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Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

June 15, 1983

File: SJO-1052-WF

Re: Application to Downhole Commingle Owen B No. 2 Drinkard and Tubb Oil & Gas Pools Lea County, New Mexico

State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, NM 87501

Attention: Mr. Joe D. Ramey

Gentlemen:

Approval is hereby requested to downhole commingle the Owen B No. 2 in accordance with NMOCD Rule 303-C.

The well is located 1980' FSL x 440' FWL, Section 34, Township 21 South, Range 37 East, Lea County, New Mexico. The well was originally completed in the Grayburg Formation as an oil well on June 25, 1939. Amoco recompleted this well to a Drinkard completion on March 24, 1947. The Drinkard was dually completed with the Tubb Gas on March 18, 1954 as a flowing gas-oil well. Reference Dual Completion Order No. DC-36, dated December 21, 1953 (copy attached). Currently, the Tubb is flowing and the Drinkard has been temporarily abandoned since August 16, 1976. Due to the marginal production of these two zones, commingling is the only economical way of producing this well. Attached is a map showing the subject well and the offset operators. June 15, 1983 File: SJO-1052-WF Page 2

In support of our request, we submit the following facts:

1. The latest productivity tests are as follows:

	Date	BOPD	BWPD	MCFD	Perforations
Tubb	5-16-83	2	3	305	6070'-6344'
*Drinkard	6-25-76	5	11	300	6382'-6582'

Copies of C-116's are attached.

*Last test taken before zone was temporarily abandoned August 16, 1976.

- 2. Neither zone produces more water than the combined oil limit determined by Rule 303-C.
- 3. The produced fluids should be compatible and commingling these fluids should not result in precipitates which might damage the reservoirs.
- 4. Commingling the Tubb and Drinkard will not jeopardize the efficiency of future secondary recovery operations in either zone.
- 5. We do not anticipate a significant change in the value of the commingled gas streams. Current gas prices being received are \$1.03/MCF for Drinkard gas and \$1.01/MCF for Tubb gas.
- 6. Expected daily production from the commingled zones are as follows:

	Tubb	Drinkard	<u>Commingled</u>
BOPD	2	3	5
BWPD MCFD	620	470	1,090
	020	4/0	1,030

See attached production decline curves.

7. Bottom hole pressures are as follows: All pressures corrected to common datum 6,250'.

 Tubb
 = 431.0 psi

 Pressure 6,000'-6,250' @ (.102 psi/ft) gradient
 = 25.5 psi

 Total pressure at 6,250'
 = 456.5 psi

 Drinkard
 = 311.0 psi

 Pressure at 6,000'-6,250' @ (.021 psi/ft) gradient
 = 5.3 psi

 Total pressure at 6,250'
 = 316.3 psi

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* Owen B No. 3 (Drinkard) was used due to Owen B No. 2 (Drinkard) being temporarily abandoned since August of 1976.

**Copies of BHP tests are attached.

- 8. Both zones to be commingled have common ownership.
- 9. Recommended oil and gas allotments are as follows: Based on Reserves

	<u>0i1</u>	Gas
Tubb	58%	73%
Drinkard	42%	27%

- 10. All offset operators have been notified by certified mail. (Copy of receipts and list of offset operators attached.)
- Also attached, please find a copy of Administrative Order No. DHC-31 granting downhole commingline of the closely located State "C" Tract 13 No. 9 Tubb and Drinkard Pools.

If additional information is required, contact Charles Herring at 393-1781.

Yours very truly,

SAOKerson ais

Attachments

cc: State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 1980 Hobbs, NM 88240

OFFSET OPERATORS

Amerada Hess Corporation P. O. Drawer D Monument, NM 88265

Exxon Company U.S.A. P. O. Box 1700 Midland, TX 79702

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Gulf Oil Exploration and Production Company P. O. Box 670 Hobbs, NM 88240

