel tank batteries at a location in the SW/4 of the NW/4 Section 10, T41N, R28E.

We have recently acquired the Consolidated Oil & Gas properties on Navajo leases 14-20-603-226 and 14-20-603-227.

With five wells currently producible, there is a necessity for four tank batteries; each with a great amount of equipment.

Operating costs in this field have been extremely high due to:

1. The necessity to lift large quantities of water to produce either gas or oil.
2. Water disposal expense.
3. Scale and corrosion of flow lines and heater treaters.
4. High gathering and compression costs of natural gas produced.

The continued production from the field depends upon streamlining the operation and getting a better price for the gas. We have negotiated a better gas price and provided we can get FPC approval, we would like to re-vamp the flow line, compressor and tank battery facilities as per the attached plat.

RECEIVED

FEB 05 1975

O & G COMM. COMM.

United States Geological Survey  
October 21, 1974  
Page 2

Under this plan we can utilize existing flow lines to the maximum extent, and by adding a small amount of additional flow line, we can separately gather gas and fluid in separate lines. Hopefully, we can back pressure against the wells, eliminate flow line turbulence thus reducing scale and paraffin problems and increase compressor suction pressure thus reducing horsepower requirements.

The new tank battery will be located in the NE/4 of the SW/4 of Section 3 (near the old Consolidated 3-11 well, which will be converted to disposal). A new compressor site will be erected in the SW/4 of Section 2 replacing the two existing sites.

Oil-gas separators will be installed at each well and gas will be metered before commingling. Oil will be accounted for by monthly tests of each well.

We would appreciate your consideration and approval of this plan.

Yours very truly,

MERRION & BAYLESS

By \_\_\_\_\_  
J. GREGORY MERRION

JGM/su

Enclosure

28

December 16, 1974

Mr. J. Gregory Merrion  
Merrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Oil Navajo #1      Humble Navajo #E-1      Humble #3 Navajo  
    NE/SE Sec 4-T41N-R28E      SW/NE Sec 10-41N-28E      SW/SE Sec 4-41N-28E  
    Apache County, File #28      Apache County, File #58      Apache Co., File #515

Dear Mr. Merrion:

Please refer to our letter of November 4, 1974, where we requested that your office submit the Gas-Oil Ratio Test that was due in September.

As of this date we have not received a reply from you. Please submit this report as soon as possible.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

Enc.



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA

4515 NORTH 7TH AVE.  
PHOENIX, ARIZONA 85013

PHONE: (602) 271-5161

November 7, 1974

Mr. Gordon Woods  
Woods Insurance Company  
115 East Main Street  
Farmington, New Mexico 87401

Dear Mr. Woods:

Merrion & Bayless have furnished this Commission with a blanket bond, No. 010130-972-74 in the amount of \$25,000 which covers their oil and gas operations within the State of Arizona. Mr. Merrion has requested that this Commission authorize the cancellation of the four \$5,000 single well bonds that had previously covered their operations within the state.

This letter is your authority to cancel the above mentioned single well bonds, copies of which are enclosed.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

cc Merrion & Bayless

Encs.

28

28



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA

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

November 4, 1974

Mr. J. Gregory Merrion  
Merrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Oil Navajo #1  
NE/SE Sec 4-T41N-R28E  
Apache County  
File #28

Humble Navajo #E-1  
SW/NE Sec 10-T41N-R28E  
Apache County  
File #58

Humble #3 Navajo (413)  
SW/SE Sec 4-T41N-R28E  
Apache County  
File #515

Dear Mr. Merrion:

The Gas-Oil Ratio Test that is due on the above referenced wells for September of 1974 has not been received. Please submit the results of the test on Form 5 as quickly as possible.

Very truly yours,

R. L. Brandt  
Secretary to W. E. Allen  
Director, Enforcement Section

/rlb

Enc.

OFF. 328-0181  
RES. 327-9094

J. GREGORY MERRION  
PETROLEUM ENGINEER  
P. O. BOX 807  
FARMINGTON, NEW MEXICO 87401

October 31, 1974

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

ATTENTION: Mr. J. E. Allen  
Director

Re: Market Arizona Bond

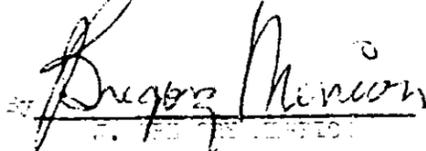
Dear Bill:

Enclosed please find original and one copy of a statewide bond covering all of our wells in Arizona.

We would appreciate your advising USF&G through their agent, Woods Insurance Company, 115 East Main Street, Farmington, New Mexico, of the release of our existing one well bonds.

Yours very truly,

J. GREGORY MERRION

  
J. GREGORY MERRION

JG/au

Enclosures: Statewide Bond - 2

RECEIVED

NOV 4 1974

O & G CONS. COMM.

28

September 18, 1973

Mr. J. Gregory Merrion  
Merrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Dear Mr. Merrion:

Will you please supply this Commission with any information that you might have regarding the recoverable reserves in the East Boundary Butte Field for your Humble Navajo #1 (28), Humble Navajo #E-1 (58), and Humble Navajo #3 (515)?

This information will be considered confidential if you so desire.

Thank you for your cooperation.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb

**ROBERT L. BAYLESS**  
PETROLEUM CLUB PLAZA BUILDING  
P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

November 29, 1971

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

Attn: W. E. Allen

Re: Humble Navajo #1  
Humble Navajo #E-1  
Humble #3 Navajo

Dear Sir:

In order for your request of November 22 concerning the Gas-Oil Ratio Tests to be filed with your office we will need some of the necessary forms before we can file the tests. Please send them to the above address as soon as possible .

Yours truly,

*Robert L. Bayless*  
Robert L. Bayless

RLB/eah

RECEIVED

DEC 01 1971

O & G CONS. COMM.

58, 28, 515



OFFICE OF  
**Oil and Gas Conservation Commission**  
STATE OF ARIZONA  
4515 NORTH 7TH AVE.  
PHOENIX, ARIZONA 85013  
PHONE: (602) 271-5161

November 22, 1971

Mr. Robert L. Bayless  
Petroleum Club Plaza Building  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #1  
NE/SE Section-4-T41N-R28E  
Apache County  
Our File #28

Humble Navajo #E-1  
SW/NE Section-10T41N-R28E  
Apache County  
Our File #58

Humble #3 Navajo (413)  
SW/SE Section-4-T41N-R28E  
Apache County  
Our File #515

Dear Mr. Bayless:

The Gas-Oil Ratio Test that is due on the above referenced wells for September of 1971 has not been received. Please submit the results of the test on Form 5 as quickly as possible.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA/rlb



**HUMBLE OIL & REFINING COMPANY**

DENVER, COLORADO 80201

PRODUCTION DEPARTMENT  
DENVER DISTRICT  
J. R. DORROUGH  
SUPERINTENDENT

March 12, 1971

POST OFFICE BOX 120  
TELEPHONE 534-1251

Merrion & Bayless  
P. O. Box 507  
Farmington, New Mexico 84701

Gentlemen:

Re: Navajo No. 1  
East Boundary Butte  
NE/4 SE/4 Section 4-41N-28E  
Apache County, Arizona

The Oil and Gas Conservation Commission of Arizona has asked that we submit a revised Form 4, Well Completion or Recompletion Report, on the above well.

In order to comply with their request we would like to have a copy of the old Form 4 and a copy of the sundry notice submitted to them last July. We will be glad to reimburse you for any expense incurred by this request.

Very truly yours,

COPY ORIGINAL  
SIGNED J. ROY DORROUGH  
J. Roy Dormough

JRD:mg

cc: Mr. W. E. Allen  
Oil and Gas Conservation Commission  
of Arizona

THIS COPY FOR

RECEIVED

MAR 15 1971

O & G CONS. COMM.

March 8, 1971

Mr. Greg Merrion  
Merrion & Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #E-1  
SW/4 NE/4 Sec. 10-T41N-R28E  
Apache County  
Our File #58

Humble Navajo #1  
NE/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #28

Dear Greg:

We are sending you what information we have pertaining to the production on the above referenced wells. You will notice on the cumulative production by years there is no production shown for the years of 1956 and 1957. As near as I can determine all wells that had been drilled in the State of Arizona prior to and including these years were shut in awaiting a market for production. You will also notice that there is no water production indicated for either of these wells except for the year of 1970. Apparently, prior to this time water production was not recorded.

We sincerely hope that this information will be of some value to you.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA:jd  
Enc.

WA

OFF. 325-0151  
RES. 327-9094

J. GREGORY MERRION  
PETROLEUM ENGINEER  
P. O. BOX 507  
FARMINGTON, NEW MEXICO 87401

February 16, 1971

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

Attn: W. E. Allen, Director  
Enforcement Section

Dear Mr. Allen:

Just a note to thank you for your courtesy for drawing our attention to the productivity of the Mississippian section in our Navajo #1 in East Boundary Butte field.

We were aware that this was below a bridge plug. But we have a gas analysis that indicates it is somewhat more sour than the other gas produced in the field and we have not yet decided what to do with it.

We do appreciate your courtesy in presenting this to us because our files are pretty sketchy and it may be necessary for us to come to Phoenix and compare notes with you.

Yours very truly,

MERRION AND BAYLESS

*J. Gregory Merrion*

J. Gregory Merrion

JGM/eah

RECEIVED

FEB 18 1971

O & G CONS. COMM.

28

WPA

**ROBERT L. BAYLESS**  
PETROLEUM CLUB PLAZA BUILDING  
P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

February 11, 1971

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

Attn: W. E. Allen

Re: Humble Oil and Refining  
Navajo #1, Apache County,  
Arizona, Your File #28

Dear Mr. Allen:

In response to your letter of February 9, regarding the Navajo #1, we have filled out the enclosed form no. 4 to the best of our knowledge. If there are any questions, please advise.

Also, please send us some of the Form No. 4's as we have none.

Thank you,

MERRION & BAYLESS

  
Robert L. Bayless

RLB/eah  
ENCL.

RECEIVED  
FEB 16 1971  
O & G CONS. COMM.

February 9, 1971

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

Re: Humble Oil & Refining Navajo #1  
NE/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #28

Dear Mr. Dorrough:

In May of 1970 you requested permission to perform certain work-over activities on the above well. In July of 1970 we received a Sundry Notice of the work that was performed on this well; however, we did not receive a revised Form 4, Well Completion or Recompletion Report. Would you please arrange to have this report submitted to this office at your earliest convenience.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA:jd  
Enc.

cc: Merrion & Bayless, Farmington, New Mexico

February 8, 1971

Merrion and Bayless  
Petroleum Club Plaza Building  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #1  
NE/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #28

Gentlemen:

We are enclosing for your information a report submitted by Humble Oil and Refining Company. In all probability you are aware of this particular producing zone; however, we thought that perhaps when shifting the supervision of the wells around from Hobbs to Midland to Denver and then back to you people, this particular bit of information may have been lost.

According to our files the test zone on the attached Sundry Notice was all the testing that was ever done on this particular zone.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA:jd  
Enc.

December 31, 1970

Mr. Robert L. Bayless  
Petroleum Club Plaza Building  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #1  
NE/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #25

Humble Navajo #E-1  
SW/4 NE/4 Sec. 10-T41N-R28E  
Apache County  
Our File #53

Humble #3 Navajo (413)  
SW/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #515

Dear Mr. Bayless:

Your letter of December 28, 1970, has been received; and, we are curious concerning your explanation of Production Reports. We assume that you keep records of your daily production and runs. If you do keep these records, your Monthly Producers Report, Form 16, could be prepared from information available to you from your own records.

We realize that there may at times be a slight discrepancy between the total production that you submit from your own records and the corrected production as submitted by your transporter. This difference should be small.

We are striving to be able to circulate our combined monthly production report as quickly after the first of the following month as possible. For this reason, if at all possible, we need information from the producers to be received in this office on or before the 15th of each month.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA:jd

**ROBERT L. BAYLESS**  
PETROLEUM CLUB PLAZA BUILDING  
P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

December 28, 1970

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

Re: Humble Navajo #1  
Apache County  
Your File #28

Humble Navajo #1-E  
Apache County  
Your File #58

Humble #3 Navajo (413)  
Apache County  
Your file #515

Gentlemen:

We have your letter of December 24 regarding reports of wells we operate in Arizona. Unfortunately we do not receive the information needed to submit these reports until around the 22nd of each month from the crude oil purchaser. We then report to Arizona as quick as possible. Please advise if you have other questions.

Yours very truly,

*RLB*  
Robert L. Bayless

RLB/eah

RECEIVED  
DEC 31 1970  
O & G CONS. COMM.

December 24, 1970

Mr. Robert L. Bayless  
Merrion and Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #1  
NE/4 SE/4 Section 4-T41N-R28E  
Apache County  
Our File #28

Humble Navajo #1-E  
SW/4 NE/4 Sec. 10-T41N-R28E  
Apache County  
Our File #58

Humble #3 Navajo (413)  
SW/4 SE/4 Section 4-T41N-R28E  
Apache County  
Our File #515

Dear Mr. Bayless:

As of this date we have not received your Production Report on the subject wells. Will you please submit this report immediately and in the future we would appreciate receiving your Production Reports as well as all other routine reports by the 15th of the following month.

Very truly yours,

W. E. Allen, Director  
Enforcement Section

WEA:jd

November 24, 1970

Mr. Robert L. Bayless  
Merrion and Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Navajo #1  
NE/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #28

Humble Navajo #1-E  
SW/4 NE/4 Sec. 10-T41N-R28E  
Apache County  
Our File #58

Humble #3 Navajo (413)  
SW/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #515

Dear Mr. Bayless:

As of this date we have not received your Production Report on the above three wells.

Will you please forward this report to this office immediately and in the future arrange to submit your Monthly Producers Report, Form 16, to this office by the tenth (10th) of the following month.

Very truly yours,

W. E. Allen  
Director, Enforcement Section

WEA:jd



OFFICE OF

**Oil and Gas Conservation Commission**

STATE OF ARIZONA

4515 NORTH 7th AVE.  
PHOENIX, AZ. 85013  
Phoenix, Arizona 85007

PHONE: 271-5161

November 24, 1970

Mr. Robert L. Bayless  
Merrion and Bayless  
P. O. Box 1541  
Farmington, New Mexico 87401

Re: (AAA Fishing Tool) #E-2 Humble Navajo  
SW/4 NE/4 Section 9-T41N-R28E  
Apache County  
Our File #444

Dear Mr. Bayless:

It has come to our attention that when you supplied the Oil and Gas Conservation Commission with bonds on your acquired wells: the Navajo #1, the Navajo E-1, and the Navajo #3 from Humble Oil and Refining Company that you failed to furnish a bond for the #E-2 Navajo that was also acquired from Humble and is presently being used as a water injection well. Will you please furnish the Commission with an additional bond in the amount of \$5,000 to cover this well.

Very truly yours,

W. E. Allen  
Director, Enforcement Section

WEA:jd

cc: Humble Oil & Refining Company

Enc.

