

NORTH ATLANTIC TRANSECT

R.V. FRED MOORE - CRUISE FM10-1

UNIV. OF TEXAS - INSTITUTE FOR GEOPHYSICS

LEG 1 PERSONEL

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C. GUTIERREZ "

W. ROBINSON "

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J. YANG "

A. Popovici (BGR-GERMANY)

Time (GMT=Z) 10 AUG 1981

0114 CAST OFF LINES ~~AT~~ PORT EVERGLADES, FLA
 BERTH 24 - BEGIN LEG 1 - INSTRUMENT TEST
 PLAN TO MEET WITH R.V. PROSPEKTA
 AT 1000Z AT A POINT 60 NM NE OF
 FT LAUDERDALE INLET TO BEGIN TESTS

NO SCIENCE WATCHES PLANNED UNTIL
 AFTER PROSPEKTA ~~REACHES~~ RENDEZVOUS
 2 0800 AM - 10 AUG.

SCIENCE MTO PLANNED 0700 AM (LOCAL)
 10 AUG.

| | | |
|-------|-----------|--------------------------------------|
| 1000Z | PROSPEKTA | SIGHTED ON RADAR AT 15 mi NW BEARING |
| 017Z | " | Posit 26° 57' N 79° 23' W |
| | MOORE | " 27° 04' N 79° 35' W |

NORTH ATLANTIC TRANSECT

10 Aug 81

0700L ATTEMPTING TO ESTABLISH RADIO CONTACT
ON CH 6 & 82 VHF AND SHOTBOY RADIO ZXDD-88

RAYDIST SEEMS TO BE WORKING FINE

MINI-RANGER IS TURNED "ON" ON MOORE NO
INDICATION FROM PROSPECTA IF WORKING YET.

0730L Mini-Science meeting held in lounge
DESCRIBED OPS PLAN FOR TESTS BEFORE
SHIP SEPARATION AND TRANSFER OF PERSONEL
TO PROSPECTA FOR THEIR RETURN TO Ft LAUDERDALE

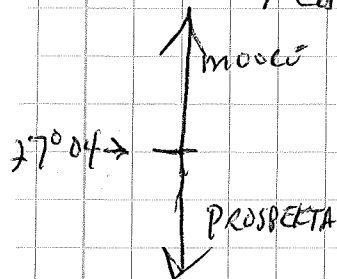
0740L STILL ATTEMPTING RADIO CONTACT WITH
SCI LABS ON PROSPECTA

| | ML | RL | Rm | |
|-------|-------|-------|-------------|---------------------------|
| 10 40 | 20930 | 450.0 | 20,321 | 20,925 45.1580 M/L |
| 45 | 19060 | 408.7 | 18,456 | 45,1588 19,060 |
| 50 | — | | | |
| 55 | — | | | |
| 1120 | 4200 | 89.2 | (4028) | 4632 |
| 1125 | 3076 | 54.9 | (2479) | 3083 |
| 1130 | 1857 | 27.9 | LABS (1259) | 1863 |
| 1135 | 1370 | 17.7 | 800 | 1404 |
| 1140 | 1306 | 15.7 | 708 | 1312 |
| 1145 | 1272 | 14.8 | 668 | +604 1272 |
| 1150 | 1303 | 15.2 | 686 | |
| 1155 | 1353 | 16.3 | 736 | |

1200 PROSPECTA/MOORE DEAD IN WATER 1.0 Km APART

1330Z BEGIN RAYDIST/MINI-RANGER CALIBRATION RUN

ALL SHIPS WILL STEAM APART AT 10 KTS
79°26'W ALONG 74°26' LONG W MOORE → NORTH
PROSPECTA → S STOPPING EVERY 4 NM.
MOORE STARTING POINT (LATITUDE IS 27°08'N)



FM 10-1

NAT

10 AUG

1350 Z MOORE SLOW STOP AT 27° 12.26 N, 79° ~~55~~ 27.55 W
 (+604m) (+592)

| Time (Z) | RAY DIST LANE | Miniranger. (meter) |
|----------|---------------|---------------------|
| 1356 | 284.17 | |
| 1406 | 315.74 | / |
| 1407 | 316.34 | 14889. (+7) 14882 |
| 1408 | 317.32 | 14934. (+4) 14930. |
| 1409 | 317.80 | 14955 (+10) 14945 |
| 1410 | 318.78 | 14999. (+4) 14985 |
| 1411 | 319.33 | 15024. (+12) 15012 |
| 1412 | 319.61 | 15037.0 (+9) 15028 |
| 1413 | 320.02 | 15055.0 (0) 15055 |
| 1414 | 320.68 | 15085 (+2) 15073 |
| 1415 | 321.38 | 15117 (+1) 15106 |
| 1416 | 322.18 | 15153 (+14) 15139 |
| 1417 | 322.96 | 15188 (+9) 15179 |
| 1418 | 323.28 | 15202 (+11) 15191 |
| 1419 | 323.62 | 15218 (+15) 15203 |
| 1420 | 323.89 | 15230 (+11) 15219 |
| 1421 | 324.15 | 15242 (+13) 15229 |
| 1422 | 324.55 | 15260.0 (+14) 15246 |

NAT

10 Aug

1452
GMT

| Time (Z) | Raydist (Lanes) | Minirange (m) |
|----------|-----------------|-------------------|
| 1454 | 615.56 | 28390 (-4) 28394 |
| 1455 | 616.78 | 28445 (-5) 28450 |
| 1456 | 617.69 | 28486 (-8) 28494 |
| 1457 | 618.49 | 28522 (-12) 28534 |
| 1458 | 619.35 | 28561 (-14) 28575 |
| 1459 | 620.51 | 28613 (-17) 28630 |
| 1500 | 621.65 | 28665 (-17) 28682 |
| 1501 | 623.44 | 28746 (-18) 28764 |
| 1502 | 625.54 | 28840 (-13) 28853 |
| 1503 | 626.99 | 28906 (-14) 28920 |
| 1504 | 628.17 | 28959 (-18) 28977 |
| 1505 | 629.44 | 29017 (-18) 28935 |
| 1506 | 631.00 | 29087 (-18) 29105 |
| 1507 | 632.68 | 29163 (-18) 29181 |
| 1508 | 634.90 | 29263 (-15) 29278 |
| 1509 | 637.00 | 29358 (-16) 29374 |
| 1510 | 638.81 | 29440 (-17) 29457 |
| 1511 | 640.53 | 29517 (-17) 29534 |
| 1512 | 642.48 | 29606 (-16) 29622 |
| 1513 | 644.13 | 29680 (-19) 29699 |
| 1514 | 646.10 (?) | 29769 (-11) 29780 |
| 1515 | 647.70 | 29841 (-16) 29857 |
| 1516 | 649.34 | 29915 (-15) 29930 |
| 1517 | 651.17 | 29998 (-15) 30013 |
| 1518 | 652.88 | 30075 (-14) 30089 |
| 1519 | 654.40 | 30144 (-15) 30159 |
| 1520 | 656.06 | 30219 (-13) 30232 |

~~1717Z FRED MOORE \approx 50 n.m FROM PROSPECTA.~~~~1736Z STEAMING BACK TOW~~

NAT

(North Atlantic Transect)

10 Aug

| GMT | Time (Z) | Raydist (Jones) | Miniranger (m) |
|-----|------------------------|-------------------------------|----------------|
| | 1545 Z | 869 .79 (39,871) ^m | |
| | 1546 | 870 .65 (39,910) | 39905 |
| | 1547 | 871 .36 (39,942) | 39935 |
| | 1548 | 872 .18 (39,979) | 39976 |
| | 1549 | 873 .01 (40,016) | 40013 |
| | 1550 | 873 .89 (40,056) | 40053 |
| | 1551 | 874 .73 (40,094) | 40094 |
| | 1552 | 875 .42 (40,125) | 40129 |
| | 1553 | 876 .16 (40,158) | 40162 |
| | 1554 | 877 .25 (40,208) | 40215 |
| | 1555 | 878 .43 (40,270) | 40279 |
| | 1556 | 880 .11 (40,337) | 40346 |
| | 1557 | 881 .42 (40,396) | 40404 |
| | 1558 | 883 .03 (40,469) | 40474 |
| | 1559 | 884 .48 (40,534) | 40540 |
| | 1600 1600 Z | 885 .75 (40,591) | 40599 |

1717Z Moore \approx 50 n.m. from Prospekta.

1736Z Moore steaming south towards Prospekta.

1910Z Re-establish radio communication with Prospekta.

1918Z Prospekta position: $27^{\circ}17'N$ $79^{\circ}22'W$

Moore position: $27^{\circ}27.6'N$ $79^{\circ}29.9'W$

2000Z Rendezvous w/ Prospekta — begin transfer of Griffiths, Nicol, Buhl, and Bill Ward (Raydist).
Position: $27^{\circ}23'N$, $79^{\circ}27'W$ (DR). FOR RETURN TO FT. LAUDERDALE

2110Z Rendezvous complete — sailing slowly north to point A' ($28^{\circ}40'N$, $76^{\circ}30'W$). Expect next meeting w/ Prospekta 1600L, 12 August.

NORTH ATLANTIC TRANSECT

Time 10 AUG 81 SPD/HDC
 2206Z STEAMING TOWARD POINT A' 28°40'N 76°50'W 10.6/074
 ETD 1400Z 11 AUG
 PLAN STREAMER DEPLOYMENT AND THEN
 AIRGUN TESTS IN VICINITY OF POINT A'
 PROSPECTA ESTIMATED TO BE IN VICINITY
 OF POINT A' \approx 0000Z 12 AUG TO
 BEGIN THEIR STREAMER WORK. THEY
 EXPECT TO BEGIN LINE NAT 81-01 @ 1600Z (2000Z)

Phillips / McEuan ON WATCH 8-12

0358Z Austin / Ferguson on watch. Proceeding 9.0/063°
 to point A' Navigation only. No science
 ops.

0500Z c/c 065° 9.0/065°

0630Z ~~to~~

0800Z Lynch / Dickson on watch

0930Z SAT. FIXES CONSISTENTLY SOUTH OF LORAN-C
 STEERING 078° TO MAKE 065°

1200 Phillips / McEuan on watch 10/068°

1630 ~~SEA~~ TA: 1 buoy went into the
 WATER AT 1623 GMT.

1725 Calibration of Depth Sensor #2, section 3/282°
 20.

1800 P.T. #3 on Calibration 3.1/282°

1811 Calibration of Depth Sensor #2 section 40 is completed 3.0/282°

FM 10-1

31

NORTH ATLANTIC TRANSECT

11 Aug. '81

SPD/HGT

1913Z Calibration of DT #4 Section 60 starts 2.3/290
 1929Z whole Calibration of depth sensor is finished (DT #4 Section 60) 2.7/287
 2050Z Calibration of DT #5 Section 80 finished 3.0/283
 2129Z Calibration of DT #6 Section 96 starts 2.9/279
 2136Z Calibration of whole streamer is finished 2.8/278
 2230 DEPLOYMENT OF STREAMER CHANGED SPEED TO 600 RPM 4.5/278
 2303 CHANGE SPEED TO 650 RPM (2 engines) 4.8/265
 2333 CHANGE SPEED TOO 700 RPM 5.5/254

| D.I.# | 1 | 2 | 3 | 4 | 5 | 6 | RPM/Kt |
|----------------|------|----|----|----|----|----|---------|
| TOW DEPTH (ft) | DEAD | 25 | 30 | 33 | 48 | 48 | 600/4.5 |
| ↓ | ↓ | 25 | 32 | 38 | 43 | 42 | 650/5.0 |
| | | 35 | 45 | 45 | 40 | 40 | 700/5.5 |

Phillips/Austin/Diebold/Robinson AOK
 STREAMER IS TOWING EXTREMELY WELL
 NOISE LEVEL AT ALL ABOVE SPEED
 TEST VERY LOW

0005 12 AUG 1981
 BEGINS ^{slow} TURN TO NORTH TO BEGIN AIRGUN 5.5 c/s
 TEST FIRING. TEST TO BEGIN AT 0400Z

McEuen - Phillips on watch 8-12

0046 Now heading NORTH TO BEGIN AIRGUN TESTS 5/c/s
 5.3/000

0106 few degree turn to right to obtain
 0000° course.

