

SCIENTISTS WATCH LOG -

5 SEPTEMBER 1981 -

R/V FRED H. MURDER CRUISE FM10-2

MCS, TWO SHIP SURVEY - NORTH ATLANTIC TO ABSECT.
SAN JUAN PUERTO RICO TO SAN JUAN PUERTO RICO

2218 Z (1818 ships) - UNDERWAY - Full ships

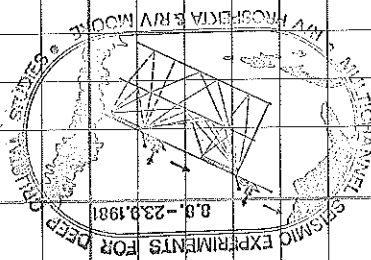
Crew aboard - science party all aboard. Science party consists of the following persons -

| | | |
|--------------|---|---------------------------------------|
| E. Rosenbaum | - | Chief Scientist |
| K. Corliss | - | Senior technician |
| R. Belman | - | Scientist |
| J. McEwen | - | Watch stander |
| A. Altop | - | Watch stander |
| C. Colmont | - | Watch stander |
| M. Meyer | - | Scientist (from Prospector - liaison) |
| D. Jones | - | Compressor / air gun tech. |
| M. Illsich | - | Compressor / air gun tech. |
| S. Salazar | - | Electronic tech. |
| H. Hynch | - | Electronic tech. |

Trapped pilot at sea buoy - cleaning sea buoy -

set course 335°, speed 10 knots to deployment point.
Set new systems up and running - checking out gear

COMM. SYSTEMS



0003

6 SEP 81

SELS OK @ DEAD AHEAD TRACE 12

16 NOISE
22 3/4 OPEN
32 DEAD

— TRACE 16 NOISE WAS PARALLEL/OPPOSITE SWICH

1643 Z

Doppler Sonar —
WITH 14400 RPM'S SPEED INDICATION
WAS 5 KTS

PORT
SWAPPED FORWARD ← 51/52
SET BACK TO 7200 F/MILES

1830 Z

— CABLE WOULD TOO LOOSE ON DEUM —

— PULLED DOWN AND SHOCKED THE JACKET
OFF OF DEAD SECTION.

[SET 51/52]

— WHILE TRYING TO GET IT STOPPED OFF THE

WINCH CONTROLS WOULD NOT RESPOND — SURGING

— BROKE SINGLE STRESS MEMBER ON LIVE SECTION

AT CABLE HOLDING TOOL

— WINCH OIL WAS VERY HOT AND CONTAMINATED

— OIL OILY

— SECTIONS REPLACED

Complete Sinker Deployment

2300 Z

SELS CHECK TRACES 22 3/4 OPEN
TRACE 1 LOW

7300Z UNDERWAY

7327Z REDUCE SPEED TO 800 RPM ON 2

ON USE 090°

7 Sept 0000Z INCREASE SPEED TO 900 RPM ON 2

C/C 074°

0006Z REDUCE TO 850 RPM ON BOTH ENGINES.

0031Z REDUCE TO 750 RPM ON BOTH ENGINES

STARTED TRACES 24 AND 41 AT
PATCH POWER

0045Z STAKED 3.5 kHz

0100Z Contact established with RN Prospekt

Maneuvering to fall into line behind
RN Prospekt; first wide operation

line will be #22

0153Z Change course to 090 to get behind Prospekt

0154Z S/O 090°

0314Z C/C 070°

0330Z C/C 060°

0342Z C/C 040° Gradually turning onto course
000 to begin first line

0344Z C/C 020°

0352Z C/C 010° slowing to 5.4 kts

Sept 7, 1981 FM 10-2

0400 7.5 km to beginning line #22
 Will commence shuffling when Prospekt at 5'
 on course 000°
 0437 Prospekt starts shuffling 1.5 kms from 5'

