Serial #87010

GEOPHYSICS LAB

+

MASSCOMP ERROR LOG

FARNELLA-87-3

NORTH ATLANTIC

MARCH 29 - APRIL 24 1987

DENNIS MURRAY

+

JOHN HUGHES-CLARKE

FRNL 87010 87-3 104481 F3-87-NA

Inv# 104481

U.S.G.S.
GEOPHYSICS
LOG

SHIP FARNELLA

CRUISE NO. F3-87-NA Ser# 87010

DATE (28) 29 MARCH 87 – 25 April 1987

CHIEF SCIENTIST O'LEARY / Hughes-Clarke
North Atlantic & Canada

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
(1)	0715Z	870329	011	7		10 kHz ~~3.5 kHz~~
		87 088				3.5 kHz
	0807Z					SRP / AIRGUN LSR
	0828Z					" " EPC
	0826Z					MASS COMP (TCAG)
	0857					A/C → 056.3
	0911					→
~~STOP~~ 1	1450	870329				STOP AIRGUN REC LSR
	1452					" " " EPC
	1815	870329			RELAUNCHING	GLORIA, MAGGIE, AG, ETC.
	1821					
RES 1	1838					TCAG/MASS COMP
	1909		091			A/c → 091°
1	0249	870330				TCAG/MASS COMP
		(089)				
	0249		097	8		TCAG/MASS COMP
	0336	870330	090	8		10 kHz BATHYMETRY
	0357	089				MASS COMP
	0517					A/c → 072°
	0520		072°	8		
~	0920		077°	8		LSR 6sec Airgun failure/off
~	1010		073°	8		LSR 4sec Sweep failure/off
	1038		079°	9		LSR 6 sec Airgun
	1059		076	7		EPC 4sec Airgun
1	1100	870330				TCAG/mass comp
	1100	089				TCAG/mass comp
	1826	089				a/c → 047°
	1830					on Course 047°
	1911	089				
	19:11:38					

AREA NORTH ATLANTIC

TIME ZONE

	SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
1							
2	1 S		(CESP)				[redacted]
3	6 S		15/300				
4	4 S		75/150				
5	6 S			1/			START MC TAPE 1 (TCAG 1)
6							
7	→					MAGNETOMETER NOW LOGGING TO ABC	
8				/1		MAGGIE OFF	RETRIEVE EQPT
9							SHIP M/E PROBLEMS
10							END MC TAPE 1 2299 REC
11							
12						MAGGIE ON — LOGGING TO ABC	
13							START MC TAPE 2 (TCAG 2)
14							DRIVE Ø
15							END MC TAPE 2 (TCAG 2)
16							START MC TAPE 3 (TCAG 3)
17							DRIVE 1
18	2 S				END 1 START 2		CHANGE PAPER ROLL
19							GAIN CHANGE 12 dB TO 6 dB
20							
21							
22					1		Lines across 6sec air record
23					1		stopped advancing
24	6 S				1		6sec recorder / on
25	4 S				1		4sec recorder / on
26							End MC tape 3 (TCAG 3)
27							Start MC Tape #4 (TCAG 4)
28							Drive Ø
29							
30							
31							END MC TAPE 4
32							START MC TAPE 5 DRIVE 1
33							

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
1	0103	870331				
1A	0109	(090)	122	8		
	0119	090				TCAG MASS COMP
	0137					" " "
	0146					" " "
1A	0157	090	124	8	END LINE 1A	
	0157					TCAG MASS COMP
	0200					" LSR & EPC
						BATHY 10 kHz & 3.5 kHz
2	0205	870331	224	8	START LINE 2	
	0205					BATHY + TCAG LSR & EPC
	0220					TCAG MASS COMP
2	0948	870331				A/C → 253°
2	0953	(090)	253	9		C → 253°
	1030	090				TCAG/mass comp
	1030	090				TCAG/mass comp
	1305		254	7.7		" " "
	1503		235	8		TCAG INCR PREAMP GAINS
	1508					RESYNC A/G FIRING
2	1841	090				
2	1842	090				
2	2120	090				A/C → 249°
	2124					course = 249°
	2220–2310					TCAG & MC
2	0228–0231					" "
		(870401)				
2	0243	091	293	6.4	ALT CSE TO 271 (STARTING NOW)	
	0249	091	271	6.4	STEADY ON NEW	CSE 271
2	0310	091				MASS COMP
2	0310	091				" "

AREA NORTH ATLANTIC

TIME ZONE

	SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
1							END LINE #1
2							START LINE #1A
3							
4	63						MASS COMP GAIN TO 12 dB
5							" " DWD = 2 SEC
6							" " " " "
7							AFTER SOME EXPERIMENTING
8						END	MASS COMP TAPE 5 2437 REC
9							
10							
11							
12							
13							START LINE 2 START REEL 6 DRIVE Ø
14							
15							
16							End Tape 6 2946 REC DR Ø
17							BEGIN TAPE 7 DR 1
18							RESET DWD TO 1 SEC
19							INCR GAIN - STREAMER AMPLS 1 & 4
20							FIRE A/G NEAR END OF GLORIA XMIT
21							
22							
							END TAPE 7 DR 1
							START TAPE 8 DR Ø
							TRIGGER PROBLEMS AM SRP ?
							" " IN GRY BX
							END MC TAPE 8 DR Ø 2946 REC
							START MC TAPE 9 DR 1

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SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
2		870401				
		(004 091)				
2	1121	870401				MASS COMP
2	1121	091				MASS COMP
2	1138	091	272	10		10KHz BATHY
2	1144	091	"	"		10KHz "
2	1317	091	272	10	STARTING COURSE CHANGE	
	1321		236	9.7	STEADY ON NEW COURSE	
	1346					10 kHz BATHYMETRY
	1415					TCAG: LSR, EPC, MC
2	1730					CO -238° SP-9KTS
	1807					EOL 2
2F	1810					SOL 2F
	1819					A/C → 109° SP 9KTS
2F	1931	091				TCAG — MASS COMP
	1943					A/C → 053° SP-9.8KTS
	1945					Changed to 25sec delay
3	1950					on line 053°
3	1952	091	053	9.5		TCAG - MASS COMP
3	2314	091				A/C → 089°
3	0020	(092				
3	0027	870402)				
3	0403	092	085	8.4		TCAG - MASS COMP
	0403					" " "
3	0831	092				A/C → 071°
	0833					on Course 071°, SP - 9.63 KTS
3	1214	092				TCAG MASS COMP
	1214	092				" " "

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						END TAPE #9 DR 1 2946 REC
						BEGIN TAPE #10 DR Ø
				END		Roll #2 BA 10
				START		Roll #3 BA 10
						CHANGE TO CTR TRIG & GATING
						RESET CLOCK IN SRP;
						RESYNC A/G TO END OF
						GLORIA XMSN
						END TCAG TAPE 10 2940 REC DR Ø
	LSR & EPC ON	4 S/SWEEP				DW DELAY 2 S
						START TCAG TAPE 11 DR Ø
				END RL 2	MAG PAP	2 END MAGNETOMETR
				START RL 3	" "	3 START "
			EOT 11			END TCAG TAPE 11 2946 REC DR Ø
			BOT 12			START TCAG TAPE 12 DR 1
			EOT 12			End TCAG Tape 12 2946 Rec DR 1
			BOT 13			START TCAG TAPE 13 DR Ø