28



PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS

Bond Serial No. \_\_\_\_\_

That we: Robert L. Bayless and J. Gregory Merrion

of the County of San Juan in the State of New Mexico

as principal, and United States Fidelity and Guaranty Company  
Baltimore, Maryland

of AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona and the Oil and Gas Conservation Commission, hereinafter referred to as the "Commission", in the penal sum of Five thousand and No/100- - - - - (\$5,000.00) lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation are that, whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to-wit:  
Humble Oil & Refining Navajo #1 - NE 1/4 SE 1/4 Sec. 4, Twp. 41 N., R. 28 E., Apache County, Arizona - File #28

(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all the provisions of the Laws of this State and the rules, regulations and orders of the Commission, especially with reference to the requirements of A.R.S. § 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil and Gas Conservation Commission all notices and records required by said Commission, then in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, this obligation is void; otherwise it shall remain in full force and effect.

Whenever the principal shall be, and declared by the Oil and Gas Conservation Commission in violation of the Laws of this State and the rules, regulations and orders of the Commission, the surety shall promptly:

1. Remedy the violation by its own efforts, or
2. Obtain a bid or bids for submission to the Commission to remedy the violation, and upon determination by the Commission and the Surety of the lowest responsible bidder, arrange for a contract between such bidder and the Commission, and make available as work progresses sufficient funds to pay the cost of remedying the violation; but not exceeding, including other costs and damages for which the surety may be liable hereunder, the amount set forth in the first paragraph hereof.

Liability under this bond may not be terminated without written permission of this Commission

WITNESS our hands and seals, this 14th day of August, 19 70

Robert L. Bayless  
J. Gregory Merrion  
Principal

WITNESS our hands and seals this 14th day of August, 19 70

UNITED STATES FIDELITY AND GUARANTY COMPANY  
Surety

By Gordon G. Woods  
Attorney-in-fact

Countersigned: W. W. Bidant  
Surety, Resident Arizona Agent  
If issued in a state other than Arizona)

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date: 9-4-70  
STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
By: John Bannister

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION  
Bond  
File Two Copies  
Form No. 3

Form No. 28

DATE  
11-7-74  
CANCELLED

RECEIVED  
OCT 12 1970

(CERTIFIED COPY)

GENERAL POWER OF ATTORNEY

No. 74300

Know all Men by these Presents:

That UNITED STATES FIDELITY AND GUARANTY COMPANY, a corporation organized and existing under the laws of the State of Maryland, and having its principal office at the City of Baltimore, in the State of Maryland, does hereby constitute and appoint

Gordon G. Woods and/or H. C. Dickinson

of the City of Farmington, State of New Mexico, its true and lawful attorneys in and for the State of New Mexico

for the following purposes, to wit:

To sign its name as surety to, and to execute, seal and acknowledge any and all bonds, and to respectively do and perform any and all acts and things set forth in the resolution of the Board of Directors of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, a certified copy of which is hereto annexed and made a part of this Power of Attorney; and the said UNITED STATES FIDELITY AND GUARANTY COMPANY, through us, its Board of Directors, hereby ratifies and confirms all and whatsoever that either the said Gordon G. Woods or the said H. C. Dickinson

may lawfully do in the premises by virtue of these presents.

In Witness Whereof, the said UNITED STATES FIDELITY AND GUARANTY COMPANY has caused this instrument to be sealed with its corporate seal, duly attested by the signatures of its Vice-President and Assistant Secretary, this 4th day of October, A. D. 19 61

UNITED STATES FIDELITY AND GUARANTY COMPANY.

CANCELLED (SEAL)

(Signed) By E. G. Hundley Vice-President.

(Signed) E. W. Buffington Assistant Secretary.

DATE STATE OF MARYLAND, 11-7-74 es: BALTIMORE CITY,

On this 4th day of October, A. D. 19 61, before me personally came E. G. Hundley, Vice-President of the UNITED STATES FIDELITY AND GUARANTY COMPANY and E. W. Buffington, Assistant Secretary of said Company, with both of whom I am personally acquainted, who being by me severally duly sworn, said that they resided in the City of Baltimore, Maryland; that they, the said E. G. Hundley and E. W. Buffington were respectively the Vice-President and the Assistant Secretary of the said UNITED STATES FIDELITY AND GUARANTY COMPANY, the corporation described in and which executed the foregoing Power of Attorney; that they each knew the seal of said corporation; that the seal affixed to said Power of Attorney was such corporate seal, that it was so fixed by order of the Board of Directors of said corporation, and that they signed their names thereto by like order as Vice-President and Assistant Secretary, respectively, of the Company. My commission expires the first Monday in May, A. D. 1963.

(SEAL) (Signed) Anne M. O'Brien Notary Public.

STATE OF MARYLAND } Sect. BALTIMORE CITY,

I, James F. Carney, Clerk of the Superior Court of Baltimore City, which Court is a Court of Record, and has a seal, do hereby certify that Anne M. O'Brien, Esquire, before whom the annexed affidavits were made, and who has thereto subscribed his name, was at the time of so doing a Notary Public of the State of Maryland, in and for the City of Baltimore, duly commissioned and sworn and authorized by law to administer oaths and take acknowledgments, or proof of deeds to be recorded therein. I further certify that I am acquainted with the handwriting of the said Notary, and verily believe the signature to be his genuine signature.

In Testimony Whereof, I hereto set my hand and affix the seal of the Superior Court of Baltimore City, the same being a Court of Record, this 4th day of October, A. D. 19 61

(SEAL) (Signed) James F. Carney Clerk of the Superior Court of Baltimore City.

28

**COPY OF RESOLUTION**

*That Whereas*, it is necessary for the effectual transaction of business that this Company appoint agents and attorneys with power and authority to act for it and in its name in States other than Maryland, and in the Territories of the United States and in the Provinces of the Dominion of Canada and in the Colony of Newfoundland.

*Therefore, be it Resolved*, that this Company do, and it hereby does, authorize and empower its President or either of its Vice-Presidents in conjunction with its Secretary or one of its Assistant Secretaries, under its corporate seal, to appoint any person or persons as attorney or attorneys-in-fact, or agent or agents of said Company, in its name and as its act, to execute and deliver any and all contracts guaranteeing the fidelity of persons holding positions of public or private trust, guaranteeing the performances of contracts other than insurance policies and executing or guaranteeing bonds and undertakings, required or permitted in all actions or proceedings, or by law allowed, and

*Also*, in its name and as its attorney or attorneys-in-fact, or agent or agents to execute and guarantee the conditions of any and all bonds, recognizances, obligations, stipulations, undertakings or anything in the nature of either of the same, which are or may by law, municipal or otherwise, or by any Statute of the United States or of any State or Territory of the United States or of the Provinces of the Dominion of Canada or of the Colony of Newfoundland, or by the rules, regulations, orders, customs, practice or discretion of any board, body, organization, office or officer, local, municipal or otherwise, be allowed, required or permitted to be executed, made, taken, given, tendered, accepted, filed or recorded for the security or protection of, by or for any person or persons, corporation, body, office, interest, municipality or other association or organization whatsoever, in any and all capacities whatsoever, conditioned for the doing or not doing of anything or any conditions which may be provided for in any such bond, recognizance, obligation, stipulation, or undertaking, or anything in the nature of either of the same.

I, **David L. Royer**, an Assistant Secretary of the UNITED STATES FIDELITY AND GUARANTY COMPANY, do hereby certify that the foregoing is a full, true and correct copy of the original power of attorney given by said Company to

**Gordon G. Woods and/or H. C. Dickinson**

of **Farmington, New Mexico**, authorizing and empowering **them** to sign bonds as therein set forth, which power of attorney has never been revoked and is still in full force and effect.

And I do further certify that said Power of Attorney was given in pursuance of a resolution adopted at a regular meeting of the Board of Directors of said Company, duly called and held at the office of the Company in the City of Baltimore, on the 11th day of July, 1910, at which meeting a quorum of the Board of Directors was present, and that the foregoing is a true and correct copy of said resolution, and the whole thereof as recorded in the minutes of said meeting.

*In Testimony Whereof*, I have hereunto set my hand and the seal of the UNITED STATES FIDELITY AND GUARANTY COMPANY on **August 14, 1970**  
(Date)

  
Assistant Secretary.

**ROBERT L. BAYLESS**  
PETROLEUM CLUB PLAZA BUILDING  
P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

W R

August 31, 1970

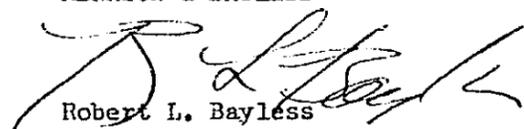
Oil and Gas Conservation Commission  
State of Arizona  
Room 202  
1624 West Adams  
Phoenix, Arizona 85007

Gentlemen:

Enclosed please find Performance Bonds on Humble Navajo #1-E,  
Humble #3 Navajo, and Humble Oil & Refining Navajo #1.

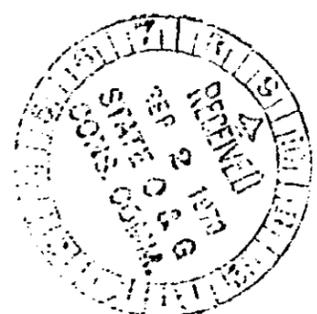
Yours very truly,

MERRION & BAYLESS

  
Robert L. Bayless

RIB/eah

ENLC.



2/



Page 2  
Mr. Robert L. Sayless  
July 29, 1970

Please forward all copies of this form to our office for approval. One copy will be returned for your files. Your cooperation is appreciated.

Very truly yours,

W. E. Allen  
Director, Enforcement Section

WEA:jd  
Enc.

**ROBERT L. BAYLESS**

PETROLEUM CLUB PLAZA BUILDING

P. O. BOX 1541  
FARMINGTON, NEW MEXICO 87401

July 27, 1970

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

Gentlemen:

Enclosed please find Organization Report to cover our operations in Arizona. Effective August 1, 1970 we have acquired Humble Oil and Refining Company's East Boundary Butte field and will operate as J. Gregory Merrion and Robert L. Bayless, individuals.

We have our Bond with the Navajo Tribe ready to file upon receipt of the Conveyances from Humble. Please advise if a copy of this will be acceptable for your bonding requirements.

Thank you,

MERRION & BAYLESS

*Robert L. Bayless*  
Robert L. Bayless

RLB/eah  
ENCL. Organization Report



July 8, 1970

Herrion & Bayless  
Petroleum Club Plaza Building  
P.O. Box 1541  
Farmington, New Mexico 87401

Re: Humble Oil & Refining Navajo #1      Humble Navajo #1-E  
NE/4 SE/4 Sec. 4-T41N-R28E      SW/4 NE/4 Sec. 10-T41N-R28E  
Apache County      Apache County  
Our File #28      Our File #58

Humble #3 Navajo (413)  
SW/4 SE/4 Sec. 4-T41N-R28E  
Apache County  
Our File #515

Attention: Mr. James M. Johnson, Office Manager

Gentlemen:

Thank you for your letter advising the Commission of your purchase from Humble Oil & Refining Company of the two leases in the East Boundary Butte Field.

Enclosed is a copy of the Rules and Regulations established by the Oil and Gas Commission of the State of Arizona. You will find these rules similar to the rules under which you operate in New Mexico. Also enclosed are a supply of the forms which will be required to report your activities to this office.

We will need Form #1, Organization Report, completed and sent in as quickly as possible. As you know, every well in Arizona is drilled and produced under bond, see Rule 101, Page 6, of Rules

Page 2  
Merrion & Bayless  
July 8, 1970

and Regulations. Before we can release Humble from the bond covering the wells on the subject leases, it will be necessary that you furnish the Commission a bond in the amount of \$5,000 on each well or a blanket bond of \$25,000 which will cover your present or any future operations within the State.

After you have had an opportunity to look over the Rules and Regulations and also the forms that we require, and you have any questions, please let us know.

Every member of the Oil and Gas Commission extends a hearty welcome to you and your company in entering Arizona and wish you success in your operations.

You may expect our fullest cooperation.

Very truly yours,

W. E. Allen  
Director of Enforcement Section

WEA:jd  
Enc.

**ROBERT L. BAYLESS**

PETROLEUM CLUB PLAZA BUILDING

P. O. BOX 1541

FARMINGTON, NEW MEXICO 87401

July 6, 1970

Director  
Arizona Oil & Gas Conservation Commission  
1624 West Adams, Room 202  
Phoenix, Arizona 85007

Dear Sir:

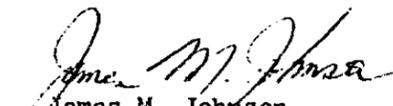
We recently purchased two producing leases from the Humble Oil & Refining Company located in East Boundary Butte Field and are to assume operations effective August 1, 1970.

We need to have a copy of the Arizona Oil & Gas Conservation Commission rules and regulations and in addition need a supply of any forms that might be required. Would you please send the above mentioned items to Box 1541, Farmington, New Mexico 87401.

Any additional information or suggestions that you provide will be greatly appreciated.

Yours very truly,

MERRION & BAYLESS

  
James M. Johnson  
OFFICE MANAGER

JMJ/jmj

28



January 16, 1970

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

Re: Humble Navajo #1-E  
T41N, R28E, G & SRM  
Sec. 10: SW/4 NE/4  
Apache County  
Permit #58

Humble Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County  
Permit #28

Dear Mr. Dorrrough:

This is to remind you that a Gas-Oil Ratio Test pertaining to the captioned wells was due in this office in December of 1969. As of this date we have not received this quarterly test. We would appreciate receiving it as soon as possible.

not needed  
only  
submitted  
semi-  
annually

Sincerely,

John Bannister  
Executive Secretary

jd

S.1

X-Chrono  
X-Lambert

July 10, 1969

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

Re: Humble Oil & Refining Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County  
Permit #28

Dear Mr. Dorrough:

Please refer to our letter dated May 19, 1969. Please advise when we may expect to receive our completed forms 18 and 20 pertaining to the captioned well. This report was due this date.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf

28

X-Lambert  
X-Chrono

May 19, 1969

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

Re: Humble Oil & Refining Company Navajo #1

Permit #28

Dear Mr. Dorrough:

In accordance with Rule 401 the Oil and Gas Conservation Commission, State of Arizona, has adopted procedures for the annual testing of all gas and/or helium wells.

The Commission's procedure is based upon and must be used in conjunction with the Manual of Back pressure Testing of Gas Wells as issued by Interstate Oil Compact Commission, P. O. Box 53127, Oklahoma City, Okla. 73105.

The Commission has prepared, in addition, a supplement to the IOCC manual inasmuch as that manual is based upon a pressure base other than the 15.025 required by the State of Arizona. The supplement to the IOCC manual has made all necessary corrections to the IOCC manual to reflect the 15.025 pressure base.

The tests as required by Rule 401 shall be conducted during the month of June each year and reported in duplicate by July 10th of each year. Forms 18 and 20 will be used for this purpose.

Yours truly,

James A. Lambert  
Administrative Assistant  
JB:f  
Enc.