0449 C/S Dead clear ahead for gun deployment

0512 Guns in water
 Brumbug up speed to 5.3 knots
 Range to ESP 6 91 kms by DR =

0519 Beginning firing guns - testing
 Wind hydraulic line broken

0530 At 5' latitude, 3 miles to west
 0530 DR 18°59.8'N 66°38.2'W
 guns still testing
 not yet recording

0542 A/C → 020

0553 Begin recording Line #22

0613 Prospekt missed one shot: ZKD signal not received
 Streamer depths 2:42
 3:45
 4:40
 5:35
 6:46
 Spud 5.4

0712 Switch POR → 1 sec. sweep 750 meters

0730 Separation 6.3 km Prospekt slinging 5.4
 Moore bridge says can't keep steady 5.4

0753 Have had continuing problems with tape drives (DPS IV)
 many missed shots on tape changes (Ken working)

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835 PROSP. RISES SPEED UP TO GET CORRECT DISTANCE

925 DISTANCE ~ 5800 m. PROSP. WILL TRY TO 6000 m

1020 c/c TO 015° AS PER PROSPETA

1025 PROSPETA LOST SIGHT BECAUSE OF TNGR - FAILURE W/ BOSCH

1035 RIGHT 5988.9 m

1053 " 5780 m PROSP. WILL CORRECT IT

1115 " 5906 m

1203 c/c 010

1254 PROSPETA WILL LAUNCH SONOBUOY # 93 CHANNEL 26 ON SHOTPOINT 996
1256Z 19° 42.4' N 66° 30.18' W

1352 MAGGY BEING DEPLOYED

1552 c/c 350

1600 CHRONOLOG DAILY 1044 AND SAT. TIME 08 GA.

1800 REANNOTATED HOUR MARKS ON RAYTHEON NUMBER INCORRECTLY MARKED FROM 1300

1826 BRIDGE REPORTS INTERFERENCE ON VHF GEN. G. THINKS MUST BE AFS TRANSMISSION

1950 BRIDGE SAYS GYRO READING 2° TOO HIGH
ie. gyro reading of 007 when actually speeding 0050

reading on MAGNAVEX agrees w/ bridge reports

Ken & Eric agree NOT to enter error into MAGNAVEX
bridge to steer heading ordered by PROSPETA - ignore gyro error

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2045 PROSPERITY deployed Sonobouy #94

SATPOINT (PROSP) 1983

2110 Sonobouy #94 works quiet well on PROSP

2253 last shot live 928 - shut down guns -
commence turn to North @ 50/min to 075° -

2303 CHANGE DFS Record Length

From 20 sec to 39 sec.

2333 CHRONOLOG NOW IN SYNC WITH SAT CLOCK

NOVA4 RUNNING - READY FOR ESP

8 Sept 81

0040 S/O 255°

0115 c/c 250° c/s 5.1 lbs

0125 Commence shooting ESP 6 NAT-81-23

6130 Prospekt/More cross with point
minimum distance of separation 1.52 km @
shot pt. 10

0144 Lost shot 14 - radio switch not in up position

0335 Terminate ESP 6 - radio transmission lost
to Prospekt, Max range ~ 40 km

0347 c/c @ 30/min into 180° slow to 5.0 lbs

0417 Course 180° Speed 4.6 lbs

0441 Depth indicator #3 reading 55 ft
probably bad reading

Sept. 8, 1981

0520 3.5 KHz port to nonexposed bottom

0602 Lights (probably Prosopeta) sighted bearing 350° relative
 at VHF contact yet
 Raydist at 12 nm

0625 Prosopeta completes line to center line of
 ESR from east. Will turn sharp to south
 around on to line at intersection pt. Prosopeta
 will direct Murre to position 6 km behind it.

0637 CHANGED DFS RECORD LENGTH FROM
 39 to 80 SECS. CHANGED LINE # TO 24

0640 STARTED LAMONT NOVAH CONTROL PROGRAM
 FOR 2-SHIP SHOOTING PATTERN

0715 More bridge radar insensitive
 tracking Prosopeta by visual & Raydist
 Range = 5400 m. Murre 0750, Prosopeta turning due
 south

0740 Begin turn to Line # 25
 Raydist contributed to Murre's
 initial 20 ms.

0755 Begin Raytheon guns for Line 25
 range to Prosopeta 4000 ms
 start to 4.0 hrs, wait for it to pull ahead

0802 Turned #2 gun changed delay from 26 msec to 25 msec

0806 Begin DFS IV line 25 tape 101599
 Post start recording Aug 25

Sept 8, 1961

0820 Hoore Andy mader work again

DISTANCE Hoore - PROSP. ~ 5000 m
Hoore always spread down

Hoore spreads up to 5.3
Prosp. spreads down to 4.9 m, because of darkness 6230 m

0900
0910

1216

c/c 000

1257

c/c 005 -

1432

c/c 355

1440

c/c 005

1645

and line #25

1649

guns off

1655

SET RECORD LENGTH to 39 SECS + LINE NO. TO 26
ONDSIV

1741

NOVA4 CONTROL PROGRAM RUNNING
FOR ESP 7 1 SHIP SHOOTING

1806

Depth Indicator #5 down to 22 fath

1820

nearing ESP heading (see radio log)

1850

on ESP course of 270°, at 2.3 miles east
of N/S line, less than 1 mile

1855

Inspection begins shortly ESP 7, line 26
Mark missed 1st shot
started recording at 1856

Sept 8, 1981 FM 10-2 Science log

91

1913

Ships abeam for ESP 7
 Raydist: 2263 = 1021 m
 Minitranger 1030 m.
 DR 51 09.065 N 66 29.770 W
 Seaswell NE 7 ft
 Wind NE 20 kts.

