

ACADIANA 87-I CHANDELEUR ISLANDS AREA SEISMIC CRUISE

Vessel: R/V Acadiana, Louisiana Universities Marine Consortium

Personnel:

John R. Suter, Louisiana Geological Survey
Ron Boyd, Dalhousie University
Jack Kindinger, United States Geological Survey
Ken Parolski, United States Geological Survey
C. L. Black, LUMCON
Wayne Simoneaux, LUMCON

Area of Operation:

Chandeleur Islands, Mississippi Barriers,
onshore and offshore

Approximate Lat/Long: 30 00 N 30 30 N
 89 15 W 88 00 W

 29 00 N 29 00 N
 89 15 W 88 00 W

High Resolution Seismic Systems in use:

ORE Geopulse (Boomer)
Benthos 10 element hydrophone
EPC 3200 Recorder, ORE 5210 Receiver
ORE 5420A Power supply
ORE 3.5 kHz Subbottom Profiler with ORE 140 Transceiver
Northstar 6000 LORAN with Texas Instruments Silent 700
EPC Delay box

Date: Sunday June 14, 1987 -

6/13 R/V Acadiana arrived from LUMCON in Cocodrie at approximately 1400 6/13. Ken Parolski of USGS arrived Biloxi late afternoon 6/13.

6/14 J. Suter, R. Boyd, J. Kindinger arrive in Biloxi. Steve Anderson of the LGS who was scheduled to come to Biloxi to assist in the mobilization of the vessel could not make it due to high water and heavy rain between Mandeville and Biloxi. Very poor weather with heavy rains delayed the outfitting and mobilization of the vessel to next day. Matters stand as follows: the TI Silent 700 navigation recording terminal is very old and doesn't seem to be functioning to KP's liking. Apparently all of the others are in use at this time. Don't know why new equipment can't be purchased for this operation since it is a multi-million dollar project. Additionally, the cassette tapes for recording the nav data are not of sufficient quality,

so some oversight appears to have occurred there. KP indicates that the beast is recording but is unsure if it is recording the right stuff. He feels that computer tapes should either be purchased in Biloxi tomorrow or shipped in from Woods Hole. If worst comes to worst we can always rely upon the hard-copy coming off the recorder, or even keep the LORAN-C TD's manually. Activities at the boat were abandoned around 2030.

6/15 Arrive at vessel @ 0800. Recommence outfitting and supplying. Discussed tracklines, equipment, cruise plan etc. JK's rental car dropped off at Gulfport airport. Given relatively calm weather conditions, decided to possibly lengthen Leg I of the cruise to four days rather than the previously planned three and a half. Consequently we will probably be returning to the Broadwater Beach Marina on Friday, June 19, assuming the weather offshore is good enough for such operation. No computer tapes are available in Biloxi, but are being sent in from USGS. However, we have agreed to give it a go since the weather appears to be OK.

Departed Broadwater Marina at 1230.

Cleared Ship Island @ 1330.

Cleared north end Chandeleurs @ 1430.

Seas 2-4 ft. with chop, winds 10-15 knots S-SW

Change course 220 deg. begin running to MRGO canal. Seas are too big to gain better, make that any, data, @ 1630. Pieces of equipment are starting to fall down all over the boat. TV came down from perch with a loud noise. EPC annotator broke. It's rough.

Seas are still too rough.

1700 Change course to 320°, head to Gulfport Channel. We will try to work behind the islands until weather changes for the better.

New waypoint 30 07 N
88 56 W

Next waypoint 30 05 N
88 58 W

0727	Course	Speed	Tape Count	Paper Roll
	228	4.3	02/0596	01

Current position 29 34.41
89 10.91

Crossing MRGO channel, easily visible in 3.5 records. Still testing boomer. Heading to next waypoint, same bearing.

0742 Paper change to Roll 2

0800 Current position 29 30.98
89 14.60

Seas 1-2', winds seemingly not as strong. About and hour and a half to next waypoint.

0830	Course	Speed	Tape Count	Paper Roll
	224	3.9	02/0874	02

Position: 29 29.49 N
89 16.06 W

Boomer running @ 175 J, low filtered @ 300 Hz. Not showing much.

0900 Position: 29 27.76
89 17.68

About 30 min to next waypoint

0910 Position for waypoint 6: 29 22.3
89 13.3

0935 EOL 1

Position: 29 25.94
89 19.44

Course	Speed	Tape Count	Paper Roll
121		1101	02

0940 SOL 2

1000 Position: 29 25.18
89 18.18

Course	Speed	Tape Count	Paper Roll
120	5.1	02/1192	02

Currently running in between Baptist collette and Breton islands. Data quality fair, penetration low.

NOTE: ORE 3.5 down at 2-3 ft.

1030 Position: 29 24.26
89 16.50

Course	Speed	Tape Count	Paper Roll
121	3.5	02/1287	02

1100 Position: 29 23.12
89 14.57

Course	Speed	Tape Count	Paper Roll
122	4.4	02/1382	02

Next waypoint: 29 20.25
89 07.30

1120 Position: 29 22.30
89 13.30

Course change to waypoint seven

Course	Speed	Tape Count	Paper Roll
102	4.9	02/1440	02

1130 Maneuvering to avoid fleet of Vietnamese shrimpers
who will not answer radio hails

1200 Position: 29 21.52
89 10.13

Veering slightly to the north to avoid shallowing
water near the Delta

Course	Speed	Tape Count	Paper Roll
	4.9	02/1550	02

1215 Tape Change to #3

1230 Position: 29 21.03
89 07.88

Course	Speed	Tape Count	Paper Roll
104	4.0	03/130	02

Next Waypoint: 29 16.60
89 03.00

Seas very calm, about 1'. Not much wind, but
there is light rain falling.

1235 Course change to 135° to next waypoint. Still on line 2.

Position: 29 20.78
89 07.24

1300 Position: 29 19.46
89 05.97

Course	Speed	Tape Count	Paper Roll
134	3.5	03/343	02

Still in Main Pass area

1330 Position 29 17.97
89 04.41

Course	Speed	Tape Count	Paper Roll
139	5.1	03/500	03*

* Seismic paper roll 03 begin @ 1328. Seas are 1' and relatively calm, wind west @ 5-10. Data quality ok but not much penetration.

1355 Position: 29 16.58
89 03.07

Course	Speed	Tape count	Paper Roll
098	5.0	03	03

In rig field at WP 08 heading out to Pass a Loutre to check weather offshore but still looks rough with wind out of the west @ 10-15kn.

1430 Position: 29 15.57N
88 59.75W

Course	Speed	Tape count	Paper roll
104	5.7	03/0770	03

All ok as before

1457 Position: 29 14.93N
88 57.4W

Course	Speed	Tape count	Paper roll
115	5.3	03/0876	03

EOL 2 at WP 09 off North Pass of Pass a Loutre, turning to new course 178 to look at slumps off DMB.

1530 Position: 29 12.48N
88 57.44W

Course	Speed	Tape count	Paper roll
181	5.3	03/1004	03

On way to WP 10 off Pass a Loutre data is still ok but little detail, no obvious channels but a few features which could be slumps. EPC belt change .

1547 Slight change of course to 155 to avoid shallow water then on to WP 10 as before.

1554 Coming back to course 180 in deeper water off channel bouy.

1600 Position: 29 10.29N
88 57.07W

Course	Speed	Tape count	Paper roll
181	5.0	03/1110	03

On track to WP 10 just crossed the main distributary channel off Pass a Loutre seen clearly on seismic. Seas were calm off the delta but now we are getting seas from around the corner of about 2' from the SSE, wind 10kn fom SSE.

1630 Position: 29 08.13N
88 57.47W

EOL 3 at WP 10 now turning to the SE for short tie line to wp 11. Course prior to turn 170, new

Course	Speed	Tape Count	Paper Roll
116	4.6	03/1215	03

1652 Being hit by strong current setting to the NE, we are well off course

1657 Position: 29 06.99N
88 55.9W

Course	Speed	Tape count	Paper roll
186	4.3	03/1289	03

EOL 4 at WP 11 now on course to WP 12 000.

1730 Position: 29 09.54N
88 55.63W

Course	Speed	Tape count	Paper roll
007	4.8	03/1398	03

On track to WP12 with following seas and good data collection compared to the SE course. Varying boomer power up to 300j, but penetration still poor.

1800 Position: 29 12.10N
88 55.50W

Course	Speed	Tape count	Paper roll
356	5.8	03/1484	03

On track to WP 12 with 30 min to go. All ok.

1820 Boomer power to 280 J

1835 EOL 5

Position: 29 15.70
88 55.18

Course	Speed	Tape Count	Paper Roll
36	5.8	03/1580	03

1836 SOL 6

Course	Speed	Tape Count	Paper roll
35	5.0	04/132	03

Seas relatively calm. On present course we have a bit of side seas, but since they're only about 1-2', things are OK. Data quality is improving quite a bit, suddenly.

1919 Change to roll 04

1925 EOL 6

Position: 29 18.39
88 51.98

Course	Speed	Tape Count	Paper Roll
129	5.5	0/300	04

1940 Good data coming off boomer now, apparently showing dip section of one lower delta, and channels related to a younger one overlying.

Course is fairly bumpy. We will have to see if conditions deteriorate any further, in which case we will have to run for shallower, more sheltered waters.

1956 Switch displays on EPC 3200 to 1/4 sec each channel or an effective display of 1/2 sec. Water depth currently about 60m.

2055 Position: 29 13.97
88 46.65

Course	Speed	Tape count	Paper Roll
128	4.2	04/746	04

Seas are somewhat higher out here. We are taking side seas every so often with quite a bit of a roll, maybe about 3 ft. Data is still OK for the boomer, so as long as that holds out we will keep trying this course. If it gets much worse we'll have to try another heading.

2140 Position: 29 11.81
88 43.84

Course	Speed	Tape count	Paper roll
128	4.7	04/0915	04

Seas continue to build. Wind blowing fairly hard, with whitecaps visible in search light beam, flags standing straight out from the masts. Data quality is falling off; 3.5 is effectively gone, boomer is quite noisy. Ken feels that we can't expect any good records until it flattens out a bit.

