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R. S Christie

Case #. 5

HEARING ON APPLICATION OF AMERADA PETROLEUM CORPORATION SEEKING FIELD RULES AND AN EQUITABLE ALLOWABLE, BRONCO WOLFCAMP FIELD, YOAKUM COUNTY, TEXAS AND LEA COUNTY, NEW MEXICO HEARD IN AUSTIN, TEXAS 4-13-55 and SANTA FE, NEW MEXICO 4-20-55

Before the Railroad Commission of Texas
Oil and Gas Division
and
The Oil Conservation Commission of New Mexico

ILLEGIBLE

TESTIMONY IN SUPPORT OF AMERADA PETROLEUM CORPORATION'S APPLICATIONS FOR ORDERS ESTABLISHING PRORATION UNITS IN THE BRONCO SILURO-DEVONIAN POOL, LEA COUNTY, NEW MEXICO

The Bronco Siluro-Devonian Pool is located in Lea County, New Mexico and Yoakum County, Texas. Referring to Exhibit "A" it will be noted the east line of Sections 11 & 14 coincides with the boundary line between New Mexico and Texas, and because of the adjustment of the survey on the east line the SE/4 of Section 11 contains only 131.07 acres and the NE/4 of Sections 14 contains only 128.20 acres. This deficiency in acreage results in Lots of less than 40 acres being formed along the boundary line in New Mexico.

The Schenck No. 1 well is located in Lot No. 1, Section 14, T13S, R38E and it is proposed to unitize Lot No. 1 containing 24.46 acres with 15.54 acres of Lot No. 2 to form a 40 acre proration unit. The Ward No. 2 well is located in Lot No. 3, Section 11, T13S, R38E containing 25.89 acres. It is proposed to form three proration units of equal size, each unit to contain 43.69 acres, all contained within the boundary of the SE/4 of Section 11. All the acreage contained in this quarter section is one leasehold and therefore requires no unitization. All proration units herein proposed are outlined in red on Exhibit "A".

Exhibit "B" is a map of the Bronco Area showing contours drawn on the top of the Devonian formation. Our inspection of Exhibit "B" indicates that all the units here proposed lie within the productive limits of the pool.

Exhibit "C" is a tabulation of pertinent data pertaining to the three wells now completed on three of the four units here proposed. Of particular significance is the bottom-hole pressures and potential tests,

which indicate good communication within the reservoir and high productivity.

Exhibits "D" & "E" are copies of productivity index reports on Schenck No. 1 and Ward No. 2. These tests further substantiate the high productivity of the wells and indicate in my opinion that one well will drain an area much larger than 40 acres.

Respectfully submitted,

R. S. Christie

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4/1/54

MER DATA ON BRONCO (SILURO-DEVONIAN) FIELD, YOAKUM COUNTY, TEXAS, AND LEA COUNTY, NEW MEXICO.

1. The physical properties of the reservoir rock. -- vugular, fractured, intergranular.
   a. Average porosity -- 5.8%
   b. Average permeability -- 148 MD
   c. Average oil and interstitial water saturations -- No data

2. The structural features of the reservoir.
   a. Cross sections -- None
   b. Structure maps -- Exhibit "A"
   c. Water-oil and gas-oil contacts -- W-O (-8105'), G-O None
   d. Ratio of gas-cap volume of oil-zone volume -- No gas cap
   e. Average net effective oil pay thickness -- 266' gross net 186 (70%)
   f. Dip of producing zone -- steep

3. The characteristics of the reservoir fluids
   a. Average gravity of oil and gas -- oil 44° API, Gas-not determined
   b. Salinity of water -- 54,000 PPM - Chlorides
   c. Oil-gas saturation pressure or bubble point, formation volume factor, viscosity, and gas solubility at various pressures -- saturation pressure less than 800#

4. Pressures and temperatures.
   a. Original reservoir pressure and temperature -- 4789# @-8000' -172°
   b. Periodic subsequent area or volumetrically weighted average reservoir pressures -- 10-1-53 (4769#) 2-15-54 (4775#) / 6#
   c. Well conditions at time of subsurface pressure measurements -- SI 48 hrs.
   d. Productivity index, build up, and interference tests -- 1.55 to 42.37
   e. Isobaric maps -- None

5. Statistical data.
   a. Oil Production -- Exhibit D
   b. Average weighted gas-oil ratios -- 137 cu.ft./bbls
   c. Water production (%liquids) -- less than 2%
   d. Number of flowing, artificial lift, and abandoned wells -- 11-Flow, 1-Pump
   e. Well completion methods and results of workovers or other mechanical repairs and changes -- set casing on top of pay or through pay, perforate and acidize if necessary
   f. Proven oil acreage both developed and undeveloped -- 491 developed, 480 undeveloped
   g. Average well density in acres per well -- 40 acres
   h. Volumes of gas flared or vented -- 245 MCF daily
   i. Volumes of gas, air, or water injected into the reservoir -- None
   j. % depletion of reservoir -- New
   k. Gas-oil ratio and water percentage maps -- None

6. Individual well problems.
   a. Water coning -- None
   b. Gas coning -- None
   c. Sand production -- None
   d. Casing leaks -- None

7. General reservoir mechanics
   a. Effectiveness of water drive -- Indications of very effective
   b. Effectiveness of gas-cap expansion drive -- None
   c. Effectiveness of segregation or gravity drive -- Not known
   d. Relative permeability data -- None
   e. Capillary pressure data -- None
   f. Material balance calculations -- None

8. Recommendations and reasons therefor.