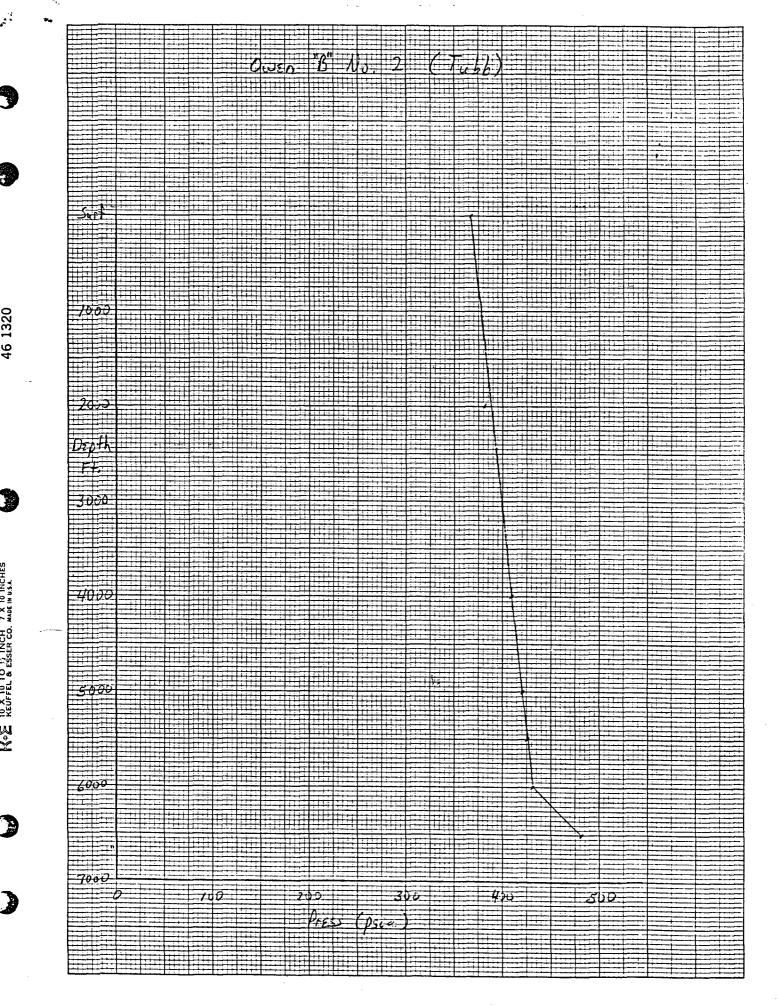
Mobil Producing Texas and New Mexico, Inc. P. O. Box 1800 Hobbs, NM 88240

Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762

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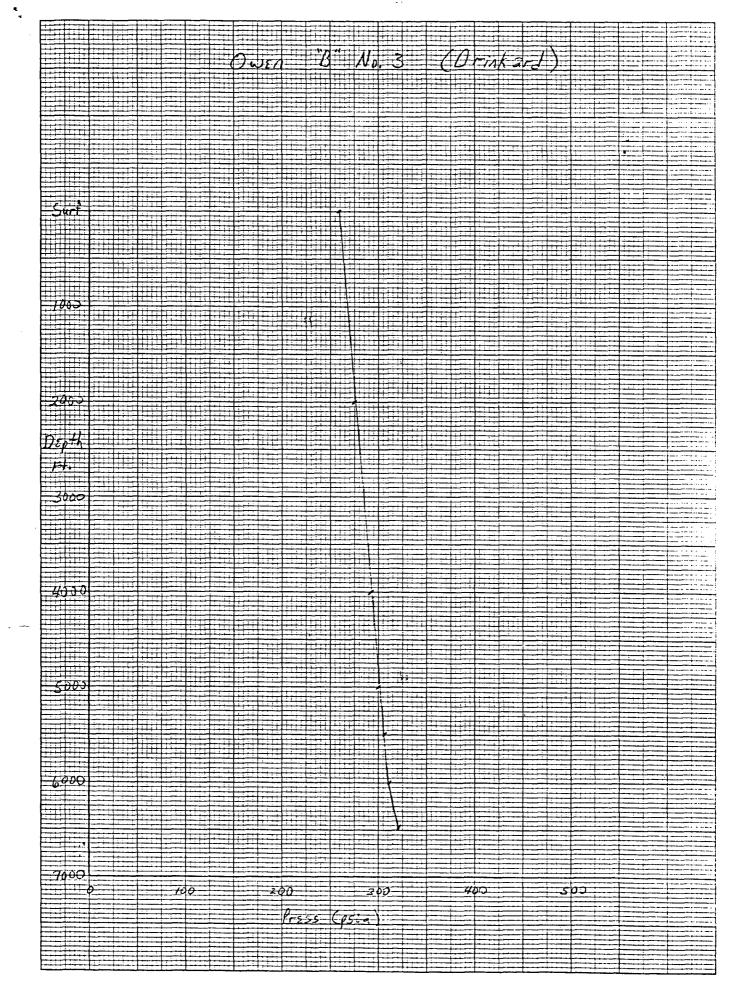


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SUBJECT: DUAL COMPLETION (GAS-OIL)

DECEMBER 21, 1953

ORDER NO. DC-36

THE APPLICATION OF STANOLIND OIL & GAS COMPANY FOR PERMISSION TO EFFECT DUAL COMPLETION OF ITS EVA OWEN 'B', WELL NO. 2, 1980 FEET FROM SOUTH LINE AND 440 FEET FROM WEST LINE OF SECTION 34, TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO.