0109 slowed to put in airguns 2K ~~5.5~~ c/s

0115 course changed to follow 0000° due north

FM 10-1

12 Aug

32

| Time | NORTH | ATLANTIC | TRANSECT | SPD/HDGT |
|----------|---|----------|-------------|----------------|
| 0138Z | 4 air guns are in the water | | | |
| 0139Z | 1000 cc" | 466 cc" | 466 cc" | 1000 cc" |
| 0146Z | star eng | 600 rpm | port engine | 600 rpm |
| 0210Z | 650 rpm on both engines | | | 4.2k 354° 9° |
| 0225Z | 700 rpm on both engines | | | 4.5k 352° |
| 0245Z | 0.45° c/c | | | 4.9k 349° |
| 0303Z | S/C S/S | | | 4.7 044° |
| 0346.35Z | 1st line/shot #1 | | | 4.7 043° |
| 0350Z | Austin, Ferguson, Yang on watch. Shooting first test line — four guns* in the water @ 1.0 min. rep. rate. Streamer towing @ $\approx 35'$ quiet. 12.0 sec. record lengths on DFS/4 ms. Sampling rate. | | | 045° 4.8 kts. |
| | * 2/1000 in ³ , 2/466 in ³ . | | | |
| 0410Z | c/s 750/2 (5.3 kts) Increasing speed to ca. 5.5 kts. c/c 042° | | | 045° 2 |
| 0458Z | REP. RATE CHANGE To 30.0 sec. FIRING GUN #1 (1000 in ³), #2 (466 in ³), and #4 (1000 in ³). | | | |
| 0505Z | SWAPPING GUN #4 FOR GUN #3 (1000 in ³ out, 466 in ³ in) in order to try to maintain 30 sec. rep. rate | | | 045° / 5.3 kts |
| 0510Z | END TEST LINE #1 BEGIN TEST LINE #2, c/c 138° | | | |
| 0528Z | GUNS DOWN - AIR PRESSURE PROBLEMS. GUN #4 BLEW AN AIR LINE. GOING WITH GUN #4. | | | |

FM 10-1

12 Aug

32

Time NORTH ATLANTIC TRANSECT SPD/HZ

0138Z 4 air guns are in the water

0139Z 1000 cc¹ 466 cc² 466 cc³ 1000 cc⁴

0146Z star eng 600 rpm port engine 600 rpm

0210Z 650 rpm on both engines

4.2k 354°

~~4.2k 354°~~

0225Z 700 rpm on both engines

4.5k 352°

0245Z 045° c/c

4.9k 349°

0303Z

4.7 044°

0346.35Z

1st line / shot #1 S/C S/S

4.7 043°

0350Z Austin, Ferguson, Yang on watch. 045°
 Shooting first test line — four guns* 4.8 kts.
 in the water @ 1.0 min. rep. rate.
 Streamer towing @ $\pm 35'$ quiet. 12.0 sec.
 record lengths on DFS/4 ms. Sampling rate.

* 2/1000 in³, 2/466 in³.

0410Z c/s 750/2 (5.3 kts) Increasing speed to 045°
 ca. 5.5 kts. c/c 042°

0458Z REP. RATE CHANGE TO 30.0 sec.
 FIRING GUN #1 (1000 in³), #2 (466 in³), and
 #4 (1000 in³).

0505Z SWAPPING GUN #4 FOR GUN #3
 (1000 in³ out, 466 in³ in) in order
 to try to maintain 30 sec. rep. rate

045°
5.3 kts

0510Z END TEST LINE #1 BEGIN
 TEST LINE #2. c/c 138°

0528Z GUNS DOWN - AIR PRESSURE
 PROBLEMS. GUN #4 BLEW AN AIR
 LINE. GOING WITH GUN #4.

FM 10 - 1

" NORTH ATLANTIC TRANSECT "

TIME (Z)TEST LINE #2SPEED/HDG

0543Z GUNS #1, 2, 3 BACK ON LINE
STILL TURNING TO TEST LINE #2.

0548Z STEADYING ON 138° TEST LINE #2

138°/4.9

0640Z c/c 133° TO CORRECT FOR
DRIFT. SEISMIC MONITOR NOW
OPERATIONAL. DATA LOGGER STILL
DOWN. THREE GUNS (#1, 2, 3)
IN THE WATER AND FIRING.

0800Z DIBBOLD/LYNCH / Popovici on Watch

NBS Satellite pos. 08054

0930Z Trace 29 bad again - Alex gets it back by
Turning Filter Setting on DFS → bad Pot.

Bridge has heard Prospekt, but they can't hear us -

200Z Phillips / McEuan ON WATCH

1224Z switched 1st + 4th airguns off

1226Z communication with Prospekt begins
radio contact open
Prospekt location 28°08N - 77°48W

1434Z dead slow
500 rpm 600 rpm on engines 4.4/129°

1457Z 650 rpm both engines 3.0/126°

FM 10-1

12 Aug

North Atlantic Transect

time (Z)

1510 Z

200 rpm both engines

spd/Hdg
4.0 132°

1545 Z

AUSTIN, FERGUSON, YANG ON WATCH. 4.5/133°

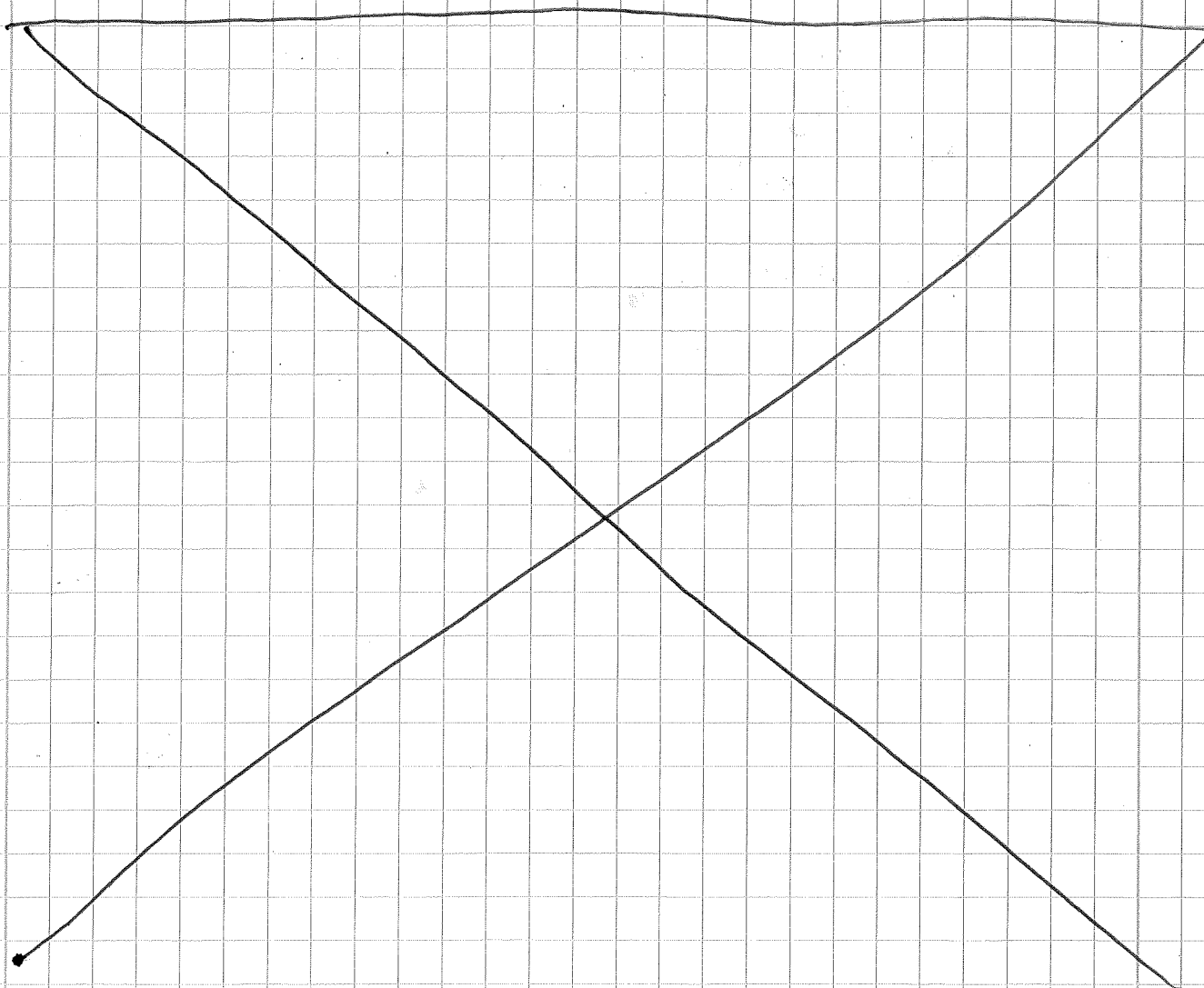
1555 Z

SLOW DOWN TO 600 RPM ON 2 ENG
TO DEPLOY MAGNETOMETER (STR)

1556 Z

200 meters aft magnetometer in 3.2/134°
h20

1620 Z

MAG-GIE IS NOW OPERATING
NOISE LEVEL ± 1 gamma
FIELD READS 49329.8 X

FMIO FMIO-1

12 Aug

North Atlantic Transit

| TIME(Z) | SPEED/HDG |
|---------|--|
| 1632 Z | SK going up to 700 rpm/2 (4.5-5.0 kts) S/C |
| 1650 | INCREASE SPEED 750 rpm/2 (≈ 5.5) 5.0/ ^{133°} 115 |
| 1710 | C/C 300° @ 5°/MIN. (TO PORT) 5.0 KTS. |

RETURNING NORTH OF A' IN ORDER
TO BE IN POSITION FOR PROSPEKTA'S
ARRIVAL.

| | |
|------|---|
| 1800 | S/C 300° HEADING BACK FOR POINT A' 5.6 KTS. |
| 1810 | C/S 700/2. 5.0 KTS. |
| 1800 | LYNCH / DFE BOLD / ALEX ON WATCH |

| | |
|------|------------------------------------|
| 8-12 | Phillips + McEuen on watch 5.0/300 |
|------|------------------------------------|

RADIO CONTACT WITH PROSPEKTA ON VHF
THEIR ETD @ POINT A' IS NOW 0000Z
13 AUG

| | |
|------|---|
| 0131 | 650 rpm on both engines 4.7/297° |
| 0310 | 4°/min turn - rendezvous to A' 4.7/295° |

0345 AUSTIN, FERGUSON, YANG — TURNING
TO LINE-UP WITH PROSPEKTA NW OF
POINT A'

| | |
|------|------------------|
| 0430 | New heading 132° |
|------|------------------|

| | |
|------|----------|
| 0443 | C/C 115° |
| 0448 | S/C 115° |
| 0457 | C/C 100° |

| | |
|------|----------|
| 0503 | S/C 100° |
|------|----------|

4.0 KTS. {
C/C 132°
C/C 115°
S/C 115°
C/C 100°
S/C 100°

FM 10 - 1

" NORTH ATLANTIC TRANSECT "

TIME (Z)

SPEED / HDG

4.0 / 100°

0530Z C/c → entering "steer computed line" function on LORAN C to approach aim point NW of A! Maintaining present speed at present.

0550Z C/c → ~~135~~ 130° 4.0 / 100°
Having trouble w/ SCL option on Northstar.

0551Z ALL Towing ~~is~~ is secure. Maggie, streamer, guns.

0552Z Eddie's System is back / 110Z computer operational (thanks to John Salazar).

0602Z S/c 130° 4.0 KTS.

0648Z C/c 140° 4.4 KTS.

0650Z S/c 140° Still approaching line-up
point just NW of A! Waiting for word from
PROSPEKTA @ 1000Z.

0740Z C/c 135° 4.2 KTS.

0741Z S/c 135° 4.2 KTS.

0750 Diebold / Lynch / Popovic on watch 132.8 5.0 KTS

0815 Try SCLine again

0830 Still Takes us off line to port Back to D/R

0940 C/c 130° about 1 mi South of line

0945 C/c 140° Line mis-plotted in Lab - actually, we're North of it

"North Atlantic Transect"

Time (Z)

Speed / hdg

1000 13 AUG

contact Prospekta, They are still working
on streamer, next contact 1000 Local
= 1400 Z. Their pos $28^{\circ}44'N$, $76^{\circ}25'W$
our pos $29^{\circ}49.2'N$, $76^{\circ}43'W$

1140

Prospekta in plain sight 6.5 nm ~ 15° alt
stbd bow on opposite heading. no Tail buoy on radar

1200 Z

Phillips / mc Euan ON WATCH 4.1/128

1200 Z

STEER LEFT TO GET BACK ON LINE A'B' C/C 100

1210

steady on 100° course

4.4/097°

1400

CHANGE LORAN LOPS TO Y-Z from WZ for Lat/Long

1436

C/C to 130°

Calculations 4.2/127°

1440

steering toward 180° - right from 130° 4.1/131°

1531 Z

S/C on 120°

4.3/118°

1534 Z

C/C to 110°

4.3/112°

1540 Z

C/C back to 130° → on SCL

C/C 130°
4.0 KTS.

option (on NORTHSTAR), which is now
operational. Small course changes now
being handled by the bridge to
maintain line SE of A' (still waiting
for Prospekta)

1545 Z

AUSTIN, YANG, FERGUSON ON WATCH.

