

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/v MOANA WAVE	MW8909	07:50	+4	11:50	Port San Juan Puerto Rico	18° 27.698' N	66° 05.977	MANN

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V HOANA WAVE	HW 8909	15:50	+4	19:50	South of North Dom. Rep.	17°06.509	71°26.551	Paul MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FSE	MAG.	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
27	JUL	89	2000	853	262.1	1.6	38945		75407	542	150	10	Watch change	EC
(208)			2030	258.9	265.2	1.0	2250		75957	589	155	10		EC
			2100	258.8	258.7	1.0	2375		76457	638	190	14		EC
			2130	258.8	258.7	1.0	2100		76457	693	185	12		EC
			2135										Speed change to 4.8 knots	EC
			2145										Resume speed	EC
			2150										Gun redeployed Port side 40 in ³ EEL Deployed starboard	EC
			2200	258.9	265.1	8.0	2350		77567	745	185	10		EC
			2203										SAT 17 04 073 N 71 45.828' W EL 41 11 2 C133	EC
			2230	258.7	265.2	8.2	2700		77977	790	175	10		EC
			2300	258.6	273	8.0	275		78477	842	170	8		EC
			2307										R/S; Retrieve gear	
			2308										Turn off Recorder #3 + Kaytheon	
			2313										SAT FIX 17 03.322 N 71 57.329 W EL 62 11 2 C124	EC
			2324										All gear retrieved	EC
			2325										R/S	EC
			2330	258.5	277.4	6.4	4275		78487	891	180	6		EC
			2345										SAT FIX 17 03.088 N 71 59.739 W EL 19 11 2 C127	EC
28	JUL	89	0000	258.2	276.6	10.8	4275		79507	942	175	6	Watch change	EC
(209)			0030	258.0	264.4	10.8	4270		79958	000	190	7		EC
			0047										SAT FIX 17 02.241 N 72 14.607 W EL 70 11 2 C129	REJECTED MK
			0100	258.0	260.2	11.0	4270		80458	051	194	6		MK
			0130	258.1	261.1	10.9	4270		80973	023	230	7		MK
			0200	258.1	264.4	10.8	4270		81488	147	190	5		MK
			0230	258.1	263.6	11.1	4270		81938	197	190	4		MK

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	2230	+4	0230 2230	HAITI / South of Dominican Republic	16°58.085'N	72°33.753'W	PAUL MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
28	JUL	89	0234										SAT FIX 1658.090 N 7233.826 W EL11 IT12 CT20	MK
	(209)		0300	258.1	263.2	10.5	4267		8244	8247	190°	5		MK
			0330	258.0	263.4	10.6	4265		8293	8300	180°	6		MK
			0400	261.4	261.0	11.1	4245		8343	8346	180°	10	WATCH CHANGE	EC
28	JUL	89	0430	258	261.5	11.6	4265		8394	8400	195°	10		ST
	(209)		0455	258	261.0	11.4	4250		8446	8448	195°	10	Client - High HIDE & next clips if mean?	ST
			0500	258	260	10.7	4250		8494	8496	210°	10		EC
			0530	258	261.2	10.8	4260		8542	8544	215°	10		ST
28	JUL	89	0600	258	261.1	10.1	4260		8591	8593	220°	10		EC
(209)			0630	258	261.1	10.1	4260		8591	8593	220°	10		EC
28	JUL	89	0700	258	261.1	11.4	4260		8637	8643	210°	8		ST
28	JUL	89	0730	258	261.1	10.5	4260		8684	8691	200°	6		ST
28	JUL	89	0800	258	262	11.4	4260		8731	8740	210°	46	WATCH CHANGING	
	(209)		0830	258	260.6	10.4	4260		8789	8781	205°	10		
			0900	258	262.4	10.5	4260		8837	8829	210°	10		
			0930	258	260.7	10.2	4225		8884	8877	210°	6		EC
			0946										(93530)	
			1000	257.2	261	11.1	4100		8445	8624	185°	8		
			1030	257.3	251	10.2	3970		7161	7331	210°	8	ALL previous gravimeter readings in error since 0715 27JUL89	ST
			1100	257.5	251	10.2	270		6266	6495	225°	9		EC
			1105								240°	8	SAT FIX (105-) 16 7332 N 74 0341 W 1 15 IT3 CT20	EC
			1130	257	243	10.1	2910		6585	6564	240°	8		EC
			1135										SAT FIX (105-03) 16 7332 N 74 0341 W 1 15 IT3 CT20	EC
			1145										WATCH CHANGE	MK
			1200	257.8	248.7	10.7	3660		6561	6568	210°	8		MK

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0100	+4	1200	SOUTH OF HAITI	16° 38.222	74° 14.257	Paul Mann/Examiner

DATE			GMT		INTENDED TRACK	CYRO COURSE	SPEED (KNOTS)	DEPTH (M)	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR	HR	MIN	SEC	DIR	SPD	FT	SEC	GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
28	JUL	89	1	23	0	258.1	249.4	10.7		65506546		210°	10	CHANGING PAPER TO RECORDER #1; THEREFORE NO DEPTH			mK
	(209)			1	23	7								CHANGE PAPER TO REC. #1 (3.5 KHZ)			mK
				1	30	0	258.4	249.2	10.6	3200	65346536	210°	10				mK
				1	33	0	258.7	249.0	10.3	3190	65266527	180°	4				BML
				1	40	0	259.0	249.6	10.4	3265	65176512	185°	8				mK
				1	43	0	259.4	249.7	10.8	3165	65216515	200°	8				BML
				1	43	5								Sat fix (14 53 H) 16 31' 52.7" N 74° 40' 14" W			FM
				1	50	0	258.3	256.9	10.9	3080	65246521	180°	7				mK
				1	53	0	258.0	255.9	11.1	2920	65336537	190°	6				mK
				1	60	0	257	254.4	11.1	2600	65396541	195°	10	Watch Change			ST
				1	63	0	257	258	10.9	2405	65546555	190°	6				ST
				1	70	0	257	259	10.7	1875	65556554	189°	4	Audio check to communicate 2/5 min to last			ST
				1	73	0	256	257	10.6	1805	65356535	195°	6	Sat @ 1701 16° 27' 47.6" N 74° 09' 31.8" W UP			
				1	80	0	256	254	11.0	1745	65306531	195°	8				
				1	80	4								Sat FIX 16° 27' 24.2" N, 74° 20' 34.7" W UP			
				1	83	0	254	255	11.2	1695	65256526	190°	10				
				1	90	0	194	258	10.6	1615	65186518	180°	5	Sat FIX 16° 26' 51.0" N, 74° 28' 7.0" W UP (EL 2.0) ER			ST
				1	90	7	214							C/L 274 from 258 Rp 8 Knts			ST
				1	93	0	273	274	10.8	1560	65086509	145°	6				EC
				1	95	3								R/S to 2 Knts to deploy 122400			ST
				1	95	5								DROUE IN WATER - LAYING OUT DROUE LINE.			
				1	95	6								I/S TO 3 KTS -			
				2	00	0	273.1	279	10.4	1500	64776477	150°	10	WATCH CHANGE			EC
				2	00	4								Resume speed I/S 5 Knts - DROUE DEPLOYED -			EC
				2	01	2								Fish in water I/S 6 Kts -			ST

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1614	14	2014	COLOMBIAN BASIN	16° 27	75° 39'	Pan. Mann / ROGER PANG

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M FATHOMS	MAG.	GRAVIMETER		WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
23	JUL	89	2014									I/S 7 KNOTS -	
(209)			2023									SAT FIX (20 11 52) 16 27.293 N 75 39.661 W 1 L 30 17 2 07 31	CPM
			2030	273.1	275	7.0	1450		65036499		150	7	CPM
			2031									POWER-UP SLN MARK	CPM
			2049									DEPRESSOR ATTACHED - BEGIN DEPLOYMENT -	
			2051				2125 (C)					Depressor in water - deploying.	
			2100	273.1	269	6.9	1375		65066504		160	6	CPM
			2117									LOOSE SPARKLE TO DEPTH - INCREASE SPEED TO 8 KTS -	
												PROBLEM WITH INCREASING DEPTH - REMAINING SHALLOW	
												BY 1 SECOND ON 3.5 KHZ. SPARK TRACKING	
												CORRECTLY ONCE PROPER DEPTH ENTERED.	
			2131	273	269		2180		6225				
			2200	273	269	8.2	1460		65556555				
			2204						6560			ADJUST COURSE TO 263 TO BRING BACK TOWARD LINE.	
			2238	273	265	8.7	1495		6560		160	6	
			2300	273	264	9.9	1610		6565		155	5	PM
			2314	271								23027 SAT = 16° 27.8' - 76° 03.1'	R
			2330	273	273	9.2	1825		6546		140	10	
												23302 GPS POSITION = 16° 27.8 N	
												76° 07.8 W	R
29	JUL	89	2000	273	273	9.5	1820						
(210)			2019	274	274	10.0						Change in course to 274 / Event marker	
			0030	273	271	9.3			65486546		150	4	BHL
			0100	273	273	9.6	1850		65356572		150	4	BHL

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	2104	+4	0104	COLOMBIAN BASIN	16°28'.645	76°24'.426	Paul Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	TENSION			
28	JUL	89	0130		273.4	273.6	9.9	1785m	6572	6572	150° 10		BML
(210)			0200		273.3	272.4	9.8		6559	6560	150° 10		BML
			0230		273.5	275.7	10.1	1955m	6541	6533	150° 12	Color printer out (Sea Marc II)	BML
			0233									Sea Marc computer crashed - Les aware immediately	PM
			0242			275.7	10.0					Sea Marc computer OK	BML
			0247									Sea Marc computer crashed - Les aware immediately	BML
			0254									Sea Marc computer OK	BML
			0213									SAT Fix (02:13:30) 16°29'176 76°36'147 EL26 IT2 CT30	BML
			0300		273.6	275.1	9.2	1940m	6546	6548	150° 10		BML
			0309									C/C → 279°	BML
			0330		273.7	279.9	09.6	1745m	6558	6560	120° 8		BML
			0400		273.2	281.0	9.3	1760m	6554	6554	130° 4		BML
			0430		273.8	274.6	9.7	1830	6547	6547	150° 4	Watch Change	ST
			0449									Audio Check 2:30	ST
			0500		273.8	279	09.2	1950	6542	6541	135° 8		ST
			0515									CLOCK check all are synchronized	ST
			0530		273.2	281	10.1	1880	6548	6548	120° 6		ST
			0600		274.1	280	09.6	1895	6546	6547	174° 8	0603 SAT FIX 16°30' 77.10 80W UP	ST
			0617									Audio check 2-35 sweep	ST
			0630		274.2	279	09.7	2020	6511	6541	176° 8		ST
			0700		271.3	279	10.4	2155	6519	6518	150° 8		ST
			0730		274.3	279	09.2	2055	6527	6528	180° 8		ST
			0743					1150				audio check A to 1-25 sweep, V. rapid to 1150 observed	ST
			0758									C/C to () bridge notice	ST
			0800		274	279		525			155° 10		ST

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0404	+4	0804	N. CA RAGUAN RISE	N 16°32'	W 77°37'	Paul Mann/Rosen

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
29	JUL	87	0804										CIC	
			0830	275	270		1420		6540	543	175°	8		
			0900	270	271	10.0	1600		6540	543	210°	8		
			0921										0912:47	
			0730	276	272	9.6	1750		6524	6523	195°	7	Sat fix 16 30.67 W 77.50 60 EL18 112 C127	
			1000	276.6	272	9.6	1315		6540	6536	175°	6		ERA
			1028		272	10.0					185°	10	SAT FIX 10:28:15 16 31.046N 18 01.21W EL 15 112 C122	ERA
			1030	276.6	269	10.8	1500		6536	6535	205°	12		ERA
			1100	269.0	269	9.9	1380		6554	6550	205°	7		ERA
			1118										Adjust course to 267°	ERA
			1130	268.4	267	9.9	1325		6549	6548	205°	9		ERA
			1200	268.4	268.1	9.6	1410		6536	6536	215°	7	WATCH CHANGE	BML
			1215										CIC → 265° (Adjust)	
			1230	268.7	267.6	9.4	1420		6526	6525	200°	4		BML
			1300	268.6	263.4	8.1	1430		6526	6527	200°	4		BML
			1223	45									SAT Fix (12:23:45) 16 31.151N 18 21.912W EL 29 112 C127	
			1320										Adj/C → 278°	BML
			1330	282	279	9.0	1415		6528	6529				
			1400	283.5	278.1	9.1	1390		6523	6523	180°	5		BML
			1423										CIC → 281°	BML
			1412	08									SAT Fix 16 31.632N - 78 38.938W EL 31 112 C130	BML
			1430	284	282	9.7	1430		6527	6529	140°	2		BML
			1500	284	283	9.8	1340		6518	6518	150°	2		BML
			1530	285	284	10.2	1345		6512	6513	130°	3		BML
			1534										Revised Tape of Seaman II # 29446 (Sheet # 29447)	BML

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R/V MOANA WAVE	MW 8909	1134	+4	1534	NICARAGUAN RISE	1634 308 N	7852 W	Paul HANN/E. ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
29	JUL	89	1534	281.5									Start Recording Tape 29447 (SeamARC II)	Paul
(210)			1600	282.5	282.9	9.9	1345m		6518651	155	10		Audio Check (1-2 @ 1605) Watch Change	dd
			1630	277.9	282.2	10.2	1340 m		6523652	150	8			dd
			1655	330.6	322.2	9.4							Course Change - Wp3	dd
			1700	330.7	331.2	9.4			6516651	2	80	12		dd
			1657	330.6									On new course	dd
			1700	330.7	331.2	9.4	1335 m		6516651	2	80	12		dd
			1730	330.7	331.9	9.5	1325 m		6496649	3	80	12		dd
			1737	331.4					6501650	0	75	17	C/C	dd
			1800	331.6	335.6	9.7	1285m		6501650	0	75	17		dd
			1830	331.6	338.4	9.5	1260 m		6505650	5	60	14		dd
			1841						6501650	1			C/C → 337	dd
			1900	331.6	337.6	10.1	1270 m		6501650	1	60	18		dd
			1930	331.6	339.2	9.7	1400 m		6504650	4	65	12		dd
			1938						6512651	3	75	18	Audio Check 2-3	dd
			1953										Audio Check 2-3	dd
			2000	331.7	337.7	9.6	1460		6512651	3	75	18	(continued s/s)	dd
			1958										Rec #2 roll 1 data until 10087	dd
			2030	331	338	9.8	1450		6520651	9	75	14		dd
			2100	331	339	9.6	1450		6526652	4	60	14		dd
			2130						6532653	3	060	18		dd
			2200	331	336	9.8	1860		6534653	3	70	12		dd
			2230	331	337	9.7	1500		6544654	4	70	12		dd
			2248										adjust course to 333	dd
			2300	330	333	9.7	1720		65-2652	0	85	10		dd