ADMINISTRATIVE ORDER OF THE OIL CONSERVATION COMMISSION

Under the provisions of Order No. R-316, Rule 112-A, Stanolind Oil & Gas Company made application to the New Mexico Oil Conservation Commission on December 8, 1953, for permission to dually complete its Eva Owen 'B', Well No. 2, 1980 feet from the south and 440 feet from the west lines of Section 34, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, and

The Secretary-Director Finds:

(1) That application has been duly filed under the provisions of Sub-section 'c' of Rule 112-A of the Commission's Rules and Regulations;

(2) That satisfactory information has been provided that all operators of offset acreage have been duly notified; and

(3) That no objections have been received within the waiting period as prescribed by said rule.

IT IS THEREFORE ORDERED:

That the applicant herein, Stanolind Oil & Gas Company, be and it hereby is authorized to dually complete its Eva Owen 'E', Well No. 2, located 1980 feet from the south and 440 feet from the west lines of Section 34, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, in such a manner as to permit production of gas from the Tubb formation of the Tubb Gas Pool through the annular space between the casing and the tubing, and oil from the Drinkard formation of the Drinkard Oil Pool through the tubing, by proper perforations and the installation of a suitable packer;

PROVIDED, HOWEVER, That subject well shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing, of gas, oil and gas, or oil produced from either or both of the separate strata,

PROVIDED FURTHER, That upon the actual dual completion of such subject well applicant shall submit to the District Office of the Commission at Hobbs, New Mexico, copies of Oil Conservation Commission Form C-103, Form C-104, Form C-110 and Form C-122 outlining the information required on those forms by existing Rules and Regulations, and two copies of the electric log of the well, if available.

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used, at any time, as may be required by the

4. H

Order No. DC-36

-2-

Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil ratio thereof determined, and

PROVIDED FURTHER, That the operator-applicant shall make any and all tests, including segregation tests, but not excluding other tests and/ or determinations at any convenient time and in such manner as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of the Commission and by representatives of offset operators, if any there be, at their election, and the results of each test properly attested to by the applicant herein and all witnesses, and shall be filed with the Commission within ten days after completion of such test, and

FROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas-oil ratio and reservoir pressure determination of each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED. That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing, the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

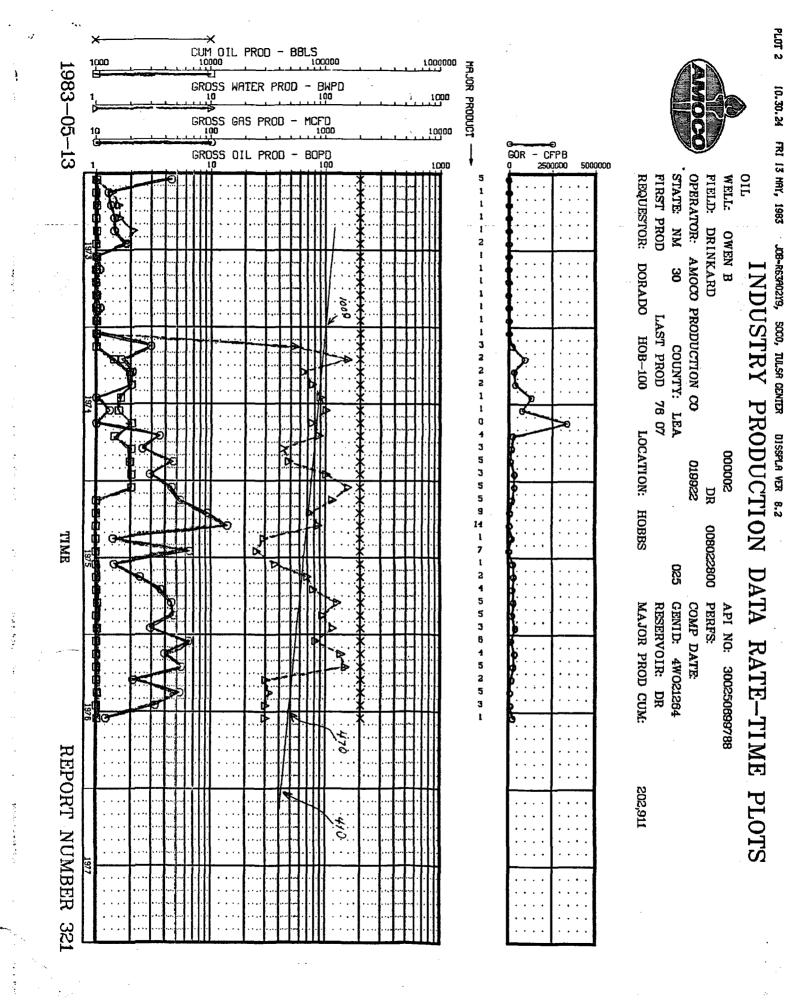
APPROVED at Santa Fe, New Mexico, on this 21st day of December, 1953.

