THE EAST TEAPOT FIELD,
NATRONA COUNTY, WYOMING

By

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LOCATION

The East Teapot Field, approximately one mile wide and five miles long lies along the eastern flank of the Teapot Dome anticline, Natrona County, Wyoming. It is approximately forty-two miles by road north of Casper, Wyoming in the southwestern part of the Powder River Basin. Please refer to Figure 1 for the relationship of this area to other nearby fields.

GENERAL HISTORY OF TEAPOT DOME

The first production at Teapot Dome was from the Shannon sandstone in the Tarrent well in the N¼ NW¼ sec. 10, T. 38 N., R. 78 W., in 1914. This was probably the first well drilled on the Teapot structure; it was drilled to a total depth of 425 feet and reportedly recovered 12 barrels of oil per day from the Shannon sandstone at depths between 325 and 425 feet. The well was subsequently abandoned and no production figures are available. On April 30, 1915, by presidential order, certain lands on the Teapot Dome were set aside for the use of the Navy as Petroleum Reserve Number 3. The Naval Reserve was leased to the Mammoth Oil Company on April 7, 1922, a few days after the completion of a 2,000-barrel well in the Salt Creek field about a quarter of a mile north of the Reserve. An active development program was undertaken by the Mammoth Oil Company resulting in over sixty wells on production by early 1924. These wells were completed in fractured shale above the 1st Wall Creek sand, the 2nd Wall Creek sand, or the 3rd Wall Creek sand. Shows only were reported in the Shannon.

Special counsel for the government filed suit to have the Mammoth Oil Company’s lease canceled because of irregularities in the leasing procedure, and a receivership was created March 13, 1924, to maintain the status quo within the Reserve pending decision of this suit. The Supreme Court of the United States ordered the cancellation of the lease to Mammoth on October 10, 1927. The receivers shut in the wells and returned the Reserve to the Navy Department on December 29, 1927. The Navy drilled three deep tests in 1951-1958 and proved both the Muddy and Tensleep sands productive over a limited area. There has been no other development in the Reserve except as outlined above and no production since December 19, 1927.

EAST TEAPOT HISTORY

Production was established in the East Teapot area in fractured shale above the 1st Wall Creek by 1922 in the Ostler #1 Delong Government, SW¼ NW¼ NE¼ sec. 2, T. 38 N., R. 78 W., adjacent to the Reserve. This well was completed for 250 barrels of oil per day. It is still producing 7 barrels of oil per day. The Staley Syndicate drilled a dry hole during 1922 into the Shannon sand in the SW¼ NW¼ NW¼ sec. 35, T. 39 N., R. 78 W. The Margelexon Government #1 Government, W¼ NE¼ NE¼ sec. 11, T. 38 N., R. 78 W., was completed from fractured shale in 1927 for 297 barrels of oil per day. This well is still producing about 10 barrels of oil per day.

The three wells mentioned above were the only wells drilled in East Teapot until 1929 when Wyalta Oil drilled two Shannon producers out of five tests in the SE¼ NE¼ sec. 11, T. 38 N., R. 78 W. The two producers were completed for 10 and 16 barrels of oil per day from the Shannon sand at depths from 967-1106 and 1045-1163 feet, respectively. The wells were abandoned in 1941. Four tests were drilled during the period 1950-1953. One of these was completed as a well in the Shannon sand, but the hole was junked.

RECENT ACTIVITY

The Bertagnole #1 Government, NW¼ SE¼ NE¼ sec. 11, T. 38 N., R. 78 W. was reported abandoned in July, 1954, at a total depth of 2605 feet in the lower Wall Creek. A good show of oil was noted in the Shannon at a depth of 935-955 feet and the decision was made to plug back and sandfrac. This well was completed after frac in the Shannon sand in August, 1954, but was not pumped until October, 1954, when it had an initial production of 15 barrels of oil per day. Holden and Jarrett drilled a well in the SW¼ NE¼ SE¼ sec. 2, T. 38 N., R. 78 W., to test the Shannon. Their well was completed in April, 1955, for 80 barrels of oil per day after frac. Both Bertagnole and Holden and Jarrett have steadily developed their properties since that time.

Other operators entered the play in 1955 and by the end of the year there were nine wells producing from the Shannon sandstone, all updip as close to the Reserve as lease lines would allow. Production from these nine producing wells was not outstanding and ranged from 15 to 50 barrels of oil per day with water cuts as high as 75 per cent.

The Mark J. Davis #1 Parsons, SW¼ NE¼ SW¼ Sec. 26, T. 38 N., R. 78 W. was completed January 7, 1956, and touched off rapid development in this area. The #1 Parsons was drilled about 150 feet structurally downdip from the nearest producing well and was completed for about 110 barrels of oil per day cut about 15 per cent water.

There were 85 wells producing by the end of 1956 and 125 by the end of 1957. Seven wells have been completed so far in 1958 and there is now one cable tool rig operating to fill in the few remaining proven locations.

STRATIGRAPHY

The surface formations at East Teapot include the upper Cretaceous Parkman sand and Steele shale. The following tabulation lists these and other Cretaceous formations that have been penetrated in drilling at East Teapot:

1Consulting geologist, Casper, Wyoming. The author takes full responsibility for the ideas presented, but thanks the many people and companies who made this article possible. Particular thanks are due Mr. Ferguson and Mr. Larson of the U.S. G.S., Mr. Merton of the M. K. M. Oil Company, Mr. Holden of Holden and Jarrett, and Mr. Frelighausen of Trigood Oil Company.