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
~~3~~	1300	870402	070	8.8		
3	1304	87 092				
3	1327	092				TCAG: MC, LSR, EPC
3	1400	092	076	9.1	CSE CHG TO 076	
3	2000	092				CO-73°, SR 9.02KTS
3	2025	092				
3	2025	092				
3	2244	092	075	8	change course to 033°	
3	2251	"	033	8	course steady on 033	
3	0135	870403	033	9	ALTER COURSE TO 056	
3	0142	093			STEADY ON COURSE 056	
3	0413	093	055	10.9		TCAG: MC, LSR, EPC
3	0436	093				TCAG: MC
3	0436	093				" MC
END 3	0446	870403			END LINE 3	
						TCAG: EPC
C1	0500	093			START CAN. LINE	Start Canadian line
	0532					3.5KHz ~~[illegible]~~ now reending
						down due to cleaning
	0547					TCAG LSR CLEANED & ON
	0551					TCAG: MC
C1	0559	870403	137	9.1		TCAG: MC
	0500 ±					
	0857	093				changed delay to 4 sec
						entered W=4 in MASSCOMP
						(& GOT 5.399998 sec)

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AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL# START / END	MAGNETICS	COMMENTS
				3	PAPER	RECORD HIATUS (PEN QUIT)
				3	"	" RESTARTED
						RESET SRP CLOCK
						& RESYNC AIRGUN
						FIRING // GLORIA
10						END TCAG 13 DRIVE Ø
						START TCAG 14 DRIVE 1
						CH D W DELAY TO 3 SEC
			EOT 14			END TCAG TAPE 14 2946 REC DR 1
			BOT 15			START TCAG TAPE 15 DRØ
						END LINE 3
				END 1 START 2	PAPER	TCAG EPC END 1 START 2
				ST 2		
			EOT 15			END TCAG TAPE 15 45% REC DRØ
			BOT 16			START TCAG TAPE 16 DRØ
				END 3 START 4	PAP MAG	END 3 / START 4

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C1	1300	870403				TCAG : MC
	1311	093	140	10	ALT CSE TO 080	
C1A	1318	093	080	9	STEADY UP ON 080	
	1410	093				TCAG : MC
	1410	093				" "
	1420				BA10	} 10 kHz BATHYMETRY
	1425				"	
C1A	1500	093			END LINE C1A	TCAG : MC, LSR, EPC
						AIR GUN OFF (CHANGE)
C2	1516		312	8	START LINE C2	
	1535					TCAG : LSR, EPC
	1539					TCAG : MC
C2		093				
C2	2100	093				TCAG : MC
C2	2346	093				TCAG : MC
	2349	093				TCAG : MC
	2350	093				" "
C2	0055	094			END LINE C2	A/C → 048
C2A	0103	094	048		Begin LINE C2A	stdy CSC
C2A	0212	870404	048		END LINE C2A	
C3	0222	094	138		START LINE C3	STDY ON CSE 138
	0423	094				TCAG : MC
	0452	094				" "
	0511	094				" "
C3	0511	094	138	8.2		TCAG : MC, LSR, EPC
C3	0922	094	134	9		TCAG : MC, LSR, EPC
C3	1235	094			Alt CSE to 079	
C3A	1242	094	079	8.5	steady on 079	
	1310	094				TCAG — RESYNC TO GLORIA

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
	DWD - SET TO 4.0 SEC				WAS ERRONEOUSLY SET TO 5.9[illegible](?)	
						SOL C1A
			EOT 16			END TCAG TAPE 16 2946 REC DR Ø
			BOT 17			START TCAG TAPE 17 DR 1
				END		} PAPER ROLL CHANGE
				START		
			EOT 17			END TCAG TAPE 17 307 REC DR Ø
						SEISMIC RECORDS STOP
						SEISMIC GOING — AIR GUN UP
			BOT 18			START TCAG TAPE 18 DR Ø
						DWD AT 5S
						DWD at 4sec
						DWD at 3 sec
			EOT 18			END TCAG TAPE 18 2946 REC DR Ø
			BOT 19			START TCAG TAPE 19 DR 1
						MASS COMP SYSTEM STOPPED
						tm 1: LOST INTERRUPT 1639 REC
			EOT 19 — NO EOF ?			~~(END LINE)~~ RESET SYSTEM (HDWR RESET)
			BOT 20			START TAPE TCAG 20 DR Ø
	SET DWD TO 4.0 SEC					
	set DWD to 5.0 sec					
						SOL C3A
						RESET SRP CLOCK, RESET A/G
						FIRING TO END OF
						GLORIA XMSN

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C3A	1322	870404	085	8.8		TCAG: MC
	1322					" "
C3A END	1440	094	085	8.9	END LINE C3A	
	1444	094				TCAG: MC
C4 START	1454	094	316		START LINE C4	
C4	1456	87 04 04	316	10		TCAG: MC
C4	2130	" "	321	10		" " LSR, EPC
C4	2200	"				TCAG EPC Recorder
C4	2214	"				" " "
C4	2307	094	316	9.4		TCAG: MC
C4	2307	094	"	"		" "
C4	0038	095	316	9		TCAG: MC
C4	0919	- 095	321	9	END LINE C4	
C4A	0128	87 04 05	051		START LINE C4A	
C4A	0247	095			END LINE C4A	
END	0250	095				TCAG: MC
C5 START	0255	095	135		START LINE C5	
C5	0300					TCAG: MC
C5	0625	095				Change delay to 4 sec
C5	0932	095				TCAG: MC
C5	1111	095	135	9		TCAG: MC
C5	111	"	"	"		" "
C5	1304	095	139	8		
C5 END	1543	095	134	8.8	A/C TO 081	END LINE C5
C5A START	1548	08	081	8.3	START LINE C5A	STEADY ON 081
	1759	095			a/c → 315°	, SP - 8.47 KTS
	1808	095				TCAG: MC Terminate Program
C6	1812				START LINE C6	on Course 315°
C6	1816	87 095	315	9.8		TCAG: MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
			EOT 20			END TAPE TCAG 20 2946 REC DR Ø
			BOT 21			START TAPE TCAG 21 DR 1
						ALT CSE TO 316
			EOT 21			END TAPE TCAG 21 492 REC DR 1
						(DWD STILL AT 5 SEC)
			BOT 22			START TAPE TCAG 22 DR Ø
	DWD 4S					DWD = 4 SEC
			EOR			End Roll #1
			BOR			START ROLL #2
			EOT 22			END TAPE TCAG 22 2946 REC DR Ø
			BOT 23			START TAPE TCAG 23 DR 1
	DWD 3S				CHANGE	DWD = 3 SEC
						C/C TO 051
						STEADY ON CSE 051
			EOT 23			END TAPE TCAG 23 1334 REC DR 1
						STEADY ON CSE 135
	DWD 3S		BOT 24			START TAPE TCAG 24 DR Ø
	DWD 4S					CHANGE D WITH DELAY TO 4S
	DWD 5S				CHANGE	DWD TO 5S
			EOT 24			END TAPE TCAG 24 2946 REC DR Ø
			BOT 25			START TAPE TCAG 25 DR 1
					REPL PEN	— DATA GAP (PAP REC) SINCE ?
						BA 10
095	18007					End Bathy roll on ALPINE
	18057					Stand Bathy roll " "
			EOT 25			END TAPE TCAG 25 REEL 2501
	DWD 5S		BOT 26			START TAPE TCAG 26 DR Ø