2222 Position: 29 09.44
88 40.79

Course	Speed	Tape Count	Paper roll
128	4.9	04/1004	04

Conditions are the same. 3.5 is now being shut down, boomer pretty noisy but has interesting information in upper sediments. About an hour to go on this line.

2252 Position: 29 07.75
88 38.74

Course	Speed	Tape Count	Paper Roll
127	5.9	04/1190	04

Running Boomer only on Channel A @ 1/4 sec sweep.
High angle clinoforms are showing up on Boomer
record. Shelf phase leading to shelf margin delta
action.

2315 Next waypoint: 29 12.00
88 16.50

Noisy data on boomer, but shows a very nice multi-
tiered deltaic system, with high angle clinoforms
dipping below the shelf margin.

Current water depth about 160 m.

Course	Speed	Tape Count	Paper roll
125	5.8	04/1260	04

2320 EOL 7

Position: 29 06.25
88 36.90

Course	Speed	Tape Count	Paper Roll
68	5	04/1275	04

2321 SOL 8

Dip line had exceptionally nice deltaic sequences.
Strike course (68°) is a much happier one with
less rocking and rolling.

2400 Position: 29 07.15
88 33.25

Course	Speed	Tape Count	paper Roll
68	5.0	04/1400	04

This course may be smoother, but the data is not
very impressive right now, fairly noisy and not
showing much.

Wednesday, June 17, 1987

0032 Position: 29 08.02N
88 30.35W

Course	Speed	Tape count	Paper roll
072	4.8	04/1500	04

Continuing to way point 15 with following sea and relatively good data collection.

0100 Position: 29 08.8N
88 27.86W

Course	Speed	Tape	Paper
058	5.2	04/1570?	04

On course to WP 15 all ok, noisy streamer.

0155 Mag tape recording of nav data ends. Paper copy now all that's available

0111 End of Seismic tape 04 @ 0111 and begin Tape 05

0200 Position: 29 10.25N
88 22.66W.

Course	Speed	Tape	Paper
072	5.4	05/0336	04

Still on long tie line to WP 15 about 1hr to go. Played with filters - it seems as if frequencies < 400 introduce boat noise while those above 4000 give the data a fuzzy, busy appearance

0311 Position: 29 12.09N
88 16.34W

Course	Speed	Tape	Paper
071	4.5	05/0720	04

EOL 8 at WP 15 @ 0311. Changed course to 324 on long line into St. Bernard delta. Also dropped speed to 2 - 3kn but record seems to be noisy as a result. Side seas are present but seems to be ok to work so far.

0400 Position: 29 14.84N
88 18.37W

Course	Speed	Tape	Paper
329	4.9	05/0905	04

On track to WP 16 on line 09. Just crossing shelf break with good delta foresets right at surface.

0510 Position: 29 19.12N
88 21.40W

Course	Speed	Tape	Paper
334	4.6	05/1152	04

Great data of stacked deltas with bi-directional apparent dip. Continuing to WP 16 3hrs to go. Seas 2-3' and wind 5-10kn both from SSW.

0600 Position: 29 22.2N
88 23.61W

Course	Speed	Tape	Paper
325	4.4	05/1307	04

Continuing to WP 16 with good clinoforms prograding onto a high relief erosional surface.

0605 Changed paper from roll 04 to roll 05.

0631 Position: 29 24.21N
88 24.9W

Course	Speed	Tape	Paper
326	4.9	05/1406	05

Continuing to WP 16 but data is less spectacular. Change of watch is imminent and 3.5Khz is turned back on at 0630. New navigation tapes discovered and installed in Silent 700.

0700 Position: 29 26.10N
88 26.32W

Depth 28.5fm

Course	Speed	Tape	Paper
324	4.6	05/1493	05

0730 Course	Speed	Tape Count	Paper roll
324	4.8	05/1575	05

Position: 29 28.21
88 27.77

Data quality is pretty fair on boomer, 3.5 kHz is still not showing much. There appears to be some channeling visible in the upper portion of the boomer record.

0735 Switch to data tape 6

0800 Position: 29 30.08
88 29.08

Course	Speed	Tape count	Paper roll
322	5.0	06/170	05

Next waypoint 29 34N, 88 35W

0812 Course change to 300

Course	Speed	Tape Count	Paper roll
300	5.0	06/246	05

Coming up on St. Bernard delta

0830 Course	Speed	Tape Count	Paper Roll
300	4.8	06/360	05

Position: 29 31.88
88 31.42

3.5 kHz relatively pitiful, ORE Boomer is giving reasonable results, about 100 msec of penetration.

0900 Position: 29 32.94N
88 33.32W

Course	Speed	Tape Count	Paper roll
302	4.8	06/500	05

Clinoforms of St. Bernard delta clearly visible on the boomer record.

0920 Course change to 293
Record quality is deteriorating.
Position: 29 35N
88 34.96W

1000 Position: 29 35.29N
88 38.11W

Course	Speed	Tape Count	Paper
293	3.8	06/785	05

Water depth: 10 fm

1035 Position: 29 36.53N
88 40,73W

Course	Speed	Tape Count	Paper roll
292	4.8	06/923	05

Considerable channeling visible in upper sediments on boomer record. 3.5 still not showing much.

0800 Position: 29 30.08
88 29.08

Course	Speed	Tape count	Paper roll
322	5.0	06/170	05

Next waypoint 29 34N, 88 35W

0812 Course change to 300

Course	Speed	Tape Count	Paper roll
300	5.0	06/246	05

Coming up on St. Bernard delta

0830 Course	Speed	Tape Count	Paper Roll
300	4.8	06/360	05

Position: 29 31.88
88 31.42

3.5 kHz relatively pitiful, ORE Boomer is giving reasonable results, about 100 msec of penetration.

0900 Position: 29 32.94N
88 33.32W

Course	Speed	Tape Count	Paper roll
302	4.8	06/500	05

Clinofolds of St. Bernard delta clearly visible on the boomer record.

0920 Course change to 293
Record quality is deteriorating.
Position: 29 35N
88 34.96W

1000 Position: 29 35.29N
88 38.11W

Course	Speed	Tape Count	Paper
293	3.8	06/785	05

Water depth: 10 fm

1035 Position: 29 36.53N
88 40,73W

Course	Speed	Tape Count	Paper roll
292	4.8	06/923	05

Considerable channeling visible in upper sediments on boomer record. 3.5 still not showing much.

1100 Position: 29 37.32N
88 42.72W

Next waypoint: 29 46.7N
88 50.70W

1111 Course change to 310

Position: 29 37.66N
88 43.50W

Course	Speed	Tape Count	Paper roll
310	4.8	06/1260	05

Data quality still fair, channeling and seaward dipping clinofolds apparent in boomer record, little or nothing visible in 3.5 kHz record.

1120 Pull in boomer to clean off seaweed

1127 Clean up complete.

1200 Position: 29 40.40N
88 46.48W

Course	Speed	Tape Count	Paper roll
310	4.6	06/1219	05

Currently heading on towards the Chandeleur Islands.

1214 3.5 kHz down for rewiring of trigger

1220 Sweep rate on boomer record changed to 1/4 sec

1230 Position: 29 42.31N
88 48.71W

Course	Speed	Tape Count	Paper roll
309	4.8	06/1360	05

All systems functioning

1300 Shift change

1302 Position: 29 43.83N
88 50.66W

Course	Speed	Tape	Paper
316	4.8	06/1416	05

Nearing end of this line close in to Chandeleur Islands.

1327 Position: 29 45.15N
88 52.22W

Course	Speed	Tape	Paper
313	4.2	06/1490	05

EOL 9 at WP 19. Ended in 10' water depth off Chandeleurs. Now on course parallel to beach about 0.3miles offshore. Boomer power reduced to 105J from 280J, off at 1327 back on at 1334. Data quality is good showing channelling in the subsurface.

1345 Course was taking us too far offshore so we doglegged to port on course 340 to start the next line again in 10' depth.

1351 Position: 26 46.89N
88 51.04W.

Course	Speed	Tape	Paper
340	4.5	06/1560	05

Eol 10 at WP 20, turning to new course 124 on way to WP 21 heading offshore, Good channel action on 3.5Khz.

1405 Tape change from 6 to 7.

1451 Position: 29 44.01N
88 46.59W

Course	Speed	Tape	Paper
?	5.4	07/0315	05

EOL 11 at WP 21. 39ft depth, turning from line running offshore to one running 216 parallel to beach. Silent 700 not logging, swith to monitoring in this log every 5 min.

1502 Position: 29 43.47N
88 47.15W.

1507 Position: 29 43.27N
88 47.46W

Big tidal inlet.

1508 Silent 700 back up, return to auto nav recording.

1517 Paper roll change from roll 05 to roll 06.

1530 Position: 29 42N
88 48.54W.

Course	Speed	Tape	Paper
218	4.0	07/0527	06

Depth 34'. Data shows eroded delta surface with variable sed thickness above it, occasionally cut by a tidal inlet above and showing distributaries below. On line 12 to WP 22.

1545 EPC belt change.

1600 Position: 29 40.49N
88 50.14W.

Course	Speed	Tape	Paper
225	4.1	07/0665	06

Depth 33', data continues good with penetration at least to the multiple. Seas 1-2', wind 5-10kn from South. On line 12 to WP 22.

1535 - 1624 Silent 700 shut down again.

1640 Position: 29 38N
88 52.10W.

Course	Speed	Tape	Paper
230	4.1	07/0837	06

EOL 12 @ WP 22. New course is 345 on short tie line to pick up an old line inshore then start a long dip line to the SE. Silent 700 again has problems so return to manual fixing from bridge Loran C. Depth 32'.

1647 Position: 29 38.95N
88 52.29W.

1651 Position: 29 39.28N
88 52.34W.

1653 Silent 700 back up again

1703 Position: 29 40.10N
88 52.63W.

Course	Speed	Tape	Paper
336	4.4	07/0933	06

EOL 13 at WP 23. New course 130, depth 29', now heading into 2-3'seas with 10kn winds out of the south. On course to WP 24 On line 14.