~ 130° (SCL)

LORAN C AND SATELLITE FIXES CA. 0.5 NM
apart since changing slaves to
Y-Z and also changing LOP for
LAT/LON calculations for new slaves on
Northstar.

4.0 KTS.

1645 Z

C/C 310° $5^{\circ}/MIN$ reciprocal course to
return us to a point NW of A'

~ 4.0 KTS.

FM 10-1

"NORTH ATLANTIC TRANSECT"

13 AUG

TIME(Z)SPEED / HDG1740Z S/C $\approx 310^\circ$ 4.8 KTS.

1829Z Eddie's data-logger not functional.

1916Z Eddie's system back up. $\approx 310^\circ / 4.7$
Problem with I/O plug on CRT.

2000Z Diebold / Lynch / Popovici on watch

Prospecta calls on ZEXDD, but cannot copy our reply

report still doing streamer work, will call again 2000 Local

Radar shows ≈ 25 nm range2200Z Prospecta calls, This Time 2-way comm achieved
will call again at 2300Z when eel will be fully deployed
for Trim checks

2245 P. on Radar 17 mi dead ahead

2300 contact w P. Their streamer just out, will call
again in 1 hr. Their heading 105° ,

8-12 Phillips + McEuen on watch

2310 C/c 330 TO PASS PROSPECTA
PORT TO PORT MOORE HDG 330
PROSPECT " ≈ 140 14 AUG
0131 begin turn 310° true 4.8/334°0145 steady on 310° S/C 4.9/3100300 Prospecta called, situation improved
may begin work within the hour
P's location $28^\circ 38' N$ $76^\circ 37' W$

FM10:1

"NORTH ATLANTIC TRANSECT"

TIME
~~DATE~~SPEED / HDG

0345Z AUSTIN, YANG, FERGUSON ON WATCH 4.8/313°
 NEE OF POINT A', WAITING ON THE
 GERMANS.

0420Z C/C 130° HEADING BACK TO 4.7 KTS
 POINT A! STILL AWAITING WORD
 FROM GERMANS ON STATUS OF THEIR
 OPERATION.

0450Z IN TOUCH W/ PROSPEKTA VIA TURNING
 HF "ZIPZ". HER POSITION: 28° 40.7' N 4.2 KTS.
 76° 42.8' W
SHE IS READY!
 SHE IS APPROXIMATELY 20 MI
 SSE OF US AND 10 MI W
 OF A! SHE WILL AWAIT OUR
 RETURN TO A! BEFORE TURNING
 AHEAD OF US. NEXT COMMUNICATION
 @ 10 MI RANGE VIA VHF CH. 6.

0525Z S/C 130° HEADING BACK TO A! 4.2 KTS.

0538Z HAVE PROSPEKTA ON RADAR. THEY
 ARE \approx 12 MI OFF OUR STARBOARD
 BOW. THIS CORRELATES W/ RAYDIST.

0542Z C/S 700/2 (\Rightarrow 5.0 KTS.) CLOSING 4.2/129°
 ON PROSPEKTA.

0545Z MAGGY & STREAMER SECURED AND TOWING WELL

0600Z C/C 125° 4.8 KTS.

0620Z C/C 120° 4.9 KTS.

FM 10-1

"NORTH ATLANTIC TRANSECT"

| TIME (Z) | SPEED / HDG |
|--|-----------------------------|
| 0640Z PROSPEKTA TURNING TO GET IN FRONT OF US. | 9.8 KM AWAY AND 120°/5.0 |
| 0650Z TRYING "SCL" OPTION ON NORTHSTAR. IT IS WORKING PROPERLY. INCREASING SPEED TO 750/2 ⇒ 5.5 KTS. | 130°/5.5 KTS. |
| 0700Z PROSPEKTA STEERING SAME COURSE. STREAMER SLIGHTLY QUIETER AT THIS SLIGHTLY INCREASED SPEED. | 4.8 MI AHEAD 5.2/128° |
| 0730Z C/S 775/2 5.0 KTS. TRYING TO MAINTAIN OVER THE GROUND. | 128° |
| 0800Z | STARTED FIRING AIR GUNS |

0914 C/K 128°

L-D40 Logging/Control computer has (1) software fault:

Fires Moore guns every 30 sec, instead of 60.

(2) hardware(?) fault - cannot read SAT clock

Proceeding Through A' TO B' without recording data,

while making on system (3) LDGO system ^{Program} CANNOT

BE RELOADED ~~DUE TO~~ SINCE IT CAN ACCESS TRUE-TIME CLOCK

1020 PASSED Point A

1145 C/K TO PORT @ 5° PER MINUTE TO 310°

ABORTING START OF LINE DUE
TO SOFTWARE PROBLEM ABOVE ↴

FM 10-1

NORTH ATLANTIC TRANSECT

14 AUGUST

SPD/ADC

Time

552 The PLAN IS TO ORBIT TO NE OF TRACK A'-B' UNTIL SOFTWARE PROBLEM RESOLVED FOR FIRING GUNS. PROSPEKTA WILL WORK ON THEIR STREAMER CABLE BALANCE

065/4.5

8-12 Phillips + McEwen on watch

002 c/c ~~1200~~ left turn toward 310 \leftarrow 4.8/003°
 054 s/c hold course 310° true \leftarrow 5.0/309°
 1408 radar fix on Prospekta 219° at 7.1 miles 5.0/307°
 1500Z continue s/c 310° 4.9/308°

1545Z AUSTIN, YANG, FERGUSON ON WATCH.
 STEAMING NW TO TURN BACK ONTO
 LINE NW OF A' PREPARING TO FIRE
 ON TIME RATHER THAN THROUGH PETER'S
 COMPUTER, WHICH IS STILL DOWN. ALL
 OTHER EQUIPMENT O.K.

1746Z Guns, streamer, & maggie towing well

1752Z c/s 600/2. Traffic.

1821Z c/s to 5.2 knots. (700/2) Traffic O.K. 5.2/310°

1830Z c/c 130° @ 5°/MIN. LINING UP 4.7kts.
 w/ A' AGAIN.

1912Z In Touch w/ PROSPEKTA
 POSITION = 28°43.8'N, 76°37'W. THEY KNOW
 OUR POSITION, AND WILL WAIT FOR US
 TO PROCEED TO AIM POINT NW OF A'.
 WILL START SHOOTING IN 2 HRS.

FM10-1

"NORTH ATLANTIC TRANSECT"

| TIME(Z) | SPEED/HDG |
|---------|---|
| 1929Z | c/s 750/2 TRAFFIC turning to 130° |
| 1930Z | s/c 130° MAINTAINING SPEED. 5.1 KTS. |
| 1938Z | c/s 725/2 GOING TOO FAST. |
| 1940Z | c/c 135° forward 310 4.8/003° |
| 1950Z | ENTER SCL ON LORAN C 5.5 KTS./133° |
| 1955Z | c/s 700/2 |
| 2000Z | Diebold / Lynch / Popovici on watch at correct distance from Prospektia, ~14nm from A', online. |

15 AUG 81 2015 Prospektia begins to deploy gun arrays. 1 1/2 hr from A'
 0000Z Phillips / YALC / ROBINSON on watch
 000235 FIRST SHOT 1 NAT 81-01

0135Z SONOBuoy #1 0135Z Channel 25 IN WATER TIME ?

SB #2 Channel 8 IN Water Time 0204:35

DFSII Auxiliary Channels

| | |
|-----------|--------------------|
| Channel 1 | BLAST Phone #1 |
| 2 | " " #2 |
| 3 | LDG-D SONOBuoy RCR |
| 4 | UTIG " " |

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 15 AUG

TIME (Z)
~~10000000~~

SPEED/HDG

0425Z c/c 125° Out of SCL. 5.0 KTS (WATER)
 5.4 (GND)

0440Z Attempt to go back
 on SCL → as of the moment,
 SCL option working properly.

0440Z ca. 50% of the time, we
 are firing along with the Germans.
 Apparently, the solution worked out
 was not totally successful.

0515Z out of SCL again — Germans
 have us 400m left of the line.
 They are steering us with their
 radar.

0545Z Germans have us back on
 (100m left) line. Back to SCL mode, at least for
 the next 15 minutes.

0555Z Took camera record — trace #1
 is bad. Sonobuoy #2 looks gone.

0605Z Out of SCL again. Still left
 of the line (~100m). Germans will
 monitor us, and update every 15 min.

0605,30Z Prospect launched sonobuoy #3, 725 kHz
 Channel 25.

* 0618Z Getting 61/20 sec. records/tape. $\frac{4.7(W)}{6.2(G)/125^\circ}$

FM 10-1

"NORTH ATLANTIC TRANSECT"

15 August 1981

TIME(Z)SPEED / HDG

0740Z. Roughly @ B'. 915 shots to 4.7(w)
 this point. Prospekta will shut 5.7(G)/129°
 down her system for maintenance
 during the turn. We will
 continue to operate. Gun firing
 problem still persists. Everything
 else O.K.

0800Z Diebold / Lynch / Popovici on watch

0820 Prospekta starts turn to stbd

0850 Moore " " " "

0900 # end line 1, working on firing circuits

1030 Prospekta has led us quite far SE, proceeding ~3000
 Towards SW extension of B'.

Gun firing problem seems to have been corrected
 - W. Robinson installed capacitor to damp out transients,
 which may arise from terminal screen (?)

1130

A/C 2850

8-12 Phillips, McEuen + Robinson on watch

1331:05 SB # 4 over ch 8

1345 Prospekta lab-lab comm ch 10

15:11:35 ~~sent~~ Prospekta three sonobuoy #5 over
~~the~~ channel 3, being recorded in Aux 3

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 15 AUGUST 1981

TIME (Z)

SPEED / HEADING

1545Z AUSTIN, FERGUSON, YANG 5.5(G)/057°
 ON WATCH. B' to B, BUT AT
 PRESENT SEVERAL MILES OFF THE
 LINE TO THE SOUTH.
 TRYING TO GET BACK.

1555Z BACK ON SCL → STEERING
 TO B

1605Z OFF SCL AGAIN → UNRELIABLE 016°/5.2(W)
 → TURNING N TO MAKE B 5.0(G)

* 1752Z PROSPEKTA → NOW

SHOOTING ON EVEN MINUTE
 FOR FIRST TIME. UP
 UNTIL NOW, HAD BEEN
 SHOOTING WITH US!

1815Z C/C TO PORT. END

N.A.T. - 2 BEGIN N.A.T. - 2A (AFTER TURN)

FOLLOWING P. TO RE-SHOOT

PART OF B'-B NOW THAT

SHOOTING SCHEDULES ARE

CORRECT.

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 15 AUGUST 1981

TIME (Z) SPEED/HDG

1907 Z S/C 2⁵0° HEADING 5.2(W)
 5.8(G)

BACK DOWN B'-B TOWARDS
 B' BUT N OF THE LINE. ONLY
 MAGGIE OPERATIONAL.

1935Z C/C 260° → KEEPING N OF
 THE LINE.

2000 Diebold / Lynch / Popovici on watch
 Estimate 1 hr To Start of Turn back onto Line

| | | | |
|-----------|----------------------|-------------|-------------|
| Prospekta | identity Point B" | 28° 16' N | 75° 35' W |
| | Their computed TD's: | Y: 43505.71 | Z: 60554.96 |
| | OUR " " | 43504.84 | 60553.21 |

They will use our TD's

2120 A/C 220 To parallel Prospekta

2130 begin Turn onto B'-B

Point B" is 28° 16' N 75° 33' W

X: 31539.66, Y: 43505.11, Z: 60546.47

2145 on SCL, online with Prospekta, but ~ 1/3 nm SE of line

time

North Atlantic Transect

47
spd/hdg

2300Z

1st shot #1 on Line NAT81-2A

PROSPEKTA

1st shot Moore @ 2300:30

0006Z

16 AUGUST 1981

8-12 Phillips, McEuen & Robinson on watch 055/5.2

0055 CHANGE GYRO HDG TO 050 TO BETTER ALIGN
MOORE BEHIND PROSPEKTA (COURSE 062°)
WILL ALTER BACK TO 062°T WHEN
TRUE BEARING FROM PROSPEKTA IS 242°T

0104:05

Sono Bouy #6 channel 25
IN WATER FROM PROSPEKTA

Sono Bouy #7 Channel 8

N.B. → 0155:05 SP#348 ← N.B. PROSPEKTA shot #
FOULED IN PROSPEKTA STEAMER

↘ Sono Bouy #8 Channel 9

0229:35Z SP#417 ← PROSPEKTA shot #

0345Z

Austin, Yang, Ferguson on watch. 5.4/060°

0450Z

#1 DEPTH INDICATOR APPEARS TO
BE WORKING. CAMERA DOWN FOR
REPAIRS.