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Manna Wave			MV 8709		19.05	-4	23:05	NICARAGUAN RISE	1732N	79 37 W	MANN/ROSENCRANZ
DATE			GMT	DEPTH	MAC	GRAVIMETER	WIND	COMMENTS			OBSERVER
DAY	MONTH	YEAR									
29	JUL	89	2330	330	333	1.8	1850	65476517	140°	14	
(210)			2349								
30	JUL	89	0000	330	334	1.3	2175	65516552	075°	16	
(211)			0030	330	335	1.0	1950	65676568	050°	18	
			0100	330	333	9.9	2550	65486545	060°	15	
			0130	331	333	10.1	3650	65356532	060°	12	
			0200	332	333	10.1	3800	65106512	060°	12	
			0230	336	324	9.6	4810	64766475	060°	12	
			0300	270	732	9.9	4820	65146521	215°	2	
			0330	270	732	9.8	4835	65216524	265°	2	
			0400	270	2679	10.0	4830	65346539	255°	4	
			0406					65656567			
			0430	270	2691	10.0	4810	65656567	260°	6	
			0500	270	2691	10.0		66216623	240°	8	
			0516					250			
			0525	268							
			0530	268	264	9.7		66766673	250°	6	
			0554								
			0600	267.6	268.4	10.1	2770	66626661	255°	6	
			0630	2668	266.9	10.4	4900	66216620	270°	8	
			0632	266							
			0654	258							
			0700	260	258	10.1		66126612	280°	8	
			0645:12								
			0700								
			Sat Fix LAT 18 04 .081 N LONG 80 40 .594 W EL 32 CI 26 N2 RLS → 4 Kts.								

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	0315	+4	0713	NEAR CAYMAN TROUGH	18 03	80 45	Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
30	JUL	1989	0711									Audio ✓ 5-6 sec	
			0724									I/S 8 kts., Port gun starb cel	
			0730	248	257	8.4	4400m		6598660	2275	10		
			0742									CIC to W.P. 5.	da
			0745	299	292	8.2			66056605	210	4	XNC [BEGIN #1 - Survey]	
			0746									R/S. → 5 Gun out cal snail in	X
			0753									I/S → 8	ST
			0800	279	300	8.0	4470		65124301	210	7	WATCH CHANGE	
			0815									R/S-4 2nd gun back in 40 m ³	TC
			0827									I/S-2	
			0830	299	300	7.0	4150		65384538	240	5		
			0831									to 8 knots	
			0840									R/S	
			0850									1/2 for Starboard gun	
			0900	299	300	8.3	4300		66126605	265	4		CS
			0930	299.7	299	9.5	4250		66176619	255	4	SAT FIX 0902 18 08.614N 80 59.827 W EL 67 11.2 CI 29	CS
			1000	300.2	299	9.5	4070		66266627	240	4		CS
			1030	300.6	299.6	8.4	3260		66496653	260	4		CS
			1100	301.1	299	8.4	3280		66496650	225	4		CS
			1130	301.8	299	8.0	1.650		66266623	215	4		CS
			1140									SAT FIX 113135 18 22.113 81.21417 EL 65 11.3 CI 29	CS
			1200	299.8	298.2	8.4	4110		66346636	270	2		RM
			1230	301.2	301.6	8.3	3250m		66556658	270	2		RM
			1300	302.8	299.4	8.2	3285m		66506650	235	2		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/Y MOANA WAVE	MW 8909	09:20	+4	13:20	MESC - CAYMAN TROUGH	18° 28	-80° 37'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
30	JUL	89	1329									Adj/c 316°	
(211)			1330	311	305	7.9	4065		66196615		180° 2		
			1400	313	316	7.9	5010		65796575		125° 4		
			1416						657				
			1430	054	210	2.6	—		65756578		—		
			1500	turning.		7.5			65916598				
			1505										
			1511:59										
			1530	118.8	114.6	8.0	4840		65106504		0° 20		
			1600	118.9	115.0	8.2	4875 (Seismic)		65026501		0° 22		
			1630	118.9	114.6	7.9			65166511		350° 22		
			1700	119.2	113.9	8.1			65286530		355° 24		
			1730	119.2	113.9	7.9	4320		65356536		350° 22		
			1744	117.0					6543				
			1751	119									
			1800	119.2	120.2	7.8	3756		65536553		345° 20		
			1811										
			1822										
			1830	118.7	121.9	8.1	2755 3000		65476546		350° 18		
			1833	117		7.9							
			1833										
			1900	119.2	118.1	7.9	4050		65216521		345° 20		
			1930	119.7	119.3	8.0	4190		65186517		345° 20		
			2000	120.2	119.4	7.8	3920		65196519		340° 22		

End of Line #1
 turning.
 Change of paper 3.5 kHz. (Begin Rec'd) BmL
 CIC → 115° BmL
 XNC → Begin #2 Line #2
 SAT Fix 18 27 295 - 81 47 127 EL 22 IT 2 CT 29 BmL
 Adj. Course to 117.
 A/Course.
 offc 121
 W Delay 4 → 3 Gun #13097. Seismics. (D)

Audio 4 → 5

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1608	+4	2008	MCSC - CAYMAN TROUGH	18° 12'	81° 15'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FSEC	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION		DIRECTION	KNOTS				
30	JUL	89	2008												Adjust course to 126.0	GR	
	(211)		2030	120.4	123	6.9	3580		65266526	335	22					GR	
			2100	114.9	125	7.7	4375		65086508	330	22					GR	
			2130	119.1	125	7.9	4410		65066507	330	22					GR	
			2133												Adjust course to 122.0	GR	
			2200	119.0	123	7.7	4250		65066506	340	23					GR	
			2210												Red paper change marker on #2, #4	GR	
			2230	119.0	123	7.8	4440		64986495	335	22					GR	
			2300	119.2	123	7.6	4460		64916488	330	24					GR	
			2330	119	121	8.1	4400		64816474	325	20					GR	
			2344												Change paper on #2	GR	
31	JUL	89	0000	122	121	7.6	4500		64716471	330	22					BAL	
	(212)		0004												End of Line #2 CK	BAL	
			0020												Change of Paper on Rec #4 (Seamount + 3.5 kHz)	BAL	
			0030	220	216	7.6	4470		65416560	260	15				(0020 = Beg Rec #2 / Sidescan + 3.5 kHz))	BAL	
			0046												CK → 297° Beg LINE #3	BAL	
			0100	249	246.6	7.6	3850		65406550	120	4					BAL	
			0116														BAL
			0130	299	297	6.2	4025		65436541	120	6				The ship lost the steering (why?) R/S	BAL	
Lat Fix			0127	298											Seamount's fish is too deep (350 m)	BAL	
			0200	299.4	293.6	8.1	4615		65476550	120	10				SAT FIX 17°53'590-80°55'086 (EL 13 IT 3 CT 33)	BAL	
			0230	299.4	294.6	7.5	4390		65756580	120	8					BAL	
			0238														BAL
			0300	299.4	293.6	7.8			66016607						CK → 294°	BAL	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8908	23:20	+ 4	03:20	MCSC CAYMAN TROUGH	18° 01'	- 81° 09'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH X M <input type="checkbox"/> FMS	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
31	JUL	89	0330	299.4	294.6	8.0	4475		65976	598	140°	4		Bm L
(212)														
			0350										SAT FIX 02:50: 17°55' 2 81°04' 9	Bm L
			0400	299.6	296.6	8.6	4290		66016	601	120°	4		EC
			0430	299.7	293.6	8.7	4430		66046	604	120°	4		CC
			0500	299.8	295.9	8.3	3950		66196	621	150°	3		CC
			0525										C/C to 302	CC
			0530	300.0	302.6	8.3	3330		66456	648	110°	2		CC
			0550										C/C to 299	EC
				1	300.9	9.1	2520		66746	677	135°	2		EC
			0606										C/C to 296	EC
			0630	299.3	297.6	9.0	3450		66356	635	20°	2		EC
			0700	300.7	297.7	8.3	4700		65966	591	180°	4		EC
			0730	302.3	303.3	8.2	4550		66026	601	95°	4	C/C to 308	EC
			0736										C/C to 311	EC
			0747										C/C	EC
			0754										XNG	EC
			0800	140	207	8.2	4400 3650		66116	598	300°	12	WATCH CHANGE	CB
			0819										C/C TO END LINE 3A	EC
			0825								355°	20	BEGIN LINE 4	EC
			0830	119.1	109	7.3	4260		65196	530	355°	20		EC
			0900	119.3	111	8.0	5600		64786	473	350°	19		EC
			0930	119.9	109	8.0	4850		64706	467	355°	16		EC
			0932										SAT FIX(0818) 18 17.158 81 47.722	EC
			0935										ADJ/C 117°	EC

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0540	+4	0940	MCSC CAYMAN TROUGH	18° 13' N	81° 39' W	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
31	JUL	89	0947										Adj/Course 123°	(92)
(212)			1000	119.7	124	7.9	4640		6497	6498	340°	15		(93)
			1015								3°		Sat Fix 10 05 18 11.532N 81 34.482W L 29 11 5 CT 22	(93)
			1030	119.9	123	7.9	3700		6535	6536	330°	14		(94)
			1032										Adj/Course 130°	(94)
			1100	119.6	129	8.1	220		6594	6601	330°	16		(94)
			1130	121.2	130	8.1	3120		6574	6574	330°	16		(94)
			1142										Sat Fix 10 56 18 09.402N 81 30.544W L 31 11 2 CT 28	(95)
			1148										Course adj	(95)
			11										RIS → 4 knots (Switch Gun) +	BML
			1156										I/S → 8 knots IC → 135.2°	BML
			1200	121	136	8.3	3660		6563	6573	325°	18		BML
			1214										c/c → 128°	BML
			1230	121	128.4	7.8	2775		6558	6556	325°	20		BML
			1234										Adj/C → 123°	BML
			1256										Adj/C 126°	BML
			1300	120	126.6	7.8	3000		6538	6536	330°	20		BML
			1323										Change Delay on Rec. #3 and #5 → 3s	BML
			1330	128	119.6	7.9	4350		6501	6495	330°	22		BML
			1341										Change Tape (Seismic) End 30229 -	BML
			1346										Begin Tape 30230 (Seismic)	BML
			1400	119.1	127.0	7.3	4500		6478	6474	325°	18		BML
			1410										Adj/C → 128°	BML
			1430	118.1	129.4	7.8			6475	6473	315°	18		BML
			1500	118.2	127.7	7.8			6459	6458	330°	18	Adj/C → 124°	BML

PULLY SPARKING
GUN - PUT IN FOR
GUN

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/N MOANA WAVE	MW 8909	1605	+4	15:05	MCSC CAYMAN TROUGH	17°52'	81°02'	MANN/ROSENCRANTZ

DATE			G.M.T.	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
31	JUL	89	1519									ADJ/C → 120°	Bry
	212		1530	118.4	121.4	7.7	6445		64316424	330° 16			Bry
			1600	117.4	122	7.6	3960		64426441	315° 16			ST
			1605									adj/c → 117°	ST
			1608									ACT DOWN	ST
			1612									ACT UP	ST
			1622									Ad/C 115	ST
			1630	124.1	116	07.6	5180		64846487	315° 18			ST
			1643									Ad W/P to 1.0	
			1700	215.5	169	08.0	4420		65472519	270° 10		2/c to 1.0 5	
			1707									XNC	
			1720									Adj/c 300 Line?	
			1730	173.5	280.2	08.5			66316349	75° 12			
			1736									S/O	
			1800	297.4	301.0	08.2	4780		66156415	60° 12			
			1820	292.2	323.0	08.4			66736570	60° 10		lost bottom	
			1834									A W/P to 3.0	
			1844									adj/c 303	
			1900	299	300	08.9	4150		65446543	100° 10		adj/c 300	
			1906									adj/c 200	
			1913									adj/c 294	
			1930	299.4	296.7	07.4	3600		65566558	60° 10		INSTALLING MAGNETOMETER - STREAM	
			2000									MAGNET FISH - RUNNING? -	
			2130	299.2	295.9	7.9	3300		66406642	70° 10			(89)
			2200	299.1	293	7.9	2920		66606662	80° 10			(89)

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	1800	-4	2200	MCSC CAYMAN TROUGH	18° 01.5 N	81° 28.3 W	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
31	JUL	89	2230	300	2927	7.4	2905	43223	6673	6675	080° 10	Wobs Camp. seismic clear	
(212)			2300	300	293	7.0	3160	48221	6657	6661	080° 10	2244 Wobs Camp seismic and and running	
			2310									Adj/c 286°	EC
			2330										
			2332									Adj/c 293°	
04	AUG	89	0000	300	2937	6.9	5150	48227	6559	6656	085° 0		BmL
(213)			0030	2992	2964	7.6	5575	48284	6553	6553	080° 6		BmL
			0051									C/C 208° End of Line #5	BmL
			0055									Steady on line	BmL
			0100	2057	208	7.3	4680	48367	6561	6570	275° 2		BmL
			0124									C/C 127° Begin of Line #6	BmL
			0130	201	177	8.1	4760	48250	6502	6512	330° 18		BmL
Sat fix			0104.26									Sat fix: 0104.26 18 10.773 / 81.49.318 EL631T2 CT34	BmL
			0145									Loss of signal on EPC Recorder / Seism	BmL
			0200	119	1284	7.7	5300?	48108	6461	6457	330° 18	EPC/OK. gain (TTK20) 10-20	BmL
			0230	1198	1279	8.2	5400	48196	6458	6458	330° 18		BmL
			0300	1196	1277	8.2	5075	48032	6477	6478	330° 18	Delay 4s (5s → 4s) EPC	BmL
			0321									Adj/c → 123°	
			0330	1195	124	8.3	3690	47949	6526	6529	330° 18		
			0332									Delay 4s → 3s. EPC	BmL
			0342									Delay 3s → 1s EPC Adj/c → 122°	BmL
			0400	119.5	1236	7.9	2350	49003	6566	6570	330° 18		EC
			0430	119.4	1222	7.7	3210	48058	6550	6549	330° 18		EC
			0500	119.4	1216	8.1	3520	48100	6529	6520	330° 18		EC
			0530	119.4	1224	7.9		47858	6505	6503	330° 20		EC