X-Lambert  
X-Chrono

May 13, 1969

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

Re: Navajo #1  
T41N, R38E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County  
Permit #28

Dear Mr. Dorrrough:

We received your Form #25 dated April 10, 1969. Please furnish this office a current report on this well. We remind you that you are to submit our Form #4, Completion Report, at such time as this has been accomplished.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf

Recd 5/14/69  
rec'd 5/22/69

X-Lambert  
X-Chrono

April 23, 1969

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

Re: Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County  
Permit #28

Dear Mr. Dorrrough:

In reviewing the file pertaining to the captioned well we notice the last report dated February 7 stated "After extensive testing . . . . ., we will consider how permanent completion will be made and so recommend through Sundry Notice."

Please keep us informed as to the status of this well. We enclose for your use our Form #4, Recompletion Report, which should be completed and submitted at such time as this has been accomplished.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf

Enc.



# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

POST OFFICE BOX 120

April 8, 1969

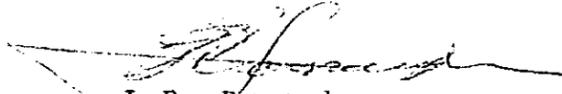
Arizona Oil & Gas Conservation Commission  
1624 West Adams - Suite 202  
Phoenix, Arizona 85007

Gentlemen:

94

Attached please find "Well Status Report and Gas-Oil Ratio Tests", Form No. 5, on our Navajo Tract 138 #1 and Boundary Butte, East wells. Tests have been taken on our Navajo Tract 88 #2 and #3 but we do not have the gas volumes back from being integrated. We should have these within the next few days and will submit the report as soon as these volumes are available.

Very truly yours,

  
J. Roy Dorrrough

cc: Minerals Supervisor - Navajo Tribe

This Humble #1 Navajo is GAS well



28

OFFICE OF  
**Oil and Gas Conservation Commission**  
STATE OF ARIZONA  
ROOM 202  
1624 WEST ADAMS  
Phoenix, Arizona 85007  
PHONE: 271-5161

f-Lambert  
x-Chrono

April 10, 1969

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

Re: Humble #1 Navajo Tract 138	Our Permit #388	X
Humble #2 Navajo 88	Our Permit #431	X
Humble #2 Navajo 88	Our Permit #443	X
Humble Navajo #1-E	Our Permit #58	X
Humble Navajo #1	Our Permit #26	X

Dear Mr. Dorrrough:

This is in reference to our reminder letters dated March 3 and February 28. Please furnish this Commission a Gas-Oil Ratio Test on each of the captioned wells.

Yours truly,

James A. Lambert  
Administrative Assistant

jc

28

J. Lambert  
v. C. Lambert

March 18, 1969

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

Re: Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County, Arizona  
Permit #28

Dear Mr. Dorrrough:

Please submit a Form #25 bearing a current date or a copy of the Sundry Notice that you might have furnished to the U.S.G.S. The most recent Sundry Notice we have on file is dated 2-7-69.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf

28

X-Chona Log  
X-Lambert Log  
X-58

February 26, 1969

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

Re: Navajo #1-E  
T41N, R28E, G & SRM  
Sec. 10: SW/4 NE/4  
Apache County, Arizona  
Permit #58

Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County, Arizona  
Permit #28

Dear Mr. Dorrrough:

We remind you that Rule 301A, Paragraph 2, of our Rules and Regulations directs the operator to make a semi-annual Gas-Oil Ratio Test of each producing oil well. The next test should be taken in March, 1969, and reported to this office by April 10, 1969.

Enclosed are forms for your use.

Yours truly,

James A. Lambert  
Administrative Assistant

jf  
Enc.

January 22, 1969

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

Re: Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County, Arizona  
Permit #28

Dear Mr. Dorrrough:

On 12-12-68 we approved reworking activities on the captioned well. Please furnish us a Form #25 detailing operations subsequent to January 2, 1969. Also, please furnish us our Form #4, Well Completion or Recompletion Report, if such has been accomplished by this date. Please furnish us the completed Form #6 when the potential test has been accomplished.

Yours truly,

James A. Lambert  
Administrative Assistant

JAL:jf

Enc.

28

December 26, 1968

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

Re: Navajo #1-E  
T41N, R28E, G & SRM  
Sec. 10: SW/4 NE/4  
Apache County, Arizona  
Permit #58

Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County, Arizona  
Permit #28

Dear Mr. Dorrough:

Please submit Sundry Notice Reports detailing the status of the reworking activities approved by this Commission on 12-12-68. We requested this information in correspondence dated 12-13-68 and would appreciate receiving it promptly.

Yours truly,

James A. Lambert  
Administrative Assistant

jf

December 19, 1968

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

Re: Navajo #1-E  
T41N, R28E, G & SRM  
Sec. 10: SW/4 NE/4  
Apache County, Arizona  
Permit #58

Navajo #1  
T41N, R28E, G & SRM  
Sec. 4: NE/4 SE/4  
Apache County, Arizona  
Permit #28

Dear Mr. Dorrrough:

Our records indicate that we require Sundry Notice Reports, our Form #25, detailing the status of the reworking activities of the captioned wells. Also in compliance with Rule 301-C of the published Rules and Regulations, please submit our form #6, Potential Test Report, for each of these wells. These forms are included for your convenience.

Yours truly,

James A. Lambert

Administrative Assistant

jf

Enc.

ENCO

# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

POST OFFICE BOX 120

May 7, 1968

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

Re: D-2-67 of September 11, 1967  
Gas-Oil Ratio Test (Rule 301)

Gentlemen:

In reply to your letter of April 23, 1968 pertaining to above tests  
on the following wells:

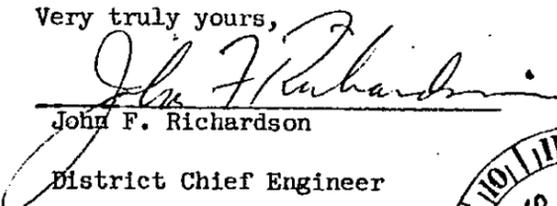
Humble #1 Navajo  
NE SE 4-41N-28E Apache County  
Permit 28

Humble #1-E Navajo  
SW NE 10-41N-28E Apache County  
Permit 58

These test were apparently overlooked during the prescribed test  
period. We have informed our field personnel to take tests immediately  
and will submit reports as soon as information is received in this  
office.

We regret any inconvenience this may have caused and will make sure  
these tests are taken at the proper time in the future.

Very truly yours,

  
John F. Richardson

District Chief Engineer





# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

DENVER DISTRICT

July 22, 1966

POST OFFICE BOX 120

Mr. John Bannister  
Executive Secretary  
Oil & Gas Conservation Commission  
1624 West Adams - Room 202  
Phoenix, Arizona

Dear Sir:

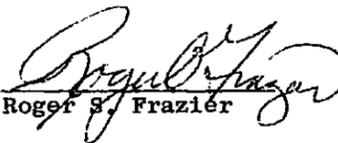
In reference to our request of March 9, 1966 and your approval of March 11, 1966 to test and flare gas at our Navajo No. 1 well, Section 4-41N-28E, Apache County, Arizona, we wish to advise that testing was commenced on April 6, 1966 and completed on June 5, 1966. During this period of testing the well produced an average of approximately 47 BO and 1.2 MMcf gas per day.

Immediately after testing was completed steps were taken to install a compressor on the well in order to resume gas sales. This work has been completed and gas sales were resumed on June 30, 1966.

We regret the oversight of informing you of these test results, and if any additional information is desired please do not hesitate to call on us.

Very truly yours,

J. ROY DORROUGH

By   
Roger S. Frazier

MDS/jal



*selling  
40+ bbls pd.  
gas 1,200,000  
CF*

*28*

July 19, 1966

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

Attention: Mr. Roger S. Frazier  
District Operations Superintendent

Re: Humble #1 Navajo well  
NE SE 4-41N-28E, Apache County, Arizona  
Our File 28

Gentlemen:

On March 11, 1966, pursuant to your request of March 9, 1966, this Commission granted permission that gas from this well be flared for a period of 90 days in order to conduct certain tests. To date we have heard nothing further from you concerning the results of these test and future plans.

Inasmuch as the period originally requested has now expired, will you please immediately advise this office concerning your activities.

Very truly yours,

John Bannister  
Executive Secretary  
mr

April 4, 1966

*FD  
after 7-5-66*

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

Dear Sir:

Please refer to our letter of March 9 and your reply of March 21, 1966, regarding the approval to flare gas during a 90-day test period from well No. 1 Navajo in the NE SE Section 4-41N-28E, Apache County, Arizona.

Please be advised that we expect to commence the requested test on April 5, 1966. Our field representative, Mr. H. L. Farris, has been and will be in touch with your Mr. McGrath regarding the testing of this well.

Very truly yours,

J. ROY DORROUCH

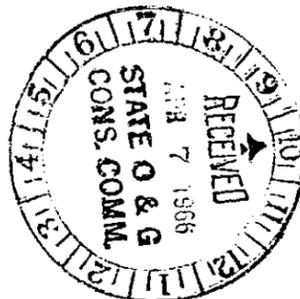
Original signed by: Roger S. Frazier

By

**Roger S. Frazier**  
District Operations Supt.

cc: Mr. John Bannister  
Mr. P. T. McGrath

THIS COPY FOR



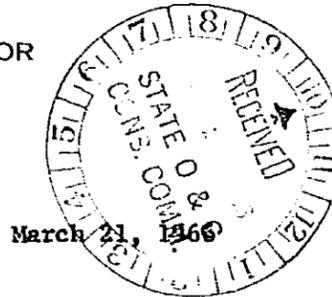
# 28



OK JFB

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
Drawer 1857  
Roswell, New Mexico 88201

IN REPLY REFER TO:



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

Attention: Mr. J. Roy Dorrough

Gentlemen:

Your letter of March 9 requests approval to flare gas during a 90 day test period from well No. 1 Navajo in the NE $\frac{1}{4}$ SE $\frac{1}{4}$  sec. 4, T. 41 N., R. 28 E., G.S.&R.M., Apache County, Arizona, on Navajo tribal lease 14-20-603-413. You state that fluid production has continued to increase until the well is no longer capable of continuous production against El Paso's 900 p.s.i. sales line.

You are hereby authorized to produce and flare gas from the above described well for a 90 day test period, unless, during such period the Supervisor may determine it economically feasible to sell the gas. Please advise this office and our Farmington office when you commence the test period.

Sincerely yours,

(Orig.Sgd.) CARL C. TRAYWICK

CARL C. TRAYWICK  
Acting Oil and Gas Supervisor

cc:  
Farmington  
John Bannister, Oil & Gas Conservation Comm.,  
State of Arizona

BJShoger:jh:3-21-66

28

March 11, 1966

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

Attention: Mr. J. Roy Dorrough, District Superintendent

Re: East Boundary Butte #1 Navajo well  
NE SE 4-41N-28E, Apache County, Arizona  
Our File 28

Gentlemen:

This will acknowledge receipt of your letter of March 9, 1966, wherein you request permission from this Commission to flare gas from the captioned well for a period of ninety days in order to conduct certain testing.

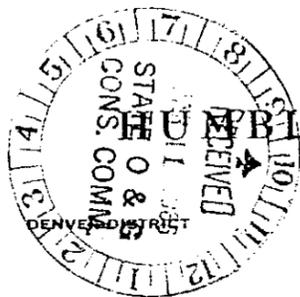
This letter is to advise that permission of the Oil and Gas Conservation Commission of the State of Arizona is hereby granted.

Will you please keep this office fully advised to the results of these tests as you have for this well. Your cooperation is appreciated.

Very truly yours,

John Bannister  
Executive Secretary  
nr

cc: Mr. John Anderson  
Regional Oil & Gas Supervisor  
U.S. Geological Survey  
P.O. Drawer 1897  
Roswell, New Mexico



# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

POST OFFICE BOX 120

March 9, 1966

Re: East Boundary Butte Field  
Navajo No. 1 Well - Sec. 4-41N-28E  
Apache County, Arizona

Mr. John Anderson  
Regional Oil & Gas Supervisor  
U. S. G. S.  
Drawer 1857  
Roswell, New Mexico

Mr. John Bannister ✓  
Executive Secretary  
Oil & Gas Conservation Commission  
State of Arizona  
Phoenix, Arizona

Gentlemen:

During the first week of 1966 the fluid production reported from the subject well underwent a substantial increase from 2 BOPD to 14 BOPD. Since that time fluid production has continued to increase until the well is no longer capable of continuous production against El Paso's 900 psi line pressure. A 10 day flare order was verbally granted for the period February 24 through March 6 for the purpose of testing the oil and water production. Due to inadequate surface facilities it was not possible to drop the test pressure below 600 psi; however, at that pressure our stabilized production is 36 BOPD, 34 BOPD, and 180 MCFPD.

It is apparent from this test that Humble can no longer produce economical quantities of gas from this well under existing conditions. We therefore respectfully request the permission of your respective offices to flare gas during a 90 day test period. This will enable us to evaluate the desirability of installing compression facilities if justified by the revised gas reserves determined from the test data. It is our belief that this reservoir consists of a gas cap with an oil ring and a water drive of unknown magnitude and that our Navajo No. 1 well is now witnessing the encroachment of this fluid. If this is the case, as we hope to be able to determine by the proposed test period, the Navajo No. 1 well will probably continue to produce increasing volumes of fluid at a rapidly decreasing GOR.

It is not Humble's intent to waste gas and reservoir energy; therefore, if it is apparent that at lower test pressures the GOR's are going to be excessive we will limit our testing to higher pressures and will terminate the testing as soon as sufficient data for a decision is accumulated.

Very truly yours,

COPY (ORIGINAL SIGNED) J. ROY DORROUGH

J. Roy Dorrough  
District Superintendent

FEF/jal

OFFICE OF  
**Oil and Gas Conservation Commission**  
STATE OF ARIZONA  
ROOM 202  
1824 WEST ADAMS  
Phoenix, Arizona 85007  
PHONE: 271-5181

April 23, 1968

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

Re: D-2-67 of September 11, 1967  
Gas-Oil Ratio Test (Rule 301)

Gentlemen:

According to our records, the data indicated below has not been submitted as called for by our rules and regulations. You are urged to submit this data at once to bring this operation into compliance with the rules and regulations.'

<u>Well</u>	<u>Data</u>
Humble #1 Navajo NE SE 4-41N-28E Apache County Permit 28	GOR due April 10, 1968
Humble #1-E Navajo SW NE 10-41N-28E Apache County Permit 58	GOR due April 10, 1968

Very truly yours,

John Bannister  
Executive Secretary  
mf

JACK WILLIAMS  
GOVERNOR  
LYNN LOCKHART  
CHAIRMAN  
LUCIEN B. OWENS  
VICE CHAIRMAN  
HIRAM S. CORBETT  
MEMBER  
GEORGE T. SILER  
MEMBER  
KENNETH G. BENTSON  
MEMBER

OFFICE OF  
**Oil and Gas Conservation Commission**  
STATE OF ARIZONA  
ROOM 202  
1624 WEST ADAMS  
Phoenix, Arizona 85007  
PHONE: 271-5161

JOHN BANNISTER  
EXECUTIVE SECRETARY  
J. R. SCURLOCK  
PETROLEUM GEOLOGIST

May 15, 1967

Fireman's Fund American Insurance Company  
P.O. Box 66490  
Houston, Texas 77006

Attention: Mr. J.F. Spence, Jr., Bond Dept.

