GEOPHYSICAL LOG SHEETS

SHIP FARNELLA 85-4

GLORIA Survey of the
EEZ of Puerto Rico & U.S. Virgin Islands

4 Nov 85 → 3 Dec 85

This book with Duplicates to be returned to RVS Scientific Superintendent

FRNL 85 LEG 4
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Scanlon.

FARNELLA 85-4

GLORIA survey of Puerto Rico & U.S. Virgin Is. EEZ

IOS / USGS Coop.

IOS

Malcolm Harris - Chief Scientist "Party Chief"
Doug Masson - Geologist "Chief Scientist"
Eric Darlington - GLORIA Engineer
Jon Campbell - GLORIA Engineer
Alan Gray - Mech. Engineer
Gareth Knight - Navigation

USGS

Kathy Scanlon - Chief Scientist Woods Ho
Rafael Rodrigues - Geologist / Watch Stander San Jua
Bob Halley - Geologist / Watch stander Denver
Juan Trias - Geologist / watch stander San Ju
Dann Blackwood - Photographer Woods

Elsa Hernandez - Observer from Dominican Republic
Chris Polloni switched with Rafael 11/15/1985

Station No. **Date**

Ships Time GMT	Date	I.D	Line	Course	Speed	Tape #			Comments
1200	5 Nov 85	309	—	—	—	—			putting gear in water
1305	"	"	transit to line 1						all gear in the water, fiddling with recorders on the way to begin Line 1
1351	"	"	"	—	—	1			begin Tape 1
1540	"	"	"	—	—	"			recorders set up as follows:
									— Airgun Tape Monitor (EPC) 8 sec swp
									— Raytheon #1 - Airgun 5 sec swp, 5 sec delay, 20-200 Hz
									— Raytheon #2 - Airgun 10 sec swp, 5 sec delay, 20-200 Hz
									— 3.5 kHz - 2 sec swp, TR edge (4500-6000 m)
									We are using 160 in³ airgun, firing at 14 sec intervals. GLORIA is on 40 sec rate - this creates an interference problem which is unavoidable on airgun recds
1550	5 Nov 85	309	—	—	—	1			Eric has rigged a 6 sec delay in the Airgun Tape Monitor
1553	"	"	1		—	"			BOL 1
1604	"	"	"	316°	—	"			on course / Line 1
1750	"	"	"	"	-	"			switch GLORIA to 30 sec rate } no interference
1805	"	"	"	"	—	"			change airgun firing rate to 15 sec } problem now.
1900	"	"	"	"	—	"			c/ paper speed on both airgun recorders 5 sec to 100/in 10 sec to 75/in
2040	"	"	"	"	8.5	"			
2112	"	"	1A	—	—	"			EOL 1 / BOL 1A

LDEO L3004

T.R./USVI EEZ

Station No. Date

Ship Time GMT	Date	J.D.	Line	Course	Speed	Tape #			Comments
2120	5NOV85	309	1A	277°	8.5	1			on course / Line 1A
2200	" "	" "	" "	" "	" "	" "			LAT 021° 47.85 LONG 066° 22.30
2300	" "	"	"	"	"	"			LAT 021° 48.98 LONG 066° 30.45
0000	6NOV85	310	"	"	8.5	1			LAT 021° 50.64 LONG 066° 42.35
0049	"	"	2	—	—	"			EOL 1A / BOL 2 End Roll #1 on Airgun Tape Mon.
0100	"	"	"	—	—	"			recorder back on Begin Roll #2 on Airgun Tape Mon.
0107	"	"	"	136°	8.2	"			on course / Line 2
0200	"	"	"	"	8.2	"			LAT 021° 44.80 LONG 066° 42.94
0228	"	"	"	"	8.1	2			new reel (#02)
0300	"	"	"	"	8.2	"			LAT 021° 38.89 LONG 066° 35.43
0328			"	"					JON IS CHECKING THE GRAVITY RECORDER BUT everything seems to be FINE
0400	"	"	"	"	8.2	"			LAT 021° 32.84 LONG 066° 29.07
0500	"	"	"	145°	8.2	"			Lat 021° 25 8.2 Long 066° 21.98
0600	"	"	"	142°	8.3	"			Lat 021° 19.81 Long 066° 16.23
0700	"	"	"	138.5°	7.9	"			Lat 021° 14.31 Long 066° 12.60
0800	"	"	"	132.2°	8.0	"			Lat 021° 08.33 Long 066° 06.37
0900	6NOV85	310	2	132°	8.0	2			Lat 021° 02.80 Long 066° 00.00
0910	"	"	"	"	"	"			Plotted position on TRACK CHART. All is well. Should finish Line 2 in 4½ hrs.
1000	"	"	"	"	"	"			LAT 020° 56.79 LONG 065° 52.85

Station No. Date

Time	DATE	J.D.	Line	Course	Speed	Tape #	Comments
1100	6 NOV 85	310	2	130°	8.2	2	LAT 020° 51.90 LONG 065° 46.64
1200	"	"	"	"	"	"	Lat. 020° 45.95 LONG 065° 40.40
1300	"	"	2A	170°	8.0	"	LAT 020° 40.06 LONG 065° 34.91 EOL #2 SOL #2A course: 170°
1305	"	"	"	"	8.2	"	ON course MAC working with the 35
1400	"	"	"	"	8.3	"	LAT 020° 31 87 LONG 065° 31 95
1500	"	"	"	"	8.1	"	LAT 020° 23.02 LONG 065° 30.73
1503	"	"	"	"	8.0	3	new reel (#03) re
1524	"	"	"	"	8.2	"	new roll of paper (#02) For the precision echo sounder
1600	"	"	2"A	"	8.2	3	LAT 020° 14.35 LONG 065° 29.30
1641	"	"	Turn				
1652	"	"	3	320°	8.3	3	Lat 020° 09.03 LONG 065° 30.18
1805	"	"	"	—	—	"	c/10 sec airgun record to R/L sweep
1837	"	"	"				c/6-10 sec swp on recorder #1
1904	"	"	"	315.9°	7.7	3	LAT 020° 21.71 LONG 065° 43.42
2000	"	"	"	315.7	8.5	3	LAT 020° 26.96 LONG 065° 49.25
2100	"	"	"	314	8.5	3	Lat 020° 32.85 LONG 065° 55.80
2200							LAT 020° 41.14 LONG 066° 03.43
2300				314	8.4	3	LAT 020° 46.76 LONG 066° 10.88
0000	7 NOV.	311	3	314	8.4	3	LAT 020 53.08 LONG 066° 18.02

Station No. Date

P.R./VIRGINS EEZ

GMT Time	DATE	J.D.	LINE	Course	Speed	Tape#	COMMENTS
0100	7NOV	311	3	314°	8.4	3	LAT. 020° 59. 88 LONG. 066° 25. 46
0200	"	"	"	"	"	"	LAT 021°06. 15 LONG 066° 32. 27
0300	"	"	"	314°	8.3	"	LAT 021° 13. 65 LONG 066° 39. 63
0400	"	"	"	"	8.6	"	LAT. 021° 20. 31 LONG. 066° 46. 03
0400	"	"	"	"		4	at 0351z beg in tape 4 end tape 3 at 0400z
0500	"	"	"	311°	9.5	"	LAT 021° 26.88 LONG. 066° 53.40
0600	"	"	"	312°		"	LAT 021° 33.23 LONG 067° 00.67
0638	"	"				"	End of Line 3
0650	"	"	3A	188	8.1	"	Start Line 3A
0700	"	"	"	"	"	"	LAT 021° 44.99 LONG 067° 07.51
0800	"	"	"	"	"	"	LAT 021° 25.40 LONG 067° 09.25
0900	"	"	3A	191	8.0	4	LAT 021° 19.59 Long 067° 10.95
0932	7NOV	311	EOL 3A BOL 4	TURN	8.0	4	EOL 3A BOL 4
0938	"	"	4	131	8.1	4	ON COURSE Line 4. Course 131°
1035	"	"	"	136	"	"	Alter course 5° Stbd. to 136°
1100	7NOV	311	4	136	8.1	4	LAT 021° 08.41 Long 067° 00.33
1200	"	"	"	"	"	"	LAT 021 02.51 Long 066° 55.37
1300	"	311	"	"	8.2	"	LAT 020° 55.71 LONG 066° 50.11
1400	"	"	"	"	8.6		LAT 020° 50.37 LONG 066° 44.53

P.R. / VIRGINS 222

Station No. Date

GMT Time	DATE	J.D.	LINE	Course	Speed	TAPE#			COMMENTS
1500	7NOV	311	4	136	8.1	4			LAT 020° 44.73 LONG 066° 38.20
1600	7NOV	311	4	136		4	1620 START TAPE 05		LAT 020° 38.60 LONG 066° 32.38
1700	7Nov	311	4	132	8.1	45	1630 END TAPE 04		LAT 020° 32.47 LONG 066° 26.02
1800	7Nov	311	4	132°	8.6	45			LAT 020° 27.19 LONG 066° 20.15
1900	7Nov	311	4	132°	8.5	45			LAT 020° 21.57 LONG 066° 14.30
2000	7Nov	311	4	132	8.6	45			LAT 020° 16.53 LONG 066° 08.24
2100	7NOV	311	4	132	8.5	5			LAT 020° 10.85 LONG 066° 01.66
2200	7NOV	"	"	"	"	5			LAT 020° 04.68 LONG 065° 55.88
2300	7NOV	"	"	"	"	5			LAT 019° 57.71 LONG 065° 49.06
2330	"	"	"	"	"	5			Good seismic records of flat, layered sed at bottom of
						5			P.R trench (8145m)
0000	7NOV	312	4	136	8.5	5			LAT. 019°51.00 LONG. 065°41.90
0100	8NOV	312	4	136	8.2	5			LAT. 019°44.13 LONG 065 34.89
0200	"	"	"	"	8.1	5			LAT. 019° 37.82 LONG 065 28.15
0300	"	"	"	"	8	5			LAT. 019° 31.39 LONG. 065 20.93
0400	"	"	"	133	7.5	"			LAT 019° 24.92 LONG 065 13.92
0420	"	"	"	"	"	6			START TAPE 06
0430	"	"	"	"	"	6			End TAPE 05
0500	"	"	"	134	8.4	6			LAT 019° 19.17 LONG 065° 07.56

Station No. Date

Time	DATE	JD	LINE	COURSE	SPEED	TAPE #			
545	8NOV	312	4			6			EOL 4
550	"	"	4A	177°		6			BL 4A
600	"	"	4A	175.2°	7.6	6			LAT 019° 12.25 LONG 065° 02.22
700	"	"	4A	175°	7.7	6			LAT 019° 03.84 LONG 065° 03.31
800	"	"	"	176°	7.6	6			LAT 018° 55.32 LONG 064° 59.71
900	8NOV	312	4A	175	7.7	6			LAT 018° 47.55 Long. 065° 01.00
956			End 4A Start 5	Turn	7.0	6			EOL 4A SOL 5
000			5	Turn					LAT 018° 39.45 Long 065° 00.77
1005	8NOV.	312	5	258°	7.7	6			On Course Line 5 258°
1100	"	"	"	"	"	"			LAT 018° 37.70 Long. 065° 09.03
1200	"	"	"	"	"	"			LAT 018 36.90 Long 065° 17.97
1300	"	"	"	"	7.8	"			LAT 018° 35.09 LONG 065° 26.47
1400	"	"	"	"	7.9	"			LAT 018° 32.97 LONG. 065° 35.70
1449	"	"	5	A/C to 275°	7.9	"			A/C to 275° / still Line 5
1500	"	"	"	"	7.8	"			LAT 018° 30.77 LONG. 065° 44.68
1600	"	"	"	"	8	"			LAT 018° 31.77 LONG. 065° 52.00
1700	"	"	"	277°	8.7	7	Started Tape #7 at 1630Z		LAT 018° 33.18 LONG 066° 01.19
1800	"	"	"	274°	8.6	7			LAT 018° 34.17 LONG 066° 09.82
1900	"	"	"	273°	7.5	7			LAT 018° 34.48 LONG 066° 19.49

