

FM 35-12 09 NOV 87 JD 313

2

1115Z

1500Z Reset 15 min event marker on 3.5 kHz  
0100 Local Outgoing signal not timed correctly poor record  
this problem began at ~~begin~~ start of roll 10:05Z JD 313

1550 Set 3.5 kHz on internal timing seems to remove ~~some~~  
another outgoing pulse offset

1605 Set 3.5 kHz on external timing  
adjust trigger level outgoing pulse no longer offset

1806 c/c 262° (downwind) c/s ~ 3 KTS (one engine)  
to set up for streamer and gun  
deployment.

1804 S/O 262°, 3 KTS

1819 Tail buoy deployed  
14° 37.490 N } SATNAV  
149° 55.602 E }

1825 Started deploying streamer  
14° 27.456 N } SATNAV  
149° 55.338 E }

1839 All stop, pulling back about  
10 m of the streamer

1841 Ahead slow 1 kt;

1900 c/s 3 kts.

1941 STOP TO CHANGE OUT # 6

(314) 0600 Streamer in the water

c/s 4.7 kts  
14° 31.453 N } SATNAV  
149° 07.949 E }



# FM 35-12 WATCH LOG

085  
3

10 Nov 87

0610 Z c/c 6°/min till we  
come to 070°

0600 Z End of Roll & 3.5 KHz  
change roll  
~~0600 Z~~

Stern of ship to 1<sup>st</sup> stretch section  
 $20 \times 11' = 220' - 10' = 210'$  or 64m

0638 steady on 070°

0705 Z launching the guns,  
port 6-gun array

0725 Z starboard —

0753 stopping starboard engine.

0757 Reengage starboard engine.

0848 Recording 1 big gun array  
+ c/c to 080°, speed ~ 4.5 kts

0901 Magnetometer deployed on the port  
side.

0940 c/s, now on two engines ~ 5 kts  
all guns in water  
c/3.5 KHz EPC TO 2 sec Sweep

0948 command birds to 15 meters

1015Z ~~D/A~~ TO DEPLOY more LEADON - NEAR END OF  
CABLE RIDING TO HIGH

1018Z BACK TO 2 ENGINES 5 KTS



# FM35-12 WATCH LOG

007  
4

10 NOV 87

1024 let streamer leader out about  $8 \times 11' = 88'$  more  
 $\begin{array}{r} - 7 \\ 70' \\ \hline 81' \text{ more} \end{array}$

1114 Begin Recording MCS data  
speed 5 kts, birds at 15m  
DI's 11, 13, 11, 9, 10, 12, 17, 15, 13, 13, 13 m  
near far trace

1126 Starboard engine shut down.  
Starboard 2000 in<sup>3</sup> gun deployed.

1128 Speed down to 3 knots.

1129 Starboard engine starts back up.  
Stbd. 2000 in<sup>3</sup> gun in.

1213 dc 075°

1406 missed 5 shots at end of tape 12004 MTI

1527 alarm on gun pressure on.  
Temporary air loss ~ 30 sec - 1 min PRES drop to ~ 1700  
normally ~ 1900 - 2000

17:17 Pres. Alarm pres drop to 1700  
Switch 2000 in<sup>3</sup> guns  
from C7 to C8

17:25 picking up port 2000 in<sup>3</sup> gun (C7)  
slowing to 3.0 kts

1732 Bring back to speed ~~4.0 kts~~ 5.0 kts  
Port Array with Stbd. 2000 in<sup>3</sup> operations

1842 IAI gun stopped firing 429 in<sup>3</sup> Port Array

1844 Switch to STBD. ARRAY Complete



FM 35-12

~~068~~  
5

1D  
314

# WATCH LOG

10 NOV 87

20:34 Z SLOW LOSS OF AIR IN STARD.  
ARRAY (LEAK IN A 1B4 RUN)  
20:40 GUN 1 B 4 PUT ON STANDBY.

21:00 C/C 070°  
22:45 AIR COMPRESSOR LEAK STOP FIRING BIG GUN  
22:47 air compressor down, no shooting

23:15 C/C 065°  
23:17 air compressor OK, first shot  
big 2000 ci gun flooded, bringing up to clear  
Using only stbd array with exception of 1B4

23:27 Stbd engine shut down to pull big gun.  
on board

23:31 Gun ~~ix~~; resume both engines.

JD 315 11 NOV  
0002 Switch to port array, port big gun

0039 C/C 062°  
01122 cleaned EPC BELT - 3.5 KHz  
0200 gun miss - firing 2000 ci port side

0220 pull port 2000 ci gun to check  
for cause of  $\pm 5$  m/sec fire jitter

0317 stbd 2000 ci gun firing  
port array still OK

0351 launched smoboy #1 → no recording  
~~0320~~

0321 launched smoboy #2 → aborted after 16 min  
(hooked at the cable)

0502 shut down guns (for about 20 min).

05:39:22 started shooting again. NEW LINE NAME = CP-1B

0604 unexplained GUNBOX "STOPPED" 060240  
060440



FM 35-12

# WATCH LOG

06:09:19 ~~z~~ sonobuoy thrown in on the ~~star~~ port side

06:35 ~~z~~ signal o.k. see sonobuoy LOG  
~~signal~~ sonobuoy signal lost sonobuoy probably caught on the streamer.

06:50 ~~z~~ c/c to 065°

08:30 ~~z~~ c/c to 070°

1021 ~~z~~ all ok, shooting port array, starboard 200ci pressures at ~1950psi  
3 dead or noisy traces in streamer

<del>DI</del> settings	near			
DI readings	14	14	12	10
	11	12	16	15
	12	13	13	
			tail	

Bird settings	12	15 m
	11	18 m
	10	15
	9	15
	8	18
	7	18
	6	15
	5	15
	4	15
	3	15
	2	15
	1	15

1101 ~~z~~ lost 429 m port array, shifted to starboard array but without 108ci

1106 ~~z~~ GPS down "error 12" was working at 1010 ~~z~~ Power off/on seems ok.



# FM 35-12 Watch Log

7

1108 11 Nov 87 JDAY 315

- 1116 Port 2000<sup>in<sup>3</sup></sup> on board for repairs.  
 1116:40 gun Down - RUN AWAY TAPE MTB missed 21 shots  
 ~1130 speed increased while pulling guns speed up to 5.3 kts in water  
 1142 asked for speed to be reduced  
 1200 changed black pen on plotter to Chrom Pressurized Ball  
 1313 c/c 073°  
 1334 air pressure dropping, appears to be 2000<sup>ci</sup> gun problem  
 1345 STBD 2000<sup>in<sup>3</sup></sup> ON DECK FOR REPAIRS  
     ↓ running with just 957<sup>in<sup>3</sup></sup> Partial STBD. Army only no 108<sup>in<sup>3</sup></sup>  
 1400 -  
 1414 - Port side away shooting -  
 1420 port 2000 ci shooting  
 1555 - c/c 080°  
 1620 - pressure down 1A2 and 1A6 misfire  
     60<sup>in<sup>3</sup></sup> 1A6 off the line - TOTAL PRES = 2005<sup>in<sup>3</sup></sup>  
 1733 initiate turn c/c 194° @ 4°/min  
 Begin turn 15° 31.33' N  
     151° 55.735' E  
 \* 17:42 C7 Port 2000<sup>in<sup>3</sup></sup> misfire pres. ALARM OFF  
 1753-1806 - MISSING DATA TAPE OVER WRITTEN 120044 has only 2 shots  
 18:02 on course 194°.  
 1816 C8 STBD 2000<sup>in<sup>3</sup></sup> in water firing back up to 3005<sup>in<sup>3</sup></sup>  
 1833 PORT Engine OFF to recover guns slow to -



FM35-12

071

11 Nov 87

# WATCH LOG

18:40 Z: Speed 3.7 ~~12~~ kts.