total turning time since end of line 25 = 2 hrs 28 min

1934

Tail buoy clear

1944

Depth indicator #3 showing shallow depths - 25-35 m -

2210

draft record = 190 on line NHT 81-26

2240

starting to pull up gear

~ 0030

took large sea over fantail; tow scientist's party swept under streamer which drew one tow forward to water right hullhead, bruises and slight cuts and abrasions sustained by five of streamer party. Sent to pull up streamer

0020

P2OSP. is still measuring Cerebriform

line 27;

0038

P2OSP. has no problems at the moment

0142

Tail away in

0205 Z

P2OSP. stops line #27, pull up gear at position 21° 10' N, 66° 37' W

Sept. 9, 1981

Science Log

0227 Z Presp. purpura to go to point 87

(22° 25' N, 64° 10' W)

*

0303 gear in! course 062 to point 87

0350 Magnusen on Manual speed 8.0 kts (with air working)
3.5 kts off

0355 - One man works in lab - securing Science
equipment - Start down 3.5 kts. Standard - no recognizable signal

0542 Prospector on Radar 8.2 nm on starboard 1/4
of radar

Steaming to Pt. 8A making good 7.5 kts.
Current ETA Pt 8A: 09/00/81 0100 ±

0625 Making good 0540
Bridge instructed by Capt. to steer 062° for
Southern ridge in NE sets

* Comment by Dave Scientist on Steven McHenry

Excellent "smooth" no crew under and under, you are relatively
dangerous conditions. Strong winds extended to all water in
the McHenry. Strained in good shape, no obvious damage. One bird
gone. May have lost another - washed overboard.
Saw in good shape.

1400Z - Tentative decision to proceed as follows -

Continue to point BA - steaming at max speed.

Check weather advisings.

Upon arrival at point BA, weather and seas permitting - display situation -

Continue operations from point BA or a point westward along the projected track line -

This means abandoning ~~point B~~ and related CDP lines. Move could recover part of CDP used on log three - weather and time permitting.

ET A science operations to begin again - approximately 0800Z to 1000Z - 0400 EST -

1600 Z Steaming to Pt. BA. swell 10-12 ft ESE sea 4-5 ft wind - E 10-12

adjusting course on Magnavox bearing to BA

1621Z Restarting Wiley's program for gun test firing

1730Z

We have decided to shoot on ESP at pt BA.

Prospecta will arrive first at pt. BA, turn south and CDP to 22°13'N 64°16'W, then turn westward north along ESP then turn and meet Moore at center point for ESP. Moore will head east for 22°05' 63°46' slightly from downwind then meet Prospecta at 22°25'N 64°10'W for ESP

Source Log

9 Sept 81
10 Sept 81

20002

SEIS CHIC -

1 low
22 OPEN
24 "SHORTED"
41 "SHORTED"

00152 stat for display in the room

Calibrate DI # 5 zero OK

40 ft pressure increased 38' led to 40
kg $\approx +2$, set.

02402

SEIS CIC - STRAIGHT OUT

OPEN 1,22
SHORT 24,41

0322 - like changed couple to couple and starting

POINT FOR ESP LUG BA - (NATEI-29) SEISMICALLY
AT 5 KNOTS. STEAMER IS DOWN - (HOLDING) BETWEEN
40 AND 50 FEET.

Discussions with PUSKIN - since made this leak
COR - will shut ESP prior to COR shutdown of LUG
BY PUSKIN / i.e. will follow the usual drill of
MAKE WING, After shutdown, ESP until ready to
RESTARTABLE for COR LUG.

0420 PROSPECTA SAYS BEGIN TURN TO CORP ON

LINE FOR ESP & A. PT BA RANGE = 5.0 NM.

0441 START ESP-MODEL OFS PROGRAM

AUTO SPEED APPARENTLY OK

FM 10-2

SCIENCE LOG

10 Sept. 1951

0432 PROSPECTA ON LINE - ESP SA Line 29

0452 PROSPECTA WILL PASS FAM STRD - STRD

0515 PROSPECTA FIRST SHOT, BEGIN DES IV *

LINE: NAT LINE #29

TARE PROBLEM

RESTART DES IV LINE #29 0521

0524 Ships ahead for ESP #5A

Rangefinder 18.12 = 818 m

Minimum 800 m

DR 22 24.92 N 64 09.94 W

Sea 0

Swell light

Wind NE 10-12

0546 Tow/buoys clear

0547 C/C to 025° to speed back to line

0600 Making Galvanometer copies every 10 mins

0630 Check w/ Prospektor - battery. Flat

0655 No good arrivals since 3.15-20 kms from SA
End 10 min galvanometer output

0715 Streamer depths 1 25 ft.

40

48

38

24

35

Speed 5.3 kts

6

5

4

3

2

1

FM 10-2

Sgt. 10, 1951

SCIENCE LOG

0752 END ESP SA, LINE NAT #29 SHUT 153

turn off line at DR PT
 (Range diff: 44 km to Respector)
 22° 38.0' N 64° 04.6' W

