

EXHIBIT

PAN AMERICAN PETROLEUM CORPORATION
APPLICATION FOR PERMISSION FOR AN OIL-OIL
DUAL PRODUCER IN UNDESIGNATED BONE SPRINGS
AND WOLFCAMP POOLS AT THE GREENWOOD UNIT NO. 3
LOCATED IN UNIT H, SEC. 27, T-18-S, R-31-E,
NEW MEXICO OIL CONSERVATION COMMISSION
EXAMINER HEARING CASE NO. 2270
MAY 4, 1961

DISCUSSION

Pan American Petroleum Corporation respectfully requests that the New Mexico Oil Conservation Commission grant permission to dually complete its Greenwood Unit No. 3 as an oil-oil dual in Undesignated Bone Springs and Wolfcamp Pools in Eddy County, New Mexico.

The Pan American Greenwood Unit No. 3 was originally completed as a Shugart Siluro-Devonian pool gas producer on July 29, 1958. Initial production was 1200 MCF X 79 barrels of 59° condensate in 24 hours. The initial bottom hole pressure at that time was 5200 psi at a datum plane of -8341' subsea. Average production of the Devonian gas zone in December, 1960, was approximately 900 MCF and 60 barrels of condensate per producing day.

In January, 1961, the Devonian zone was temporarily abandoned in the Greenwood Unit No. 3 and the well was recompleted as a dual producer in Undesignated Bone Springs and Wolfcamp Pools. Initial flowing potential of the Bone Springs on April 6, 1961, was 238 barrels of 41° API gravity oil and no water in 24 hours with a GOR of 755. Initial flowing potential of the Wolfcamp on February 28, 1961, was 167 barrels of 41.6° API gravity oil plus 17 barrels of acid water in 20 hours with a GOR of 1166. The Bone Springs is now shut-in pending the results of this hearing.

Attachment I, a plat of the area, shows the location of the Greenwood Unit No. 3 and points out by means of an arrow the well under consideration.

Attachment II consists of a diagrammatic sketch showing the mechanical details of this dual installation. Each pool will be produced through a separate nominal 2" I.D. tubing string. The long tubing string (Wolfcamp) is latched into the Baker Model "B" Packer at 8220' and the short string is hanging free from the dual tubing head.

It is believed that this mechanical installation is well suited to safely and efficiently produce Bone Springs crude and Wolfcamp crude from this well bore through separate tubing strings.

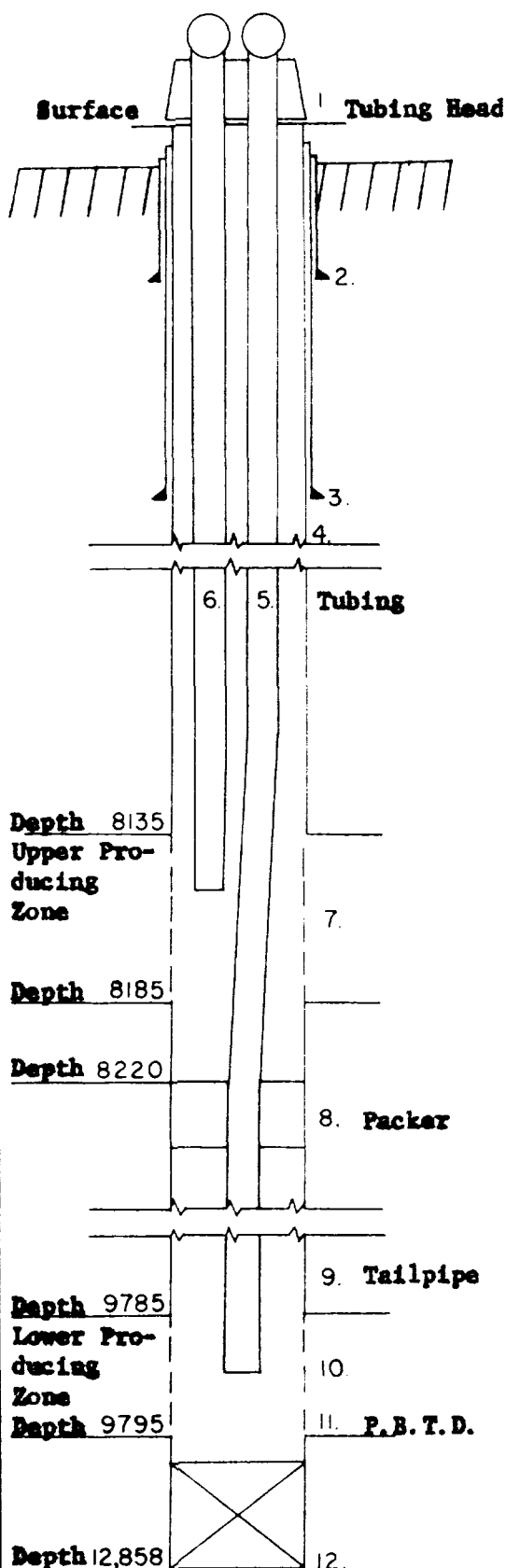
Attachment III is a log showing Bone Springs and Wolfcamp intervals in the Greenwood Unit No. 3.

