

EXXON COMPANY, U.S.A.
POST OFFICE BOX 1600 • MIDLAND, TEXAS 79701

PRODUCTION DEPARTMENT
MIDCONTINENT DIVISION

R. W. BOWDON
OPERATIONS MANAGER



DHC - ~~195~~
Due - 6/12/67

May 14, 1976

Exception to Downhole Commingling
N. G. Penrose Well No. 3
✓ Drinkard and Wantz Granite Wash Pools ✓
Lea County, New Mexico

New Mexico Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

ATTN: Mr. Joe D. Ramey

We respectfully request administrative approval to downhole commingle production from the Drinkard and Wantz Granite Wash Pools in the wellbore of Exxon's N. G. Penrose Well No. 3, located in Unit G, 1980' FEL, 1980' FNL, Sec 13, T-22-S, R-37-E in Lea County, New Mexico. This will be an exception to Statewide Rule 303-A. In support of this request we submit the following:

1. Well and Production Data.
2. Map of Area.
3. Laboratory Reports on Drinkard and Wantz Granite Wash Oils.
4. Commission Forms C-116 for both zones.
5. Resume of Completion History.
6. List of offset operators.

All offset operators have been notified of this request by copy of this letter. Your consideration of this request will be appreciated.

Yours very truly,

HNR/cb
Attachments

cc: New Mexico Oil Conservation Commission
P. O. Box 1980
Hobbs, New Mexico 88240

Prod: Dr 30 BOPD 91% 235 mcf
LW 3 " 9%
33

Batterson pf 7437 - max prod: 50 BPD.

Exxon N. G. Penrose Well No. 3
Well and Production Data

1. Both zones to be commingled are classified as oil reservoirs and must be produced by artificial lift.
2. The total daily production from the two zones before commingling does not exceed 50 BOPD as allowed for the deepest perforations in the lower zone.
- ✓ 3. Currently the two zones are authorized to be dually completed by Commission order R-5044. Surface commingling was authorized by Commingling Order PC-521 dated November 21, 1975. The fluids from each zone are compatible with the fluids from the other, and the combining of these fluids will not result in the formation of precipitates which might damage either reservoir.
4. Crude gravities are: Drinkard - 40.80 degrees, Wantz Granite Wash - 40.10 degrees, and the value of the commingled production will not be less than the sum of the values of the production sold separately. Pipeline classification of oil is sweet. Royalty and working interest are common for both zones.
5. Estimated bottom hole pressure is 2500 psi for the Drinkard and 2600 psi for the Wantz Granite Wash.

HNR/cb



WOLF PETRO LAB, INC.

DIAL EMERSON 6-9701
DIAL EMERSON 6-7171

2411 WEST 42ND STREET

P. O. BOX 643
ODESSA, TEXAS

79760

HYDROCARBON ANALYSIS

LABORATORY REPORT

RECEIVED
MAY 17 1975
OIL CONSERVATION COMM.
Santa Fe

Charge **Exxon Company, U.S.A.**
Test No. **WPL-75-1009**
Date of Run **8-22-75**
Date Received **8-19-75**

A Sample of **Crude Oil from Upper Penrose No. 3**

Secured from **Drinkard Formation**

At **Lea County, New Mexico**

Purpose

Date **7-25-75** Secured by

Sampling Conditions

DISTILLATION

I B P	110	°F
5%	171	°F
10%	206	°F
20%	268	°F
30%	336	°F
40%	422	°F
50%	515	°F
60%	584	°F
70%	616	°F
75%	662	°F
80%	694	°F
85%	719	°F
90%	735	°F
95%	748	°F
End Point	754	°F
% max Residue	2.25	
% Recovery	97.75	
Color		

YIELD:

Gasoline 300°F	24.00	%
Gasoline 350°F	7.00	%
Gasoline 400°F	6.50	%
Total Gasoline	37.50	%
Kerosene 525°F	14.00	%
Diesel Fuel 650°F	23.25	%

