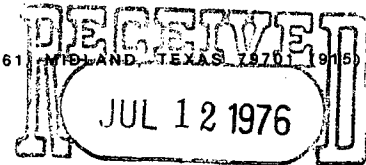




SUN OIL COMPANY

901 W. WALL, POST OFFICE BOX 1861 MIDLAND, TEXAS 79701-1915 682-8271

July 6, 1976



OIL CONSERVATION COMM.
Santa Fe

New Mexico Oil Conservation Commission
Secretary Director's Office
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Shearn Federal Com. #1

Gentlemen:

Sun Oil Company respectfully submits the following data in application to downhole commingle production from the Wolfcamp and Bone Springs reservoirs in the Shearn Federal Com. #1. Location of the well is in Unit L, Section 15, Township 19-S, Range 32-E, Lea County, New Mexico. *E. Lusk - We & Adj. E. Lusk - Bone Spr.*

The subject well, formerly completed in the Wolfcamp, with perforations from 10,626 to 10,759 was plugged back in June, 1976 to test for economic production from the Bone Springs formation. The Bone Springs was perforated from 9832 to 9868, then treated and swab tested. The above work was done after receiving an approved C-103 proposing the work.

On June 12, 1976, the Wolfcamp formation in the Shearn Federal #1 tested 22 barrels of oil, 5 barrels of water and 369 MCF gas, GOR 16,772/1, pumping 24 hours. Swab testing the Bone Spring zone indicates production of 9 barrels of oil per day can be anticipated from this interval. A producing gas oil ratio of 800 cu. ft. per barrel is expected. Based on these tests, it is proposed that 71% of the oil production and 98% of the gas production be allocated to the Wolfcamp with the remainder being credited to the Bone Spring.

Estimated bottom hole pressure of the Wolfcamp formation is 1000# based on extrapolating previous pressure data versus the current cumulative production. Bottom hole pressure in the recently perforated Bone Spring interval is approximately 3310 psi based on a 37 hour S.I.T.P., 6-22-76 and hydrostatic head of the fluid in the well. Crossflow will be prevented since the pumping equipment installed in the well is capable of keeping the fluid pumped down. Gas from both zones will flow up the annulus.

The Wolfcamp zone of the Shearn Federal #1 produces 25 to 30 barrels of fluid daily. The crude oil is a 40.3° API gravity crude and is produced with a formation brine water of 1.08 sp. gravity. Bone Spring oil production in the northeast offset to the Shearn Federal is 39.9° API gravity. There should be no detrimental results of commingling the fluids downhole.

Value received for the 40.3° crude is \$12.23 per barrel. The 39.9 gravity crude sells for \$12.22 per barrel. Therefore, commingling the crude oils will not reduce the value received for the production.

New Mexico Oil Conservation Commission
July 6, 1976
Page 2.

A list of offset operators who will be notified of the proposed commingling is attached. In addition the U. S. Geological Survey has been sent a notice of this request for downhole commingling.

Approval of this application will allow production of oil and gas from the Bone Spring which could not otherwise be economically recovered. Therefore, waste will be prevented by downhole commingling production from this well.

Your consideration of this matter will be appreciated. Please contact me in Sun Oil Company's Midland, Texas office if any other information is required.

Very truly yours,

SUN OIL COMPANY

Charles R. Price

Charles R. Price

CRP:lh

Bottom pf 10,759' - max prod 80 BOPD

<i>wc</i>	<i>2280 = 71%</i>	<i>369 mef = 98%</i>
<i>B.S.</i>	<i>9 " = 29%</i>	<i>7 " = 2%</i>
	<i>31</i>	<i>376</i>

- a) Sun Oil Company
P. O. Box 1861
Midland, Texas 79701
- b) Shearn Federal Com. #1
Unit L, Section 15, Township 19-S, Range 32-E
Lea County, New Mexico
- c) This well was not completed as a dual. The Wolfcamp was temporarily plugged to test the Bone Spring as per the C-103 approved by the Commission. Sun Oil Company requests permission to commingle Wolfcamp production from perfs 10626 to 10759 with Bone Spring production from perfs 9832 to 9868.
- d) TESTS:
6-12-76 Wolfcamp, 24 hours pumping, 22 B0, 5 BW, 369 MCF, GOR 16772/1.
6-25-76 Bone Spring, swab test extrapolated to 24 hours, 9 B0, 3 BLAW, 7.2 MCF, GOR 800/1.
- e) Production decline curve for Wolfcamp attached.

Bone Spring - Perforated 9832, 34, 36, 38, 40, 42, 44, 46, 50, 60, 62, 64, 68 w/1 JS at each. Acidize perfs with 2000 gal. 15% NEHCL and 25 ball sealers. BDP 4000, Max press 6000, Min 3200, FP 5400, ISD 4700, 15 min 3850, AIR 2 BPM, Rec. 18 B0 + 39 BLAW swabbing. Acidize perfs w/10,000 gal 20% CRA. BDP 3800, Max 8500, Min 3800, FP 8200, ISD 4440, 15 min 3950. AIR 8 BPM. Swab tested - extrapolated to 24 hrs. 9 B0, 3 BLAW, GOR 800/1.