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C6	2211	870405	315	9		TCAG
C6	0214	870406				TCAG
C6	0227	096				TCAG: MC
C6	0227	096				
C6	0704	096				changed W Delay=73
C6	0747					EOL C6
C6A	0748					SOL C6A
C6A	0750					Changed paper in RAYTHEON recorder LSR 1807 M TCAG LSR
C6A	0758		051			ON COURSE 051°
C6A	0940	870406	49.5	8.8		END LINE C6A
	0942	096				TCAG: MC
C7	0947	096				TCAG: MC
C7	0949	096			START LINE C7	
C7	1229	096				TCAG: MC
C7	1316	096.	135	8		TCAG
C7	1544–1549					TCAG: LSR & EPC
C7	1635	870406				TCAG
C7	1640	096				TCAG
C7	1759	096				END TAPE 28 RUN 2946
C7	1859					Start Tape 29
C7	2235				DISASTER on	TCAG LSR
C7	2248				BACK in order	TCAG LSR
C7	2258				LSR & EPC off	for cleaning.
C7	0003	097				TCAG: MC LSR & EPC

AREA North Atlantic

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						Reset SRP clock; resync
						airgun trig rel to GLORIA
	CH DWD to 4s					Deep water delay to 4s (fm 5s)
			EOT 26			END TAPE TCAG 26 2946 rec DR0
			BOT 27			START TAPE TCAG 27 DR1
	DWD → 3 sec					
						Alt cse to 135°
			~~EOT 27~~ ←	EOT 27		END TAPE ~~27~~ 27 2602 rec DR1
	DWD 3s		BOT 28			Begin TAP 28 DWD = 3s DR0
	DWD 4s				CHANGE	DWD TO 4 sec
						Resync A/G trig rel to GLORIA
				PAP TCAG LSR GAP		CHECK LSR rel to paper tearing
				GAP ON	TCAG EPC too	? TRIGGER TO EPC DEAD w/ LSR?
	DWD 5s					CH DWD FM 4 TO 5s
						Resync A/G trig rel to GLORIA
						EOT TCAG 28 DR0
1800						START TAPE TCAG 29 DR1
				EOR #2		PEN RIPPING PAPER
				BOR #3		START Roll #3 LSR
						STOP Recorders LSR & EPC
						START recorders LSR, EPC

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C7	0048	097	141	10		TCAG: MC LSTR & EPC
C7	0205	87 04 07				TCAG: MC, LSTR, EPC
C7	0211	097				TCAG: MC
C7	0212	097				" "
	0226					TCAG: EPC
C7	0409	097	131	8	END LINE C7	
C7A	0421	097	044	9	START LINE C7A	
C7A	0543	097				Terminate Program RECN 1269
C8	0550	097			START LINE C8	AC → 315°
	0558		315			ON COURSE 315°
C8	1340	097	315	9	SLOWING	
C8	1403	87 04 07	312	6		TCAG: MC
C8	1403	87 097	"	"		TCAG: MC
C8	1411	097	315	8	SPEED BACK UP	
C8	1545 - 1549					TCAG: EPC
C8	1610	097	314	8.3		TCAG
C8	1805					
C8	1835	097	315	9		

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL# START / END	MAGNETICS	COMMENTS
					TROUBLE W/TRIGGER; SHUT OFF SYS. (JUST LSR & EPC	
	APP. JITTER PROBLEMS WITH TCAG LSR RECORD —					
	REARRANGED TRIGGERING, TESTED LSR, (GRAY SHOT BOX					
	IS IMPACT SENSITIVE — NEEDS TO					CHECKED FURTHER). *
	(DWD STILL 5s)		EOT 29			END TAPE TCAG 29 2946 REC DR 1
	" " "		BOT 30			START TAPE TCAG 30 DR Ø
						RESTARTED EPC RECORDER
						ALT CSE TO 044
						STEADY ON CSE 044
			EOT 30			END TAPE TCAG 30 DR Ø 1269 REC
			BOT 31			START TAPE TCAG 31 DR Ø
BA10 (10 kHz BATHY) OFF; TO PULL FISHING GEAR OFF FISH CABLE						
	(DWD STILL 5s)		EOT 31			END TAPE TCAG 31 2946 REC
	" " "		BOT 32			START TAPE TCAG 32 DR 1
BA10 ON AGAIN			[redacted]			FISH CLEAR (LAST 20M OF BATHY
						DATA FROM 3.5 kHz)
						REPLACED STYLUS BELT ON EPC
	DWD 4s					CHANGE DWTR DELAY TO 4s
BA35 (3.5 kHz BATHY) OFF; PAPER CHANGE & MAINTENANCE						
BA35 ON				END C1 START C2		CHANGE PAPER
						* "BLOCKY" RECORD ON LSR
						MAY BE REAL — AN ARTIFACT
						OF SWELL, DUE TO 5
						SWEEPS PRINTING EACH
						SAMPLED RECORD.
						EPC RECORD SHOWS THE
						LONG SWELL PATTERN.

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C8	2055	097	312	9.9		TCAG/MC LSR&EPC
C8	2115	097				TCAG
C8	2214	097	312	8.4		TCAG:MC
C8	2214	"	"	"		" "
C8	2300	097	311	8	EOL C8	ALT CSE to 071°
C8A	2311	097	072	8	BOL C8A	CSE stdy on 071
C8A	0109	87 04 08	073	8	EOL C8A	ALT CSE
	0112	87 098				TCAG:MC
C9	0115	098	135	9	SOL C9	
C9	0120	098				TCAG:MC
C9	0500					TCAG:MC, LSR, EPC
C9	0915	098	128	8		TCAG:MC
C9	0930	098				TCAG:MC
C9	0931	"				" "
C9	1559	098	134	8.4		TCAG:MC
C9	1641	098	135	9.5	EOL C9	ALT CSE TO 045
	1643	098				TCAG: AIRGUN OFF
C9A	1652	098			SOL C9A	STEADY ON CSE 045
C9A	1726	098	045	9.6		AIR GUN IN WATER
	1729					RECORDING SEISMICS
	1743				EOT 35	TERMINATE PROGRAM RECN 8Q43
C10	1947	098			START TAPE 36	A Portion of line C9A
						as well as C10 will be
						on this tape.
	1820	098				A/C → 316°, SP - 8.99 KTS
	1830		316			ON COURSE 316°
		87 04 09				
C10	0102	099	316	8		TCAG: AIRGUN OFF
	0158	099				TCAG:MC
	0159	099				" "
C10	0253	099				TCAG: AIR GUN ON
C10	0320	099	315	8.5		TCAG: MC, LSR, EPC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
	DWD 3s					CHANGE DWD TO 3 sec
						RESET A/G TRIG // GLORIA
			EOT 32			END TCAG TAPE 32 2946 RCC DR 1
			BOT 33			START TCAG TAPE 33 DR 0
			EOLC8			END LINE C8
			SOLC8A			START LINE C8A CSE 071
						END LINE C8A
			EOT 33			END TCAG 33 TAPE 1064 REC
	(DWD 3s)		BOT 34			START TAPE TCAG 34 DR Ø
	DWD 4s	(DID	NOT GET INTO		MASSCOMP	CHANGE D W DELAY TO 4 S
	DWD 5s					CHANGE DW DELAY TO 5s
			EOT 34			END TCAG TAPE 34 2946 REC DR 0
			BOT 35			START TCAG TAPE 35 DR 1
	(DWD 5s)					ENTERED 53 DWD INTO MASSCOMP
						CHANGING AIRGUN
			EOT 35			DR 1
	(DWD 5sec)		BOT 36			DR Ø
						AIRGUN PROBLEMS ... LO PRESS
	(DWD 5s)		EOT 36			END TAPE TCAG 36 2946 REC
	" "		BOT 37			START TAPE TCAG 37 DR 1
						REPL LEAKY HOSE ... TWICE
	DWD 4s					CHANGE DWD TO 4s

