

Assessment of Undiscovered Oil and Gas Resources of the Appalachian Basin Province, 2002 - An Overview

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The U.S. Geological Survey (USGS) completed an assessment of the technically recoverable undiscovered hydrocarbon resources of the Appalachian Basin Province in 2002. In general, the province extends along and west of the Appalachian mountain ranges from western New York to Alabama. The assessment was based on six major Total Petroleum Systems (TPS), which include strata that range in age from Cambrian to Pennsylvanian. Two of these petroleum systems, the Conasauga-Rome/Conasauga TPS and Sevier-Knox/Trenton TPS were classified as containing conventional resources of hydrocarbons. In addition, the Utica-Lower Paleozoic TPS, and Devonian Shale-Middle and Upper Paleozoic TPS, contain both conventional and continuous resources. Two others, the Carboniferous Coal-bed Gas, and Pottsville Coal-bed Gas TPSs were assessed as containing only continuous (unconventional) resources.

The results of the assessment were reported as fully risked fractiles (F95, F50, F5 and the Mean), with the fractiles indicating the probability of recovery of the assessment amounts. Products reported (USGS Fact Sheet FS-009-03) were oil (millions of barrels of oil, MMBO), gas (billions of cubic feet of gas, BCFG), and natural gas liquids (millions of barrels of natural gas liquids, MMBNGL). The mean estimates for technically recoverable undiscovered hydrocarbons in the assessed petroleum systems are: 54.26 MMBO, 70,289.93 BCFG, and 872.47 MMBNGL. All of the oil was assessed as a conventional resource. Continuous resources assessed include 833.19 MMBNGL and 65,978.97 BCFG. The greatest potential is in the areas of the continuous resources of the Devonian Shale-Middle and Upper Paleozoic TPS, which includes recent discoveries in the Marcellus Shale.