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V HOANA NAVE	MW8909	0200	+4	0600	MSC CAYMAN TROUGH	17°51.6 N	81°20.0 W	HANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH X/M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
1	AUG	89	0600	119.7	121.1	7.5	3600	47842	64966	494	330° 19		EC
(213)			0630	119.4	120.6	7.4	3900	47811	64786	417	330° 20	pressure loss in air/water	EC
			0634			7.0						R/S 4K15 Port gun out -	
			0650			8.0						I/S 8K15 Starboard gun in water -	EC
			0700	119.8	122.6	7.5	3650	47872	64716	476	330° 18		EC
			0730	120.6	120.2	7.9		47849	64466	442	330° 19		EC
			0744									C/C to 120	EC
			0800	121.7	120	8.3	4120	47869	64406	438	340° 16	WATCH CHANGE	EC
			0830	122	121	8.2	4050	47820	64466	444	345° 18		2
			0900	124.1	120	8.0	?	47816	64636	461	345° 18		2
			0930	125	120	8.4	2350	47781	64396	487	350° 13		
			0932						65166	515		A/C TO 123° - LATEST FIX SHOWS LEFT OF TRACK -	
			1000	122	122	8.0	1680	47659	65166	515			
			1030	120	121	8.2	1450	47669	65316	530	350° 22		R
			1100	120	120.4	7.7	1380	47601	65206	525	350° 20		
			1130	120	123	8.0	1440	475	65156	512	340° 20		
			11510	211								A/C to 211°; END OF LINE 62	Watch & (???) Run
			11570	211°								Steady on 211°	See wave plotter taken
			1200	218°	210°	8.7	1405	47456	65716	583	270° 12	down for repairs in turn.	RML
			1211									Change Delay 14 → 18 (EPC - Seismic)	RML
			1212									C/C → 303 Beginning of line #7	RML
			1219									Steady on course 303.	RML
			1225									seismic tape changed - tape 30232 put on	RML
			1230	-	305°	7.4	1360	47445	6593		110° 6	Gravity OFF.	RML
			1235									Rebooting GRAVI-	RML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	8h53	+4	12:53	CAYMAN TROUGH	17° 33'	80° 56'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
01	AUG	89	1300	299	306	8.0	1365	47564	6603	6605	090°	12		Bml
	(213)		1312										c/c → 306°	Bml
			1330	300	306	7.7	1400	47623	6618	6620	090°	06		Bml
			1400	300	307	7.8	1575	47625	6627	6630	090°	18		Bml
			1405										Adj/K → 300°	Bml
			1430	300	299.1	8.2	1940	47682	6606	6605	090°	04		Bml
			1435										Adj/K → 296	Bml
			1500	299.5	298.1	8.4	-	47779	6594	6596	125°	22	Changing Paper for 3.5 kHz	Bml
			1517										Change Delay EPC Seismic 1 → 3.5	Bml
			1530	300.1	295.6	8.7	4040	47881	6540	6534	100°	6		Bml
			1600	296.1	291.5	8.5	4120	47822	6540	6541	090°	4		Bml
			1622			8.3							A/C → 300	
			1630	302.4 301.4		8.3	3450	47665	6575	6580	80°	10		(Ld)
			1654										A/C → 294	
			1700	301.8	294.2	8.2	3370	47854	6604	6606	75°	6		
			1736	303.6	295.4	8.0	3510	47853	6623	6623	80°	4		
			1758						6595				A/C → 296	
			1800	306.6	297.7	8.1	3970	4793 4793	6597	6595	60°	6		
			1830	3040	297.7	7.6	3850	48080	6577	6575	60°	6		
			1840										AC → 300	
			1849										CA/C → 308	
			1857										XNC	
			1901										A/C → 195	
			1900	190	194.1	7.8	4210	48099	6534	6532	300°	6		

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
Moana Wave NW8909			NW8909		3:10	+4	-12	Caribbean Trough	17 57.9	81 47.29	YANA/RUSK			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input checked="" type="checkbox"/> FATHOMS	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
11	AUG	89	1910										A/C 195	(JW)
			1927										A/C 124	
			1930	119.7	123.7	7.6		48135	647226481	320°	14			
			1937										Adj/c 114 XNC	
			2000	119.7	127.3	7.6	5160		644304159	330°	19			(B)
			2030	119.7	1249	8.0	5850	4799	64226118	330°	22			
			2044										Adj/c 128	
			2100	119.8	127	7.8	4300	47709	64450117	330°	18			
			2104										A/c 126°	
			2120	119.7	127	7.8	4500	47711	64450117	325°	20			
			2200	120.0	123	7.8	2880	47954	64956501	325°	22			R
			2230	119.4	124	8.3	2850	41423	64956494	330°	20			
			2300	119.3	125	8.5	3040	41844	64726469	330°	18			(B)
			2308										Adj/c 123°	(B)
			2323										Adj/c 120°	(B)
			2330	119.2	121	8.0	3650	41802	65936600	325°	17			
2	AUG	89	0000	119.2	121.2	8.0	2580	47764	64636461	325°	18			BML
			(214)	2339	02								SAT Fix 23639m02 N17042.3 - 81022.2W - EL231739CT2	BML
			Sub Fix	0030	119.2	119.4	8.0	2570	47690	64776477	330°	16	Delay → 1h (EPC Seismic)	BML
				0044		118							Adj/c → 118°	BML
				0100	118.9	117.9	8.2	1830	47612	65116509	330°	18		BML
				0130	118.7	119	7.8	1500	47607	65256523	330°	16		BML
				0200	125	119.5	8.0	1140	47597	65346533	330°	22		BML
				0217									END OF LINE #8 C/C → 207°	BML
				0222									Steady On 207°	BML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	84W8909	2022	+4	0222	CAYMAN TROUGH	17°33'	81°05'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER			WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION			
02	10	89	0230	207	206	8.1	1365	47628	659	666	16	245°	4	BmL
(214)			0253	300	200	7.8								BmL
			0300	3000	304	7.8	1365	47597	659	766	02	65°	15	BmL
			0323											PM
			0330	299	300.7	8.1	1070	47601	663	166	38	60°	15	BmL
			0347											BmL
Sat fix			0229	51										BmL
			0400	300.1	299.9	8.4	1570	47617	662	466	26	85°	15	EC
			0416											EC
			0430	300.0	303.6	8.2	2050	47644	660	266	01	60°	10	EC
			0436											EC
			0500	300.2	298.6	8.2	2450	47715	659	065	90	60°	12	EC
			0513											EC
			0530	300.3	300.6	7.8	2870	47824	657	165	69	60°	12	EC
			0537											EC
			0600	300.4	303.1	8.4	3030	47957	657	365	71	65°	12	EC
			0630	299.9	302.4	8.4	4080	47987	654	465	45	85°	15	EC
			0700	299.7	299.4	8.3	6075	48023	649	264	87	90°	8	EC
			0726											EC
			0730	299.8	298.1	8.2		48016	652	265	72	90°	5	EC
			0800	304.6	287	8.1		47915	662	666	33	75°	7	EC
			0810	442	209	7.2		47921				65°	7	EC
			0818											EC
			0830	198.8	209	7.2	3320	47921	659	366	00	265°	7	EC

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV MOANA WAVE	MW 8909	0430	+4	0830	MCSC CAYMAN TROUGH	17° 53'	81° 55'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M FMS	MAG	GRAVIMETER				WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
02	AUG	89	0830												A/c 195° T.	
	(214)		0900	111.0	181	8.0	2820	4.7880	64646	61		275	18			
			0904												START LINE #10.	
			0930	119.8	123	7.4	3100 4500	4.7728	64886	487		310	18		STEEP SLOPES AND DIFFICULT	
			1000	120	124	8.0	4560	4.7676	64626	460		345	18		BOTTOM TRACKING FOR SEAMARC	
			1030	120	124	8.0	5350	4.7785	64276	427		345	18			
			1100	120	122	7.3	4950	4.7885	64166	418		350	18			
			1110												Page Change # 4 Begin Roll # 3 SeamARC + 3.5	
			1130				4830									
			1140	120.7	122	7.8		4.7974	64146	416		320	20			
			1200	121	121.9	8.2	4500	4.7945	64176	414		325	20			
			1210												Change Delay → 3s (EEC Recorder)	RmL
			1230	121.6	121.9	8.4	3720	4.7858	64426	447		330	22			RmL
			1252												Adj/c → 126° at 17°40'8 - 81°38'-3	RmL
			1300	121.0	124.9	8.2	2725	4.7805	64616	465		330	22			RmL
SAT Fix			1240	46											SAT Fix 12:40:46 17°41'346 81°39'390 EL 46 IT 2 CT 33	RmL
			1330	120.9	125.0	8.3	2730	4.7744	64716	474		330	22			RmL
			1400	120.8	126.0	8.0	2485	4.7698	64826	482		330	24			RmL
			1430	120.3	125.0	7.9	2330	4.7663	64976	498		330	22			RmL
			1440												Adj/c 128° at 17°34'5 - 81°28'8	RmL
			1500	117.5	124.6	7.8	2000	4.7674	65016	501		330	26			RmL
			1508												Adj/c 120° at 17°33'2 - 81°26'8	RmL
SAT Fix			1429	21											SAT Fix 14:29:21 - 17°35'43 - 81°29'43 EL 20 IT 3 CT 26	RmL
			1515												Adj/c → 117° at 17°32'6 - 81°25'6	RmL
			1530	117.7	115.6	7.6	1560	4.7599	65136	514		330	24			RmL

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	135	+4	1335	PAYMAN TROUGH	17°31'9	81°23'8	HANN/ROSENKRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
02	AUG	89	1533								0		EPC Recorder Out (Steve)	Rmy
(214)			1549								0		" " " "	Rmy
			1600	119.6	115.9	7.2	1415	47614	6516	6516	330	26		Rmy
			1616								0		A/c to 108 at 17°29.2 - 81°19.3	EC
			1630	116.5	109.1	7.7	1110	47624			330	20		EC
			1643	116.5							0		A/c to 115 at 17°29.1 - 81°16.1	EC
			1651								0		C/c at 17°27.6 - 81°15.1 // end line #10	EC
			1657								0		C/c to 905 at 17°28.8 - 81°15.1	EC
			1700	0142	205.6	8.9	1350	47582	6575	6581	270	16		EC
			1715								0		A/c to 200 at 17°24.9 - 81°16.5	EC
			1725								0		C/c at 17°23.7 - 81°17.3	EC
			1730	102.0	277.9	8.5	1320	47491	6574	6565	92	10		EC
			1732								0		XNC to 312 at 17°23.7 - 81°18.4 // begin line #11	EC
			1734								0		R/g to 4 kb	EC
			1745								0		A/c to 305 at 17°24.4 - 81°19.4 I/S to 8 kb	EC
			1738								0		Set Fix 17°23.8 - 81°18.4	EC
			1738								0		C/c to 302 at 17°24.9 - 81°20.1	EC
			1800	300.0	305.4	7.8	1300	47553	6590	6593	90	12		EC
			1830	300.0	300.9	9.1	1140	47578	6612	6615	90	10		EC
			1900	300.0	300.4	8.1	1700	47622	6609	6610	90	10		EC
			1923								0		C/c to 304 at 17°31.6 - 81°32.3	EC
			1930	300.1	304.5	7.8	2250	47663	6583	6582	90	10		EC
			1937								0		A/c to 306 at 17°32.6 - 81°34.2	EC
			2000	300.2	305	7.6	2700	47702	6567	6566	90	10		EC
			2024								0		Adj/c to 299°	EC

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW8909	2030	+4	2430	CAYMAN TROUGH	17° 34'	81° 36'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
02	AUG	89	2030		300.0	300	7.1	2720	47758	65586559	90° 10'			(L)
			(214)										Adj/c 288°	(L)
			2100		300	300	7.8	2800	47712	65506550	90° 12'			
			2105										Adj/c 286	
			2117										"PANDOR" CRASH -	
			2128										A/c 283.	
			2130		300.	288	8.3	3670	47324	65456546	085° 12'			
			2141										Adj/c 295°	(L)
			2157										Adj/c 300°	(L)
			2200		300	300	7.2	47670	47346532		1° 10'			
			2230		300	300	7.8	4650	47911	65465410	90° 10'			
			2300		217	211	7.7	5200	47118	65572555	90° 10'			
			2302										and line 11	EOL11
			2307										loading 2nd	
			2330		117	218	7.0	5100	47855	15751224	265° 8'			
			2334										adj. 3.5 KIC	
			2347										change line to 12C	
			2353										start line 12	SOL12
03	AUG	89	0000		119.8	121.2	8.1	6800	47763	64396442	395° 20'			
			(215)										see Adj 123° at 17° 46' 1 - 82° 05' 0	Bml
			0008										A/c → 120° at 17° 43' 4 - 82° 03' 8	Bml
			0020											
			0030		119.9	119.2	8.1	6400	47742	64386438	360° 18'			
			* 0017										SAT FIX (TRANSIT) 17° 43.6 82° 04.1	pm
			0058										Change Delay 5 → 3 s (EPC Rec. Seismic)	Bml
			0100		120.	121.7	8.6	3900	47777	64406440	360° 20'			Bml