Station No. Date

Time	DATE	JD	LINE#	SOURCE	SPEED	TAPE			COMMENTS
[illegible]00	NOV. 8	312	5	272°	8.4	7			LAT. 018° 34.85 Long. 066° 27.96
2100	"	"	"	"	"	"			Lat 018° 35.75 Long 066° 37.09
2200	"	"	"	"	"	"			Lat 018° 36.72 Long 066° [illegible] 4536
2300									Lat 018° 37.50 Long 066° 54.28
[illegible]000	NOV 9	313	5	272°	8.4	7			Lat 018 38.04 Long 067° 03.47
0100	NOV 9	313	5	272	8.2	7			LAT 018° 37.91 LONG 067° 12.29
0200	"	"	"	"	"	"			LAT 018° 38.21 LONG 067° 21.78
[illegible]	9 Nov	313	5	"	-	"	Mona Canyon		c/scale on 5 sec airgun record to 4-9 sec
[illegible]00	NOV 9	313	5	272	8.1	7	Mona Canyon		LAT 018° 38.58 LONG 067° 30.57
[illegible]00	"	"	"	"	8.0	7	NO more		LAT 018° 38.84 LONG 067° 39.25
[illegible]00	"	313	5	266°	8.1	8	TAPE 8 START 0420Z	TAPE 7 STOP 0430Z	LAT 018° 38.76 LONG 067° 48.48
[illegible]3	"	"	End of 5						Start Turn
[illegible]20	"	"	START 5A						End of Turn
[illegible]57	"	"	END 5A						Start TURN Fault that breaks surface (?) on line 5A
[illegible]04	"	"	START 6	95.7°	7.4	8	Small fault (?) at beginning of line		End TURN LAT 18° 44.42 LONG 67° 50.94
[illegible]00	"	"	6	97.5	7.8	8			LAT 18° 43.61 LONG 67° 44.02
[illegible]00	"	"	6	97.4	8.2	8	Mona Canyon		LAT 18° 42.69 LONG 67° 34.28
[illegible]100	"	"	"	"	"	"	MONA C		LAT 18° 42.58 LONG 67° 25.33
[illegible]00	"	"	"	"	"	"			LAT 18° 42.55 Long 67° 15.95
									Tape Monitor recorder (settings) has a vertical exaggeration of about 12 to 1 © If interested!

Station No. Date

Time	DATE	J.D.	LINE #	Course	Speed	TAPE			Comments
1100	9 NOV	313	6	97.4°	8.3	8			Lat 018°41.75 Long 067°06.47
1200	"	"	"	"	"	"			Lat. 018°40.23 Long 066°57.33
1300	"	"	"	"	8.4	"			LAT 018° 39.71 LONG 066°48.07
1400	"	"	"	"	"	"			LAT 018° 39.61 LONG. 066° 39.32
1500	"	"	"	"	8.0	"			LAT 018° 39.57 LONG. 066° 30.31
1600	"	"	"	"	7.7	"			LAT 018° 39.87 LONG. 066° 21.90
1620						9 on			
1700	"	"	"	"		8 off			LAT 18° 39.51 LONG 066° 13.47
1800	"	"	"	92.5	7.5	9		1814 new roll #3 on magnetometer	LAT 18° 38.05 LONG 066° 07.15
1900	"	"	"	94.5	7.5	9			LAT 18° 37.18 LONG 065° 59.79
1931	"	"	"	096°	8.5	"			A/C ~3° to stbd.
2000	"	"	"	90°	7.7	9			LAT 18° 38.19 LONG 65° 50.64
2017				080°					A/c to 080°
2100	"	"		080					LAT 18° 37.96 LONG. 65° 41.89
2200	"	"	"	"	"	"			Lat 18° 38.82 Long. 65°34.23
2300	"	"	"	"	"	"			LAT 18° 39.91 Long 65° 25.80
2400	10 NOV	314	"	"	"	"			Lat 18° 40.41 Long 65 17.15
0100	10 NOV	"	"	"	8	"			LAT 18° 41.79 LONG 65°-08.68
0131	10 NOV	"	EOL 6	015°	8	"			c/c 015° EOL #6 SOL #6A
0200	"	"	6A	"	"	"		ON COURSE	NEW ROLL FOR 3.5 ROLL #02

tion No. Date

me	DATE	J.D.	LINE #	Course	Speed	TAPE			COMMENTS
10	10 NOV	314	6A	015°	8	9			AIRGUN OFF FOR A FEW MINUTES
									change from 160 in³ to 80 in³ airgun
	"	"	EOL 6A	c/c 270°	8	9			EOL 6A c/c 270° FOR SOL # 7
	"	"	7	270°	8	9			LAT 018° 47.95 LONG 065° 02.70
7	"	"	"	"	"	"			ON COURSE LINE 7
	"	"	"	"	8.3	9			LAT 018° 47.47 LONG 065° 11.28
	"	"	"	"	8.2	"			LAT 018° 47.98 LONG 065° 20.26
	"	"	"	"		START TAPE 10			
	"	"	"	"		End TAPE 9			
	"	"	7	273.7	8.4	10			LAT 018° 47.67 LONG 065° 31.35
	"	"	7	272	7.4	10			LAT 018° 48.13 LONG 065° 40.66
	"	"	7	270°	8.3	10			LAT 018° 48.16 LONG 065° 50.50
	"	"	7	270°	8.1	10			LAT 018° 48.41 LONG 066° 00.06
	"	"	"	"	"	"			Lat 018° 48.27 Long 066 09.52
	"	"	"	"	"	"			Lat 18° 48.11 Long 66° 19.35
	"	"	"	"	"	"			Lat 18° 48.02 Long 66° 28.75
	"	"	"	"	"	"			Lat 18° 47.98 Long 66 37.30
30	"	"	"	"	8	"			LAT 018° 47.96 LON 066° ~~45~~ -00

GEOPHYSICAL LOG SHEET

Station No. Date

Time	DATE	J.D.	LINE #	Course	Speed	TAPE			
0	10 NOV	314	7	269°	8.2	10			LAT 018° 47.98 LONG 066° 54.88
0	"	"	"	"	8.4	"			LAT 018° 47.92 LONG ~~066~~ 067° 03.70
0	"	"	"	"	8.0	"	TAPE 11 ON	1610Z	LAT 018° 47.97 LONG 067° 12.51
05	"	"	"	273	8.5	11	TAPE 10 OFF	1715Z	LAT 018° 47.59 LONG 067° 22.92
	"	"	"	270°	8.1	"			LAT 018° 47.91 LONG 067° 31.26
	"	"	"	268°	8.2	"			LAT 018° 47.79 LONG 067° 39.18
	"	"	"	270	8.3	"			LAT 018° 48.13 LONG 067° 49.72
8	"	"	EOL 7 SOL 7A	Turn	8.0	"			End Line 7 SOL 7A
			7A	015°	7.0				on course Line 7A 015°
	"	"	"	"	6.3	"			LAT 018° 53.60 Long 067° 49.91
10			EOL 7A SOL 8	Turn	6.0				EOL 7A SOL 8
3			8	090°	4.73				on course 090 LINE 8 (NOTE change of speed)
00	"	"	"	"	5.5	"			LAT. 018° 59.19 Long 067° 46.89
00	"				5.~~0~~6				Lat. 018 59.11 Long 06741.06
0	"				5.9				Lat 018 59.00 Long 067° 34.70
0	11 NOV	315	8	"	6	"			LAT 018° 59.08 LONG 067 28.48
00	"	"	"	"	5.8				LAT 018° 59.09 LONG 067° 22.17
00	"	"	"	"	"	"			problems with magnetometer paper
400	"	"	"	8.9	5.9	"	TAPE 12 ON	0418Z	LAT 018° 58.94 LONG 067° 05.30

Cruise No. Date

DATE	JD	LINE #	COURSE	SPEED	TAPE			COMMENTS
11 Nov 85	315	8	89°	6.0	12	Tape 11 off at 0458		LAT 018° 59.11 LONG 066° 57.74
"	"	"	87.5°	5.9	"			LAT 018° 58.86 LONG 066 51.11
11 Nov 85	315	8	89°	6.3	12			LAT 018° 59.05 LONG 066° 44.17
11 Nov 85	315	8	89°	7.2	11			LAT 18° 58.93 LONG 66° 36.50
				7.3	"			Lat 18 59.00 LONG 66° 28.15
"	"	"	"	"	"			Lat 18 59.18 LONG 66 20.25
"	"	"	"	"	"			Lat 18° 59.67 LONG 66° 12.22
"	"	"	"	"	"			Lat 18° 59.24 Long 066° 04.00
"	"	"	"	7.5	"			LAT 18° 59.08 LONG 065° 56.86
"	"	"	"	7.6	"			LAT 18° 58.74 LON 065 48.97
"	"	"	"	7.5	"			LAT 018° 58.81 LONG 065 41.35
"	"	"			TAPE 13 ON	1600z		LAT 018° 59.00 LONG 065° 33.33
"	"	"	"	6.6	13	TAPE 12 off	1700	LAT 018° 58.49 LONG 065° 25.94
"	"	"	84.7°	6.7	13			LAT 018° 58.89 LONG 065° 19.02
"	"	"	87.3°	6.3	13			LAT 018° 58.76 LONG 065° 11.44
"	"	"	87.6°	6.8	13			LAT 018° 58.97 LONG 065° 04.25
		EOL 8 BOL 8A	TURN					EOL 8 BOL 8A LOOP
		8A	Turning					Still turning Lat 018° 57.68 Long 065° 07.9
		8A*	TURNING					Lat 018° 59.77 Lon 065° 15.35

*LINE 8A is a big loop starting at end of Line 8 and ending when Line 9 begins.