(tail buoy
 5 m west
 of ESP point
 end point)

using two fixes, 0532Z 90720Z
 heading start of ESP SA:

40 km/sec OK
~~40 km/sec OK~~
 speed made good 5.5 (avg speed 4.5)
~~40 km/sec OK~~

course made good 026.2°

0804 END LAST TAPE ESP SA, LINE #29

NOTE: all tapes for line #29
 in correctly labelled Line #28 (on tape leaders)

Alex F. H. Moore / Respector With style line:

Line #31 (Respector ESP SA return)
 Line #30

1330 Begin 180° turn onto course 020° @ 3°/min

1335 CHANGED REC LENGTH TO 20 SEC ON DES UNIT.

1613 Begin gun deployment

1643 gun deployed, being speed to 5 knots

FM 10-2 10 Sept. 1951

SCIENCE LOG

1825 Guns on fir line #31

1834 Rifleman w/ gun sighted; 5-6 km from start pt.

1849 Gun sighted record by reloading program from tape

1851 Prospekt begins recording. Line #31

1853 Moore begins recording. Line #31

1856 Air lead in gun #4; shooting only 1, 2, 3 repeating #4

1900 Begin Raytheon single channel monitor
Begin digitizing magnetic1901 Miniranger - 5850 ms
Raydist - 5779 ms
difference 1.5 lanes - 2.0 lanes

1916.35 Prospekt passes Pt. EA

~~1933~~ (1933 - Flashed EPC on)1935 \downarrow (DR 22° 24.09 64° 08.44 - S.B. relation)

(Sonobuoy #98) Channel #28

1945 Begin receiving S.B. #98

delay due to wiring antenna on line

1955 Moore ahead of Pt. EA

2050 Pass p. Moos had trouble in shooting target
30 min ago.

10 Sept 81

FH 10-2

Source Log

Double check from our gun (gun #4)

All 4 guns now firing

DTS IV FOX CHARGES

- #1 Blast Phase Gun 2
- #2 " " Gun 1
- #3 UNFILTERED LDGO Sono Reviv
- #4 FILTERED " " "

2305 Sono boy # 99 on Q₁
 22° 17.42 N
 13° 41.61 W

0304 Sonoboy # 100 on Ch 17
 Position
 22° 8.04' N
 63° 30.73' W

0348 Adjust course to 110°

0412 Switch Sonoboy antenna to Vagite
 still noisy

0430 Miniranger
 6310 ms
 Raydist
 6345 ms

0452 Sonoboy ~~separation~~ record vague - rough tape.

0455 6400m separation, increasing speed

0515 Still 6400m, increase to 900 RPMs
 begin closing range

FM10-2
SEP. 11/1981

SCIENCE LOG

0535 Range close to 6000 m
0555 Steady on range. Spd over ground 5.5, thru water 4.9
~ 0620 Sonobuoy #100 ETC terminated (from Prospector)
0625 Depth indicators - #3 50-70 probably bad
#5 tracking 20 ft occasionally
Chief Scientist notified

0645 Sonobuoy #101 launched by Prospector
OR 22° 01.00' N
63° 12.38' W
Channel #23

0647 Tuned in on S.B. #101

0721 S.B. #101 roughly abeam, change to YAGCIC antenna
Signal strength unchanged

0915 BATHY THERMISTRY REACH
Due to SEA CONDITIONS
SEAS 1 to 2 FEET
8 to 10 FOOT SWELLS OUT OF THE EAST

0922 Distance comparison
Munings 6091 m
Raydon 6214 m
(137.3 fms)
(probably failure of Raydon; see Plot at 0900Z)

1006Z Sonobuoy #102, A. 17. Low and by Prospector
01° 53.04' N
62° 55.33' W

1035Z Prospector only with one engine
(copied down)

FM 10-02

Sept 11, 1981

SCIENCE LOG

0019

1230 Z

Middle part of stream forming very shallow. Poor data quality on these channels.