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	21:05	+4	01:05	CAYMAN TROUGH	17°40'7 N	81°58'7 W	PIANU/ROSENERANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M- <input checked="" type="checkbox"/> F- <input type="checkbox"/> MSEC	MAG	GRAVIMETER				WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION					
03	AUG	89	0050										°	SAT FIX (TRANSIT) : 17°41.5 82:00.9	
		(215)	0113										°	Adjust use to 124°	pm
			0130	119.4	124.2	8.2	3440m	47799	6451	6453		330°	18		
			0200	119.8	124.8	7.9	2770	47784	6463	6463		330°	20		
			0217									°		Adj/c 127° at 17°36'9 - 81°51'7	
			0207									°		SAT FIX (TRANSIT) : 17°37.6 81°52.7	pm
			0230	120.1	126.0	8.2	2640	47787	6472	6470		330°	22		pm
			0235									°		Change gain on Rec #3. (127 Seismic)	pm
			0300	119.5	118.0	8.0	2665	47743	6475	6475		330°	18		
			0316									°		Adj/c → 120° at 17°32'9 - 81°46'10	pm
			0330	118.5	119.2	8.5	2640	47650	6467	6466		330°	20		
			0400									°		Delay 1 s on EPC Recorder.	
			0357									°		A/C → 118°	
			0358									°			
			0400	118.7	117.6	8.4	2400	47635	6475	6476		330°	18		
			0430	118.6	117.7	8.3	1950	47589	6489	6491		325°	16		
			0500	119.3	115.6	8.6	1420	47537	6508	6509		325°	18		
			0528									°		Audio Check 1-2 sec.	dd
			0530	115.8	112.7	8.3	1075	47465	6521	6519		330°	18	A/C → 115	
			0600	116.3	111.3	7.8	1180	47444	6498	6498		330°	18		
			0630	118.0	111.2	7.7	1255	47400	6484	6481		330°	20		
			0649					47400				°		A/C → 120	dd
			0700	119.5	120.4	7.8	1125	47415	6476	6475		325°	18		
			0706		130.4	8.0						320°	20		
			0730	102.6	130.4	8.0	1295	47370	6466	6465		320°	20		
			0736									°		A/C → 152 17 18 74 8 20 83	EOL 12

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	0337	+4	0737	Cayman Trough	17 18 60	81 20 74	Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
03	Aug	89	0746									TURN to 210 1717.71 81.20.39	
(215)			0800	215.5	205	8.0	1240	47416	6531	6546	265° 10	075136 SAT FIX 17 18.178N 81 18 74 W LL 11 17.3 CT 24	B4
			0824									CC Turn	
			0830	217.8	305	8.1	1160	47494	6554	6546	70° 11		
			0831									XNC LINE 13 Begins	SOL13
			0852										
			0900	217.5		8.2	1220	47416		5	70° 9		
			*0912									RIS	
			0920										
			0922									IIS	
			0927										
			0930									0905:30 SAT FIX 17 17.779 81 20.886 LL 18 17.2 CT 23	B4
			*										
			1000			2.2	1100	47419	657	6576	95° 4	0938:13 SAT FIX 17 19.903 81 20.902 LL 18 17.2 CT 24	B4
			1004									Adjust COURSETTE (T.M.)	
			1030	216.8	298	8.2	1220	47438			75° 8	in 298°	
			*1044									Adj/C 302°	B4
			1100	299.1	303	8.2	1750	47555	6596	6595	85° 6		
			1130	296.0	303	8.5	2400	47635	6585	6582	90° 6	1055:05 SAT FIX 17 25.920 81 42.355 LL 47 17.2 CT 30	B4
			1134									Adj/C 298°	
			1200	298.7	298.2	8.7	2580	47678	6588	6589	92° 4		BML
			1230	300.2	301.6	8.7	2750	47770	6578	6576	90° 2	Adj/C → 301 at 17°33'6 - 81°56'9	BML
			1300	300.7	302.4	8.6	3500	47768	6558	6556	95° 4		BML
Sat fix			*1217:53									SAT FIX 12:17:53 - N17°32'673 - W 81°54'924 EL 2911.2 CT 31	BML
			1230	300.9	301.1	8.5		47783	6551	6550	95° 6		BML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0943	+4	1343	PAYMAN TROUGH	17°39'9	82°08'2	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
03	AUG	89	1400:	301	3031	8.3	4580	47775	6535	6533	90°	4		Rmm	
	(215)	*	1406:20										SAT FIX 14:06:20 17°47'00.5 82°11'53.8 EL31T3CT36	Rmm	
			1430:	299.9	301.0	7.8	5380	47797	6520	6518	95°	4		Rmm	
			1456:										AIR → 297° at 17°46'3 82°18.9	Rmm	
			1500:	298.4	297.8	8.4	4380	47900	6545	6546	90°	4		Rmm	
			1520:	209									End of Line #13 17°48'3 - 82°22.8 209	Rmm	
			1521:										Change ACT Plotter (Switch with other one)	Rmm	
			1527:	209									Steady on 209°	Rmm	
			1530:	204.1	209	7.2	5160	47931	6540	6548	235°	10		Rmm	
			1549:										AIC 190° at 17°46'10.1 82°11'33.7	Rmm	
			* 1529:38										SAT FIX 17°47'95.3 - 82°23'47.6 EL40T3 CT32	Rmm	
			1608:	163.9	161.0	07.3	5550	47952	6489	6485	30°	12	adj/c 120° 17°44'18 82°26'17		
			1611:										17°43'8 82°25'53 010		
			1621:										510 0152 115°		
			1630:	25	119.8	119.0	08.1	5600	47870	6412	6402	340°	18	adj/c 118 17°43'52.8 82°24'54	
			1700:	29	120.0	119.6	07.3	5090	47816	6417	6419	345°	16		
			1730:	11	120.1	119.6	07.5	4375	47758	6431	6433	343°	16	AIC 3.5 roll between 1708 → 1721	
			1800:	1	120.1	119.9	07.6	47841	6448	6450	340°	16	17°38'52.0 82°15'12.2		
			1822:										adj/c 122 1737'381 82°18'02.9		
			1836:	05	120.1	120.9	07.7	5700	47770	6458	6459	330°	14		
			1845:										adj/c 119° 17°36'00.3 82°11'12.0		
			1900:	07	119.6	118.6	07.7	3430	47719	6464	6465	346°	16		
			1930:	06	119.7	118.9	07.8	2100	47732	6470	6471	345°	16		
			2000:	119	119	7.6	2840mm	47778	6474	6474	341°	14			

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
R/V MOANA WAVE			MU8909		1630	+4	2030	CAYMAN TROUGH			MANN/ROSENKRANTZ			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input checked="" type="checkbox"/> FATHOMS	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
03	AUG	89	2030	117	119	8.2	2700	47752	475	476	325°	20		
215			2100	117	119	8.2	2620	47633	4	364	340°	15		
			2130	117	121	8.2	2540	47559	487	648	320°	17		
			2200	119.7	123	8.4	1770	47514	649	649	325°	14		
			2230	119.2	123	8.4	1770	47472	649	649	330°	15		
			2257								340°	15	Adj Course 115°	(21)
			2300	119	115	8.0	1335	47429	649	648	345°	13		
			2330	115		8.6	1127	47358	648	648	350°	15		
			2340										Turn to 210 and line 14	EOL 14
			2347										on course to next point - 2000 -	
04	AUG	89	0000	197	210	8.9	1075	47439	656	865	220°	2		
(215)			0009										CIC → 300° at 17°16'2 - 81°43B	Bml
Satfix			0055	37									SATFIX 17°17'864 - 81°42'322	18°17'26 Bml
			0015										Standby on line #15 17°16'2 - 81°45'0	SOL 15 Bml
			0070										AIC → 304° at 17°16'437 - 81°45'422 (GPS)	Bml
			0030	301	303	9.3	1190	47387	657	965	6	10		
			0000	300.1	304	8.5	1590	47559	657	965	79	60	6	
			0118										Change diskette of Gravity Rec. (Start #6)	Bml
			0130	300.1	303.1	8.9	1565	47457	659	065	92	60	4	
			0158										AIC → 301 at 17°3'640 - 81°58'886	Bml
			0200	300.3	302	8.4	1830	47557	659	765	98	60	6	Bml
			0211										Change delay from 4 to 2.8 on EPC Seismic Rec	Bml
			0230	300.3	300.9	8.9	2400	47657	659	465	93	60	8	
			0231										Change delay from 0 to 1 on EPC Recorder	Bml
			0306	299.9	302.2	8.9		47702	660	066	02	60	10	Bml

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	2306	+4	0305	CAYMAN TROUGH	17°29.731	-82°09.297	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
04	AUG	89	0315										A/C → 304° at 17°30'615 - 82°11' 135	AmL
	24	6	0330	3002	305.2	8.3	2730	47702	6582	6582	060°	10		AmL
			0343										Change delay from 1s → 3s	AmL
			0400	3001	304.6	8.0	3150	47758	6566	6564	060°	12		
			0430	299.9	300.4	8.1	3245	47792	6559	6559	035°	8		
			0500	300.5	300.5	8.0	4475	47807	6533	6530	035°	10		
			0508										17°39'524, 82°27' 389 A/C 302°	
			0530	300.9	302.2	7.9	5300	47710	6544	6541	035°	10		
			0600	301.2	300.8	8.1	5710	47837	6547	6546	035°	8		
			0617										17°44' 933, 82°37' 515 A/C 305°	
			0630			8.0	5710	47844	6543	6540	028°	8		
			0700	300.5	303.4	7.7	5710	47948	6507	6507	010°	8		
			0709										17 50.282, 82 46 811. C/L 295°	
			0730	071.5	062.0	7.7		48001	6530	6532				
			0745										17 50.282, 82 46 811. C/L 295°	
			0755										17 50.282, 82 46 811. C/L 295°	
			0801										SAT FIX (0655) 17° 47.433 82° 42.134 62 24 112 C121	
			0806										SAT TURN TO LEFT TO 120°, ON TO 116	
			0830	120	117	6.7	5715	47923	6396	6387	345°	10	COMPLETED TURN ONTO LINE #116, A2 120° -	
			0832										A/C 120 -	
			0900	120	122	8.2	5725	47960	6387	6385	350°	7	DRIVE SAT FIX @ 0944	
			0930	120	121	8.6	5720	47919	6386	6384	355°	3	17°44.76' N	
			1000	119	119	8.0	5280	47776	6403	6402	350°	6	82°45.95' W	
			1004								000°	4	@ 1021	
			1030	120	113	8.3	4750	47786	6416	6417	000°	4	17° 38.11'	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	0633	14	1033	CAYMAN TROUGH	17° 39'	82° 34'	MANN/ROSENKRAUTZ

DATE	GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER				WIND	COMMENTS	OBSERVER
							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
04 AUG 89	1034	120	110								0	A/C 110°	
216	1053										0	A/C 115°	
	1100	120	115	8.3	3860	47892	66476649		355°	4			
	1130	120	119	8.1	3295	47848	6416764169		350°	5			
	1200	1200	117.7	8.1	3470	47789	64726467		350°	6			Bmy
	1230	1200	119.6	8.4	2625	47719	64776478		0°	4			
	1300	1200	117.6	8.6	2600	47621	64846485		0°	4		Change paper on Rec # 7 - (Scissors Raytheon)	Bmy
	1316											A/C 116° at 17° 32' 192 - 82° 17' 710	Bmy
	1330	1200	117.7	8.2	2130	47581	65006502		10°	4			
Sat Fix	1343											SAT Fix 17° 27.21 - 82° 16.50	Bmy
	1400	120	117.7		1770	47568	65156516		0°	4		Delay 95 → 15 on IPC Rec.	
	1430	120	116.4	8.5	1685	47546	65186519		10°	4			
	1500	120	115.9	8.3	1620	47499	65056505						
	1518	120	116									A/C → 120° at 17° 21' 991 - 82° 05' 025	Bmy
	1530	120	120.2	8.5	1580	47451	64936493		10°	2			
Sat Fix	1506											SAT FIX 17° 22.9 82° 06.2	
	1600	120	120.7	8.7	1360	47596	64846483		300°	2			
	1630	111.9	120.1	7.4	1290	47327	64776478		300°	5			EC
	1654											C/c to 215 End of line #16	EOL 16 EC
	1700	225.9	217.7	7.1	1290	47372	65236511		085°	3			EC
	1730	271.9	278.6	8.0	4330	47543	65406543		060°	5		C/c to 300 Before line #17	SOL 17 EC
	1800	300.1	299.9	7.8	1250	47463	65656565		030°	10			EC
	1830	299.1	297.1	8.3	4670	47386	65746576		030°	10		A/C 298	EC
	1843											C/c to 282	EC
	1900	299.8	290.7	8.2	1750	47336	65866597		045°	10			EC

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V JOANNA WAVE	HW89 09	1904	+4	1904	CAYMAN TROUGH	17° 17'	82° 08'	MANU ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
04	AUG	89	1903										C/c to 298 at 17° 17.7 - 82° 08.0	EC	
			1919										C/c to 301 at 17° 18.7 - 82° 10.2	EC	
			1930	300.2	302.4	9.3	2060	47328	65906590	030	17			EC	
			1940										C/c to 303 at 17° 20.5 - 82° 13.0	EC	
			2000	300.4	305	8.3	2220	47416	65896589	30	15			EC	
			2010	300.4	305	8.5	2170	47416	65896589	30	16			EC	
			2032										COINCE 307 17 24.371 82 20.85		
													SAT FIX 2021 - 17° 23.51' 82° 18.19'		
			2100				22680	47533	65896589	30	15			EC	
			2128										Ad/c 304		
			2130	300.0	304	7.8	2420	47662	65856583	40	14			EC	
			2150										change paper on recorder 6	EC	
			2200	300.2	305	7.4	2825	47736	65766575	40	14			EC	
			2221										change paper on recorder 4	EC	
			2230	300.2	307	7.4	3455	47744	65556554	40	12			EC	
			2233										Ad/c 308°		
			2300	300	307	7.9	4800	47724	65126509	30	12				
			2330	299.9	305	8.2	5500	47769	64816477	25	10				
05	AUG	89	0000	294.9	307	8.5	5720	47865	64716472	10	10			Bm	
			(217)	0030	300.1	307.6	8.4	5730	47938	64756476	8	18			Bm
			0100	300	307.7	8.3	5690	48000	64966498	30	14			Bm	
			0130	298.7	308.2	7.8	5370	48002	65126513	30	12			Bm	
			0200	297.1	307.1	7.8	5640	48013	65076507	30	12				