Cruise No. Date

Date	J.D	Line #	Course	Speed	Tape			Comments
11NOV85	315	EOL 8A BOL 9	315	7.5	13			EOL 8A LOOP. BOL 9. LINE 9 IS ON COURSE AS OF 2226Z.
"	"	LINE 9	"	"	"			LAT 019°05.24 Lon 065°21.13
11NOV85	316	9	"	"	"			Lat 019°10.40 Lon 065° 26.66
12 NOV85	316	9	"	8	13			LAT 019° 17.10 LONG 065° 37.16
"	"	"	"	8.2	"			LAT 019°23.82 LONG 065° 43.07
"	"	"	"	"	"			LAT 019° 30.61 LONG 065° 49.23
"	"	"	"	"	"	Begin Tape 0406Z 14		LAT 019° 37.28 LONG 065° 55.12
"	"	"	"	"	14	End Tape #13 0500		LAT 019° 44.12 LONG 066° 01.70
"	"	"	"	"	14			8 sec delay on airgun recorder (5 sec smp)
12 N	"	"	"	"	"			LAT 019° 50.45 LONG 066° 08.40
12 N	"	"	"	"	"			LAT 019° 57.05 LONG 066° 16.18
"	"	"	"	"	"			Lat 020° 03.04 Long 066 22.75
"	"	"	"	"	"			Lat 020° 09.03 Long 066 30.42
"								Lat 020° 15.47 Long 066° 37.56
"	"	"	"	"	"			Lat 020 22.18 Long 066° 44.46
"	"	"	"	"	"			Lat 020 29.59 Long 066 51.13
12 NOV85	316	9	315	8.0	14			LAT 020° 36.44 LONG 066 58.25
"	"	"	"	"	"			LAT 020° 42.89 LONG 067 06 06
"	"	"	"	8.1	"			LAT 020° 49.43 LONG 067° 12.81
"	"	EOL 9 SOL 9A	"	"	"	"	"	C/C 200° TURNING AT 1540 ON LINE 9A

No. Date

DATE	J.D.	LINE #	COURSE	SPEED	TAPE		
12 NOV	316	9A	315	8	14	TAPE 15 on at 1610Z	LAT 020° 50.22 LONG 067° 18.88
"	316	"	204	8	15	TAPE 14 off at 1703Z	LAT 020° 42.45 LONG 067° 22.81
"	"	"	199	7.9	15		LAT 020° 35.15 LONG 067° 25.80
"	"	EOL 9A			15		1814Z BOL 10
"	"	10	132	8.2	15		LAT 020° 29.52 LONG 067° 21.50
"	"	10	135	7.5	15		LAT 020° 24.53 LONG 067° 15.88
"	"	"	"	"	15		Lat 020° 18.01 Lng 067° 08.47
"	"	"	"	"	15		Lat 020° 12.97 Long 067° 02.30
"	"	"	"	"	15		Lat. 020° 07.34 Long 066° 56.72
12 NOV	317	10	142	7.7	15		Lat 020° 01.61 Lng 066° 51.05
13 NOV	317	10	142	7.8	15		LAT 019° 55.44 LONG 066° 45.42
"	"	"	132	"	15		JON REPAIRS AND CHANGES AMPLIFIERS, roll of paper, STYLUS & TGR SWITCH PANEL OF 3.5 NEW roll # 03
"	"	"	130	7.9	15		LAT 019° 50.21 LONG 066° 39.12
"	"	"	130.1	7.6	15		LAT 019° 44.77 LONG 066° 33.15
"	"	"	137		16	Tape 16 on at 0405Z	LAT 019° 38.63 LONG 066° 27.01
"	"	"	133	7.7	16	TAPE 15 off at 0515Z	LAT 019° 31.97 LONG 066° 20.38
"	"	"	135	7.9	16		LAT 019° 26.87 LONG 066° 15.55
"	"	"	"	7.8	"		LAT 19° 21.50 LONG 066° 09.61
"	"	"	134	7.5	"		LAT 19° 15.82 LONG 066° 03.27

GEOPHYSICAL LOG SHEET

tion No. Date

Time	Date	J.D	Line #	Course	Speed	Tape			Comments, position etc.
	13 NOV.	317	10	135	7.7	16			Lat 019° 10.39 Long 065° 57.27
	"	"	"	"	"	"			Lat 019° 04.99 Long 065° 52.09
			EOL 10 BOL 10A	Turn	77	16			EOL 10 SOL 10A
	"	"	10A	270°	8.6	16			On course Line 10A 270° NOTE speed increase
			10A	270					Lat 019° 01.79 Long 065 55.13
	"	"	"	"	"	"			Lat 019° 02.00 Long 066° 04.34
	"	"	"	270.3	8.3	16			LAT 019°02.61 LONG 066° 14.72
	"	"	EOL 10A BOL 11	Turn c/c 315°	"	"			EOL 10A SOL 11 Turning c/c 315°
	"	"	SOL 11	ON course	"	"			SOL 11 ON course
	"	"	11	316	7.9	16			LAT 019° .06 53 LONG 066° 20.86
	"	"	"	"	"	"			LAT 019° 12.27 LONG- 066° 27.29
	"	"	"	"	"	"			LAT 019° 17.91 LONG. 066° 34.41
							Tape 17 START 1615		8 sec delay of recorder with 6 sec sup
	"	"	"	"	"	17	Tape is off at 1703z		LAT 019° 24.04 LONG 066° 41.16
	"	"	"	"	"	17			LAT 019° 30.80 LONG 066° 47.60
	"	"	"	"	"	"			LAT 019° 36.68 LONG 066° 53.24
	"	"	"	313	"	"			LAT 019° 40.76 LONG 066° 59.08
	"	"	"	"	"	"			LAT 019 46.16 LONG 067°04.61
	"	"	"	"	"	"			Lat 019°51.98 Long 067° 10.81

Cruise No. Date

Date	J.D	Line	Course	Speed	TAPE			Comentarios
13NOV	317	11	313	7.4	17			LAT 019° 58.62 Long 067° 17.29
13NOV	318	11	314	7.8	17			Lat 020° 03.41 LONG 067° 22.44
14NOV	318	11	315	7.7	17			LAT 020° 08.95 LONG 067° 28.32
"	"	EOL 11 SOL 11A	189°	"	"			TURNING EOL 11 TO SOL 11A c/c 189°
"	"	11A	"	"	"			11A ON COURSE
"	"	"	188°	7.8	"			LAT 020° 07.13 LONG. 067° 32.55
"	"	"	187.6°	7.9	"			LAT 019° 59.22 LONG 067° 33.85
"	"	"	"	"	"			SRP off to change compressors
"	"	"	"	"	"			SRP ON again.
"	"	"	"	7.7	TAPE 18 start 0405Z TAPE 17 stop 0455			LAT 019° 51.18 LONG 067° 35.13
"	"	END 11A BOL 12	133°		18			
"	"	12	133°	8.3	18			LAT 019° 44.37 LONG 067° 32.09
"	"	12	132	7.7	18			LAT 019° 38.98 LONG 067° 26.06
"	"	"	132	8.3	"			LAT 019° 33.58 LONG 067° 19.80
"	"	"	131	"	"			LAT 019° 25.44 LONG 067° 11.59
								Lat 019° 19.42 LONG 067° 05.04
								Lat 019° 13.92 Long 066° 57.32
								Lat 019° 07.23 Long 066° 51.27
		EOL 12 BOL 12A	Turn	"				EOL 12 BOL 12A

GEOPHYSICAL LOG SHEET

Cruise No. Date

Date	J-D	Line	Course	Speed	Tape Counter			Comments
14 NOV	318	12A	270°	7.4	18			ON COURSE LINE 12A. NEW COURSE 270°
"	"	"	"	"	"			LAT. 019°01.56 LONG. 066 47.81
"	"	"	"	"	"			NEW ROLL OF PAPER (05) FOR THE PRECISION ECHO SOUNDER
"	"	"	269°	7.6	"			LAT. 019°01.98 LONG. 066°56.05
"	"	"	"	"	"			LAT 019°01.70 LONG 067° 04.61
"	"	"	270°	7.7	"			LAT 019°01.76 LONG 067° 12.93
"	"	EOL 12A SOL 13	315°	"	"			SOL 13
"	"	13	317°	7.6	"			LAT 019°04.58 LONG 067°18.98
"	"	13	321	7.4	START TAPE 19 at 1620Z Stop TAPE 18 at 1655Z			LAT 019° 13.40 LONG 067° 31.04
"	"	"	"	7.1	19			LAT 019° 17.66 LONG 067° 34.62
"	"	13	320	7.2	19		1904Z EOL 13 BOL 13A	LAT 019° 22.69 LONG 067° 39.24
"	"	13A	191	7.6	19			LAT 019° 16.58 LONG 067° 41.91
		EOL 13A BOL 14	TURN	—	—			EOL 13A BOL 14
14 NOV	318	14	135°	6.9	19			On course line 14
"	"	"	"	"	"			Lat 019 11.9 Long. 067 39.46
								LAT 019° 04.17 Long. 067° 04.15
			165°					Alter course to 165°
14 NOV	318	14	165°	6.9	19			Lat. 019° 00.82 Long 067° 28.02
14 NOV	319	14	160					LAT. 018°54.39 Long 067° 24.55

No. Date

DATE	J.D.	LINE	COURSE	SPEED	TAPE			COMMENTS
15 NOV	319	14	156°	7.4	19			LAT 018° 47.68 LONG 067° 21.38
"	"	"	"	"	"			LAT 018° 41.37 LONG 067° 18.76
"	"	"	"	"	"			LAT 018° 34.80 LONG 067 15.26
"	"	EOL 14 SOL 15	265°	"	"	TURNING		NO READING FROM MAGNETOMETER
"	"	SOL 15	"	"	"	ON COURSE		~~LAT~~ ~~LONG~~.
"	"	15	"	"	TAPE 20 START 0400z TAPE 19 END 0440z			LAT 018° 33.72 LONG 067° 22.66
"	"	"	"	"	20			LAT 018° 33.03 LONG 067° 32.27
"	"	"	"	"	"			LAT 018° 33.49 LONG 067° 40.27
		EOL 15 SOL 16			END TAPE 20			Stopped logging Airgun leak
"	"	"	"	"	"	"	"	LAT 018° 28.55 LONG 067° 31.90
"	"	"	"	"	"			LAT 018° 28.82 Long 067° 24.72
		16						Lat. 018° 29.36 Long 067° 16.71
		EOL 16						EOL 16
"	"	"	"	"	"	"	"	~~SEE AIRGUN FOR LEAKING~~
								LAT 018° 24.08 LONG 067 22.072
								Getting ready to haul gear in – transfer Willie for Chris Polloni off Mayaguez. switched to other 3.5 kHz fish

No. Date

DATE	J.D.	Line	Course	Speed	Tape			COMMENTS
15 Nov 85	319				2L			gear in the water – ready to begin survey again
"	"	17A	263	5.7	2221			LAT 18 04.05 LONG 67° 35.16
"	"	"	249	8.0	"			LAT 18 02.26 LONG 67° 42.40
"	"	"	246	8.1	"			LAT 18 00.51 LONG 67° 47.09
"	"	17B	271	8.4	"	COURSE CHANGE ON LINE 17		LAT 18 58.78 LONG 67° 53'.66
"	"	17B	"	8.1	"			SW on Hydrophone power supply switch-off accidently ~5 mins
"	"	17C	360°					A/C to 360° begin Line 17C
"	"	"	"		"			~~LAT 18 15.~~ ~~LONG 68 05~~
"	"	"	"	7.3	"			LAT 18 13.77 LONG 68 05.006
"	"	"	3.3	7.4	"			LAT 18 18.018 LONG 68 04.811
"	"	17D	360					A/C to 260
"	"	17D	270	8.0	"			on course 260
16 Nov 85	320	"	"	"				LAT 018 18.61 LONG. 068 08.85
	"	EOL 17D SOL 17E	186°	"	"			TURNING
"	"	LINE 17E ON COURSE	"	"	"			ON COURSE LINE 17-E
"	"	17E	185	8.2	"			LAT 018° 12.34 LONG 068° 11.38
"	"	"	184	8.1	"			LAT 018° 04.50 LONG 068° 11.82
"	"	"	187	7.7	"			LAT 017° 57.00 LONG. 068° 12.69
"	"	EOL 17E SOL 17F	090°	"	"			TURNING ~~LINE~~ EOL 17E SOL 17F
"	"	17F	090°	"	"			ON COURSE LINE 17F

