



United States Department of the Interior

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MEMORANDUM

July 26, 1994

To: David W. Folger, BAMG, Woods Hole**From:** Gerald L. Shideler, BCRG, Denver *gls***Subject:** Cruise Report (R/V Pike 94-1)**Location:** Western Lake Erie Coastal Zone--Locust Point, Ohio, to Pointe Mouillee, Michigan.**Date:** June 14-27, 1994.**Purpose:** (1) To determine the Quaternary geologic framework of the western Lake Erie basin along the northwestern Ohio-southeastern Michigan coastal zone, using a high-resolution seismic reflection survey; (2) to determine the offshore areal distribution of coastal sand bodies for sediment-budget analysis, using a side-scan sonar survey and lakebed grab samples for ground-truth verification.**Vessel:** R/V Pike (NBS/USFWS 22-foot Boston Whaler from the NASA Plum Brook Station in Sandusky, Ohio).**Crew:** G. Shideler and B. Stone (Co-Chief Scientists), D. Nichols (Electronics Technician), B. Irwin (Navigator), K. MacKinnon (NAGT Student).**Equipment:** Geopulse Seismic System, Klein Side-Scan Sonar System, Differential GPS Navigation System, grab sampler.**Log:**

June 14--Mobilization of the R/V Pike in the City of Sandusky, Ohio, at the Ohio Geological Survey facility.

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June 16--Installed differential GPS antenna at Ward Canal marina and tested system; embarked from Ward Canal and initiated side-scan sonar survey in the Locust Point-Turtle Creek area; lakebed grab samples obtained for ground-truth verification.

June 17--Embarked from Ward Canal and continued side-scan sonar survey and lakebed sampling of area from Turtle Creek to Little Cedar Point.

June 18--Embarked from Ward Canal and continued side-scan sonar survey and lakebed sampling of Little Cedar Point-Woodtick Peninsula area of Maumee Bay.

June 19--Embarked from Ward Canal and continued side-scan sonar survey of Metzger Marsh area.

June 20--Embarked from Ward Canal and continued side-scan sonar survey of Little Cedar Point shoal-Woodtick Peninsula area of Maumee Bay.

June 21--Embarked from Ward Canal and continued side-scan sonar survey of Little Cedar Point shoal area of Maumee Bay; side-scan sonar work completed.

June 22--Rigged R/V Pike for seismic operations and tested Geopulse system; embarked from Ward Canal and initiated seismic survey from Metzger Marsh across Maumee Bay and along Woodtick Peninsula.

June 23--Embarked from Toledo U.S. Coast Guard station at mouth of Maumee River; conducted seismic survey along Toledo shipping channel and southern Maumee Bay-Cedar Point shoal area.

June 24--No operations due to bad weather (rain, thunderstorms, heavy sea state).

June 25--No operations due to bad weather.

June 26--Embarked from Luna Pier, Michigan, and continued seismic survey of northern Maumee Bay and along Michigan coast from northern Woodtick Peninsula to Pointe Mouillee near Detroit River mouth; seismic system power supply failed near end of last trackline and operations were terminated at Pointe Mouillee.

June 27--Demobilization of R/V Pike in Sandusky, Ohio, at the Ohio Geological Survey facility; R/V Pike returned to NBS/USFWS at the NASA Plum Brook Station facility in Sandusky.

Summary: The cruise successfully resulted in the acquisition of 46 statute miles of side-scan sonar profiles, 65 statute miles of seismic-reflection profiles, and 20 lakebed-sediment samples. The seismic and side-scan sonar profiles were of variable quality, depending upon the composition of the surficial sediments, the substrate materials, and sea state conditions.