1800 Position: 29 37.02N
88 48.95W.

Course	Speed	Tape	Paper
125	4.9	07/1138	06

Depth 42', On line 14 to WP 24. Seaward dipping clinofolds on seismic, all ok. Watch change.

1830 Position: 29 35.13N
88 46.72W

Course	Speed	Tape Count	Paper Roll
130	4.9	07/1245	06

Seas pretty calm, 1-2'. Boat rolls quite a bit with seas coming in at 45 to bow. Data quality fair with little or no penetration on boomer, but good resolution in upper 10 msec. Seaward dipping clinofolds apparent.

Change watches.

1900 Position: 29 33.37N
88 44.75W

Course	Speed	Tape Count	Paper Roll
130	4.9	07/1334	06

Seas as before. Data as before.

1935 Position: 29 31.47
88 42.48

Course	Speed	Tape Count	Paper Roll
130	5.3	07/1435	06

Evasive action on the part of a shrimp boat resulted in a narrow miss of our tows. Data quality still fair. Winds not as strong as earlier in the day-no whitecaps.

1943 Shut off boomer to increase power to 280J.

2230 Position: 29 20.45N
88 30.40W

Course	Speed	Tape Count	Paper Roll
136	6.0	08/660	07

Boomer data is showing a very well developed channel sequence, some having clinoformal fill. Seas are getting a little bigger and we're rolling a fair bit on this particular course. In about an hour and a half we will change to a west-southwest course and be taking head seas. Everyone will be thrilled.

2256 Discovered that the auto-event marker was keyed to channel B on the recorder, which has been turned off since 2055. Rewire to channel A.

2300 Position: 29 18.55N
88 28.44W

Course	Speed	Tape Count	Paper Roll
136	4.8	08/785	07

Great data showing an "incised valley" system cutting into an underlying delta system with oblique switching to sigmoidal clinoforms. Some of the best action yet.

2315 Incised valley reaches about 50 msec in vertical dimensions.

2330 Position: 29 16.78N
88 26.74W

Course	Speed	Tape count	Paper roll
136	4.8	08/908	07

We now can see multiple sets of drainage systems cut into each other, obviously graded to different sea levels because there is a wide variation in vertical dimensions, ranging from over 50 msec to about 10 msec. Good stuff.

2400 Position: 29 14.67N
88 24.87W

Course	Speed	Tape Count	Paper Roll
136	4.8	08/1029	07

Appears to be some form of large slump at toe of excellent shelf margin delta. We will continue this course somewhat beyond waypoint 25 to we record all the appropriate action before turning.

2007 Very good data coming off both boomer and 3.5 records, showing well developed clinoforms downlapping onto an irregular surface.

Position: 29 29.45N
88 39.97W

Course	Speed	Tape Count	Paper Roll
131	5.2	07/1531	06

2030 Tape change from 07 to 08.

Position: 29 28.16
88 38.46

2055 3.5 kHz shut down on recorder, still going on tape. Boomer sweep now 1/4 sec for entire roll.

2100 Position: 29 26.38
88 36.48

Course	Speed	Tape Count	Paper Roll
130	4.7	08/186	06

Very good data shown on boomer record. Three separate units visible. Upper presumably is prodelta of St. Bernard, underlying units both showing sigmoidal landward dipping clinoforms with occasional well developed channels. Very interesting to speculate about the nature of the downlap surfaces of the respective clinoformal units. Some are quite irregular as opposed to being flat-lying and truncated as one would expect of a transgressive surface. One idea is that such a surface has not experienced shoreface erosion, but is in fact analogous to a bay/marsh surface, similar to progradation of Atchafalaya delta over Atchafalaya Bay. Time will tell.

2110 3.5 kHz switched off to prevent crosstalk to boomer record. Boomer shows excellent channel in second sequence at about 2106.

2128 Course change to 136°. Paper change to roll 07.

2200 Position: 29 22.46N
88 32.28W

Course	Speed	Tape Count	Paper Roll
136	4.9	08/528	07

Data showing thinning of uppermost unit. Underlying unit has a well defined channel sequence prominently displayed.

Thursday, June 18, 1987

0010 EOL 14

Position: 29 14.15
88 24.37

Course	Speed	Tape Count	Paper roll
247	4.8	08/1068	07

0012 SOL 15

0030 Position: 29 13.73N
88 26.12W

Course	Speed	Tape	Paper
251	4.7	08/1132	07

On line 15 to WP 26. Large salt dome on slope, possible gas seeps on top.

0100 Position: 29 12.92N
88 28.74W

Course	Speed	Tape	Paper
247	4.8	08/1230	07

On line to WP 26

0116 Position: 29 12.53N
88 29.92W.

Course	Speed	Tape	Paper
247	4.8	08/1282	07

EOL 15 at WP 26. New course 313 back onto shelf edge.

0156 Position: 29 14.54N
88 32.26W

Course	Speed	Tape	Paper
313	4.4	08/1408	07

EOL 16 at WP 27. New course 056 parallel to shelf break hoping to see gullies feeding lowstand fans and wedges. Line shows spectacular shelf margin deltas, onlap, lowstand wedges and some erosion on the shelf.

0300 Position: 29 17.12
88 27.4W

Course	Speed	Tape	Paper
050	4.7	08/1588	07

On line 17 to WP 28. Good channels visible on this strike line as hoped.

0303 Change tape from 08 to 09.

0400 Position: 29 19.55N
88 22.78W.

Course	Speed	Tape	Paper
055	3.2	09/0371	07

Great shelf edge data, some gas charged strata. Decided to extend line 17 past original WP28 to WP 29 approx 1nm further on same course.

0425 Position: 29 20.38N
88 21.07W

Course	Speed	Tape	Paper
055	5.0	09/0493	07

EOL 17 at WP 29 whose co-ordinates are above. Turning now to new course 319 onto shelf on short tie line before turning SW for new line parallel to shelf break.

0502 Position: 29 22.8N
88 22.88W

Course	Speed	Tape	Paper
320	5.2	09/0667	07

EOL 18 at WP30. Great channel on line 18. On this new course of 233 the ship is encountering head seas of 2-3, 10kn winds from SSW.

0600 Position: 29 20.60N
88 26.91W

Course	Speed	Tape	Paper
231	4.6	09/0897	07

All systems ok still moving into headsea. On line 19, data remains high quality, many deltas and channels.

0700 Position: 29 18.20N
88 30.94W

Course	Speed	Tape	Paper
232	3.9	09/1124	07

All ok, data and sea state as before.

0730 Position: 29 17.04N
88 32.97W

Course	Speed	Tape Count	Paper Roll
233	3.7	09/1225	07

All OK, data and sea state as before. Bridge is very, very cold.

0800 Waypoint 32: 29 13.8N
88 32.30W

0803 Position: 29 15.69N
88 35.39W

EOL 19
SOL 20

Line 19 ended at western terminus of large incised channel system.

Course	Speed	Tape Count	Paper roll
120	4.4	09/1341	07

0840 Position: 29 14.06N
88 32.81W,

Course	Speed	Tape Count	Paper Roll
120	4.7	09/1443	07

Data shows a thin upper unit of parallel reflectors overlying a thick unit of sigmoidal clinoformal reflectors.

0848 EOL 20

Position: 29 13.69N
88 32.10 W

Course	Speed	Tape Count	Paper Roll
350	4.7	09/1440	07

Waypoint 32 was plotted incorrectly, so we have swung about to get to waypoint 33, which is also waypoint 27, and then on to the northwest.

0900 Course change to 310

Position: 29 14.48N
88 32.32W,

Course	Speed	Tape Count	Paper roll
310	4.7	09/1500	07

Headed northwest towards waypoint 34, coordinates:
29 20.6N, 88 39.8W

0940 Position: 29 16.61N
88 35.03W

Course	Speed	Tape Count	Paper Roll
310	4.8	10/0005	07

Data continues to show prograding sequence with
channels cutting into it.

1000 Boomer shut down to allow sideband communications

1002 Boomer back on.

1040 Position: 29 20.10N
88 39.30W

Course	Speed	Tape Count	Paper Roll
315	4.9	10/402	07

Data showing a wedge of probably fine-grained
sediments overlying the channelized facies.

1050 EOL 21
Position: 29 20.61N
88 39.85W

Course	Speed	Tape Count	Paper Roll
43	4.7	10/0445	07

Now running with tail seas ,course more pleasant.

1130 Position: 29 23.26N
88 36.38W

Course	Speed	Tape Count	Paper Roll
40	6.0	10/648	07

Data shows upper unit of parallel reflectors
overlying channelized facies some 25 msec in
thickness, cutting down into probable underlying
deltaics.

1158 Change course at waypoint 35

Course	Speed	Tape Count	Paper Roll
39	5.8	10/0767	07

Boomer data as before, 3.5 kHz back on. Ken is experimenting with the other EPC 3200 recorder upon which we will try to split trace the 3.5 and the single element hydrophone.

Coordinates of waypoint 36: 29 30.5N, 88 28.6W

1210 3.5 kHz turned off again due to too much cross talk with boomer.

1245 Position: 29 28.10N
88 31.13W

Course	Speed	Tape Count	Paper Roll
39	5.2	10/0957	07

Underlying channeled unit is a series of westward dipping clinoforms. There appear to be two very similar Pleistocene units in the data, each about 40 msec thick.

1300 Position: 29 28.91N
88 30.32W

Course	Speed	Tape	Paper
037	5.0	10/1001	07

Seas are calmest to date as we run this strike line parallel to the St. Bernard delta. Good clinoforms and channels present. Dr Parolski suffering cabin fever but continues to experiment with different hydrophone - EPC combinations.

1325 Position: 29 30.5N
88 28.59W.

Course	Speed	Tape	Paper
045	4.5	10/1098	07

At WP 36 on line 22, slight dogleg to port with new course 023 to WP 37 at end of line 22 approx 1.6hrs away.