No. Date

DATE	J.D.	LINE	Course	Speed	Tape			Comments
16 NOV 85	320	17F	88°	8	21	START TAPE 22		LAT 017°53·13 LONG 068° 09. 69
"	"	"	d/c 065°	"	"			Turn to port to correct course
"	"	"	57°	"	"			Back on course
"	"	"	58°	7.5	22			LAT 017° 52.11 LONG 068° 00.73
"	"	"	d/c 090°	"	"			Back on course
"	"	17G	c/c 080°	7.7	"			LAT 017° 52.96 LONG 068° 86.01
"	"	"	80.2	7.8	"	END TAPE 21 0618Z?		LAT 017° 53.78 LONG 067° 52.15
"	"	"	77.7	8.1	"			LAT 017° 55.33 LONG 067° 43.69
"	"	"	77.2	8.2	"			LAT 017 57.7 LONG 67 32.2
"	"	17H	c/c 340	8.1	"			LAT 017° 58.4 LONG 67 29.2
"	"	17H	339	6.6	"			LAT 017 57.7 LONG 67 29.4 on course
"	"	"	343.2	6.8				LAT 017 59.25 LONG 67 30.12
"	"	"	344.	6.3				LAT 18 05.05 LONG 67 32.09
"	"	17I	c/c 240	6.0				LAT 18 05.5 LONG 67 32.26
"	"	"	244.0	8.0				LAT 18 7.05 LONG 67 34.56 on course
			236.0	8.0				18 6.73 67 35.24 A/C 235
			A/C 224					18 5.7 67 36.7 ship ahead!
17 NOV 85	"	"	220	7.9				18 03.7 67 38.5
"			A/C 240 233.4	7.9				LAT 18 .1 LONG 67 41.7
"		—	237	7.9				LAT 17 58.6 LONG 67 45.4

Cruise No. Date

DATE	J.D.	LINE	Course	Speed	TAPE			COMMENTS
16 NOV 85	320	EOL 17I SOL 17J	180°	8	22			TURNING
16 NOV 85	320	LINE 17J	180°	8	22			ON COURSE LINE 17J
"	"	EOL 17J SOL 18	093°	8	22			TURNING
"	"	LINE 18	093	8.1	22			ON COURSE LINE 18
"	"	"	97°	8.0	22			LAT 017° 52.22 LONG 067° 48.93
"	"	"	"	"	"			LAT 017° 51.97 LONG 067° 41.46
"	"	"	91°	8.1	"			LAT 017° 51.03 LONG 067° 32.64
"	"	"	90°	8.0	"	BEGIN TAPE 23	16152	LAT. 017° 50.54 LONG 067° 23.48
"	"	"	90	8.4	23	END TAPE 22	17022	LAT 017° 50.72 LONG 067° 14.06
"	"	"	91°	8.7	"			LAT 017° 50.09 LONG 067° 03.85
"	"	"	96°	"	"			LAT. 017° 49.84 LONG 066° 53.82
"	"	"	102°	"	"			LAT 017° 48.08 LONG 066° 44.16
"	"	"	92.9	8.3	"			LAT 017° 47.86 LONG 066° 35.29
"	"	"	"	"	"			LAT 017° 47.55 LONG 066° 23.21
		18						A/C to 059°
		18	059°					on course, still Line 18
								LAT 017° 47.53 LONG 066° 06.59
17 NOV 85	321	18	60°	8	23	ship passed by - noisy records		LAT 017° 51.49 LONG 065° 59.38
"	"	"	"	"	"			LAT 017° 51.78 LONG 065° 51.63
"	"	"	"	"	"			NEW ROLL OF PAPER FOR PRECISION ECHO SOUNDER NEW ROLL IS 06 OLD ROLL IS 05

GEOPHYSICAL LOG SHEET

Ship No. Date

DATE	J.D.	LINE	Course	Speed	TAPE			COMMENTS
16 NOV 85	320	EOL 17I SOL 17J	180°	8	22			TURNING
16 NOV 85	320	LINE 17J	180°	8	22			ON COURSE LINE 17J
"	"	EOL 17J SOL 18	093°	8	22			TURNING
"	"	LINE 18	093	8.1	22			ON COURSE LINE 18
"	"	"	97°	8.0	22			LAT 017° 52.22 LONG 067.48.93
"	"	"	"	"	"			LAT 017°51.97 LONG. 067° 41.46
"	"	"	91°	8.1	"			LAT 017°51.03 LONG 067° 32.64
"	"	"	90°	8.0	"	BEGIN TAPE 23 16152		LAT. 017°50.54 LONG. 067°23.48
"	"	"	90	8.4	23	END TAPE 22 17022		LAT 017° 50.72 LONG 067° 14.06
"	"	"	91°	8.7	"			LAT 017° 50.09 LONG 067° 03.85
"	"	"	96°	"	"			LAT. 017° 49.84 LONG 066° 53.82
"	"	"	102°	"	"			LAT 017° 48.08 LONG 066° 44.16
"	"	"	92.9	8.3	"			LAT 017° 47.86 LONG 066° 35.29
"	"	"	"	"	"			LAT 017° 47.55 LONG 066° 23.21
		18						A/C to 059°
		18	059°					on course, still Line 18
								LAT 017° 47.53 LONG 066° 06.59
17 NOV 85	321	18	60°	8	23	ship passed by - noisy records		LAT 017° 51.49 LONG 065° 59.38
"	"	"	"	"	"			LAT 017° 57.78 LONG 065° 51.63
"	"	"	"	"	"			NEW ROLL OF PAPER FOR PRECISION ECHO SOUNDER NEW ROLL IS 06 OLD ROLL IS 05

No. Date

DATE	J.D.	LINE	course	Speed	TAPE			
Nov 85	321	18	58°	8	23			LAT 018° 00.56 LONG 065 44.05
"	"	"	New c/c 099°	"	"			NEW COURSE (STILL LINE 18)
"	"	"	099°	"	"			ON COURSE (STILL LINE 18)
"	"	"	099°					LAT 018° 02.30 LONG 065° 35.62
"	"	"	101°	6.8	23+24	Start TAPE 24 0500		LAT 018° 00.72 LONG 065° 27.01
"	"	"	New c/c 072°	"	24	END TAPE 23 0520		LAT 018° 00.56 LONG 065° 25.97
"	"	"	66.6	7.6	"			LAT 018° 02.82 LONG 065° 17.11
"	"	"	72.5	7.5	"			LAT 018° 05.97 LONG 065° 09.11
"	"	"	c/c 102°	7.9	"			LAT 018° 07.67 LONG 065° 03.90
"	"	"	"	7.6	"			LAT 018° 06.93 LONG 065° 00.16
"	"	"	100.7	7.5	"			LAT 018° 04.77 LONG 064° 51.67
"	"	"	102.5	7.3	"			LAT 018° 03.67 LONG 064° 42.79
"	"	"	104.0	7.1	"			LAT 018° 02.05 LONG 064° 34.03
"	"	"	103.0	6.3	"			LAT 018° 00.23 LONG 064° 26.05
"	"	"	"	6.4	"			LAT 017° 58.43 LONG 064 18.29
"	"	"	c/c 090°	7	"			c/c 090°
"	"	"	87°	7.1	"			LAT 017° 58.33 LONG 064° 09 73
"	"	"	091°	6.6	"			LAT 017° 58.09 LONG 064° 01.10
"	"	"	184°	"	"			TURNING EOL 18 SOL 19
"	"	"	184°	"	"			ON COURSE LINE 19

FARNELLA 85-4 Date PUERTO RICO

	JD	LINE	COURSE	SPEED	TAPE			
85	321	19	184°	7.8	24	START TAPE 25 at 1612Z		LAT 017° 55. 80 LONG 063° 55.39
								Hurricane Kate is N of P.R., heading WSW. We plan to work near east edge of EEZ, S of P.R., until we know where Kate is going. We are getting ~ 35 kt winds and rolling a bit, not bad.
85	321	19	173°	7.7	25	STOP TAPE 24 at 1710Z		LAT 017° 48.30 LONG 063° 54.41
85	"	"	176°	8.0	"			LAT 017° 40.81 LONG 063° 53.51
	"	"	183°	8.2	"			LAT 017° 32.21 LONG 063° 57.14
	"	"	184°	8.1	"			LAT 017° 24.26 LONG 063° 57.72
	"	"	182°	7.5	"			LAT 017° 14.42 LONG 063° 59.15
	"	"	181°	8.4	"			LAT 017° 05.61 LONG 063° 59.41
	"	"	182°	8.2	"			LAT 016° 56.80 LONG 063° 59.67
	"	19A	C/C 250°	7.6	"			LAT 016° 47.50 LONG 063° 59.25
	"	"	250°	8.8	"			LAT 016° 47.59 LONG 063° 59.5
	"	19A	250°	"	"			ON COURSE LINE 19A
	322	EOL 19A SOL 20	004°	"	"			TURNING EOL 19A SOL 20
	"	"	"	"	"			LAT 016° 46. 92 LONG. 064° 08. 14
	"	"	005°	"	"			ON COURSE LINE 20
	"	"	"	8.6	"			LAT 016° 54. 62 LONG. 064° 07.21

FARNELLA 84 Date PUERTO RICO

JDD.	LINE	COURSE	SPEED	TAPE		COMMENTS
3322	20	003°	8.4	25		LAT 017° 02.71 LONG 064° 06.57
"	"	005°	7.4	"	TAPE 26 START 0417Z	LAT 017° 12.09 LONG 064° 06.79
"	"	"	"	26	STOP TAPE 25 0515Z	LAT 017° 20.64 LONG 064° 06.07
"	"	006°	7.6	"		LAT 017° 28.20 LONG 064° 05.35
"	"	7°	7.5	"		LAT 017° 36.26 LONG 064° 05.34
"	"	5°	7.3	"		LAT 017° 44.12 LONG 064° 04.50
"	"	8°	7.5	"		LAT 017° 52.71 LONG 064° 03.64
"	EOL 20 SOL 21	—	7.8	"		EOL 20 SOL 21 C/C 277° ON COURSE FOR LINE 21
"	21	272°	7.9	"		LAT 017° 54.22 LONG 064° 04.42
"	"	272°	8.6	"		LAT 017° 54.89 LONG 064° 11.43
"	"	280°	8.3	"		LAT 017° 55.39 LONG 064° 19.82
"	"	275°	8.1	"		LAT 017° 57.10 LONG 064° 28.10
"	"	"	8	"		LAT 017° 57.98 LONG 064° 36.92
"	"	"	8.5	"		LAT 017° 58.89 LONG 064° 46.41
"	"	"	"	"		LAT 018° 00.21 LONG 064° 56.19
"	"	C/C 261°	"	"		C/C 261° STILL ON LINE ~~18~~ 21
"	21	261°	8.0	"	START TAPE 27 at 1607Z	LAT 018° 00.86 LONG 065° 03.73
"	"	"	8.4	27	END TAPE 26 at 1654Z	LAT 017° 59.26 LONG 065° 13.15
"	"	"	"	27		LAT 017° 57.91 LONG 065° 22.39
"	"	"	"	"		END ROLL 5 BEGIN ROLL 6 on magnetometer

