



# THE PURE OIL COMPANY

SOUTHERN PRODUCING DIVISION

FIRST CITY NATIONAL BANK BUILDING • BOX 239 • HOUSTON 1, TEXAS • FA 3-9351

July 20, 1961

1314

Re: South Vacuum Unit,  
Lea County, New Mexico

Hon. E. S. Johnny Walker  
Commissioner of Public Lands  
State Land Office  
Santa Fe, New Mexico

Attention: Unit Division

Gentlemen:

Enclosed herewith are seven copies of plan of development of the South Vacuum Unit, Lea County, New Mexico, for the period July 25, 1961, to July 25, 1962.

If this plan of development, as outlined, meets with your approval, we will appreciate your indicating your approval on all copies and forwarding the same to the Oil Conservation Commission for its approval and then returning four copies to this office.

Yours very truly,

THE PURE OIL COMPANY

By

H. W. Bradshaw

HWB/jb  
Encls.

cc: Oil Conservation Commission  
State of New Mexico  
Santa Fe, New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

10/5/61

October 5, 1961

The Pure Oil Company  
P. O. Box 239  
Houston 1, Texas

Re: Plan of Development  
South Vacuum Unit, Lea  
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development covering the period July 25, 1961 to July 25, 1962 for the South Vacuum Unit, Lea County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Four approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,  
Secretary-Director

ALP/JEK/ig

cc: Commissioner of Public Lands  
Santa Fe, New Mexico

US Geological Survey  
Roswell, New Mexico

COPY

September 21, 1961

**The Pure Oil Company  
P. O. Box 239  
Houston 1, Texas**

**Re: South Vacuum Unit,  
Lea County, New Mexico**

**Gentlemen:**

The Commissioner of Public Lands has approved your application dated September 15, 1961 entitled "Plan Of Development Of The South Vacuum Unit", Lea County, New Mexico, July 25, 1961, to July 25, 1962.

By this approval the Commissioner does not necessarily agree with the opinion of The Pure Oil Company, to wit: "that the ultimate recovery of oil from the South Vacuum Unit will not be increased by drilling additional wells", and does not intend to indicate by the approval of this application that he will not require further drilling on this Unit at a later date.

We are handing five copies of this application to the Oil Conservation Commission for their consideration.

Very truly yours,

**E. S. JOHNNY WALKER  
COMMISSIONER OF PUBLIC LANDS**

**ESW/mmr/v  
cc: Oil Conservation Commission  
Santa Fe, New Mexico**

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# THE PURE OIL COMPANY

SOUTHERN PRODUCING DIVISION

FIRST CITY NATIONAL BANK BUILDING • BOX 239 • HOUSTON 1, TEXAS • FA 3-9351

September 15, 1961

Hon. E. S. Johnny Walker  
Commissioner of Public Lands  
State Land Office  
Santa Fe, New Mexico

Re: South Vacuum Unit  
Lea County, New Mexico

Dear Sir:

Referring to your letter of July 25 in which you declined to approve our plan of development for the South Vacuum Unit for the period July 25, 1961, to July 25, 1962, as submitted with our letter of July 20 and requesting that an acceptable plan be submitted.

We now submit for your consideration seven copies of a proposed plan which provides for no drilling development during the plan period but which sets forth engineering data which we feel will be of assistance to you in reaching a decision in the matter.

If this plan as now submitted is acceptable to you, we shall appreciate your indicating your approval on all copies and passing the same to the Oil Conservation Commission for its approval and then returning four copies to this office. If, however, any additional supporting data or discussion is needed or desired, we shall be glad to attempt to provide such data or to meet with you or your representatives at your convenience in order to arrive at a more complete understanding of the situation.

Yours very truly,

THE PURE OIL COMPANY

By

  
H. W. Bradshaw

HWB/jb

cc: Oil Conservation Commission  
State of New Mexico  
Santa Fe, New Mexico

PLAN OF DEVELOPMENT AND OPERATION  
OF THE  
SOUTH VACUUM UNIT, LEA COUNTY, NEW MEXICO,  
JULY 25, 1961, TO JULY 25, 1962.