0510Z

CAN STILL HEAR SB#8 (ON
FHM SHOTS ONLY).

FM 10-1

"NORTH ATLANTIC TRANSECT"

TIME (Z)16 AUGUST 1981SPEED/HDG

0650:20 Z SB#9 IN THE WATER 5. (NW)/062°
CHANNEL 25. (PROSPEKTA S.P. 976)

0715 Z SB#9 APPEARS TO BE 25 min
 HUNG UP IN FHM STREAMER,
 BUT PROSPEKTA STILL FEELS THAT
 THEY HEAR IT, THOUGH NOISY.

0741:20 Z SB#10 OVER THE SIDE.
CHANNEL 3.

0800 Z Diebold / Lynch / Popovici. on watch

0815 alter course 1° to port stbd to regain line.

0830 alter course back to 060° - on line

0845 SRB abeam?

alt looking SRB antenna no good this frequency
 staying on long line antenna

0930 contact P. - For our Raydist 138.4 lane,
 Mini-Ranger shows 5916 m
 ∴ Raydist Target is + 7.40 lane

1000 mutter off? Hinz on watch, Prospektia
 buoy still good their end

1000 P. still hearing M. shots on buoy

F.M. 10-1

NORTH ATLANTIC TRANSBOT

TIME (Z)

16 AUGUST

SPD/WDG

1115 change Eddie N's Logger Tape entered "WB" 65.
it didn't appear to write eat.

1130 P. doesn't receive buoy any longer

8-12 Phillips, McEwen + Robinson on watch 063/5.4

1334 tape end light problems on DFS

1340 062/5.6

1450:05 Z ⁴⁰SONOBUOY # 11 Channel 9
SP# 1888 High Noise
No Hydrophone signal?

1515:35 ⁴⁰SONOBUOY # 12 Channel 3
SP# 1938

16:04:00 SONOBUOY # 13 Channel 9

1600 Z Austin, Ferguson, Yang on duty 5.1/063°
STILL PROCEED B to C. ALL OPS
NORMAL.

1623 Z Inc. SPEED TO 725/2 FROM 700/2
IN ORDER TO SINK END OF STREAMER

1639 Z No LONGER RECEIVING SB# 13 5.5/067°
HUNG UP IN PROSPEKTA STREAMER.

1642:47 Z SB# 14 (CH. 16) IN THE
WATER.

1725 Z DECREASE SPEED SLIGHTLY 5.7/069°

1839 Z CHECKED TOWS - ALL O.K. 5.5/060°

FM 10-1

NORTH ATLANTIC TRANSECT

Aug 16, 1981

TIME (Z)SPEED/HDG

1913130Z ~~1111~~ Sonobuoy # 15 Channel 8 in water
Shotpoint 2435

1953Z INCREASING SPEED AGAIN TO 5.2/059°
725/2.

2000 Diebold et al on watch

2010 switch to After looking antennas for S.B

2245 Buoy very weak

17 AUG. 1981

0810 8-12 Phillips, McEuen + Robinson on watch
5.4/054

No Sonobuoys This Watch
CROSSING BLAKE OUTER RIDGE

0345Z AUSTIN, FERGUSON, YANG ON 5.3/059°
WATCH. STILL ON LINE NAT-2A.
ALL OPS. NORMAL. No buoys
IN THE WATER.

5
0415Z END OF LINE NAT-2A C/C STARBOARD
TO BEGIN LINE NAT-3
COURSE = 300°

0540Z S/C 165° PROSPEKTA WILL PASS 5.0
BEHIND US.

FM 10-1

"NORTH ATLANTIC TRANSECT"

17 AUGUST

TIME(Z)SPEED/HDG

0545Z All Tows O.K.

0550Z SHUTTING DOWN ALL 5.0/165°
SYSTEMS EXCEPT MAGGIE. PROSPEKTA
NOT SHOOTING DURING THE TURN.0555Z c/c ~~180°~~² → so P. CAN 5.1./120°
GET BEHIND US MORE EASILY.0720Z c/c ~~180°~~ → P. PASSING ASTERN.
STILL TURNING TO N.A.T. 3.0730Z s/c 180° STILL LINING UP
FOR N.A.T. - 3.0800Z Diebold / Lynch / Popovici
begin turning from 180° right toward line

0842Z slowing down to 700 k/m

0910 drop to 650 revs hdy 300°
P gaining line to stbd of M.
apparently on line (!)

0930 current (?) carries us northward

1000 600 rpm

1010 P. enters SCL, Y 43753.0
Z 59887.8

FM W-1

"NORTH ATLANTIC TRANSECT"

52

17 AUG

801 CSE/Hly

17 AUG 81

1020

first shot line 3

4.8 lat 2125°

longitude 288°

1040

enter SCL - will try further

8-12 Phillips, McEwen + Robinson on watch

from 0553 GMT till 121235 GMT the (Eddie's)
logger was not on line

1311

ENNET LOGGER DOWN AGAIN
WON'T REBOOT!

1433

Prospecta is not shooting - trouble with
their airguns.

1438

Prospecta guns ok, begin shooting

1519:35

SONOBuoy # 16 channel 3

1537

DIED HYDROPHONE GUT OFF BY PROSPECTA

1554

GUN #3 off (466 in³)

5.1/298

1555Z

AUSTIN, YANG, FERGUSON ON WATCH 5.5/299
LINE N.A.T. - 3. ~~OPS~~ OPS NORMAL (W)
EXCEPT FOR GUN #3, WHICH IS
STILL UNDER REPAIR.

16:21:37

SONOBuoy #17 Channel #16 IN THE WATER.
shot point 726

1630

4/5 775/2 → TRYING TO 300°
SINK TRACES 1-8.

1640Z

NO LONGER RECEIVING SB#17.

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 17 Aug

TIME (Z)

SPEED / HDG

16:52:30 Sonobuoy #18 29° 45.54'
 Channel #9 73° 31.33'
 Shot Point 787

1715Z SB#18 CAPUT! WILL
 TRY ONE MORE, WHICH J. MUTTER
 WILL TRY OFF THE OPPOSITE
 SIDE OF P.

17:28:45 Sonobuoy #19 in water 29° 47.10'
 Channel #16 73° 34.70'
 Shot point 860

1742Z Pick up SB#19 → xmitter
 slightly off freq. Good signal.

1750Z C/S 725/2 → STILL TRYING TO
 SINK STREAMER.

1820Z C/S 750/2. 300°

1825Z EDDIE'S LOGGER DOWN FROM
 1741-1814Z. SYSTEM SEEMS TO GO
 DOWN WHEN A/S SATELLITE
 RADIO LINK OPERATIONAL.

1840Z Gun#3 BACK ON LINE. FOUR
 GUNS OPERATIONAL.

1935-1943Z EDDIE'S LOGGER DOWN. 5.3/302°
 RE-BOOTED.

FM 10-1

"North Atlantic Transect"

| <u>Time(Z)</u> | <u>Speed (kts)</u> |
|-----------------|---|
| 2000 | Diebold / Lydi / Prospektor |
| 2015 | sonobuoy died cause of demise unknown ref 1177 - Prospektor still receiving it |
| 2115 | lost power to radar - bad outlet on extension cord Dropped 6.13 lanes |
| 22:55:05 | SB # 20 over the side change 30° 01.38' 74° 04.17' Picking up VHF traffic on forward (long-line) antenna |
| 2335 | using aft SB antenna with new connectors |
| 8:15 | Phillips, McEwen + Robinson on watch <u>1800g</u> |
| 0208:05 | Sonobuoy # 21 Channel # 21 # 1895 # 21 |
| 0228 | SB SWAGGED BY PROSPECTOR STREAMER! Hydrophone GONE - CARRIER ONLY |
| 0234:35 | Sonobuoy # 22 Channel # 3 30° 11.20N 74° 24.94W Prox. SP # 1940 |

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 18 August

TIME (Z)

SPD/HDG

05:39:10 Z S.B. # 23 in Water 5.3/293
 Channel # 9

prospekta shot pt. #2317

0730Z EDDIE'S SYSTEM DOWN SINCE
 0627Z. RE-BOOTED SUCCESSFULLY.

0800 Diebold / Lynch / Popovici on watch 5.3/296

1010 as per Prospekta Bridge instr a/c 5° std

10:31:35 SB # 24 in water Chan 22
P.S.P. 2903 30° 32.16'
 75° 08.42'

Maggie getting noisy

1040 Buoy Died

10:52:05 Ch 16 SB # 25 in water
P.S.P. 2946 30° 33.09'
 75° 10.47'

1200-1400Z Phillips, McEuen & Robinson on watch

1436 lost gun Gun Tech shot 4.7/305°
 DOWN GUN CONTROL BOX WHICH CAUSED NOVA COMPUTER
 1519 back ON line 4.8/307°

1531 ABORT LINE 3

NORTH ATLANTIC TRANSECT

56

FM10-1

18 AUG

TIME(Z)

SPI/MAG

1532Z NOW TURNING RIGHT TO RE-SHOOT LINE 05.0/310.

3 DATA GAP CAUSED BY GUN FAILURE/COMPUTER CRASH

1545Z AUSTIN, YANG, FERGUSON ON WATCH.

TURNING TO RE-SHOOT PART OF

N.A.T.-3, WHICH WILL BE N.A.T.-3A.

ALL SYSTEMS SHUT DOWN EXCEPT NAV./MAG.)

1610Z 9/C 100° → STILL MANEUVERING TO 4.7
RE-SHOOT LINE TRYING TO MAKE 110°T.

1623Z 9/S 800/2 INCREASING WATER SPEED 5.8

1645Z DECREASING SPEED SLIGHTLY SO 5.2
THAT WE WILL NOT BE TURNING
TO 3A DURING AT'S TRANSMISSION.
EXPECT TURN TO START ~ 1720Z.

1810Z 7/C 110° TRACKING BACK TO
ORIGINAL LINE. 5°/MIN.

1847Z 7/S 700/2 P. PASSING IN FRONT. 4.5
STILL TURNING TO 300°

1850Z WHEN WE COME BACK ON LINE,
GUN #2 WILL BE OUT FOR REPAIRS.

1900Z 5/C 295° WILL GO TO 300° 4.5/295°
WHEN P. GETS TO PROPER RANGE
AHEAD OF US.

1916Z 6/C 600/2 SLOWING DOWN TO 295°
LET PROSPEKTA GET AHEAD TO
PROPER RANGE.

193105Z Prospekta commenced gun firing → LINE NAT-3A

193835Z MOORE BEGINS FIRING - NAT-3A 3.2/290°

FM 10-1
NORTH ATLANTIC TRANSECT
 18 AUG.

| TIME (Z) | SPEED / HEADING |
|-----------------|---|
| 1950Z | c/s 700/2 . FALLING INTO LINE / 300 BEHIND P. |
| 2000 | Diebold / Lynch / Popovici on watch 4.9 / 299 5.0 / |
| SB 26 | ch. 8 SP 110 |
| 20:27:48 | 30° 44.25 N 75° 33.05 W |
| 2045 | buoy no good - very low signal strength |
| 20:52:05 | SP 160 SB 207 ch 3 30° 45.35 75° 35.30 |
| 2106 | This buoy also Kaput |
| 21:17:35 | Buoy 28 chan 27 P. point 211 30° 46.39' / 75° 37.47 |
| 2340 | DPS problem - overrun errors |
| 2355 | raydist calib 133.49 lane = 6102 m To correct raydist readings, <u>add</u> 1.63 lane |
| 0001:05 | Sowthway (CALIBRATED) #29 ch 17 #537 |
| PROSPECTA POSIT | 30° 54.37 N 75° 53.06 W |

NAT-81 FM 10-1

58

time (Z)

19 AUG 81

SPD/WDG

0033³⁵

LAST SHOT ON LINE NAT-3A
BEGIN TURNING TO RIGHT TO COME
ON LINE AT ESP4 (F^{IV}) center
POINT 30°53'N 75°50'W
FINAL COURSE ≈ 252T @ 5°/min

C/C @ 5°/min
5.5/252°

0220

0221

TURN ON LINE @ 5° C/C

4.6/090
/095

0339Z first shot - ESP begins File #001

0345Z AUSTIN, YANG, FERGUSON ON WATCH.
ABOUT TO START ESP-4.

50
0404:35Z

PROSPEKTA ABEAM OF MOORE 241°
START ESP-4.

DFS SHOT POINT #27

TURNING NOW TO 252° SPEED
TO BE MAINTAINED @ 5.0-5.2 KTS

0415Z C/C 252° CLEARING PROSPEKTA TAIL 4.2
Buoy.

0651^{:05}Z

END E.S.P. 4

DFS RECORD # 193

POSITION: 30° 48.58' N
76° 06.17' W

Y: 44220.5
Z: 59979.3

ALMOST EXACTLY @ CALCULATED END POINTS!
C/C 110° @ 5 KTS.

