1448 31

SOUTH CAROLINA JUNE 1997

Seismic / Sidescan

Isle of Palms nearshore parallel.

830. Seas 2' skies overcast

Sidescan parameters from St. Johns:

NAV ON PLGR. PLN ~~Shoting 500 ms~~ rec. 250 ms Sample Freq 16000 Hz

Synch. MASTER ~~GAIN AUTO~~ BAND PASS 320-4800

AGC ON EXP. ~~Spectrum Analysis 16 ms~~ last 5 items OFF

Going w/ settings:

Shoting 500 ms Rec. 250 ms Samp. Freq. 16000 Hz manual settings

Band Pass 320-4800 Hz AGC on, Decreasing

Port side side scan operating intermittently. Determine it to be faulty plug at fish. After much effort can not remediate situation. Must replace cable (from truck) Scratch sonar and record seismic only for today. Zig-zag on and offshore starting at Breach inlet. Manually input waypts on screen

SOL SB-1 (SC697.SB) 144831 shoreward zig.

turn ~~at 15~~ seaward (towards Rattlesnake shoal) at 1510

heading to 32°44.146 N 79°44.819.

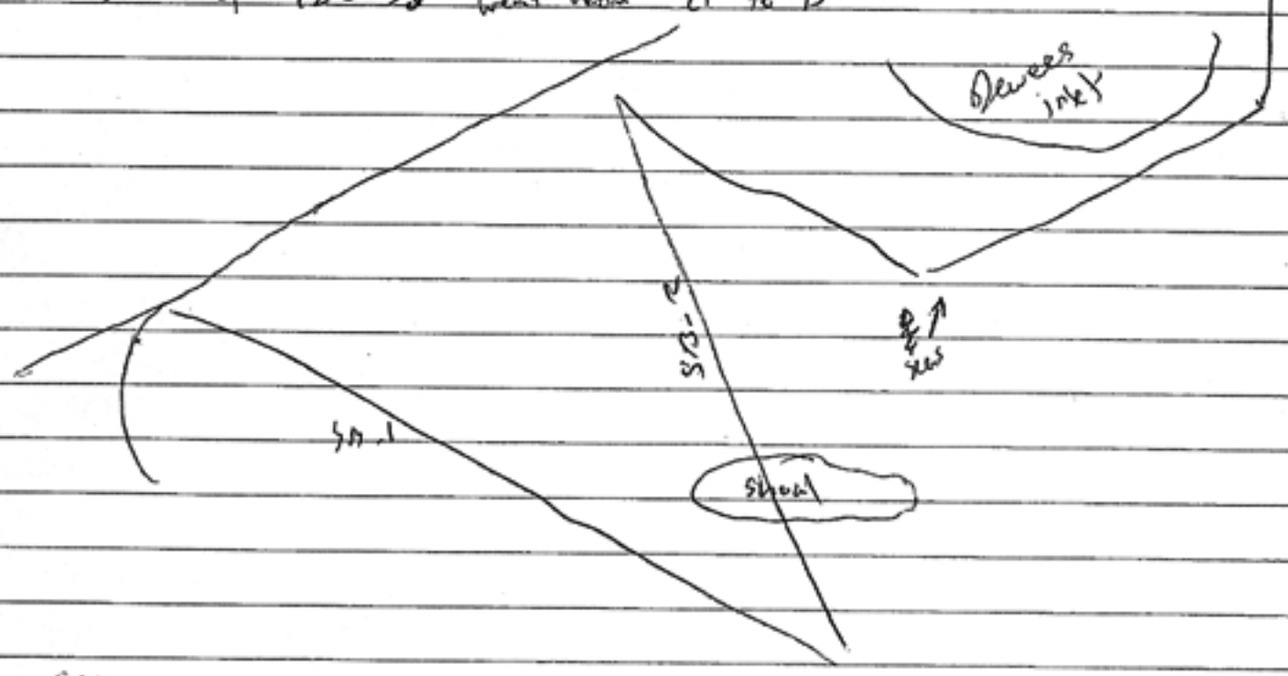
into 2' chop

164735 reach above pt turn shoreward accross Rattler shoal

SOL SB-2 turning at start 161922, straighten out @ 162214

winds increasing, heading w/ swell/chop

shoal at 122635 went from 21' to 13'