Re: Bond 5-10-11-58, \$25,000.00  
Humble Oil & Refining Company

Gentlemen:

Your letter of May 10, 1967 concerning captioned bond is acknowledged.

Please be advised that this will constitute permission from this Commission to terminate Federal Insurance Company Bonds 8027-26-26 and 8027-26-25, in the amount of \$5,000 each, covering Humble's #1 Navajo well, 4-41N-28E, Apache County, and Humble's #E-1 Navajo well, 10-41N-28E, Apache County.

The captioned bond will now be applied to these above wells as well as any other wells drilled by Humble Oil and Refining Company within this state.

Very truly yours,

*John Bannister*  
John Bannister  
Executive Secretary  
mr

cc: Humble Oil & Refining Co., Attn Mr. S.E. Key,  
2000 Classen Center North, Oklahoma City, Okla.

Federal Insurance Co., c/o Loiseau, Neiswanger & Co.  
1410 Security Life Bldg., Denver, Colo. 80202



BOND

LIABILITY UNDER THIS BOND MAY NOT BE TERMINATED WITHOUT WRITTEN PERMISSION OF THIS COMMISSION.

KNOW ALL MEN BY THESE PRESENTS

BOND SERIAL NO. 8027-26-26

That we: HUMBLE OIL & REFINING COMPANY

of the County of: Denver in the State of: Colorado

as principal, and FEDERAL INSURANCE COMPANY

of New York, New York 10038, (A New Jersey corporation) AUTHORIZED TO DO BUSINESS WITHIN the State of Arizona.

as surety, are held and firmly bound unto the State of Arizona in the penal sum as indicated, lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The conditions of this obligation is that whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to wit:

(May be used as blanket bond or for single well)

1980 FSL - 1080 FEL Section 4-41 North-28 East, G & S R

NOW, THEREFORE, if the above bounden principal shall comply with all of the provisions of the laws of this State and the rules, regulations and orders of the Oil and Gas Conservation Commission, especially with reference to the requirements of A.R.S. 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil & Gas Conservation Commission all notices and records required by said Commission, in the event said well or wells do not produce oil or gas in commercial quantities, or cease to produce oil or gas in commercial quantities, then this obligation is void; otherwise, the same shall be and remain in full force and effect.

Penal sum of Five Thousand and no/100 Dollars (\$5,000.00)

Witness our hands and seals, this 12th day of November, 1965

HUMBLE OIL & REFINING COMPANY

By: [Signature] Principal Attorney-in-Fact

O. K. as to transaction Form

Witness our hands and seals, this 12th day of November 1965

COUNTERSIGNED BY:

FEDERAL INSURANCE COMPANY

O'Malley Ins. Co., Inc., 2200 N. Central Ave. Phoenix, Arizona ARIZONA RESIDENT AGENT

By: [Signature] Surety Carl Cross, Attorney-in-Fact

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes this bond by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved Date 11-29-65 STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION By: John Bannister

STATE OF ARIZONA OIL & GAS CONSERVATION COMMISSION CANCELLED Form No. 2 DATE

Permit No. 28

Certified Copy of  
**POWER OF ATTORNEY**

Know all Men by these Presents, That the FEDERAL INSURANCE COMPANY, 90 John Street, New York, New York, a New Jersey Corporation, has constituted and appointed, and does hereby constitute and appoint

C. Gale Neiswanger  
L. A. Loiseau  
Carl Cross  
Robert J. Marker  
Walter J. Kulp, Jr.  
of  
Denver, Colorado

each its true and lawful Attorney-in-Fact to execute under such designation in its name and to affix its corporate seal to and deliver for and on its behalf as surety thereon or otherwise, bonds of either of the following classes, to-wit:

1. Bonds on behalf of contractors in connection with bids, proposals or contracts to or with the United States of America, any State or political subdivision thereof or any person, firm or corporation.
2. Surety Bonds to the United States of America or any agency thereof, including those required or permitted under the laws or regulations relating to Customs or Internal Revenue; License and Permit bonds or other indemnity bonds under the laws, ordinances or regulations of any State, City, Town, Village, Board or other body or organization, public or private; bonds to Transportation Companies, Lost Instrument bonds, Lease bonds, Workmen's Compensation bonds, Miscellaneous Surety bonds and bonds on behalf of Notaries Public, Sheriffs, Deputy Sheriffs and similar public officials.
3. Bonds and Undertakings (other than Fiduciary Bonds) filed in any suit, matter or proceeding in any Court, or filed with any Sheriff or Magistrate, for the doing or not doing of anything specified in such Bond or Undertaking, in which the penalty of the bond or undertaking does not exceed the sum of Fifty Thousand Dollars (\$50,000.00).

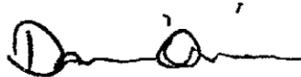
In Witness Whereof, the said FEDERAL INSURANCE COMPANY has, pursuant to its By-Laws, caused these presents to be signed by its Vice President and Assistant Secretary and its corporate seal to be hereto affixed this 1st day of February 19 64.

FEDERAL INSURANCE COMPANY

By



Frederick C. Gardner  
Vice President



Davis Quinn  
Assistant Secretary



STATE OF NEW YORK

County of New York

ss.:

On this 1st day of February 19 64, before me personally came Davis Quinn, to me known and by me known to be Assistant Secretary of the FEDERAL INSURANCE COMPANY, the corporation described in and which executed the foregoing Power of Attorney and the said Davis Quinn being by me duly sworn, did depose and say that he resides in the City of New York, in the State of New York; that he is Assistant Secretary of the FEDERAL INSURANCE COMPANY and knows the corporate seal thereof; that the seal affixed to the foregoing Power of Attorney is such corporate seal and was thereto affixed by authority of the By-Laws of said Company and that he signed said Power of Attorney as Assistant Secretary of said Company by like authority; that he is acquainted with Frederick C. Gardner and knows him to be Vice President of said Company, and that the signature of said Frederick C. Gardner subscribed to said Power of Attorney is in the genuine handwriting of said Frederick C. Gardner and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Acknowledged and Sworn to before me  
on the date above written.



Notary Public  
MARION J. McGRATH  
NOTARY PUBLIC, State of New York  
No. 24-7837850  
Qualified in Kings County  
Certificate filed in New York County  
Commission Expires March 30, 1964



CITY AND COUNTY OF NEW YORK: ss

I, the undersigned, Assistant Secretary of the FEDERAL INSURANCE COMPANY, do hereby certify that the following is a true excerpt from the By-Laws of the said Company as adopted by its Board of Directors on March 11, 1953 and amended January 2, 1964 and that this By-Law is in full force and effect.

"ARTICLE XIX.

Section 2. All bonds, undertakings, contracts, powers of attorney, and other instruments other than as above, for and on behalf of the Company which it is authorized by law or its charter to execute, may and shall be executed in the name and on behalf of the Company either by the Chairman or the Vice-Chairman or the President or a Vice-President, jointly with the Secretary or an Assistant Secretary, under their respective designations, except that any one or more officers or attorneys-in-fact designated in any resolution of the Board of Directors or the Executive Committee, or in any power of attorney executed as provided for in this section, may execute any such bond, undertaking or other obligation as provided in such resolution or power of attorney."

And I further certify that I have compared the foregoing copy of the POWER OF ATTORNEY with the original thereof and the same is a correct and true copy of the whole of said original Power of Attorney and that said Power of Attorney has not been revoked.

And I further certify that said FEDERAL INSURANCE COMPANY is duly licensed to transact fidelity and surety business in each of the States of the United States of America, Puerto Rico, and each of the Provinces of the Dominion of Canada with the exception of Prince Edward Island; and is also duly licensed to become sole surety on bonds, undertakings, etc., permitted or required by the laws of the United States.

Given under my hand and seal of said Company at New York, N. Y., this 12th day of

November, 1965

*Walter La Forge*  
Assistant Secretary

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS:

THAT HUMBLE OIL & REFINING COMPANY, a Delaware corporation, hereinafter referred to as "Humble", having an office at Tulsa, Oklahoma, acting by its undersigned Vice President, hereunto duly authorized, has nominated, constituted and appointed, and by these presents does nominate, constitute and appoint J. Roy Dorrrough its true, sufficient and lawful Attorney in Fact for it and in its name, place and stead to negotiate for, and in the course of the business of said corporation to execute and deliver the following instruments pertaining to Humble's oil, gas and/or other mineral producing operations:

1. Drilling contracts including core drill contracts.
2. Joint operating agreements, including unit operating agreements related to unit agreements requiring approval by the Secretary of the Interior, and any and all instruments required or permitted in connection with such agreements or operations thereunder.
3. Communitization agreements entered into with owners of the various interests (including fee, royalty and leasehold interests) in oil, gas and other minerals by which to establish a unit or units for the production of oil, gas or other minerals, including such communitization agreements or unit agreements which require approval by the Secretary of the Interior and any and all instruments including notices and declarations, required or permitted to be executed in connection with such agreements or operations thereunder.
4. Compensatory royalty agreements.
5. Contracts for the purchase of producing oil and gas leases.
6. Salt water disposal agreements, water-flood agreements and agreements pertaining to secondary or other recovery operations.
7. Surface leases, easements and rights-of-way in favor of Humble together with applications, bonds or other undertakings, statements, and other instruments incident to the acquisition and acceptance thereof.
8. Applications, reports, statements and all other instruments relating to or required or permitted in connection with appropriations of waters or the acquisition of waters and/or water rights.
9. Applications, reports, statements, or other instruments including designations of operator, required or permitted by any governmental body or agency in connection with location, construction, drilling, completion, operation, plugging or abandonment of wells, plants and structures.
10. All bonds, undertakings, recognizances or other written obligation in the nature thereof not exceeding in amount \$50,000.00 in any single instance.
11. Leases and/or rental agreements for terms not to exceed one year in duration pertaining to office space to be occupied by personnel of the Production Department, provided the rental for such space does not exceed the sum of \$500.00 per month.
12. Contracts and/or bills of sale conveying equipment and other personal property, including automobiles and trucks.

IN WITNESS WHEREOF, HUMBLE OIL & REFINING COMPANY has caused this instrument to be executed by its undersigned Vice President, attested by its undersigned Assistant Secretary, and has caused its corporate seal to be affixed hereto this 20<sup>th</sup> day of November, 1964.

ATTEST:

LeRoy Young  
LeRoy Young, Assistant Secretary

HUMBLE OIL & REFINING COMPANY

By John L. Loftis, Jr.  
John L. Loftis, Jr., Vice President

STATE OF OKLAHOMA )  
COUNTY OF TULSA ) SS.

On this 20<sup>th</sup> day of November, 1964, before me, a Notary Public in and for said County and State, personally appeared JOHN L. LOFTIS, JR., to me personally known to be the identical person who subscribed the name of the maker thereof to the foregoing instrument as Vice President of HUMBLE OIL & REFINING COMPANY, a corporation, 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, and by authority of a resolution of the board of directors of said company.

WITNESS my hand and official seal the day and year last above written.

My commission expires:

SEPTEMBER 7, 1966

Mary E. McBride  
Notary Public

November 29, 1965

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

Re: Federal Insurance Co. Bond 8027-26-26 covering  
Humble Oil & Refining Co. #1 Navajo well  
NE/4SE/4 4-41N-28E, Apache County, Arizona  
Permit 28

Federal Insurance Co. Bond 8027-26-25 covering  
Humble Oil & Refining Co. #E2 Navajo well  
SW/4NE/4 10-41N-28E, Apache County, Arizona  
Permit 58

Federal Insurance Co. Blanket Bond 8002-92-35

Gentlemen:

Enclosed are approved copies of bonds covering individual wells  
captioned above.

Inasmuch as all other wells drilled under Federal Insurance Co.  
Blanket Bond 8002-92-35 have been completed and all required in-  
formation has been submitted in accordance with our Rules and  
Regulations, this letter then will constitute authority from  
this Commission to terminate said blanket bond.

Your cooperation is very much appreciated.

Very truly yours,

John Sannister  
Executive Secretary  
nr  
enc

cc: Federal Insurance Company  
New York, New York 10038



BOND

KNOW ALL MEN BY THESE PRESENTS,

That we: Humble Oil & Refining Company

of the County of: Harris in the State of: Texas

as Principal, and Federal Insurance Company

of New York, New York authorized to do business within the State of Arizona,

do hereby bind and firmly bound unto the State of Arizona in the penal sum as indicated, lawful money of the United States, for which payment, well and truly to be made, we bind ourselves, and each of us, and each of our heirs, executors, administrators or successors, and assigns jointly and severally, firmly by these presents.

The condition of this obligation is that whereas the above bounden principal proposes to drill a well or wells for oil, gas or stratigraphic purposes in and upon the following described land situated within the State, to wit:

Applicable to any and all wells in the State of Arizona  
(May be used as blanket bond or for single well)

NOW, THEREFORE, if the above bounden principal shall comply with all of the provisions of the laws of this State and the rules, regulations and orders of the Oil & Gas Conservation Commission, especially with reference to the requirements of A. R. S. 27-516, providing for the proper drilling, casing and plugging of said well or wells, and filing with the Oil & Gas Conservation Commission all notices and records required by said Commission, in the event said well or wells do not produce oil or gas in commercial quantities or cease to produce oil or gas in commercial quantities, then this obligation is void otherwise, the same shall be and remain in full force and effect.

Penal sum of Two Thousand and No/100 Dollars (\$2,000.00)

Witness our hands and seals, this 13th day of June, 1960.

ATTEST: HUMBLE OIL & REFINING COMPANY

/s/ Elizabeth H. Kerney By /s/ Ralph J. Schilthuis  
EXEC. VICE PRES., HUMBLE DIVISION Principal

Witness our hands and seals, this 13th day of June, 1960

FEDERAL INSURANCE COMPANY

By /s/ H. M. Stewart  
Attorney-in-Fact Surety

(If the principal is a corporation, the bond should be executed by its duly authorized officers, with the seal of the corporation affixed. When principal or surety executes by agent, power of attorney or other evidence of authority must accompany the bond.)

Approved \_\_\_\_\_ Date \_\_\_\_\_

STATE OF ARIZONA  
OIL & GAS CONSERVATION COMMISSION

**CANCELLED**

DATE 11-29-65

HUMBLE OIL & REFINING COMPANY

CENTRAL REGION

P. O.Box 120  
Denver, Colorado

July 28, 1965

Re: Bond covering all Oil & Gas Wells  
in State of Arizona

Mr. James R. Scurlock  
Arizona Oil and Gas Commission  
Room 202, 1624 West Adams  
Phoenix, Arizona

Dear Sir:

In accordance with yours and Mr. Bannister's recent requests,  
we enclose a photocopy of the captioned Bond numbered 8002-92-35.  
It is our understanding that this bond has been extended to  
June 13, 1970.

If further information is required, it is suggested that inquiry  
be directed to our Houston Law Department making reference to the  
Bond by number.