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	2206	+4	0206	CAYMAN TROUGH	17°50'S ₄₁	83°06'35"	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
05	AUG	89	0230	300	307.7	7.8	5655	48065	65056	504	30°	10		Bml
(217)			0259										C/C → 206 at 17°54'079/83°03'594	Bml
			0300	300	291	8.0	5600	48114	65206	517	30°	10	END OF LINE # 16/17	EOL 17
			0307										S/C → 206 at 17°53'787/83°14'485	Bml
			0330	206	206	8.1	5610	48011	64936	489	330°	2		
			0332										C/C → 113° at 17°50'525 83°16'401	Bml
			0338										A/C → 113° 17°49'780 83°16'166	Bml
													Beginning of line # 17/18	SOL 18
			0400	117.9	113.6	8.2	5635	48004	63916	391	320°	10		
			0430	120.0	113.6	8.2	5670	48000	63956	394	320°	10		
			0437										A/C 115 1745.63 83°08.59	
			0500	119.8	114.1	8.1	5690	47921	63946	394	330°	8		
			0530	120.2	112.6	7.9	5700	47842	63846	389	325°	8		
			0600	120.2	115.6	7.9	5720	47834	63796	374	330°	7		
			0630	120.2	116.2	7.7	5720	47870	63676	367	326°	6		
			0643	1					63566	356			A/C 113 1738.62 82°57'14	
			0700	119.4	110.4	8.0	5720	47818	63566	356	320°	6		
			0711										A/C 111 17°37'27 82°54'26	
			0730	119.6	111.4	8.0	5540	47774	63616	362	335°	8		
			0800	119.9	112	8.5	5350	47754	63816	382	200°	7		
			0824										A/C 115 17 33.338 82°46'173	
			0830	110	115	8.1	3900	47690	64216	425	330°	8		
			0859										SAT FIX 17 34.213 82 47.835 el 28 ft 201506	
			0900	112.2	117	7.7		47649	64506	452	035°	7		
			0913										A/C 1000 17 34.111 82 47.264	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MORNA Wave	MW 8909	5.16	+4	9.16	CAYMAN TROUGH	17°30'	82°40'	MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
05A	16	89	0930	119.4	119	7.7	390	47640	64716	6472	330° 6		
(217)			1000	119.4		7.6	2640	47643	64976	6499	330° 6		
			1012									CHANGED DISK IN GRAVIMETER - #6 OUT.	
												#7 IN -	
												0956. SAT. 17° 28.19'	
												82° 36.17'	
			1030	117.4	119	7.6	2930	47571	65126	6515	330° 6		
			1100	115.0		7.9		47586	64976	6499	330° 7		
			1129										
			1130	112.5		8.4	2750	47529	64786	6477	330° 9		
			1200	109.8	116.7	8.3	2060	47461	64806	6480	330° 8		Bml
			1209	112.3 109.1	116.7	8.3	1760	47480	64886	6490	330°	Adj/C → 123° at 17° 15' 588N - 82° 24' 754W	Bml
			1230	117.7	109.1	7.6	1760	47480	64886	6490	330° 8	C/C → 105° at 17° 15' 010N - 82° 20' 952W	Bml
			1237									Change Delay to 1s on Recorder EPR Seismic #12 & 3	Bml
			1300	115.3	105.3	7.5	1760	47462	64906	6490	330° 12		Bml
			1330	124	105	7.9	1560	47506	64996	6499	330° 10		Bml
			1332									Adj/C → 117° at 17° 15' 990 / 82° 14' 340	Bml
			1343									C/C → 211° at 17° 15' 778 / 82° 13' 353	Bml
			1319	44								(End of Line 18.) [1.4 NM from proposed WP(2)]	
												SAT EX 13:19:44 - N17°17'03 - W82°14'36 - EL 70 IT 2 CT 31	Bml
			1349									Adj/C Steady 213° at 17° 14' 402 - 82° 13' 498	
			1400	213	212	8.9	1185	47662	65896	6609	40° 4		Bml
			1416									C/C → 308° at 17° 11' 149 82° 16' 660 / START Line 19	Bml
			1419									S/C - 308° at 17° 12' 00 82° 16' 83 (INTERNA'l)	Bml

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	1030	+4	1430	CAYMAN TROUGH	17°12'78	82°18'02	MANN/ROSENCRANTZ

DATE			GMT	INTENED TRACK	CYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
05	AUG	89	1430		300	309	8.8	1050	47692	6601	6604	30° 12	RmL
(217)			1455		300	300						Adj/c 300° at N17°11.72-W82°21'24	RmL
			1500		299.6	301.9	8.9	1685	47543	6592	6590	28° 12	RmL
			1530		299.8	300.1	8.5	1685	47510	6594	6595	30° 10	RmL
			1531		-	-		-	-	-	-	Adj/c 295° at N17°17'19-W82°26'70	RmL
			1547		-	-		-	-	-	-	Adj/c 305° at N17°18'48-W82°26'66	RmL
			1555									Change Gravity Pcopy (Begin #8)	RmL
			1600		300	305	7.9	1920	47486	6586	6583	28° 12	RmL
			1630		300	300	7.7	2000	47514	6589	6589	24° 12	
			1633									a/c 317° 17 21.46, 82° 35.22	
			1700		299.9	307.1	8.0	2000	47536	6576	6577	30° 10	
			1705									a/c 304° 17° 23.87, 82° 39.02	ST
			1730					2300	47515	6598	6599	10° 12	ST
			1735									RIS → 4kts.	ST
			1750									I/S → 8kts A'd gens port in / strtd out	ST
			1800		300.4	306.4	8.3	2000	47622	6584	6581	10° 12	ST
			1805									a/c 309° 17° 27' 51, 82° 46.48	ST
			1811									a/c 310° 17° 28.19, 82° 48.52	ST
			1832		300.9	304.9	7.7	3225	47637	6554	6551	10° 10	ST
			1839									a/c 325 17° 29.96 82° 51.93	ST
			1853									a/c 306 17° 31.42, 82° 53.022	ST
			1900		300.1	303.1	7.7	4250	47767	6508	6500	5° 12	ST
			1930		300.0	304.0	7.6	4770	47746	6441	6456	5° 12	
			2000		300	304	7.6	5725	47702	6448	6446	00° 12	CB
			2030		241.5	241.5	7.8	5725	47790	6457	6455	010° 11	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
K/V Manna Wave	MW8909	16:57	+4	20:57	Payman TROUGH	17°40'	83°09	MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
05	AUG	89	2120	214.6	305	7.1	5700	47864	6467	6468	015°	12		CS
(217)			2130	300.8	330	7.2	5703	47891	6473	6474	010°	11	A/c 303° -	
			2139										A/c 312 17 42 311 83 11.571 (link)	
			2200	301	313	7.3	5670	47924	6483	6484	15°	12		
			2230	301.0	301	7.3	5140	47924	6505	6507	10°	11		
			2320	300.5	300	7.4	5340	47789	6521	6521	25°	12		
			2314										END line 19 C/c 205 -	EOL19
			2321	205	203	7.7	4875	48015	6509	6509	50°	1	XNC 205°	
			2330	205	203	7.7	4875	48015	6509	6509	50°	1		
			2349										200 113	
			2355	119	114.7	7.5	5644	48044	6418	6413	325°	10	steady on 113 — start line #20	SOL20 MK
06	AUG	89	0000	119	114.7	7.5	5640	48044	6418	6413	325°	10		mk
(218)			0030	119	113.4	8.4	5640	47999	6402	6401	330°	10		BML
			0034	-	-	-	-	-	-	-	-	-	A/c 111° at N 17°42'30 - W 83°16'78	BML
			0100	119.9	113.4	8.2	5705	47896	6382	6380	330°	12	wind meter broken for last hour?	
			0136	119.9	113.7	8.3	5710	47869	6365	6364	330°	10		
			0151	-	-	-	-	-	-	-	-	-	Change gain on EPC Recorders (5 → 10)	BML
			0155	-	-	-	-	-	-	-	-	-	A/c 110° at N 17°38'79 - W 83°15'02	BML
			0200	120.2	111.7	8.1	5710	47887	6353	6352	330°	10		BML
			0200	-	-	-	-	-	-	-	-	-	changed seismic tape	
			0223	-	-	-	-	-	-	-	-	-	A/c → 112° at N 17°34'34 W 83°14'57	BML
			0230	120.6	114.6	7.8	5710	47822	6353	6354			A/c → 117° at 17°36'92 83°14'43	BML
			0300	120.6	118.1	7.9	5710	47763	6353	6353	330°	10		BML
			0330	120.4	117.6	7.9	5750	47716	6352	6353	330°	10		BML
Sat Fix			0245	01	-	-	-	-	-	-	-	-	SAT.Fix 02:45:01 / 17°36'60 - 83°10'72	EL 10 IT 2 CT 27

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	23 ²⁶	+4	0336	CAYMAN TROUGH	17°32'19	83°12'35	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
06	AUG	89	0400	118.9	120	7.9	5760	47687	6360	6361	330°	10		Bml
		(218)	0428										c/c to 114 at 17°29.9 - 83°00.7	EC
			0430	115.1	119.6	8.1	4200	47655	6396	6398	330°	10		EC
			0500	116.6	119.3	7.9	3350	47642	6448	6453	330°	8		EC
			0506										c/c to 110 at 17°27.5 - 82°56.7	EC
			0530	109.7	119.6	7.7	2580	47649	6481	6484	330°	8		EC
			0600	112.4	120.2	8.1	2330	47641	6488	6489	330°	8	c/c to 114 at 17°24.1 - 82°50.9	EC
			0630	114.4	120.1	8.3	2250	47612	6496	6497	330°	7		EC
			0700	115.7	120.3	8.3	2180	47595	6491	6492	340°	5		EC
			0730	116.4	120.5	8.5	2180	47505	6482	6482	355°	3		EC
			0800	118.9	115	8.1	1670	47509	6495	6496	0°	11		EC
			0830	115.4	117	7.7	1470	47684	6500	6501	0°	10		
			0923										0900 depth = 1690m	
			0930	67.2	113	7.7	1430	47651	6481	6482	005°	11	SAT - FIX 9:11 17 12 171 82 30.768	
			0938										LL-63 IT 2 CT 30	
			0942										C/C END LINE 20	
			0958										XDC 220°	
			1000			8.1	1240	47648	6558	6576	320°	4	XNC	
			1004										TURNING	
			1030	300	296	8.4	1270m	47700	6585	6587	325°	4	START LINE 21 - 291°	SOL 21
			1039										Adj C / 305°	
			1047										Adj C / 315°	
			1100	300.8	315	8.6	1340	47718	6583	6581	330°	4	1058 - SAT -	
			1112		303								17 10.55'	
			1130	300	303	8.7	1403	47647	6596	6597	330°	5	32° 36' 41"	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	0800	+4	1200	PAY MAN TROUGH	17°12'37	83°06'71	MANN/ROSE NC MA NT

DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR	HR	MIN	SEC	DIR	SPD	M	SEC	GRAVITY	SPRING TENSION	DIRECTION		
06	AUG	89	11	33	45	-	-	-	-	-	-	-	SAT FIX N 17°13'44 - W 82°41'23 EL 17 IT 2 CT 27	Bml
			12	00		300.2	307.9	8.2	2050	47506	65796576	000° 8		Bml
			12	30		299.9	309.2	8.0	2060	47502	65826583	335° 8		Bml
			13	00		299.5	307.4	7.6	2030	47585	65906592	350° 6		Bml
			13	30		299.1	307.2	8.6	2300	47647	65946594	350° 6		Bml
			14	00		298.7	307.4	8.5	2750	47657	65836582	350° 6		Bml
			14	30		305.1	309.2	8.4	3910	47648	65316526	330° 8		Bml
			14	31		-	-	-	-	-	-	-	A/C → 306° at N 17°26'19 - W 83°11'06	Bml
Sat Fix			14	19	24	-	-	-	-	-	-	-	SAT FIX 14:19:24 N 17°19'27.8 - W 83°01'23.4 EL 17 IT 4 CT 17	Bml
			14	56		-	-	-	-	-	-	-	A/C → 304° at N 17°28'14 - W 83°11'74	Bml
			15	00		297.8	305.6	8.5	47697	47697	64766469	330° 4	Change Delay to Ss } dropped off a steep wall and	Bml
			15	09		-	-	-	5720	-	-	-	Change Delay to Gs. } was very hard to track w/seathere	Bml
			15	13		-	-	-	-	-	-	-	Change Tape Seismic -	Bml
			15	30		296.7	306.2	8.7	5730	47747	64536450	330° 4	A/C → 306°	Bml
			16	00		295	306.6	8.8	5710	47776	64526452	330° 4		Bml
			16	23		-	-	-	-	-	-	-	A/C 308° 17° 39' 14.2 S 3° 19' 14.8	Bml
			16	30		292.6	305.9	8.5	5710	47862	64576458	340° 8		Bml
			17	00		291.9	305.7	8.4	5705	47904	64706471	340° 9		Bml
			17	30		300.9	309.6	8.4	5080	47948	64876489	345° 9		Bml
			17	31		-	-	-	-	-	-	-	17°40' 65, 83°30' 27 a/c 310°	Bml
			17	55		-	-	-	-	-	-	-	a/c 305° 17°44' 23, 83°33' 51	Bml
			18	00		295.5	305.1	8.7	5650	47981	65076510	345° 9	a/c 298° 17°45' 97, 83°36' 36	Bml
			18	15		-	-	-	-	-	-	-	a/c 290 17°47' 118, 83°39' 125	Bml
			18	30		297.3	289.2	8.1	5810	47999	65306535	330° 10		Bml