SHIP/CRUISE NO./LEG F3-87-NA

CHIEF SCIENTIST O'LEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C10	0328	87 04 09	315	8		TCAG
C10	0420	87 099				TCAG
C10	0807					change DWL → 3
C10	1005	099			EOL C10	Alt CSE to 070°
C10A	1010	099				TCAG/MC
C10A	1010	099				" "
C10A	1017	099			SOL C10A	
C10A	1158	099	64.4	8	EOL C10A	Alt CSE to 134°
	1159	099				TCAG/MC
	1204	099				" "
C11	1206	099			SOL C11	CSE = 134°
C11	1430	87 099	134	8		INCREASE IN NOISE
C11	1505	87 04 09				TCAG
C11	1918				EOL C11	~~HC~~ → 046°
C11A	1919				SOL C11A	
C11A	2014					Terminate Program
C11A,C12	2024					Start program
C11A	2112	099	48	8	EOL C11A	Alt CSE to 312°
C11A,R	2112	099				TCAG: MC
C12	2118	099				TCAG: MC
C12	2121	099	312		SOL C12	CSE = 312°
		87 04 10				
C12	0230	87 100	315	9.6		TCAG
C12	0234	100				TCAG
C12	0420	100	316	10		TCAG
C12	0428	100			EOL C12	
	0433	100				TCAG: MC
C13A	0435	87 100	250	9.8	SOL C13A	
C13A	0441	100				TCAG: MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						RESYNC AIR GUN TRIGR // GLORIA
						SOME INDIC OF TRIGGER JITTER
	DWD 3s					
						END LINE C10
			EOT 37			END TCAG TAPE 37 2946 REC DR 1
			BOT 38			BEGIN TCAG TAPE 38 DR Ø
						START LINE C10A
						END LINE C10A
10			EOT 38			END TCAG TAPE 38 658 REC DR Ø
			BOT 39			BEGIN TCAG TAPE 39 DWD=3S DR Ø
						START LINE C11
	NOISE VIS ON TCAG RECORDS, BOT NOT ON BATHY OR GLORIA. DURATION ~5 MIN					
	DWD 4s					CHANGE DWTR DELAY TO 4s
2014			EOT 39			
2024			BOT 40			
						Alt CSE to 317'
			EOT 40			END TCAG TAPE 40 285 REC DR Ø
	(DWD 4s)		BOT 41			BEGIN TCAG TAPE 41 DR Ø
						CSE = 312'
	DWD 3s					CHANGE DWTR DELAY TO 3s
						RESYNC AIR GUN TRIGR // GLORIA
	DWD 2s					CHANGE DEEP WATER DELAY TO 2s
						ALT CSE TO 250
			EOT 41			END TAPE TCAG 41 2610 REC
	(DWD 2s)		BOT 42			START TCAG 42 TAPE DR Ø

SHIP/CRUISE NO./LEG F3-87-NA FARNELLA

CHIEF SCIENTIST O'LEARY & HUGHES-CLARKE

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
C13A	0933	87 04 10	252	9		TCAG: MC LSR & EPC
C13A	1252	87 100				TCAG: MC
"	1752	100				" "
C13A	1308	100	245	9		TCAG
C13A	1440	100				TCAG
C13A	1451				EOL C13A ALT CSE TO 229	
C13B	1453	100	229		SOL C13B	STEADY ON 229
	1630	100				
C13B	2103	100	231	8		TCAG: MC
C13B	2103	100				" "
	0007	101			ENTER EEZ	Recorders off LSR EPC 3.5"/12
	0015	101			TCAG/MC off/END CANADIAN TAPES	
4	0029	101			TCAG/MC ON/BEGIN USGS TAPES	
4	0011				} MAGGIE PAPER CHANGE	
	0015					
	0038	87 04 11				
	0050	87 101				TCAG: LSR
	0102	101				
	0112	101				TCAG: EPC
4	0121	87 101	141		START LINE 4	
4	0325	101				TCAG
4	0420	101	143	8		TCAG
	0515				END LINE 4	
4A	0516				START LINE 4A	A/C → 200
~~4A~~	0714				END LINE 4A	AC
5	0841				START LINE 5	ON COURSE 321°
5	0840				END Tape 45	RECN 2946 TCAG: MC
	0840				Start Tape 46	TCAG: MC
	~~1416~~				EOL ~~5~~ 5A	
	~~1417~~					TCAG: MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						TRIGGER PROBLEMS
			EOT 42			END TCAG TAPE 42 2946 REC DR 0
	(DWD 2s)		BOT 43			BEGIN TCAG TAPE 43 DR 1
						RESYNC AIR GUN TRIGR // GLORIA
	DWD 3s					CHANGE DEEP WATER DELAY TO 3s
						}
						} LINE CHANGE (SL DOGLEG)
	RESET TIME & MESSAGE ON 3.5 kHz BATHYMETRY ANNOTATOR.					
			EOT 43			END TCAG TAPE 43 2946 REC DR 1
			BOT 44			BEGIN TCAG TAPE 44 DR 0
			EOT 44			END TCAG TAPE 44 1152 REC DR 0
						↓ ↓
	(DWD 3s)		BOT 45			BEGIN TCAG TAPE 45 DR 0
				EOR 8	MAGNETOMETER	} 0011
				SOR 9	"	} PAPER CHANGE 0015
	RESTART BA 35			SOR		3.5 kHz BATHYMETRY
	RESTART TCAG LSR			SOR		
	RESTART BA 10			SOR		10 kHz BATHYMETRY
	RESTART TCAG EPC			SOR		CLEANING, ETC., PAPER CHANGE
						ON ALL GRAPHIC RECORDERS
						STEADY ON COURSE
						RESYNC AIR GUN TRIGR // GLORIA
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s
			EOT 45	DR 0		END TAPE TCAG 45 2946 REC
			BOT 46	DR 1		START TAPE TCAG 46 DR 1
	SEE NEXT PAGE		~~EOT 46~~			~~END TAPE TCAG 46 2944 REC~~

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
5	1042	101	318	9		TCAG/MC
5	1227	101	326	7	EOL 5	Alt CSE TO 221°
5A	1238	101	221	8	SOL 5A	CSE = 221°
5A	1416	87 04 11			EOL 5A	
	1417	87 101				TCAG : MC
6	1424	101	140		SOL 6	[redacted]
6	1428	101				TCAG : MC
6	1610	101	139	7.15		TCAG
6	2039	101			EOL 6	A/C → 210°
6A	2040				SOL 6A	
6A	2045					ON COURSE 210°
	2221	101	222	8	EOL 6A	Alt CSE TO 320°
	2222	101				TCAG/MC
7	2233	101				TCAG/MC
7	2233	101			SOL 7	
7		87 04 12				
7	0115	87 102	320	9		
7	0320	102				TCAG
7	0330	102				TCAG
7	0449	102	320	7	EOL 7	
7A	0455	102	000		SOL 7A	
7A	0522	102			EOL 7A	A/C → 255°
8	0558				SOL 8	
8	0600					ON COURSE 255°
8A	0658				EOL 8	A/C → 253°
8A	0659				SOL 8A	
8A	0924					TCAG/MC
8A	1000	102				MAGNETOMETER
8A	1005	102				" " "