1413 Z

975 LPM = 50 LPS

Streamers to bring much better now - will try to maintain present speed of 2 STS

1425 Z

1426 Z Sonobuoy # 103 Channel 6

1418 Z 21° 44.75' N

62° 33.66' W

1440 Z

Prospectra starting only 1/2 array

1636 Z

Prospectra back to full gain strength

— Data Logger - System D. Clock

Sync'd to SAT Clock

— System has been in sync with now this log

1715

Problems w/ DF-5 IV missing several slices

1810

Death of good fixes all day

Sonobuoy # 104 at 21 @ 1830 Z

21° 34.82' N ; 62° 08.22' W

1830

DF-5 IV Tape drive #2 will not trigger EOT light on at beginning of tape currently operating on one drive only

11
Sept 1961

FM10-2

SCIENCE LOG

1900 Z 3.5 Kts record still illegible partly due to sea conditions

1902 Z Tye Drive #2 accepts blue dye mds (sensitivity problem in light sensor)

1910 Z Reduced RPM's to 700 to allow heavy vessel to pass

1915 - Shifted S.B. #104 100 ft astern

1919 Z begin to speed up gradually 50 RPM/5 min

1925 Z Streamer depths (due to stirring)

1 - 5 ft
2 - 4 ft
3 - 6 ft
4 - 17 ft
5 - 25 ft
6 - 40 ft

(Ch. En. in Lt)

1931 Z

Streamer depths near normal

More - Rms range 6150 m

Speed as before slow down to 5.0 kts

1945

Respectfully called confirming probable destruction of S.B. #104 by Mine at 1910 Z

1955

Streamer at 5-10 ft on 243 DTS
reduce RPM's to 900

2029

message at 1035 Z was no fault of P0050
P0050 normally needs one input when measuring

SCIENCE LOG

2220Z Moore streamer still towing too shallow and
is not acquiring useful data. Array will have to be
recovered. Rosenkrantz, Detrick and Meyer adopt a
plan in which we continue to point 9A. Even though
the Moore array will be useless some wide aperture
data will still be acquired. We also suggested to
Rosenkrantz increasing the ship/ship separation to 7k
to increase system's aperture while ward just to
Rosenkrantz receiving array. At ESP 9 the Prospekt
will reshoot ESP first, meanwhile Moore will recover
array and redeploy. Then we will wait at point 9A
and shoot ESP. EIA 2 9A 0700 = L 12 Sept

PROSP. Increase distance between Moore - PROSP

23 00 Range = 15.3.2 * 45.1588 = 691.8 m

23 15 Range = 15.8.19 * 45.1588 = 7143.7 m

Minimum PROSP. Range 7019 m

12 Sept 1981

0000Z After some discussion Moore / PROSP distance
adjusted to 4km

0500Z 3.5 kHz still unreadable; MC data very poor to useless

0520Z Added 2ms delay to gun #1
Delay from #1 024 -> 026 ms
Gun #2 025
#3 026
#4 027

0539Z Turned off gun 3 - Dangling in fairweather

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SCIENCE LOG

Completed repair on #3 gun (replace frayed
 hose fitting). New fitting must set dry for
 30 mins. R.B. directed M.E. to leave gun #3
 on deck until morning. Will continue firing
 3 guns.

0640Z

Miniranger - 6084 m
 Raydist - 137,40 fms = 6205 m

0720Z

Raydist error = +121 m

0720

Gun #1 delay - 2 ms → 024 ms

0745Z

Have been making grid 5.5 hrs ±, 1 hr additional

0745Z

SINCE to last fix - 5.2 hrs
 entered 5.2 into Magnavox

0805

Raydist 6300 m
 Raydist 6400 m

0917

SEAS 2-4 FEET

8 TO 10 FOOT SWELLS OUT OF THE EAST

1030

END OF LINE #31. Last shot #4534

1110

pull up magnetometer and gun

1345

START RECOVERING CABLE

16:15

STANARD recovered

1652

Running from Harvey 045 @ 10 kts

FM 10-2

SEPT 12, 1981

SEPT 13, 1981

SCIENCE LOG

2250

Raydist out of calibration (Raydiste above 1.5 nm.)

Raydist = 40 kms

2100Z

Steamer deployment begun seas 2-4' winds SW 10-12 KTS swells out of SW, 4-6'

Sept. 14, 1981

0230

Steamer deployed.

0415

Steamer departs:

- 1 - 6.5 ft
- 2 - 40 ft
- 3 - 60 ft
- 4 - 25 ft
- 5 - 18 ft
- 6 - 35 ft

0600

Still having slight problems. Varying ship's speed.

0615

Ship's speed 4.5 KTS & steamer at good depths except #5 - 15 ft.

