Helium in southern Black Mesa Basin


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The Black Mesa basin has many possibilities for commercial oil and gas production. More detailed surface and subsurface studies are expected to outline local areas that will prove commercially productive.

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Data were freely used from the references cited; however, inasmuch as the writers exercised their own judgment and interpretation in controversial cases, they accept full responsibility for the final form of the material.

REFERENCES


Gregory, H. E., 1927. The amount of helium is reported by Anderson and Hinson, 1951 (1951) to be only a little more than one per cent with an open-flow potential of 100 MCFPD. In 1950 the Macie No. 1 test was drilled to the southwest of Navajo by the Kipling Petroleum Company. This test encountered some helium-bearing nonflammable gas in the Chiricahua formation, and a relatively large flow in the uppermost part of the Coconino sandstone at a depth of 1032 feet (Heindl, 1952). Heindl also reports that the gas, principally nitrogen (89%), contained about 8% helium and about one per cent each of carbon dioxide and hydrocarbons. The eight per cent helium content ranks favorably with known occurrences of helium in the world. Natural gasses bearing about two per cent helium are processed in Kansas and Texas. The high nitrogen content is characteristic of relatively high helium-bearing natural gasses. This well is reported to have had a 24,000 MCFPD potential four weeks after completion with a casing head pressure of 98 psi. It is said to have flowed unrestricted for an eight-month period.

The Macie Nos. 1 and 2 wells were acquired by Kerr-McGee Oil Industries who in the past several years have drilled five more wells in the same area. Detailed information regarding these later wells is not available although it is known that the Coconino sandstone was encountered from between 800 and 1100 feet. To date the refining and marketing of helium is completely controlled by the federal government. There are signs, however, that the U. S. Bureau of Mines, the agency within which this authority rests, may relinquish all or part of this operation to private industry. Facilities for the refining of helium are not available in this region, but presumably adequate reserves will eventually lead to the building of a helium plant. The Bureau of Mines officials foresee the need for at least a dozen new plants in the near future to handle the industrial demands for helium.

REFERENCES