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
	DWD 3s					CHANGE DWD to 3s
						END LINE 5
						START LINE 5A
			EOT 46			END TAPE TCAG 46 2024 REC
						START LINE 6
	(DWD 3s)		BOT 47			START TAPE TCAG 47 DR Ø
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s
			EOT 47			END TCAG TAPE 47 2839 REC DRØ
	(DWD 4s)		BOT 48			BEGIN TCAG TAPE 48 DR Ø
						START USGS LINE #7
					RAPID CHANGE IN MAG FIELD.	PASSED OVER FLANK / RIDGE
						OF SEAMOUNT.
						RESYNC AIR GUN TRIGR TO GLOR
	DWD 3s					CHANGE DEEP WATER DELAY TO 3s
						END LINE 7
						START LINE 7A
			EOT 48	REEL 2639		END LINE 7A
	DWD 2s		BOT 49	DR Ø		START LINE 8
						NOTE: MASS COMP LOGGING STRANGE TIME
	DWD 1s					CHANGE DEEPWATER DELAY TO 1s
			EOR 9 →	EOR 9	} CHANGE PAPER	END MAG PAP #9
			BOR 10 →	BOR 10		BEGIN MAG PAP #10

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
8A	1202	870412				TCAG
8A	1403	87 102				
	1405	102	246	8		
8A	1409	102				TCAG : MC
8A	1409	102				TCAG : MC
	1515	102	258	7		
8A		102				
8A	1550	102	250	7.6		TCAG
8A	1620	102				TCAG : MC
8A	1749	102			EOL 8A	9/C → 249°
8B					SOL 8B	
8B	2200	102			EOL 8B	Alt CSS to 271°
8C	2202	102			SOL 8C	
8C	2220	102				TCAG/MC
8C	2220	102				TCAG/MC
8C	0236	87 103	270	9		TCAG
8C	0426	87 04 13	270	8	EOL 8C	
8D	0434	103			SOL 8D	
8D	0631	103	180		(EOL 8D) ANTICIPATE	TCAG : MC
8D	0636	87 103			EOL 8D	TCAG : LSR
	"	" "			" "	TCAG : EPC
	"	" "			" "	(BA 35)
	"	" "			" "	(BA 10)
9	0644	87 103	090	9	SOL 9	(BA 10)
	"	" "			" "	(BA 35)
	"	" "			" "	TCAG : LSR
	"	" "			" "	TCAG : EPC
9A	0646	87 103	090	9		TCAG : MC
9A	0700	103				TCAG

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						RESYNC AIRGUN TRIGGER // GLORIA
				EOR		} CHANGE PAPER BA 10
				BOR		} 10 kHz BATHYMETRY
			EOT 49			END TAPE TCAG 49 2946 REC
	(DWD 1s)		BOT 50			START TAPE TCAG 50 DR 1
BA 35						CHANGE COMPENSATION
						(FOR XDCR FISH DEPTH) FROM
						10 M TO 7 M (SHIFTS GRID
						SCALE ON 3.5 kHz BATHY).
BA 10						10.2 kHz BATHY FISH DEPTH
					SINCE START OF F3-87-NA	COMPENSATION SET AT 6 M.
	DWD 2s					CHANGE DEEP WATER DELAY TO 2s
						RESET MC CLOCK FORMAT
			EOT 50			END TCAG TAPE 50 2946 REC DR 1
	(DWD 2s)		BOT 51			BEGIN TCAG TAPE 51 DR 0
						RESYNC AIRGUN TRIGR // GLORIA
						EOL 8C A/C TO 180
						SOL 8D STEADY ON 180
			EOT 51			END TAPE TCAG 51 2944 REC DR 0
				EOR		} REMOVE PAPER ROLLS
				EOR		
BA 35				EOR		
BA 10				EOR		
BA 10				SOR		} START NEW ROLLS
BA 35				SOR		
				SOR		
				SOR		
	(DWD 2s)		BOT 52			START TAPE TCAG 52 DR 0
						STILL SOME INT. RCDR TRIGGER
						PROBLEMS (LSR RECORD).

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
9A	1255	87 04 13	101	9	EOL 9A	Alt CSE to 068°
9B	1257	87 103	068	9	SOL 9B	CSE stdy on 068°
9B	1457	103				TCAG: MC
	1457	103				TCAG: MC
9B	1620	103	068	11	SL BEND IN LEG 9B	
9B	2001	103				Change DWD
9B	2142	103				CHANGE DWD TCAG
9B	2308	103				TCAG: MC
	2308	103				TCAG: MC
9B	2333	103				TCAG: MC, LSR, EPC
9B	~~0853~~	104 ~~104~~	065	6	EOL 9B	Alt CSE to 140°
	~~0853~~	104				TCAG: MC
10	0100	104	140	8.5	SOL 10	
10	0102	87 104				TCAG: MC
10	0150	87 04 14				TCAG
10	0228	104				
10	0230	104				TCAG
10	0420	104	155	6		TCAG
10	0717				EOL 10	9/c 204°
10A	0719				SOL 10A	On course 204°
10A	0853	104				TCAG: MC, LSR, EPC
10A	0900					" " " "
10A	0906	104			EOL 10A	Alt CSE to 320°
	0909	104				TCAG: MC
	0917	104			SOL 11	CSE = 320°
11	0919	104				TCAG: MC
11	0952	104				TCAG: MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						END LINE 9A
						START LINE 9B
			EOT 52			END TAPE TCAG 52 2946 REC
	(DWD 2^S)		BOT 53			START TAPE TCAG 53 DR 1
						ALTERING CSE TO 078
	DWD → 3^S					
	DWD 2^S					
			EOT 53			END TAPE TCAG 53 2946 REC
	(DWD 2^S)		BOT 54			START TAPE TCAG 54 DR Ø
	DWD 3^S					
						END LINE 9B
			EOT 54			END TCAG TAPE 54 630 REC DR Ø
			[redacted]			
	(DWD 3^S)		BOT 55			START TAPE TCAG 55 DR Ø
	DWD 4^S					CHANGE DEEP WATER DELAY TO 4^S
BA	35					RESET ANNOTATOR CLOCK
						IN 3.5 kHz BATHYMETRY
						TRIGGER JITTER GETTING BAD
						(SEA STATE, SHIP MOTION,
						VIBRATION INCREASING)
	DWD 5^S					CHANGE DEEP WATER DELAY TO 5^S
	(DWD 5^S)					
	DWD 4^S					
	DWD 3^S					
						END LINE 10A
			EOT 55			END TCAG TAPE 55 2920 REC DR Ø
	(DWD 3^S)		BOT 56			BEGIN TCAG TAPE 56 DUP=9^S DR Ø
	DWD 4^S				*	core dumped floating
						exception. Restart program
						file 1 @ 0951 Z

MASS COMP CRASHED WHILE CHANGING DWD – DID NEWLINE SO TAPE 56 HAS A FILE NUMBER RESTART (BEWARE)

