graphic pinch-outs. The source potential of these deposits is low to moderate with an estimated total organic content of 0.3-0.6%. Both potential reservoir turbidite sands and clay seals exist in the accretionary complex. Heat-flow values inferred from indirect measurements place the oil-generation window at 3-6.5 km. An active water drive to sweep petroleum generated at depth into trapping structures is a likely consequence of the compaction and tectonic dewatering of the accreted trench sediment. Although prerequisite conditions exist for the formation and entrapment of oil and gas deposits in the Aleutian accretionary wedge, the actual existence of large deposits of petroleum in an active tectonic zone is impossible to predict.

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Evolution, Structure, and Petroleum Potential of Aleutian Subduction Complex

Along the southern margin of the Aleutian arc is a large accretionary wedge or subduction complex of offscraped terrigenous and pelagic sediments. We believe the wedge has been accumulating since the late Miocene onset of increased sediment supply to the Aleutian Trench, initiated by glaciation in Gulf of Alaska drainages. Sediment incorporated into the accretionary body was originally deposited in abyssal plain and trench axis settings, and contains both pelagic ooze and thick turbidite facies. Adjacent to the central Aleutian Islands, (long. 172°–177°W), a 300-km long mass of offscraped sediment (36,000 km^3) forms a tectonic wedge 6-8 km thick that contains many potential structural and stratigraphic traps for oil and gas accumulations. Seismic reflection profiles reveal antiforms, normal and reverse fault traps, and strati-