FM 10-1

NORTH ATLANTIC TRANSECT

TIME(Z)SPEED/HDG

0725Z S/C 115° ca. 4.5 KTS. 115°
 Heading SE to streamer party
 site. Only Maggie operational.

0745Z SHIP'S POWER TO LAB
 OFF → 50 KW GENERATOR
 TO BE SERVICED.

0800Z Diebold on watch
 heading for site 15 nm S. of Line 5
 start point 5 / 135°

1040 change course ~~115~~ more south to reduce rolling
 4 / 145-160
 165

12-1600Z Phillips, McEwen + Robinson 3.9 / 165

1230 begin turning left

1300 STADY on course 000°T SK 0007

1320Z Reduce speed 500 RPM/2 TO 700 RPM OS. 0/05

1335 " " 25 RPM/2 TO 675 OS. 0/010

1410Z C/C 070°T APPROACHING LINE
 FROM THE SW. C/S 800/2.
 AUSTIN, YANG, FERGUSON ON WATCH.
 T.S. DENNIS APPROACHING S.C.

FM10-1

"NORTH ATLANTIC TRANSECT"

TIME(Z)SPEED/HDG

1625

C/S 700/2 TRYING
TO SINK STREAMER

3.5 / 0740

SEAS - 8-12 ft. ON STB Quarter

1641 STREAMER NOW AT 215' ALONG ENTIRE LENGTH

1651 C/S to 650/2 STILL TRYING TO C/S 650
KEEP STREAMER BELOW THE SURFACE.1715 C/C ²⁶⁰~~180~~° COMING BACK TO
ORIGINAL N.A.T. 81-3A \approx 6 MI SE OF
ESP-4 MIDPOINT.1718Z MAGGIE OFF \rightarrow HAVING TO C/C
BRING IT IN TEMPORARILY TO PREVENT
TANGLING WITH STREAMER. HALT C/C.1740Z MAGGIE COMING ABOARD — PROBLEM C/C
W/ WINCH (DRIVE CHAIN PROBLEM).
STREAMER SINKING NICELY.1800Z S/C 260° C/S 600/2 APPROACHING 3.0/260°
LINE FROM THE E.1820Z C/S 650/2 TRYING TO SINK
STREAMER AND KEEP GUNS TOWING
PROPERLY.1825Z C/C SLOWLY TO NEW HEADING C/C C/S
OF 300° T. C/S 700/2 MERGING
W/ LINE. THIS WILL BE N.A.T. - 5.1830Z C/S 750/2 TRYING TO SINK
STREAMER.

FM 10-1

"NORTH ATLANTIC TRANSECT"

TIME (Z)SPEED/HDG

1840Z S/C 283° (to make 294°T) 4.6 KTS.
C/S 600/2 TRYING TO SINK STREAMER

1900Z VERY CLOSE TO BEING ON
LINE. STREAMER SINKING.
GUNS FIRING D.K. BUT NOT
RECORDING DATA YET. P. 2.9 KM.
FROM MID-PT. AND WILL GO
ON SCL (LORAN C) SHORTLY.

1910Z PROSPEKTA ON SCL. 21/275°
STILL TRYING TO SINK STREAMER.

1920Z C/S 625/2. TRYING TO SINK 2.3/268°
STREAMER. ON LINE.
P. AT ESP-4 MID-PT @ 1921:05Z.
AWAITING US TO START N.A.T.-5.

1930Z FHM ON SCL. DEAD SLOW 500-525/2.

1945Z C/S ⁵⁷⁵~~600~~/2 TRYING TO KEEP
STREAMER DOWN.

1950Z C/S 625/2
1952Z C/S 655/2.
1954Z C/S 700/2.

2000 Turning To port in an effort 2.9 265°
To depress streamer

2212 Turning 3° Per minute to 300°
2311 C/S 750 RPM to 700 RPM 70

North Atlantic Transect

| time | 20 Aug | spd/hdg |
|--------|---|---------|
| 0000 Z | Phillips, McEwen + Robinson on watch | 4.5/300 |
| 0020 Z | SLOW TO 700 RPM | 3.5/308 |
| 0025 Z | " " 650 | 3.0/308 |

P PROSPEKTA 3.4 nm DEAD AHEAD 3.4/304
TURNING ONTO NEW LINE TO "F"

0110 NATline 5 just shot #195 recorded
@ 0110:35Z

ONLY 1/2 OF PROSPEKTA GUN
ARRAY WORKING

0125

FULL PROSPEKTA ^{GUN} ARRAY ON

MOORE STEAMER EXTREMELY
NOISY - ON SURFACE DUE
ROUGH SEAS - 10-12' FROM
TROPICAL STORM "DENNIS"

STEAMER CANNOT BE PULLED
IN DUE HIGH SEAS. ~~SPEED~~

FORTUNATELY SPEED ADJUSTMENT TESTS

CL. SLOWING AND SPEEDING UP
THAT BIRDS WERE NOT YET
DAMAGED WHILE ON SURFACE.
WATER SPEED ALWAYS MAINTAINED
LESS THAN 5.0-5.5 KTS.

WHEN SEA MODERATE WE ORDER
STEAMER TO SINK TO NORMAL DEPTH ~~20-30'~~

NORTH ATLANTIC TRANSECT

TIME(Z)

20 August 1981

SPD/LOG

0250Z

SEAS MODERATING SLIGHTLY?? 4.2/280
 COURSE 302°T
 GOOD RECORDS ON TRACES 48-45
 MONITOR LOOKS REASONABLE

0246

INCREASE SPEED + 50 RPM TO 775 4.4/284
 TO MAINTAIN 4.5 KTS NOMINAL

0257:35

SONOBUOY #30
 P SP 216

Chan 4

30° 57.67 N

76° 17.69 W

0318Z

Raydist Calibration 7035 mabr = 170.24 lanes

0337:00

REDUCE SPEED 50 RPM to 725 RPM 3.0/285

0345Z

AUSTIN, FERGUSON, YANG ON 24/278°
 WATCH. STILL ON LINE NAT-5.
 CONDITIONS STORMY, BUT PROGNOSIS
 IS FOR IMPROVEMENT. OPS NORMAL
 BUT NO MAGGIE DEPLOYED. STREAMER
 NOISY BUT USABLE. SB#30 STILL GOOD.

0446-0541Z

EDDIE'S LOGGER TAPE
 OFF-LINE. RE-STARTED.
 HOWEVER, PRINTER WORKED THROUGH
 THE GAP, NO DATA LOST.

0707Z

ALL TOWS O.K. TIED STREAMER
 OFF PORT KINGPOST.

0736:05Z

SB#31 IN THE WATER.
 CHANNEL 27. P. SH. PT. 773.

North Atlantic Transet - FM 10-1

20 AUG 81

TIME(Z)

SPD/ADR

0800

Diebold/Lynch/Popovici on watch
many override/parity errors TPX2

steering
3.1 / 296
To make
5.5 / 306

0900

changed DFS initial gain to 18 Dk
24

Most override errors coming from aux chan.

1000

Speeding up to catch up on Prospektia -
They can't slow down, apparently

1015

Alex adjusts TPX2 to eliminate many parity errors

1030

Prospektia still running away - go to 800 revs
offset 41.7 nm

1100

Still rough - Streamer trailing less to port,
now about 10° from astern
gaining on prospektia
Buoy still audible with Yagi

1130

Buoy barely audible on Moore shots

1211:05

SONOBBOY #32 Ch 18
PROSPEKTA SP#1323

4.9 / 295°
~~295~~

31°16.39N 76°52.84W

125032

SLOW 50 RPM TO 750 RPM
PROSPECT OFFSET NOW 3.2 NM

NORTH ATLANTIC TRANSECT

Time

20 AUG 81

SPD/HDG

1530Z ON SCL FOR FIRST TIME THIS WATCH! ~~53~~/304
SPD NOW STEADY @ 4.5 kts Overground

1545Z AUSTIN, YANG, FERGUSON, GUTIERREZ
ON WATCH. STILL N.A.T.-S. No 3.7/306°
CHANGE IN OPS.

1617Z CHECKED ALL TOWS. O.K.
STREAMER OFF PORT KINGPOST.
ONLY SLIGHT CRAB TO PORT.
WEATHER IMPROVING.

17:46:12Z SB#33 IN THE WATER. CHANNEL 25
Now ON TOP OF THE BLAKE
PLATEAU.

PROSPECTA S.P. 1994
POSITION: 31°30'30" N
77°17.14' W

#2000 Dieball / Lynch / Popovici on watch

2100 Seas abating Streamer straight 4.3/290°
To make 4.3/305°

2130 Calibrate Raydist: Min. Range 6091 = 134.88 lane
Raydist 149.43
Correction - 14.55 lane

agrees with earlier (03182??) calibration

2133 radio interference from Prospectin (Their VHF on some kind of cycle)
coincides with Raydist loss of Lock. New correction
- 21.53

NORTH ATLANTIC TRANSECT FM 10-1

Time (z)

20 AUG 81

SPD/HDG

2205Z INCREASE SPD 2500 RPM TO 775 RPM 3.8/285

2210Z " " " TO 800 RPM 4.3/289

21 AUG

0011Z Last Shot LINE 5

0015Z Change course TO LEFT 160°
TO SET UP TO BRING STREAMER
IN - GUNS OFF0110 s/c 180° - one engine slowed, preparing
to pull in guns 4.2/177°0115 #1 air gun brought up 2.7/180°
0128 #4 air gun brought up 3.0/200°0149 ~~starting~~ ~~stopping~~ to bring in streamer 2.1/214°

0203 Bird #1 and DI #6 on board.

Bird #3 has broken wing
Bird #4 OK.0306 #5 bird, section 80 - broken
0318 #6 bird wing broken - section 72
0336 #7 bird OK - section 640358 #8 bird missing - section 56
0400 #9 bird wing broken - section 480410 Bird at section #42 broke the wing
0419 at section #35, there is a puncture.0439 two leaks found, one at section 35
another one bet'n section 34 & 35.

0442 at section #32, one wing broken, one puncture.

0510 section #44 on board

0555 section #16, one bird's wing broken

0604 section #8 bird is O.K.

North Atlantic Transect FM10-1

Time (Z)

21 Aug. '81

SPD/HDG

0616Z

The whole streamer is ~~on~~ aboard now

1.2/255

0631Z

C/c to 20° for next destination
(32°25'N, 77°25'W)

12-1600Z

Phillips, McEwen + Robinson on watch

1420Z

turning to intersect with Prospekt

1545Z

all guns test ok - Mike quit fast -
pushing? solenoid on Gun #4

1645Z

all guns are in the water again

6.8/166

1651Z

START SLOW 360° TURN ^{TO PORT} WITH
THE GUNS IN THE WATER. PREPARING
TO LINE UP BEHIND PROSPEKT.

1735Z

STREAMING MAGGIE. ALMOST ON
LINE BEHIND PROSPEKT. WILL
TRY TO MAKE GOOD 130°T @ 5.0 KTS
GROUND SPEED.

1752Z

MAGGIE HOOKED UP AND OPERATIONAL.
STILL JOCKEYING FOR PROPER POSITION
STATUS BEHIND P.

1820:05Z

FIRST SHOT → N.A.T. - 7 6.2/172°
R.V. MOORE shooting ONLYPosition =
#32° 22.67'
77° 10.12'

OPS = MAGGIE DATA, LSI-11

LOGGER, SB RECEIVING
SYSTEM. ONLY - NO MOORE DFS

18:34:05Z

~~18:34:05Z~~

S.B. #35

is in water

RECORDING ONLY

Channel 27

S.P. #28

PROSPEKT SHOOTING
AND RECEIVING

MOORE STREAMER ONBOARD HIGH SEAS

North Atlantic Transect FM10-1

Time (Z)

21 Aug. '81

SPD/HDG

1850Z

N. B.

NAT-6, only ^{single ship} Prospektia shot CDP, ~~only~~

while Moore fixes his streamer.

No Recording on Moors

1937

Prospektia lost use of one gun. Presently trying to repair it.

1950

REDUCED SPEED TO 5.0 KTS

C/S

2000

Diebold / Lynch / Popovici on watch

5.2/145

Raydist bad - our system checks out ok

The raydist problem is on Prospektia.

2118:42

Buoy # 36 in water when 4

32° 10.87' N 76° 54.70' W

2350

Prospektia switched to Green unit, Raydist calibration gives Tare of +0.75 lanes.