19:10 2000 cu. ind gun 1CS possibly  
misfiring.

20:45 c/c 190°

20:55 2000 ind 3 gun 1CS stopped  
firing.

21:05 2000 ind gun 1CS firing.

21:40 Air leak somewhere?

21:48 c/c 185°

21:50 1AS gun put on STDBY (108ci)

2248 Disengage port engine to bring port  
array on board.

2300 c/c 180°

2304 Resume port engine; port array on board

12 NOV 87 jd 316

0025 2000ci off; repair deck hose  
shooting 957ci

0036 c/c ~~173~~ 177°

0106 lost 429ci gun, down to 528ci

0107 MT2 rewound prematurely - hung 903  
lost 12 shots EOT 120054

0407 - Slow to one engine deploy Airguns Port Array 2.9 kts ~ 3 min

0424 Port Array in water firing 1065CL



FM 35-12

1112  
9

12 NOV 87 (316) WATCH LOG

- 1015 c/c 105° to line 3
- 1026 c/s speed dropped during turn, asked for more speed
- 1035 on csc 105°
- 1038 BOL OP-~~2~~ BOL OP-3 REC #2955 #20069
- 1050 c/c 110° c/s 4.5 kts in water,
- 1051 1st shot with 2000 ci gun
- 1055 c/s 5.0 kts in water
- 1058 lost 429 ci gun port array
- 1102 start starboard array
- 1103 Port 2000. leaking
- 1114 port 2000 back to shooting.  
shooting 3165  
port gun relative fire time still erratic
- 1130 discovered nav plot had died, rebooted, c/c 115°
- 1136 c/c 120°
- 1139 2000ci died again, left on ~~tr~~ 45° 1 of 3 n 4 shots
- ~1220 plotter died, Masscomp died at same time
- 1228 Masscomp died again
- 1253 2000ci finally off, stopped firing about 1150
- 1335 2000 ci gun on ~~starboard~~ port
- 1339 2000 ci in trouble again
- 1349 2000 in 3 - port - pulled out of water
- 1359 Starboard 2000 being deployed.



FM 35-12

07/3  
10

12 NOV 87 (316)

1401 Reengage stbd. engine.

1402:20 stbd 2000 begins firing

141850 Sonobuoy #4

14:42 MT3 TAPE drive back up

~1450 Masscomp recording of SB4 stopped -  
still have problems with the digitizing

17:19Z Sonobuoy #5 Ch 23 ~~167.2542~~  
HYDROPHONE remained at 167.125  
Surface but recording ~~for~~ but terminated

17:32 Sonobuoy #6 Ch 22  
OK recording

20:20 Gun B1 (429cc) ~~is~~ leaking air.  
Shut down.

2249 30 sec rep rate 4130 ci, 2 arrays + 1 big gun

2259 launched SB7 commercial Ret-tek

2320 lost 2000 ci, now firing 2 arrays

2359 Port 2000 on deck.

~~0054 429 ci gone, 2000 ci in water~~  
~~0056 2000 ci on, total volume 3706 ci~~



FM 35-12

0711  
11

13 NOV 87 jd 317

0054 429 c.i. gone, 2000 c.i. in water.

0056 2000 c.i. on, total volume ~~3706~~ c.i.  
3701 c.i.

0334 welding on back deck  
from 2/1 ~ 0320

0407 lost all guns pressure down. compressor down.

0425 start shooting with other  
compressor online. some guns.

0428 Mike Wright advised port MBY gone  
for good. Drive shaft ~~is not~~ between  
engine and clutch sheared. no spares.

0516 starboard 2000 c.i. in the water.

0518 switch to starboard array and 2000  
3065 c.i.

0523 - C/c 123

0536 smobury 8, Reflek 40L

06:42:40 firing both 2000 cu. inch guns  
+ 1 array.

06:45 firing everything we got! 6130 cu inch

---

06:49 on 429 cubic inch gun (1A1)  
taken off (not enough air)

06:52 port array taken off  
(not enough air at 30 sec  
compressor cycle)



# FU35-12 WATCH LOG

12

0847 13 Nov 87 OB-3A

0847 add port 429 to existing  
stbd array, + two 2000's firing.

0855 compressor can't keep up - remove  
port 429 from active list.

0918 lost 2000 ci gun, port side,  
now have 3165 ci in water

0924 put the port array into  
action: leave 4130 cu. inch firing.

1000 A-TEAM on watch, PATTY, SRT, TOM

10:02:30 Sonobuoy #9 launched.  
drawed 20. Commercial  
4130 ci; but 2000 ci gun miss firing

1003 2135 ci only

1040 appears that hydrophone did not deploy

1216:32 Start firing port 2000.  
rec # 1582  
4130 ci total

1252: 2000° DEAD ONCE AGAIN  
2130 ci

14:40 - Port Array 2000 in<sup>3</sup> backup ready to fire

14:42 - Pres. Loss

14:46 Pres. > 1300 PSI CONT. SHOOT 2130 ci

15:04Z Go to BSTD. Array + STBD 48 2000 in<sup>3</sup> 3065 in<sup>3</sup>

1532:20 changed to 20 sec rep rate 1971 recnd #  
BEGIN OB-3C

15:42 Sonobuoy #10 military

15:53 shut off G-gun away, repair fuel leak, still  
have 2000 ci.



JD 317 Z

FM 3512

13

BNA 87

WATCHDOG

1612 STBD array + STBD 2000 i<sup>3</sup> firing  
3065 i<sup>3</sup>

16:44Z SB #11 away

1747 SB dead.

18:34 1B1 gun off line (429 cu. inch)

18:40 both arrays working except (1B1)  
1 429 cu. inch gun. 3701 cu. inch

18:50 taken off 1 gun (1B2) 240

cu. inch - not enough air.  
capacity was 3461 cu. inch

21:05 Gun 1B5 <sup>1A3</sup> misfiring.

21:08 fixed

21:40 starboard gun array taken  
off. Big gun (2000) was  
probably a small leak.  $\Rightarrow$   
not enough air.  
total capacity 3065 cu. inch.

2200: PATY, STEF & Tom on WATCH

~~2206 Switch from stbd 2000 to port 2000.~~

~~2210 port gun + port array - 3165~~

2206 Attempt to switch from stbd 2000 to port  
2000; port misfires for approx. 8 shots; switch  
back to stbd 2000

2210 switch off port 460; bringing in port 2000.



# FM 35-12

## WATCH LOG

001  
1

08 NOV 87 Z

~~FZ40~~

0240 J.D. 312 08 NOV 87 Departed Guam

2316 3.5 kHz turned on for testing  
clocks being synchronized

09 NOV 87 0045 EVENT MARKER HUNG for 15 min

0130 RESET EVENT MARKER ON ERC - 3.5 kHz

11/9/87

0229Z Change stylus on 3.5 kHz plotter  
belt

So. 313

0253 Change blue pen calcomp

JD 313

0515 RESET EVENT MARKER ON ERC 3.5 kHz

0530 3.5 kHz PLOTTER 15 min marker remains on?

