# Assessment of Appalachian Basin Oil and Gas Resources: Devonian Shale-Middle and Upper Paleozoic Total Petroleum System 

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Shaded relief map of the north-central part of the Appalachian Mountains.

The U.S. Geological Survey (USGS) recently completed an assessment of the technically recoverable undiscovered hydrocarbon resources of the Appalachian Basin Province. The assessment province includes parts of New York, Pennsylvania, Ohio, Maryland, West Virginia, Virginia, Kentucky, Tennessee, Georgia and Alabama. The assessment was based on six major petroleum systems, which include strata that range in age from Cambrian to Pennsylvanian. The Devonian Shale-Middle and Upper Paleozoic Total Petroleum System (TPS) extends generally from New York to Tennessee. This petroleum system has produced a large proportion of the oil and natural gas that has been discovered in the Appalachian basin since the drilling of the Drake well in Pennsylvania in 1859.

For assessment purposes, the TPS was divided into 10 assessment units (plays), 4 of which were classified as conventional and 6 as continuous. The results were reported as fully risked fractiles (F95, F50, F5 and the Mean), with the fractiles indicating the probability of recovery of the assessment amount. Products reported 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 TPS are: 7.53 MMBO, 31,418.88 BCFG ( 31.42 trillion cubic feet) of gas, and 562.07 MMBNGL.

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