Very truly yours,

HUMBLE OIL & REFINING COMPANY



R. E. Barnard

REB:bk  
Enclosure

cc: Wayne Moore

July 22, 1965

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

Attention: Mr. Barnard

Re: Bond covering all oil and gas wells located in  
State of Arizona

Gentlemen:

After your telephone call today concerning our requests for a copy of your bond covering your operations in the State of Arizona, we made a deeper search into our records and found that National Surety Bond 16077, dated May 7, 1955, and Federal Insurance Company of New York bond dated May 17, 1960, were cancelled by a letter from this Commission to Mr. Robert W. Bybee in your Midland office dated July 15, 1960.

A third bond, Federal Insurance Company of New York, dated June 13, 1960, in the amount of \$10,000, remained in force. It is a copy of this bond, then, that we need for our files. It is understood that you have already taken steps to see that it is forwarded to us.

We have corrected all our records; and we regret very much having caused you inconvenience. Your cooperation is appreciated.

Yours very truly,

J.R. Scurlock  
Petroleum Geologist  
m:mr

Mr. BARNARD Telephone Call July 21, 1965

Humble Oil & Ref. Co.  
P.O. Box 130  
Denver Colo 80201  
Attn. Mr. BARNARD

in future please direct all  
correspondence to this  
address.

from DENVER.

Mr. BARNARD called re bonding (JB's letter  
of 6-3-65 and my (JRS) letter of 7-14-65)

He had checked with Humble offices in  
Midland, Houston, Tulsa, and Denver;  
they could find no record of having been  
bonded under Nat'l Surety Co. Mr. BARNARD  
said that they had always used Federal  
Ins. Co. for drilling bonds and that they  
had just paid (on 6-13-65) a bond  
premium (didn't know to which company.)

He is asking Fed. Ins. Co. to send a copy  
of bond which he feels is in effect  
currently.

July 14, 1965

Humble Oil & Refining Company  
P.O. Box 2180  
Houston, Texas

Re: National Surety Company Bond 16077, Amount \$10,000  
Covering all oil and gas wells located in the  
State of Arizona

Gentlemen:

Our letter of June 3, 1965 requested that you furnish this  
office with a copy of the captioned bond. May we have  
this at your earliest opportunity?

Yours very truly,

J.R. Scurlock  
Petroleum Geologist  
sr

*correct all files to  
Show correct bond*

June 3, 1965

Humble Oil & Refining Company  
Box 2180  
Houston, Texas

Attention: Mr. G. L. Carpenter

Re: National Surety Company Bond 16077, Amount \$10,000  
Covering all oil and gas wells located in the state  
of Arizona

Gentlemen:

Would you please furnish this office with a copy of the approved captioned bond, together with the applicable power-of-attorney.

Your earliest cooperation is very much appreciated.

Yours very truly,

John Bannister  
Executive Secretary  
cb

28 ✓  
118 ✓  
58 ✓  
65 ✓

October 15, 1965

Amble Oil & Refining Company  
P.O. Box 122  
Denver, Colorado

Attention: Mr. R.D. Barzani

Re: Federal Insurance Company Bond 8891 32 35

Gentlemen:

As you are aware, the captioned bond in the amount of \$10,000 is on file with this Commission to cover bonding requirements of this Commission.

As a result of the public hearing held September 22, 1965 in Phoenix, Arizona, concerning the Rules and Regulations of this Commission, the bonding requirements have been increased to \$5,000 for a single well and to \$25,000 for a state-wide blanket bond.

As required by law, certified copy of the new Rules and Regulations was filed with the Secretary of State on October 1, 1965, and consequently the new Rules became effective on that date.

This letter is to request that at your earliest convenience you take the necessary steps to increase your state-wide bond to \$25,000. Upon receipt of your new bond your old bond of course may be released.

Your earliest cooperation will be appreciated.

Yours very truly,

John Bannister  
Executive Secretary  
nr

28

November 4, 1965

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

Attention: Mr. R.E. Barnard

Gentlemen:

In response to your letter of October 29, 1965, enclosed are sufficient bond forms for individual bonds covering your two wells.

However, in reviewing our files we note that the #E2 Navajo well file is complete with the exception of copies of the logs run. Before we can release your current blanket bond we must have these logs, and of course, the new bonds.

*11-10-65*  
Your cooperation is very much appreciated.

Very truly yours,

John Bannister  
Executive Secretary  
nr  
enc

*JK*

HUMBLE OIL & REFINING COMPANY

P. O. Box 120  
Denver, Colorado 80201  
November 23, 1965

Re: Bonds for Oil & Gas Wells  
State of Arizona

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

Dear Sir:

We enclose original and one copy of Bonds, as required by the Commission on each of the two wells we operate in the State of Arizona. The Federal Insurance Company is the Surety and both are dated November 12, 1965.

*Permit 58*

Bond No. 8027-26-25 covers the well location in Section 10-Township 41 North-Range 28 East, G. & S. R.

*Permit 28*

Bond No. 8027-26-26 covers the well location in Section 4-Township 41 North-Range 28 East, G. & S. R.

*Permit 11-10-10*

The Production Department advises that they have sent you copies of logs run on No. E2 Navajo Well which you requested in your letter of November 4.

Please advise when these new bonds have been approved and the old \$10,000.00 bond 8002-92-35 has been released.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

By: *R. E. Barnard*  
R. E. Barnard

REB:sb

Enclosures

cc: Mr. R. S. Frazier  
Production Department  
Humble Oil & Refining Co.  
Denver, Colorado

November 29, 1965

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

Re: Federal Insurance Co. Bond 8027-26-26 covering  
Humble Oil & Refining Co. #1 Navajo well  
NE/4SE/4-4-41N-28E, Apache County, Arizona  
Permit 28

Federal Insurance Co. Bond 8027-26-25 covering  
Humble Oil & Refining Co. #E2 Navajo well  
SW/4NE/4 10-41N-28E, Apache County, Arizona  
Permit 58

Federal Insurance Co. Blanket Bond 8002-92-35

Gentlemen:

Enclosed are approved copies of bonds covering individual wells  
captioned above.

Inasmuch as all other wells drilled under Federal Insurance Co.  
Blanket Bond 8002-92-35 have been completed and all required in-  
formation has been submitted in accordance with our Rules and  
Regulations, this letter then will constitute authority from  
this Commission to terminate said blanket bond.

Your cooperation is very much appreciated.

Very truly yours,

John Bannister  
Executive Secretary  
nr  
enc

cc: Federal Insurance Company  
New York, New York 10038



# HUMBLE OIL & REFINING COMPANY

DENVER, COLORADO 80201

CENTRAL REGION

October 7, 1965

P. O. BOX 120

DENVER AREA

W. P. RYMAN  
AREA EXPLORATION MANAGER  
J. ROY DORROUGH  
AREA PRODUCTION MANAGER

Mr. J. R. Scurlock  
Oil & Gas Conservation Commission  
State of Arizona  
1624 West Adams  
Phoenix, Arizona 85007

Re: Humble Oil & Refining Company  
Navajo #1 - Apache Co., Arizona  
Permit 28

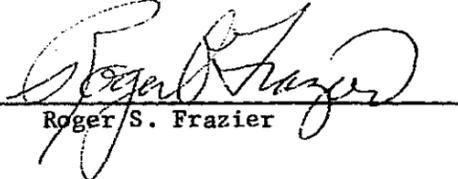
Dear Sir:

In answer to your letter of September 14, 1965, please find the attached current completion data on the above-captioned well as shown by our records. If you should need further information, please advise.

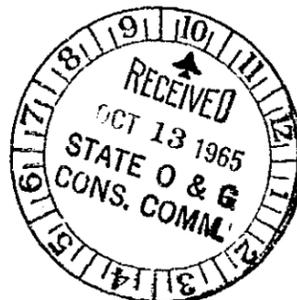
Very truly yours,

J. ROY DORROUGH

By

  
Roger S. Frazier

Attachments



September 14, 1965

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

Attention: Mr. Roger Fraser, District Operating Superintendent

Re: Humble Oil & Refining #1 Navajo  
NE/4SE/4 4-41N-28E, Apache County, Arizona  
Permit 28

Gentlemen:

As a check on our ten-year old records, would you please furnish us with the current completion data on the captioned well.

We would like to know whether the well is dually completed, where the casing and tubing are set, where are the packers and perforations, etc.

Yours very truly,

J.R. Scurlock  
Petroleum Geologist  
mr



## SHELL OIL COMPANY

Post Office Box 1200  
Farmington, New Mexico

November 21, 1962

Subject: F.P.C. Rocket No. C162-1037  
East Boundary Butte Field

Oil and Gas Conservation Commission  
State of Arizona  
3500 North Central Avenue  
Phoenix 10, Arizona

Attention: Mr. John E. Petty

Gentlemen:

The Federal Power Commission is expected to set a date shortly for a hearing on Shell's application for a certificate to sell East Boundary Butte Area, Arizona (including North Toh-Atin) gas production to El Paso Natural Gas Company. It is possible that the hearing will be consolidated to include similar applications by Humble Oil & Refining Company and The Superior Oil Company for the sale of their gas production in Apache County, Arizona. It is our understanding that the hearing will be held before the end of the year; however, they must give thirty days' advance notice.

The contract price for pipeline quality gas is 17.7¢/MCF on a 15.025 psia pressure base, which is the same as for the Boundary Butte Field and Greater Aneth Area in San Juan County, Utah. This price was set by the F.P.C. as a condition for the sale of gas from these Utah fields. The original contract price was 20¢/MCF.

Shell Oil Company made application for a certificate to sell East Boundary Butte Area (including North Toh-Atin) gas production on March 7, 1962, in which we invoked temporary authority in order to expedite sale before a permanent certificate was received. Finally, after six months of waiting, we received, on September 5, 1962, a temporary authority with the price conditioned to 15¢/MCF from the 17.7¢/MCF contract price. In accepting the temporary certificate, the F.P.C. was informed that we would not accept a permanent certificate at 15¢/MCF without having an opportunity to justify the 17.7¢/MCF price.

28

Oil and Gas Conservation Commission  
State of Arizona

2

It would be helpful to our case if we could enlist the help of the State of Arizona in supporting the 17.7¢/MCF contract price, and stop a reduction to 15¢/MCF. It would be to their advantage for the following reasons.

East Boundary Butte being in the same geological and geographical province as gas in the Greater Aneth Area of Utah, Arizona should be entitled to the same price for gas being produced in both areas. Anything less would be discriminatory against the State of Arizona.

To have a depressed price of an already depressed gas price would discourage rather than encourage exploratory activity. To have a lower price so short a distance away from the Greater Aneth Area would eventually lead to placement of a low setting over the entire state. This would also tend to reduce the tax base and income of Arizona's citizens. Therefore, East Boundary Butte being in the same geological province as Aneth, an increased price would increase exploratory incentive, which in turn would increase development essential to the progress of the state. However, any reduction in the price freely contracted between buyer and seller in the East Boundary Butte Area would be detrimental to further oil and gas activity in the state of Arizona.

We hope you will either file a statement or have someone present it in person, supporting Shell's contracted 17.7¢/MCF price, supported by the reasons above stated. If you wish to participate, we request that we be given an advance copy of your statements.

If we may be of any further help, please do not hesitate to contact us.

Very truly yours,

*F. W. Nantker*  
F. W. Nantker  
Division Land Manager

DDC:GL

28

July 15, 1960

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

Attention: Mr. Robert W. Bybee

Dear Mr. Bybee:

Attached is an approved copy of the bond which your company furnished us in order to drill wells in the State of Arizona. We are sending it to you so that you can return it to the proper department in your company.

In addition to the foregoing, we desire to advise you that the bond in which Humble Oil and Refining Co., County of Harris, State of Texas, is principal, together with the Federal Insurance Company of New York, dated 13th day of June 1960, in the penal sum of \$10,000 is sufficient for any and all of your well drilling operations in Arizona. Therefore, we wish to advise you that you have on file with us a bond executed on May 17th, 1960, in which Humble Oil and Refining Co. and Federal Insurance Co. are the Principals, which said bond is a bond in the penal sum of \$10,000. We feel that you can and should cancel this bond as it is not necessary and it may save you some premium cost because it is a duplicate of the latest bond above-mentioned.

In the same vein, we desire to advise you that insofar as the State of Arizona is concerned, you may cancel a bond in which Humble Oil and Refining Co. and National Surety Co. are the Principals, said bond being in the penal sum of \$10,000, dated May 7, 1955. We do not find a number on this bond so we cannot give a number to you for further reference.

We are sending you three additional copies of this letter so that you may send them to your bonding companies for release of the latter two bonds mentioned in this letter. Your bond of June 13, 1960, and approved July 16, 1960, by Charles Kalil, M.D., Vice-Chairman, State of Arizona, Oil and Gas Conservation Commission, is sufficient for our purposes and your requirements

Mr. Robert W. Bybee

July 15, 1960

2.

in this State insofar as all drilling operations are concerned.

Yours very truly,

D. A. Jerome  
Executive Secretary

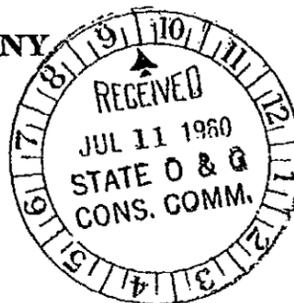
DAJ/ew  
Enc. 4  
Carbon copies: (3)

**HUMBLE OIL & REFINING COMPANY**

HUMBLE DIVISION  
P. O. BOX 1600

**MIDLAND, TEXAS**

July 8, 1960



DEPARTMENT  
OIL AREA  
R. MCCARTY  
MANAGER  
J. S. BOLDRICK  
OPERATIONS SUPERINTENDENT  
N. L. HENSLEY  
OPERATIONS SUPERINTENDENT  
M. E. MEADOWS  
ENGINEERING COORDINATOR  
A. J. BEDFORD  
ADMINISTRATIVE COORDINATOR

Mr. D. A. Jerome  
Arizona Oil and Gas Conservation Commission  
3500 North Central  
Suite 312  
Phoenix, Arizona

Dear Mr. Jerome:

Attached is the original and two copies of your Form P-2, Blanket Bond, covering Humble's operations in the State of Arizona. If these forms meet with your approval, please return the executed copies to Mr. R. R. McCarty in Midland.

Please cancel our existing bonds signed by the National Surety Corporation dated May 17, 1955, and the Federal Insurance Company dated May 17, 1960.

Very truly yours,

R. R. MCCARTY

By *A. J. Bedford*

JEP:bw

Enc.

028

June 8, 1960

Mr. R. R. McCarty  
Humble Oil & Refining Company  
P.O. Box 1600  
Midland, Texas

Dear Mr. McCarty:

We have received your blanket bond forms and believe them to be in order. We do, however, have a standard form used by the State which we wish you would complete and return to us.

We also wish to bring to your attention the change in the name of this office and the address.

Sincerely hope you will commence operations in our state in the near future.

With best wishes for successful wells.

Sincerely,

W. F. Maule  
Petr. Engineer

WFM:mb  
Encl

C  
O  
P  
Y

HUMBLE OIL & REFINING COMPANY

PRODUCTION DEPARTMENT  
HOUSTON 1, TEXAS

January 28, 1958

RALPH J. SCHILTHUIS  
VICE-PRESIDENT

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify cancellation of the signature authoriza-  
tion for Mr. R. M. Gillette to sign forms, reports, affidavits,  
and other instruments required by the State Land Commission  
of Arizona.