Tracking ok

22 AUG

Phillips / McEuen / Robinson on watch

0000Z

R.V. Moore shooting ONLY STILL ON LINE 07

0018:34

PROSPEKTIA
POINT

SONOBuoy #37 channel 19

32° 01.21' N 76° 41.12' W

~~No more DES
Recording on
Prospektia
and Recv~~

North Atlantic Transect

time

FM10-1 Aug 22 81

spd/hdg0000-0400Z Phillips, McEuen + Robinson
on watch

0130Z-05 Last shot Line 07 5.3/126

0145Z Maggie shut down - to
deploy streamer

0149Z Eddie's Logger taken off line

0400 Austin, FERGUSON, YANG on watch.
Continuing streamer deployment.~~0651~~ Turning to ~~new heading of 310°~~

0800 LYNCH / DIEBOLD ON WATCH

0855 DI #3 CAL.

Squalls present

1053Z DI #4 calibration
between 65 + 66

1059Z winch is going out

1134Z winch is going out

1142Z calibrating DI #6 - section 96

1205Z reel jumper ^{hooked} brought up1240Z streamer out - cruising course of
300° to meet Prospekta1230Z speed increase 750 rpm on
2 engines

North Atlantic Transect

time FM10-1 22 Aug spd/hdg

- 1330Z INCREASE SPD 500 RPM TO 650 4.0/290
 STREAMER LOOK GREAT! Low noise
- ~~1340~~ DEPTHS 1 2 3 4 5 6
 40 45 45 40 35 45
- 1430Z spd increase to 750 rpm on 3.4/279°
 2 engines
- 1432Z spd increase - 800 rpm/2 eng 3.1/274
- 1529Z spd increase 825 rpm/2 eng 4.3/222°
 s/c 210°
- 1600Z Austin, Ferguson & Yang on Watch.
- 1610Z spd at 750 rpm/2
 1614Z " " 600 rpm/2
 1627Z " " 650 rpm/2
 1643Z " " 800 rpm/2
- 1655Z TRYING TO MAKE 140°T → 3.2/159°
 PROSPEKTA PULLING AHEAD TO START
 N.A.T. - 9 (P. SHOT N.A.T. 8 YESTERDAY).
- 1757Z N.A.T. - 9A first test shot.
 on tape # 101218
- 1800Z N.A.T. - 9A begins on both ships 4.4/143°
with shot # 5, on tape 101218
- 1830Z AT 4.3 KTS (WATER SPEED), STREAMER
 STARTING TO SURFACE. SLOWING
 DOWN TO TRY TO SINK IT.
- 1910 Reduce gun pressure to 1650 psi

NORTH ATLANTIC TRANSECT

TIME ~~FM10-1~~ FM10-1 22 Aug 81 SPD/HDG

1916 Z 600 RPM/2
 1920 Z 625 RPM/2
 1926 Z 650 RPM/2
 19:26:35 Sonobuoy #38, Channel 24
Shot pt. 175

1933 675 RPM/2
 1935 700 RPM/2 — guns at full pressure
 1947 Z 725 RPM/2
 1950 Z 750 RPM/2 Streamer looks 1540
 stable 4.7 KTS — GND. 4.0 KTS — WATER
 Will try to MAINTAIN THIS. Will
 TELL P. TO RANGE OFF US TO
 MAINTAIN RANGE

2000 Diebold / Lynch / Popovich on watch 4.4 / 153
 @ 750 rev

2010 Prospecting cells. Hinz suggests swinging 20 mi
 are at FV To save time

2030 check Raydist cal. — no difference — Tare still 0.75 lane

2045 -25 rpm — streamer rising

2100 down to 700 on 2, streamer not sinking 4.6 / 145 (?)

2110 back to 725 on 2 due to rapid response to above

2200

5.0 / 144
 134 True

22:50:35 SB# 39 in the water ch. 19

~~1110~~ 31° 54.91' N 76° 24.36' W

23:00

Buoy bad

North Atlantic Transsect 22 AUG 81

72

TIME(Z) 22/23 Aug SPD/HDG

23:15 SRS #40 in water 31° 53.62' / 76° 22.48
never Tuned in - ch 8

23:49:05 SRS #41 in water ch. 207
31° 51.68' N 76° 19.88' W P. ship # 699

0000-0400Z Phillips, McEwen - Robinson
on watch

ALL DECK GEAR CHECKED - OK

0312:35 SRS # 42 Channel 9
PROSPEKTA SP # 1106
31° 40.54' N 76 04.94 W

0400Z Austin, Ferguson, Yang ON WATCH

044⁵00Z c/s 700/2 To SINK STREAMER

0450Z c/s 725/2 STREAMER DOWN

0505Z ALL Tows CHECKED - O.K.

0543Z IN TOUCH W/ PROSPEKTA. THEY
BEGAN THEIR TURN TO Pt. E @
0534Z @ 31° 33.3' N, 75° 54.9' W

WE WILL BEGIN OUR TURN WHEN
WE REACH APPROX. THAT POINT.
THIS WILL REMAIN N.A.T. - 9A.
No BREAK IN RECORDINGS.

0600Z c/c 105° → eventually 100° T
Heading to pt. E. ~~100° T~~
STILL NAT - 9A.

FM 10-1

"NORTH ATLANTIC TRANSECT"

TIME(Z)SPD./HDG.

0636Z

PROSPEKTA IS NOW ON SCL
 — NEW LINE HEADING 100°T.
 MOORE STILL TURNING

0710Z

S/C 100° N.A.T. - 9A
 ENROUTE TO Pt. E.

07128:54Z

Sonobuoy #43 Channel #27
 SHOT POINT 1611 (PROSPEKTA)

0759:20Z

SONOBUOY #44 Channel #19
 SHOT POINT 1672 (PROSPEKTA)
 #43 DEAD. 31 29.30
 75 42.04

5.3/099°

0800

DIBOLD / LYNCH / POPOVICI on Watch

1030

Streamers rising after engine check, cut back
 on nos ~ 25

5.0/083

1045

Back to "normal" (725 rpm) speed

5.0/080

1200

Phillips / ROBINSON / McEwen ON WATCH

1202

REDUCE SPD 25 RPM TO 675 RPM
 Nose of STREAMER coming up! 30'

1213:35

SB# 45 Channel 24
 PROSPEKTA SP# 2175
 31° 25.14'N 75° 18.65'W

N.G.

1239:35

SB# 46 Channel 4 N.G.
 PROSPEKTA SP# 2227 IN PROSPEKTA
 31° 24.88'N 75° 16.38'W STREAMER?

NORTH ATLANTIC TRANSECT

Time

23 Aug 81

SPD/WDG

1304Z Tape # 101256 begin 2ms 4.5/072°
sampling.

1305:05 Sonobuoy # ~~46~~ 47 ch. 27 4.7/070°
@ 1305'05" SP#2278

1310Z:05 SP#296 31°24.55'N 75 14.48W

STOP 2ms Sampling due to FAULT
ERROR LIGHT (FILTER) HOWEVER
GALVO Camera (READ/AFTER WRITE) SHOWS
NORMAL RECORD. ALSO INTERNAL
TIME BREAK TRIPPED NOT FIELD TIME BREAK

1329Z 700 rpm both engines 4.8/075°

1340Z C/S 675/2 → trying to
sink streamer.

5
1345Z Austin, Yang, Ferguson on watch. 4.8/078°
N.A.T.-9A enroute to Pt. E. All
ops normal, except inboard end
of streamer, which is slightly shallow

16
1312Z C/S 700/2 Streamer sinking nicely.

6
1315Z All Tows CHECKED - O.K.

1630Z C/S 725/2 Trying to maintain
5.0 KTS. over the ground.

1645Z slowing on one engine for gun testing
1649Z returning to two engines

16:50:35Z Sonobuoy #48 Channel 20
Shot point 2713

NORTH ATLANTIC TRANSECT

Time (z)

23 August 81

SPD/HDG

1705z SB# 48 DEAD. SB# 49 WILL BE
THROWN SHORTLY.

1712:50z SB# 49 Channel 24 in the water
Shot point 2759

1715z c/s 700/2 Sinking streamer. 087°

1805z c/s 725/2

1845z Checked tows → OK

2000 Diebold / Lynda / Ppovici on watch
Raydist out

2010 Raydist corrected — power cord loose on Prospektor
new calibration:

$$133.62 \text{ read} = 5913 \text{ m} = 130.94$$

Tare 2.68

on SCL

2030

c/s 750 on 2

23:28:05 SB# 50 ch. 4 Prosp. SP# 3509

31° 15.42N / 174° 17.06' W

Sea surf Temp 26.5°

North Atlantic Transect

time

FM10-1

spd/hdg

24 Aug.

0000-0400

Phillips, McEuen + Robinson

ALL TOWING GEAR CHECKED - OK

0250:35Z sonobuoy #51 on channel
 27. shot pt. 3913 - ~~1112~~ 5.0/100°
 31°12.15'N 73°54.33'W
 water temp 36.8° C

0320 C/S 25 RPM TO 750/2

5.3/5
(W) 5.5(G)

0345Z Austin, Yang, Ferguson on watch.
 Approaching ESP-3, N.A.T.-10.

5.0/107°

0425Z PROSPEKTA PASSES THROUGH PT. E.
 ABOUT TO DROP "57" (non-AGC)
 SB FOR SOURCE CALIBRATION.

0430:25 Sonobuoy #52 → calibrated SB.
Channel 17
~~THROUGH~~ SHOT POINT 4112
 Position = 31° 10.50' N
 73° 43.73' W

0501Z MOORE @ PT. E. WHEN
 TAILFLOAT CLEARS PT. E (0520Z),
 END OF N.A.T.-9A.

0520Z END N.A.T.-9A. C/S 340° T

@ 5°/MIN C/S 725/2 TO MAINTAIN

5.0 KTS. OVER THE GROUND. LINING
 UP FOR E.S.P.-3.

FM 10-1

" NORTH ATLANTIC TRANSECT "

TIME(Z)

SPD/HDG

- 0600z s/c 175° Being set west towards line-up point. 5.1
- 0620z c/c to the north to port in order to compensate for set. 5.2
Final course $\approx 320^\circ T$. 5°/MIN.
- 0701z c/s 700/2.
- 0710z s/c 270° East of the line
→ heading back toward it
- 0730z c/c to get on line SE 5.2
of the mid-pt (E). Final course 340°
c/s 725/2 Trying to maintain ~ 3.0 kts.
over the ground.
- 0740z c/s 700/2 SLOWING DOWN TO
LET PROSPEKTA GET CLOSER.
WE WILL PASS Pt. E FIRST,
THEN PROSPEKTA.
- 0807z c/s 725/2 → 5.0-5.2 OVER 337°
THE GROUND. ABOUT TO PASS
PROSPEKTA.
- 0816:25z PROSPEKTA ABEAM TO PORT
Radar → 8.5 nm. START ESP-3. ≈ 1.574 km
- Raydist Tare 62.54 lane
- mini Ranger 1500 m → Raydist Tare 64.18
- 0910 SP58 Strong isT arrivals 15.7 km

NORTH ATLANTIC TRANSECT

TIME(Z)

24 AUG 81

SPD/HDG

0915

nearly on line, coming to 340 True 5.0/318

0928

1st arrivals weak but visible at 20.8 km

0938

1st arrivals still good 23.75 km
shark attack(?) chem. 20 (see camera record)

1001

30.5 km 1st arrivals still visible on
camera. R1 fading

1015

34.5 km ditto

1050

45+ km Losing R1 due to
record window end time

1124

Last shot BSP3 / LINE 10

1130

Turning to 225°

12-1600Z

Phillips, Robinson + McEwen 5.2/216°
on watchSTEAMING ALONG TRIANGLE LOOP
TRACK TO RENDEZVOUS WITH PROSPECTA
@ "E" @ 2100Z~~1600Z~~

1830Z

C/C 090

4.5/090

~~1630~~

S/C 090

4.2/090

1645

C/S SLOW STOP TO 550/2 3.8/090

1715

AUSTIN, FERGUSON, AND YANG ON
WATCH.

1815

C/C → BIG WIDE CIRCLE
WAITING FOR P. TO FINISH ESP-3
AND RENDEZVOUS WITH US.

FM10-1

"NORTH ATLANTIC TRANSECT"

24 Aug.

| <u>TIME (Z)</u> | | <u>SPD / HDG</u> |
|-------------------------|--|------------------|
| 2000Z | C/S 725/2 s/c 1600+ Heading for rendezvous pt. to start N.A.T.-II. | 4.2 |
| 2007Z | C/S 750/2. | 4.6 |
| 2110 | Turning onto line with prospecta 9km abeam | |
| | | 5.2 / 150 |
| 2115 | Data logger/control started P. receives Tones O.B. | 5.1 / 123 |
| 2125 | on Line Turning To 109 True | |
| 2126:05 | STARTED FIRING | 5.2 / 116 |
| 2140 2135 | Prospecta goes to SCL at 31° 11.35' 73° 45.03' | |
| 2140 | We go on SCL 31° 12.01' N 073° 44.35' W | 5.1 / 113 |
| 2230 | one nm past point E | 5.1 / 112 |
| | Rydist Tare 61.66 | |
| 22:45:35 | SRB #55 overside ^{PROSP.} SP # 140 31° 09.36' N / 73° 37.69' W Sea Surf. Temp. 217.50 | |
| 22:49:15 | reset rydist new Tare, 113 | |

Time(Z)

25 Aug.

SPD/HDG

0000-0400

Phillips, Robinson + Julie
McEuen on watch

0023Z engines up to 725 rpm 5.1/113°

0041:35 sb # 56 ch # 4 Somo Buloy DEAD

Sp ~~612~~ 612
31°02.53 N 73°16.35 W N.G.