EOL 171703

turning seaward to just off NE marker buoy

SOL SB-3 171869 heading ~~into~~ oblique into 3' chop increasing

175839 turn NE w/ seas, head across front of Dewees inlet

183926 turning inshore, north side of Dewees

190456 turning parallel to shore - heading to Price inlet. (end near price 1942

Seismic 8.25 ½ pt

6/2 leave dock 630. Skies overcast. Seas 3' SE light chop.
Continuing line from ~~last~~ yesterday (just south of Price Inlet)
Plan to continue around Price Inlet ~~cross~~ run mid-way nearshore
parallel across Capers Is.
114108 SOL SC697 / SB602 / SB-1
1324 turning seaward head 175° to offshore ferrell tie.
1417 Shoal / breaking waves 4-10'
143023 END LINE, TURN SHOREWARD

Decreasing power to ~~change~~ ~120 J sweep to 0.25, recording to 100 ms
143847 SOL SB-2 turning to pt. mid way bull Is. shore
145047 maintain power - change sweep back to 0.5

1462 sol SB-3 set recording back to 250 ms
~150341 ~~So~~ Sea-buoy tore, replaced - Slowed boat to do so
150511 resume speed.
1550 Slow and break to avoid shrimper
160231 EOL SB-3, turn seaward 185°

1604 SOL SB-4 heading 185° ~~toward~~ offshore near Price Inlet
head into swell, period between swell decreases.
1648 eol., heading around Price Inlet.

1650 sol SB-5
173017 eol

173217 sol 6 head seaward 193° off of Capers inlet into 3-4' swell
and 1' chop.

180047 eol 6
180226 sol 7 turn landward towards Price Inlet. Seas 3-4' off
of Port stern. Speed 3.5 knots
182626 eol 7
182847 sol 8 head seaward to off of Price inlet heading 188°
3-4' sea, 1' chop ~~oblique~~ to Port bow.
192117 ~~so~~ eol 8 ~~be~~ outside Price inlet heading ~~185~~ 280° toward Dewes Is.

192326 sol 9 seas hitting port side 3-4'
1947 eol 9 in surf at ~~Pr~~ Capers inlet
1948 sol 10 head seaward 164° around inlet.
195432 well developed channel.
2059 eol eol 2 mi from inlet

79 48.905 32 45.565 79 48.43 45.6375 79 44.25 32 47.5275

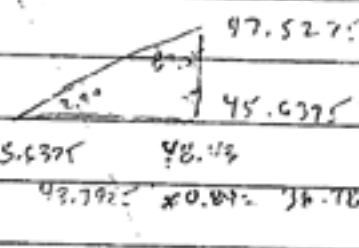
6/3 Sidescan, Isle of Palms complementing schwab sidescan using 100 m swath.

St. pt. 79° 48.43, ~~45° 6~~ 32° 45.6375 pt. on last line from Schwab March 97. Run along Schwab line to 79° 44.25, 32° 47.5275

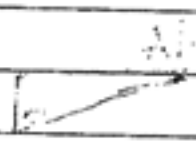
Skies pt. cloudy ~~b~~ swell.

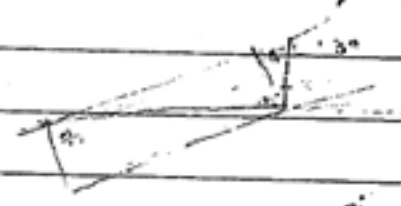
6000' = 1 nm, 3.28' = 1 m ∴ 1,829.268 m = 1 nm = 1'

100 m



= 1.89' 1' lat = .84' long

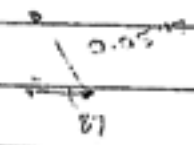




$\sin 2.9 = \frac{1.89}{x}$; $x = 1.89 / \sin 2.9 = 37.36$

1.89' = 3457.31 m

100 m = 0.0547'