Attachment IV presents a copy of Pan American's application for dual completion dated April 14, 1961. Copies of this application were originally furnished the Commission by Pan American's letter of April 14, 1961, File: JET-4125-986.510.1.

As evidence of vertical separation between the Bone Springs and Wolfcamp zone please refer to Attachment III, a log of the well. As can be seen on this log, thick impermeable shales are indicated in several sections between the producing intervals. In addition, sample analysis indicate the remaining material to be primarily impermeable limestone.

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Lease and Well No. Greenwood Unit No. 3

Field Undesignated Wolfcamp & Bone Springs

State New Mexico

DUAL COMPLETION EQUIPMENT

ITEM	DESCRIPTION, MAKE AND SIZE
1.	Dual tubing head
2.	Surface casing: 16" 42.8# CSA 691' with 1500 sacks.
3.	Intermediate casing: 10 3/4" 45.5# CSA 6385' with 2011 sacks.
4.	Oil casing: 7" 23 & 26# CSA 12,858' with 400 sacks. Top cement 5200'.
5.	✓ Tubing: 2" 4.7# EUE landed in packer set at 8220'.
6.	✓ Tubing 2" 4.7# EUE with turned down collars landed at 8162', swinging.
7.	Upper Perforations: Bone Springs perforated from 8135' to 8185'.
8.	Packer: Baker Model "D" drillable packer set at 8220'.
9.	✓ Tailpipe: 2" 4.7# EUE landed at 9765'
10.	Lower Perforations: Wolfcamp perforated from 9785' to 9795'.
11.	Plug back total depth: 9800'
12.	Total depth: 12,858'

DUAL COMPLETION SKETCH

PAN AMERICAN PETROLEUM CORPORATION

ATTACHMENT II

NEW MEXICO OIL CONSERVATION COMMISSION

SANTA FE, NEW MEXICO

7-3-58

APPLICATION FOR DUAL COMPLETION

Field Name	County	Date
Undesignated	Eddy	April 12, 1961
Operator	Lease	Well No.
Pan American Petroleum Corp.	Greenwood Unit	3
Location	Section	Range
H	27	31-E
or Well		
	18-8	

1. Has the New Mexico Oil Conservation Commission heretofore authorized the dual completion of a well in these same pools or zones within one mile of the subject well? YES ☐ NO ☒

2. If answer is yes, identify one such instance: Order No. _____ Operator, Lease, and Well No. _____

3. The following facts are submitted:

	Upper Zone	Lower Zone
a. Name of reservoir	Bone Springs	Wolfcamp
b. Top and Bottom of Pay Section (Perforations)	8135'-8185'	9785'-9795'
c. Type of production (Oil or Gas)	Oil	Oil
d. Method of Production (Flowing or Artificial Lift)	Flowing	Flowing