0555Z 3.5 kHz PLOTTER OFF For repair Clean stylus

0619Z W-090 S-15KTS Seas-5ft

0630Z Fire & Boat Drill

1005Z New 3.5 Bathymetry roll started  
at 1-second sweep

1020Z BEGIN RECORDING DATA LOGGER INFO TO TAPE

1056Z GPS 4 sat Fix - elevation 56m  
time GPS is 21.35 ms before  
GOES sat clock. TRANSIT time  
was ~ 1.5 sec off GOES time  
for a while, but ok @ 1102Z

~~1106Z 1106Z GOES + LAB CLOCKS  
UNSYNCD~~

1115Z UNSYNCD GOES + LAB CLOCKS  
GOES is 1 msec late (which  
means exactly the same)



# FM 35-12 WATCH LOG

01/14

13 NOV 87

2235Z SWITCH TO STBD ARRAY - <sup>minus 4600Z</sup> pulling Port Array

2236 Disengage port engine to pull in gun. (2000)

2301 speed over ground up to 5.7 kts, asked bridge to slow up a little

14 NOV 87

0059:50 1st shot new logger tape, resume shooting for last 15 minutes have been having gas problems

0102 begin shooting again  
0120Z restart logger <sup>0059 New logger tape</sup>

Data Gap 0038-0127

0244 ~~Shutdown~~

Change Record length to 13 sec begin tape 120115  
Some data loss

0230Z Port array IWF + <sup>PORT</sup> 2000  $\text{in}^3$  = CG 3065 ci total

0324 lost 78ci gun now 2987 ci

0354 c/c 105° Begin line OP 4

0401 on course 105°

0425 Cross uncharted Pimple ~ 450m ~~Start~~ Seamount  
from Flat 5900m EMB to 5560m

\* 0530  $\Delta$  RN to 30 sec BEGIN OP 4B \*

0517 - SB #12 Commercial ch 20 Lost Signal

0632 - SB #13 Channel 30 VERY WEAK CARRIER WAVE

0705 - turn on port array except 78  
both arrays + port 2000 firing



# FM 35-12 WATCH LOG

~~078~~  
15

14 NOV 87 Z

0713Z c/c 103°

9:50 Air leak (~~probably 2000 in<sup>3</sup> gun~~)  
1 B4 gun 108 in inches taken off  
the array.

X1007 turn off 1 array, increase up rate 20 sec  
now have 2987 BEGIN OP-4B

1038 Stbd array and 2000 on deck.

1113 c/c 105°

1128 cls making 5.5 kts me ground, slowing down slightly

1200 Port array in water + ready to go.

1416 pressure drops

1427 switch by gun from port to STBD

15:12 STBD 2000 in<sup>3</sup> gun misfire - OFF (Free Firing)  
now 2987 in<sup>3</sup> TOTAL  
port array except 78 firing

15:27 C7 firing - (2000 in<sup>3</sup>) 2987 in<sup>3</sup> TOTAL

16:00 A4 (108 in<sup>3</sup>) gun down 2879 in<sup>3</sup>

16:56 c/c 103°

17:23 c/c 100°

21:04 c/c 095°

2222 change to starboard array + 2000 in<sup>3</sup>  
3065 in<sup>3</sup> @ 2225



FM 35-12

16

# WATCH LOG

14 Nov 87

2200 - A TEAM WATCHING - Patty, Stef, TOM  
2233 Disengage port engine.

2234 Reengage port engine.

2246Z Pulling stbd away for repairs

2345 stbd 2000 misfiring

2347 2000 ci off; firing 1065cc only -

15 NOV JD 319  
0022 c/c 093°

0128:02 GUS down. EGM ON/GMDB ON.

0135:02 GUS recording again.

0149 EGM OFF/GMDB OFF ON CSDX. LOWER

02:16:42 Gus down TAPE 120145 SHORT

02:22 Gus back up new tape 120146

02:45Z Coming up the ridge south of ITA maitai

04:21Z Port (C7) 2000 in<sup>3</sup> gun added - total 3065 in<sup>3</sup>

04:50 c/c 098°

05:19 c/c 103°

06:06 c/c 168°

06:25 finished the turn - course 168°  
Baseline OP-5

07:36 c/c 165°

07:46 c/c 160°

8:03 Turned off IB 6 (60 cu. ind.)



FM 35-12

mid  
17

JD 319

WATCH LOG

15 NOV 87

08:44 c/c 155°

0059 switch to port array.  
all 6 plus port 2000V firing. 3065ci

09:03 c/c 150°

~1010 Change to 140 files / tape  
(tape 120158)

1136 c/c 153°

near

15 14 12 10

12 13 17 17

14 15 15  
far

} depth indicators

bird settings

1 15m

2 15m

3 15m ?

4 15m } change to 13m

5 15m

6 15m

7 18

8 18

9 15

10 15

11 18

12 15

1250 c/c 155°

1344 c/c 158

1535 c/c 285° begin turn turn at 4°/min ~32 miles

(1608 on course at 285°. BEGIN LINE OPS

15:58-16:04 STOPPED GWS for board change



# FM 35-12

18

JD 3192

WATCH LOG

15 NOV 87

17:00z near trace plotter change delay to 4sec

17 15 c/c 290°

17 20 c/c 295°

18:40 c/c 290°

19:46 c/c 285°

20:29 c/c 283°

2157 429ic miss fire - may be in 110 box  
transfired to channel 1A7 to checkout  
appears to be in the gun

have been firing the 429 this way since  
it got up in 2100z. Source signature  
is probably all screwed up.

2203 switched to other away 2000 3005 ic  
(60ic off)

2209 pressure dropping 1A1 (429) leaks

2210 commanded birds to 13m

2213 c/c 280°

2218 Switch from port to stbd big gun

2224 increase speed to clear fishing boat  
5.4Kts thru water 6.3 over ground

2230 commanded birds to 30 meters to  
avoid passing ship

2237 ds 5.0Kts ship crosses over steamer

ds dead slow let 2nd ship + small boat

2241 command birds to 15m; tail off scale

2244 ds 4.0Kts, steamer deep

2246 command to 10m



FM 35-12

0012  
19

15 NOV 87

WATCH LOG

jd 319

2254 ET reports that port 429 gun has a torn apart solenoid splice -- can be repaired.

streamer now set at 10m,

2257 reduce speed to 4.2 kts

JD 320

16 NOV

16 NOV 87

0055 Gus down, now back up < Data Gap  
0050-0101

0141 Pressure Down (about 1700)

0147 Pressure back up

0220 Lost 2000 cu gun 1005 cu left

04:27 ~~600~~ SMT 11° 07.347 ~~120181~~ <sup>Tapes</sup> 120181 - 120182  
155° 41.964

Peak at 04:50 5175m Area ~ 550m

0516: Shut compressor down (water leak) / predict 1 hour  
TAPE 120182 SHORT END OP-6 BEGIN OP-6B

0601: Started shooting again - 1 Line OP-6B  
only starboard array 1001 cu. inches.

0608 attempted to restart GUS - ~~not~~ successfully,  
shooting starboard array 1001 cu. inches.  
+ 1 2000 cu in gun together 3001 inches.

0700 Fire and boat drill.



FM 35-12

083

20

JD-320 16 Nov 87 WATCHLOG

Re: tape 120183 - (183)

Number of records as read off the  
GUSHDR, PAR is 141 from 1 - 141 inclusive  
IT IS THE FIRST TAPE AFTER RESTARTING, GUS  
Gusplot normal.  
Would not run stack jobs  
Error:

FLOATING POINT EXCEPTION:

Existing FP exceptions:

\* Division by zero

Last FP operation: single precision division  
Likely operands:

Source 1: 0.0000...e+00

Source 2: 0.000...e+00

Referred to MARK W at 320 7:35 Z

08:16 Z Drop in pressure. Guns are O.K.  
Compressor?

First two shots screwed up - need to  
jump over them.

0839 blew circuit breaker to masscomp system  
short in junction box - worn / melted  
connector.

0932 repaired, masscomp up.

0936:56 Sonobuoy #14 in the water.

22 O-ring operating seal for 2000ci

1138 c/c 277°

1A5 78ci gun leaking and shut off

1142 Gus stopped, Patty restarted



FM35-12  
WATCH LOG

21

16 Nov 87

320

1150<sup>z</sup> Mancamp died in highest, don't know how long it was off, but suspect we lost most of SB 14. Restarted a2d + it seems OK now. Must watch more closely when shooting SB's!