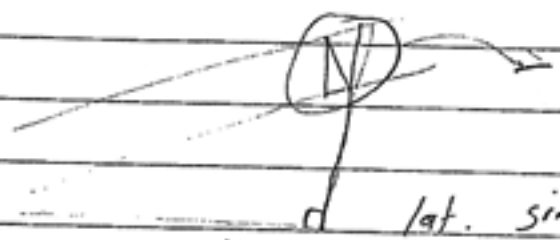
long. $\tan 87° = \frac{0.0547}{y}$; dist. long = $\frac{0.0547}{\tan 87°} = \frac{0.00287}{0.84} = 0.0034$

waypt. 3 = long. 79° 44.25 − 0.0034 = 79° 44.247

lat. $\sin 87 = \frac{x}{0.0547}$; x = 0.0546 lat 47.5275 + 0.0546 = 47.582

waypt 4 long. 79° 48.43 − 0.0034 = 48.4267 lat. 45.6375 + 0.0546 = 45.693

Calc. waypts. for side scan



100 m = 0.055' lat (long)

100 m = 0.0651' long

1829.268 m = 1'

lat. $\sin 65.67 = \frac{x}{0.055}$ ∴ y = 0.0498

long. $\tan 65.67 = \frac{0.0651}{x}$ x = 0.0294

waypt. 3 = 32° 47.5275 + 0.0498 = 32° 47.5773 79° 44.25 + 0.0294 = 44.2794

way 4 = 32° 45.6375 + 0.0498 = 32° 45.6873 79° 48.43 + 0.0294 = 48.4594

Start Seismic ← Sidescan Isle of Palms
SC697_sb / SC_0603 / sb_1 sol 1 115012
ss_1 1

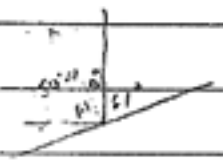
131412 eol (sidescan) of schoenbach last line. turning north to begin sw transect
keep seismic line going.
131542 Sled got caught on tow rope, fixed. turning around
to restart line (sidescan) - continue w/ seismic

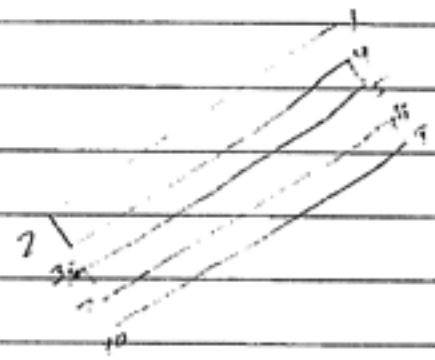
line 3 will be spaced 150 m out instead of 100 m Change increment.
150 m = 0.082' lat. 150 m = 0.0976' long.
y = sin 65.67 = y/0.082 ; y = 0.0747
x = tan 65.67 = 0.0976 x ; x = 0.044
way 5 = 32°45.6873 + 0.0747 = 32°45.762 79°48.4594 + 0.0976 = 79°48.557
way 6 = 32°47.5773 + 0.0747 = 32°47.652 79°44.2794 + 0.0976 = 79°44.377

143719 eol sb_2, ss_2
1440 sol sb_3, ss_3, ne line (line 3)
power supply reset. restart line.
1450 ending line - going back to start, restarting line
1509 restarting above line
151527 white on Port side could be edge of surf.
waypt 7 = 32°47.652 + 0.0747 = 32°47.7267 79°44.377 + 0.0976 = 79°44.474
waypt 8 = 32°45.762 + 0.0747 = 32°45.8367 79°48.557 + 0.0976 = 79°48.6546
162205 eol
162344 sol sb_4, ss_4 sw line. possible surf features on stbd.
waypt 9 32°45.8367 + 0.0747 = 32°45.9114 79°48.6546 + 0.0976 = 79°48.7522
waypt 10 32°47.7267 + 0.0747 = 32°47.8014 79°44.4746 + 0.0976 = 79°44.5722
1728 eol
~~17304~~
173046 sol sb_5, ss_5 ne line.
line initially interrupted when sea anchor caught sled.
winds increasing - light chop
175535 ended line, sidescan not recording. Going back to beginning
of line and starting over.
1800 restart / rewrite above line.
1909 rain.
waypt 11 32°47.8014 + 0.0747 = 32°47.8761 79°44.5722 + 0.0976 = 79°44.6698
" 12 32°45.9114 + 0.0747 = 32°45.9861 79°48.7522 + 0.0976 = 48.8498
1936 eol. turning to next line.
1942 sol sb_6, ss_6 sw line
waypt 13 32°45.9861 + 0.0747 = 32°46.0608 79°48.8498 + 0.0976 = 79°48.9474
14 32°47.8761 + 0.0747 = 32°47.9508 79°44.6698 + 0.0976 = 79°44.7674