ASTM OR SPECIAL TESTING

Ash Content	
Acid or Base Numbers	
B. S. & W. (Centrifuge)	
Carbon Residue	
Carbon Residue on 10% Residue	
Cloud and Pour Point to	°F
Doctor Test	
Flash Point (open or closed)	
Fire Point	
Gravity, A. P. I. Hydrometer	40.80 @ 60° F.
Hydrogen Sulfide (Crude Oil)	
Salt Content (Crude Oil)	
Sulfur (lamp method)	.34875 % by Weight
Vapor Pressure (Reid)	
Vapor Pressure (N.G.A.A.)	
Vapor Pressure (Lean Oil)	
Viscosity (Saybolt) 100°F	
Viscosity (Saybolt) 210°F	
Viscosity (Index No.)	

**Ultra Violet = Indication of Non Association with
Wantz Granite Wash Formation**

Run by: **J. Wolf**

Checked by: **J. Wolf**

Approved:

Additional Data and Remarks

COPIES

5 - Mr. Van Temple
1700 West Broadway
Andrews, Texas 79714
1 - File



WOLF PETRO LAB, INC.

DIAL EMERSON 6-9701
DIAL EMERSON 6-7171

2411 WEST 42ND STREET

P. O. BOX 643
ODESSA, TEXAS

79760

HYDROCARBON ANALYSIS

LABORATORY REPORT

Exxon

Charge **Company, U.S.A.**
Test No. **WPL-75-1009-A**
Date of Run **8-22-75**
Date Received **8-19-75**

A Sample of **Crude Oil from Lower Penrose No. 3**
Secured from **Wantz Granite Wash Formation**
At **Lea County, New Mexico**
Purpose _____
Sampling Conditions _____

Secured by _____
Date **7-25-75** Time _____

DISTILLATION

I B.P.	102	°F
5%	164	°F
10%	203	°F
20%	274	°F
30%	346	°F
40%	441	°F
50%	520	°F
60%	605	°F
70%	681	°F
75%	688	°F
80%	694	°F
85%	710	°F
90%	725	°F
95%	729	°F
End Point	731	°F
% Residue Residue	2.00	
% Recovery	98.00	
Color		

YIELD

Gasoline 300°F	24.25	%
Gasoline 350°F	6.00	%
Gasoline 400°F	5.75	%
Total Gasoline	36.00	%
Kerosene 525°F	15.00	%
Diesel Fuel 650°F	14.25	%

ASTM OR SPECIAL TESTING

Ash Content	
Acid or Base Numbers	
B. S. & W. (Centrifuge)	
Carbon Residue	
Carbon Residue on 10% Residue	
Cloud and Pour Point to	°F
Doctor Test	
Flash Point (open or closed)	
Fire Point	
Gravity, A. P. I. Hydrometer	40.10 @ 60° F.
Hydrogen Sulfide (Crude Oil)	
Salt Content (Crude Oil)	
Sulfur (lamp method)	.30418 % by Weight
Vapor Pressure (Reid)	
Vapor Pressure (N.G.A.A.)	
Vapor Pressure (Lean Oil)	
Viscosity (Saybolt) 100°F	
Viscosity (Saybolt) 210°F	
Viscosity (Index No.)	

**Ultra Violet = Indication of Non Association
with Drinkard Formation**

Run by: **J. Wolf** Checked by: **J. Wolf** Approved: _____

Additional Data and Remarks

COPIES

5 - Mr. Van Temple
1700 West Broadway
Andrews, Texas 79714
1 - File

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator Exxon Corporation		Pool Drinkard		County Lea											
Address Box 1600, Midland, TX 79701		TYPE OF TEST - (X)		Completion ☐ Special ☒											
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOW-ABLE	LENGTH OF TEST HOURS	PROD. DURING TEST			GAS - OIL RATIO CU.FT/BBL		
		U	S	T						R	WATER BBLs.	GRAV. OIL		OIL BBLs.	GAS M.C.F.
N. G. Penrose	3	G	13	22	37	2-24-76	P	-	48	24	3	-	30	235	7833

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

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

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

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Well original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

A. J. Clement
(Signature)

Unit Head

5-4-76
(Title)

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator Exxon Corporation		Pool Wantz Granite Wash		County Lea										
Address Box 1600, Midland, TX 79701		TYPE OF TEST - (X)		Completion ☐ Scheduled ☐ Special ☒										
LEASE NAME	WELL NO.	LOCATION			DATE OF TEST	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST				GAS - OIL RATIO CU.FT/BBL
		U	S	T						R	WATER BBLs.	GRAV. OIL	OIL BBLs.	
N. G. Penrose	3	G	13	22	37	2-24-76	P	-	-	24	0	-	0	0

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

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

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

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Well original and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 301 and appropriate pool rules.