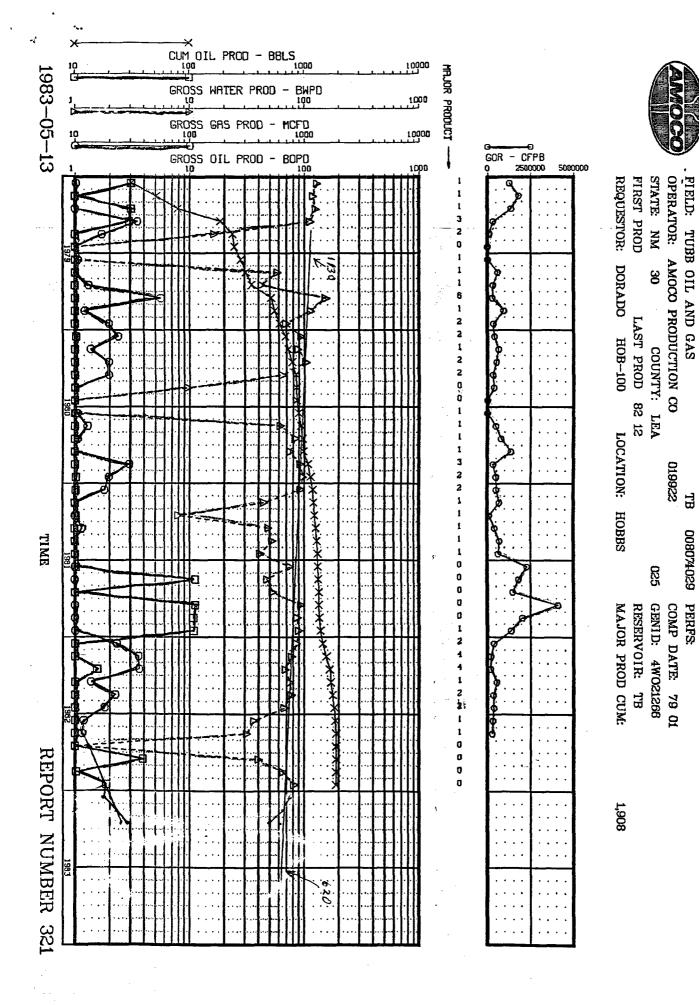
STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

usseer R. R. SPURALER, Secretary-Director

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PLOT 2

10.31.44 FRI 13 MAY, 1983

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INDUSTRY PRODUCTION DATA RATE-TIME PLOTS

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OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87501

January 19, 1970

GOVERNOR DAVID F. CARGO CHAIRMAN

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LAND COMMISSIONER ALEX J. ARMIJO MEMBER

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ENGR.

JAN 23 1970

SEC. FORT WORTH STATE GEOLOGIST A. L. PORTER, JR. ÉCRETARY - DIRECTOR

Pan American Petroleum Corporation P. O. Box 1410 Fort Worth, Texas 76101

Attention: Mr. D. L. Ray

Administrative Order No. DHC-31 State "C" Tract 13 Well No. 9 Unit F of Section 36, Township 21 South, Range 37 East, NMPM Tubb and Drinkard Pools

Gentlemen:

Reference is made to your recent application for an exception to Rule 303-A of the Commission Rules and Regulations for the subject dually completed well to permit the removal of the down-hole separation equipment and to commingle the production from both pools in the well-bore.