12:00 Z - Cross an interesting protrusion  
~~very~~ symmetrical STRATIGRAPHIC changes to either side of it

18:00 Z c/c 280°

16 Nov 87

1825 Z - Goes SAT CLK HAS BEEN DOWN FOR QUITE SOME TIME NOW - WILL NOT LOCK ON SAT.

1949 Z - GOES SAT CLK MAY BE DOWN FOR DURATION

Mars,

When reading tape 120200 (had 3 errors # 305 and UNRECOVERABLE HARDWARE ERRORS on DEV MSEP. Gasplot and stack ran fine

So what

Jerry

2146 Z - Goes CLK HAS RETURNED

2252 - Pressure down - around 1700

2258:42 REC 3008 EOL OP-6 B

STOP SHOOTING TO PULL EEL FOR REPAIRS

2301 Logger on 1 min mode

2308 Magnetometer powered off



FM35-12

22

17 NOV 87  
JD 321

# WATCH LOG

06:00 c/c 100° c/s 5 KTS.

06:00 Streamer repaired and in the water.

06:20 Magnetometer deployed and turned on.

06:50 c/c 105°

08:02 c/s 4 KTS deploying port/stbd arrays  
& port 2000ci in gun.

08:57 c/c 305, 4°/min.  
port 2000ci gun & stbd array  
tested & working.

09:25 S/o 000° to broaden turn

1000 begin c/c to 305° at 5°/min  
begin Line 7

1011 S/o 300°

1015 change speed to 4 kts in water = 5 kts over ground

after repairs have 3 bad traces 12, 38 & 86  
85, 63, 62, 61

1102 streamer is too shallow, set for 15m  
to see if we can get it down

1105 c/c 295°

1120 c/s in attempt to sink streamer

1311 c/c 300° c/s 4-5 kts



17/Nov87

FM35-12

JD 321

turned off sytron control box; turned back on and commanded birds to 10m, observed immediate improvement in depth

16 02 30 Launched SB #16 (channel 14)  
 MASSCOMP - FFID = 611 ~ 06:07Z

16:14Z Pres drop 429 in<sup>3</sup> STBD misfire Switch to Port array

16:20Z Port array ~~on~~ without AIS (78 in<sup>3</sup>) gun + Port 2000 in<sup>3</sup>  
 TOTAL now 2987 in<sup>3</sup>

17:15 GPS good 1300 - 1745

17:59Z ~~MAN~~ Pres. drop 171 GUN (429 in<sup>3</sup>) ~~on~~ STBD array  
 2558 in<sup>3</sup> TOTAL

18:04Z Turn Port Array OFF + Port 2000 in<sup>3</sup>

18:05 Compressor Down

18:11 Compressor back up.

18:13 shooting again - 3000 c.u.

18:19 Compressor down to fix high pressure fitting, stop shooting.

18:34 c/s 3.5 Kts to minimize shooting gaps.

18:45 c/s 4 Kts, Streamer sinking too much.

19:34 Compressor up & running  
 Resume shooting



FM 35-12

087  
24

# WATCHLOG

19:47 Switched to starboard array  
+ 1 2000 cu. in. gun  
total capacity 3005 cu. inches

20:05 line number changed from OP 7 to OP 7B  
at 17th shot on a new line.

20:33 Port big gun (2000) getting  
out of sync. Paul went to check  
it up.  
It appears that from time to time  
the big gun goes out of sync and  
then comes back again.  
1715 GDS (out of sync 1715 to 1740 msec)  
too much!

21:25 Near trace on the GUSIT 120218  
OP-7B is wrong except of the  
first few (20) traces. Chief scientists  
notified.

21:30 Port big gun (2000) taken off line.  
Starboard gun put in instead.

2217 Port engine taken out of gear.

2230 c/s slow a little c/c 303°

2328 1B1 - 429 ci gun leaking 25  
now firing 2576 ci

0103 c/s going too fast again

0232 CS 2000 in gun OFF 576 in

0415 c/c 075° increase turn (@ 4°/min) → 6°/min

0418 STBD 2000 in water & ready



FM 35-12

088  
025

18 Nov 5D 322 0422

04:40 on course 075° ~~for~~ line 075°

04:44 BEGINS LINE OP8 w. 576 cu i

05:32 reduce C/O 185.0 c/c 080°

04:402 ch 19 may have electrical leakage shows some noise  
TARE 120228 ch 19 again bad on 120228 its official

0:600 firing total of 576 cu. inches  
o/c 080° to make 075°

07:03 c/s ~~to~~ from 5.6 over the ground  
5 Ltr.

08:07 c/c 077°

08:44 Big gun (2000) on starboard side  
in action.

09:07 c/c 075°

9:25 Port big gun and array are  
in the water

9:31 Switch array ~~and port big gun~~ to starboard.  
- (unim) 1A15 total capacity  
2987/cu. inch,  
↓ load

9:37 2000 ind gun misfiring - trying  
to fix it.

9:55 fixed

1006Z

1009

continuing problems with 2000 cu guns  
now firing 978 cu

1033

change streamer to 13 m, because of noise  
on some channels



FM 35-12

0819  
024

18 NOV 87

JD 322

1052 problems firing port 2000 -  
it doesn't, solenoid seems ok.  
Bringing it out of water to check  
and rebuild if warranted.

1215 now have 186 ci while

1216 now 78 ci only

1218 back 186 ci

1219 RN 1363 back to ~~978~~ci 987ci

1227 RN 1387 begin 2000 ci for total of 2987ci

1248:32 Start SB 17 military

1400 GUS Down; guns not firing.

1406 firing again

1425 c/c 072°

1435 down to 2837 cu i

1446Z <sup>STBD</sup> 2000 in<sup>3</sup> mixture (8) (837 in<sup>3</sup> total)

1454 changed prop on 3.5 KHz.

1459 SB #17 declared dead (flashed)

1541Z GUNS OFF Compressor ~~flashed~~ H<sub>2</sub>O Leak

SLOW to 2.5 KTS anticipate 2.5 HRS for repairs

1553 remove speed 4.5 KHz

Star turn to c/c 180° at 4°/min.

to make a triangle pattern (holding)

Turned off Near Trace monitor.

work on the STBD away in progress (surgery)

1620 on course 180°.

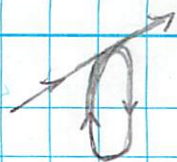


FM 3512

025

JD 322 (2) 18 NOV 87

1645 Start Turn R c/c 255°



1705 on course 255°

1710 Start Turn c/c 000°

1715 ~~started~~ near true monitor

1720 start firing with 2837 cu

1721 leak on c7 → off the line → 837 cu

(1719:34 Resume Shooting STREET Line OP-8B)  
PORT 2000 in<sup>3</sup> immediately leaks  
Partial PORT ARRAY in and Firing 837 in<sup>3</sup>

1738 on course 000°

1800 c/c 072° Start Turn

1818 on course 072°, Returned to line OP-8B

1838 c/c 070°

1948 c/c 065°

19:50 Stopped shooting - compressor problems  
again? Diesel fuel leak on the  
back deck.

20:21 Renewed firing at 20:21 with  
port ~~stab.~~ array. Capacity 837 cu. inches.

