

FM 31 January 1986 all times local (GMT-6)

Departed Austin ~ 0840 2 Jan 86 in vac with 7 students  
arrived Galveston dock ~ 1330

2-4 Jan Rigged Piston Corer

(Selected 3 corepipes - 2 spares + 1 rigged); went through as much of a mock coring operation as possible including putting the trigger core overboard and transferring corer weight from the ~~winch to the~~ chain hoist to the winch and back to the chain hoist.

Went over detailed, hands on operation of data logger; 3.5 kHz system & DFS-DEMUXR. The last was down much of the time (PDP 1134 problems) so real simulation sessions were able only one night.

The students began their watch standing schedule immediately Thursday after noon (Jan 2)

4 Jan Departed dock at high tide late AM - very smooth turn around and undocking

Sea off shore were calm. Fire & emergency drill ~ 1300 went smoothly. Life raft operation explanation next to stacks seems almost futile because of noise level.

12 KC pinger-transducer checked out ok ~ 2000

5 Jan arrived first coring area & began 3.5 survey ~ 2315

A norther had arrived (60 knot gust was recorded).

Weather too rough for coring; 3.5 survey had to be conducted at about 1/2 speed (4kt instead of 8) only one or two students per watch were able to work. [A total of 17 students were split into watches of 12-4 (6); 4-8 (5); 8-12 (6).

~ 1500 headed for 2<sup>nd</sup> study area (coring & OBS drops).

Surveyed (3.5 kHz) until ~ 0200 6 Jan

6 Jan proceeded to first OBS Drop site 03:13:50 ~ 26 56.57 94 13.68

proceeded to second OBS Drop site 04:05:26 ~ 26 58.87 94 07.46

05:50 Deployed 2 air guns

0600:51 - 0601:58 gun test shots (4)

OBS Calibration Shots

1	0624:03	26	50.68	94	07.14	location approx.	all location
2	0655:00	26	51.70	94	07.64	logger keyed on shot	
3	0710:00	26	52.78	94	08.17	"	"
4	0725:00	26	53.83	94	8.70	"	"
5	0740:00	26	54.89	94	9.19	"	"

6 Jan ~ 0800 relieve guns & shut down compressors;  
head for core site # 1 (adjacent to OBS 1)

0850 - 1245 Take core 1 much time was used getting  
the winch level winder working in the right direction.  
Due to this time factor, we drifted ~~the~~ past the actual site I  
had tried to hit. We also rerigged completely before getting back

1245 - underway to new coring site - 1415

1609 core 2 on deck - objective hit directly

1655 begin transit to steamer party site

Doppler speedometer lost calibration - apparent speeds are wild.

Manual speed entry to SATNAV from now on.

2010 begin steamer party

2250 end steamer party removed 38 leads

water temp =  $23.2^{\circ}\text{C}$   $73.8^{\circ}\text{F}$   $21\frac{1}{2}\%$  apparent reduction  $237\text{ lb} \rightarrow 194\text{ lb}$

last deployment (May 85) was at  $\sim 80^{\circ}\text{F}$   $17\frac{1}{2}\%$  real reduction  $226\text{ lb} \rightarrow 194\text{ lb}$

@  $2.4\%$  buoyancy change/ $^{\circ}\text{F}$   $15\%$  should have been needed

Front & rear end responded to depth controls correctly. all others were  
somewhat shallower - the section around channels 20-21 the  
most so, so I took in 8 sections & added  $6\frac{1}{2}\text{ lb}$  lead.  <sup>$\Sigma = 14\%$</sup>  The whole  
streamer turned out heavy. The faster we pulled it, the shallower  
it rode - the slower = the deeper.  $\therefore$  Birds were lifting it to its  
shallow positions (25' at 4000 50' setting).  $\therefore$  Birds are out of  
calibration. The added weights had no apparent effect on the  
shooting of certain sections. 2<sup>nd</sup> steamer party ~ 0000 - 0200

7 Jan Transit to 1<sup>st</sup> line (SC 80)

0301 started taking data on SC 80 ~ 27 02.4 93 48.5

0438 PORT GUN NOT FIRING

0500-0515 pulled & repaired port gun

0600-0611 slight turn ( $\sim 226 \rightarrow 208$ ) onto planned start of SC 80

(we started shooting ahead of schedule up line)

0648 Port gun down

0718 Port gun back in

0738 Port gun pulled - pulled

1100 deployed Maggie - paper number flakey - taped data ok

0330 Navigation communications problems develop - course too  
southerly 0330-0630

0730 pressure dropping; guns getting weaker

7 Jan 86

3PM Weather Map showed very bad norther coming around supper time. Ken Griffith suggested pulling Maggie to keep it from fouling guns & streamer - did so.  
 ~730 ~~the~~ poor gun performance & building ~~rag~~ rough seas caused me to order both guns pulled & secured until further notice.

Turned northward blowing SC 81 with plan to pickup data on due west course SC 82 when weather permitted.

8 Jan 0000 weather deteriorating - continuing on 270°  
 1200 " " " " "

1430 streamer rubbing on starboard stanchion - checked by George. turned more down wind (180°)

1500-1530 Checked streamer alignment & adjusted course to ~200°  
 Seas 8-12'. Water occasionally coming in top of bulkhead door to the back deck.

