



#95044

**DIVISION OF GEOLOGICAL SURVEY  
LAKE ERIE GEOLOGY GROUP**  
Great Lakes Center  
1634 Sycamore Line  
Sandusky, Ohio 44870-4132  
(419) 626-4296  
(419) 626-8767 FAX

George V. Voinovich • Governor  
Frances S. Buchholzer • Director

October 17, 1995

Data Lab  
USGS  
Woods Hole, Ma

As part of the USGS and Ohio Geological Survey coastal program in Lake Erie, two cruises were run during the 1995 field season. These cruises extended the area of line coverage which was started in September of 1993, and continued in the field season of 1994. Two more lines were run the length of the State, parallel to the shore, but outside of those previously run. These were designated as cruise number LEGS 1 8/95 and used the GS 1 as the research vessel. The 100 KHz sidescan sonar, pinger and boomer were used on this cruise and the 500 KHz sidescan sonar was recorded on a DAT tape.

Cruise number LEGS 3 8/95 used the shallow draft GS 3 as the research vessel and collected 100 HHZ and 500 KHz sidescan sonar data. This line was planed to fill in the area between previously run lines and the shore. For this cruise we tried to stay about 1000 feet offshore. Coverage included the reach from Pennsylvania to the East Cleveland breakwater and from Vermilion to Sandusky. The remaining reaches are scheduled to be shot next year (1996).

To keep from adding yet another line numbering set to the nearshore parallel lines, the Lines from these cruises are numbered L-16 through L-35 and L-48 through L-54, of these, lines 17 through 25 were run with the GS-3.

As a result of these cruises, the Ohio Geological Survey is providing the following to you for archiving.

Copy of the log book covering both LEGS 1 8/95 and LEGS 3 8/95 cruises.

Track line maps for both cruises.

The original boomer records where available.

Copies of the sidescan sonar records and pinger records where available.

The VHS tapes of the boomer records.

In addition the Ohio Geological Survey has retained the original sidescan sonar and pinger records and the DAT tapes of that data.

Jonathan Fuller  
Geologist III  
Lake Erie Geology Group  
Division of Geological Survey

DIVISION OF GEOLOGICAL SURVEY  
LAKE ERIE GEOLOGY GROUP  
Great Lakes Center  
1634 Sycamore Line  
Sandusky, Ohio 44870-4132  
(419) 626-4296  
(419) 626-8767 FAX

*Nancy*

**POST-CRUISE REPORT**

LEGS-1 8/95 and LEGS-3 8/95

November 3, 1995

**TO:** Scudder Mackey, OGS ; Dave Folger, USGS

**FROM:** Jonathan Fuller

**SUBJECT:** Late Summer 1995 cruise of the RV/GS-1 and RV/GS-3,  
cruises labeled LEGS-1 8/95 and LEGS-3 8/95

Purpose

This cruise was set up to shoot three additional shore-parallel seismic lines along the Ohio shore. Two were to be outside the previously shot lines and would use the full set of equipment. The third was to be between the shore and the shoreward most line that had already been run, at about 1000 feet offshore. These lines will assist in the interpretation of the transition from the offshore data set to the nearshore profiles and shore data.

Equipment

Klein 100/500 kHz sidescan sonar	VHS tape recorder
Klein 3.5 kHz subbottom profiler	Sony digital tape recorder
Geopulse boomer seismic system	Loran-C navigation system
hydrophone	assorted clocks, computers, etc.

Field Personnel

Jonathan Fuller, OGS, chief scientist  
Dale Liebenthal, OGS, Captain RV/GS-1, RV/GS-3

Set-up Personnel

Ken Paroski  
USGS, Electronics Technician

Date Specific Activities listed below

August

01	Ken arrives, the Geopulse mobe on the GS-1, Ken leaves	
02	start Sandusky, line 16 off breakwater, Geopulse dies continue with SSS to Vermilion	9.4 Nmi
03-07	troubleshoot power supply, ship power supply to Woods Hole,	
09	transfer SSS to the GS-3	
10	start nearshore line at Sandusky, line 17, 18, run toward Lorain	18.0 Nmi
14	trailer GS-3 to Ashtabula	
15	launch Conneaut and work west, lines 19, 20, 21, finish Perry NP	26.4 Nmi
16	launch Chagrin River, line 22, Perry NP, blown off in Fairport Harbor	7.8 Nmi
17	launch Chagrin River, lines 23, 24, 25, 26, Fairport to Cleveland, GS-3 to Sandusky	22.4 Nmi
18	Mobe GS-1 with SSS and Univ. Boston Power supply	

21	GS-1 to Ashtabula	
22	weather day	
23	start outer two lines at Ashtabula, lines 27, 28, into Ashtabula	43.8 N mi
24	weather day, cancel remainder of week	
28	leave Ashtabula, lines 29, 30, into Fairport Harbor	32.8 N mi
29	leave Fairport Harbor, lines 31, 32, into Fairport Harbor	54.0 Nmi
30	leave Fairport, line 33, from Lorain to Huron, into Sandusky	14.0 Nmi
31	blown off	
September		
01	blown off	
05	leave Sandusky, start Lorain to Cleveland, lines 34, 35, into Lorain	39.2 Nmi
06	leave Lorain, lines 48, 49, to Kelleys Is and into Sandusky	41.2 Nmi
28	leave Sandusky, lines 50, 51, 52, into Cooley Creek	49.0 Nmi
29	leave Cooley Creek, lines 53, 54, into Sandusky	36.0 Nmi
October		
02	mobe GS-3 with SSS	
13	de-mobe GS-1 of all boomer equipment and pack up	
23	start drive to Woods Hole to return equipment	
	cruise total	394 Nmi

Line numbers used for this cruise are all listed as LEGS-1 8/95 or LEGS-3 8/95 and include lines 16 through 35 and lines 48 through 54. These numbers were used to keep from further duplicating the numbers from previous nearshore cruises. There were Lines 1 through 8 on both LEGS-1 8-94 and LEGS-1 9/94. Lines 9 through 15 were also part of LEGS-1 9/94. Lines 36 through 47 were used on cruise LEGS 2-8-93.

We ran about 60 nautical miles of trackline with the GS-3 using the sidescan sonar at about 1000 feet offshore (looking to within about 400 feet of shore). We also ran about 334 nautical miles of trackline with the GS-1 using the sidescan sonar and the high resolution pinger and boomer systems. The boomer system was on loan from the USGS. These lines were at 1.3 and 1.8 miles offshore. One of the field days we were able to get 54 nautical miles of line, making it the best day we have had.

There are about 95 nautical miles of line that we could not finish this field season. All of the lines that are left were planned for the GS-3, at the 1000 feet offshore position. We hope to finish those off in the spring of 1996 as well as ground truth much of the nearshore data set with a drop video camera. Now that we have real time DGPS for navigation we also hope to be able to run yet another line along the whole shore at about 500 feet offshore. This will shoot up to the shoreline when we use the 200 meter scale. A test line of this type was run off of Geneva State Park where it worked well.

USGS: Distribution to be Determined by Dave Folger