21:04 c/c 070°

2234 2000 cu on; total 2837 cu

# amputated port array to 3 guns, 819 cu



FM35-12  
WATCH LOG

000  
026

18 Nov 87

JD 322

2312 switched to starboard 3-gun array for tests

2322 Gus paused

2325 Gus back on

~~2324~~

23:32:08 Sonobuoy 18 in water. 2819 ci  
Communal Ref-Tek channel 30L; 20 min delay

0121 GUS pause

0130 Compressor down; trying to restart.  
All guns turned off.

0132 Compressor back up, GUS back up,  
start recording again.  
(record # 3302 120253 reel)

0245 added 429 ci on the port array.  
Total 3248 in<sup>3</sup>

02:59.2

~~03:00~~ - Gus down guns off

03:04 - Guns firing

03:18 - c/c 078°

04:13 - c/c 080° <sup>being</sup> speed up to 4.3. (was down  $\approx 3.5-3.9$ )  
own ground.

04:18 - END SB #18 signal lost in background noise.

~~0432 - SEND~~

04:37.2 STOP (on purpose this time) to 429 in<sup>3</sup> back to 2819 in<sup>3</sup>

05:00 TRACE 35-36 possible elec leakage (120257)



FM 35-12

## WATCHLOG

27

19 NOV 87

06:02 Engineers shut down the starboard  
screw compressor for repair.  
Estimated time of the repair 10 to 30 min.

06:20 Started flooding again  
Capacity 2819 cu. inches.

06:23 Loggish crashed - forgot to change  
event mode from 1m to Event 6

07:48 Drop in the air pressure.  
(2000)

07:53 A big gun shut down because  
of a leak.  
Capacity 819 cu. inches.

08:02 c/s 4.5 Kts.

08:42 c/c 083°

11:14 c/c 081°

11:23 compressor Down Rec 5007

1252:23  $2000 \text{ cu} + 819 = 2819 \text{ cu}$

informed that starboard 2000 cu is not  
repairable without new parts <sup>which are</sup> on order

13 50 Big gun off the line. 819 cu

15:37 reengaged port shaft.

15:40 adwind port 2000 cu gun is ready.

15:41 compressor down. stopped firing

15:44 compressor back on

15:45 firing with 2819 cu

18:35 <sup>Recording</sup> NOISE increasing slightly due to rougher seas.



FM 35-12

28

Nov 1987

# WATCH LOG

28

20:28 lost a compressor. Shut the gun down.

heading into moderate seas, data noisy

20:38 Resumed shooting.

20:40 Data logger crashed.

20:55 Data logger back on.

21:35 1B1 taken off - less total capacity 2390 cu. in.

22:06 pull starboard array for repairs  
now have 2000 ci

429 ci air hose ported at gun  
one buoy gone  
2nd held by single line - all this after  
23 hours in the water firing most of the time

2334:50 start starboard array; now 2819 ci  
Nov 20, 1987

0000Z ΔBAT on EPC - switched to program  
A delayed by B 1 sec

0022 turn off 2000 ci gun to deploy port array

0033 port engine disengaged; deploying port array.

0046 c/c 078°  
0059 2000 ci on line, 2819 ci (reel # 120283)  
0137 c/c 076° (record # 7409)

02:40 C7 2000<sup>3</sup> leak Pres drop - loose air fitting  
going into body of gun



# FM 35-12 WATCH LOG

094  
28

20 NOV 5DAY 324 0302Z OP8B

03:34 compressor down - still recording  
on GUS w/o guns in hopes of  
quick recovery... (wishful thinking)  
started once and quit.

0355 waiting for more ship's AIR to  
allow MDY starter more power.

0404 Restart MDY

0406:50 resumed firing w. 819 cu i  
problem is bad battle tale  
which is jury rigged disabled,  
but sometimes trips off anyway.  
Will be replaced during 3 hour  
oil change soon.

0416 big gun 2000 cu i ready to go.

0454 c/c 055°

05:14 - 2000 in<sup>3</sup> back 2819 Total START LINE  
0505 - ~~OP~~ NEW PLOT on PROTON OP9  
05:22Z Begin Line OP-9 AT START OF TAPE 120289

0543 c/c 052°

Sandbury # 19 miscany  
channel 19

0550 launched boggy

0612 c/c 050°

0614 c/c 045°

0629 Pressure low, ~~not~~ 



FM 35-12

095

Nov 20, 87

WATCHLOG

29

06:37 0225 1<sup>st</sup> shot with only the big gun (2000) firing. Array turned off temporarily. Because of this the pressure is building up a little. Awaiting news from engineering dept.

0649 turn on stbd 429, 240, 150 pressure 1980 + at shot, # 263 total capacity 2819 cu. in.

0652 150 off. PRESSURE DROPPED < 1800. Shot # 270

0653 turn off stbd. array. big gun only shooting.

07:13 ~~0657~~ Stopped shooting due to compressor repair. Approximate time of repair 1 hour.

07:30 c/c 048°

07:57 c/c 058°

08:34 Engineer reports pressure control valve is fixed, but starter is "shattered."

Will have to rob the port compressor's starter which will take an additional hour.

Start to turn left at 4°/min to steady up on ~~210°~~ 230°

09:15 s/o 230° speed 5Kts.



FM 35-12

0000  
30

20 NOV 87

# Watchlog

0921 c/c 220°

0946 c/c 050° at 4°/min. ~~to 0°~~

1013 steady on 090°

1042 c/c 5°/min

1045 s/o 0670

1107 c/c 057°

1110 dc 052

1114 dc 050

1124 lost 429ci gun on starboard

1126 switched to port array + 2000ci

1140 SONOBUOY - COMMERCIAL # ~~20~~ 20  
on channel 10L

sat fix put us 3.6 nm from DR; not yet at 585!  
can't turn because sonobuoy would probably  
get caught, if I make cse correction to left

~1140 STBD 429 bad air hose.  
LEAKS ACROSS SLIP RINGS IN  
HOSE REEL.

closest approach to site 585 was 0.2+ nm

1321 Gunner reports stbd array is in water  
and ready to go.

1357 change steamer depth to 15m

1641 end sonobuoy #20 signal non-existent

1620 2000ci misfire 819m³ total

1657 2000 ci gun won't fire, but phone ok.  
picking up to check.

1702 c/c 053°



FM 3512

31

20 NOV 87

Watchlog

SO 324 cont.

17:00Z 2000<sup>123</sup> needs another O ring

17:06 Pressure drop

17:27 Pres. now below 1000 psz lost 240 cu in gun

17:26 firing again w. 819 cu in

18:23 629 cu inches

18:12 2 arrays - together 1449 cu. inches.

18:36 c/c 055°

18:40 severe drop of pressure.

Shut down B-array

18:44 Shut down A-array, cease firing

18:57 Compressor back up, start firing both arrays. 1448 cu. inches.

19:09 c/c 060°

20:05 c/c 057°

20:14 Shut down A-array so they can pull it in and fix a gun. Shooting only B (stbd) array as we go over a smt.



FM 35-12

20 Nov 87

Watch log

JD 324

21 NOV 87

JD 324  
325

0015 leaks in both 429 + 240cc guns  
2000 back in water, ready to fire  
port array ready but needs clamps for hose  
at 429, no spares; perhaps Ryan can  
weld two of the smaller ones from the  
1900C guns

0028 Stop firing stbd array (air leak). Can't get  
port 2000 started; GUS recording with no  
source

0040 Shut down GUS, stop recording

0047 Disengage Port Engine

0050 Resume SKTs, repair guns, change oil in  
compressors

02:14Z C/C 0450 head to WP 11

04135 Compressor is ready (now to run)

0502 C/C 0480

0549 shooting again w. 819 cui LINE 0A-9C  
0556 C/C 0520 TAPE 120310

0621 guns not firing  
Trouble with a tape drive MT1  
switched over to MT2 and resumed  
firing. The drive MT1 ~~for~~ suspected  
dirty heads.



21 Nov 1987

FM 35-12  
Watch Log

33

07:08 Both arrays ~~drop~~ & port big gun array  
in water. Begin firing big gun, continue  
firing stbd array.