It appearing that the subject well qualifies for approval for such exception pursuant to the provisions of Rule 303-C, and that reservoir damage or waste will not result from such down-hole commingling, and correlative rights will not be violated thereby, you are hereby authorized to commingle the production as described above and Commission Order No. MC-1664, which authorized the dual completion and required separation of the zones, is hereby placed in abeyance.

In accordance with the provisions of Rule 303-C, total commingled oil production from the subject well shall not exceed 40 barrels per day and total water production from the well shall not exceed 80 barrels per day. The maximum amount of gas which may be produced daily from the well shall be determined by multiplying 2000 by top unit allowable for the Drinkard Pool.

January 19, 1970

Pan American Petroleum Corporation P. O. Box 1410 Fort Worth, Texas 76101

Administrative Order No. DHC-31

Assignment of allowable to the well and allocation of production from the well shall be on the following basis:

Juble Upper Pool: 55% Dimband Lower Pool: 45%

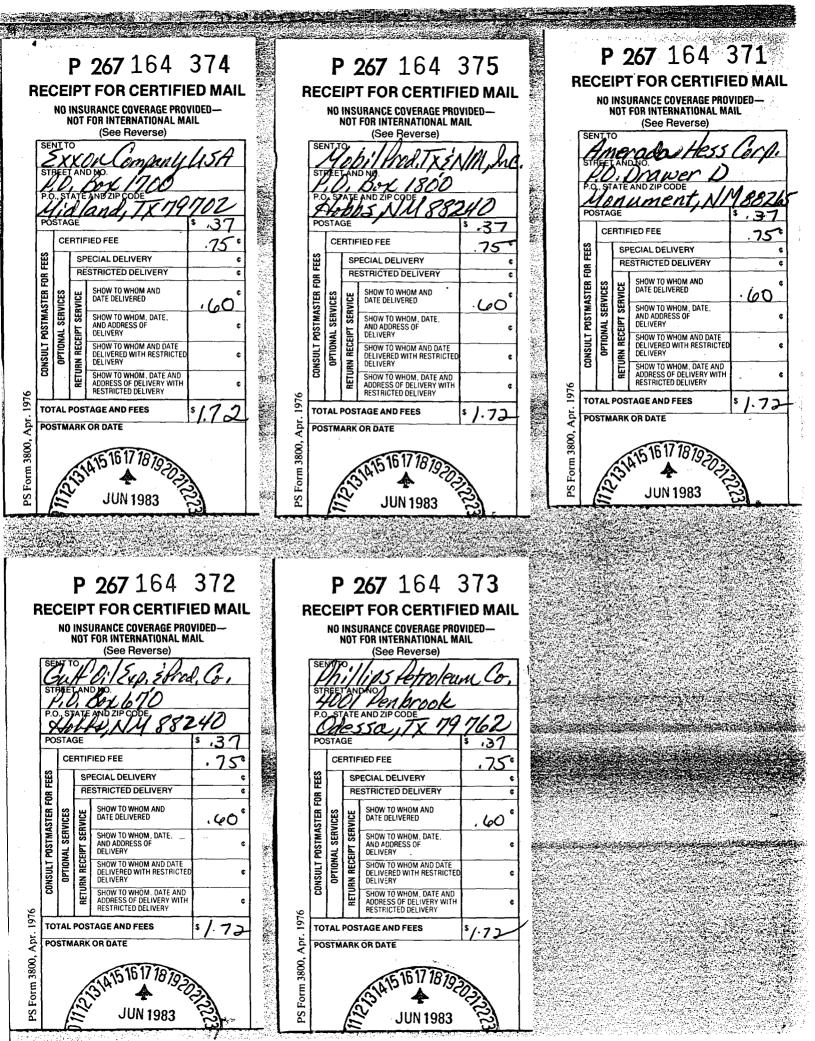
Pursuant to Rule 303-C 5, the commingling authority granted by this order may be rescinded by the Secretary-Director if, in his opinion, conservation is not being best served by such commingling.

Very truly yours, 62602 . K A. L. PORTER, Jr. Secretary-Director

ALP/JEK/og

cc: Oil Conservation Commission - Hobbs

-2-





Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

June 15, 1983

File: SJO-1068-WF

Re: Downhole Commingling of the Owen B No. 2 Drinkard and Tubb Oil & Gas Pools 1980' FSL x 440' FWL Section 34, T-21-S, R-37-E Lea County, New Mexico

JUL 1 5 1983 CONSERVATION DIVISION SANTA FE OIL

Gulf Oil Exploration and Production Company P. O. Box 670 Hobbs, NM 88240

Gentlemen:

As operator of the Owen B No. 2, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operation of this well.

