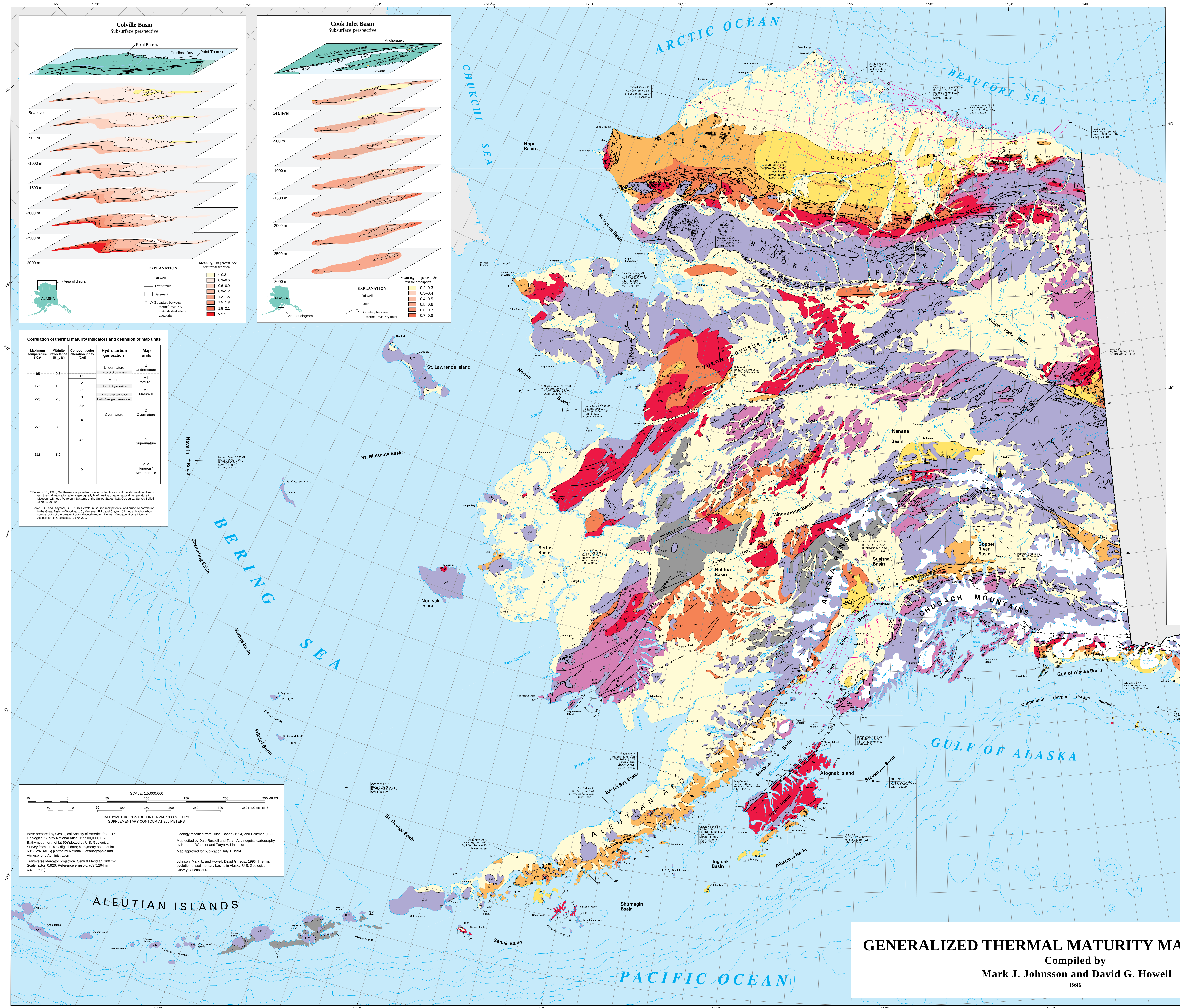
MISCELLANEOUS INVESTIGATIONS SERIES
MAP I-2494
BULLETIN 2142
PLATE 1



Correlation of thermal maturity indicators and definition of map units

Maximum temperature (°C)*	Vitrinite reflectance (R_o, %)	Conodont color alteration index (CAI)	Hydrocarbon generation[†]	Map units
		1	Undermature	U Undermature
95	0.6		Onset of oil generation	
		1.5	Mature	M1 Mature I
		2		
175	1.3		Limit of oil generation	
		2.5	Limit of oil preservation	M2 Mature II
		3	Limit of wet gas preservation	
220	2.0			
		3.5	Overmature	O Overmature
		4		
278	3.5			
		4.5		S Supermature
315	5.0			
		5		Ig-M Igneous/ Metamorphic

* Barker, C.E., 1988, Geothermics of petroleum systems: Implications of the stabilization of kerogen thermal maturation after a geologically brief heating duration at peak temperature *in* Magoon, L.B., ed., Petroleum Systems of the United States: U.S. Geological Survey Bulletin 1870, p. 26–29.

† Poole, F.G. and Claypool, G.E., 1984 Petroleum source-rock potential and crude-oil correlation in the Great Basin, *in* Woodward, J., Meissner, F.F., and Clayton, J.L., eds., Hydrocarbon source rocks of the greater Rocky Mountain region: Denver, Colorado, Rocky Mountain Association of Geologists, p. 179–229.

SCALE: 1:5,000,000

50 0 50 100 150 200 250 MILES

50 0 50 100 150 200 250 300 350 KILOMETERS

BATHYMETRIC CONTOUR INTERVAL 1000 METERS
SUPPLEMENTARY CONTOUR AT 200 METERS

Base prepared by Geological Society of America from U.S. Geological Survey National Atlas, 1:7,500,000, 1970. Bathymetry north of lat 60° plotted by U.S. Geological Survey from GEBCO digital data; bathymetry south of lat 60° (SYNBAPS) plotted by National Oceanographic and Atmospheric Administration

Transverse Mercator projection. Central Meridian, 100°W. Scale factor, 0.926. Reference ellipsoid, (6371204 m, 6371204 m)

Geology modified from Dusel-Bacon (1994) and Beikman (1980)

Map edited by Dale Russell and Taryn A. Lindquist; cartography by Karen L. Wheeler and Taryn A. Lindquist

Map approved for publication July 1, 1994

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GENERALIZED THERMAL MATURITY MAP OF ALASKA

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