After commingling the anticipated production will be, Oil - 71% Wolfcamp, 29% Bone Spring; gas - 98% Wolfcamp, 2% Bone Spring; Water - 100% Wolfcamp.
- f) Estimated Bottom Hole Pressure - Both zones will be artificially lifted.
Wolfcamp - 1000 psi - Based on previous BHP data and production history.

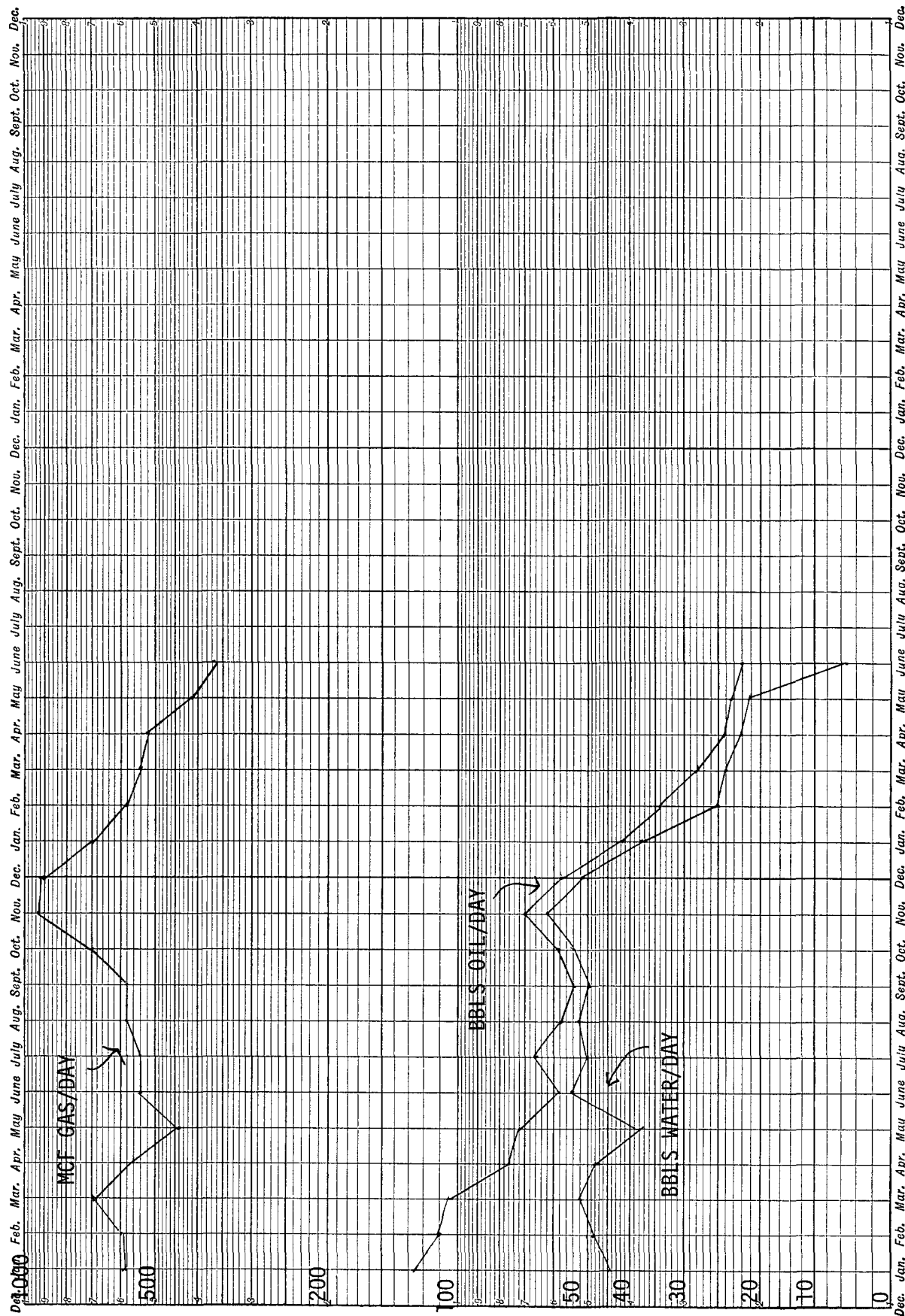
Bone Spring - 3310 psi - Based on 37 hr. SITP and hydrostatic pressure of fluid in the well.
- g) Fluid characteristics
Wolfcamp - 65% 40.30 API gravity oil, 35% 1.08 sp. gr. formation Brine water

Bone Spring - (Anticipated) 100% 39.9° API gravity oil based on data from offset Jennings Federal #1.

Fluids should be compatible in the well bore.
- h) Oil Value - 40.3° API (Wolfcamp) Oil value is \$12.23 per barrel
39.9° API (Bone Spring) Oil value is \$12.22 per barrel
No loss of value will occur from downhole commingling.
- i) Offset operators and the U.S.G.S. will be notified of this application for commingling.