2044 eal near breakers, turning ne sal sb, ss ?
note: long angles towards previous line ne, coord. not input right?
2212 end line end day

150 m = 0.082 lat : 0.0976 long.





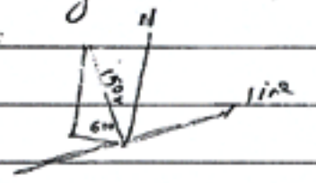
6/4
Finish Isle of Palm coverage, near shore line parallel to last line (how it should have been - not actual)
Skies overcast, cold, winds ne, seas light chop. 2' swell

Last line (yesterday) had an incorrect lat input. 32°47.876 should have been 32° 47.951
waypt 15 32°46.0608 + 0.0747 = 32°46.1355
79°48.9474 + 0.0976 = 79°49.045
waypt 16 32° 47.7508 + 0.0747 = 32°48.0255
79° 44.7674 + 0.0976 = 79° 44.865

1141 (2, 741 actual) SC697_SB/SC_0604/SB-1, SS-1 sol
heading ne toward Breach Inlet. will go around Breach to parallel line.
1236 pier. (sidescan)
1305 end line near shore, turning around - re-running line at 500KHZ (previous 100 Hz)

1316 sol SS-2 (not running seismic) reverse of previous line

— Calculating distance for lines filling in gab of Schwab midshore lines:



150m = 0.082' lat, 0.0976' long.

~~1st pt.~~ (~~1~~ 1348 starting seismic - Sb-2 and SS-3 heading to schwab gap

1st pt. 79° 44.68 32° 46.112
schwab downline pt = 32° 44.545, 79°48.4'
thus, 2nd pt. lat: sin61° = y/0.082'; y = 0.0717
long: cos61° = x/0.0976'; x = 0.0473
32° 44.545 - 0.0717 = 32° 44.4733 79° 48.4 - 0.0473 = 79° 48.3527
142814 eol SB-2, SS-3, turning onto course determined above.
heading SW 245° (pt. 1-2) heading into 1-2' chop.
~~1445 restart sidescan SS-5~~
1430 start SB-3, 1445 start SS-3 at 100 KHZ 200m swell
1506.5 increase boat speed" ~4 knot
waypt 3 32°44.4733 - 0.0717 = 32°44.4016 79°48.3527 - 0.0473 = 79°48.3054
" 4 32°46.112 - 0.0717 = 32°46.0403 79° 44.68 - 0.0473 = 79°44.6327
1601 eol turning around

1604 sol sb_4, ss_6 re. sees 1-2' from stbd. bow
lines across record. related to bow of boat slamming into wave troughs

waypt 5 32°46.0403 - 0.0717 = 32°45.9686 79°44.6327 - 0.0473 = 79°44.584
waypt 6 32°44.4016 - 0.0717 = 32°44.3299 79°48.3527 - 0.0473 = 79°48.3054
1817 eol turning south to head southeast,
1817 sol sb_5, ss_7 down sea (se)
last lines (sb_4, ss_6) very erratic, may be due to sea/wind conditions and stbd. engine discovered off; unknown - how long.
waypt 7 32°44.3299 - 0.0717 = 32°44.2582 79°48.3054 - 0.0473 = 79°48.2581
" 8 32°45.9686 - 0.0717 = 32°45.8969 79°44.584 - 0.0473 = 79°44.5367
1927 end line, turn around - Had pulled sidescan because of problems - plug had come loose