8:35 Drop in air pressure.  
one of the guns in stbd. array  
is leaking. ~~Swapping arrays.~~  
Gunners are going to pull the  
B array in. Same capacity 2817 Cu. ind.

9:45 Stbd array reported ready to go.

1110 Bird settings		OI readings	
1	10 m	1	19 m
2	10	2	14
3	15	3	11
4	10	4	17
5	15	5	12
6	15	6	12
7	15	7	11
8	15	8	11
9	15	9	13
10	15	10	14
11	15	11	14
12	15		

1139 one engine offline to repair water line leak  
trying to compensate with other engine

1146 port engine back on line.

1226 switched to <sup>stbd</sup> ~~port~~ array, <sup>port</sup> starboard has problem  
1232 switch off big gun to pull array  
Rec # 1172 down to 819 in<sup>3</sup>



FM 35-12

~~100~~  
34

21 NOV 1987

Watch Log jd 325

- 1237 port engine taken out of gear to pull in array.
- 1254 port array and 2000 on board; reengage port engine.
- 1310 c/c 050° increase speed slightly
- 1319 all guns off. compressor problem, still recording.
- 1339 start recoding OP 9 D
- 1341 c/c 047°
- 1342 SWITCH TO 2 SEC DELAY WITHIN LOGGER AFTER FTR BEFORE OUTPUT TO TAPE. THIS FIXES PROBLEM OF AIRCON SHOT BEING ONE TOO LATE. DELAY WAS ONE SECOND.
- 1418 c/c 045°
- 1442 port array and C7 are ready
- 1444 firing the big gun (C7) → 2819 mi
- 1501 c/c 042°
- 1622 c/c 040°
- 1729 c/c 038°
- 2210 c/c 041  
missing float on port 2000ci gun -  
starboard array leaking
- 2232 c/s down a little
- 2341 turn off 2000 ci gun to repair buoy and  
fix leak in port array and replace another missing buoy



22 NOV 1987

WATCH LOG

jd 326

0133 Resume firing port 2000 in<sup>3</sup>.  
Back up to 2819 in<sup>3</sup> total.

0237  $c/s$  increase  $\approx 1kt \rightarrow 3.5 (\rightarrow 4.5 SOA)$   
(was 2.5 over water  $\rightarrow SOA = 3.5$ )

03:42Z Change single channel monitor paper

03:43:25 switch to PORT ARRAY.

0347 PORT ARRAY STABLE & FIRING  
NORMALLY. ASD CL. WAS MISFIRING

$\sim 05:50$  ~~Tape~~ <sup>Tape</sup> 120340 ON M72 Gus gets hung up  
rewind this tape early Don't know how many  
~~shots~~ Shots not correctly recorded

0600Z Began using "other" brand of TAPE ("Scotch")  
with hopes of stopping recording problems

0632Z c/c 0430

07:19 changed paper on 3.5 kHz (battery) recorder.

08:22 1A2 gun (240) has a leak  
and has been pulled off.  
total capacity 2579 cu. in.

0832 c/c 0450

0838 Shut down 2000 cu in port gun because it's  
Leaking!



FM 35-12

001

NOV 22, 87

WATCHLOG

JD 326 OP9D

09:00 ~~One~~ Near trace recorder  
inoperable from 8:00 - 9:00.

09:07 c/c 047

09:41 Switched over to starboard array.  
total capacity now 819 cu. inches.

1020 c/s increase to 5 kts over ground

1213 begin 2000ci for 2819ci total  
blast phone erratic on 2000ci - Firing erratic

1500 = we are probably at this very fine  
sailing over the oldest part of the  
world ocean!

1649 c/c 305° begin turn @ 4°/min.

1651 stopped shooting for maintenance during the turn  
slowed down to 3.3 kts

1710 on course 305°

END LINE-OP9D

1721 resume speed 4.5

1738 resume firing STB array 819 cu. i + Port Bg gun 2000 cu. i  
Total 2819 cu. i BEGIN LINE  
OP10

1741 c/c 302°

1744 channels 8 and 12 shorted at input  
due to noise.

1800 First 68 records (1-68) on  
tape 120356 are ~~unreliable~~ ARE OK!  
Wiederspahn forgot to take  
GUS out of local cycle after tests.  
no start signal



FM 35-12

002

22 Nov 87 SD 326 OP-10

1815Z: During line change, checked continuity and leakage on streamer. checked GUS with internal sine. Tried to fix lower CDX. DTD NO HARM.

LEAKAGE: 4, 6, 8, 10, 13, 16, 17, 20, 22, 23, 25, 80  
DT9, DT5, DT3  
OPEN: 12

ALL GUS CHANNELS OK BY SINE TEST.

DURING THESE TESTS, DTS WAS FOUND TO BE OPEN AT KALAMOS. DTS READINGS ~~NOT~~ WRONG PROBABLY SINCE 20 NOV START OF OP-9B. WITH SWITCH OPEN, DTS WOULD SEEM TOO DEEP (eg 14.8) when it was really ~11-12 m.  
END of confessions... ~

19:42 c/c 307°

19:32 Drive MT3 lost vacuum, GUS switched over to MT1 - Records O.K. (281-344)

20:01 c/c 310°

20:28 c/c 312°

21:50 c/c 315°

2207 c/s to 4 kts in water; 5.5 kts over ground streamer too deep to continue at 3.2 in water

2228 launch SB 21 Ref-fek buoy

2304: switched arrays from B to A

2351: Slowed speed from 4.7 to 4.0 thru water



23NOV87 WATCH LOG

JD 327 OP-10

0020 speed down again, steamer deep

0033 c/c 316

0057 switching to starboard array, saving port side  
total 3819 ci, but 429 miss firing

0109-0112: Test Firing 1B1 Full Shots Run# 1355-1366 3278 CI

~0112 back to port array, starboard 429 has electrical  
problem0202 Masscomp stopped ffid 485  
restarted a2d, now OK

0212 reduced speed to 4.0 one wake (5.2 one ground)

003322 c/c 318°

045002 PAPER Break in Logger recording EPSON Plotter  
info on tape some hard copy lost (03:27-04:15)  
~~003322~~ 04:15

06:01 c/c 320°

07:33 c/c 315°

08:14 c/c 312°

08:25 Shut down airgun 1A3 - lead  
capacity now 26690 cu. inches.08:26 Switched to STBD. array  
Capacity 2819 cu. inches.

08:32 ICT OFFLINE IN ORDER TO Pull IN PORT ARRAY



FM 35-12

23 NOV 87 JD 327

Watch Log

0905 - 2000 cu in gun &amp; port array onboard.

2000 cu in gun has frayed ~~swag~~ cable at the swag joint, apparently from excessive fishtailing in the water with the old, rusty tailpiece.The ~~429~~ 429 cu in has frayed umbilic & a broken support chain & the 150 cu in was leaking badly.

Now firing stbd array alone.

09:38 c/c 310°

1213 lost 429 in starboard array, since air slip rings leak, lost all 3 guns

port array + 2000 already on deck for repairs.  
thus no guns!

1253 start with port array 819 ci Line DP10B

~~14~~ 14:05 back with 2819 cu in

1408 c/c 312°

1410 declassified STB engine for pulling STB away.

1416 back w. both shafts.

1434 increased speed to 4.0 - 4.2 over water,  
seems to bring the tail of the streamer  
up above 24 meters

1437 c/c 314°

1502 STB away in water, ready



FM 35-12

23 NOV 1987 JD 327

WATCH LOG

1504 Fired switching array for a Tent  
B2 not firing.

1508 back B Port array.

1513 c/c 316°

end of streamer is back B 19 miles,  
w. sp ≈ 4.2 Kts.