1430 Position: 29 35.22N
88 25.81W

Course	Speed	Tape	Paper
026	5.0	10/1307	07

1430 continued

On way to WP 37 at end of line 22 (called route 9 point 1 in the Northstar route program.) Still playing with single element hydrophone but data is poor, 3.5Khz to be switched on EPC 2 for next line.

1500 Position: 29 37.41N
88 24.48W.

Course	Speed	Tape	Paper
033	5.2	10/1401	07

EOL 22 at WP 37, SOL 23 towards WP 38 about 1.5 hrs away. Seas now 1' with winds < 5kn both from SW. 3.5Khz now running, boomer data remains good.

1525 3.5Khz restarted again.

1600 Position: 29 39.38N
88 29.06W.

Course	Speed	Tape	Paper
299	4.6	10/1571	07

On line 23 to WP 38. All systems ok, weather good but thunderstorms are close by.

1610 End of tape 10, start tape 11.

1659 Position: 29 41.39N
88 34W

Course	Speed	Tape	Paper
289	5.4	11/0325	07

At end of line 23 at WP 38. Data quality dropped off around 1624 so we are running back down line 23 to WP 38A co-ords 29 40N, 88 31W. Then try to run parallel to delta outside the bad data area.

1752 Position: 29 40N
88 30.99W.

Course	Speed	Tape	Paper
118	4.4	11/0615	07

At WP 38A after running back down line 23. Turning now to new course 198 to reach WP 39A along line 24 parallel to St. Bernard delta. Seas have built to 3' near a big thunderstorm.

1832 Haul in boomer to clean sled and retape tow ropes.

1850 Boomer operational again

1855 Position: 29 36.81N
88 32.40W

Course	Speed	Tape Count	Paper Roll
198	4.4	11/0875	07

Data quality good on boomer, fair on 3.5, some crosstalk still taking place.

1933 Position: 29 34.44N, 88 33.57W

Course	Speed	Tape Count	Paper Roll
196	4.0	11/1023	07

Data quality fair for both tools. Seas picking up due to thunderstorm activity. We are all watching for waterspouts. Right now winds are about 15 knots and seas are about 2-3 ft.

1950 Reach waypoint 39

Position: 29 34.20N
88 35.20W

Much playing around with LORAN to try to figure out how to run programmed route. It may be correct now but only time will tell.

2055 Position: 29 30.41N
88 37.68W

Course	Speed	Tape Count	Paper Roll
228	3.8	11/1289	07

3.5 kHz switched off. Boomer data showing some southwest dipping clinoforms, and a lot of gas in upper sediments.

2140 Position: 29 28.50N
88 40.37W

Course	Speed	Tape Count	Paper Roll
228	3.8	11/1289	08

Data quality only fair-about 15 msec of penetration with gaseous sediments beneath.

2230 Position: 29 26.74N
88 42.99W

Course	Speed	Tape Count	Paper Roll
228	4.1	12/0003	08

Data is still fair at best.

2240 Change power on Boomer to 175J. Doesn't affect penetration, but record seems somewhat better in the upper sediments. The current sea state is contributing a great deal of noise to the record.

Still on Line 24, coming up on waypoint 40

2305 Position: 29 25.38N
88 44.95W

Course	Speed	Tape Count	Paper Roll
216	4.1	12/0270	08

Course change, headed for Waypoint 41, coordinates 29 18.40N, 88 51.8W..

2340 Position: 29 23.58N
88 46.84W

Course	Speed	Tape Count	Paper
216	4.7	12/0454	08

Data as before. Seas calming down.

Friday, June 19, 1987

0002 Course	Speed	Tape Count	Paper Roll
216	4.0	12/0570	08

0047 Changed the first paper roll on the 3.5Khz recorder. This recorder is now called EPC 2 and roll 2 began at 0049.

0119 Position: 29 18.40N
88 51.79W.

Course	Speed	Tape	Paper
220	3.9	12/0906	1/8, 2/2

EOL 24 at WP 41. Now on line 25 to WP 42, course 311. Seas calmed 1', wind 10kn in lee of Balize delta.

0155 Position: 29 20.41N
88 54.21W

Silent 700 down. Back up 0157. Good shallow water clinoforms seen on both systems (= Balize or St. Bernard deltas).

0220 Position: 29 21.79N
88 55.81W.

Course	Speed	Tape	Paper
310	4.4	12/1128	1/8, 2/2

Some very interesting shallow penetration data with clinoforms, ?mud diapirs, and much shallow gas. EOL 25 at WP 42. Course to new WP 43 is 037.

0308 Position: 29 24.86N
88 52.76W.

Course	Speed	Tape	Paper
040	5.8	12/1290	1/8, 2/2

Expanded 3.5Khz scale to 0.125 sec and getting good but shallow penetration data.

0413 Position: 29 29.16N
88 48.57W.

Course	Speed	Tape	Paper
023	5.1	12/1482	1/8, 2/2

At WP 43 on line 26, changing belt on EPC 2. all systems ok, data good but limited penetration.

0457 Tape change from 12 to 13.

0523 Position: 29 32.82N
88 42.2W.

Course	Speed	Tape	Paper
051	5.5	13/0204	1/8, 2/2

WP 44 on line 26. New course 035. We are in the ridge field and there is good erosional scour but neither system is showing good internal structure.

0635 Position: 29 38.18N
88 37.17W

Course	Speed	Tape Count	Paper Roll
36	5.3	13/0500	1/8, 2/2

0635 continued
Neither system is showing good penetration or resolution, both showing good relief on "ridges."

0710 Position: 29 40.81N
88 34.65W

Course	Speed	Tape Count	Paper Roll
37	6.4	13/0705	1/8, 2/2

Both sets of data showing eastward dipping clinofolds in upper sediments, about 10 msec thick. We seem to have cleared most of the ridges.

0720 Course change to 13°. We'll run at this course for about 15 minutes, then haul in the gear and run for Biloxi, where we should arrive about 1300.

0750 Position: 29 43.94N
88 33.06W

EOL 26, End of cruise Leg I

Tape Count	Paper Roll
13/0900	1/8, 2/2

0805 All gear hauled in , running for Biloxi.

1300 Arrive Broadwater Beach Marina.

450 gallons of diesel taken on.

Crew changes taking place. KP, JK, and WS will remain, JS, RB, and LB will be relieved for Leg II.

1321 Position: 29 45.88
88 47.14

1335 Position: 29 44.71
88 47.31

Equipment is deployed and tuning is in progress. Shifts are organized as Jack/Randy afternoon/midnight and Shea/Ken morning/evening. Shea works the first shift through Saturday midnight, my first 12 hours of official compensatory time.

1347 Position: 29 42 87
88 47 24

SOL Line 27 started about 4 miles southeast of Monkey Bayou. At the start of this line we are profiling seaward dipping clinofolds which resemble the beach ridge plain action proposed for this area.

1417 Position: 29 42.50
88 44.48

Beach ridge action is diminishing and terminated down dip by extensive channeling.

1444 Position: 29 42.16
88 42.08

Entering area of "sand piles" as Jack calls them. We are immediately west of major subaqueous bumps.

1505 Position: 29 41.80
88 40.20

Course	Speed	Tape Count	Paper Roll
096	4.5	13/1234	1/09, 2/03

1602 Position: 29 41.04
88 35.34

Statistics same

1627 Position: 29 40.7N,
88 33.13

Statistics same

1641 Position: 29 40.44N
88 31.98W

Eol line 27 and SOL line 28.

Course	Speed	Tape Count	Paper Roll
136	4.6	13/1504	1/09, 2/03

End of our first line, the seas remain 1-2 with a slight swell. Data looks good on the 3.5 in shallow water. The ORE is improving as we progress into deeper water.

1711 Position: 29 38.71
88 30.44

Statistics same

1715 Position: 29 37.87
88 29.54

Tape change 13 to 14.

1800 Position: 29 35 79
88 27 66

1834 Position: 29 33.89
88 25.83

1900 Position deleted by error

1928 Position: 29 30.58
88 22.77

1958 Position: 29 28.85
88 21.02

2033 Position: 29 26.69
88 19.06

Major Pleistocene sequence is pinching at this location.

2102 Position: 29 24.84
88 17.24

2119 Encountering some rain squalls and seas starting to pick up slightly.

2134 Seas have picked up considerably. 3.5 shut down due to cross talk and pancake stratigraphy.

Position: 29 22 73
88 15 32

2205 Position: 29 21 15
88 13 74

2237 Position: 29 19 21
88 11 94

2305 Position: 29 17.41
88 10.34

2350 Position: 29 14 84
88 07 81

SUNDAY, JUNE 21, 1987

0000 Crew change: Randy and Jack on
Shea and Ken off

0004 Position: 29 13 98
88 06 96

EOL 28 and SOL 29

Course	Speed	Tape Count	Paper Roll
250	4.8	15/0202	1/09, 2/03

0015 Position: 29 13 76
88 07 59

0020 Paper change: Roll 10

0032 Position: 29 13.35N, 88 09.19W

Running strike line (250) for about 1 hour then heading north.

0100 Position: 29 12 72
88 11 70

0115 Position: 29 12 50
88 12 54

EOL 29 and SOL 30

Course	Speed	Tape/Count	Paper Roll
341	5.4	15/620	1/10, 2/03

Delay 0.15 sec (GeoPulse) and 3.5 is still off due to cross talk.

0155 Position: 29 15 63
88 13 64

Seas 2-4 ft. with light chop and wind out of the south.

0230 Position: 29 18 53
88 14 54

0300 Position: 29 20 83
88 15 22

0330 Position: 29 23 07
88 16 00

0430 Position: 29 26 92
88 17 21

0455 3.5 started back up again. Both records looking good. 26 fathoms water depth. Some rain squalls in area. Barometer 29.97 and falling slightly. Seas relatively calm (1-2 ft.) and winds out of the south.

Position: 29 29 31
88 17 97

0555 Position: 29 33 17
88 19 19

0600 Tape change: 15 to 16

0625 Position: 29 35.78
88 20.01

Weed is removed from the boomer.