Witness our hands and the seal of the Company, this 3rd day  
of February, A.D., 1958.

HUMBLE OIL & REFINING COMPANY

By Ralph J. Schilthuis Form A-2  
Vice President

ATTESTED:

Elizabeth H. Kenney  
Assistant Secretary

HUMBLE OIL & REFINING COMPANY  
PRODUCTION DEPARTMENT  
HOUSTON 1, TEXAS

September 27, 1957

RALPH J. SCHILTHUIS  
VICE-PRESIDENT

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. E. S. Davis, Assistant District Chief Clerk of our Farmington District, Western Division, is authorized to sign forms, reports, affidavits and other instruments required by the State Land Commission of Arizona.

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 1st day of October, A.D., 1957.

HUMBLE OIL & REFINING COMPANY

By Ralph J. Schilthuis  
Vice President

Form Approved  
By MMP

ATTESTED:

Elizabeth N. Kenney  
Assistant Secretary

13176



**HUMBLE OIL & REFINING COMPANY**  
EXPLORATION DEPARTMENT  
P. O. BOX 1267  
ROSWELL, NEW MEXICO

July 18, 1957

Mr. Phil Johnson  
Geologist, State Land Department  
State Office Building  
Phoenix, Arizona

Dear Phil:

I've been in Phoenix twice this year without time for an opportunity to come by to see you. Next time I may do better.

At this time I do have a request for service from your department.

Our Mr. Hunter Yarborough,

Geologic Research Section  
Humble Oil & Refining Company  
P. O. Box 2180  
Houston, Texas

*Phil*  
needs a copy of your latest revision of "Exploratory Deep Wells of Arizona." Also, we would like to have two additional copies for this office. Could you oblige?

Also, could you put this office on your mailing list for any of your information releases concerning oil development in Arizona (3 copies, c/o Mr. W. G. McCampbell, Jr.)?

In advance, "Thanks", and I hope to see you before too long.

Yours very truly,

*Richard D. Holt*

Richard D. Holt

RDH:jr

cc: Mr. Hunter Yarborough  
Mr. R. W. Bybee

*Sent 7/23/57  
wh  
(all three)*



9595

HUMBLE OIL & REFINING COMPANY

PRODUCTION DEPARTMENT  
HOUSTON 1, TEXAS

May 29, 1957

RALPH J. SCHILTHUIS  
VICE PRESIDENT

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify cancellation of the signature authorization for Mr. M. M. Rogers to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona.

Witness our hands and the seal of the Company, this 21st day of May, A.D., 1957.

HUMBLE OIL & REFINING COMPANY

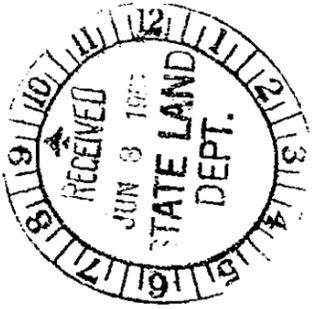
BY Ralph J. Schilthuis  
Vice President

ATTESTED:

BA Bant  
Assistant Secretary

Form Approved

By RJD



7683

HUMBLE OIL & REFINING COMPANY  
PRODUCTION DEPARTMENT  
HOUSTON 1, TEXAS  
May 7, 1957

RALPH J. SCHILTHUIS  
DIRECTOR IN CHARGE

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. R. R. McCarty, Division Superintendent of our Western Division, is authorized to sign forms, reports, affidavits and other instruments required by the State Land Commission of Arizona.

At the same time please revoke signature authorization for Mr. J. P. Ruckman.

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 10 day of May, A.D., 1957.

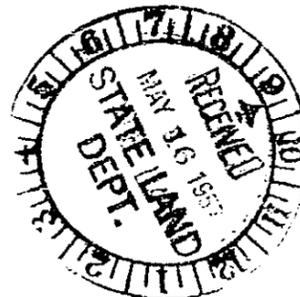
HUMBLE OIL & REFINING COMPANY Form Approved

By RS

By Ralph J. Schilthuis  
Vice President

ATTESTED:

B.P. Bant  
Assistant Secretary



28

**HUMBLE OIL & REFINING COMPANY**

P. O. Box 2180

HOUSTON 1, TEXAS

April 24, 1957

CARL E. REISTLE, JR.  
VICE-PRESIDENT

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. H. E. Meadows, Assistant Division Superintendent, Mr. A. J. Bedford, Chief Clerk, and Mr. B. P. Guyton, Assistant Chief Clerk, Western Division, are authorized to sign forms, reports, affidavits and other instruments required by the State Land Commission of Arizona.

At the same time please revoke signature authorizations of Messrs. J. W. House and John L. Robinson.

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 24 day of April, A.D., 1957.

HUMBLE OIL & REFINING COMPANY

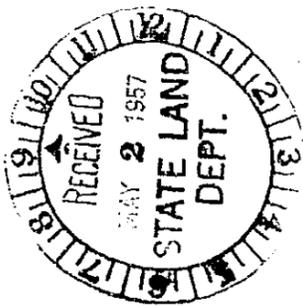
By C. E. Reistle, Jr.  
Vice President

Form Approved

By APB

ATTESTED:

APB  
Assistant Secretary



5015

[Faint, illegible text, possibly a letter or document body]

JAN 1957

HUMBLE OIL & REFINING COMPANY

CARL E. REISTLE, JR.  
VICE-PRESIDENT

HOUSTON 1, TEXAS  
August 28, 1956

State Land Commission of Arizona  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. A. J. Tisdale, Assistant Chief Clerk of our Proration Division, Houston, is authorized to sign forms, reports, affidavits and other instruments required by the State Land Commission of Arizona.

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 28<sup>th</sup> day of August, A.D., 1956.

HUMBLE OIL & REFINING COMPANY

By C. E. Reistle, Jr.  
Vice President

ATTESTED:

A. P. Barnett  
Assistant Secretary

Form Approved  
By 100

10880



May 24, 1956

Mr. J. W. House  
Humber Oil & Refining Company  
Midland, Texas

Dear Mr. House:

Your letter of December 16, 1955, has gone unanswered until this date in order that we might complete a survey of the various facets of the law, and the implications which could likely arise in the classification of oil or gas wells in Arizona.

As you know, the Humble-Navajo Tribal Well No. 1 is the first well which has been drilled in Arizona where the problem of classification has come up. We do appreciate the patience and cooperation which you and your company have extended to Arizona in view of its infancy as far as oil or gas production is concerned.

In your letter, you listed a number of questions which I believe can now be answered. They are as follows:

Question #1: "How you have classified the well as to oil or gas?"

Answer: The regulations call for a gas-oil ratio in excess of 100,000 to 1 in order to classify a well as a gas well, and the Humble well tests show a gas-oil ratio of about 87,000 to 1, it therefore must be classified as an oil well.

Question #2: "If you have classified the well as a gas well, and we should obtain a market for the gas, the basis the gas allowable would be assigned?"

Answer: Inasmuch as the well has not been classified a gas well, this question does not need to be considered.

C  
O  
P  
Y

J. W. House  
May 24, 1956  
Page 2.

Question #3: "If you have classified the well as an oil well, at what allowable rate we would be entitled to produce under the following conditions:  
a) "The casinghead gas being produced with the oil is vented to the air;"  
b) "The casinghead gas being produced with the oil is diverted to legal use;"

Answer: a) We feel that the venting of this gas to the air would be indirect opposition to the conservation of natural resources of the State, and would not be allowed.  
b) Under the rules and regulations, it would be possible to produce up to 2,000 cubic feet of gas per barrel of oil. On the basis of a potential production of 47 barrels of oil a day, it would mean that if it were possible, you could produce about 94,000 cubic feet of gas per day.

I sincerely hope this adequately answers your questions and I trust that in the future it will not be necessary to delay your inquiries as we have done in this instance.

At this time I would like to take this opportunity to thank you and your agents for all the wonderful cooperation and courtesy shown this Department and its representatives. I understand your company anticipates drilling another well in this state soon. Please feel assured that we stand ready to assist you in whatever way we possibly can.

Very truly yours,

Roger Ernst  
State Land Commissioner

RE:PMJ:dt

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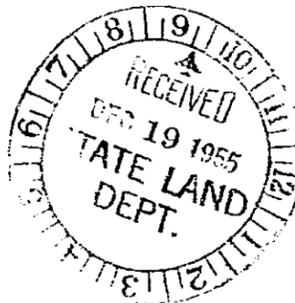
**HUMBLE OIL & REFINING COMPANY**

MIDLAND, TEXAS

December 16, 1955

14166

J. W. HOUSE



Mr. Roger Ernst  
State Land Commissioner  
Arizona State Office Building  
Phoenix, Arizona

Dear Sir:

Humble's Navajo Tribe of Indians Well No. 1, located in Section 4, T-41-N, R-28-E, Apache County, Arizona, was completed during the month of November, 1955. Two potential tests were filed with your office on this well. The first, taken on November 1, was a back pressure test as is run on gas wells and which showed the absolute open flow to be 8,200 MCF/day with a gas liquid hydrocarbon ratio of 188.8 MCF/barrel. The next test reported was taken on November 2 to 3 and on a 24 hour flowing test through a 1/2-inch choke, produced 47.41 barrels of 39.4 gravity oil with a gas-oil ratio of 87,344.

We have not received any correspondence from your office acknowledging receipt of these tests and how you have classified the well as to oil or gas and your attitude toward producing the well. The rules state that a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil shall be classified as a gas well. Our well on an oil well potential test, as stated above, produced with a gas-oil ratio of 87,344. The well is now shut-in for lack of market for the crude, but should a market develop, before we start producing the well we would appreciate a letter from you stating the following:

1. How you have classified the well as to oil or gas. *oil*
2. If you have classified the well as a gas well, and we should obtain a market for the gas, the basis the gas allowable would be assigned. *as usual*
3. If you have classified the well as an oil well, at what allowable rate we would be entitled to produce under the following conditions,
  - a. The casinghead gas being produced with the oil is vented to the air.
  - b. The casinghead gas being produced with the oil is diverted to legal use. *2000 cu ft / barrel of oil*

Your earliest attention to this matter will be appreciated so that we might complete our files on this well and have a clear understanding as to your classification of the well.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

J. W. HOUSE, Division Superintendent

By: *[Signature]*  
Asst. Div. Superintendent

*28*  
*copy*  
*sent to*  
*Mr. Ernst*  
*12/19/55*

AJT/se

November 8, 1955

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Y

Memo To: Phillip W. Johnson,  
Geologist

From: Louis C. Duncan,  
Office Manager

Subject: Humble Oil & Refining Company Well

Mr. John House, representing Humble Oil and Refining Company phoned me from Midland, Texas this date, regarding the classification of this well. Humble Oil Company would prefer to have this well determined as a gas well, rather than an oil well for the present time, due to the waste involved. The last test report gives a ratio of 87,384 cu. ft. of gas to one barrel of oil. It is anticipated that transportation facilities will be available by September of 1956.

Both Mr. House and I would like to invite your comments and opinions on the matter, and if necessary, Mr. House would be glad to sit in on a conference regarding the determination of this well.

Would you let us know as soon as is conveniently possible your thoughts on the matter, in order that we may advise Mr. House.

Very truly yours,

Louis C. Duncan,  
Office Manager

LCD:mb

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CARDED  
BY *ml*  
DATE *5-29-56*

HUMBLE OIL & REFINING COMPANY

CARL E. REISTLE, JR.  
VICE-PRESIDENT

HOUSTON 1, TEXAS  
May 14, 1956

State Land Commission  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. Ralph J. Schilthuis, Director in charge of Production, and Mr. J. A. Porter, Assistant Chief Clerk, Production Department, Houston office, are authorized to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona.

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this *16th* day of *May*, A.D., 1956.

HUMBLE OIL & REFINING COMPANY

By *C. E. Reistle, Jr.*  
Vice President

Jointly Approved  
By *RJP*

ATTESTED:

*R. J. Porter*  
Assistant Secretary

5404



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May 2, 1956

C  
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Y

Mr. Jim Wisley  
Humble Oil & Refining Company  
Box 1268  
Farmington, New Mexico

Dear Mr. Wisley:

At long last I am returning this form 57 signed for your files. I expect to be in Farmington Tuesday of next week and am looking forward to seeing you.

Sincerely,

Phillip W. Johnson,  
Geologist

PWJ:mb  
Encl.

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**HUMBLE OIL & REFINING COMPANY**

HOUSTON 1, TEXAS  
April 23, 1956

CARL E. REISTLE, JR.  
VICE-PRESIDENT

*Louis. Evangelista  
a witness  
1956*

State Land Commission  
Phoenix, Arizona

Gentlemen:

This is to certify that the following Humble employees are authorized to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona:

H. L. Hensley, Assistant Division Superintendent,  
Western Division

J. C. Wiseley, District Chief Clerk, Farmington  
District, Western Division

John L. Robinson, Assistant District Chief Clerk,  
Farmington District, Western Division

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 23<sup>rd</sup> day of May, A.D., 1956.

HUMBLE OIL & REFINING COMPANY

By *C. E. Reistle, Jr.*  
Vice President

ATTESTED:

*B. P. Bant*  
Assistant Secretary



*28*

from the desk of \_\_\_\_\_

KATHRYN BITTS

Myrt:

Mr. E. said to give this to you for  
Phil.

*Hammaker File*

ORDERS

DATE: April 9, 1956

er or not the Arizona statutes on  
ong enough to stop wasting of gas  
y small amounts of oil, study on  
n opinion among attorneys well  
the statute that the code is strong  
na will be safe in classifying wells  
s area as oil wells without running

*Rogers*

*28  
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**AVOID VERBAL ORDERS**

**DATE:** April 9, 1956

**FROM:** Roger Ernst

**TO:** Phil Johnson

**SUBJECT:** \_\_\_\_\_

Regarding your question as to whether or not the Arizona statutes on conservation of gas and oil are strong enough to stop wasting of gas in an effort to obtain comparatively small amounts of oil, study on our part shows that it is the common opinion among attorneys well familiar with the interpretation of the statute that the code is strong enough, and that the State of Arizona will be safe in classifying wells similar to those in the Four Corners area as oil wells without running the risk of wasting gas.

*PE*

28

*file*

April 9, 1956

Humble Oil and Refining Co.  
Box 2180  
Houston, Texas

Gentlemen:

You are hereby authorized to produce your Navajo No. 1 well situated in Section 4, Township 41 North, Range 28 East, for the purpose of producing gas to drill a well or wells in the immediate area. You are further authorized to transport and sell the oil which will be produced with the production of the gas.

It is requested that notice be served on this Department when gas is used for fuel in the drilling of additional wells.

It is further understood that the gas produced will be used for drilling purposes, and that no flaring will take place.