9 Jan 0000-1300 continue downwind - slight shift to the SE. inboardmost streamer depth transducer at >100' all others remain at previous depths - the 2<sup>nd</sup> one (between section 20 & 21) is ~20' which makes it seem highly unlikely that the 1<sup>st</sup> one is really as deep as it says. 1300 very slight no; seas the same.

1600-1700 watched streamer from upper deck; saw loose gun line - starboard side - Oscar & George retrieved it. Adjusted course 10° (westward) to straighten streamer. Tried going slow ahead on 1 rather than 2 - no apparent problem with the streamer - still rode as straight back - not much more if any wash onto the deck. Recommended to bridge to continue dead slow on 1.

OBS refraction line will not be done - we may be able to pick up 2 or 3 MC lines yet on return to OBS; #2 pickup.

1900 Wind seems to have laid by ~5kt (from 30-35 to 25-30); still too rough to turn around or to bring in streamer. Bridge watches will advise of any further reduction in storm.  
 2300 Ride is calmer, but seas still breaking over the stern.

10 Jan 0700 ride (still downwind) is rougher than last night. Seas seem only slightly down but more confused. Checked back deck - starboard gun is loose.

Oscar & I secured it. Its mount, fortunately was up against the forward bulkhead. It was swinging but amazingly didn't wreck anything.

Wooden deck is all torn up - will make steamer work very hard

0830 began turn to north pulling steamer. Can't work on steamer in following seas because of wooden deck wreckage tied up to steamer winch.

1000 Can't work on deck going into the seas either:

Too awash with wooden deck pieces tied down all over the place. However we are making 4-5 kt back to the NW

1700 beating back against 7-10' seas. Weather map says they are essentially Gulf wide & will persist through tomorrow. Anemometer runs long periods at 40-45 kt. Making only about 4 kt.

All students seem to have their sea legs - are up & about at least sometime. Gave them extra copies of their exercises since all movies have been run at least once.

11 Jan 0800 Seas dropped to 4-6' wind 25 kt N

able to pick up speed to 5 1/2 kt.

AM Rebuilt steamer work deck - 2/3 to 3/4 of it was salvageable.

PM cleaned & reorganized all coring gear.

attained 6 kt. - now limited by towing steamer - if we picked it up we could save ~4 hr. retrieval & redeployment would take about that long, so there's no advantage to picking it up. plan to restart a line at 26° 09' N or maybe at 26° 00'. Should be able to get in 3 lines (SC 81, 82, 83 & 84?)

The reel's depth sensors were switched to digital depth meters/displays which seemed to work well except one that flickered between less than 6.0 and more than 7.9 (i.e., 6's & 7's wouldn't display).

2000 Saw Halley's comet; making 6+ kt to 26° 45' ETA 0030 12 Jan

Mass Comp being set up to record sonobuoys and one OPS channel

Mass Comp did good job on 3.5 kHz so long as there was only one buoy.

12 Jan Put guns in the water shortly after midnight. shot short line up to 26° 09' (on 2500 2600-2609) took 1/3 of the line to get guns firing smoothly. turned due east for 10 hrs (SC 82); shot a short line sat'ly ~2hr & began hot line (SC 84) about 1700. Port gun keeps breaking air line.

finished line 82 ~1300; shot SC 83; longer SC 84 @ 030° ETA and ~0830 tomorrow threw sonobuoy at beginning of SC 84 on way up Sigma Escarpment.

13 Jan 86

0355 awakened by Paul McHersan ~~to the~~ w/news that the OBS probably came up 24 hrs early (yesterday afternoon @ 3:30 PM). Checked his calculations & the error seemed to be true. Began students tabulating Drift from the data logger printer.

Ended line; pulled Maggie; pulled guns, pulled steamer. We heard OBSs near end of line. Sandy got a sense of direction to them which ~~was~~ <sup>was</sup> quite close to the position predicted by drift vectors. Steamer Party ~ 0830-1000

1000-1245 OBS HUNT picked up 2<sup>nd</sup> released OBS ~1245 picked up 2<sup>nd</sup> OBS M410  
 Proceed to core site ~ 26° 46.5' 94° 04.1' 26° 41.7' 94° 07.3'

(Same as site 1) OBS Drop site 1 [ 26 56.57 94 13.68 ]

Got very successful core just before supper.

After the first OBS pickup Oscar slipped on the greasy back deck and knocked himself out. He seemed to recover, but got less and less functional. So instead of holding another steamer party, shooting a combination airgun/water gun line, and coming again tomorrow; we hooked up for Galveston. Capt Sandy also got in touch with the Coast Guard & they sent out a helicopter & picked Oscar up. ~ midnight.

I had a crew of students mop up the greasy decks Turned in 0311

14 Jan 86 0830 seas FLAT! en route to Galveston ETA ~ 12:00

Leigh Drorak reported that she'll need a doctor as soon as we arrive at the Dock. We called Ms Hooks thru the marine operator & she'll try to make arrangements.

Passed Sea Buoy 11:09  
 entered boat basin 12:15