1559 c/c 318°

1600 Firing B2 gun again (added to present configuration)  
→ still misfiring.

1635 Firing again the whole Battery → works.

1839 c/c 312°

2039 429 m in ~~on~~ port array firing erratically.

Shut down port array & fired up stbd array, (150 boats)

2042 c/c 309°

2106 c/c 307°

24 NOV 87

JD 328

0058	DIT's		Bird settings	
	11	13 m	12	15 m
	10	13	11	15
	9	12	10	15
	8	10	9	15
	7	9	8	15
	6	11	7	15
	5	11	6	15
	4	11	5	15
	3	11	4	10
	2	15	3	15
	1	21	2	10
			1	10

speed in water 4 kts



24 NOV 87

FM 35-12

JD 328

0210 pressure down - stopped firing STBD array.

0211 switched arrays - firing A1 and A2  
only on port array  
+ big gun = 2669 cu i0218 pressure still down - stopped the big gun (C7)  
for repairs.  
firing w. 669 cu i

0327 c/c 310°

0336 started STBD array 1488 cu i

0339 stopped firing port array total 819 cu i

0436 c/c 312°

0502 IB1 misfiring → SBY total 390 cu i  
IB2 erratic0543 firing port array 819 cu i  
try big gun: misfiring0547 big gun firing misfired right away.  
0552 after bleeding → OK 2819 cu i

0626 leak in gun A3, shut it down (2669 cu i in total cap.)

0644 Exchange B-array for A-array.  
IB1 gun misfiring.

0648 Added array A; total cap 3488 cu i

0655 Turned off 1A1, total cap. act 3059 cu i.



## WATCH LOG

007

24 Nov 87

FM 35-12

VD 328

07:19 ~~IA3~~ (std array) now firing  
 shut down the port array. Total  
 Cap. 2819 in.

~~09:06~~ Commercial Schooner # 22, decked 40,  
 09:06:00 deployed.

11 49 c/c 300; way off cse

13 20 leak on B array, switching to port 429+240  
 for total ~~2669~~ 2669 c.i.

14 11 increased speed a little to over 4.0 Kts

14 22 switched to STB array.  
 B3 autofiring, then OK.

14 24 firing w. 2819 in.

14 27 SB #22 is dead (has been dead for ~15 min?)  
 (not the buoy → EPC does not get the signal)

14 30 c/c 297°

14 35 firing ensue on B2, misfire on B3  
 occasionally ensue on C7 also.

14 35 EPC gets the schooner back on.

14 42 The 3 beams for the array + the big gun shooting OK

14 42 The EPC signal for SB is gone again  
 an then back.

15 15 SB 22 is pronounced dead.

15 16 c/c 295°

15 25 C7 firing is still ensue ...

16 55 air leak switched arrays.

shooting A1+A2 + big gun. = 2669 in.



## Watch Log

1947 Continuing to shoot big gun &  $A1 + A2 = 2669 \text{ in}^3$

Big gun erratic ( $\pm 5 \text{ ns}$ ) about  $\frac{1}{2}$  the time now.

2007 c/c  $307^\circ$

2214 switched to starboard array 2819 ci, preparing to pull 2000 ci gun for overhaul

2227 CT off line Rec #6036 down to 819  $\text{in}^3$

2232 disengage port engine to pull in guns.

2239 c/s back on 2 engines

note when we ~~to~~ slow down the middle part of the streamer surfaces

2251 1B1 miss-firing

now firing  $1A1 + 1A2 + 1B2 + 1B3 = 1059 \text{ ci}$

2337 DI's Birds speed 5 Kts

near

10

15

11

15

10

15

9

15

surface  
noisy

8

15

8

15

8

15

8

15

10

10

far

14

15

15

10

10

turned off syntron and  
turned on, resetting all to 15m

seemed to make a big  
difference



25 NOV 87

FM 35-12

329

0017 port array off for repairs; now have 390 c<sup>3</sup>0143 start 2000 c<sup>3</sup> gun0147 switch to port array starboard leaking  
now have 2819 c<sup>3</sup>0411 advised STB array is now ready and in water

0426 c/c 310° — way off course

Two previous SAT FIXES  
were not taken into consideration  
by the DR (probably per over the  
limit in terms of IT)  
The last fix at 0419 is a good one  
(IT 3, EL 38) and logged in -

0429 c/c 312°

0450 c/c 315°

0508 c/c 318°

0539 c/c 320°

0602 c/c 322°

0615 c/c 327°

0635 2000 in<sup>3</sup> gun shut off, will bring aboard  
& replace last tag line. now shooting 819 in<sup>3</sup>

0816 c/c 322°

0852 Big gun is back on line, total capacity  
2819 in<sup>3</sup>.



25 NOV 87

FM 35-12

329

1014 low pressure alarm  
A2 240 miss-firing

1016 switch to starboard array - shooting 2819 ci

1239 c/c 315

1329 c/c 312

1535 end of streamer rather deep (28m or more)  
increased speed from  $\approx 3.9$  to  $\approx 4.2$

1543 pressure down  
- 1A2 misfiring ~~at 504~~  
~~at 504~~  
- also informed Row 1B1 has a leak.

1544 put 1A2 on SBY. A1 + A3 + C7 2579 in<sup>3</sup>

1620 c/c 310°

1624 end of streamer is now back at 19 minutes.

1631 pressure dropped briefly and went back up.

1635 switched arrays. 1B1 misfiring  
1B2 and 1B3 OK

1639 1B1 mis

1640 1B1 mis 1B2 also misfiring

1646 B1 + B2 + B3 + C7 firing = 2819 ci

1922 c/c 307°

20:21 Air leak in 1B1 gun (429 in<sup>3</sup>)  
switched arrays.



FM 35-12

329 25 Nov 87

Watch log

JD 329

2024 Now shooting  $C7 + A1 + A3 = 2579 \text{ in}^3$ 

2029 Stbd array coming onboard.

2118 Stbd array redeployed

Now shooting  $C7 + B1 + B2 + B3 = 2819 \text{ in}^3$ 2150 c/c  $217^\circ$ ,  $4^\circ/\text{minute}$  EOL OP-10B, Bar OP-112208 s/o  $217^\circ$ 2215 c/c  $207^\circ$ 

started stack job on Nasscomps at 2230 (1 tape)

2246 lost 429 in starboard array  
transfer to port array where only, 429 + 150 work  
therefore 2579 ci330 26 NOV 87 - Gobble Gobble DAY

0023 switched back to starboard array, 2819 ci

0213 c/c  $210^\circ$ 0221 c/c  $215^\circ$ 

tape 465

0245 c/c  $218^\circ$ 0358 c/c  $215^\circ$ 0548 c/c  $210^\circ$ 0636 c/c  $205^\circ$ 0753 Big gun (2000) shut down - ~~test~~.