4. The following are attached. Please mark YES or NO.

- Yes** a. Diagrammatic sketch of the Dual Completion, showing all casing strings, including size and setting top of cement; perforated intervals; tubing strings, including diameters and bottom depth; location and top of packers; and side door hokes, and any other information as may be pertinent.
- Yes** b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
- No** c. Waivers consenting to such dual completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
- Yes** d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be available as provided by Rule 112-3-1.)

5. List all offset operators to the lease on which this well is located together with their complete mailing address.

Not Applicable.

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ☐ NO ☐ If answer is yes, give date of such notification _____

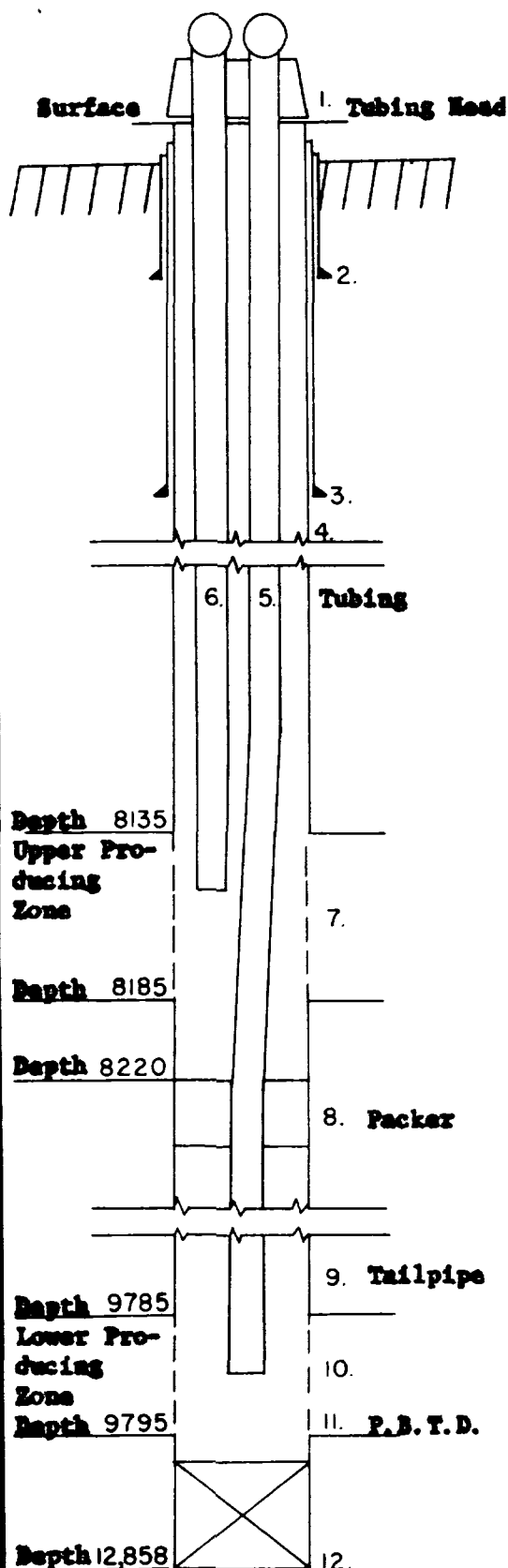
CERTIFICATE: I, the undersigned, state that I am the **District Superintendent** of the **Pan American Petroleum Corporation** (company), and that I am authorized by said company to make this report and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and conform to the best of my knowledge.

Neil S. Whitmore
Neil S. Whitmore Signature

* Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed dual completion will result in an unorthodox well location and/or a non-standard perforation unit in either or both of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

Case 2220



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