SHEARN FEDERAL COM. #1
East Lusk Wolfcamp Production



Year of 19 75

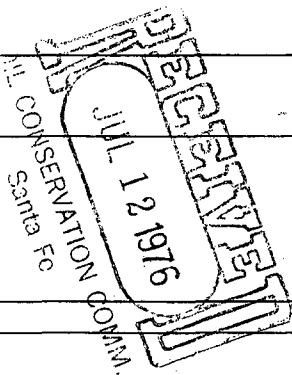
Year of 19 76

Year of 19 ____

NEW MEXICO OIL CONSERVATION COMMISSION
GAS-OIL RATIO TESTS

C-116
Revised 1-1-65

Operator Sun Oil Company		Pool East Lusk Bone Spring		County Lea	
Address P. O. Box 1861, Midland, Texas 79701				TYPE OF TEST - (X) <input checked="" type="checkbox"/> TEST - (X)	
LEASE NAME Shearn Federal Com.		WELL NO. 1		LOCATION U S T R 15 19S 32E	
				DATE OF TEST 6-25-76	
				CHOKESIZE swab test	
				TBG. PRESS. 	
				DAILY ALLOW-ABLE 	
				LENGTH OF TEST 24 HOURS	
				PROD. DURING TEST WATER BBL'S. GRAV. OIL BBL'S. GAS M.C.F.	
				GAS - OIL RATIO 800 CU.FT./BBL.	



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.

Mail 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.

Shearn Hill
(Signature)

Proportion Analyst
(Title)
7-6-76
(Date)

C-116
Revised 1-1-65

(Date)

OFFSET OPERATORS

Shearn Federal Com. #1
Lea County, New Mexico

Cleverock Energy
2508 Lincoln Center
Denver, Colorado 80202



NORTH AMERICAN EXPLORATION AND PRODUCTION GROUP
Midland Area Land Office and Production District

SUN OIL COMPANY

901 W. WALL, POST OFFICE BOX 1851, MIDLAND, TEXAS 79701 (915) 682-8271

July 6, 1976

Cleverrock Energy
2508 Lincoln Center
Denver, Colorado 80202

Re: Shearn Federal Com. #1

Gentlemen:

Enclosed are three copies of a waiver addressed to New Mexico Oil Conservation Commission. As stated in the waiver, we wish to commingle the Wolfcamp and Bone Spring formations in this well.

Also attached is a letter to New Mexico Oil Conservation Commission which is our application to commingle. If you have no objections please sign two copies of the waiver, send the original to the New Mexico Oil Conservation Commission and one copy to us for our files.

A stamped addressed envelope is provided for each copy.

Yours truly,

SUN OIL COMPANY

A handwritten signature in cursive script that reads "C. L. Hill".

C. L. Hill

Cover

RECEIVED
W A I V E AUG - 2 1976

OIL CONSERVATION COMM.
Santa Fe

June 6, 1976

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

Re: Sun Oil Company
Shearn Federal Com. #1
East Lusk Field
Lea County, New Mexico


Gentlemen:

Due to a sharp decline in production, Sun Oil Company wishes to commingle the Wolfcamp and Bone Spring formations in the subject well.

The Shearn Federal Com. #1 is located 1980' from the south line and 660' from the west line of Section 15, T-19-S, R-32-E. We have no objections to Sun Oil Company's proposal.

Yours truly,

CleveRock Energy Corp.
Company


Signed

July 28, 1976
Date

RECEIVED JUL 12 1976

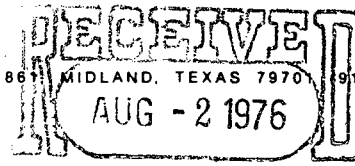


SUN OIL COMPANY

901 W. WALL, POST OFFICE BOX 1861

NORTH AMERICAN EXPLORATION AND PRODUCTION GROUP
Midland Area Land Office and Production District

July 6, 1976



MIDLAND, TEXAS 79701

(915) 682-8271

OIL CONSERVATION COMM.
Santa Fe

Cleverrock Energy
2508 Lincoln Center
Denver, Colorado 80202

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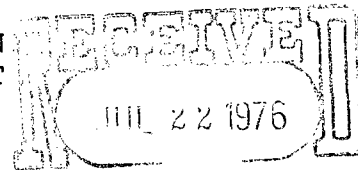
A stamped addressed envelope is provided for each copy.

Yours truly,

SUN OIL COMPANY

C. L. Hill
C. L. Hill

OIL CONSERVATION COMMISSION
HOBBS DISTRICT



OIL CONSERVATION COMM.

Santa Fe

OIL CONSERVATION COMMISSION
BOX 2088
SANTA FE, NEW MEXICO

DATE July 20, 1976

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

Gentlemen:

I have examined the application dated July 6, 1976
for the Sun Oil Company Shearn Federal Com #1-L 15-19-32
Operator Lease and Well No. Unit, S-T-R

and my recommendations are as follows: - OK

The pressure differential is high, but since both zones are marginal and
the zone with the highest pressure produces only 5 BOPD the crossflow could
not be a large amount.

Yours very truly,