DATE	JD	LINE	COURSE	SPEED	TAPE			COMMENTS
3 Nov 85	322	21	261°	8.6	27			LAT 017° 56.71 LONG 65° 31.01
3 Nov 85	"	"	263	8.2	"			LAT 017° 55.65 LONG 065° 39.92
3 NOV 85	"	"	261	8.3	"			LAT 017° 54.65 LONG 065° 48.20
3 NOV 85	322	EOL 21	—	8.4	"			LAT 017° 53.80 LONG 065° 52.61
"	"	SOL 22 ~~[illegible]~~	100°		"			JOG TO LINE 22 6 mile ARC
220					"			SWITCH (eliminate AC compression) COMPRESSORS AIR GUN OFF
4 NOV 85	322	22 ~~[illegible]~~	103°	6.1	"			LAT 017° 51.21 LONG 065° 45.01
"	"	22	103°	8.2	"			LAT 017° 50.27 LONG 065° 36.71
4 NOV 85	323	22	99°	"	"			LAT 017° 48.83 LONG 065° 28.86
"	"	"	"	8.0	"			LAT 017° 47.75 LONG 065° 19.75
	"	"	086°	"	"			CHANGE COURSE 086° (still line 22)
	"	"	087°	"	"			LAT 017° 48.43 LONG. 065° 11.30
	"	"	"	"	"	START TAPE 28 0405Z		LAT 017° 47.56 LONG. 065 02.79
	"	"	083°	7.3	"	STOP TAPE 27 0513Z		LAT 017° 50.17 LONG 064° 54.00
	"	"	086°	7.5	"			LAT 017° 50.24 LONG 064° 45.89
	"	"	082°	7.3	"			LAT 017° 51.19 LONG 064° 37.60
	"	"	084°	7.5	28			LAT 017° 59.86 LONG 064° 29.53
	"	"	A/C 101 098°	7.5	28			CHANGE COURSE 101° LAT 017° 51.95 LONG 064° 25.00
	"	"	111.2	7.6	28			LAT 017° 51.5 QR II passing STBD 064 21.17
	"	EOL 22 BOL 22Y2	A/C 140	7.6	28			CUTTING SHORT THIS LINE TO AVOID FISHERMAN WITH 35 mile line out! START 22[illegible]Z

Station No. Date

ips Time	DATE	JD	LINE	COURSE	SPEED	TAPE		COMMENTS
0930	19NOV85	323	22Yz	144.5°	7.8 kts	28		LAT 017° 48.66 LONG 064° 18.23
1000	"	"	"	143°	8.0	"		LAT 017° 45.50 LONG 064° 15.51
1008	"	"	EOL 22Yz BOL 23	—	7.9	"		LAT 017° 44.30 LONG 064° 14.63
1018	"	"	LINE 23	279	8.2	"	ON COURSE	LAT 017° 43.68 LONG 064° 15.26
1045	"	"	"	"	"	"		GPS ALARM — entered "idle GPS" until 120
1100	"	"	"	278	8.2	"		LAT 017° 43.74' LONG 064° 21.22
1131	"	"	EOL 23A	244	8.3	"		LAT 017° 44.28 LONG 064° 25.37
1134	"	"	BOL 23B	244°	8.4	"	ON COURSE	LAT 017° 44.11 LONG 064° 25.89
1200	"	"	"	247°	8.3	"		LAT 017° 42.59 LONG 064° 29.18
1300	"	"	"	243°	8.5	"		LAT 017° 39.22 LONG 064° 38.59
~~1359~~ 1400	"	"	"	~~c/c 270° 244°~~	"	"		~~270° 135°~~ c/c 270° still on line 23B
1401	"	"	"	270°	"	"	ON Course	LAT 017° 34.90 LONG. 064° 47.49 (ON COURSE)
1404	"	"	"	"	"	"		END OF ROLL #03 SOL OF ROLL #04 FOR 3.5 kHz.
1405	"	"	"	"	8.4	"		MAC WORKING WITH 3.5kHz 3.5kHz OFF
1500	"	"	"	268°	7.5	"	3.5kHz OFF	LAT 017° 34.34 LONG. 064° 57.10
1515	"	"	"	c/c 345°	8	"	3.5kHz OFF	c/c 345° still on Line 23B
1525	"	"	23C	"	"	"	"	ON Course ~~still on~~ Line ~~23B~~ 23C
1530	"	"	"	"	"	"	— · —	3.5kHz is working
1600	"	"	"	"	7.5	"		LAT 017° 39.34 LONG 065° 00.85

L3964

Station No. Date

ps Time	DATE	JD	LINE	COURSE	SPEED	TAPE		COMMENTS
612	19 Nov 85	323	23D	272°	8.3	29	START TAPE 29 at 1610Z	COURSE CHANGE
700	"	"	"	"	7.9	"	End TAE 28 at 1656Z	LAT 017° 40.89 LONG 065° 08.56
800	"	"	"	"	8.1	"		LAT 017° 41.90 LONG 065° 17.64
900	"	"	"	270°	8.3	"		LAT 017° 42.06 LONG 065° 26.74
2000	"	"	"	"	8.0	"		LAT 017° 42.15 LONG 065° 35.79
2110	"	"	"	"	8.1	"		LAT 017° 42.19 LONG 065° 45.79
2200	"	"	"	267°	8.1	"		LAT 017° 42.02 LONG 065° 53.53
2300	"	"	"	270°	8.3	"		LAT 017° 41.99 LONG 066° 02.93
2400	"	"	"	271°	8.0	"		LAT 017° 41.69 LONG 066° 12.69
0100	20 Nov 85	324	"	"	8.1	"		LAT 017° 41.95 LONG 066° 21.42
0200	20 Nov 85	324	"	271°	8.5	"		LAT 017° 41.91 LONG 066° 31.35
0300	"	"	"	268°	8.1	"		LAT 017° 42.29 LONG 066° 40.50
0400	"	"	"	269°	8.0	"	START TAPE 30 AT 0415Z	LAT 017° 42.03 LONG 066° 49.84
0500	"	"	"	270°	8.1	30	END TAPE 29 AT 0515Z	LAT 017° 41.93 LONG 066° 59.38
0600	"	"	"	268°	8.0	"		LAT 017° 42.44 LONG 067° 07.97
0700	"	"	EOL 23D SOL 23E	"	"	"	c/c to 272° (2°) at 0740Z	LAT 017° 42.20 LONG 067° 16.92
0800	"	"	"	273°	8.0	"		LAT 017° 41.69 LONG 067° 24.23
0900	"	"	"	277°	7.9	"		LAT 017° 42.21 LONG 067° 33.20
1000	"	"	"	275°	7.7	"		LAT 017° 43.11 LONG 067° 41.85
1100	"	"	"	274.9	7.9	"		LAT 017° 44.33 LONG 067° 50.41

L3984

GEOPHYSICAL LOG SHEET

Station No. Date

ps Time	DATE	JD	LINE	COURSE	SPEED	TAPE			COMMENTS
110Z	20 NOV 85	324	23E ~~23D~~	274	7.9	30			notified Mr. Gray LAT LONG Airgun signal???
120Z	"	"	"	"	"	"			AIRGUN REVIVED!
200Z	"	"	"	269°	7.9	"			LAT 017° 44.32 LONG 067° 59.23
300	20 NOV 85	324	"	"	"	"			LAT 017° 44.45 LONG. 068° 07.72
401	"	"	"	"	8	"			LAT 017° 44.33 LONG. 068° 17.30
406	"	"	EOL 23E SOL 23F	c/c 184°	8	"			EOL 23E SOL 23F turning c/c 184°
418	"	"	23F	184°	"	"			ON COURSE LINE 23F
500	"	"	"	186°	7.7	"			LAT 017° 38.18 LONG. 068° 20.23
532	"	"	EOL 23F SOL 24	c/c 090°	7.4	"			EOL 23F SOL 24 turning c/c 090°
546	"	"	24	090°	7.6	"			ON COURSE LINE 24
600	"	"	"	"	"	"	TAPE 31 ON AT 1605Z		LAT 017° 33.06 LONG 068° 17.86
						31			
510									Airgun off - in for repairs
600									Airgun on again
700	"	"	24	97°	8.5	31	END TAPE 30 1710Z		LAT 017° 32.64 LONG 068° 10.20
800	"	"	"	98°	8.6	"			LAT 017° 31.54 LONG 068° 02.57
905	"	"	"	89°	8.6	"			LAT 017° 33.22 LONG 067° 49.26
000	"	"	"	90.6	8.0	"			LAT 017° 33.18 LONG 067° 40.95
109	"	"	"	92.9	8.3	"			LAT 017° 32.90 LONG 067° 31.13
230	"	"	"	92.					

3964

Station No. PUERTO RICO Date

ps Time	DATE	JD	LINE	COURSE	SPEED	TAPE		COMMENTS
1330	20 NOV 85	324	24	93.2	7.4	31		LAT 017° 32.98 LONG 067° 12.45
2000	"	"	"	94.9	7.1	"		LAT 017 33.03 LONG 67 08.59
2100	21 NOV 85	325	"	"	7.2	"		LAT 017° 32.61 LONG 067° 00.22
2200	"	"	"	"	7.0	"		LAT 017° 32.75 LONG 066° 52.35
2300	"	"	"	94	7.0	"		LAT 017° 32.30 LONG 066° 44.63
0400	"	"	"		7.2	"	START TAPE 32 AT 0415Z Stop TAPE 31 AT 0505Z	LAT 017° 32.88 LONG 066° 37.
0500	"	"	"	90	7.1	32		LAT 017° 33.31 LONG 066° 30.37
0600	"	"	"	"	7.5	"		LAT 017° 32.35 LONG 066° 23.44
0700	"	"	"	"	6.3	"		LAT 017° 32.33 LONG 066° 15.54
0800	"	"	"	84	6.6	"		LAT 017° 32.86 LONG 066° 09.00
0900	"	"	"	88°	7.4	"		LAT 017° 32.94 LONG 066° 01.85
1000	"	"	"	91°	7.3	"		LAT 017° 33.06 LONG 065° 54.64
1100	"	"	"	92°	6.1	"		LAT 017° 32.94 LONG 065° 47.66 #7
1200	"	"	"	"	6.8	"		LAT 017° 33.14 installed new coil in MAGNETOMETER LONG 065° 39.96
1300	"	"	"	90	6.4	"		LAT 017° 33.17 LONG 065° 32 37
1400	"	"	"	91	7	"		LAT. 017° 33.069 LONG 065° 24.93
1500	"	"	"	"	"	"		LAT 017° 32.53 LONG 065° 17.12
1600	"	"	"	71.5	"	"	START TAPE 33 at 1615Z	LAT 017° 33.01 LONG 065° 01.52
1700	"	"	"	087	8.4	33	END TAPE 32 1705Z	LAT 017° 33.18 LONG 064° 59.56