0630

Still problems w/ steamer depths

0800

A miracle happens - the steamer gradually deepens and grounds. However, Higgins seems loose.

connections we decide to proceed with ESP. We turn downwind and make arrangements to meet Prospector at 1200Z at ESP contact point. This will be line # 33

1204Z

Begin line #33; shot #538

SCIENCE LOG

Sept. 14, 1981

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ESP begins; ships cross at 1223Z at minimum range of 1.328 km. Streamer still quiet and at following depths: #1 - 35'; #2 - 40'; #3 - 32'; #4 - 52'; #5 - 30'; #6 - 44';

1455Z ESP 9 finished; 72 last shot number

0615 Streamer depths OK

1635 Streamer depths: (coming out of turn) 4.5 fms

- 1-10
- 2-5
- 3-30
- 4-12
- 5-5
- 6-25

moderately noisy

1650 DT's 2, 4, 5 < 5 ft (upward course)

1710 DT #1 (onboard) erratic - sudden shifts 5-50-5 ft.

1800 Streamer riding better depths (> 10 ft.)

1940 Turning into LINE #34
begin to deploy guns

2005 GUNS IN WATER & RELOAD

DISTANCE 2000 ft - 1700 ft 4.8 km
HOOPE will SPEED UP WHEN DISTANCE IS COLLECT

2005 Begin to move speed to mountain station -
varying down stream. Mags & covers in water.

2029. 0120 to having on wire -

2032 FIRST SHOT due #34 from PROSP

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Science Log

2036 First SWOT From Moore

2039 - Checked Baydair - calibrated air

2100 - Spooling on line. All systems operative -
 streamer down to operating depth - speed stable -
 slow at 800 rpm - 4.5-5.0 kts -

Following DFS TRACES ARE SHOWN
 AT INST 4, 24, 27, 28, 32, 41 & 45

2247 Z PLOSP. Larkin Sonobuoy #107
 on ch 13

Pos.
 20° 54.9 N
 60° 40.2 W

2128 Z 800 RPM good speed sitting, streamer
 depths look excellent

0216 c/c 115°. All is ok on the fault

0314 More problems with tape drive 2 accepting
 all tapes. Slogan considered

0327 Sonobuoy #108 Channel 24

20° 44.46' N
 60° 14.78' W

0340 Mobly got 5.1 kts over ground

0615 Continuing problems w/ DFS tape drives (B)

SCIENCE LOT

Sept. 15, 1961

FM 10-2

Channel #13

Sonobuoy #109

20 36.51 N
59 55.39 W

increased speed slowly (from 800 - 850 RPM)

P. Lounsbury Sonobuoy #110 on C#10

Pos 20° 30.95 N
59° 41.09 W

1115 gun along from 25, 25, 25, 25 to 25, 25, 26, 26

1124 - Bridge has been adjusting speed trying to chase the SRT NAV LOG READINGS

currently 875/825 RPM

- told them to hold ~~at~~ 850 on BOTH

1317 - Single channel monitor now on EPC Monitor (lower one), 3.5 kHz on upper EPC monitor, 3.5 kHz

record very poor. Howard trying to fix SSD

Recorder

Still having problems with DCS unit 2 rejecting

old tapes. Sakagari consulted. Unit 1 also does

the same thing occasionally. The last three satellite fixes indicate ground

speed of 5.24 and 5.17 kts respectively.

850 RPM on both engines working very well.

Shannon towing sonobuoy at about 1/3 jet -

sections 60-900 at approximately 35 jet.

1644 513111 Ch 21 20 18.32 N 59 07.12 W

Start receiving at 1707Z

no graphic monitor available (renders down)

SCIENCE 100-

Sept. 15, 1981
FM 10-2

1730Z ~~3.5 kHz recorder down~~ (EPC for soundings down)

Raytheon down - Solaris repairing single channel monitor on EPC, which normally displays 3.5 kHz
upper EPC not able to show section
no graphic monitor of S.B. is
continued tracking of DF-514 drives → tape changes
usually OK. Need constant attention.

1930Z

Raytheon still down
No 3.5 kHz record
Single channel monitor on one working EPC
No recorder available for soundby record
K. Griffiths aware of above

2017

P. Kousko Soundby #112 on CH#7
Pos 20 14.26 N
58 47.35 W

2051

Final shut down 3.5 kHz - no signal return -
death of monitors - still working on Raytheon -
attempting to record soundby.

2134

Soundby #113
Pos 20 13.36 N
58 39.99 W
CH #2

Soundby #112 no longer working

2220Z

Maggie acting up - shut down
reeling in to see if soundby is
tangled up

2300Z

Maggie back on line - looking good

Sept 16, 1981

FM 10-2

SCIENCE LOG

0225Z

SONOBUOY # 114 CH # 26

20° 10' N
58° 17' W

0230Z

PROSP. CALLS AND COMPLAINS THAT WE ARE STEERING ABOUT ONE POINT TO THE LEFT OF THEIR STERN. A DISCUSSION WITH THE SKIPPER SUGGESTS THAT THIS MAY IN PART BE DUE TO A DISCREPANCY BETWEEN THE GYRO AND COMPASS OUTPUT. SITUATION LEFT AS IS NOW - CHIEF SCIT WILL BE INFORMED OF PROBLEM WHEN HE WAKES UP

