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DEVELOPMENT OF GLENROCK AREA FIELDS, CONVERSE COUNTY, WYOMING

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In 1916, shallow Shannon Formation oil was discovered on an "oil claim" on University of Wyoming Land Grant acreage near Parkerton about 20 miles east of Casper. This discovery would become the huge Big Muddy field, rivaling the Salt Creek field in size and activity. Development soon included the Frontier 2nd Wall Creek, and Dakota Formations. Since then, the Glenrock fields have produced more than 140 MMBO. Revenues from Big Muddy State leases allowed University of Wyoming to survive the depression and construct several buildings at a time when their very existence was in doubt. Poor early-day production practices led to substantial waste. Conoco built the Glenrock refinery in 1925 to process crude from Big Muddy field and other areas.

A deep test to the Madison Formation in 1935 found no significant shows below the Dakota. By 1943, the Big Muddy field was essentially depleted after having produced about 30 MMBO. Dakota and Muddy Formation production was discovered in the South Glenrock fields around 1950, and water flooding began in the 1960s. Encouraged by a 1973 low-tension pilot test at Big Muddy, Conoco and DOE teamed up for an unsuccessful Frontier surfactant flood in the 1980s.

In 2007, Rancher Energy purchased the Big Muddy, South Glenrock and South Cole Creek fields for CO_2 tertiary recovery. Nitec LLC estimated that CO_2 flooding could potentially recover in excess of 10,000 b/d each from South Glenrock and Big Muddy fields. Rancher acquired a take-or-pay CO_2 contract and conducted pipeline and facility FEED studies. In 2009 Rancher attempted to join forces with Elk Petroleum, whom they saw as being likely to get a better CO_2 contract.

In 2011, Queensland-based Linc Energy purchased the fields from a reorganized Rancher, which was recovering from a hostile takeover. Best known for its underground coal gasification (UCG) technology, Linc hoped to conduct miscible floods using waste CO_2 from their UCG projects in the Powder River Basin. Linc acquired an interruptible CO_2 contract from Exxon, built a line tap, and planned to truck CO_2 from Jeffrey City to Glenrock. Linc planned CO_2 injection rates of up to 30 MMCFD after completion of the CO_2 injection infrastructure. In 2011, Linc unsuccessfully attempted a Dakota CO_2 cycling (huff-n-puff) project in South Glenrock using 500 tons of CO_2.

Linc has lost interest in the Glenrock fields, and has closed their Wyoming and Denver offices. The fields are under caretaker status while Linc attempts to market the properties. In what may be a sign of the future for the Glenrock area, Chesapeake is developing a Shannon horizontal resource play down dip from conventional production in the Cole Creek South field in the Barron Flats Unit.