L3864

Station No. PANDELLA 05 Date PUERTO RICO & U.S. VIRGIN ISLANDS

s Time	DATE	JD	LINE	COURSE	SPEED	TAPE			COMMENTS
300	21 Nov 85	325	24	87°	7.9	33			LAT 017° 33.62 LONG 064° 50.95
100	"	"	"	84	7.6	"			LAT 017° 34.52 LONG 064° 43.87
000	"	"	"	"	"	"			LAT 017° 35.28 LONG 064° 36.15
00	"	"	"	83°	7.4	"			LAT 017° 36.30 LONG 064° 29.33
165	"	"	W/P I	97°	7.6	"			LAT 017° 37.17 LONG 064° 21.97
200	"	"	"	96°	7.4	"			LAT 017° 37.14 LONG 064° 21.66
300	"	"	"	99°	7.5	"			LAT 017° 36.29 LONG 064° 13.75
358	"	"	"	EOL 24 SOL 24A	8.0	"	CHANGING	COURSE	LAT 017° 35.32 LONG 064° 05.52
400	"	"	~~25A~~	~125°	8.3	"			LAT 017° 35.23 LONG 064° 05.37
007	22 NOV 85	326	~~24A~~ ~~25A~~	180°	"	"			
100	"	"	"	179°	"	"			LAT 017° 27.41 LONG 064° 04.88
123	"	"	EOL 24A SOL 25	c/c 270°	"	"			EOL 24A SOL 25 c/c 270°
137	"	"	25	270°	"	"			ON COURSE LINE 25
200	"	"	"	"	"	"			LAT 017° 22.58 LONG 064° 07.74
300	"	"	"	272°	8.1	"			LAT 017° 22.96 LONG 064° 19.06
400	"	"	"						LAT 017° 23.14 LONG 064° 23.04
500	"	"	"	268°	8.3	START TAPE 34 at 0405Z			LAT 017° 23.50 LONG 064° 38.26
600	"	"	"	269°	8.1	34	STOP TAPE 33 0515Z		LAT 017° 23.44 LONG 064° 46.76
200	"	"	"	270°	7.9	"			LAT 017° 22.98 LONG 064° 54.66

GEOPHYSICAL LOG SHEET

Station No. FARNELLA 85-4 Date Puerto Rico and the Virgin Is EEZ

ps Time	DATE	JD	LINE	COURSE	SPEED	TAPE			COMMENTS
800	22 Nov 85	326	25	270°	7.9	34			LAT 17° 22.98 LONG 065° 02.80
900	"	"	"	277°	7.8	"			LAT 017° 22.09 LONG 065° 11.99
000	"	"	"	"	7.7	"			LAT 017° 22.50 LONG 065° 20.80
100	"	"	"	269°	8.0	"			LAT 017° 23.41 LONG 065° 29.07
200	"	"	"	266°	7.9	"			LAT 017° 23.39 LONG 065° 37.98
300	"	"	"	267°	7.8	"			LAT 017° 23.04 LONG 065° 46.61
344									airgun off, switching compressors
400	"	"	"	"	8	"			LAT 017° 23.53 LONG 065° 55.37
500	"	"	"	"	"	"			LAT 017° 23.20 LONG 066° 04.19
600	"	"	"	273°	7.8	"	START TAPE 35 at 1610z		LAT 017° 22.86 LONG 066° 13.56
700	"	"	"	270°	7.9	35	AIRGUN OFF FROM 1445 to 1645		LAT 017° 23.27 LONG 066° 23.03
800	"	"	"	272°	8.0	"			LAT 017° 22.73 LONG 066° 32.44
900	"	"	"	271°	8.1	"			LAT 017° 23.00 LONG 066° 42.27
2000	"	"	"	273	8.0	"			LAT 017° 23.09 LONG 066° 51.63
2003	"	"	"	"	"	"			3.5 KHZ OUT OF WATER FOR "LOOK SEE"
2042	"	"	"	"	"	"			3.5 back on-line suspect strut vibration caused noise
2100	"	"	"	269°	8.7	"			LAT 017° 23.21 LONG 066° 59.39
2135	"	"	"	271°	8.0	"			cautioned bridge to stay at 8Kts to preserve 3.5KHZ trace
2300	"	"	"	266°	7.7	"			LAT 017° 23.12 LONG 067° 17.58
2400	"	"	"	"	7.2				LAT 017° 23.35 LONG 067° 26.34

L3984

Puerto Rico and the Virgin Is

Station No. Date

s Time	DAT	JD	LINE	COURSE	SPEED	TIPE		MMENTS	
100	23NOV85	327	25	268°	7.4	35		LAT 017° 23.19	LONG 067° 34.54
200	"	"	"	270°	6.8	"		LAT 017° 23.32	LONG 067° 43.65
300	"	"	"	268°	6.9	"		LAT 017° 23.15	LONG 067° 51.93
400	"	"	"	273°	6.7	"	START TAPE 36 04:02Z	LAT 017° 22.98	LONG 067° 59.96
500	"	"	"	272	6.8	36	END TAPE 35 0515Z	LAT 017° 23.26	LONG 068° 07.82
600	"	"	"	267	"	"		LAT 017° 23.29	LONG 068° 14.94
635	"	"	"	270°	7.0	"	END OF LINE 25		
645	"	"	25A	185°	7.4	1	BEGIN LINE 25A		
700	"	"	25A	186°	7.6	"		LAT 017° 20.59	LONG 068° 19.99
800	"	"	"	183°	"	"		LAT 017° 13.37	LONG 068° 20.78
815	"	"	"	"	"	"		LEVEL "C" NOT RECEIVING — CALLED GARETH UNIX SYS. prob.	
900	"	"	"	182	.4	"		LAT 017° 05.60	LONG 068° 21.50
1920	"	"	EOL 25A SOL 26	090	5.5	"		LAT 017° 03.07	LONG 068° 22.15
000	"	"	26	092°	7.6	"		LAT 017° 03.24	LONG 068° 17.31
100	"	"	"	093°	7.3	"		LAT 017° 03.09	LONG 068° 10.05
200	"	"	"	"	.3	"		LAT 017° 03.10	LONG 068° 01.64
300	"	"	"	086°	07	"		LAT 017° 02.77	LONG 067° 53.20
400	"	"	"	087°	7	"		LAT 017° 03.14	LONG 067° 44.91
500	"	"	"	090°	.0	"		LAT 017° 03 28	LONG 067° 37.27
00	"	"	"	70°	.7	"	START TAPE 37 1605Z	LAT 017° , 27	LON 067° .73

Station No. Date

s Time	DATE	JD	LINE	COURSE	SPEED	TAPE		COMMENTS
000	23 Nov 85	327	26	90	7.5	37	END TAPE 36 1705Z	LAT 17° 03.20 LONG 067° 20.74
300	"	"	"	"	7.6	"		LAT 17° 03.13 LONG 067° 12.59
700	"	"	"	"	7.8	"		LAT 19° 03.06 LONG 067° 04.32
2000	"	"	"	91	7.7	"		LAT 017° 03.03 LONG 066° 56.62
2100	"	"	"	89	7.8	"		LAT 017° 02.41 LONG 066° 48.84
2200	"	"	"	87	7.8	"		LAT 017° 02.62 LONG 066° 40.76
2300	"	"	"	85	7.5	"		LAT 017° 02.70 LONG 066° 32.00
2400	"	"	"	89	7.4			LAT 017° 03.00 LONG 066° 23.46
0100	24 Nov 85	328	"	88	7.3	"		LAT 017° 02.88 LONG 066° 15.78
0200	"	"	"	93	6.5	"		LAT 017° 03.50 LONG 066° 08.19
0300	"	"	"	94	"	"		LAT 017° 03.05 LONG 066° 00.93
0400	"	"	"	"	"	"	START TAPE 38 0410Z	LAT 017° 02.90 LONG 065° 52.76
0500	"	"	"	97	6.8	38	END TAPE 37 0500Z	LAT 017° 03.17 LONG 065° 45.16
0600	"	"	"	90°	7.7	"		LAT 017° 03.10 LONG 065° 37.49
0700	"	"	"	"	7.6	"		LAT 017° 03.11 LONG 065° 29.30
0800	"	"	"	91°	7.6	"		LAT 017 03.01 LONG 065° 20.73
0915	"	"	"	89°	7.0	"		LAT 017° 02.82 LONG 065° 12.36
1000	"	"	"	"	"	"		LAT 017° 03.00 LONG 065° 07.10
1100	"	"	"	"	"	"		LAT 017° 02.92 LONG 064° 58.96
1200	"	"	"	"	"	"		

3964

Station No. FAIRWELLA 85 I Date PUERTO RICO / USVI EEZ

s Time	DATE	J.D	LINE	course	speed	Tape		COMMENTS
00	24 NOV 85	328	26	90°	7.7	38		LAT 017° 02.88 LONG 064° 42.21
05	"	"	"	"	"	"		EOR # 07 SOR # 08 NEW ROLL OF PAPER FOR MAGNETOMETER
00	"	"	"	"	8	38		LAT 017° 03.00 LONG 064° 33.76
00	"	"	"	91°	6.9	"		LAT 017° 03.08 LONG 064° 25.99
05	"	"	"	90°		"	START TAPE 39 1600Z	LAT 017° 02.92 LONG 064° 17.91
00	"	"	"	89°		39	STOP TAPE 38 1705Z	LAT 017° 03.00 LONG 064° 09.72
55	"	"	EOL 26	TURN	7.5	"		
55	"	"	BOL 26A	178°	"	"		
00	"	"	26A	178°	"	"		LAT 017° 01.73 LONG 064° 03.12
00	"	"	"	179°	"	"	EOL 26A 1944Z	LAT 016° 52.43 LONG 064° 02.98
00	"	"	27	253°	"	"	BOL 27 1952Z ON CS 253°	LAT 016° 47.71 LONG 064° 04.47
100	"	"	"	259	"	"		LAT 016° 43.31 LONG 064° 13.54
112	"	"	"	c/c 276	"	"		c/c to correct "set"
1154 300	"	"	"	269°	"	"		WAYPOINT "P" LAT 016° 43.15 LONG 064° 30.55
~~100~~								
100	25 NOV-85	329	"	268°	7.6	"		LAT 016° 42.84 LONG 064° 46.96
200	"	"	"	"	"	"		LAT 016° 42.71 LONG 064° 55.40
236	"	"	"	"	"	"	NEW ROLL (09)	NEW ROLL FOR PRECISION ECHO SOUNDER EOR 08 SOR 09
00	"	"	"	"	"	"		LAT 016° 42.93 LONG 065° 03.78
00	"	"	"	"	7.4	"	TAPE 40 ON AT 0410Z	LAT 016° 42.81 LONG 065° 12.20

