

Assessment of Undiscovered Oil and Gas Resources of part of the North Cuba Basin Province, Cuba

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The U.S. Geological Survey (USGS) recently assessed the undiscovered oil and gas potential of part of the North Cuba Basin Province of northwestern Cuba. The North Cuba Basin Province, as defined for this assessment, is bounded on the north and northeast by the U.S.-Mexico border, on the west and southwest by the Yucatan Platform, and on the southeast by the onshore edge of the fold belt in Cuba. The USGS defined an Upper Jurassic-Neocomian Total Petroleum System (TPS) and assessed a Fold and Thrust Belt Assessment Unit within the TPS. Other possible assessment units within the Upper Jurassic-Neocomian TPS, including the Foreland Basin Assessment Unit and the Yucatan Platform Assessment Unit, were defined but not assessed in this study. The geologic elements of the assessment unit include 1) Upper Jurassic and Cretaceous shelf carbonate reservoirs with good to excellent reservoir properties, 2) Upper Jurassic and possibly Neocomian organic-rich marine shale source rocks with up to 14 percent total organic carbon, 3) intraformational mudstone and diagenetic seals, 4) maturation of organic-rich shales related to burial beneath thrust sheets and foreland-basin sediments, and 5) structural traps related to the fold and thrust belt that formed in Late Cretaceous-Eocene time. The USGS estimated a mean of 480 million barrels of undiscovered oil (with 590 billion cubic feet of associated gas) and a mean of 35 million barrels of natural gas liquids. Modeling implies that the largest expected undiscovered field in this assessment unit might be about 90 million barrels of oil.
