

**BATHYMETRIC MAPS OF THE  
 KODIAK OUTER CONTINENTAL SHELF,  
 WESTERN GULF OF ALASKA**

by  
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These 13 bathymetric maps were constructed using high-resolution seismic data that were gathered primarily for use in the evaluation of engineering constraints in the Kodiak outer continental shelf area, where an oil and gas lease sale is scheduled for 1980. The maps accurately locate steep slopes where slumping or other phenomena related to the shape of the sea bottom may be of concern to future oil and gas exploration and development. They also provide a base onto which geologic interpretations may be mapped. They are not intended for navigational use.

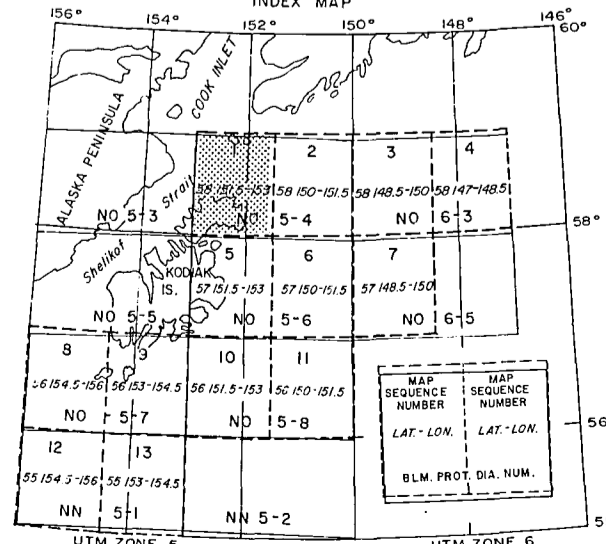
This bathymetric interpretation is the result of the compilation of two surveys: (1) BBN-Geomarine Services in 1975 (7696 km); and (2) Petty-Ray Geophysical in 1976-77 (approximately 10,000 km). The two surveys were planned to complement each other in areal coverage, but only the Petty-Ray navigation points and line numbers are shown on the maps. Data from BBN-Geomarine Services are proprietary and permission to use the data in this interpretation was granted by McClelland Engineers, Inc. All specifications of that survey must be acquired from them directly (McClelland Engineers, Inc./Geotechnical Consultants, 1804 South Savier Road, Oxnard, CA 93030). The Petty-Ray survey was acquired by means of an exclusive contract for the U. S. Geological Survey, and the data are available to the public as Sale 46, AK-15945 from the National Geophysical and Solar-Terrestrial Data Center (address: NOAA/EDS/NGDC, Code D-621, Boulder, CO 80302, telephone: (303) 499-1000, Ext. 6338).

The instrumentation used in the Petty-Ray survey consisted of a 1000-joule sparker, a 3.5 KHz profiler, and a side scan sonar. Water depth determination was from the profiler record except where data quality necessitated resorting to the lower resolution sparker. Depth was calculated assuming a constant acoustic velocity in water of 1480 meters per second. Navigational equipment used in the survey consisted of Miniranger (trademark of Motorola, Inc.), Raydist, and LORAN-C. Contract specifications called for monitoring the positions of the ships to within 30 meters, and the close agreement of the depths at line crossings indicates that the navigation approached this tolerance. One navigational mis-tie occurs at the intersection of lines 76-232 and 76-115. Corrections were made only for the configuration of the towed instruments. Data for making accurate tidal corrections were not collected as part of the contract requirements, and hence the vertical datum is mean sea level.

Three types of topographic features give rise to some unusual contours. The shapes of outcropping bedrock and/or fault scarps show up as linear features on bathymetric highs; lower amplitude sand waves occasionally give rise to tortuous contour lines. The seismic lines were intentionally oriented so as to be approximately orthogonal to the major structural trends. Closed contours are annotated with either an "H" or "L" to indicate a topographic high or low.

Superimposed on the map is the 4.8 km X 4.8 km grid which represents the tract boundaries from the Bureau of Land Management Protraction Diagram. For lease purposes the official protraction diagrams referred to in the index maps should be used.

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MAP PROJECTION UTM, CLARKE 1866 SPHEROID, ZONE 5, CM+153°  
 SCALE 1:250,000

BATHYMETRIC CONTOUR INTERVALS 5 METERS  
 (IND EX C. I. 25 METER)  
 DASHED CONTOURS INFERRED

DEPTH IN METERS BELOW SEA LEVEL  
 WATER SEISMIC VELOCITY 1480 M/Sec.

OFFSHORE PROJECTION SURVEY DATA COM-  
 PILED FROM BLM OUTER CONTINENTAL SHELF  
 OFFICIAL PROTRACTION DIAGRAMS. THE INFOR-  
 MATION ON THIS MAP IS NOT FOR NAVIGATION OR  
 FEDERAL LEASING PURPOSES.

BATHYMETRIC MAP, KODIAK SHELF  
 GULF OF ALASKA  
 OUTER CONTINENTAL SHELF

1979

THIS MAP HAS NOT BEEN EDITED FOR CONFORMITY  
 WITH U.S. GEOLOGICAL SURVEY STANDARDS.