0712 Position: 29 38.09
88 20.7

Paper change on the ORE 3.5. New roll is 2/4. Weather is good, all systems go.

0741 Position: 29 40.12
88 21.41

0754 Position: 29 21.01
88 21.66

Located here appears to be a wave cut terrace a la Suter. We will continue line 30 past its intended EOL in order to pick up the up dip termination. To date Leg 2 has logged 100 line miles. In addition, a major break through is occurring-Shea is learning to use the computer.

0809 Position: 29 42.03
88 21.99

EOL line 30 and the beginning of line 31. New heading is 285 with 24.47 miles to run. This line is an onshore dip to the CHI shoreline.

0824 Position: 29 42.03
88 21.99

Dead in water, the 3.5 has broken loose from its bow line. Repairs in progress.

0846 Position: 29 42.44
88 23.73

Repairs completed. Back on line.

0855 Position: 29 42.47
88 23.90

Speed is variable to avoid barge and tug.

0902 Position: 29 42.59
88 24.53

Back on schedule and course.

0939 Position: 29 43.64
88 27.56

All systems are go.

1003 Position: 29 44.30
88 29.74

1029 Position: 29 44.98
88 32.19

1055 Position: 29 45.73
88 34.60

Moving onto the toe of the St. Bernard, transition from eaward dipping clinoforms to distributary channeling. We are on the lower St. Bernard delta.

1137 Position: 29 46.96
88 38.70

1215 Watch change: Randy and Jack on

1220 Position: 29 48 08
88 42 51

1225 Tape change from 16 to 17. Weather remains perfect for seismic profiling. Seas calm (1 ft.) and wind from the south (10-15 knots). Warm moist, tropical air with scattered thunderstorms in area. Skies are mostly cloudy. Barometer is still falling (29.89) and relative humidity at 85%.

1300 Position: 29 49 16
88 45 76

3.5 changed to 1/8 s. sweep. Heading towards southern Chandeleur Islands (just south of Redfish Pt.) on a bearing of 283 degrees. Water depth 35 ft. Beginning to encounter the toe of the Chandeleur Island sandbody, basal parts of tidal inlet channeling.

1315 Position: 29 49 60
88 47 42

30 ft. water depth

1330 Position: 29 49 87
88 48 49

1337 Position: 29 49 94
88 49 30

1341 Position: 29 49 99
88 49 61

EOL 31 and SOL 32. 12 ft. water depth

COURSE	SPEED	TAPE COUNT	PAPER ROLL
9	5.0	17/0480	1/10, 2/4

Currently following the 10 ft. contour (lower shoreface) N-NE along the Chandeleur Islands.

1404 Position: 29 51 75
88 49 25

At this location, tidal inlet channels can be seen overlying distributary channels.

1437 Position
29 54 22
88 48 74

EOL 32 and SOL 33.

COURSE	SPEED	TAPE COUNT	PAPER ROLL
87	5.0	17/0730	1/10, 2/4

1445 Position: 29 54 13
88 47 56

Belt change on 3.5. Weather conditions quickly changing as we head essentially due east into a front. Seas 2-3 ft. with slight chop. Skies completely cloudy and quite dark. Winds out of the SE at about 15-20 knots. Shea down below and Wayne at the wheel.

1505 Position: 29 54 24
88 46 05

Seas 2-4 ft. with constant rain.

1530 Position: 29 54 10
88 44 05

1600 Position: 29 54 06
88 41 70

1606 Paper change on 3.5 (Roll 2/5)

Weather starting to clear slightly but seas still 2-4 ft.

1630 Position: 29 54 07
88 39 10

1715 Position: 29 54 05
88 35 52

1745 Position: 29 54 08
88 33 35

Partly sunny skies and seas have calmed down (2-3ft.).

1817 Position: 29 54.00
88 30.17

Seas are increasing, solid 2-4 feet. We have to deviate to the south of the course to get out of the side sea.

1850 Position: 29 53.88
88 27.07

Tape change to 18.

1927 Position: 29 53.95
88 24.09

EOL line 33. New course 348-5.1 miles to go.2

2000 Position: 29 56.20
88 24.75

EOL line 34-start line 35. New course is 282.

2055 Position: 29 57.55
88 29.92

All systems go, sea 3-5 and following limiting the quality of the data. Currently running line onshore to the Chandeleur lighthouse.

2200 Position: 29 58.95
88 35.93

All systems go, seas are decreasing.

2218 Position: 29 59.30
88 37.58

Roll change on the 3.5 to 2/6.

2318 Position: 29 59.28
88 42.88

2348 Position: 29 59.44
88 45 82

MONDAY June 22, 1987

0002 Position: 29 59.78
88 46.89

EOL line 35-SOL line 36.

Randy and Jack on
Shea and Ken to bed
Bob at the wheel

0045 Position: 30 02 82
88 48 91

EOL 36 and SOL 37

COURSE	SPEED	Tape count	Paper Roll
62	4.7	18/1522	1/11, 2/6

Seas 2-3 ft. with winds out of the SE. Heading towards Petit Bois Island, Mississippi and must cross Pascagoula ship channel. The lights of Gulfport and Pascagoula are visible on the horizon off port.

0100 Position: 30 03 64
88 47 68

0120 Position: 30 04 10
88 46 34

End of Tape 18 and start of Tape 19.

0200 Position: 30 05 49
88 43 11

0250 Position: 30 06 86
88 39 31

Some channeling apparent on Geopulse.

0300 Position: 30 07 23
88 38 38

0350 Position: 30 08 90
88 34 31

0415 Position: 30 09 70
88 32 27

Seas 3-4 ft. and a light wind from the SE. Skies are partly cloudy and temp. about 72 degrees.

0415 Barometer is holding steady at 29.91 with no rain in sight. Horn Island, Mississippi is off port about 3 miles. Water depth about 13.5 meters (40 ft.).

0445 Position: 30 10 81
88 29 40

0451 Position: 30 11 00
88 28 92

EOL 37 and SOL 38

COURSE	SPEED	Tape Count	Paper Roll
177	5.1	19/1073	1/11, 2/6

Heading essentially due south (177 degrees) for about 1 hour. Running over the landward portions of some shoreface-attached sand ridges which have orientations between 115 and 120 degrees. They form oblique angles to the adjacent barrier island shoreline and are open to the southeast. These features form at the base of the shoreface/inner continental shelf during erosional shoreface retreat. Their origin is probably related in this case to a combination of ebb-tidal deltas and shelf storm flow during the passage of large storms (extra tropical and tropical).

0525 Position: 30 08 46
88 28 89

The seismic data is showing tidal inlet channeling underlying the Shoreface-attached ridges. The stratigraphic sequence should include the basal portion of a tidal inlet channel overlain by a possible ravinement surface and capped by ebb-tidal deposits.

0533 Belt change on 3.5

0545 Position: 30 07 07
88 28 98

0558 Position: 30 05 99
88 29 00

EOL 38 and SOL 39

COURSE	SPEED	TAPE/COUNT	PAPER ROLL
265	4.5	19/1289	1/11, 2/6

0633 Position: 30 05.95
88 31.98

Thunderstorms in progress.

0658 Position: 30 05.96
88 33.92

0737 Position: 30 06.00
88 37.20

0805 Position: 30 05.91
88 39.78

Tidal inlet channeling in the area.

0821 Position: 30 05.86
88 41.18

Navigation tape changed from 9 to 10. The data tape was changed from 19 to 20.

0856 Position: 30 05.91
88 44.37

0947 Position: 30 05.81
88 49.20

1017 Position: 30 05.76
88 51.95

3.5 paper change from 2/6 to 2/7.

1040 Position: 30 05.82
88 54.22

1100 Position: 30 05.70
88 56.23

1135 Position: 30 05.84
88 59.88

1141 Position: 30 05.87
89 00.49

Power change on the boomer to 105 joules from 180 joules.

1200 Position: 30 05 80
89 02 20

Randy and Jack on. Shea and Ken off.

1230 Position: 30 05 84
89 04 78

Cat Island, Mississippi is off starboard about 7 nautical miles. Water depth is 10 ft. Skies mostly cloudy with sunny intervals. Seas calm (1 ft.). Watching water depth closely and might abort course if water depth reaches 8 ft.

1245 Position: 30 05 75
89 05 07

Water depth is holding at 9 ft.

1300 Position: 30 05 65
89 07 52

1308 Position: 30 05 68
89 08 06

EOL 39 and SOL 40

COURSE	SPEED	TAPE/COUNT	PAPER ROLL
22	4.9	20/1286	1/11, 2/7

Water depth 8.5 ft. Seas calm. Heading just east of Ship Island, Mississippi. Ship Island is about 3.5 nautical miles off port bow. Will be crossing Cat Island Channel.

1355 Position: 30 09 17
89 06 10

COURSE	SPEED	TAPE/COUNT	PAPER ROLL
24	5.5	20/1406	1/11, 2/7

Located just east of Ship Island, Mississippi. Water depth 16 ft. and seas are like glass. Skies mostly cloudy with some isolated thunder storms. Barometer is 29.90 and holding.

1430 Position: 30 11 82
89 04 72

Excellent tidal channeling showing migration from NE to SW (parallel to Ship Island barrier shoreline).

1445 Position: 30 12 95
89 03 89

EOL 40 and SOL 41

COURSE	SPEED	TAPE COUNT	PAPER ROLL
53	4.7	20/1286	1/11, 2/7

Problems with 3.5 record. Presently no usable data on 3.5 as Ken and Jack work with it. Had to detour to the east (53⁰) to avoid spit/ebb-tidal delta on northern end of Ship Island, Mississippi. Present course will take us across the Gulfport Ship Channel to waypoint 30 16 00 north and 88 58 50 west. At that point, we head for port at

Broadwater Marina. Water depth about 10.5 ft.
with partly sunny skies at present. Seas calm.

1455 3.5 totally shut down

1456 3.5 up and running

1515 Position: 30 14 02
89 01 79

EOL 41 due to shallowing water. Tape 20 ends. LEG
II completed and now pulling in gear. Will be
heading to port within a couple of minutes.

