Developing the Petroleum Resources of Bering Sea—Technology, Economics, and Geology

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With estimated petroleum resources as high as 52 billion bbl of oil equivalent, the Bering Sea sedimentary basins together rank third in the nation's outer continental shelf (OCS) areas, behind only the Beaufort Sea and Gulf of Mexico in oil and gas potential.

For the first four Bering Sea outer continental shelf lease sales—Norton Sound (No. 57), St. George Basin (No. 70), North Aleutian Shelf (No. 75), and Navarin Basin (No. 83)—petroleum technology assessments have identified probable development (engineering) strategies (platform types, transportation options) and evaluated the economics of these engineering strategies and related geologic (reservoir), environmental, and locational parameters. The economic model has determined: (1) the minimum field size needed to justify development under several oil and gas production strategies; (2) the minimum required price to justify development given field size and selected production technology; and (3) the unit costs of production and transportation.

The economics of petroleum development in the Bering Sea will be very sensitive (among other factors) to water depth and distance from shore (pipeline investment). For the more distant from land, St. George and Navarin Basins, offshore loading may have to be seriously considered. Giant fields with favorable reservoir characteristics will have to be found to make development economically feasible.