Station No. Date P.R./VIRGINS EEZ

s Time	DATE	JD	TIME	COURSE	SPEED	TAPE		COMMENTS	
500	25 No. 85	328	27	269	6.9	40	END TAPE 39 0560Z	LAT 016° 43.11	LONG 065° 21.02
600	"	"	"	270	"	"		LAT 016° 43.10	LONG 065° 29.10
700	"	"	"	"	"	"		LAT 016° 43.06	LONG 065° 38.81
800	"	"	"	269°	6.7	"		LAT 016° 43.04	LONG 065° 44.82
936	"	"	"	"	"	"		LAT 016° 42.93	LONG 065° 57.07
000	"	"	"	"	"	"		LAT 016° 42.97	LONG 066° 00.12
100	"	"	"	273°	6.9	"		LAT 016° 42.91	LONG 066° 08.18
200	"	"	"	269°	"	"		LAT 016° 43.01	LONG 066° 16.16
300	"	"	"	271°	"	"		LAT 016° 42.91	LONG 066° 23.81
400	"	"	"	270°	7.9	"		LAT 016° 43.08	LONG 066° 31.89
500	"	"	"	269°	7.4	"		LAT 016° 43.13	LONG 066° 40.18
600	"	"	"	274°	"	"	START TAPE 41 AT 1605Z	LAT 016° 42.72	LONG 066° 49.08
700	"	"	"	270°	"	41	END TAPE 40 AT 1705Z	LAT 016° 43.02	LONG 066° 57.82
800	"	"	"	270°	7.3	"		LAT 016° 42.98	LONG 067° 05.41
900	"	"	"	269°	7.2	"		LAT 016° 43.45	LONG 067° 13.16
2000	"	"	"	269°	7.3	"		LAT 016° 43.29	LONG 067° 20.69
2100	"	"	"	267°	7.2	"		LAT 016° 43.22	LONG 067° 28.94
2200	"	"	"	270°	7.4	"		LAT 016° 42.99	LONG 067° 36.96
2300	"	"	"	"	"	"		LAT 016° 43.00	LONG 067° 45.03

3904

Station No. Date P.R./VIRGINS EEZ

Time	DATE	JD	LINE	COURSE	SPEED	TAPE			COMMENTS
100	25NOV 85	329	27	270	7.4	41			LAT 016° 43.00 LONG 067° 53.23
00	26NOV85	330	"	"	"	"			—
800	"	"	"	269	"	"			LAT 016°42.98 LONG 068°18.88
324	26 NOV85	330	EOL 27 SOL 27A	9c 187	"	"			EOL 27 SOL 27A turning
336	"	"	LINE 27A	187	"	"			ON COURSE LINE 27A
400	"	"	27A	188	8	"	BEGIN TAPE 42 AT 0405z		LAT 016° 39.02 LONG 068° 23.70
500	"	"	"	187	8.3	42	TAPE TROUBLE ON 42 END OF TAPE 41 0515z		LAT 016° 30.24 LONG 068° 24.83
552	"	"	"	"	"	"	EOL 27A		From 0405z to 0555z noise on TAPE 42 corrected at BOL 28
600	"	"	28	90°	7.2	42	TAPE 42 OK BOL 28		LAT 016° 23.12 LONG 068° 24.74
700	"	"	"	92°	8.0	"			LAT 016° 23.24 LONG 068° 17.95
800	"	"	"	89°	7.4	"			LAT 016° 23.02 LONG 068° 11.11
900	"	"	"	90°	6.9	"			LAT 016° 23.00 LONG 068° 04.15
000	"	"	"	"	7.2	"			LAT 016° 23.00 LONG 067° 56.54
100	"	"	"	"	7.3	"			LAT 016° 23.00 LONG 067° 49.32
200	"	"	"	86°	7.5	"			LAT 016° 22.89 LONG 067° 41.81
300	"	"	"	88°	7.0	"			LAT 016° 23.22 LONG 067° 34.53
341	"	"	"	"	"	"			Airgun off repairs
400	"	"	"	91°	7.1	"			LAT 016° 23.91 LONG 067° 25.57
412	"	"	"	"	"	"			Airgun on

Station No. Date PUERTO RICO VIRGIN ISLAND

s Time	DATE	J.D	LINE	Course	Speed	TAPE		COMMENTS
500	26 NOV 85	330	28	94°	7.1	42		LAT. 016° 23.42 LONG. 067° 18.00
600	"	"	"	90°	7.1	"	Begin TAPE 43 AT 1605Z	LAT. 016° 22.96 LONG. 067° 10.68
700	"	"	"	88°	7.4	43	END TAPE 42 1700Z	LAT. 016° 22.31 LONG 067° 02.39
800	"	"	"	"	"	"		
1900	"	"	"	87°	7.2	"		LAT 016° 22.22 LONG 067° 47.20
000	"	"	"	"	7.3	"		LAT 016° 22.57 LONG 066° 39.80
2100	"	"	"	88°	7.1	"		LAT 016° 23.32 LONG 066° 32.12
2230	"	"	"	87°	6.8	"		LAT 016° 23.78 LONG 066° 21.32
2300	"	"	"	92°	6.7	"		LAT 016° 23.69 LONG 066° 17.90
2400	"	"	"	"	7.6	"		LAT 016° 23.26 LONG 066° 10.32
0100	27 NOV 85	331	"	90°	6.9	"		LAT 016° 22.97 LONG 066° 02.55
0200	"	"	"	"	6.2	"		LAT 016° 23.00 LONG 065° 54.79
0300	"	"	"	92°	7	"		LAT 016° 23.03 LONG 065° 47.00
0400	"	"	"	91°	8.1	"	START TAPE 44 AT 0405Z	LAT 016° 23.02 LONG 065° 39.52
0500	"	"	"	92°	7.9	44	END TAPE 43 AT 0510Z	LAT 016° 23.43 LONG 065° 29.80
0600	"	"	"	91°	7.7	"		LAT 016° 22.22 LONG 065° 21.87
0700	"	"	"	89°	"	"		LAT 016° 22.74 LONG 065° 14.34
0800	"	"	"	88°	7.4	"		LAT 016° 22.99 LONG 065° 06.27
0900	"	"	"	95°	7.5			LAT 016° 23.25 LONG 058° 03.00

1984

Station No. Date

s Time	DATE	J.D.	LINE	COURSE	SPEED	TAPE			COMMENTS
923	27NOV85	331	28A	93° c/c 238°	7.6	44			EOL 28 BOL 28A LAT 016° 23.16 LONG 064° 55.50
000	"	"	28A	241°	7.3	"			LAT 016° 20.83 LONG 064° 58.27
100	"	"	"	238°	7.4	"			LAT 016° 17.15 LONG 065° 05.33
200	"	"	"	233°	7.3	"			LAT 016° 12.79 LONG 065° 12.72
300	"	"	"	237°	7.4	"			LAT 016° 08.50 LONG 065° 19.37
330	"	"	"	"	"	"			EOR 08 SOL 09 FOR MAGNETOMETER
400	"	"	"	239°	"	"			LAT. 016° 04.21 LONG. 065° 26.56
418	"	"	EOL 28A SOL 29	c/c 270°	"	"			EOL 28A SOL 29 TURNING c/c 270°
423	"	"	29	270°	"	"			ON COURSE LINE 29
431	"	"	"	"	"	"			NEW ROLL (# 10) FOR PRECISION ECHO SOUNDER
500	"	"	"	"	"	"	TAPE 45 STARTED AT 1605Z		LONG. 065° 42.47 LAT. 016° 03.020
600	"	"	"	"	7.2	45	TAPE 44 ENDS AT 1700Z		LONG 065° 50.81 LAT 016° 03.07
700	"	"	"	"	7.6	"			LAT 016° 03.09 LONG 065° 59.43
800	"	"	"	267°	6.4	"			LAT 016° 03.26 LONG 066° 07.66
900	"	"	"	269°	"	"			LAT 016° 03.41 LONG 066° 15.83
1000	"	"	"	265°	6.5	"			LAT 016° 03.14 LONG 066° 23.32
1100	"	"	"	267°	7.2	"			LAT 016° 03.10 LONG 066° 31.47
1200	"	"	"	270°	7.9	"			LAT 016° 03.02 LONG 066° 39.66
1300	"	"	"	275°	7.7	"			LAT 016° 02.40 LONG 066° 48.04
00 304	28 NOV 85	332	29	273°	"	"			LAT 016° 02.89 LONG 066° 56.63

Station No. Date

s Time	DATE	J.D.	LINE	COURSE	SPEED	TAPE		COMMENTS
#5 2300	28 NOV 85	332	29	"	"	"		EOR #04 SOR #05 FOR Airgun recorder
200	"	"	"	269°	7.4	45		LAT 016° 02.99 LONG 067° 05.43
300	"	"	"	270°	"	"		LAT 016° 02.99 LONG 067° 13.98
400	"	"	"	269°	7.2	"	START TAPE 46 AT 0405z	LAT 016° 02.99 LONG 067° 22.24
500	"	"	"	271°	7.7	46	End TAPE 45 AT 0505z	LAT 016° 07.75 LONG 067° 33.50
600	"	"	"	"	6.7	"		LAT 016° 02.91 LONG 067° 41.98
700	"	"	"	"	6.6	"		LAT 016° 02.99 LONG 067° 49.97
800	"	"	"	"	6.7	"		LAT 016° 02.96 LONG 067° 57.99
900	"	"	"	260°	6.8	"		LAT 016° 05.35 LONG 068° 06.73
000	"	"	"	"	6.9	"		LAT 016° 05.12 LONG 068° 16.08
100	"	"	"	"	"	"		LAT 016° 03.86 LONG 068° 25.04
118	"	"	EOL 29 BOL 29A	c/c	"	"		LAT 016° 03.40 LONG 068° 28.22
200	"	"	29A	69°	7.4	"		LAT 015° 59.17 LONG 068° 28.84
300	"	"	"	197°	7.7	"		LAT 015° 51.32 LONG 068° 28.73
347	"	"	EOL 29A SOL 30	q/c 090°	"	"		EOL 29A SOL 30 turning q/c 090°
00	"	"	30	090°	5.5	"		LAT 015° 43.89 LONG 068° 29.42
02	"	"	30	090°	"	"		ON COURSE LINE 30
13	"	"	"	q 080°	"			q 080° (LINE 30)
00	"	"	"	82	"	"		LAT 015° 44.88 LONG 068° 23.15
00	"	"	"	92	"	"	START TAPE 47 AT 1605z	LAT 015° 46.50 LONG 068° 14.86

1984

Station No. FARNELLA 85-4 Date PUERTO RICO & VIRGIN ISLANDS

Time	DATE	J.D.	LINE	course	speed	TAPE			COMMENTS
50	28 Nov 85	332	30	90.5	7.7	47	END TAPE 46 AT 1700Z		LAT 015° 46.30 LONG 068° 07.34
.00	"	"	"	87	7.5	"			LAT 015° 47.06 LONG 068° 00.09
00	"	"	"	86	6.8	"			LAT 015° 47.46 LONG 067° 52.88
36	"	"	"	c/c 090	"	"			LAT 015° 47.60 LONG 067° 49.14
000	"	"	"	94	7.1	"			LAT 015° 47.68 LONG 067° 46.74
110	"	"	"	"	"	"			LAT 015° 47.65 LONG 067° 39.23
300	"	"	"	"	"	"			LAT 015° 47.79 LONG 067° 26.70
000	29 NOV	333	"	91	7.3	"			LAT 015° 47.76 LONG 067° 20.24
100	"	"	"	88	7.0	"			LAT 015° 47.93 LONG 067° 13.57
200	"	"	"	"	7.1	"			LAT 015° 47.85 LONG 067° 06.53
00	"	"	"	89	6.7	"			LAT 015° 48.05 LONG 066° 59.63
400	"	"	"	"	7.2	"	START TAPE 48 AT 0405Z		LAT 015° 47.86 LONG 066° 52.60
500	"	"	"	88	7.5	48	END TAPE 47 AT 0500Z		LAT 015° 48.02 LONG 066° 45.37
600	"	"	"	89	6.7	"			LAT 015° 47.97 LONG 066° 37.99
700	"	"	"	89	5.4	"			LAT 015° 47.98 LONG 066° 30.76
800	"	"	"	90°	7.0	"			LAT 015° 48.07 LONG 066° 24.43
900	"	"	"	92°	6.1	"			LAT 015° 48.16 LONG 066° 17.79
00	"	"	"	91°	6.9	"			LAT 015° 48.07 LONG 066° 10.90
100	"	"	"	93°	6.6	"			LAT 015° 48.12 LONG 066° 03.71
200	"	"	"	"	"				LAT 015° 48.16 LONG 065° 56.36