1524 All gear pulled in and we are off to Broadwater
Beach Marina. It's Miller time! Approximately 30
line miles run on leg 2.

1630 Arrival at Broadwater Beach Marina

1645 John and Steve meet the Acadiana.

ACADIANA 87-1 SEISMIC CRUISE LEG III

Personnel: John R. Suter, Louisiana Geological Survey
Steve Anderson, Louisiana Geological Survey
Jack Kindinger, United States Geological Survey
Ken Parolski, United States Geological Survey
C. Lee Black, LUMCON
Wayne Simoneaux, LUMCON

Tuesday, June 23, 1987

0800 Arrive @ Broadwater Beach marina. Morning spent in getting supplies, groceries, plotting Leg III tracklines, and working on log from Leg II.

1021 Depart from Broadwater dock.

1029 Initial problem of day: no LORAN signal to Northstar 6000.

1045 LORAN signal coming back up.

1240 Deploy gear southwest of Dog Keys Pass. We are heading for waypoint 46,
30 12.70
88 47.40

Depth of 3.5 kHz is 3.5 ft. This has been the depth of deployment during the entire cruise.

Benthos hydrophone now deployed on boom out on starboard side of vessel.

1259 SOL 42

Position: 30 12.70
88 47.40

Course	Speed	Tape Count	Paper Roll
149	5.6	21/0035	1/12, 2/8

1303 Boomer started at 105J, so we have upped the power to 175J for now.

1310 3.5 kHz lowered an additional 8." Boom deployment of hydrophone seems to have curtailed the cross talk.

1320 Shallow channel system present in upper unit. At present data quality on the boomer is pretty good, but penetration is limited to about 20-25 msec.

1340 Position: 30 09.57
88 45.61

Course	Speed	Tape count	Paper Roll
148	4.9	21/0310	1/12, 2/08

1400 Position: 30 08.07
88 44.68

Course	Speed	Tape Count	Paper Roll
148	5.2	21/0434	1/12, 2/08

1430 Position: 30 05.87
88 43.45

Course	Speed	Tape Count	Paper Roll
148	4.9	21/0587	1/12, 2/08

Seas about 1', very calm. Data on ORE reflects this, excellent resolution, penetration about 30-40 msec at present. A series of stacked channel systems are visible on the ORE data. 3.5 kHz data not showing much at present.

1438 Course change to 162° as we arrive at waypoint 46. Now steering to waypoint 48, Coordinates:

29 54.90
88 40.00

1500 Position: 30 03.91
88 42.61

Course	Speed	Tape Count	Paper Roll
162	4.2	21/0711	1/12, 2/08

From 1420 to 1450 there is a zone of southerly dipping clinoformal reflectors, just below the upper unit, about 5-10 msec in thickness. This feature occurs about 8 nautical miles east of Hewes Point on the Chandeleur Islands.

1540 Position: 30 00.96
88 41.82

Course	Speed	Tape Count	Paper Roll
162	4.5	21/ 0865	1/12, 2/08

The uppermost unit has thickened fairly rapidly to about 10 msec in this area. Ken turned up the power on the 3.5 kHz, so there is some cross talk showing up on the two records now. Data quality still very good on the boomer, fairly good on the 3.5 kHz.

1605 Position: 29 58.86
88 41.17

Course	Speed	Tape Count	Paper Roll
162	4.3	21/0980	1/12, 2/8

1:250,000 mylar plotting square disappeared from chart table due to increasing clutter. Took about ten minute search to discover it. On the data front, the upper unit, composed of even parallel reflectors continues to thicken as we go south.

1700 Position: 29 54.90
88 40.00

Course Change to 185.

Course	Speed	Tape Count	Paper Roll
185	4.8	21/1160	1/12, 2/08

Upper sequence is separating into two units, interfingering towards the north. Data quality is somewhat lower than before. Seas still about 1', coming out of southeast.

1730 Position: 29 52.72
88 40.48

Course	Speed	Tape count	Paper roll
185	5.0	21/1270	1/12, 2/08

Data quality has fallen off to not much. Definitely on the delta now.

1800 Position: 29 50.72
88 40.88

Course	Speed	Tape Count	Paper Roll
185	4.3	21/1360	1/12, 2/08

Penetration and resolution somewhat better on boomer. Channeling visible on both 3.5 and boomer.

1823 Paper Roll changed 2/09

1830 Position: 29 48.10
88 41.33

Course	Speed	Tape Count	Paper roll
184	4.3	21/1466	1/12, 2/09

Watch change. Steve and Jack on duty.

1859 3.5 changed to 1/4 sec.

1900 Position: 29 45.97
88 41.64

Course	Speed	Tape Count	Paper Roll
185	5.2	1548	1/12, 2/09

1925 Tape Changed from 21 to 22.

1930 Position: 29 43.99
88 42.00

Course	Speed	Tape Count	Paper Roll
184	4.5	22/0100	1/12, 2/09

1954 Course change to 209 heading for waypoint 48

2000 Position 29 41.71
88 42.52

Course	Speed	Tape Count	Paper Roll
209	4.3	22/0303	1/12, 2/09

2030 Position: 29 39.99
88 43.81

Course	Speed	Tape Count	Paper Roll
210	4.6	456	1/12, 2/09

2100 Position: 29 38.03
88 45.23

Course	Speed	Tape Count	Paper Roll
210	4.1	598	1/12 2/09

2130 Position: 29 36.25
88 46.59

Course	Speed	Tape Count	Paper Roll
212	4.6	734	1/12 2/09

2144 Position 29 35.43
88 47.39

Changed course to 218 heading for waypoint 49

2200 Position 29 34.60
88 48.16

Course	Speed	Tape Count	Paper Roll
218	3.4	848	1/12 2/09

2230 Position 29 33.16
88 49.73

Course	Speed	Tape Count	Paper Roll
218	4.1	968	1/12 2/09

2300 Position 29 31.54
88 51.36

Course	Speed	Tape Count	Paper Roll
219	4.4	1078	1/12 2/09

2330 Position: 29 29.87
88 53.25

Course	Speed	Tape Count	Paper Roll
218	4.1	1187	1/12 2/09

2400 Position: 29 28.31
88 54.80

Course	Speed	Tape Count	Paper Roll
218	4.4	1276	1/12 2/09

Wednesday, June 24, 1987

0030 Position: 29 26.58
88 56.61

Course	Speed	Tape Count	Paper Roll
219	5.1	22/1383	1/12, 2/09

Both 3.5 and Geopulse showing highly irregular channelized(?) unit in upper sediments.

0120 Position: 29 23.89
88 59.44

Course	Speed	Tape Count	Paper Roll
219	5.0	22/1525	1/12, 2/09

Data uniformly delta-like-i.e., very little penetration and not much resolution, either.

0200 Approaching the end of line 42. Data continues fair, with contorted but conformable reflectors the norm in the Geopulse line.

0205 EOL 42, SOL 43

Position: 29 21.30N
89 02.20W

0205 continued

Course	Speed	Tape Count	Paper Roll
131	5.4	23/0010	1/12, 2/09

Next waypoint (50): 29 11.25
88 50.80

Seas very calm, about 1' about from the SE, so we have head seas right now. Data quality continues OK, nothing spectacular.

0300 Position: 29 17.25
66 57.52

Course	Speed	Tape Count	Paper Roll
131	5.3	23/0464	1/12, 2/09

Water Depth: 14 fathoms. Data quality improving for Geopulse. There is a large but indistinct channel present around 0240.

0350 Position: 29 14.28
88 54.15

Course	Speed	Tape Count	Paper Roll
131	5.7	23/0635	1/12, 2/09

Penetration and resolution has gone to essentially nothing. Slumping apparent on data.

0430 Position: 29 11.40
88 50.94

Course	Speed	Tape Count	Paper Roll
131	5.6	23/0830	1/12, 2/09

0440 EOL 43, SOL 44

Course 42
Heading for waypoint 50, which is the same as
waypoint 34, coordinates:
29 20.60N
88 39.80W

0530 Position: 29 13.95
88 47.76

Course	Speed	Tape count	Paper roll
42	4.7	23/1080	1/12, 2/09

Large channel system with clinoformal fill visible in Geopulse data, with about 15 msec of sediments overlying it.

0600 Position: 29 16.14
88 45.07

Course	Speed	Tape count	Paper roll
42	4.7	23/1148	1/12, 2/09

Running Line 44. Seas <1', data quality fair to good. Channel system still visible.

0630 Position 29 17.60
88 43.32

Course	Speed	Tape count	Paper roll
42	4.8	1228	1/12 2/10

0700 Position 29 19.40
88 41.11

Course	Speed	Tape count	Paper roll
42	5.2	1319	1/12 2/10

0717 Position 29 20.67
88 39.83

Changed course to 311 now running line 45

0720 EOL 44, SOL 45

0730 Position 29 21.15
88 40.48

Course	Speed	Tape count	Paper roll
311	4.7	1408	1/12 2/10

0800 Position 29 22.82
88 42.37

Course	Speed	Tape count	Paper roll
311	4.8	1496	1/12 2/10

End of tape 23. Start 24

0830 Position 29 24.53
88 44.26

Course	Speed	Tape count	Paper roll
311	3.1	48	1/12 2/10

0845 Belt changed on 3.5

0900	Position	29 26.13		
		88 46.18		
	Course	Speed	Tape count	Paper roll
	311	4.0	256	1/12 2/10
0930	Position	29 27.82		
		88 48.12		
	Course	Speed	Tape count	Paper roll
	311	5.1	440	1/12 2/10
1000	Position	29 29.49		
		88 50.18		
	Course	Speed	Tape count	Paper roll
	311	4.2	596	1/12 2/10
1030	Position	29 31.11		
		88 52.06		
	Course	Speed	Tape count	Paper roll
	311	3.8	724	1/12 2/10
1100	Position	29 32.78		
		88 53.98		
	Course	Speed	Tape count	Paper roll
	311	4.3	853	1/12 2/10
1102	Paper changed 1/13			
1130	Position	29 34.40		
		88 55.75		
	Course	Speed	Tape count	Paper roll
	310	4.6	962	1/13 2/10
1200	Position	29 36 13		
		88 57.75		
	Course	Speed	Tape count	Paper roll
	308	3.9	1077	1/13 2/10
1216	Position	29 37.04		
		88 58.82		

EOL 45, SOL 46

Line 46 is being run parallel to the gaps between Curlew and Grand Gosier Islands in about 12 ft. of water.