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA			LATITUDE		LONGITUDE		CHIEF SCIENTIST	
R/V MOANA WAVE			MW 8909		0250	+4	1850	CAYMAN T. CLF			17° 47.47		83° 42.27		MANN/ROSENKRANTZ	
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. <input checked="" type="checkbox"/> F. <input type="checkbox"/> MSEC	MAG	GRAVIMETER			WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION		DIRECTION	KNOTS			
06	AUG	87	1848	—										a/c 248 17° 47.47, 83° 42.27	8	
(218)			1852											XNC 17° 47.67, 83° 42.75	8	
			1900	301.4	207	8.2	5500	48011	652765	26	345	8				
			1922											302° a/c 17° 50.23, 83° 46.94	8	
			1934	201.5	207	8.7	5500	48111	652665	26	330	8				
			1934											C/c 210° 17° 51.171, 83° 48.814 EOL 21	8	
			2000	209.8	207	8.2	5500	48054	649664	90	350	9				
			2005											XNC	8	
			2012											LINE 22 Begins	SOL 22 8	
			2030	119.8	117	8.5	5560	47979	641263	96	10	10				
			2033											SAT FIX 1924 17° 50.482 83° 47.476 EL 14 11.2 CI 25	8	
			2100	119.8	114	8.7		47968	640664	06	10	9				
			2113											A/c 125°	8	
			2130	119.9	124	8.3	5620 47928	47928	640764	06	10	7				
			2133											SAT FIX 2038 17° 45.441 83° 48.054 EL 54 11.2 CI 31	8	
			2158											SAT FIX 2124 17° 42.702 83° 42.793 EL 30 11.2 CI 31	8	
			2200	119.9	123	8.1	5660	47889	640164	00	5	9				
			2214											ADJ/C to 119	CG	
			2228											Start new paper for recorder #6	CG	
			2230	119.8	120	8.1	5670	47906	637063	90	20	11				
			2300	119.7	117	8.3	5680	47889	638463	87	20	10				
			2309											ADJ/C 117	CG	
			2312											17 36.140 83 31.391 27 11.2 CT 28	CG	
			2330	119.7	115	8.2	5690	47860	638663	86	050	8				
07	AUG	89	0000	119.5	116.2	8.1	5080	47814	638663	87	010	10			AMM	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	2005	+4	0005	CAYMAN TROUGH	17°34'31	83°13'63	MAW/Rosenkrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH X M <input type="checkbox"/> W SEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
07	AUG	89	0030		119.5	114.1	7.9	4710	47775	63856385	5°	12		Bml
(219)	P		0044		-	-		-	-	-	-°	-	A/C → 112° 17°31'22 83°12'82	Bml
SAT	Fix	*	0035:27		-	-		-	-	-	-°	-	SAT FIX 17°31'25.9 - 83°22'82.4 EL49 IT2 CT32	Bml
			0100		119.4	114.1	7.9	4830	47749	63776377	10°	14		Bml
			0120		-	-		-	-	-	-°	-	Delay changed to 5s	Bml
			0130		119.8	113.9	8.1	5530	47703	63696368	6°	12		Bml
			0200		120.2	112.2	8.0		47671	63826384	6°	12	Raytheon Seismic Recorder ONT	Bml
			0210		-	-		-	-	-	-°	-	Seismic Records OK -	Bml
			0224		-	-		-	-	-	-°	-	Delay Changed to 4s	Bml
			0230		120	113.1	8.1	3650	47660	63226326	2°	16	A/C → 115° at 17°24'84 - 83°10'63	Bml
			0241		1-	-		-	-	-	-°	-	Delay Changed to 2s	Bml
			0300		120.1	115.9	8.2	2250	47638	64776483	0°	14		Bml
			0305		-	-		-	-	-	-°	-	A/C → 118° at 17°22'78 83°09'99	Bml
Sat	Fix	*	0222:04		-	-		-	-	-	-°	-	SatFix 17°25'42 - 83°11'78 EL 17 CT 33	Bml
			0330		120.1	118.1	8.4	1850	47681	65036506	4°	18		Bml
			0400		119.8	117.4	8.5	2130	47626	64926491	0°	18		Bml
			0430		119.8	119.2	8.4	2125	47550	64856484	0°	15		
			0500		126.9	119.2	8.3	1370	47476	65136515	15°	16		
			0530		130.9	119.2	8.5	1710	47668	65026500	15°	14		
			0600		146.7	117.6	8.5	1820	47601	64726472	10°	16		
			0626							6457			CIC → 209 E.L. # 22 EOL 22	
			0630		21.2	170.2	8.3	1610	47741	64896489	335°	16		
			0634										On turn	
			0658										CIC → 300	
			0700		41.1	234	8.2		47564	65666569	305°	12		

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA			LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE			MW 8909		0703	+4	0703	Cajman Trough			170454	8245.89	MANN
DATE	GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER	WIND	COMMENTS		OBSERVER		
DAY	MONTH	YEAR											
07	AUG	89	0705						XNC - S.O.L. #23		SOL23		
(219)			0716						CIC → 307				
			0718						AIC → 302		0827 - SAT Fix.		
			0730	300.8	301.9	8.4	1580	07486	65826583	275° 4	17° 09.67'		
			0800	301.3	301	8.5	1550	475410	65865785	275° 3	82° 55.00'		
			0830	301.8	301	8.5	1480m	47535	66006603	225° 3			
			0831				1480				Sat record = 5 on - record 54		
			0840								AIC to 312 17°10' 82°		
			0900	300	312	8.6	1400m	47539	66026600	315° 1			
			0930	300.6	310	8.6	1830m	47541	65726573	25° 1			
			0935								AIC 303		
			1000	300	312	8.5	1875	47540	65056575	20° 2	1014 - SAT Fix (M'VOX #2)		
			1030	300.1	303	8.6	1830	476066	66026603	310° 3	17°18.01'		
			1100	300	312	8.7	2600	47635	65916792	205° 4	83° 08.57'		
			1123								AIC to 306		
			1130	300	315	8.8	3425	47639	65466542	325° 3			
			1200	300	307.1	8.5	3890	47690	65276526	270° 4			
Sat Fix *	11	11	52	-	-	-	-	-	-	-	SAT. Fix 111152		17°22' 114 - 83°16' 689
			1222	-	-	-	-	-	-	-	309° AIC at 17°30' 16		83°11.78 ← INTERNAL
BRIDGE Fix *	12	09		-	-	-	-	-	-	-	BRIDGE Fix 12:09		17°26.6 - 83°25' 18
			1230	299.7	301	8.6	3260	47342	65416543	270° 2			
			1245	-	-	-	-	-	-	-	AIC → 314°		at 17°29'416 - 83°30'140
			1300	300.1	315.6	8.6		47779	65306528	180° 2			
			1317	-	-	-	-	-	-	-	AIC → 307°		at 17°32'39 - 83°34'27
			1324								Change Delay to 5.0 s		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0926	+4	1326	PAYMAN TROUGH	17°33'029	83°35'437	MANN/ROSENKRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> INSEC	MAG.	GRAVIMETER				WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
07	AUG	89	1330		299.7	307.1	8.4	5300	47815	6505	6502	266°	2			Bml
(219)			1400		299.7	307.9	8.8	5460	47834	6503	6503	266°	2			Bml
			1430		299.6	306.9	8.5	5350	47841	6501	6501	270°	4			Bml
SAT	Fix	*	1422	07											SAT Fix N17°37'92 - W83°43'87 EL 18 IT 2 CT 32	Bml
			1433		-	-		-	-	-	-	-	-		A/C → 304 at 17°39'02 - 83°45'47	Bml
			1500		298.7	304.7	8.6	5475	47936	6508	6507	270°	4			Bml
			1519												Low Pressure → check the guns (Dave)	Bml
			1520												RIS → 4 knots (to change the gun)	Bml
			1530		298.7	303	8.5		47998	6496	6494	212°	4			Bml
			1533		-	-									Changed Gun (→ Starboard) 1/5 → 8 knots	Bml
			1600		298.6	303.9	8.0	5410	48085	6510	6509	280°	2			Bml
			1624												c/c to 290 290	EC
			1630		296.0	289.1	7.8	5360	48103	6522	6521	300°	2			EC
			1700		300.0	289.2	7.1		47013	6528	6529	270°	2			EC
			1721												c/c to 297 at 17°50.8 - 84°08.1	EC
			1730		302.1	283.1	7.3	5200	48200	6527	6527	240°	2			EC
			1752												c/c to 210 at 17°52.2 - 84°12.0 End line #23 ^{EDL 23}	EC
1759			1800		074.1	213.4	6.8		48150						on course -	EC
			1800		069.1	212.2	7.4	5200	48177	6525	6533	325°	15			EC
			1811												A/C → 200- 1751 21 8413 78	
			1827		344.9	114.2									XNC at 17°49.2 - 84°14.6 Beg. line #24	EC
			1830		344.9	114.2	8.1	5180	48108	6481	6491	360°	10			EC
			1900		119.8	120.7		5100	48103	6429	6424	360°	10			EC
			1930		119.8	119.7	7.7	5210	48081	6426	6424	360°	21			EC
			2000		119.8	121	7.7	5210	48007	6423	6424	10°	17			EC

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA			LATITUDE	LONGITUDE	CHIEF SCIENTIST	
R/V MOANA WAVE			8909 MNV		16:05	+4	20.05	CAYMAN TROUGH			17°43	84°04	MANN/ROSECRANZ	
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input type="checkbox"/> WSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
07	AUG	89	1953										SAT FIX 17 43.806 84 05.596 d 24 it 2 ct 23	CG
			(219) 2030	117.9 121	7.7	5300	47932	64126	419	205	15			
			2100	119.8 120	7.9	5375	47912	64116	417	205	14			
			2059										SAT FIX 17 40.083 83 58.849 d 17 it 2 ct 26	CG
			2130	119.8 120	7.8	5000	47922			005	14			
			2200	120 119	8.0	4740	47824	64336	435	005	16			
			2202										A/C to 116	
			2230	112.7 17	7.9	4340	47787	64450	417	005	12			
			2230										Seismic filter went out	
			2300	119.7 119	7.0	3870	47763	64414	41	005	12			
			2249										SAT FIX 17 33.810 84 59.050 d 17 it 2 ct 23	
			2330	112.7 113	7.9	3440	47710	64736	473	355	13			
			2332										A/C to 114	
08	AUG	89	0000	119.8 115.7	8.2	2960	47690	64806	481	000	16		Changed delay to 38.	Bml
			0012	-	-	-	-	-	-	-	-		A/C 112° at 17°28'815 - 83°38'439	Bml
			0030	119.8 117.9	8.1		47677	64796	479	005	18			Bml
			Satfix * 0011:40	-	-	-	-	-	-	-	-		SAT FIX 00:11:40 N17°29'51 W83°69'79 EL32 it 2 ct 36	Bml
			0100	119.9 113.6	8.4	2460	47672	64826	482	000	18			Bml
			0130	120.2 112.4	8.5	2920	47690	64756	474	000	18			Bml
			* 0200	120.6 111.6	8.6	2625	47626	64696	468	350	20			Bml
			0230	120.0 117.7	8.4	2365	47580	64756	476	350	18			Bml
			Satfix * 0159:59	-	-	-	-	-	-	-	-		17°22'92 83°27'44 EL32 it 2 ct 32	Bml
			0249	-	-	-	-	-	-	-	-		01:59:59 Satfix 17°22'92 83°27'44 EL32 it 2 ct 32	Bml
			0300	120.3 117.6	8.3	2550	47568	64866	488	350	22		117° A/C at N17°20'101 - W83°22'074	Bml
			0330	120.3 117.8	8.4	2220	47695	64886	488	340	22			Bml

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST		
R/V MOANA WAVE				8909 MW		0000	+4	0400	Cayman Trough	17°16'57	83°15'71	Mann/Ramirez		
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSLC	MAG.	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
01	Aug	89	0400:	119.9	118.4	8.2	1950	47603	6488	6488	330°	24		BmL
(2200)			0430:	119.2	118.7	8.1	1730	47565	6481	6472	340°	22		
			0500:	118.3	117.7	8.0	1110	47523	6515	6517	340°	15		80
			0530:	118.3	117.1	8.1	1100	47523	6515	6517	340°	20		
			0600:	117.3	117.2	8.1	1338	47502	6494	6497	330°	20		
			0630:	114.7	118.9	7.8	1270	47494	6493	6492	335°	20		
			0700:	108.5	116.7	8.1	1280	47432	6497	6497	340°	18		
			0712:											
			0730:	200.4	137.7	7.9	1380	47439	6475	6475	315°	18	c/c to 130 209 (turn 10019ht) 170114 824767.	ca
			0800:	210	210	8.1	1334	47315	6535	6544	219°	18		
			0803:											
			0809:	300°	302°								c/c TO 300. ON COURSE 300° START LINE # 25.	
			0816:										0742:43 SAT FIX 16°59.617 82°48.625 EL 17 11 2 CT 22	ca
			0830:	300	304	8.3	1540	47304	6553	6560	105°	5		
			0900:	300	303	8.2	1310	47381	6583	6583	105°	5		
			0930:	300	301	8.1	1185	47327	6596	6598	130°	4		
			1000:	300	302	8.1	1030	47422	6599	6598	145°	4	0859 SAT FIX 17°00.373 82°56.464 EL 22 11 2 CT 28	ca
			1030:	300	302	8.0	1012	47442	6623	6627	120°	4		
			1042:	300	300	7.7	47464	6606	6604	120°	4	4	MAGNOVOX NAVIGATOR DOWN / RIGHT BACK-UP USED	ca
			1043:										0947 SAT FIX 17°03.48 83°02.08 (RIGHT) EL 10 11 3 CT 13	ca
			1100:	300	300	7.7	1710	47464	6606	6604	120°	4		
			1105:		305								A/c 305°.	
			1130:	300	305	7.5	1600	47527	6592	6592	120°	5		
			1150:										A/c 307°	
			1200:	300	307.9	7.5	1825	47603	6579	6578	120°	4		mk BmL

c/c to 130
 & 209 (turn 10019 ht) 170114
 824767.

c/c TO 300.
 ON COURSE 300° START LINE #25.

0742:43 SAT FIX 16°59.617 82°48.625 EL 17 11 2 CT 22

0859 SAT FIX 17°00.373 82°56.464 EL 22 11 2 CT 28

MAGNOVOX NAVIGATOR DOWN / RIGHT BACK-UP USED

0947 SAT FIX 17°03.48 83°02.08 (RIGHT) EL 10 11 3 CT 13

A/c 305°.