0319:05 Z sb # 57 ch # 22

Shot pt. 687

31°01.60 N 73°13.24 W

N.B. SB # 53

1622:50

24 AUG

31° 09.73 N
73° 44.39 W

SB # 54

1644:20

24 AUG

31° 11.83
73° 45.34

These
were shot
BY PROSPECTA
ON THEIR REEFTOP
OF ESP3 (LINE 11)
MOORE NOT
INVOLVED

0345Z AUSTIN, YANG, FERGUSON ON WATCH.
N.A.T. -11 (I THINK).

0455Z YANG SAYS TOWS ARE O.K. ~~5~~

0533Z c/s 775/2 (FROM 800/2) 5.4
TRYING TO ~~BE~~ SINK STREAMER.

FM 10-1
 "NORTH ATLANTIC TRANSECT"
 25 AUGUST 1981

TIME(Z)

SPD/HDG

0657Z

All Tows OK

0728Z

Sonobuoy #58 is in water at
Channel 2
S.P. 1182 07:28:05Z 5.8/113°

0800

Diebold / Lynch / Popovici on watch

0939

Buoy Dead

09:46:35

Calibration Buoy #59 over the side ch-17
Prospecta SP 1460
30° 51.49 N // 72° 39.88' W 5.9/107°
Sea Surf. T. 27.50

1010

Tows OK. Very Calm

1015

oil check begins

5.7/105

1025

past point D ~ 1 mi. S

1055

Tail buoy at D

105935 LAST "OFFICIAL" SHOT LWS II

5.8/105
 making 4.6/111

1100

begin Turn To right

1105

contact from P. — Their plan for gun maintenance requires unscheduled delay. We will steam SSW on 2207° until they contact us with a time

1145

Prospecta finished. should be at 6 km point 1245

North Atlantic Transect

Time (Z)

FM10-1

25 Aug

Spd/hdg

1200-1600 Z Phillips, Robinson &
McEuen on watch
checked Towing gear - OK

1303 Z skipping line 12 in order
to realign w/ Prospekta MIS-NUMBERING
CONVENTIONS!!

1313Z ~~line 13~~ Begun Recording-

1321⁰⁵ Z Moore + Prospekta 2beam - 5.4/028
line 13 begun

1st shot 1321⁰⁵ Z
ESP-2 N.A.T.-13

1345Z Austin, Yang, Ferguson on watch.
Still on ESP-2.

1613Z c/s 600/2 Traffic 031.°

1617Z c/s To 6.5-7.0 KTS. Avoiding traffic 53/038°

1620 Z c/s to 750 rpm.

1628Z c/s to 775/2 Assuming normal speed

1659:05 LAST SHOT = ESP 2/NAT-13

c/c 190° Same speed. Heading
back to rendezvous point
with Prospekta

1800Z s/c 190° 5.6

1803Z c/s 725/2

1820Z c/c 170°T

FM 10-1

"NORTH ATLANTIC TRANSECT"

| <u>TIME(Z)</u> | | <u>SPD / HDG</u> |
|----------------|---|------------------|
| 1902 | C/S 700/2 | 4.7 / 152° |
| 1905 | C/S 650/2 | 4.2 / 152° |
| 1930Z | C/S 600/2 C/S 197°T LINING UP FOR N.A.T. -14. WAITING TO INFORM PROSPEKTA OF CHANGE IN TRACK. | |
| 1942Z | C/S DEAD SLOW | |
| 1949Z | All tows secured. | |
| 2000 | Diebold / Lynch / Popovici on watch | |
| 2010 | hovering above D; make contact with Prospekta via ZXDD | |
| 2040 | Prospekta approaching from South. 10 mi from us | |
| | Prospekta has problem with Nav/Logging computer | |
| 2118 | INCREASING SPEED | |
| 21:46:30 | Prospekta alarm | |
| 2150 | begin Turn To Stbd to fall in line behind P. | |
| 2155 | while PROSPEKTA works on computer PROBLEMS | |
| 0010 | PROSPEKTA STILL WORKING ON COMPUTER PROBLEM | |
| | WE HAVE DETERMINED THAT MODELS CAN TRIGGER PROSPEKTA GUN BUT <u>NOT</u> THEIR DFS RECEIVING SYSTEM (COMPUTER IS REQUIRED) ALSO DFS CAN NOT BE TRIGGERED ON TIME ON PROSPEKTA (COMPUTER REQUIRED AGAIN!!) | |

NORTH ATLANTIC TRANSECT

26 AUG 81

84

Time
0015Z

SPD/HDC

GIVEN ABOVE CIRCUMSTANCES AND
TIME CONSTRAINTS ON CELENE (WE
ARE TO BE IN SAN JUAN 31 AUG
ACCORDING TO PRESENT SCHEDULE)
THE DECISION HAS BEEN MADE THAT

- ① MOORE WILL BE LEAD SHIP
AN PROSPECTA WILL FOLLOW SHOOTING ONLY
(MUCH LIKE PREVIOUS ARRANGEMENT WHEN
MOORE STREAMER WAS IN OPERATIVE)
- ② PROSPECTA WILL FOLLOW AT 7100 meters
- ③ MOORE WILL RECORD ALL TIME BREAKS
AND FIRE BOTH SHIP'S GUNS AND MOORE'S DFS.
- ④ MOORE WILL ALSO RECORD LORAN-C AND
RAYDIST SEPARATION BETWEEN SHIPS
- ⑤ PROSPECTA WILL MAINTAIN 7100 m SPACING
FROM MOORE USING "MINIRANGER"
HOWEVER MINIRANGER AND LORAN
CAN NOT BE DIGITALLY LOGGED BECAUSE
OF COMPUTER FAILURE
- ⑥ ASSUMING PROSPECTA'S ~~NAV~~ OTHER ^{INTEGRATED} NAV SYSTEM
ELEMENT ARE STILL FUNCTION WITHOUT
COMPUTER PROSPECTA WILL GUIDE
MOORE ALONG LINES. OTHERWISE
MOORE WILL ACT AS PRIMARY
NAVIGATION SHIP USING LORAN-C
AND ~~THEIR~~ MAGNAVYX SATELLITE/DOPPLER
SONAR INTEGRATED NAV SYSTEM.

0030

BEGIN TURNING RIGHT ONTO
LINE D-V CK 090
SIC

0040

46/410
135

North Atlantic Transect

time Z

FM10-1 26 Aug

spd/hdg

0145Z 700 RPM

4.6/130

0155Z C/S 750 RPM

5.0/130

0202Z C/S 800 RPM

5.3/140

0220:05

C/C

197°

5.0/140

0250

S/C

197

5.0/197

0311:05

1ST SHOT

LINE 14

5.2/197

TRANSECT from D → V

MOORE LEADING PROSPEKTA

0345Z

AUSTIN, YANG, FERLUSON, ON WATCH
LINE N.A.T.-14. PROSPEKTA FOLLOWING
Us.197°/5.5
(6)

0432:05

SB#⁶⁰~~60~~

DEPLOYED FROM

MOORE

Ch. 26.

30°44.66' N

72°42 49' W

0455Z

SB#60

KAPUT.

5110:05Z

SB #61

IN THE WATER

Channel 13, SHOT POINT 478

30°41.18' N

72°43.65' W

0740Z

CHECKED ALL TOWS - O.K.

5.4/191°

0800

Diebold / Lynd / Popovici on watch

5.3/193

0832

Raydist 156.13

mini-Ranger 6990 = 154.79

⇒ Tare 1.34 lane

a/c 194-2192

FM10-1

NORTH ATLANTIC TRANSECT

86

TIME (Z)

SPD / Hdg

09:02:05 SONOBLOY #62 over side chan 29
 Port side 30° 20.50' N 172° 52.08' W | Phone depth 1000

5.4/191

1033

Baydist check: Baydist 161.21
 Mini pager 726m = 159.79
 Tare = 1.42 lane

1100

Tows ok

1115

contact w/ Prospekt: They have Navigation working, but
 no logging. No improvement results from replacing memory

12-1600Z

Phillips, Robinson + McEwen
 on watch. ON LINE 14

1240Z

C/S - 25 RPM TO 725

1255

SB#62 DEAD

1340

C/S + 25 RPM → 750 RPM

5.4/195

1510

5.0/195

1520

C/S + 25 RPM → 775 RPM

5.3/193

1545Z

AUSTIN, YANG, FERGUSON ON
 WATCH STILL N.A.T.-14, HEADING
 FOR PT. V (VICTOR).

5.4/195.

1748-1751Z

EDDIE'S LOGGER OFF-LINE
 TAPE RAN OUT.

(1926:05Z END OF NAT-14)

C/C STARBOARD (ca. 350°T) TO
 LINE UP W/ LINE V-G.

FM 10-1

"NORTH ATLANTIC TRANSECT"

26 AUGUST, 1981

TIME(Z)Hdg/SPD

2230:05 First shot Line 15

116 5.2

2240 Prospekt at point Victor

2317 Simultaneous Mini-Ranger, Raydist readings:

Mini-R: 6147 m = 136.12 lane

Raydist 136.72

Tare 0.60 lane

27 AUGUST0000Z Phillips/McEwen/ROBINSON ON WATCH
ON LINE 150253:05 Z SB #63 Channel 22
shot point 527 Line 15
29° 19.92 N 72° 46.57 W

0345Z AUSTIN, YANG, FERGUSON ON WATCH. N.A.T. -15. ALL Ops NORMAL 5.2/118

0355Z c/s 775/2 (FROM 800/2).

0452Z Tow in O.K. 5.2/119

0625Z Tows OK — Taped portion of ledger.

:00

S.B. #64 Channel #4

in water

0627Z

Shot Pt 954

Time: 6:27:00

(from Prospekt)

FM 10-1

NORTH ATLANTIC TRANSECT

88

TIME (Z)

27 Aug 81

SPD / Hdg

0800 27 Aug 1981

DIBBOLD / LYNEA / POPOVIC ON WATCH

5.4 / 114

making 7.7 / 114
(LORAN)

0820 Tows OK

09:03:05

SB# 65

Ch. 22

S.P. 1261 (Prospecta)

29° 03.41' N

72° 08.99 W

1035

Prospecta ^{finishes} ~~begins~~ Turn to STbd

1050

buoy 65 dead

1100

moor Turning onto line G-H

1120

on line G-H. Haven't had radio contact with P. since 1100, except by P. walkie-talkie

5.2 / 138

1130

back in Radio contact via VHF Ch 10

12-1600 Z

Phillips, Robinson + McEwen
on watch

1211:34 Z

SB# 66

ch 4

Prospect SP# 1644

IN WATER

28° 52.00' N

071° 51.65' W

W. Temp 28.1

1540 Z

SB DEAD

15

SB# 67

ch 16

1540:35 shot

point 2062

28° 35.65 N

71° 37.28 W

h₂O temp 27.8°CDECK GEAR CHECK - OK HOWEVER TAIL BUOY
IS NOT VISIBLE TO EYE OR RADAR IN CALM SEAS

North Atlantic Transect

FM10-1

89

time z

27 Aug 81

spd/hdg

1545z

AUSTIN, YANG, FERGUSON ON
WATCH. N.A.T. - 15, HEADING FOR
PT. H AND LAST ESP (#5)

5.4/145°

1705z

Tows CHECKED - O.K.

19:15:35z

SB #68

Channel 22

S.P. 2492 (Prospekta)

28° 18.020' (N)
-071° 26.350' (W)

1935z

SB#68

APPARENTLY KAPUT!

1949:20z

SB#69

Channel 2

S.P. 2558

2000

Diebold / Popovici / Lynde on watch

23:02:35

Sonobuoy #70 Chan 9

Pos. Ship Point # 2946

60' phone depth

28° 04.61' N, 71° 05.14' W

28 AUG

0000z

Phillips / Robinson / McEwen on watch

All Gear checked - OK

sonobuoy #71 ch. 2 dead

NO RADIO TRANSMISSION

0305:35

sonobuoy #72 ch 28

shot pt. 03432

water temp

28.4°C

27° 46.82' N

70° 49.24' W

DEAD

North Atlantic Transect
time Z FM10-1
28 August, 1981

spd/bdg

0345Z ANSTIN, YANG, FERGUSON ON 5.2/137°
 WATCH. N.A.T.-15 OPS NORMAL

0412:40Z SB # ~~72~~ 73

Channel 2

S.P. 3565

LAST HEARD FROM AT 4:35/KAPUT!