1300 Position: 29 33.79
89 00.79

Course	Speed	Tape Count	Paper Roll
206	5.0	24/1294	1/13, 2/10

Profiling conditions ideal with seas <1', virtually no wind. This close to shore it also means numerous mosquitoes on the back deck. That problem will take care of itself when we turn offshore in about 30 minutes. Data here is not showing much. There seems to be a fairly strong current coming out from in between the islands, causing us to drift slowly off course to the southeast.

1330 Position: 29 31.83
89 02.14

There are a series of small shoal sand bodies showing up on this line parallel to the inlet in between Grand Gosier and Curlew Islands.

1335 EOL 46, SOL 47

Position: 29 31.56
89 02.31

Course	Speed	Tape Count	Paper Roll
125	4.0	24/1385	1/13, 2/10

Now turning to the southeast to fill in grid spaces left from Leg I activities in this area.

1430 Position: 29 28.88
88 57.60

Course	Speed	Tape count	Paper Roll
128	5.2	24/1540	1/13, 2/10

3.5 kHz indicates much shallow channeling in this area, Geopulse looks like the sediments are gas charged. Currently, penetration is about 15 msec.

1442 Pull in boomer to clean of seaweed. There wasn't much. However, there were a lot of mosquitos.

1525 Position: 29 25.85
88 53.77

Course	Speed	Tape count	Paper Roll
128	5.1	25/0087	1/13, 2/10

Conditions are as before, data still showing much shallow channeling. Not much penetration on the Geopulse, about 15-20 msec.

1540 The appearance of the uppermost sequence of sediments showing up on the Geopulse data is a very close approximation to the types of units that Ship Shoal rests on, that have usually been called distributary channeling for want of a better term.

1600 Position: 29 23.67
88 50.90

Course	Speed	Tape count	Paper Roll
128	4.7	25/0350	1/13, 2/10

Both 3.5 and Geopulse are showing a 20 msec thick sequence of seaward dipping clinoformal reflectors.

1640 Position: 29 21.85
88 48.58

Course	Speed	Tape count	Paper Roll
127	4.5	25/0523	1/13, 2/10

Seas <1', out of the southeast. Winds >5 knots, but not by much. Data looking fair, obvious clinofolds pinched out.

1710 Position: 29 20.34N
88 46.56W

EOL 47, SOL 48

Course	Speed	Tape Count	Paper Roll
288	4.5	25/0667	1/13, 2/11

Turning onto new course, headed for seaward terminus of MRGO. Plan then is to go into Breton Sound and proceed north to run some more lines.

1800 Position: 29 21.70
88 50.28

Course	Speed	Tape Count	Paper Roll
287	4.8	25/0860	1/13, 2/11

Data shows only the sediments of the St. Bernard delta. Seas beginning to pick up slightly, coming out of the southwest. Wind building slightly, some whitecaps visible.

1830 Position: 29 22.61
88 53.03

Course	Speed	Tape Count	Paper Roll
287	4.2	25/0988	1/13, 2/11

1900 Position: 29 23.25
88 55.14

Course	Speed	Tape Count	Paper Roll
288	3.8	25/1095	1/13, 2/11

Course	Speed	Tape count	Paper Roll
287	6.3	25/1198	1/13, 2/11

1932 Northstar 800 LORAN down

1942 Northstar 800 back up

1944 Northstar 800 down

1952 Northstar 6000 has low signal strength

2003 Position: 29 25.09
88 59.15

Course	Speed	Tape count	Paper Roll
325	3.7	25/1305	1/13, 2/11

2010 Entering MRGO.

2030 Position: 29 26.05
89 00.87

Course	Speed	Tape Count	Paper Roll
294	4.5	25/1386	1/13, 2/11

2100 Position: 29 27.58
89 02.89

Course	Speed	Tape Count	Paper roll
--------	-------	------------	------------

2130 295 3.9 25/1476 1/13, 2/11
Position: 29 28.34
89 04.99

Course	Speed	Tape Count	Paper Roll
292	4.2	26/0098	1/13, 2/11

2156 Moving to right of channel to avoid large boat traffic.

2200 Position: 29 29.65
89 07.47

Course	Speed	Tape Count	Paper Roll
306	4.6	26/0300	1/13, 2/11

2220 Back in MRGO channel

2300 Position: 29 31.03
89 09.60

Course	Speed	Tape Count	Paper Roll
303	5.5	26/0469	1/13, 2/11

2330 Position: 29 34.11
89 11.72

Course	Speed	Tape Count	Paper Roll
295	4.3	26/0608	1/13, 2/11

2400 Position: 29 35.26
89 16.40

Course	Speed	Tape Count	Paper Roll
298	4.9	26/0868	1/13, 2/11

Thursday, June 25, 1987

0020 Position: 29 37.00
89 17.91

Course	Speed	Tape Count	Paper Roll
288	4.5	26/0948	1/13, 2/11

Data we are getting is truly pitiful. Some ideas work out properly, but not this one.

0030 Position: 29 37.42
89 18.65

EOL 48, SOL 49

Course	Speed	Tape count	Paper Roll
28	4.5	26/0984	1/13, 2/11

0030 continued

Running northeast as close to the landward margins of Breton and Chandeleur Sounds as we feel safe. Data won't be very good, but hopefully distributary positions will be visible.

0056 Maneuvering to avoid yet another uncooperative shrimper. Most of these guys don't respond to radio hails. Sometimes there is no one in the wheelhouse. Makes life interesting.

0115 Position: 29 40.98
89 16.19

Course	Speed	Tape Count	Paper Roll
25	6.8	26/1150	1/13, 2/11

Data looks relatively pitiful, but we'll keep going, looking for distributaries. Checked on condition of tow as we are doing close to 7 knots; everything looks good.

0157 Change power on Geopulse to 105J.

0200 Position: 29 44.33
89 14.08

Course	Speed	Tape Count	Paper Roll
25	5.3	26/1286	1/13, 2/11

Getting about 5-8 msec penetration on both tools. However, there is some resolution, enough to make continuing the line quasi-worthwhile.

0315 Position: 29 49.96
89 10.43

Course	Speed	Tape Count	Paper Roll
23	5.2	26/1509	1/13, 2/11

Data has shown a few channels, but nothing much. Bommer down briefly, knocked out by A/C problem.

0325 Course change to 325

0330 Change to data tape 27.

0405 Position: 29 53.31
89 07.45

Course	Speed	Tape Count	Paper Roll
34	4.3	27/0214	1/13, 2/11

0405 continued

Windstill conditions, which augurs well for the seas we will experience later today and tomorrow when we are once again offshore. Current data is not showing much.

0430 Position: 29 54.68
89 06.19

Course	Speed	Tape Count	Paper Roll
35	4.8	27/1357	1/13, 2/12

Change to paper roll 2/12.
Change course to 38.

0510 Position: 29 57.17N
89 03.58W

Course	Speed	Tape Count	Paper Roll
38	4.8	27/0550	1/13, 2/12

Boomer shut down again by power surge. Doesn't matter as it is not showing much anyway. However, it is back on.

0530 Position: 29 58.34N
89 02.37W

Course	Speed	Tape Count	Paper Roll
38	4.6	27/0653	1/13, 2/12

0600 Shift change

0630 Position: 30 02.26
88 58.29

Course	Speed	Tape Count	Paper Roll
38	6.2	27/0912	1/13, 2/12

0700 Position: 30 04.40
88 56.04

Course	Speed	Tape Count	Paper Roll
38	5.6	27/1034	1/13, 2/12

0730 Position 30 06.05
88 54.30

Course	Speed	Tape Count	Paper Roll
38	5.4	27/1128	1/13, 2/12

0800 Position: 30 08.04
88 52.28

Course	Speed	Tape Count	Paper Roll
38	5.3	27/1230	1/13, 2/12

0830 Position: 30 09.79
88 50.45

Course	Speed	Tape Count	Paper Roll
38	5.2	27/1324	1/13, 2/12

0900 Position: 30 11.69
88 48.36

Course	Speed	Tape Count	Paper Roll
36	5.0	27/1415	1/13, 2/12

0914 Position: 30 12.72
88 47.41

EOL 49, SOL 50

0930 Position: 30 12.57
88 45.91

Course	Speed	Tape Count	Paper Roll
91	5.3	27/1502	1/14, 2/12

1000 Position: 30 12.37
88 43.02

Course	Speed	Tape Count	Paper Roll
91	5.2	27/1588	1/14, 2/12

1030 Position: 30 12.15
88 39.97

Course	Speed	Tape Count	Paper Roll
92	5.1	28/0216	1/14, 2/12

1044 Position: 30 11.94
88 38.46

Course	Speed	Tape Count	Paper Roll
176	5.1	28/0308	1/14, 2/12

EOL 50, SOL 51

1130 Position: 30 08.61
88 38.49

Course	Speed	Tape Count	Paper Roll
--------	-------	------------	------------

1200 176 3.7 28/0551 1/14, 2/12
Position: 30 06.40
88 38.49

Course	Speed	Tape Count	Paper Roll
176	4.4	28/0690	1/14, 2/12

1235 Position: 30 03.82N
88 38.48W

Course	Speed	Tape count	Paper Roll
176	5.1	28/0840	1/14, 2/12

Power on Geopulse raised to 175J. Penetration is about 30-40 msec, data quality fair. 3.5 penetration less than 10 msec.

1252 Position: 30 02.50
88 38.50

EOL 51, SOL 52

Course	Speed	Tape Count	Paper Roll
256	5.2	28/0900	1/14, 2/12

Heading onshore to northern Chandeleurs to fill in grid. Currently, seas are about 2' out of the south-southeast.