A/c 307°

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	8:07	+4	12:07	CAYMAN TROUGH	17°12'71	-83°18'74	HANN/ROSENKRANTZ

DATE			GMT			INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER			WIND	COMMENTS			OBSERVER	
DAY	MONTH	YEAR							X/M	M/SEC		GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
08	AUG	89	12	11	34											Sat Fix	17°12'757	83°14'276 EL34 IT2 CT32	BmL
(2201)			12	30		199.5	306.7	8.3	2025	47600	65856	585	127°	4					BmL
			13	00		297.7	305.2		2000	47601	65936	594	125°	6					BmL
			13	11															BmL
			13	20															BmL
			13	21															BmL
			13	30		295.7	304.6	8.1	2475	47594	65866	585	185°	18			A/C → 305° at 17°17'654 83°26'057		BmL
			14	00		291.6	304.6	8.2	1800	47611	66016	603	135°	6			Changed delay to 2.0s		BmL
			14	11													Tape Change on Seismic		BmL
SAT FIX			14	00	05														BmL
			14	20															BmL
			14	30		302.4	305.1	8.4	1620	47680	66266	629	155°	8					BmL
			14	33															BmL
			14	49															BmL
			14	56															BmL
			15	00		205.1	304.1	7.4	1330	47676	66446	656	280°	18					BmL
			15	20															BmL
			15	25															BmL
			15	30		120.6	115.7	8.1	1255	47630	65506	546	0°	22					BmL
SAT FIX			15	23	16														BmL
			16	00		120.5	114.2	8.4	1650	47630	65146	518	0°	24					BmL
			16	14															BmL
			16	30		120.4	120.6	8.3	2080	47582	64886	488	0°	24					BmL
			16	45															BmL
																			BmL
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A/C → 305° at 17°17'654 83°26'057
 Changed delay to 2.0s
 Tape Change on Seismic
 A/C → 302° at 17°21'77 83°35'23
 Sat Fix 17°20'910 83°33'739 EL27 IT2 CT31
 A/C → 304° at 17°22'36 83°36'66
 Changed delay to 1.0s
 C/C → 205 End of Line #25.
 S/C → 205° at N17°24'239 W83°41'684
 C/C → 114° at N17°21'575 - W83°43'555
 S/C → 114° at N17°20'840 - W83°43'150
 SAT FIX N17°21'072 - W83°43'911 EL47 IT3 CT32
 No Gun Signal
 A/C 120 171805 833801
 Gun signal restored
 A/C 117

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	8909 MW	1300	+4	1700	Cayman Trough			Mann/Rosencrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
08	AUG	89	1700	119.8	117.4	8.2	2560	47569	6476	6474	0	18	Gun Signal stopped on Oscilloscope	da
(220)			1707										Gun Signal Restored.	da
			1730	120.1	119.9	8.2	2200	47551	6475	6476	355	18		da
			1800	119.8	115.8	8.1	2000	47567	6476	6476	0	18	1710.90 83 29 9. -GPS @ 18.09.	da
GPS			1830	119.6	118.4	7.9	1830	47523	6479	6481	350	18		da
			1846										C/C 209 1708 52 8321 38 .50L-26	da
			1852										XNC	da
			1900	210.5	206.9	8.1	1660	47542	6587	6590	275	10		da
			1919										C/C 300 1704.44 8323.36	da
			1926										XNC . Begin Line 27 1704 30 8324 28	da
			1930	112.4	303.2	8.6	1850	47472	6583	6584	90	8		da
			1937										A/C 302.	da
			2000	300.4	301	7.9	1790	47460	6579	6579	90	6		da
			2030	300.4	301	7.9	2050	47484	6568	6568	95	3		da
			2046										SAT FIX (1830) 17° 09.886 83° 23.126 EL 37 IT 2 CT 18	da
			2100	300.4	303	7.9	2290	47512	6559	6559	95	5		da
			2130	300.4	303	7.9	2550	47544	6560	6561	115	5		da
			2147										Adj/C 308°	da
			2200	300.4	307	7.9	2390	47612	6570	6570	130	7		da
			2230	299.5	305	7.7	1820	47631	6598	6500	125	6		da
			2241										SAT FIX (2226) 17 17.201 83 47.262 16512930	da
			2300	298.0	305	7.9	1750	47603	6617	6619	125	6		da
			2302										END LINE 27 C/C	da
			2308										XNC Seismics failed	da
			2330	1947	209	6.9	1910	47616	6584	6582	330	10	TURNING	da

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1900	+4	2300	ISLAS SANTANILLA (SWAN)	17° 19'	83° 53'	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M / SEC	MAG.	GRAVIMETER		WIND DIRECTION / KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
08	AUG	89	2339								0	XNC	(ET)
(220)			2346								10	C/C START LINE 28	(B)
5/1			2355								20	Ed in process of being pulled in - bad connection? Exact time of full recovery was 2346 at the beginning of line 28. ← NO (BEFORE) perhaps 2310	pm
09	AUG	89	0000	119.1	112.2	6.1	2345	47583	6497	6497	355° 20		BmL
(221)			0001								30	T/S → 8 knots	BmL
SAT FIX	*		2348:29								0	SAT FIX 17° 15' 61 83° 55' 08 EL21 IT2 CT33	BmL
			0017								0	A/C 116° at 17° 14' 118 83° 52' 517	BmL
			0030	119.7	118.1	7.2	2130	47569	6487	6487	(380)° 24		BmL
			0100	119.8	117.6	8.1	2190	47567	6475	6474	355° 22	3.5 kHz out (switched 10')	BmL
			0130	119.6	116.6	8.3	2360	47504	6459	6457	355° 24		BmL
SAT FIX	*		0052:34								0	(Rejected?) 17° 12' 07 83° 48' 75 EL12 IT2 CT25	BmL
			0200	119.9	116.2	8.2	2230	47480	6455	6456	0° 24		BmL
			0230	120.4	117.4	7.8	2170	47460	6454	6455	355° 22		BmL
SAT FIX	*		0137								0	SAT FIX (01:37) 17° 09' 7 - 83° 43' 7	BmL
			0250								0	Changed paper on Rec 5 (Seamarc II.) → 01:59	BmL
			0300	121.5	116.7	7.8	1650	47416	6474	6478	355° 22		BmL
			0321								0	A/C → 119° at 17° 03' 555 83° 32' 466	BmL
			0330	120	119.5	7.8	1375	47419	6494	6497	350° 22		BmL
			0342								0	C/C → 209° END OF LINE 28 at 17° 02' 234 83° 30' 294	BmL
SAT FIX	*		0300								0	SAT FIX 17° 04 81 83° 34 86 EL31 IT2 CT34	BmL
			0348								0	XNC 17° 01' 269 83° 30 393 Begin line 29	BmL
			0400	2063	206.7	8.1	1310	47346	6575	6598	0		BmL
			0403								0	A/C 198 1659 73 83 31 32	(B)
			0416								0	A/C 300 1658 11 83 32 11	(B)

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA			LATITUDE	LONGITUDE	CHIEF SCIENTIST			
Moana Wave			MW8909		0020	+4	0420	Islas Santanilla (Jama)			16 57 73	83 32 88	Mann			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER		
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
09	Aug	89	0423										XNC S.O.L. # 29	16 57 81 / 83 33 14	da	
(224)			0430	108.4	301.4	9.0	1460M	47236	66	20	66	15	120° 8		da	
			0500	299.8	301.4	7.8	1670	47303	65	59	65	53	130° 10		da	
			0530	299.6	300.9	8.1	1870	47412	65	48	65	48	150° 10	RIS 4kls	da	
			0537											TIS 8kls	da	
			0546											3.5 kHz printer problem recognized - occurred ~ 0530	da	
			0600	299.5	301.4	7.8	2070	47447	65	46	65	47	150° 8			
			0630	298.8	301.1	7.7	2030	47460	65	58	65	58	150° 7			
			0639											AIC → 308.	1706 63 83 50 07	da
			0700	300.7	308.9	8.1	2080	47538	65	65	65	66	150° 6			
			0730	299.4	308.4	7.6		47531	65	88	65	91	140° 6	AIC → 305	1710 77 83 55 38	da
			0800	298.2	303	7.6	2300	47593	65	82	65	83	145° 6	WATCH CHANGE		da
			0830	296.5	304	8.4	2650	47604	65	67	65	65	125° 5			da
SAT FIX			0844											SAT FIX (0627) 17° 15.263 84° 05.556 EL 1		da
SAT FIX			0846											SAT FIX (0837) 17° 15.263 84° 05.556 EL 12 IT 10 CT 20		da
			0848											Adj 310°		da
			0900	293.0	309	8.5	2180	47645	65	86	65	85	120° 5			da
			0930	285.1	309	8.2	1150	47647	66	37	66	39	120° 5	Magnovox not reliable		da
			1000	265.4	309	8.0	2250	47723	66	24	66	29	115° 5			da
			1004											C/C 071° BEGIN TRANSIT INTERRUPT LINE 29		da
			1012											X/NC 072°		da
			1018											Adj/C 072° 6 knots		da
			1030	070.1	070	5.7	2850	—	65	10	64	85	015° 16			da
SAT FIX			1037											SAT FIX (1025) 17° 24.153 84° 15.636 EL 66 IT 3 CT 29		da
			1048											SeaMARC connector on deck for inspection (depressor)		da

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
Moana Wave	MW 8909	0700	+4	1100	Islas Santanilla (I. del Cisne)	17° 24'	84° 14'	Mann/Rosencrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSC	MAG.	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
09	AUG	89	11:00	839	84	5.4	2420		6509	6504	005°	16		CE
	(221)		11:06										Depressor passed inspection and is redeployed	CE
			11:15										Maggie redeployed and powered up for test/passed	CE
			11:18										SeamARC operational; speed inc. to 8.0 knots	CE
			11:21										Maggie powered up	CE
			11:30	85/84		5.2	2130	47740	65236	522	000°	18		
			11:47										Slow to 4 knots	PM
			11:50										eel deployed; stbd gun deployed. 5th gun #20 J	
			12:00	93.3	85.6	8.2	2050	47740	65216	522	000°	22	#6 xt on 20. [No trace in Recorder #2 and #3 Seismics - reported to Steve]	BML
			12:26										AIC → 078°	BML
			12:30	071	80.1	8.3	1525	47760	65516	553			AK → 078°	BML
			12:43										AIC → 073° at 17°27'210 83°59'08	BML
			13:00	0636	0741	8.0	1590	47782	65536	551	006°	18		BML
			13:11										AIC → 069° at 17°28'407 - 83°57'038	BML
SAT FIX			12:46										SAT FIX: 17°27.6 84 01.6	
			13:30	0527	0694	8.2	1940	47826	65486	545	006°	18		BML
			13:32										AIC 073° at 17°29'6 - 83°54'2	BML
			14:00	071	0724	7.5	2180	47808	65356	131	006°	22		BML
SAT FIX			13:36										SATFIX - 17°29.6 - 83°56.3	BML
			14:05										C/C 305°	BML
			14:13										XNC 305° START LINE #30 at 17°31'8-83°52'8	BML
			14:30	298.9	306.2	8.1	3440	47865	65896	599	130°	4	Delay changed to 4s	BML
			15:00	292.5	308	8.2	4650	47851	65436	538	135°	4	(Delay changed to 6s at 1456)	BML
			15:30	299.7	307.7	8.2	5200	47928	65196	517	135°	4		BML
			14:59										SAT FIX: 17°35.1 84°00.2	PM

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1137	+4	1537	SWAN ISLANDS (ISLA DEL CISNE)	17° 38' 2	84° 04' 7	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> INSEC	MAG	GRAVIMETER				WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
09	AUG	89	1600	-	292.5	308	8.0	5230	48000	6514	6514	120°	4			PM
(291)			1630		293.5	309.0	7.2	5230	48065	6523	6524	120°	2			EC
			1700		291.3	301.9	8.4	480516	48042			95°	2			EC
			1703												C/C to 304 at 17°45.1 - 84°17.2	EC
			1714												C/C to 290 at 17°46.0 - 84°18.6	EC
			1721												17°46.34, 84°19.48 C/C 210	
			1726												C/C to 205 at 17°46.0 - 84°20.1 (EOL 30)	EC
			1730		290.7	295.1	7.4	5140	48055	6520	6531	300°	12			EC
			1746												C/C to 195 at 17°43.9 - 84°21.3	EC
			1758												Sat fix at 17°43.03 - 84°23.51	EC
			1759												C/C to 120 at 17°42.8 - 84°23.5	EC
			1800		118.0	119.0	6.7	5130	48031	6508	6508	30°	15			EC
			1805												XNC at 17°42.4 - 84°23.2 (EOL 31)	EC
			1813												C/C to 120 at 17°41.1 - 84°22.5	EC
			1823												C/C to 118 at 17°41.6 - 84°22.5	EC
			1830		119.5	118.4	8.0	5150	49005	6435	6430	355°	20			EC
			1800		119.5	118.1	7.7	5160	48018	6432	6432	355°	10			EC
			1930		119.3	118.7	7.9	5150	47965	6430	6429	355°	20			EC
			1931												C/C 115 1737 79 84 14 61 SAT 18:23	
			1949												SAT FIX 17°42.548 84°23.525 1737 2473	
			2000		119.2	115	8.2	5210	47923	6424	6423	350°	16			
			2025												XXXXXXXXXXXXXXXXXXXX	
			2030		119.0	113	9.0	5150	47883	6423	6423	345°	16			
			2045												SAT FIX (2012) 17 35.78 84 11.23 042.12	

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA		LATITUDE	LONGITUDE	CHIEF SCIENTIST			
R/V MOANA WAVE			W8909		5:45	+4	20:45	SUAN ISLAND		17° 33	84° 07	MANN/ROSPACKANTZ			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
22	AUG	89	2100:			8.0	4400	47836	64366	436345°	17			(G	
(221)			2130:			8.1	3750	47820	64646	465340°	17			(G	
			2135:										end line 31	(G	
			2141:										XNC		
			2149:										A/C 190		
			2200:	190	189	7.5	2350	47820	65746	574300°	10				
			2206:										Start new line 32		
			2234:	300	311	7.7	3000	47823	66046	614085°	9				
			2240:										SAT FIX 17 22.16 8407.93 (2229) 17 22.16 8407.93	(G	
			2300:	300.6	311	8.0	4350	47825	65516	547075°	10				
			2307:										new belt on recorder #1		
			2330:	300	310	7.9	5015	47853	65296	526075°	11			(G	
			2334:										A/C 309		
			2338:										SAT FIX 17 32.46 8407.93 (2325) 17 32.46 8407.93	(G	
10	AUG	89	0000:	300.1	308.9	8.0	5150	47937	65256	525060°	15			BmL	
(222)			0030:	298.9	308.7	7.8	5110	48003	65326	531080°	6			BmL	
			0033:										A/C → 306° at 17°38'0 - 84°24.3	BmL	
			0100:	296	307.2	7.9	5110	47977	65386	539080°	14			BmL	
			0117:												
			0110:	END OF LINE # 32											BmL
			0116:										XNC 204° @ 17°40' 860 84°29' 474	BmL	
			0130:	297	307.7	8.2	5100	47977	65226	518260°	10			BmL	
			0148:										E/C → 115° @ 17°37' 466 - 84°33' 216	BmL	
			0154:	START OF LINE # 33											BmL
			0200:	-	115	7.1		47930	64406	429330°	22		XNC 2115° @ 17°36' 765 - 84°33' 072	BmL	

end line 31
XNC
A/C 190

start new line 32

SAT FIX 17 22.16 84 07.93 (2224) 17° 33' 07" N 84° 07' 53" W

new belt on recorder #1

A/C 309

SAT FIX 17 32.46 84 15.22 13 11 21 24 (2325) 17° 32' 46" N 84° 15' 22" W

A/C → 306° at 17° 38' 0" - 84° 24' 3"