FM 35-12

012

Watch log

330, 26 Nov '87

0939 c/c 127° at 4°/minute to OP12a

0957 s/o 127°

1008 deploying port array  
slow for deployment

1022 d/c 115, resume speed

begin 2000 ci gun plus starboard array 2819 ci

10232 CABLE now quiet after major turn

10282 shut down for MDY repair

1059 begin recording OP12A

1145 c/c 118° (based on GPS)

1345 c/c 120°

1409 reduced speed R- about 4.7 over water  
( $\approx$  5.0 SOA)

1504 speed's up again (5.5 over water)  
5.7 over ground!!  
reduced R  $\approx$  4.7

~~1747 c/c 118°~~

1810:30 dropped SB # 23 Long Range Commercial

18128 Dig gun leaking - turned off.  
Capacity 819 cu in, (Tail piece separated  
from gun)

18130 Port array engaged. + 819 cu in  
Total 1638 cu in.



FM 35-12

013

Watch Log

330, 26 Nov '87

1915 Some trouble with autopilot, course drifted off to  $125^\circ \pm ?$

1930 Back ~~on~~ c/c  $120^\circ$  (steering manually?)

2023 Port array off. Big gun on  
 $B1 + B2 + B3 + C7 = 2819 \text{ in}^3$

2029 Stbd array leaking, switch off  
stbd array, on with port array.

2034 c/c  $118^\circ$

2100 Masscomp only recorded 1st ~ 150 shots of SB 23

2200 seas moderate, streamer noisy

2243 end SB 23

2254 ds down to 3.9 in water 4.3 over ground  
increase 'a little'

2000 i gun fires up to 4ms early

2325 429 1A1 gun jumps out about 13-15ms about  
1 shot in 50

0204 STB array is on deck, ready to go.

0300 1A1 still erratic at times - PROBLEM IS NO  
"FIRED" SIGNAL FROM PCB. WAS TRIGGERING  
ON COMMAND TO FIRE + DRIVING  
TO  $\approx 17 \text{ msec}$  before time break.  
after

0333 reduced speed from 4.7 to  $\approx 4.2$  over water  
streamer shallow and noisy



Fm35-12

014

Watch log

J0331 27/Nov/87

0445 C7 and A1 very erratic

0504 put A1 on Stand by.  $A2 + A3 + C7 = 2390 \text{ mi}$

0507 c/c  $122^\circ$

0527 reduced speed  $\rightarrow \approx 4.2$  over water  
(was 4.6  $\rightarrow$  SOA 5.9)

0531 c/c  $125^\circ$

0631 Switched off A-array, B-array on.

Now firing  $C7 + B1 + B2 + B3 = 5819 \text{ in}^3$

(Welding machine reported malfunctioning; serious arcing.)

0658 c/c  $123^\circ$

0752 c/c  $120^\circ$

0827 c/c  $115^\circ$

09:10 Maggie turned off

2000  $\text{in}^3$  off for R & R

Now firing  $B1 + B2 + B3 = 819 \text{ in}^3$

0913 Maggie back on

0932 Maggie off.

0938 Maggie back on.



27 NOV 87

FM35-12

331

1024 set birds 1+2 to 10m, tail heavy + deep

1108 1B1 down leaking, thus whole array gone?  
no, the 240+150 still OK  
still have port side on board for repairs

1137 switched to A-array 819ci but 429 still  
has some sort of electrical problem  
firing only 240+150 (B2+B3) ~~429~~ = 390 ci

will pull both arrays for repair and deploy 2000ci

1205 numerous speed changes to pull arrays

1211 2000ci plus 240+150ci  
2000ci mis firing - electrical problem?  
blast phone wires - continuing to shoot

1226 compressor can't keep up with leak across slip rings  
in B-array, pulling B array, guns off

1404 Turned on the B array

B1 B2 B3 + C7 → 2819

1507 increase speed B ≈ 4.0 over water

1550 c/c 120°

1633 c/c 125°

1701 c/c 128°

1837 C7 down, air leak

B1+B2+B3 = 819in<sup>3</sup> firing

1855 c/c 123°



27 Nov '87

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331

1950 2000 in<sup>3</sup> repairedNow shooting  $C7+B1+B2+B3 = 2819 \text{ in}^3$ 2122 Switching arrays, lost ~~the~~ <sup>one</sup> floats  
for Stbd array, now shooting  $C7+A1+A2+A3 = 2819 \text{ in}^3$   
Retrieving Stbd array.

2200 Seas still moderate, data noisy

2254 reduce speed (making ~5.8 kts over ground)

2325 switching back to starboard array

2333 c/c 120°

0023 c/c 118°

2000ci gun erratic 1 in 20 or so

29 NOV 87

JD332

0103 c/c 116°

0255 pressure dropped B1 misfiring.

0300 switched arrays  $A1+A2+A3 + C7 \rightarrow 2819 \text{ in}^3$ 

0345 c/c 112°

0407 switched arrays  $B1+B2+B3 + C7 \rightarrow 2819 \text{ in}^3$ 0442 occasional ~~erratic~~ erratic firing on B1 2 3  
+ constant erratic firing on C7

0508 c/c 110°

0614 Shut down 2000 in<sup>3</sup>, Now shooting B-array = 819 in<sup>3</sup>



28 Nov 87

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332-JD

0627 c/c 112°

0635 2000 in<sup>3</sup> gun on deck to replace blast phone  
~~and maybe the operating seal.~~

0700 c/c 115°

0731 1C7 (2000 in<sup>3</sup>) begin firing  
total capacity 2819 in<sup>3</sup>

0757 c/c 118° c/s increase a little

0855 Shut down B3, leaking.

0857 Switch arrays, now shooting C7 + A1 + A2 = 2669 in<sup>3</sup>

1026 switch over to B array + 2000 cc gun

1359 stop shooting to replace MDY fuel filter  
EDL OP-12A14:06 START Shooting AGAIN STBD ARRAY + 2000 cc gun  
BOL OP-12B 2819 in<sup>3</sup>1626 04 record .0421 reel 12653940 64ms FTR<sub>0</sub>  
↑ Bad idea...1640 compressor down - details to follow. 3 hoses from B array blown off at manifold fittings. Brown oily deposits + dense oil fog in gun shack gave initial impression of fire.  
1710 chief checking out compressor.



FM 35-12 SDAY 332 1710Z OP 12B

1727. diagnostic will have to wait until investigation more complete.  
 could be only 0 rings  $\rightarrow \approx 8HR$  job  
 could be worse  $\rightarrow$  about 2 day job.  
 have to wait until unit cools down before taking it apart.  
 pulling gun out of the water.

OPTIONS = depending on length of job. [keep going?]  
 [run a circle?]

my opinion: - if it is @ 1 or 2 or 3 day job =  
 (YL) we don't gain much running in circle here where we have most of the data, and we jeopardize the Nauru Basin work.

- if shorter we <sup>still</sup> have a chance to get a good record crossing line OP9.
- in any case I'd say we keep going until we get a better prognosis.

1904 c/c 115°

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JD 333 NOV 29

03:50Z began 5° run from 112° to  $\approx 2.48^\circ$   
 down wind in order to bring in the streamer

0400 turn off magnetometer

181°



29 Nov 87

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333

0429 commanded birds to surface, now leading downwind ~ C-248

04:30Z Magnetometer on board

0825Z Streamer on board, tail buoy secure  
w/w for Ponape.0830 deploying magnetometer  
0850 Maggie onBird 1 had very low battery. (2 of 6)  
Bird 4 had bent shaft. ✓2118 still underway to Pohnpei  
speed 10 kts cse 175°  
collecting bathymetry, magnetics and navigation

30 NOV 87

JD 334

1306 w/w to ponape - more of the same  
course 170° speed 8.8

1 DEC 87 JD 335

0000Z w/w to POHNPEI (PONAPE) SOS  
3.5 NAV, MAGGIE  
C-166° S-8.6

1056 secured magnetometer

1600Z STOPPED 0.4 kts ~ 11 NM From Ponape

1623Z secured 3.5

2000Z ARIPE DOCK - Ponape

2200Z SECURED PLOTTER



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12/5

0310 local Captain waked Shipley/Hanson to tell them that the leak in the engine room alleyway is no longer just from the stbd slop tank. Leak has increased & is now mostly salt water indicating that the hull is ruptured at an undetermined location. Captain recommends getting everyone up & alert in case the leak suddenly increases to the emergency level.

0330 local - Sound general alarm, no drill. Captain gives same explanation to all hands. Prepared to abandon ship at the dock if necessary.

0400 local - Science meeting in lounge. Science terminated at this point. Will develop a list of technical priorities necessary to terminate Fred Moore science program. Will arrange for flights out ASAP.