Station No. FARNELLA 83-1 Date PUERTO RICO

Time	DATE	J.D.	LINE	Course	Speed	Tape			COMMENTS
06	29NOV	333	EOL 30 SOL 30A	225	~~7.5~~	48			EOL 30 SOL 30A ℄ 225° TURNING
21	29NOV85	333	30A	225	7.4	48			ON COURSE LINE 30A ℄ 225°
00	"	"	"	"	7.7	"			LAT 015° 43.12 LONG 065° 59.17
20	"	"	"	"	7.3	"			LAT 015° 37.58 LONG 066° 04.64
47	"	"	"	"	"	"			AIRGUN OFF
00	"	"	"	"	"	"			LAT 015° 32.25 LONG 066° 11.16
08	"	"	"	"	"	"			AIRGUN ON
40	"	"	EOL 30A SOL 31	℄ 270°	"	"			1510-AIRGUN OFF EOL 30A SOL 31 TURNING 270
47	"	"	31	270°	"	"			ON LINE 31 ON COURSE
00	"	"	"	263°	"	"	START TAPE # 49 AT 1600Z		LAT 015° 28.16 LONG 066° 17.38
00	"	"	"	269	"	49	END TAPE # 48 1700Z		LAT 015° 28.20 LONG 066° 26.01
300	"	"	"	"	"	"			LAT 015° 28.15 LONG 066° 34.93
900	"	"	"	"	"	"			LAT 015° 28.00 LONG 066° 42.60
000	"	"	"	"	7.6	"			LAT 015° 28.00 LONG 066° 51.14
020	"	"	"	272	7.8	"	AIRGUN BACK ON LINE		LAT 015° 27.41 LONG 066° 55.15
100	"	"	"	"	"	"			LAT 015° 27.68 LONG 067° 00.36
200	"	"	"	267	7.7	"			LAT 015° 28.07 LONG 067° 09.76
300	"	"	"	"	"	"			LAT 015° 27.98 LONG 067° 18.92
000	30NOV85	334	31	"	"	"			LAT 015° 28.03 LONG 067° 28.05

Station No. CARIBBEAN 83-1 Date PUERTO RICO & VIRGIN ISLANDS

TIME	DATE	J.D.	LINE	COURSE	SPEED	TAPE		COMMENTS
0000	30 NOV 85	334	31	270°	7.6	49 ~~48~~		LAT 015° 28.04 LONG 067° 37.28
0100	"	"	"	"	7.5	"		LAT 015° 28.03 LONG 067° 46.36
0200	"	"	"	269°	"	"		LAT 015° 28.03 LONG 067° 55.34
0400	"	"	"	271°	7.2	"	START TAPE 50 AT 0406Z END TAPE 49 AT 0511Z	LAT 015° 21.92 LONG 068° 04.25
0500	"	"	"	267°	7.0	50		LAT 015° 29.13 LONG 068° 12.45
0600	"	"	"	265°	6.6	"		LAT 015° 28.53 LONG 068° 20.65
0700	"	"	"	266°	6.8	"		LAT 015° 28.15 LONG 068° 28.87
0729	"	"	"	~~185~~°	"	"		EOL 31 BOL 31A ON COURSE 074°Z
0800	"	"	31A	181°	7.9	"		LAT 015° 25.55 LONG 068° 31.95
0900	"	"	"	"	"	"		LAT 015° 17.88 LONG 068° 32.27
1000	"	"	"	"	8.0	"		LAT 015° 09.95 LONG 068° 32.96
1010	"	"	EOL 31A BOL 32	—	7.0	"		EOL 31A BOL 32
1018	"	"	32	090°	6.6	"		ON COURSE 090°
1100	"	"	"	093°	6.9	"		LAT 015° 08.05 LONG 068° 27.64
1200	"	"	"	"	7.3	"		LAT 015° 07.99 LONG 068° 20.59
1300	"	"	"	090°	7.0	"		LAT 015° 08.48 LONG 068° 12.57
1320	"	"	"	"	"	"		EOR 09 SOR 10 FOR MAGNETOMETER
1400	"	"	"	092°	7.7	"		LAT 015° 08.20 LONG 068° 05.10
1500	"	"	"	"	"	"		LAT 015° 07.99 LONG 068° 57.20

3964

FARNELON ... PUERTO RICO & VIRGIN ISLANDS

Station No. Date

Time	DATE	J.D.	LINE	COURSE	SPEED	TAPE			COMMENTS
455	30 NOV 85	334	32	090°	7.7	50			EOR #04 SOR #05 FOR 3.5 kHz (1525 z) JON CLEANS THE 3.5kHz amplifiers
600	"	"	"	"	"	"	START TAPE 51 1605z		LAT 015° 08.01 LONG 067° 49.66
700	"	"	"	93°	7.5	51	END TAPE 50 AT 1700		LAT 015° 08.31 LONG 067° 40.86
800	"	"	"	89°	6.5	"			LAT 015° 07.98 LONG 067° 33.19
900	"	"	"	85°	7.5	"			LAT 015° 07.13 LONG 067° 26.08
2000	"	"	"	88°	"	"			LAT 015° 07.77 LONG 067° 18.71
2100	"	"	"	86°	"	"			LAT 015° 07.22 LONG 067° 10.25
2200	"	"	"	"	"	"			LAT 015° 07.26 LONG 067° 02.44
÷	÷	÷							÷
000	1 DEC 85	335	32	88°	7.4	51			LAT 015° 07.74 LONG 066° 47.71
100	"	"	"	92°	7.5	"			LAT 015° 08.32 LONG 066° 39.98
158	"	"	EOL 32 SOL 33	051° c/c	"	"			EOL 32 SOL 33 turning 051°
203	"	"	33	051°	7.2	"			ON COURSE LINE 33
300	"	"	"	050°	7.1	"			LAT 015° 12.58 LONG 066° 26.08
400	"	"	"	053°	7.5	"	START TAPE 52 AT 0405z		LAT 015° 17.08 LONG 066° 19.98
500	"	"	"	050°	7.6	52	STOP TAPE 51 AT 0505z		LAT 015° 21.84 LONG 066° 13.82
600	"	"	"	"	7.4	"			LAT 015° 26.55 LONG 066° 07.97
700	"	"	"	051°	7.1	" c/c	5mi W of course		LAT 015° 35.07 LONG 066° 05.49
800	1 DEC 85	"	"	057°	7.6				LAT 015° 38.96 LONG 065° 59.60
900	"	"	"	059°	7.2				LAT 015° 43.09 LONG 065° 51.88

3964

FARNELLA 85-4 PUERTO RICO - VIRGIN ISLANDS EEZ

Station No. Date

s Time	DATE	J.D.	LINE	COURSE	SPEED	TAPE			COMMENTS
1000	1 DEC 85	335	33	58°	7.1	52			LAT 015° 47.26 LONG 065° 45.27
1100	"	"	"	"	"	"			LAT 015° 50.93 LONG 065° 39.37
1200	"	"	"	54°	7.4	"			LAT 015° 55.56 LONG 065° 33.27
300	"	"	"	50°	6.5	"			LAT 016° 00.72 LONG 065° 27.18
400	"	"	"	53°	7.5	"			LAT 016° 05.98 LONG 065° 21.35
500	"	"	"	56°	7.7	"			LAT 016° 10.38 LONG 065° 14.90
600	"	"	"	52	7.8	"	START TAPE 53 AT 1605z		LAT 016° 14.64 LONG 065° 07.95
1635	"	"	"	55°	7.3	53			C/C 5° to port on course LINE 33
1700	"	"	"	52°	7.1	"	END TAPE 52 AT 1700z		LAT 016° 18.31 LONG 065° 01.26
1800	"	"	"	51°	7.5	"			LAT 016° 23.17 LONG 064° 54.93
1900	"	"	"	49°	"	"			LAT 016° 27.55 LONG 064° 48.05
2000	"	"	"	53°	7.8	"			LAT 016° 32.74 LONG 064° 41.74
2100	"	"	"	"	"	"			LAT 016° 37.97 LONG 064° 35.43
2330	"	"	"	"	"	"			LAT 016° 50.95 LONG 064° 19.00
0000	2 DEC 85	336	"	"	"	"			LAT 016° 53.28 LONG 064° 16.10
11	2 DEC 85	336	EOL 33 SOL 34	C/C 004°	"	"			EOL 33 SOL 34 turning C/C 004°
24	"	"	34	004°	"	"			ON COURSE LINE 34
00	"	"	"	005°	7.3	"			LAT 017° 00.41 LONG 064° 13.29
100	"	"	"	"	"	"			LAT 017° 08.64 LONG 064° 13.69

3964

FAIRNECCA 85-1 PUERTO RICO & VIRGIN ISLANDS

Station No. Date

s Time	DATE	J.D.	LINE	Course	Speed	TAPE			COMMENTS
300	2Dec85	336	34	004°	7.1	53			LAT 017° 16.14 LONG 064° 12.68
400	"	"	"	"	"	"	START TAPE 54 0405Z		LAT 017° 23.94 LONG 064° 12.27
500	"	"	"	005°	7.5	54	END TAPE 53 0510Z		LAT 017° 32.12 LONG 064° 11.19
600	"	"	"	003°	7.4	"			LAT 017° 40.48 LONG 064° 10.41
700	"	"	"	002°	6.8	"			LAT 017° 48.52 LONG 064° 10.15
742	"	"	EOL 34 BOL 35	ON CS 275°		"			LAT 017° 54.34 LONG 064° 09.99
800	"	"	35	275°	7.3	"			LAT 017° 55.00 LONG 064° 11.57
900	"	"	"	266°	7.5	"			LAT 017° 54.99 LONG 064° 19.86
1000	"	"	"	274°	8.1	"			LAT 017° 54.29 LONG 064° 28.87
1100	"	"	"	"	"	"			LAT 017° 54.64 LONG 064° 38.14
1130	"	"	"	"	"	"			LAT 017° 54.94 LONG 064° 42.77
1200	"	"	"	267°	"	"	EOR#03 Tape monitor 15sec/f. 5sec swp		LAT 017° 55.63 LONG 064° 47.05
1233	"	"	"	"	"	"	EOR #04 (Airgun) EOR #05 (Airgun) 15sec/f. 10sec swp		Airgun off (END OF AIRGUN DATA FOR LEG 85-4)
300	"	"	"	"	5.2	"			LAT 017° 55.79 LONG 064° 55.60
103	"	"	"	"	"	"			LAT 017° 54.58 LONG 065° 02.45
00	"	"	"	"	"	"			LAT 017° 54.73 LONG 065° 09.87
15	"	"	"	c/c 254°	"	"			c/c 254° ~~254° turning pt~~ still Line 35
00	"	"	"	255°	6.7	"			LAT 017° 52.52 LONG 065° 19.21
30	"	"	Pulling	Gear			EOL 35		LAT 017° 53.22 LONG 065° 25.99

964