0346

SAND. # 115 CH 7 20° 10.53' N / 58° 08.99' W

0500Z

1 O.I. errors but centered on 40 ft.

0538Z

PROSPECTOR pulls half of gun array
will be out 3/4 hour

0957Z

P. works again with both gun arrays

1219Z

Shutting down array & fix compressor
malfunction

1232

PROSPECTOR will recalibrate their clock when they reach 90. At 90 the live number will change from 34 to 35

1234

GUN # 4 on live - last shot live 34,
last shot number (3652 - 1046)
last record number 4643.
Last record # of PROSP is 4791.
Begin live 35

1251

SONOBUOY # 116 CH # 23
20° 12' N
57° 13' W

Sept 16, 1981

FM 10-2

SCIENCE LOG

0029

1256

On line for line 35 (9C → 9D)

1414

Speed over the ground between the last two satellite fixes is ~ 5.5 kts

1420

Sonde buoy # 116 Ch # 13

20° 10.97' N
57° 04.72' W

1437

Switch Sono Input to DFS from LD 60 Rec
to MSI Receiver

1815

Sonde buoy # 118
Channel # 6

20° 07.54' N
56° 42.46' W

Begin reception 1824

0049

We have found that on line 34 the total shots are 200 greater than the total number of minutes during which the line was shot. This error occurred between 12.12 / 15 and 12.42 / 15 when the shot point increased by 230 rather than 30. Explanation unknown. Also note that about 3.3 % of the records ~~on line 34~~ were lost due, presumably, to DFS IV tape handling problems. This same problem has occurred on line 35 at 2237 / 16 when the shot counts were recorded from 599 to 620 on our shot. Faulty bit in shot point counter. I suspect

FM 10-2
Sgt. 17/1981
SCIENCE LOG

0435
Mirrored
Ray diff
6233
6231

1501Z LAST SHOT ON LINE 35

1507Z SHOT DOWN CUN CIRCUITS - SHUTTING
DOWN COMPARISONS -

1530Z Plans for ESP 10

Northward point : 20° 13.70 N 54° 56.81 W
Center point : 20° 00.15 N 54° 56.81 W
Southern point : 19° 46.60 N 54° 56.81 W

We agreed with Prospector to be at a point
6 km south of center point at 1800Z

1625Z ESP 10 Start delayed because Prospector
reporting guns

1531 RESYNC LAMONT CHRONOLOG TO SAT CLOCK

1646 CHANGED DFSIV RECORD LENGTH FROM 2056GS TO 3956GS

1721 Prospector's guns in water.

1858 Begin Recording DFSIV ESP 10, LINE #36
Prospector says Mirrored still out

SCIENCE LOG

Sept 17/1981

FMIO-2

Ships abeam - ESP 10

1907 Z

1946 m.

Rangdist - 43.06

Minimager - down

DR 20 00.171 W

54 56.749 W

Respecter reports minimager working

1920 Z

End of line # 36 (Lat N. 192)

22 09 Z

~~Start for pull up the minimager [to 210°]~~

Start to turn to 210° with 3 D/m

Roll maximized.
Start down 3.5 KHz.
Begin to pull away -

Complete recovery @ 2130 Z.

Enroute to ESP 11 + 12 on MAR south of KP2

0200

0310

2235

2230 -

2000

Sept 18 1981 -

Steaming at maximum speed toward ESP 11 position.

Sept 19 1981 -

0007 Steaming at maximum speed toward ESP 11 position.

Sept 20, 1981

SCIENCE LOG

0032

1500 Z Continuing to steam E 10 kts to ESP 11.

In radio communications with Prospekt we decide to shift ESP 11 to MAR rift valley site. The off ridge site previously planned for IPD site AT-5 has been shifted east of the ridge to IPD site AT-6 in the

"North/South trending trough known as 'Anom 5 Trough'. The reason for this shift is that the bathymetry at S Trough is likely to be better than at the comparatively

site west of the ridge. This will become ESP 12. Prospekt is echo-sounding both the proposed ESP locations while we steam. There

ESP 11 center pt is at $22^{\circ}37.65'N$, $45^{\circ}02.33'W$. Line will be oriented N10E. More will shoot from middle to the northern point. Run time with Prospekt to begin ESP

is 0100 Z on the 21st.