I.E., 1 – 200 ± FILES + 1 – 27XX ? FILES

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
11	1008±	87 04 14				TCAG
11	1430	87 104	326	7		TCAG
11	1640	104	320	5.2		TCAG
11	1644	104				TCAG
11	1656	104				TCAG: MC
11	1656	104	322	7.2		TCAG: MC
11	1815	104				~~[illegible]~~
11	1854	104			EOL 11	C/C → 254°
11A	1855	104			SOL 11A	
11A	2033					TCAG
11A	2041	104			EOL 11A	C/C → 140° TCAG: MC
12	2049	104	140~		SOL 12	
12	2056	87 104				TCAG: MC
12	2211	104				
12	2213	104	140	8		
12	0140	87 04 15				TCAG
12	0152	87 105				TCAG
12	0507	105			RECN 2946 DR 0	TCAG: MC
	0508	105			RECN 1 DR 1	TCAG MC
12	0529	105			EOL 12	C/C → 253°
12A	0530	105			SOL 12A	
12A	0539					ON COURSE
12A	0725				EOL 12A RECN 829	C/C → 320°
13	0726				SOL 13 RECN 830	
	0729					ON COURSE 320°
13	1318	105	317	5		TCAG: MC
13	1318	105	320	6		TCAG: MC
13	1550	105	322	5.5		TCAG
13	1553	105				TCAG
13	1944	105			EOL 13	
13A	1950				SOL 13A	ON COURSE 230

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
	DWD 5s					CHANGED DWD TO 5s
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s
	DWD 3s					" " " " " 3s
						RESYNC A/G TRIG REL TO GLORIA
			EOT 56			END TAPE TCAG 56 2546 REC
	~~DWD 2s~~		BOT 57			START TAPE TCAG 57 DR1
	DWD 2s					
						LINE 11A VERY NOISY (SEA STATE) AMBIENT NOISE
	DWD > 3		~~EOT 57~~			~~RECN 1356~~
			EOT 57			RECN 1356 EOT TAPE 57
	(DWD 3s)		BOT 58			START TAPE TCAG 58 DR Ø
BA10				EOR		} PAPER CHANGE
BA10				BOR		10.2 kHz BATHYMETRY
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s
						PASS OVER VV STEEP RIDGE
			EOT 58			(TOO STEEP FOR ADEQUATE
			SOT 59			ECHOES ON 3.5 OR 10.2 kHz)
	DWD 4s					
			EOT 59			END TAPE TCAG 59 2946 REC
	(DWD 4s)		BOT 60			START TAPE TCAG 60 DR Ø
	DWD 3s					CHANGE DEEP WATER DELAY TO 3s
						RESYNC AIRGUN TRIGGER // GLORIA

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
13A	2100	870415	227	7	EOL 13A	TCAG OFF
13A	2116	105			Alt CSE to 139°	TCAG: MC OFF
14	2125	105	139°	8	SOL 14	CSE = 139°
14	2229	105			TCAG ON, NO RECORDS YET	
14	2236	87 105			START RECORD	TCAG/MC ON BUT #61
14	0210	87 04 16	139	12		TCAG
14	0502	106			EOL 14	q/c → 227°
14A	0508	106	227	10.59	SOL 14A	ON COURSE 227°
14A	0606	106			EOL 14A	
15	0623	106			SOL 15	ON COURSE 319°
15	0900	106				MAGNETOMETER
15	0906	106				" " "
15	1321	87 106	318	6.3		TCAG
15	1409	106				
15	1434	106				TCAG: MC
15	1435	106				TCAG: MC
15	1515	106	320	7		TCAG
15	1859	106			EOL 15	q/c → 255°
15A	1910	106	260	6.7	SOL 15A	260°
15A	2111	106	256	6.2	EOL 15A	Alt CSE to 139°
	2113	106				TCAG: MC
16	2120	106	139	9.6	SOL 16	
16	2123	106				TCAG: MC
16	0116	87 04 17	142	10		TCAG
16	0215	87 107	138	9		TCAG
16	0534	107	130	5.7		TCAG: MC
16	0538	107	130	7.1		TCAG: MC
16	0640	107			EOL 16	A/C → 234°
16A	0649	107	234°	12	SOL 16A	ON COURSE 234°
16A	0744	107			EOL 16A	
	0747	107				

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
			EOT 60			END TAPE TCAG 60 2770 REC DR Ø
BA35	PAPER CHANGE			EOR BOR		ALT CSE to 139°
						SOL 14 Airgun still off
						CLEANING / MAINT OF
						TCAG LSR & 3.5 LSR
	(DWD 3s)		BOT 61			FIRST RECORD #41 TAPE 61
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s DR Ø
			EOT 61			EOT TCAG 61 RECN 2810
			BOT 62			BOT TCAG 62 RECN 1 DR Ø
			EOR 11	EOR 11	←	END MAG ROLL # 11
	(DWD 4s)		BOR 12	BOR 12	←	BEGIN MAG ROLL # 12
						RESYNC AIR GUN REL TO GLORIA
BA35						RESET ANNOTATOR CLOCK
			EOT 62			END TAPE TCAG 62 2946 REC
	(DWD 4s)		BOT 63			START TAPE TCAG 63 DR 1
	DWD 3s					CHANGE DEEP WATER DELAY TO 3s
						EOL 15A
			EOT 63			END TCAG TAPE 63 2388 REC DR 1
						START LINE 16
	(DWD 3s)		BOT 64			START TCAG TAPE 64 DR Ø
	~~DWD~~					RESYNC AIR GUN REL TO GLORIA
	DWD 4s					CHANGE DEEP WATER DELAY TO 4s
			EOT 64			RECN 2946 DR Ø
			BOT 65			RECN 1 DR 1
			EOT 65			RECN 794 DR 1

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
17	0751	107	327°	9.1	SOL 17	~~TCAG : MC~~
17	0753	870417				TCAG : MC
17	1334	87 107	314	8.3		
17	1410	107	322	6.8		TCAG
	1415	107				TCAG : EPC
	1428	107	322	8.6		TCAG : EPC
17	1603	107				TCAG : MC
17	1604	107				TCAG : MC
	1626	107	311	8.8		TCAG
17	1856	107			EOL 17	TCAG : MC
17A	1901	107			SOL 17A	
17A	2108	107	251	6.7	EOL 17A	ALT CSE to 136°
	2109	107				TCAG : MC
18	2117	107	139	8	SOL 18	
18	2118	107				TCAG : MC
18	0255	87 04 18	130	8		
18	0430	87 108	137	5.4		TCAG
18	0529	108	137	5.9		TCAG
18	0530	108				
18	0820	108				TCAG : MC
18	0822	108				TCAG & BA OFF
	0830	108				
18	0841	108				TCAG : LSR, EPC ON
18	0847	108				
18	0850	108				
18	0915-0925	108				TCAG : MC
	0930	108			SHIP LOOPING BACK TO COVER MISSED SPOT	
	0940	108				TCAG : MC
18	1053	108			LOOPING BACK ON TO SHIP COURSE 136°	
18X	1111	108			SOL 18X	CSE = 136°
18X	1121	108				TCAG : MC
18X	1430	108			EOL 18X	