Very truly yours,

Roger Ernst  
State Land Commissioner

RE:kb

(Orig. and 1 copy to: Mr. J. W. House, Box 1600, Midland, Texas)

*28*

HUMBLE OIL & REFINING COMPANY

CARL E. REISTLE, JR.  
VICE-PRESIDENT

HOUSTON 1, TEXAS  
March 16, 1956

3669



State Land Commission  
Phoenix, Arizona

Gentlemen:

This is to certify that the following Humble employees in the Houston Office are authorized to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona:

R. C. Barbour	W. E. Hubbard
J. H. Galloway	S. F. Holmesly
R. E. Bridges	C. D. Ehrhardt, Jr.
A. A. Klein	Jule R. Smith
R. J. Downey	Jno. C. Roberts
N. B. Robins	W. A. Dennard

We will notify you in writing of any additions to or revocations of such authority.

Witness our hands and the seal of the Company, this 21<sup>st</sup> day of March, A.D., 1956.

HUMBLE OIL & REFINING COMPANY

By C. E. Reistle  
Vice President

ATTESTED:

B. P. Barrett  
Assistant Secretary

**HUMBLE OIL & REFINING COMPANY**

HOUSTON 1, TEXAS

March 16, 1956

CARL E. REISTLE, JR.  
VICE-PRESIDENT

State Land Commission  
Phoenix, Arizona

Gentlemen:

This is to certify that Messrs. C. L. Smith and J. G. McMurtry of our Production Accounting office, Houston, are authorized to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona.

We will notify you in writing of any additions to or revocations of such authority.

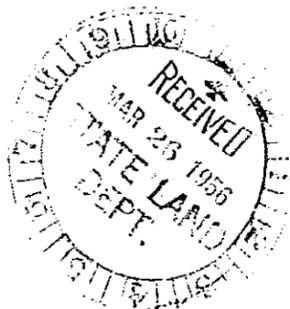
Witness our hands and seal of the Company, this 21<sup>st</sup> day of March, A.D., 1956.

HUMBLE OIL & REFINING COMPANY

By L. E. Reistle, Jr.  
Vice President

ATTESTED:

B. P. Bennett  
Assistant Secretary



25

32 x 1

FORM A-668-B

**HUMBLE OIL & REFINING COMPANY**  
**INTER-OFFICE NOTE**

DATE \_\_\_\_\_

TO Mr. Phillip W. Johnson

FROM Jim Wiseley

I surely will appreciate your help in getting these approved. Although we received verbal permission some time ago to move this oil, the guys in our Houston office forget every once in awhile & call - asking where these forms could be.

If there is any help I can give in preparing your new forms, please let us know. As soon as I get time to check all of the forms, I'll drop you a note.

P.S. All we need on the attached Forms OG-57 is one approved copy. You may distribute the original and other copies to your groups.

28

**AVOID VERBAL ORDERS**

**DATE:** January 13, 1956

**FROM:** Roger Ernst

**TO:** Louis C. Duncan

**SUBJECT:** \_\_\_\_\_

We had better latch onto Phil Johnson one of these days and get into this thing so that we can let Humble know. I must confess ignorance. Perhaps it would be wise if I arranged a meeting with Charlie Strouss and Frank Ryley so that we might better know what to do in this situation. Also, it may be advisable to contact Phil Johnson sometime and get the thinking on the unitization requested by Charlie Martin's group. Please find attached a map showing the suggested unitization of the Pinta Structure which is Charlie Martin's group.

28

Mr. Ernst

I called Mr. House and he was very agreeable in allowing us whatever time we needed to make our decision on the classification of this well. He also expressed a desire to cooperate in whatever way he could even by coming over and sitting in on a conference with us.

*P. W. Johnson*  
P. W. Johnson

Mr. Roger Ernst  
State Land Commissioner  
Arizona State Office Building  
Phoenix, Arizona

Dear Sir:

Humble's Navajo Tribe of Indians Well No. 1, located in Section 4, T-41-N, R-28-E, Apache County, Arizona, was completed during the month of November, 1955. Two potential tests were filed with your office on this well. The first, taken on November 1, was a back pressure test as is run on gas wells and which showed the absolute open flow to be 8,200 MCF/day with a gas liquid hydrocarbon ratio of 168.8 MCF/barrel. The next test reported was taken on November 2 to 3 and on a 24 hour flowing test through a 1/2-inch choke, produced 47.41 barrels of 39.4 gravity oil with a gas-oil ratio of 87,344.

We have not received any correspondence from your office acknowledging receipt of these tests and how you have classified the well as to oil or gas and your attitude toward producing the well. The rules state that a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil shall be classified as a gas well. Our well on an oil well potential test, as stated above, produced with a gas-oil ratio of 87,344. The well is now shut-in for lack of market for the crude, but should a market develop, before we start producing the well we would appreciate a letter from you stating the following:

1. How you have classified the well as to oil or gas.
2. If you have classified the well as a gas well, and we should obtain a market for the gas, the basis the gas allowable would be assigned.
3. If you have classified the well as an oil well, at what allowable rate we would be entitled to produce under the following conditions,
  - a. The casinghead gas being produced with the oil is vented to the air.
  - b. The casinghead gas being produced with the oil is diverted to legal use.

Your earliest attention to this matter will be appreciated so that we might complete our files on this well and have a clear understanding as to your classification of the well.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

J. W. HOUSE, Division Superintendent

By:

*COPY ORIGINAL SIGNED J. F. HULLMAN*  
Asst. Div. Superintendent

COPY

COMPANY

*Midland, Texas*  
*4-4-56*

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027423  
AJM/so

COPY

HUMBLE OIL & REFINING COMPANY

December 16, 1955

*Middleland, Texas  
4-44-55*

Mr. Roger Ernst  
State Land Commissioner  
Arizona State Office Building  
Phoenix, Arizona

Dear Sir:

Humble's Navajo Tribe of Indians Well No. 1, located in Section 4, T-41-N, R-28-E, Apache County, Arizona, was completed during the month of November, 1955. Two potential tests were filed with your office on this well. The first, taken on November 1, was a back pressure test as is run on gas wells and which showed the absolute open flow to be 8,200 MCF/day with a gas liquid hydrocarbon ratio of 188.8 MCF/barrel. The next test reported was taken on November 2 to 3 and on a 24 hour flowing test through a 1/2-inch choke, produced 47.41 barrels of 39.4 gravity oil with a gas-oil ratio of 87,344.

We have not received any correspondence from your office acknowledging receipt of these tests and how you have classified the well as to oil or gas and your attitude toward producing the well. The rules state that a well producing with a gas-oil ratio in excess of 100,000 cubic feet of gas per barrel of oil shall be classified as a gas well. Our well on an oil well potential test, as stated above, produced with a gas-oil ratio of 87,344. The well is now shut-in for lack of market for the crude, but should a market develop, before we start producing the well we would appreciate a letter from you stating the following:

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2. If you have classified the well as a gas well, and we should obtain a market for the gas, the basis the gas allowable would be assigned.
3. If you have classified the well as an oil well, at what allowable rate we would be entitled to produce under the following conditions,
  - a. The casinghead gas being produced with the oil is vented to the air.
  - b. The casinghead gas being produced with the oil is diverted to legal use.

Your earliest attention to this matter will be appreciated so that we might complete our files on this well and have a clear understanding as to your classification of the well.

Yours very truly,

HUMBLE OIL & REFINING COMPANY

J. W. HOUSE, Division Superintendent

By: **COPY ORIGINAL** J. P. RUCIFUSA  
Asst. Div. Superintendent

98  
027423 AJH/ee



OFFICE OF  
 State Land Department  
 STATE OF ARIZONA  
 Phoenix, Arizona  
 November 22, 1955

ROGER ERNST  
 STATE LAND COMMISSIONER

Mr. Louis C. Duncan  
 Office Manager  
 State Land Department  
 State Office Building  
 Phoenix, Arizona

Dear Mr. Duncan:

In reply to your recent letter regarding the classification of the Humble Oil & Refining Company Navajo Tribal # 1 Well, I believe that the final decision as to whether this well should be classified an oil well or a gas well would depend entirely upon the interpretation of the law. My understanding is that the law definitely states that the gas and oil ratio of a gas well should be 100,000 cubic feet of gas to one barrel of oil and any well producing less than this ratio would automatically be considered an oil well. However, I see no advantage in declaring this well an oil well with the implication that they would have to produce. It certainly would not be to the State's advantage to let them produce if they are going to waste either the gas or the oil. In my opinion it would be better that the well remain shut in until proper facilities are available for handling both gas and oil. The final decision, however, rests with Mr. Ernst. If Mr. House of the Humble Oil should desire a conference, I would be happy to sit in on it.

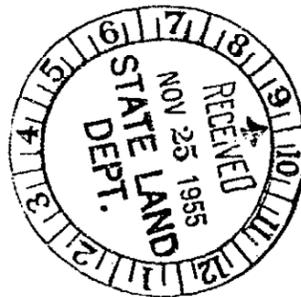
Very truly yours,

Phillip W. Johnson  
 Geologist

13362

*I agree that they should not be forced to produce at this time and cause unreasonable gas waste.*

*RE Ernst*



HUMBLE OIL & REFINING COMPANY

CARL E. REISTLE, JR.  
VICE-PRESIDENT

HOUSTON 1, TEXAS  
October 25, 1955

State Land Commission  
Phoenix, Arizona

Gentlemen:

This is to certify that Mr. A. J. Tisdale, who will serve as Acting Assistant Chief Clerk in our Production Proration Division, Houston, for a period of five weeks beginning October 31, 1955, is authorized to sign forms, reports, affidavits, and other instruments required by the State Land Commission of Arizona.

Witness our hands and the seal of the Company, this 27th day of October, A.D., 1955.

HUMBLE OIL & REFINING COMPANY

By C. E. Reistle  
Vice President

ATTESTED:

B. P. Barrett  
Assistant Secretary



October 25, 1955

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Humble Oil & Refining Company  
Box 1268  
Farmington, New Mexico

Attention: Mr. Wolcott

At the request of Mr. Phillip W. Johnson, I am forwarding you under separate cover the following material.

- 6 Copies - General Rules and Regulations Governing The Conservation of Oil and Gas in Arizona (Statewide Rules and Regulations)
- 6 Copies - General Rules and Regulations Governing the Conservation of Oil and Gas in Arizona
- 6 Copies - Rules and Regulations Governing the Issuance of Oil and Gas Leases

Very truly yours,

State Land Department

by:

Secretary - P. W. Johnson, Geologist

SCHLUMBERGER WELL SURVEYING CORPORATION

Delivery Ticket

Date Oct 10, 1955

HUMBLE OIL & REFINING CO.

RE: Well NAVAJO #1  
Field boundary butte  
County or Parish APACHE State ARIZ.

Gentlemen:

We are furnishing you herewith the following records on your above well:

ES 605 ML

FILM TO BE MAILED LATER UNDER SEPARATE COVER

Kindly sign and mail the enclosed postal card, acknowledging receipt of original film.

6 MR. BECKMANN MIDLAND TEX., 2 MR. C.A. JAMES  
FARMINGTON, HUMBLE OIL & REFINING COMPANY, HOUSTON, TEX.  
Further distribution of these reports is being made as indicated below. Please advise us of any error observed or change desired.

2 U.S.G.S. FARMINGTON, 2 PHILLIPS<sup>SR</sup> JOHNSON,  
We thank you for the privilege of serving you.

PHOENIX, ARIZ., 2 MR. A.A. PHILLIPS HOWELL, 2 MR.  
C. J. CHANDAY, Yours very truly, HOUSTON, TEX.

1 SHELL OIL CO. DUR HGO, COLO., 1 EL PASO NAT. GAS CO.  
SCHLUMBERGER WELL SURVEYING CORPORATION

FARMINGTON, 1 ROTARY ENGINEERS, MIDLAND TEX.,

Prints furnished as follows:

By F. PEARCE

HUMBLE OIL & REFINING COMPANY

11289

September 23, 1955



Mr. Phillip W. Johnson  
Geologist  
State of Arizona  
State Land Department  
Phoenix, Arizona

Dear Mr. Johnson:

This is to inform you that the Humble Oil & Refining Company No. 1 Navajo, located in Apache County, Arizona, is at total depth, and hence your set of roughneck samples is complete.

As the drilling rig is to move out of the area in a few days, I took the liberty of bringing in your samples from the Navajo No. 1 and have stored them at the Four Corners Sample Out for your convenience in picking them up, since I learned that you often come by for "cuts" from certain wells. Samples are often misplaced and destroyed during the moving of a rig, so I thought it best that they be in a safe place. Then too, there were quite a few samples in accumulation and would have been too great a load for a passenger car over such roads.

For your files, we are mailing at a later date two copies each of all electric logs run on the well, two copies of the mudlog, and two copies of the core analyses.

If there is anything else we might do, please let us know.

Sincerely,

*C.A. Jones*

G.A. Jones  
Production Geologist  
Farmington, N.M.

*Send this copy of  
to Mr. Johnson 9/26/55  
1/78*

*2103 Mesquite  
Farmington  
N.M.*

## Andes Grain Crop Awaits

ARIZONA

## ASC Adds Two To Farm Teac

TEMPE (Special)—Two widely experienced agriculture instruc-

# 6 Major Producers 'Combine' Reported

By GIG KNEELAND

Plans for development in northeast Arizona of what may be one of the nation's largest natural gas fields were reported underway yesterday.

Six major producers—Humble, Shell, El Paso Natural Gas, Southern Union, Pacific Northwest, and Kerr-McGee

—are reported to have combined efforts to construct pipelines that will convey gas production to junctions with main pipe lines in southeastern Utah.

This development followed reports of Humble's huge potential Arizona gasser in Northern Apache County.

Amended reports yesterday were that the Humble wildcat produced a drill-stem test flow of around 10 million cubic feet a day.

OIL MEN say that such a flow, following final development of the well, could reach as much as 150 million cubic feet daily.

Humble's exploration office at Roswell, N. M., confirmed reports that the pipelines would be laid before it attempted to put its new Arizona well into production.

The Roswell office would neither confirm nor deny reports that Humble would establish an exploration field office in Phoenix.

Humble has 12,000 acres under lease on the Navajo Indian Reservation in Apache County, where its present wildcat is being drilled. It also has filed performance bonds with the state land department which permit it to

drill an unlimited number of wells on its Arizona acreage.

HUMBLE'S promising wildcat is said to indicate an extension deep into Arizona of the East Boundary Butte oil and gas field, which previously appeared limited to southeastern Utah and southwestern Colorado.

The contemplated pipeline net would immediately serve a number of Boundary Butte gas wells that now are capped.

Among these is Shell's "Arizona discovery" well, about a mile from Humble's wildcat. This Shell well, yielding around 4 million cubic feet of gas daily, was capped last year. Shell also has another Arizona well, its first to be drilled in the state, that can be tied in with the pipeline net. Yield of these two Shell wells is placed at around six million cubic feet daily.

SOUTHERN UNION, El Paso Natural, and Pacific Northwest, reported to be involved in the pipeline program, all have capped gas wells in Utah's portion of the Boundary Butte field.

Kerr-McGee has around 10,000 acres under lease close to the holdings of Humble and Shell in Arizona, but has not yet reported any drilling program.

El Paso Natural, also has around 8,000 acres of Arizona leases.

Petroleum geologists have termed Arizona's portion of the Boundary Butte development as being part of this state's "Plateau Province"—a vast area that embraces almost the entire northern third of the state and could bring a number of "fields" into gas or oil production.