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

D. J. Clement
(Signature)

Unit Head

5-4-76
(Title)

RESUME OF COMPLETION HISTORY - N. G. PENROSE NO. 3

Drinkard

Perf 6256 - 7208, 55 shots

Frac perfs 6888 - 7268, (33 holes) as follows: break dn perfs w/20 bbl 9# br, 6000 psi @ 5 bpm, pmp 20 M gal 20% NE HCl, 21 M gal K-1 pad, 15 M gal 20% NE HCl w/600# gum karaya, 60 gal Corexit 8504, flush w/5 M gal 9# br w/5 gal Corexit 7652. MP 6450 psi @ 16 bpm, AP 5800 psi @ 20 bpm, FP 5200 psi @ 20 bpm, ISIP 2200 psi, 30 min SIP 2000 psi

Frac perfs 6256 - 6436, (22 holes) as follows: break dn perf w/br @ 5 bpm, 5000 psi, pmp 2 M gal 20% HCl, 18 M gal K-1 pad, 12 M gal 20% NE HCl w/480# gum karaya + 48 gal Corexit 8504, Flush w/4 M gal br w/4 gal Corexit 7652. MP 6200 psi @ 16 bpm, AP 6000 psi @ 18½ bpm, FP 5500 psi @ 21 bpm. ISIP 1200 psi, 30 min SIP 1200 psi

Initial Potential 54 BOPD 18 BWPD 7-21-75

Granite Wash

Frac perfs 7322 - 7437 (35 shots) as follows: break dn perfs w/12 bbl 9.2# br @ 6100 psi, pmp 1.5 M gal 15% HCl, 4 M gal pad, 2 M gal w/1 ppg sd, 5 M gal w/1.5-2 ppg sd, pmp 300# rock salt & 300# benzoic ac flakes. Repeat. Flush w/9.2# br. MP 6100 psi, AP 4500 psi @ 25 bpm. ISIP 1900 psi, 15 min SIP 1850 psi

Initial Potential 11 BOPD 2 BWPD 7-21-75

Prognostication of Future Production

Although the Granite Wash tests "0" oil under the current dual pumping arrangement, we estimate that it will produce 2 - 3 BOPD when commingled and producing under a single pumping unit arrangement.

The Drinkard will be expected to produce 30 BOPD at a 25%/year decline rate.

OFFSET OPERATORS
TO EXXON'S N. G. PENROSE LEASE
LEA COUNTY, NEW MEXICO

Marathon Oil Company
Box 2409
Hobbs, New Mexico 88240

J. H. Hendrix
403 Wall Towers West
Midland, Texas 79701

Texas Pacific Oil Company
Box 4067
Midland, Texas 79701

Penrose Production Company ✓
1605 Commerce Building
Fort Worth, Texas 76102

American Petrofina Company of Texas
Box 1311
Big Spring, Texas 79720

Texaco, Inc.
Box 3109
Midland, Texas 79701 ✓

Sohio Petroleum Company
Box 3167
Midland, Texas 79701

OIL CONSERVATION COMMISSION
Hobbs DISTRICT

OIL CONSERVATION COMMISSION
BOX 2088
SANTA FE, NEW MEXICO

DATE May 18, 1976

RE: Proposed MC _____
Proposed DHC X _____
Proposed NSL _____
Proposed SWD _____
Proposed WFX _____
Proposed PMX _____

Gentlemen:

I have examined the application dated _____
for the Exxon Corp. N. G. Penrose #3-G 13-22-37
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows:

O.K.---J.S.

Yours very truly,