AREA North Atlantic

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
	(DWD 4S)					
	(DWD 4S)		BOT 66			START TAPE TCAG 66 DR Ø
BA35						RESET ANNOTATOR CLOCK IN 3.5 kHz
	DWD 3S					CHANGE DEEP WATER DELAY TO 3S
				EOR		} PAPER CHANGE : TCAG EPC
				BOR		} (+ MAINT.)
			EOT 66			END TAPE TCAG 66 2946 REC
	(DWD 3S)		BOT 67			START TAPE TCAG 67 DR 1
						RESYNC AIR GUN REL. TO GLORIA
	DWD 3S					RECN 1053
	DWD 3S					RECN 1072
			EOT 67			END TCAG TAPE 67 1828 REC DR 1
	DWD 3S		BOT 68			BEGIN TCAG TAPE 68 DWD 3S DR Ø
					20 % OSCILLATION	DUE TO SEA/SWELL
	DWD 4S					CHANGE DEEP WATER DELAY TO 4S
	DWD 4S		EOT 68			RECN 2946 DR Ø
			BOT 69			RECN 1 DR 1
			EOT 69			END TAPE TCAG 69 1028 REC
	SHUT DOWN		EQPT			} ALL SYSTEMS SHUT DOWN;
BA 35, BA 10 OFF					MAG OFF	} SHIP POWER PROBLEMS.
				EOR/BOR	– MAG	CHANGE PAPER — MAGNETOMETER
						}
BA 35, BA 10 ON						} POWER BACK ON
					MAG ON	} BUT FREQ LOW
						UNABLE TO BOOT — "AC LOW"
						SHIP POWER SEEMS OK
						REBOOT MASS COMP — APP. OK
	(DWD 4S)		BOT 70			START TAPE TCAG 70 DR Ø

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
18A	1440	870418	252		SOL 18A	
18A	1522	87 108				TCAG: SRP OFF ~3 MIN
18A	1603	108			EOL 18A	
18A	1605	108				TCAG: MC
19	1610	108	317	10	SOL 19	
19	1617	108				TCAG: MC
	2025 ~	108				TCAG: MC
	← 2021					
	2047	108			LOOPING AROUND TO RET TO LINE	
	2059	108				AIR GUN TRIG OFF WHILE TURNING
	2110	108				TCAG AIR GUN BACK ON
	2115	108				TCAG
19	2218	108	317		BACK ON LINE 19	
19	2223	108				TCAG: MC
19	0250	870419	319	9.5		TCAG
19	0344	87 109			EOL 19	
19A	0350	109	269		SOL 19A	
19A	0538	109			[redacted]	
19A	0543	109				
19A	0549	109			EOL 19A	[redacted] 9/C → 137°
20	0558	109	137	6.4	SOL 20	RECN 91
20	1035	109				TCAG [redacted]
20	1316	109	142	5.5		TCAG
	1344-46	109				
20	1354	109				TCAG: MC
20	1354	109				TCAG: MC
20	1902	109				
20	2205	109				TCAG: MC
20	2205	109	139	5.2		TCAG: MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						STEADY ON NEW CSE 252
						220 V BRKR TRIPPED —
						SHUT DOWN AIRGUN FIRING
			EOT 70	EOR BA35		END TAPE TCAG 70 1690 REC
	(DWD 4S)		BOT 71	BOR BA35		START TAPE TCAG 71 DR Ø
			EOT 71			MASSCOMP SYSTEM CRASH;
						MORE POWER PROBLEMS.
						~1600 REC; PROB NO EOF(?)
	DWD 3S					CHANGE DEEP WATER DELAY TO 3S
	(DWD 3S)		BOT 72			START TAPE TCAG 72 DR Ø
	DWD 2S					CHANGE DEEP WATER DELAY TO 2S
						ALT CSE TO 269
						STEADY ON CSE 269
			EOT 72			RECN 2605 DR Ø
			BOT 73			RECN 1 DR Ø
DWD = 3S						CHANGE DELAY TO 3S
						RESYNC AIRGUN SHOT TO GLORIA
				EOR BOR BA10		PAPER CHANGE: 10 kHz BATHYMETRY
			EOT 73			END TAPE TCAG 73 2946 REC
	(DWD 3S)		BOT 74			START TAPE TCAG 74 DR 1
	DWD → 4S					
			EOT 74			END TAPE TCAG 74 2946 REC
	(DWD 4S)		BOT 75			START TAPE TCAG 75 DR Ø

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
20	2306	109	141	6.8	EOL 20	Alt CSE to 270°
20A	2317	109			SOL 20A	CSE = 270°
~~20A~~		110	270	7	~~EOL 20A~~	~~Alt CSE to 315°~~
20A	0028	87 110			Alt CSE to	200°
					~~EOL 20A~~	
~~20A~~	0032	87 04 20				TCAG : ~~MC~~ LSR
~~21~~	0125	87 110				TCAG : MC
21	0155	110	317	9	SOL 21	TCAG : MC
21	0200	110			SOL 21 PER	WORD FROM BRIDGE
	0330	110			ABC SYSTEM CLOCK RESET (WAS ~5^s SLOW)	
					← SUPPLIES TIME TICKS TO TCAG LSR	
						& BA10 PESR
						& MAG PAPER REC
	0417-0420	110				TCAG : EPC
21	0643	110	317	9.5		
21	1006	110				TCAG
21	1006	110				
21	0900	110				MAGNETOMETER
21	1046	110				TCAG ~~MC~~
	1103	110				TCAG
21	1519	110	315	9.1	EOL 21	
21A	1523	110	270	9.5	SOL 21A	
21A	1647	110			EOL 21A	TCAG AIRGUN OFF
	1648	110				TCAG : MC
22	1700	110	138		SOL 22	
	1732	110				TCAG AIRGUN ON
22	1732	110				TCAG : MC
	2136	110				TCAG
22	0143	87 04 21				TCAG : MC
22	0144	87 111	138	7.1		TCAG : MC

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						END LINE 20
						START LINE 20A
		—				~~END LINE 20A ~~ ~~COLOR~~
		—				Unforseen problem in
		—				plotting of course.
		—				Abrupt change of bearing
		—				to 200° LOOPING ONto 21
			*	EOR	}	CHANGE PAPER ON
				BOR	}	LSR TCAG [redacted]
			EOT 75			END TAPE TCAG 75 1200 REC
	(DWD 4^s)		BOT 76			START TAPE TCAG 76 DR Ø
BA35	ANNOTATOR CLOCK RESET (WAS ~5^s FAST)					
						(1 STYLUS BROKE)
						EPC RECDR OFF ; REPL STYLUS BELT
	DWD → 3^s					
	DWD 3^s		EOT 76			REEL 2946 DR Ø
	DWD 3^s		BOT 77			REEL 1 DR 1
			EOR 13 BOT 14 →	← *		CHANGE MAG PAPER
	DWP 2^s					Delay = 2^s
						RESYNC AIR GUN REL. TO GLORIA
						TURNING FM 317 TO 270
						STEADY ON CSE 270
						CHANGING AIR GUN
			EOT 77			END TAPE TCAG 77 2409 REC
						STEADY ON CSE 138
			BOT 78			START TAPE TCAG 78 DR Ø
	DWD 3^s					CHANGE DEEP WATER DELAY TO 3^s
			EOT 78			END TAPE TCAG 78 2946 REC
	(DWD 3^s)		BOT 79			START TAPE TCAG 79 DR 1