Humble has announced that its development marks an extension "westward" and "southward" into Arizona of the proven structure of the Boundary Butte field.

# Huge Natural Gas Fields To Be Developed In Arizona

ARIZONA REPUBLIC - AUGUST 21, 1955

## 6 Major Producers 'Combine' Reported

By GIG KNEELAND

Plans for development in northeast Arizona of what may be one of the nation's largest natural gas fields were reported underway yesterday.

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**Humble Reports:** ARIZONA REPUBLIC  
AUGUST 14, 1955

## Apache Test Well Pan of Utah Field

By GIG KNEELAND

ROSWELL, N. M. (Special) — Extension into Arizona of the vast Boundary Butte gas and oil field of southeastern Utah, as indicated in reports here yesterday by Humble Oil & Refining Co.

Development of such a field would give a tremendous boost to Arizona's economy and could advance industrial development by the oil men, say.

University of Mexico geologists and geologic engineers and geologists of major companies have assessed this state's potential as being far south of the Utah pan and embracing much of the Mexican region.

J. W. Bybee, assistant divisional geologist at Humble, reported that a steam test on his company's well in Arizona's northern Apache County showed an estimated 100 million barrels of gas and oil.

The test came following a visit to Humble's main office in Houston, Tex.

Bybee's report in Utah's northern Apache County area, which is the location of the Apache pan, is a 100 million barrel test.

Bybee said the test showed a production of 1 million cubic feet of gas and 100 barrels of high-gravity oil.

Oil men generally expect that such a show will mean a production of 10 times that much after the well is completed.

Humble, said Bybee, plans to drill to granite, expected at about 6,000 feet.

The new Arizona well south of the Boundary Butte No. 2 well, which is 10 million cubic feet of gas daily was the state's first commercial producer. It has never been put in production pending further exploration to determine the extent of the field.

Shell's No. 1 well in that area, east of the No. 2, is of low yield, and oil geologists say it marks the eastern limits of the Arizona field.

Bybee, internationally known as an oil geologist, said the gas-oil field may embrace "thousands of acres in Arizona."

The report partly bears out that made to congress three years ago by former Rep. Leslie Ewart of Montana, who described the northern Arizona pan as being in "the largest undeveloped oil and gas field in the nation."

Humble has 12,000 acres under lease in Apache County, extending south and west from its present wildcat.

Humble, with other major producers, paid around \$1 1/2 million in bonuses for the Arizona leases they now hold.

Other holders in the area are Kerr-McGee Oil Industries, Sunray Oil Co., Gulf Oil Corp., El Paso Natural Gas Co., Superior Oil Co., Stanolind Oil & Gas Co., Bolack Oil & Gas Co. and Shell.

BYBEE SAID the structure jutting into Arizona from Utah's gas-oil field of the Boundary Butte area, "is rather long."

Gulf Oil has a Boundary Butte well in Utah reported to produce 100 million cubic feet daily, and others of half a dozen different sizes, each a dozen or more million cubic feet in addition to high-gravity distillate.

Exploration bonds already on file with the state land department at Phoenix provide for the drilling of unlimited wells on Humble and Shell lease holdings.

HUMBLE OIL & REFINING COMPANY  
C.A. Janes  
2105 Mesa Verde,  
Farmington, New Mexico

July 28, 1955

Mr. Phillip W. Johnson, Geologist  
State Land Department  
State of Arizona  
Phoenix, Arizona

Dear Mr. Johnson:

This is to inform you that since July 1st, we have been saving you a set of cloth-bagged samples from the Humble Oil & Refining Company's Navajo No. 1, Apache County, Arizona.

The section from 909 to 1847 feet was drilled using compressed air as a circulating medium, and consequently, the samples from this section were poor and powdery. A scarcity of water required us to use the air in drilling. At the time, we had one water well pumping six gallons per minute. This water well was offset to the north and south, resulting in two dry holes with depths near 1000 feet.

A well was drilled a mile to the southeast and has recently been completed pumping between twelve and fifteen gallons of water per minute.

We are presently drilling at 4200 feet on the Navajo No. 1, and quite a few samples have accumulated. We will continue to save you a set of samples until the well reaches total depth and will then notify you so that you can pick up the remaining samples.

Sincerely,  
*C.A. Janes*  
HUMBLE OIL & REFINING COMPANY  
C.A. Janes  
Production Geologist

HUMBLE OIL & REFINING COMPANY  
C.A. James  
2103 Mesa Verde,  
Farmington, New Mexico

July 28, 1955

Mr. Phillip W. Johnson, Geologist  
State Land Department  
State of Arizona  
Phoenix, Arizona

Dear Mr. Johnson:

This is to inform you that since July 1st, we have been saving you a set of cloth-bagged samples from the Humble Oil & Refining Company's Navajo No. 1, Apache County, Arizona.

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Sincerely,  
*C.A. James*  
HUMBLE OIL & REFINING COMPANY  
C.A. James  
Production Geologist

68085  
RECEIVED  
JUL 29 1955  
STATE LAND  
DEPT.

July 27, 1955

Mr. R. W. Rybes  
Assistant Division Geologist  
Humble Oil & Refining Company  
P. O. Box 1287  
Roswell, New Mexico

Dear Mr. Rybes:

We are in receipt of your letter in answer to our request outlining the procedure followed in supplying this Department with sample cuttings from your well located in Section 4, Township 41 North, Range 28 East, Apache County, Arizona.

We certainly appreciate your prompt attention in this matter, as well as the name and address of the Geologist who will be sitting in on this well. I will arrange to pick up these samples on my next field trip to that part of the state, and at that time will undoubtedly have the pleasure of meeting Mr. Jones. The law states that all samples are to be held confidential until six months after completion or abandonment of the well, and you may be assured that this Department will cooperate with your Company to the fullest extent.

We also wish to acknowledge receipt of our form O&G 63, "Report on Test of Water Shut-Off", which has been approved as of this date. We are inclosing a copy for your file.

Very truly yours,

Philip W. Johnson,  
Geologist

PWJ:mb  
Encl. (1)

cc - J. W. House

28

32 x 11

July 27, 1955

Mr. Phillip W. Johnson  
P. O. Box 2270  
Tucson, Arizona

Dear Phil:

When you were in Phoenix last week I forgot to ask you if you had already acknowledged the letter sent you from Humble Oil regarding samples. I know I had sent you verifax copies of the correspondence.

Inclosed is a letter for you to sign - if it sounds OK - or if you want to make any changes, send it back for a "re-type". I wondered if you might like to pick them up at Holbrook instead of at the well site. ?????

Regards,

Muriel

Encls.

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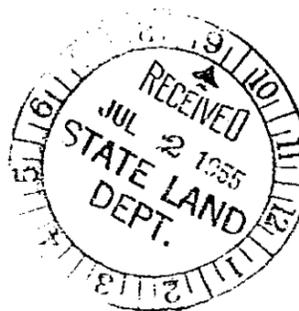
MORGAN J. DAVIS  
VICE-PRESIDENT  
W. A. MALEY  
MANAGER  
WEST TEXAS DIVISION

**HUMBLE OIL & REFINING COMPANY**  
EXPLORATION DEPARTMENT  
P. O. BOX 1287  
ROSWELL, NEW MEXICO

June 30, 1955

8141

ARIZONA STATE LAND DEPARTMENT		
RECEIVED	DATE	BY
RE	7-5	JANSON
RE	7-5	



Mr. Phillip W. Johnson, Geologist  
State Land Department  
State of Arizona  
Phoenix, Arizona

Dear Mr. Johnson:

Your letter of June 14, 1955, to Mr. J. W. House, our Division Drilling Superintendent in Midland, has been forwarded to me for handling. We shall be happy to supply you with a cut of the sample cuttings from our No. 1 Navajo well in Apache County, Arizona.

Mr. C. A. Janes, whose home address is 2103 Mesa Verde, Farmington, New Mexico, is our geologist who will attend the well. We are, this date, asking him to save you one cloth sample bag of the cuttings from the well, and you may pick them up periodically at the well site. We would appreciate your keeping these samples confidential for a reasonable time after the completion of the well, and then it would be entirely satisfactory with us for you to distribute them to the various State and U. S. agencies for filing. Since this is Humble's first well in the State of Arizona, we are anxious to comply with all of your regulations. If we do not do so, it will be because of lack of knowledge; and we would consider it a favor if you would let us know of any regulations we fail to follow.

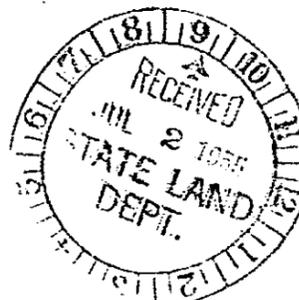
If we can be of any further assistance, please do not hesitate to advise.

Yours very truly,

*R. W. Bybee*  
R. W. Bybee  
Assistant Division Geologist

RWB:jr

cc: Mr. J. W. House  
Mr. W. E. Dougherty  
Mr. C. A. Janes  
Mr. M. M. Rogers



28

COPY

HUMBLE OIL & REFINING COMPANY

Midland, Texas  
June 18, 1955

File: 3-1  
Re: Procedure of Supplying  
Sample Cuttings

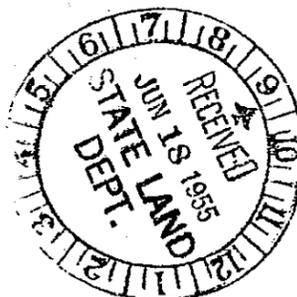
Mr. R. W. Bybee  
Assistant Division Geologist  
Humble Oil & Refining Company  
Box 1287  
Roswell, New Mexico

Enclosed herewith you will find a request from the State Land Department of the State of Arizona, outlining the procedure that they would like to have us follow in supplying them the sample cuttings of our proposed well in the northeastern section of Arizona.

Would you be kind enough to contact Phillip W. Johnson with the Land Department at Phoenix, Arizona, and work out a program that will be acceptable to both the Land Department and the Humble Company in connection with the drilling of this well.

J. W. HOUSE

JWH/eb  
Attach.  
cc: Mr. Phillip W. Johnson  
Mr. W. E. Dougherty - Building



7535

June 14, 1955

Mr. J. W. House,  
Division Superintendent,  
Humble Oil & Refining Company  
Box 1600  
Midland, Texas

Dear Mr. House:

I am writing you to acquaint you with our state policy for the collection of sample cuttings from all oil test wells drilled in Arizona and to request your cooperation in helping us to carry out this program.

The State Land Department, U.S.G.S. - G.W., University of Arizona and the Museum of Northern Arizona are the four agencies in the State, which are working together to collect and preserve in a permanent library, which will be in the University of Arizona, sample cuttings from all types of wells in the State. Under the program it was deemed advisable that there should also be a library of samples of wells from the northern part of the State at the Museum of Northern Arizona located in Flagstaff. The reason for this was two fold:

1. The marked difference in the geology between the plateau region and the basin and range country.
2. The distance it would be necessary to travel, for those interested in northern Arizona, to inspect the samples at the University of Arizona at Tucson.

In the case of oil test wells our policy also includes a set of samples to be available at the State Land Department, Phoenix, Arizona for mailing on a thirty day loan basis to those interested.

You can readily see that with your test well being located in the northern part of the State, it will be necessary that we receive a rather large amount of sample in order that we can cut it three ways. We will be glad to furnish sample bags so that you can have your driller pick up a sample for us when collecting your samples.

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Mr. J. W. House  
June 14, 1955  
Page 2

The way we worked it out with several of the Oil Companies in the past, was that I would visit the rig periodically and pick up the samples or would send a representative to do so. These samples were kept in the strictest confidence. I realize that under the law you are not required to turn over any information until six months after the hole is declared completed or abandoned and I will gladly comply with your decision in the matter. I only wanted to make certain that we receive an adequate amount of samples and my thought in offering to pick up these samples would allviate your having to store them and the chance that they might become lost or destroyed around the rig.

I would appreciate hearing from you concerning this request and also I would like to know the names of the men in charge of your drilling operation and geology on the rig.

We believe that such a program as outlined above will go a long way in giving us stratigraphic information which would otherwise be unobtainable, and we know that your Company will be willing to cooperate by supplying samples. If we can be of any assistance to you, please call on us.

Very truly yours,

Phillip W. Johnson,  
Geologist

PWJ:mb

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OFFICE OF  
**State Land Department**  
 STATE OF ARIZONA  
 Phoenix, Arizona

ROGER ERNST  
 STATE LAND COMMISSIONER

May 20, 1955

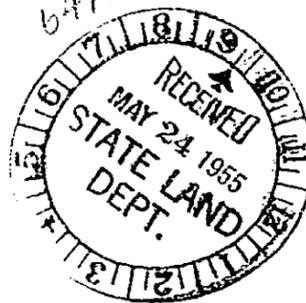
Mr. Phillip W. Johnson  
 P. O. Box 2270  
 Tucson, Arizona

Dear Phil:

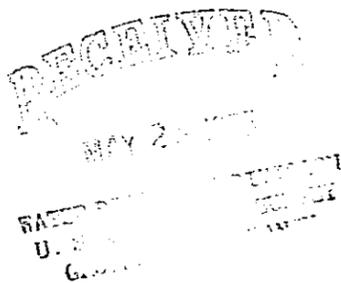
Enclosed please find copy of Notice of Intention to Drill for the Humble Oil and Refining Company, together with plat. Would you please check it over, approve, and return to me. We are to receive the bond very shortly.

Sincerely,

*Muriel R. Bates*  
 Muriel R. Bates



OK  
*PWJ*



mb

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
P. O. Box 965  
Farmington, New Mexico

IN REPLY REFER TO:

ARIZONA STATE LAND DEPARTMENT		
Noted by	To	Est.
I. O.	R. E.	5-23
Ans. by	Date	

May 20, 1955

Humble Oil & Refining Company  
Box 1600  
Midland, Texas

Re: Navajo 14-20-603-413

Gentlemen:

Receipt is acknowledged of your "Notice of Intention to Drill" dated May 18, 1955 covering your well No. 1 Navajo Tribe of Indians in NE $\frac{1}{4}$  SE $\frac{1}{4}$  sec. 4, T. 41 N., R. 28 E., G. & S. R., Apache County, Arizona, East Boundary Butte pool.

Your proposed work is hereby approved subject to compliance with the provisions of the "Oil and Gas Operating Regulations" revised May 25, 1942, a copy of which will be sent to you on request, and subject to the following conditions:

1. Drilling operations so authorized are subject to the attached sheet for general conditions of approval.
2. Furnish copies of all logs.

Very truly yours,

(Orig. Sgd.) A. P. KLEEMAN

A. P. Kleeman  
Acting District Engineer

APKleeman:ac

cc - Navajo Agency

A O + G



98

May 20, 1955

Mr. Phillip W. Johnson  
P. O. Box 2270  
Tucson, Arizona

Dear Phil:

Enclosed please find copy of Notice of Intention to Drill  
for the Humble Oil and Refining Company, together with  
plat. Would you please check it over, approve, and return  
to me. We are to receive the bond very shortly.

Sincerely,

Muriel R. Bates

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Y

mb

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