1330 Position: 30 02.38
88 48.86

Course	Speed	Tape Count	Paper Roll
254	3.9	28/1030	1/14, 2/12

Getting good records at present, penetration about 50 msec on Geopulse. Side seas making the boat rock and roll. R/V Acadiana doesn't like anything but tail seas.

1405 Position: 30 01.17
88 44.01

Course	Speed	Tape Count	Paper Roll
256	4.1	28/1170	1/14, 2/12

Penetration on 3.5 better, 20 msec. Geopulse getting excellent penetration, showing an irregular surface at about 40 msec.

1410 Data quality on both records went south.

1435 Shut down 3.5 kHz due to bad belt, poor data quality, and proximity to end of line.

1445 Position: 30 01.25
88 46.99

EOL 52

Haul in gear and run to next point.

1538 Deploy gear, configuration as before.

1545 Resume operation of seismic devices, heading for beginning of Line 53.

1551 SOL 53

Position: 29 52.00
88 48.75

Course	Speed	Tape Count	Paper Roll
93	4.8	28/1294	1/14, 2/12

1615 Position: 29 51.81
88 46.22

Course	Speed	Tape Count	Paper Roll
93	4.8	28/1375	1/14, 2/12

Data quality fair. Side seas currently 2-3', rocking the boat severely. Any more than this and we will not be able to hold the course. Winds currently about 10 knots, judging by a few whitecaps. These seas are very short period, probably spawned by thunderstorms.

1700 Position: 29 51.47
88 41.54

Course	Speed	Tape Count	Paper Roll
93	5.0	28/1515	1/14, 2/12

Data quality fair. Passing over shallow channel system.

1730 Position: 29 51.07
88 38.70

Course	Speed	Tape Count	Paper Roll
93	5.0	29/0113	1/14, 2/12

Data, sea state as before.

1750 Change power on Geopulse to 280J.

1800 Position: 29 50.78
88 36.00

Course	Speed	Tape Count	Paper Roll
93	5.2	29/0289	1/14, 2/12

Neither of the tools is showing much right now.

1830 Position: 29 50.46
88 32.86

Course	Speed	Tape Count	Paper Roll
93	5.4	29/0460	1/14, 2/13

1900 Position: 29 50.15
88 29.97

Course	Speed	Tape Count	Paper Roll
93	5.1	29/0607	1/14, 2/13

1930 Position: 29 49.76
88 26.89

Course	Speed	Tape Count	Paper Roll
93	5.5	29/0738	1/14, 2/13

2000 Position: 29 49.65
88 26.68

Course	Speed	Tape Count	Paper Roll
94	4.9	29/0866	1/14, 2/13

2030 Position: 29 49.04
88 20.46

Course	Speed	Tape count	Paper Roll
93	5.6	29/0985	1/14, 2/13

2100 Position: 29 48.77
88 17.35

Course	Speed	Tape Count	Paper Roll
94	5.6	29/1087	1/14, 2/13

2130 Position: 29 48.40
88 14.06

Course	Speed	Tape Count	Paper Roll
93	5.7	29/1190	1/14, 2/13

2200 Position: 29 47.98
88 10.86

Course	Speed	Tape Count	Paper Roll
93	5.7	29/1286	1/14, 2/13

2217 Position: 29 47.75
88 08.95

EOL 53, SOL 54

Course	Speed	Tape Count	Paper Roll
356	5.2	29/1340	1/14, 2/13

2230 Position: 29 48.74
88 09.02

Course	Speed	Tape Count	Paper Roll
356	4.5	29/1380	1/14, 2/13

2300 Position: 29 51.27
88 09.03

Course	Speed	Tape Count	Paper Roll
356	4.8	29/1470	1/14, 2/13

2330 Position: 29 53.80
88 09.02

Course	Speed	Tape Count	Paper Roll
356	5.1	29/1556	1/14, 2/13

2400 Position: 29 55.22
88 09.03

Course	Speed	Tape Count	Paper Roll
356	5.0	30/0000	1/14, 2/13

Friday, June 26, 1987

0100 Position: 30 01.30
88 08.95

Course	Speed	Tape Count	Paper Roll
356	4.7	30/1507	1/14, 2/13

Crosstalk seems to be getting worse. Can't be removed without synchronizing the recorders. Unfortunately, everytime the air conditioner cycles on, it removes synchronization, so we have just left the crosstalk in. Currently, 3.5 data is not very good, while Geopulse is showing >50 msec of penetration, mostly parallel reflectors,

with about a three cycle pulse width.

0130 Position: 30 03.69
88 08.99

Course	Speed	Tape Count	Paper Roll
356	4.0	30/0609	1/14, 2/13

Passed over two small ridges at 0125.

0200 Position: 30 05.74
88 09.00

Course	Speed	Tape Count	Paper Roll
356	4.6	30/0774	1/14, 2/13

Passing over a shallow, surface channel system.

0240 Position: 30 08.94
88 08.98

Course	Speed	Tape Count	Paper Roll
356	5.4	30/0925	1/14, 2/13

Penetration on Geopulse about 50 msec. 3.5 kHz
looks OK, but not great.

0330 Position: 30 13.88
88 09.00

Course	Speed	Tape Count	Paper Roll
356	4.7	30/1130	1/14, 2/13

Data quality fair. Approaching end of Line 54.

0345 Position: 30 14.80
88 08.96

EOL 54, SOL 55

Course	Speed	Tape Count	Paper Roll
253	4.7	30/1160	1/14, 2/13

New course runs parallel to western end of Dauphin
Island.

0400 Position: 30 14.55
88 10.32

Course	Speed	Tape Count	Paper Roll
253	5.1	30/1210	1/14, 2/13

Data quality poor, as side seas are making it too
rough.

0430 Position: 30 14.00
88 13.00

Course	Speed	Tape Count	Paper Roll
180	4.0	30/1310	1/14, 2/13

EOL 55, SOL 56

Turn made right in central portion of large Pleistocene channel.

0515 Position: 30 10.51
88 12.97

Course	Speed	Tape Count	Paper Roll
176	4.8	30/1450	1/14, 2/14

Data quality OK for both devices, but not showing very much at present. Paper changed on 3.5 kHz recorder.

0600 Position: 30 06.76
88 13.02

Course	Speed	Tape Count	Paper Roll
176	5.0	30/1580	1/14, 2/14

Nearing end of line 56. Since 0528 we have been profiling down dip of a good sized near surface channel system.

0610 Position: 30 05.90
88 13.00

Course	Speed	Tape Count	Paper Roll
268	5.0	end 30	1/14, 2/14

EOL 56, SOL 57. Good records with Geopulse in this area. 3.5 doesn't show much.

0630 Position: 30 05.99
88 14.68

Course	Speed	Tape Count	Paper Roll
266	4.1	31/0138	1/14, 2/14

0651 Position: 30 06.02
88 16.52

EOL 57, SOL 58

Course	Speed	Tape Count	Paper Roll
--------	-------	------------	------------

356 4.9 31/0286 1/14, 2/14
0730 Position: 30 09.18
88 16.50

Course Speed Tape Count Paper Roll
356 5.6 31/0490 1/14, 2/14

0800 Position: 30 11.59
88 16.46

Course Speed Tape Count Paper Roll
355 5.3 31/0628 1/14, 2/14

0821 Position: 30 13.48
88 16.46

EOL 58, SOL 59

Course Speed Tape Count Paper Roll
242 4.6 31/0726 1/15, 2/14

0900 Position: 30 12.27
88 19.76

Course Speed Tape Count Paper Roll
236 4.4 31/0883 1/15, 2/14

0902 Position: 30 12.14
88 20.02

EOL 59, SOL 60

Course Speed Tape Count Paper Roll
176 4.4 31/0897 1/15, 2/14

0930 Position: 30 09.88
88 19.95

Course Speed Tape Count Paper Roll
176 5.4 31/0998 1/15, 2/14

1003 Position: 30 06.96
88 19.97

Course Speed Tape Count Paper Roll
261 5.0 31/1117 1/15, 2/14

EOL 60, SOL 61

1030 Position: 30 06.68
88 22.29

Course Speed Tape Count Paper Roll
260 4.6 31/1203 1/15, 2/15

1100 Position: 30 06.45
88 24.97

Course	Speed	Tape Count	Paper Roll
258	4.9	31/1301	1/15, 2/14

1143 Position: 30 06.03
88 29.00

EOL 61, SOL 62

Course	Speed	Tape Count	Paper Roll
243	4.7	31/1434	1/15, 2/14

1200 Position: 30 05.49
88 30.46

Course	Speed	Tape Count	Paper Roll
243	5.0	31/1481	1/15, 2/14

1230 Position: 30 04.40
88 33.28

Course	Speed	Tape Count	Paper Roll
243	5.4	31/1530	1/15, 2/14

Data quality during the past few hours has been very good. Ran across the zone of sand ridges south of Petit Bois Island and got some excellent records showing them localized over probable channel facies. Penetration on the Geopulse averaged about 25 msec, limited by a strong seafloor multiple. 3.5 kHz quality good to fair. Currently running towards a point off of the northern Chandeleur Islands, tying into our previous grid. This will complete the profiling, and should occur circa 1320.

1300 Position: 30 03.38
88 36.00

Course	Speed	Tape Count	Paper Roll
244	5.7	31/1570	1/15, 2/14

3.5 kHz records are not showing much. Geopulse has about 25 msec penetration with fair resolution, although it shows mostly parallel reflectors. The weather has been very kind the last few days, with the exception of the rough water around Dauphin Island. Right now we have about 1' ground swell, but no seas to speak of.

1320 End of tape 31. No new one being put in due to proximity to end of line and profiling.

1327 Position: 30 02.50
88 38.50

EOL 62. EOC!

1341 All gear on deck, commence run for Broadwater Beach Marina via Dog Keys pass.

1632 Arrive Broadwater Beach Marina amidst drizzle and threats of thunderstorms.

1800 Packing and loading of various gear is completed. R/V Acadiana prepares to leave for return trip to Cocodrie.