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
22	0434	87 04 21	137	8		
22	0453	87 111	136	7		
22	0732	111	155	5		TCAG
22	0904	111			EOL 22	Alt CSE to 268°
22A	0914	111			SOL 22A	CSE = 261°
22A	0955	111				TCAG: MC
22A	1128	111	262	5	EOL 22A	Alt CSE to 316°
23	1133	111	316	7	SOL 23	CSE: 316°
23	1134	111				TCAG: MC
23	1507	111				TCAG
23	1848	111				
23	1945	111	311	8		TCAG: MC
23	1945	111	311	8		
23	2336	111				MUFAX
23	0015	87 112				TCAG
⇓	⇓	⇓				⇓
23	0310	87 04 22	316	6.5		TCAG
23	0313	87 112	316	8.9		TCAG
23	0353	112	315	9.1		TCAG
23	0357	112				TCAG: MC
23	0357	112	314	8.2		TCAG: MC
23	0500	112	314	8.8	EOL 23	
	0504	112				
23A	0509	112	229	9	SOL 23A	
23A	0617	112			EOL 23A	
24	0625	112	136	7.5	SOL 24	g/c → 136
24	0953	112				TCAG: MC, LSR, EDC
24	1208	112				TCAG: MC
24	1208	112				TCAG: MC
24	1630	112				TCAG
24	2019	112				
24	2030	112				DRIVE NOT ON LINE

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
BA	35			EOR		PAPER CHANGE, MAINTENANCE.
BA	35			BOR		3.5 kHz BATHYMETRY ON.
	DWD 4S					
						END LINE 22
						START LINE 22A
			EOT 79			END TCAG TAPE 49 2946 REC DR 1
						END LINE 22A
						START LINE 23
	DWD 4S		BOT 80			START TCAG TAPE 80 DR Ø
						RESYNC AIRGUN REL. TO GLORIA
	DWD 3S					
			EOT 80			RECN 2945 , DR Ø
			BOT 81			RECN 1 , DR 1
10KHZ BATHY			EOR →			END 10 kHz BATHY ROLL 3
" " "			BOR →			LINES 22, 23
						TURN DOWN GAIN CH 1 & 4
	DWD 2S					CHANGE DEEP WATER DELAY TO 2S
						RESYNC AIR GUN // GLORIA
						" " " " (AGAIN!?)
			EOT 81			END TAPE TCAG 81 2946 REC
	(DWD 2S)		BOT 82			START TAPE TCAG 82 DR Ø
						ALT CSE TO 228
				EOR 14 / BOR 15		CHANGE PAPER — MAGNETOMETER
	DWD 3S					CHANGE DELAY to 3 SEC
			EOT 82			END TCAG TAPE 82 2946 REC DR Ø
			BOT 83			START TCAG TAPE 83 DR 1
	DWD 4S					CHANGE DEEP WATER DELAY TO 4S
			EOT 83			DR 1 RECN 2946
			BOT 84			DR Ø RECN 64

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST OLEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
24	2129	112	137	8	EOL 24	ALT CSE TO 254°
24A	2143	112	254	4	SOL 24A	CSE = 254°
24A	2350	112				TCAG: LSR & EPC
24A	2354	112			EOL 24A	ALT CSE TO 316°
	2354	112				TCAG: MC
25	0004	87 113	315°		SOL 25	CSE = 316°
25	0005	113				TCAG: MC
25	0012	113				TCAG: LSR 160 in³
25	0021	113				TCAG: EPC 160 in³
25	0450	113	317	7.9		TCAG
25	0816	113				TCAG: MC
25	0816	113	315	7.6		TCAG: MC
	1411	113			CLOCK CHECK & RESET	
	1411	113	320	7.9		
25	1504	113	317	8.3		TCAG
25	1515	113	316	8		TCAG
25	1627	113				TCAG: MC
25	1627	113	315	8.7		TCAG: MC
25	1709	113	315	8.6		TCAG
25	1729	113				TCAG
25	1757	113			EOL 25	C/C → 090° REEN 540
25	1805	113				REEN 792
26	1839	113	090	7.0		
26	1944	113	090	7.8		
26	2105	113	091	8		TCAG
26	0038	8704 24				TCAG: MC
26	0040	87 114	090	8.9	SOL 26	ALT CSE
27	0049	114	180		SOL 27	STEADY ON CSE 180
27	0050	114				TCAG: MC
27	0240	114	184	8.3		TCAG
27	0532	114			EOL 27	REEN 1695
28	0538	114			SOL 28	REEN 1731
28	0450	114				

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
						END LINE 24
						START LINE 24A
GR	RECORDERS OFF FOR PAPER & MAINT.					— MC STAYS ON.
						EOL 24A
				EOT 84		END TCAG: MC TAPE 84 1290 REC DR 0
						START LINE 25
	DWD 4S			BOT 85		START TCAG TAPE 85 DWD 4S DR 0
	"					START GR RECORDER LSR
	"					START GR RECORDER EPC
	DWD 3S					CHANGE DEEP WATER DELAY TO 3S
				EOT 85		RECN 2946 DR 0
	DWD 3S			BOT 86		RECN 1 DR 1
BA	10, TCAG LSR, MAGNETOMETER					TIME MARKS FM ABC SYS ~1S SLOW
BA	35					RESET ANNOTATOR CLOCK (WAS ~6S FAST)
						RESYNC AIR GUN TO GLORIA
	DWD 2S					CHANGE DEEP WATER DELAY TO 2S
				EOT 86		END TAPE TCAG 86 2946 REC
	(DWD 2S)			BOT 87		START TAPE TCAG 87 DR 0
	DWD 1S					
						RESYNC AIR GUN REL. TO GLORIA
13						
	DWD → 0S					
10	DWD → 1S					
	DWD 2S					DELAY = 2S
				EOT 87		END TAPE TCAG 87 2944 REC
	(DWD 2S)			BOT 88		START TAPE TCAG 88 DR 0
	DWD 3S					CHANGE DEEP WATER DELAY TO 3S
	DWD 3S					
	DWD 3S					
				EOR 15 BOT 16	PAP MAGN	MAGNETOMETER — PAPER CHANGE

SHIP/CRUISE NO./LEG FARNELLA F3-87-NA

CHIEF SCIENTIST O'LEARY

LINE START / END	TIME	YYMMDD	CRS/HDG	SPD	NAVIGATION	SEISMIC SYSTEM
28	0901	87 114	087°	8		TCAG: MC
28	0902	114				" "
28	0945	114				GRAPHIC TCAG EPC REC
28	0954	114				" " " "
28	1439	87 04 24	082		EOL 28	TCAG: MC
29	1446	87 114	350		SOL 29	
29	1449	114				TCAG: MC
29	1730	114				TCAG
29	1736	114	354	10.1		TCAG
29	2002	114			EOL 29	TCAG: MC
						TCAG AIR GUN OFF
	2004	87 114				
	2005	87 04 24				

AREA NORTH ATLANTIC

TIME ZONE

SWP	PROGRAM / SCALE	FILTER HI/LO	TAPE NO. START / END	DATA ROLL # START / END	MAGNETICS	COMMENTS
			EOT 88			END START TCAG TAPE 88 2946 REC DR 2
	DWD 3s		BOT 89			START TCAG TAPE 89 DR 1
				EOR/BOR		END ROLL EPC LINE 28
				BOR		BEGIN ROLL EPC
			EOT 89			END TAPE TCAG 89 2021 REC
	(DWD 3s)		BOT 90			START TAPE TCAG 90 DR Ø
	DWD 2s					CHANGE DEEP WATER DELAY TO 2s
						RESYNC AIR GUN TRIGGER
						RELATIVE TO GLORIA XMSN.
			EOT 90			END TAPE TCAG 90 1878 REC
				EOR EOR		} END ROLLS TCAG LSR TCAG EPC
				EOR 16	MAGN PAP	MAGGIE OFF
BA	35 & BA 10	OFF		EOR EOR		
						END F3-87-NA
						RETRIEVE ALL OVERBOARD
						EQUIPMENT.