If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Sante Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your records. Addressed envelopes have been provided for your convenience.

Yours very truly,

SA Okenowing

APPROVAL

Company: <u>Gulf Oil Corporati</u>on

By: J. R. Frank R. Travk Chief Proration Engineer Date: <u>July 13, 1983</u>

Attachment



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Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

June 15, 1983

JUN 28 1983 OIL CONSERVATION DIVISION SANTA FE

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File: SJO-1068-WF

Re: Downhole Commingling of the Owen B No. 2 Drinkard and Tubb Oil & Gas Pools 1980' FSL x 440' FWL Section 34, T-21-S, R-37-E Lea County, New Mexico

Amerada Hess Corporation P. O. Drawer D Monument, NM 88265

Gentlemen:

As operator of the Owen B No. 2, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operation of this well.

If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Sante Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your records. Addressed envelopes have been provided for your convenience.

Yours very truly,

SA Okensor way

APPROVAL Hess Corp Company \bigcirc

Attachment



Post Office Box 68



S. J. Okerson District Superintendent

June 15, 1983

File: SJO-1068-WF

Re: Downhole Commingling of the Owen B No. 2 Drinkard and Tubb Oil & Gas Pools 1980' FSL x 440' FWL Section 34, T-21-S, R-37-E Lea County, New Mexico

Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762

Gentlemen:

As operator of the Owen B No. 2, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operation of this well.

If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Sante Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your records. Addressed envelopes have been provided for your convenience.

Yours very truly,

Sollector

Company: PHILLIPS PETROLEUM, COMPANY Uni G. R. Smith Director of Reservoir Engineering

APPROVAL

Date: June 21, 1983

Attachment



Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

June 15, 1983

File: SJ0-1068-WF

Re: Downhole Commingling of the Owen B No. 2 Drinkard and Tubb Oil & Gas Pools 1980' FSL x 440' FWL Section 34, T-21-S, R-37-E Lea County, New Mexico

Mobil Producing Texas and New Mexico, Inc. P. O. Box 1800 Hobbs, NM 88240

Gentlemen:

As operator of the Owen B No. 2, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operation of this well.

If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Sante Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your records. Addressed envelopes have been provided for your convenience.

Yours very truly,

Stakecorris

APPROVAL Company: Mabis A. Momis Date:

Attachment :

OIL CONSERVATION DIVISION SANTA FE



1

Amoco Production Company (USA)

Post Office Box 68 Hobbs, New Mexico 88240

S. J. Okerson District Superintendent

June 15, 1983

File: SJ0-1068-WF

Re: Downhole Commingling of the Owen B No. 2 Drinkard and Tubb Oil & Gas Pools 1980' FSL x 440' FWL Section 34, T-21-S, R-37-E Lea County, New Mexico

Exxon Company U.S.A. P. O. Box 1700 Midland, TX 79702

Gentlemen:

As operator of the Owen B No. 2, Amoco hereby notifies you that we have applied to the NMOCD for Administrative Approval to downhole commingle the subject well. Commingling will enhance the economic operation of this well.

If you have no objections to the commingling, sign below and forward one copy to the NMOCD in Sante Fe, one copy to the NMOCD in Hobbs, one copy to this office, and retain one copy for your records. Addressed envelopes have been provided for your convenience.

Yours very truly,

Stakeron

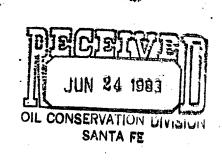
APPROVAL Company: By: 6 - 28 - 83 Date:

Attachment

1983 OIL CONSERVATION DIVISION SANTA FE

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DIL	CONSERVATION DIVISION	
	DISTRICT 1	



OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW HEXICO 87501

DATE	June 20, 1983
RE:	Proposed MC
	Proposed DHC X
	Proposed NSL
• •	Proposed NSP
	Proposed SWD
	Proposed WFX
	Proposed PMX

Gentlemen:

. I have examined the application for the:

Amoco Production Co.	Owne B	No. 2-L 34-21-37	
Operator	Lease and Well	1 No. Unit, S - T - R	

• .

and my recommendations are as follows:

Gas seems high to be commingled.----J.S.

Yours very truly,

/mc