0503:50Z SB #74 deployed (Prospekta)
 Ch 7
 S.P. 3668

0520Z ALL TOWS CHECKED - O.K.

0800 Diebold / Lynch / Popovich on watch

08:37:05 S. Buoy # 175 ch. 17 Prospekta SP# 4094
 27° 21.93'N 70° 24.27'W

1015 Tows OK

1041 gun #1 off while Martin checks compressors

1101 gun #1 back on

1112 simultaneous Report / Mini Ranger
 Raydist 130.21
 Mini Ranger 5855 m \Rightarrow 129.65
 Tare 0.56 lane

1200Z Phillips / Robinson / McEwen ON Watch

TAIL BUOY STILL NOT VISIBLE EYES/RADAR
 PROBABLY LOST! TAIL HYDROPHONE VERY QUIET

NORTH ATLANTIC TRANSECT

28 AUGUST 81

91

Time

SPD/WDG

1252:05Z Sonobuoy #76 ch. 7 @ 60' depth

PROSPECTA - 27° 02.05 N, 070° 06.29 W, Temp 28.0C

1600Z LORAN-C ~~will~~ IS NO LONGER
TO BE USED FOR PRIMARY
NAVIGATION. THE SHIP'S DOPPLER
SONAR/MAGNAVOX SATELLITE INTEGRATED
NAVIGATION SYSTEM WILL NOW
BE THE PRIMARY NAVIGATION METHOD
ALL SAT FIXES AND DEAD RECKONED
SPEED AND ~~BE~~ HEADINGS WILL BE LOGGED
FOR TEKTRONIC NAV. PROCESSING!!

1600Z AUSTIN, YANG, FERGUSON ON WATCH 5.5/137°
N.A.T. - 15. All OPS NORMAL. TOWS
CHECKED - O.K.

1659:35Z SB# 77 (PROSPECTA) S.P. 5096.

1800Z CHECKED All TOWS - O.K.

2000 Diebold / Lynde / Popovici on watch, 5.4/139

2050 check radar after glitch. Radar 136.68
min. Range 6120m = 135.92
True = 1.16

TIME (Z)

SPD / WDG

21:10:35

SB# 78

Prospecta shot pt 5601 chn 25.4/140

26° 24.51N

69° 30.16W

phone depth 60' Sens. Temp 27.17°C

29 AUG 81

0000Z

Phillips / McEuen / ROBINSON on watch

ALL TOWED GEAR CHECKED - OK 5.4/139

0056:05

SB# 79

Ch. 2

SP 6052

26° 09.55N

69° 15.84W W. 78.0

0345Z

AUSTIN, FERGUSON, GUTIERREZ 5.4/141°
ON WATCH. YANG ON THE TEKTRONIX.
STILL N.A.T. - 15. OPS NORMAL.

0420Z

YANG Back on watch. FINALLY!

0425Z

All Tows CHECKED - O.K.

0444:35Z

SB# 80

CHANNEL 25

IN THE

WATER

S.P. 6508 (PROSPEKTA)

0518Z

MALFUNCTION = SILENT 700 PRINTER
DEDICATED TO MAGNAVOX. TAKING
DR'S AND FIXES OFF THE SCREEN.
CARLOS WORKING ON THE PROBLEM.

0550Z

ANOTHER SILENT 700 BACK ON
LINE W/ SAT. NAV. "ALL IS WELL!"

0600Z

BATHYMETRY QUALITY GOING DOWN-
HILL.

0630Z

CONTINUING PROBLEMS
WITH MAGNAVOX SAT. NAV. PRINTER.

FM 10-1

"NORTH ATLANTIC TRANSECT"

29 AUGUST, 1981

TIME (Z)SPD / HBG

0740Z MARMAROX SILENT 700 FIXED.

0800 Dierbold / Popovici / Lynch on watch

0835 SB# 81 Prospector shot# 6967 ch. 3
25° 37.77' N
68° 46.47' W Phonedepth 60'0840 Raydist check Raydist 137.57 lanes
min. R 6182m = 136.89
Tare 0.68 lane

1055 change Type on Eddie's log

1200-1600Z Phillips, Robinson + McRuer
on watch1207:35Z sonobuoy # 82 channel 13
sp# 7395
25° 21.46' N h20 temp 27.9°C
68° 34.60' WDEAD @ 1525Z
1230 C/S 125 → 800C PM/2 5.4/1251526:35 SB# 83 Ch 20, SP# 7797 (PROTECTOR)
25° 07.58N, 068 19.79 W1600Z Austin, Ferguson, Yang on watch STILL
N.A.T. - 15. OPS NORMAL

1610Z PULLING GUN #3. LEAKING.

FM10-1

NORTH ATLANTIC TRANSECT 29 AUG 81

| <u>TIME(Z)</u> | | <u>SPD/HDG</u> |
|----------------|-----------------|----------------|
| 1650Z | ALL TOWS SECURE | |

1736Z GUN#3 BACK ON LINE.

18:19:40Z S.B. # 84 Channel #17
S.P. 8139 (Non-AGC. Buoy)

| | | |
|-------|-----|-----------|
| 1920Z | END | N.A.T.-15 |
|-------|-----|-----------|

| | | |
|-------|------------------------|-----|
| 1930Z | C/C 320° BEGIN TURNING | 5.6 |
| | TO E.S.P. 5. 3°/MIN. | |
| | LINE 16 | |

2000 Diebold / Lynch / Popovici on watch

2030 giving Prospektin fix information, missing turn

2040 Turning onto 026° 3°/min Tow OK

2100 on line slowing down to let Prospektin get in position

2110 Looking up Line 5 mi from H

2145 Prospektin turning onto line

2215 up to speed, heading for new endpoint
ST6d - 36d pass

P. starts shooting 2228Z LINE 16
 1st shot 2230:05Z

22:32:18 Closest approach 2185 lanes Beyond

new sat fix 2205 p1505 1 mi SE of line

NORTH ATLANTIC TRANSECT

FM10-1

Time (Z)

29 AUG

SPD/HDG

BSP #5 midpoint ~ 24° 54.2' N, 68° 06.3' W 5.2/023

MOORE RENDEZVOUS POINT 25° 00.8' N, 68° 10.7' W

PROSPEKTA RENDEZVOUS POINT 24° 57.8' N 68° 06.7' W

2320 Prospekta going too fast - They are slowing

Prospekta can't shoot when out of shotbox range.

They will (1) call on VHF chn 10

(2) call on 2182

(3) stop shooting - we can observe on streamer

30 AUG 0000 - 0400Z

Phillips, Robinson + McEwen

on watch - ESP #5

0146Z

0230Z

0250Z

0305

0340

0345

0355Z

0405Z

0425Z

0433Z

0510Z

0518Z

~~ESP~~ ALL DECK TOWING GEAR CHECKED OK 0205.3~~END~~ ESP #5 (N.A.T.-16) C/C @ 5°/min. R/H 240/5.2

STEADY ON COURSE 240 S/C 240 to 240 240/5.0

C/C 225

S/C

225/5.2

CHANGE SPEED - 100 RPM TO 625/2 C/S 4.0/225

" " - 25 " " 600/2 C/S 3.8

AUSTIN, GUTIERREZ ON WATCH.

C/S DEAD SLOW/WAITING ON PROSPEKTA 3.7/220

, NE OF RENDEZVOUS PT.

HAVE PROSPEKTA VISUALLY AND ON
RADAR → ONLY 8.0 MILES AWAY AND
CLOSING.

All tugs secure

C/S 600/2 PROSPEKTA GETTING ON
LINE AHEAD. SINKING STREAMER.C/S 625/2 STREAMER SINKING
COMING UP TO SPEED SLOWLY BEHIND PROSPEKTA.

FM10-1

NORTH ATLANTIC TRANSECT

30 AUGUST 1981TIME(Z)SPD/HDG

0523

C/S 675/2

SINKING STREAMER 135°

0525

C/S 725/2

"

0535Z

C/S 750/2

O/C 142°

5.6/142°

ON LINE → BEGIN N.A.T. -17

0557: 58Z

SB# 85CHANNEL 20

S.P. 43

5.6/140°

0646Z

C/S 775/2

TRYING TO

MAINTAIN 5.2 - 5.3 KTS OVER THE
GROUND.

0800

Diebold / Lynch / Popovici on watch

0820

Raydis check

130.91

min. Raydis 5880 = 130.21

Tare

0.70

0848:30

SB# 86

ch 17

P. sp# 384

24° 38.63' N

67° 55.66' W

planned depth 60'

0920

FRSD BATS BUOY # 86

0937:35

SB# 87

ch 13

P. sp# 482

24° 34.55' N

67° 52.80' W

1000

P. gets Sat Fix putting them on Port side of line

This agrees with our D.R.

1112

Sat fix puts us 2 mi Left of DR pos.

Time(Z)

30 AUG '81

SPD/HTG

1140 Prospektin's last sat. fix position N.W. of DR position, as did ours. will shift course accordingly

1200Z Phillips / McEuen / Robinson On Watch
CHECKED ALL TOW GEAR - OK

1249:05 SB# 88 Channel 20 SP# 866
29°18.09N 67°40.11W W.T. 27.3 5.9/149

1335Z SLOW - 25 RPM TO 800/2 5.5/154

1345Z AUSTIN, YANG, FERGUSON, GUTIERREZ 5.7/151
ON WATCH. N.A.T. - 17. OPS NORMAL.

1635Z Prospektin stops recording buoy due to Topo. we will contact them when it is past us

1640Z CHECKED ALL TOWS - OK

2000 DIBOLD / LYNCH / POPOVICH on Watch

2059 35 SB# 89 chn 20 P. SP# 18249
23°34.22'N 67°12.21'N

2117 Buoy NG

Rydin Check 124.96 lane
Mini-R 5560 = 123.12
Tare 1.84

2123 35 SB# 90 SP# 1896 ch 17
23°32.05'N 67°10.80'W

2215 lost Buoy in Stream

TIME(Z)

30 AUG 81

SPD/146

22 47 05

SRB# 91 Chan 31

Prog SP# 2062

23° 24.23' N

67° 05.70' W

2115

bad fix was used for forced update.

DR was used to correct lat, lon for next fix,
but large induced error in drift left uncorrected.
Therefore, next fix bad. (2242)

2302 fix recalculated with correct drift, but
therefor unusable for forced update.

0236:35Z

sonobuoy # 92

channel # 7 (last of FM10-1)

shot point 2522

23° 03.47' N

66° 51.95' W

water temp 28.4°C

0345Z

AUSTIN ET AL. ON WATCH. LAST
LINE N.A.T.-17. OPS NORMAL, PEOPLE
ABNORMAL.

S.S/146°

0435Z

CHECKED ALL TOWS - OK

0540Z

MAGGIE VERY NOISY.

0620Z

MAGGIE STILL NOISY - WILL PULL
IT TO SEE IF HEAD IS OKAY.

0640Z

MAGGIE OUT AND BACK IN THE
WATER AGAIN - EVERYTHING APPEARS
OKAY. ADJUST "FINE TUNE" FROM
8 → 5 ON LAB UNIT. NOW APPEARS
OKAY.

FM10-1

NORTH ATLANTIC TRANSECT

31 AUGUST, 1981

TIME(Z)SPD/HDG

DIBOLD / LYNCH / POPOVICI on watch

0910

Prospekta calls, calculate our end of line
1000 Z

0935

moore passes "R"

1000

End Line 17, NAT 81 LEG 1

Pulling Gear STREAMER, ARGONS, MAGGIE

1015

MAGGIE ABOARD

1045

ARGONS ABOARD

1206Z

Prospekta's streamer is in; steaming toward
~~point R~~ San Juan

→ 1307

underway for San Juan, Puerto Rico 10.0/175
Maggie and Bathymetry watches only
1 Sept 81

0000Z

Phillips / Robinson on watch

10.0/175

0130Z

3.5 E/S very poor! LOW SIGNAL/NOISE

OPERATING AT MAX. PULSE LENGTH

RECEIVER GAIN - WATER DEPTHS GREATER

THAN 3000 fm - NEARING PUERTO RICO TRENCH AXIS!

SHIP SPEED IS FULL AHEAD 1250 RPM! >10 KTS

0135

TERMINATE E/S WATCH

0400

TERMINATE MAGGIE WATCH - MAGNETOMETER

N.B. STILL TOWED AND RECORDING

0435

LAB POWER SHUT DOWN TO SERVICE 50 KW GENERATOR

1307Z

~~underway - steaming for San Juan, Puerto Rico~~

MAGGIE + BATHYMETRY ONLY. MAGGIE REDEPLOYED

0500

END LEG 1 OF FM 10 - 60nm north of
SAN JUAN!!