2000 Z Begin Alconer deployment.

2049 Patrol + refuel action # 13

26-2000 DT#5 Sensor Read 6' at 2000

FM-10-2

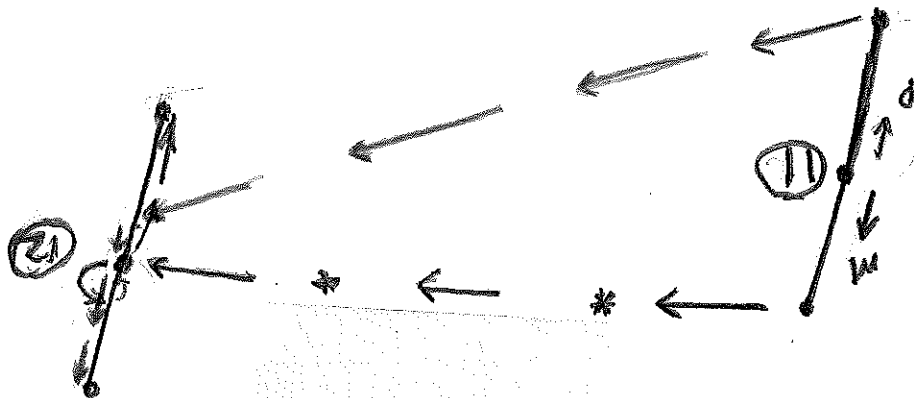
Sept 21, 1951

SCIENCE LOG

Deployment of streamer nearly complete. After discussions with Prospector the following plan for ESPs 11 + 12 was made (see radio log).

ESP 1
Midpoint: 22° 37.65 N 45° 02.33 W
North 22° 51.29 N 45° 01.00 W
South 22° 24.00 N 45° 03.61 W

ESP 12
Midpoint 22° 51.25 N 43° 29.63 W
North 23° 03.98 N 43° 27.53 W
South 22° 37.71 N 43° 31.67 W



ESP 11 should be line 38.

0045 ~~Current chemistry program not okay.~~
Newly current program for ESP 11 line 38 added.

0050 Begin turn to left to 090° T.

Sept 21, 1981

FM 10-2

SCIENCE LOG

0418Z Start DPST Lin # 38 ESP # 11
 0431Z Rocket's first shot

0445Z Ship's abeam - start ESP # 11
 Radar - 3771 = 1703 m.
 Miniranger - 2540 m
 DR 22 38.586
 45 03.803
 Wind - NE 8-10
 Seas - Slight swell 2-3 ft

0454 Miniranger - Radar's clock
 at closest approach
 difference of 737 m
 16.3 knots
 0502 Miniranger 6000
 Radar's 120.25 - 12 knots at 100 - 5430 m

0605 Seeing probable layer 3 refraction on oscilloscope
 at 20 km range
 Since 0555 have changed dist of 100 to 0.6°
 due to NW set

0630 Ship in target 4900 m
 25-
 end of visible contacts 20 km range
 Last shot recorded
 DR 22 51.256 N
 45 02.917 W
 0659 completed
 LIN # 38
 ESP # 11

44 km range on Radar to Angkor

SEPT 21, 1981

FM 10-2

SCIENCE LOG

0714 - changed record length from 39 to 20 sec

0715 - killed ESP program, start there only mode

0834 - guns are in; turn from 240° to 90° (portward)

(50/min)

0915 - end of turn

0945 - try to adjust, but NOV-7-Pay not working

1001Z - 1. Record on Line # 39

22° 51.903' N

45° 06.307' W

1325Z - DFS is recording every 30 sec, but there is shooting every minute, therefore every other record is blank, Chief Sci informed of this

1904 - 500 ft shots made good 4.165 last 4 hrs. increase spd. 5 kts.

2030 - not for delay to 25-25-27-26 missed

0550 - Ship crossed ESP 12 center prior at lat 22° 51.325' N

0616 - Guns off, last trace of ESP 12 with PT.

0630 - Change record length from 20 sec to 39 sec.

0730 Z

PB talked with Keith Monahan about boat

topography for ESP 12. PS predicted that Ruddy maps of Moore Line #39 both data showed flat

sediments 2-3 miles west of ESP 12 center PT

while center PT given by those appeared to be in area of remnant drape. Keith said Responder both

survey of "little" line showed mild relief of "four hummocked meters". We agreed in interest of consistency

with line already surveyed and shift to proceed with

Moore's coordinates. ESP 12 → Line #41

0740 Z

Bridges of both ships in contact on VHF

0745 Z

Responder completed out of calibration - reads 30 when range is 13 km

081 Z

1. Rec + 1.5 shot of ESP #12

082 Z

Repeat calibration to 7 km

0850

P stream of H
D. 1000 ft
22° 51.2 N
43° 28.9 W

1201 Z

Last shot ESP 12 Line 41

1250

Begin streamer recovery.

1510

Streamer returns.

1530

Monahan to close Rhyolite for recovery and equipment transfer.

All Roughter - When Roughter equipment transferred
to Moore with Prospekt's Zedico. H. Meyer
transfers to Prospekt, R. Idout and IC. Mandelstein
transfers to Moore.
16552 - All transfers complete Moore reports to.
San Juan P.R. at maximum speed. Science
operations resumed.