THIS PLAN OF FURTHER DEVELOPMENT OF THE SOUTH VACUUM UNIT, executed and submitted this 15th day of September, 1961,

W I T N E S S E T H

WHEREAS, Union Oil Company of California, Shell Oil Company, Sinclair Oil & Gas Company, and The Pure Oil Company entered into a Unit Agreement dated September 6, 1957, recorded in Lea County, New Mexico, on November 20, 1957, in Book 126 at Page 337, which provides for the development and operation of the South Vacuum Unit Area, Lea County, New Mexico, and which Unit Agreement embraces the following described lands:

NEW MEXICO PRINCIPAL MERIDIAN, NEW MEXICO

Township 18 South, Range 35 East

Section 27: SE $\frac{1}{2}$   
Section 26: S $\frac{1}{2}$   
Section 34: NE $\frac{1}{2}$   
Section 35: All  
Section 36: SE $\frac{1}{2}$ , N $\frac{1}{2}$ SW $\frac{1}{2}$ , NW $\frac{1}{2}$

containing 1,680 acres, more or less; and

WHEREAS, the aforementioned Unit Agreement was supplemented by supplemental agreement dated February 25, 1958, approved by the Commissioner of Public Lands of the State of New Mexico on April 30, 1958, and further supplemented by supplemental agreement dated May 9, 1958, approved by the Commissioner of Public Lands of the State of New Mexico on June 30, 1958; and

WHEREAS, eight wells have been drilled on lands within said South Vacuum Unit, seven of which have been successfully completed as producers of unitized substances from the Devonian Formation, with one of said wells, The Pure Oil Company's No. 2-35, being also a producer of unitized substances from the McKee Formation. Production from the McKee Formation has been depleted and abandonment of said formation in said well was completed on August 13, 1960. Three of the seven Devonian wells are now producing water.

Thirteen producing wells have been completed in the South Vacuum Devonian Field, twelve of which produce from the main Devonian porosity, with the remaining well, Sinclair's 405 No. 1, producing from some erratic Devonian porosity above the main porosity. Seven of the twelve completions in the main Devonian porosity are now producing water. Daily water production of each well in the South Vacuum Devonian Field is shown on Attachment I hereto, a structure map contoured on top of the main Devonian porosity. As shown on said

structure map, either of the two possible new locations in the South Vacuum Unit would encounter the main Devonian porosity at a lower subsea depth than wells already producing significant quantities of water.

The producing mechanism in this field is a complete water drive. Oil recovery in water drive reservoirs is characterized by up-dip wells recovering oil from structurally lower portions of the reservoir. In the case of the South Vacuum Unit, the existing wells are completed high enough structurally and are spaced properly so that all of the recoverable oil under the Unit Area will be recovered by the presently existing wells. On Attachment I hereto it may be observed that most of the wells experiencing water production are located in the north half of the South Vacuum Devonian Field where well density and, consequently, fluid withdrawals are highest, one exception being a well at the south edge of the field and located near the original oil-water contact. It is the opinion of The Pure Oil Company, Operator of the South Vacuum Unit, that the ultimate recovery of oil from the South Vacuum Unit will not be increased by drilling additional wells, and is of the further opinion that additional wells in the South Vacuum Unit might be expected to increase the rates of fluid withdrawal and water encroachment.

Considering the performance of the South Vacuum Devonian Field as a whole, and the reservoir engineering principle that a uniform rate of water encroachment will displace oil most efficiently, resulting in maximum recovery under primary producing conditions, The Pure Oil Company, as Unit Operator, believes that any future development drilling during the plan year July 25, 1961, to July 25, 1962, will not only fail to increase the ultimate recovery, but will provide conditions that could decrease ultimate oil recovery.

THEREFORE, The Pure Oil Company, Operator of the South Vacuum Unit under the aforementioned Unit Agreement as supplemented, submits to the Commissioner of Public Lands of the State of New Mexico and the Oil Conservation of the State of New Mexico this request that no further drilling development on said South Vacuum Unit be required during the period July 25, 1961, to July 25, 1962.

IN WITNESS WHEREOF, this plan is executed the day and year first hereinabove written, and respectfully submitted for approval.

THE PURE OIL COMPANY

By James L. Morris  
Manager, Southern Producing Division

UNIT OPERATOR - SOUTH VACUUM UNIT,  
LEA COUNTY, NEW MEXICO

APPROVED THIS 21st DAY OF  
September, 1961.

COMMISSIONER OF PUBLIC LANDS,  
STATE OF NEW MEXICO

By *C. Walker*

APPROVED THIS \_\_\_\_\_ DAY OF  
~~OCT 7 - 5, 1961~~, 1961.

OIL CONSERVATION COMMISSION OF  
THE STATE OF NEW MEXICO

By *A. B. Porter, Jr.*