C/C 204° @ 17° 40' 860 84° 29' 474 EOL 32 BmL

XNC 204° @ 17° 40' 676 - 84° 30' 458 BmL

C/C → 115° @ 17° 37' 466 - 84° 33' 216 BmL

XNC 2115° @ 17° 36' 765 - 84° 33' 072 SOL 33 BmL

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	22:11	+4	02 11	PAYMAN TROUGH - SWAN ISLANDS	17°36'163	84°31'500	HANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER				WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION					
10	AUG	89	0213											A/C 113° @ 17°36'090 84°31'377	BML
(222)			0230												BML
			0239											A/C 116° @ 17°34'07 84°29'9	BML
			0300												BML
Sat Fix #			0330											Change of Delay to 5.05 / to avoid burned area on Rec #3	BML
			0344											Change delay to 6.05 again	BML
			0400												BML
			0401											C/C 112 17°30'114 84°20'56 (Sat Fix GPS box)	ST
			0430												ST
			0500												ST
			0516											C/C 209 / EOW #33 17°26'26, 84°13'21 EOW 33	ST
			0522											XNC 17°25'52, 84°13'21	ST
			0530												ST
			0549											A/C 300 17°22'5, 84°15'5	ST
			0555											XNC 17°22'44, 84°16'47	ST
			0600												ST
			0611											A/C 309 17°22'74, 84°18'37	ST
			0630												ST
			0656											A/C 313 17°25'95, 84°23'55	ST
			0700												ST
			0730												ST
			0735											A/C 308/17 28 80 84 28 57	ST
			0751											SAT FIX 1723.34 8418.992 1727.2071 (GPS)	ST
			0800												ST

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW8909	0400	+4	0800	Cayman Trough - Swan Islands	17°30' N	84°31' W	Mann/Rosencrantz

DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR								GRAVITY	SPRING TENSION	DIRECTION		
10	AUG	89		08:26									SAT FIX (0800) 17°30.567 84°31.687 EL 30 IT 3 CT 26	(D)
	(222)			08:30	302.0	311	7.7	5090	47886	6521	6520	60°15		(D)
				09:00	301.4	311	7.6	5060	47917	6532	6532	70°14		(D)
				09:03									C/C END LINE 34	(D)
				09:10									XNC / PULL EEL IN FOR CHECKOUT	(D)
				09:30	191.1	203	7.3	4980	47861	6526	6526	230°9		(D)
				09:38									XNC	(D)
				09:43									C/C START LINE 35	(D)
				10:00	120.5	113	7.7	4980	47834	6435	6421	315°20	EEL CHECKED OUT "OK" ON VISUAL	(D)
				10:03									AdjC 122°	(D)
				10:08									SAT FIX (0947) 17°32.157 84°42.349 EL 24 IT 2 CT 26	(D)
				10:19									AdjC 130°	(D)
				10:30	120.2	129	7.9	4800	47809	6439	6441	300°17		(D)
				10:56									AdjC 120°	(D)
				10:58									SAT FIX (1023) 17°30.126 84°38.795 EL 27 IT 2 CT 23	(D)
				11:00	119.7	119	8.0	4980	47792	6432	6434	310°18		(D)
				11:15		112							A/C	
				11:30	119.6	112	7.9	4550	47782	6428	6427	310°22		(D)
				11:38									SAT FIX (1126) 17°25.333 84°32.634 EL 13 IT 3 CT 21	(D)
				12:00	119.7	111.1	7.7	3670	47647	6444	6447	330°26		BML
SAT FIX*				12:10:44									SAT FIX 12:10:44 17°22'662 84°27'894 EL 25 IT 3 CT 24	BML
				12:26									A/C → 110° @ 17°21'80 - 84°26'09	BML
				12:30	119.7	111.9	8.3	3120	47674	6464	6468	330°24		BML
				13:00	120.1	108.4	7.9	2020	47654	6504	6498	330°26		BML
				13:30	120.1	111.4	8.0	2170	47616	6497	6499	330°22		BML

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
10	AV	48	90	3140	5										SAT FIX 13:14:05 17°19'23 84°20'575 EL63 IT2 CT34	BmL
(122)				1351											A/C → 112° @ 17°17'23 84°16'33	BmL
				1400		120.3	112.4	7.7	3000	47602	64686467	330°	24		A/C → 115° (14:01)	BmL
				1430		120.3	117.2	8.2	2370	47569	64646466	330°	24			BmL
				1500		120.0	113.9	8.4	2720	47564	64596460	330°	22			BmL
				1436											SAT FIX: 17°24'26 - 84°1151 EL 21 IT2 CT33	
				1530		119.9	113.4	8.1	1800	47495	64876492	330°	22			BmL
				1600		119.9	112.9	8.4	1600	47482	64946498	330°	20			BmL
				1630		118.8	113.2	8.5	1700	47436	64756476	325°	18			EC
				1700		119.5	111.1	8.6	1700	47428	64696470	325°	20			EC
				1624											17°07.1 - 83°59.4 SAT FIX	EC
				1730		120.0	112.6	8.6	1890	47394	64586459	325°	20			EC
				1752											c/c to 112	EC
				1800		119.6	111.7	8.3	1940	47367	644166448	325°	20			EC
				1830		119.6	110.6	8.4	1940	47327	64376438	325°	20			EC
				1900		119.8	111.9	8.4	1820	47197	64386441	325°	20			EC
				1929					1820						c/c to 116	EC
				1830		120.3	117.6	8.3	1570	47152	64596460	305°	20			EC
				1954											SAT FIX 1927: 16°56.203, 83°36.131 EL 18 IT3 CT23	EC
				2000		120	118	7.8	1312	47343	64756485	315°	16			
				2030		120	120	7.6	1175	47369	64666470	315°	17		SAT FIX	
				2100		120	119	7.4	1853	47235	64356435	330°	18			
				2101											A/C	R
				2130		120	123	7.7	1857	47053	64126412	340°	18			
				2148											SAT FIX 2114: 16°48.824 83°25.62 EL 47 IT2 CT30	EC

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	2130	+ 4	2130	CAYMAN TROUGH/SWAN ISLANDS	16°47' N	83°23' W	Mann/Rosencrantz

DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FSEC	MAG	GRAVIMETER				WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR								GRAVITY	SPRING TENSION					
10	AUG	89	22	00	120.2	123	7.2	1852	46979	63996402			325	14		
	(222)		22	30	121.3	123	8.1	1852	46962	63876387			325	14		
			22	41												
			22	47												
			23	00	210	209	8.3	1835	47023	64746495			275	5		
			23	17		302										
			23	24		301										
			23	30		299	8.3	1525 1800	47264	65036511			090	7		
			23	34												
11	AUG	89	00	00	299	295.9	8.0	1860	47189	64886485			090	5		BmL
	(223)		00	30	299.9	296.9	8.1		47147	64896488			090	4		BmL
			23	42												
			01	00	299.9	294.9	8.2	1770	47591	65216522			060	6		BmL
			01	30	300.1	296.6	7.9	1890	47149	65126509			50	8		BmL
			01	57												
			02	00	300.5	305.6	7.8	1840	47338	65406499			60	8		BmL
			02	12												
			02	24												
			02	30	300.3	299.9	7.5	1600	47367	65246525			60	6		BmL
			02	43												
			03	00	300.9	306.9	7.3	1500	47028	65456546			40	10		BmL
			03	12												
			03	30	302	309.9	7.9	1750	47103	65456543			50	9		BmL
			04	00	300.0	311.9	8.0	1670	47276	65466545			55	10		BmL
			04	06												

C/C END LINE 35

X/NC

C/C

BEGIN LINE 36

SAT FIX

SAT FIX: 16°40.3 83°20.2 (EL=47; IT=2; CT=28)

A/C 305° @ 1648 201 83 36 692

A/C 310° @ 16°49'246 - 83°38'351

A/C 300° @ 16°50'600 - 83°40'111

A/C 306° @ 16°51'446 - 83°41'750

A/C 310° @ 16°53'329 - 83°45'070

A/C 306 @ 16°57'38 - 83°51'33

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA		LATITUDE		LONGITUDE		CHIEF SCIENTIST	
R/V Moana Wave			MW 8909		0008	14	0408	CAYMAN TROUGH / SWAN IS.		165738		835133		MANN	
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH X M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
11	AUG	89	0430		301.6	306.4	7.8	1600	47342	6556	6556	30°	10		Cal
(223)			0500		301.4	308.4	7.5	1830	47363	6553	6553	55°	16		
			0530		299.4	307.4	7.9	1780	47379	6562	6563	45°	10		
			* 0511											SAT FIX 17°01.83 83°59.16	
			0600		298.7	306.6	7.7	1718	47429	6568	6568	40°	10		
			0630		297.9	307.6	7.5	1010	47454	6612	6614	55°	10		
			0621											WID Δ 10 1.0	
			0637											WID Δ 10.5	8
			0700		297.0	301.4	7.5	2430	47493	6561	6553	40°	12		
			* 0655											SAT FIX 17°08.96, 84°12.45 (Transit)	8
			0730		299.9	305.4	07.9	2720.11	47541	6538	6535	55°	12		8
			0800		300.3	305	8.1	3160	47554	6537	6535	50°	10		10
			0830		300	303	8.0	2260	47508	6567	6568	085°	12		
			0900		300	305	8.5	2740	47624	6565	6564	060°	10		
			0918											SAT FIX 0902: 17°18.52 84°29.10 EL 60 IT 2 CT 29	10
			0930		300	304	8.6	3640	47693	6540	6536	060°	10		
			0955											SAT FIX 0939: 17°21.36 84°34.42 EL 57 IT 2 CT 33	10
			1000		300	306	8.5	4530	47693	6524	6522	060°	10		
			1030		300	305	8.0	4923	47722	6520	6518	075°	10		
			1100		300	306	8.1	4355	47809	6527	6527	085°	8		
			1101											SAT FIX 1101 17°27.53 84°44.73' EL 7 IT 3 CT 23	
			1113		300	290	8.3		47903	6536	6537	085°	10	ADJUST COURSE	
			1130		300	294	8.3	4935	47863	6536	6537	085°	10		
			1135		c/c									c/c END LINE 36.	
			1140											XNC	

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA				LATITUDE		LONGITUDE		CHIEF SCIENTIST			
R/V MOANA WAVE				MW 3909		740	+4	1140	SWAN ISLANDS TRANSFORM				17°29' N		34°50' W		MANN/ROSENKRANTZ			
DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH		MAG	GRAVIMETER		WIND		COMMENTS				OBSERVER	
DAY	MONTH	YEAR									GRAVITY	SPRING TENSION	DIRECTION	KNOTS						
11	AUG	89		11:42	—	210								0	→	Turn course				BM
(223)				12:00	191	210.9	7.8	4910	47771	65116509			275°	6		Changing paper on Recorder #6 (out of paper 1154)				BM
				12:10										0	→	C/C 123°				BM
				12:17										0	→	XNC Beg. Line #37 @ 17°25'6 - 84°52'9				BM
				11:08										0		SAT FIX FROM PREVIOUS WATCH: 17°29.24, 84°48.39 (ELIS, IT 2, CT 01)				BM
				12:30	119	223	8.0	4920	47750	64286413			330°	18						BM
				12:56										0	→	A/C 122° @ 17°22'373 84°48'639				BM
				13:00	119	170.9	7.9	4940	47747	64216473			330°	18						BM
				13:09										0	→	A/C → 116° @ 17°21'563 - 84°47'218				BM
				13:30	114.1	115.9	8.0	1650	47699	64166417			330°	18						BM
				13:51										0	→	Loran Position @ 1351 17°19'9 - -84°42.4				BM
				14:00	119.6	115.0	7.9	4030	47635	64216424			330°	18						BM
				14:27										0		A/C → 113° @ 17°17'692 - 84°37'402				BM
				14:30	119.6	115.0	7.8	3540	47600	64286430			330°	16						BM
				14:38										0	→	14:38:33 SATFIX: 17°16'91 - 84°37'12' (EL 8) IT 2 CT 25				BM
				15:00	120.2	114.6	8.1	3280	47612	64256427			330°	18						BM
				15:02										0	→	A/C → 115°				BM
				15:30	120.8	116.7	8.3	3470	47610	64166417			330°	16						
				16:00	121.5	117.2	8.4	3420	47550	64166417			330°	16						ce
				16:12										0		C/C 118° 17°11.48, 84°44.78				
				16:30	121.1	120.1	8.4	3240	47555	64176419			350°	12						
				17:00	114.9	120.2	9.2	5460	47483	64346437			330°	12						
				17:30	119.6	115.1	7.9	2110	47445	64446468			329°	10						
				18:00	119.6	113.7	8.0	1650	47411	64488444			330°	10						
				18:30	119.4	114.6	7.7	1720	47422				325°	8						

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA				LATITUDE	LONGITUDE	CHIEF SCIENTIST
RIV MORRIS WAVE			NW 89 09300			+4	1140	JUAN FERNAND TRANSITION				17°00.8	84°07.3	MANN/ROSENBLAD
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input type="checkbox"/> FMS	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	TENSION	DIRECTION	KNOTS		
11	AUG	89	1900:	119.6	112.2	7.6	1710	47384	6461	64145	345°	12		S
(223)			1930:	119.7	113.4	8.1	1820	47383	6461	6401	325°	12	1659 36 8405 13.	
			2000:	120	115	7.8	1668	47337	6457	6458	325°	13		
			2017:										SAT FIX 1857: 17 01.10 84 04.48 EL 19 11 2 CT 25	CR
			2030:	120	116	8.0	1355	47284	6466	6468	325°	16		
			2057:										END LINE 37	
			2100:	-	-	8.6	1185	47191	6467	6467				
			2105:	210	207								ON COURSE 210 -	
			2129:										9/16 TO 300°	
			2130:	TURN	TURN	9.5	1532	47093	6531	6530	270°	2		
			2130:	300	309								X ONE BEGIN LINE 38.	
			2154:		305								ADJ COURSE	
			2200:	300	307	7.9	1515	47191	6547	6543	040°	17		
			2206:										SAT FIX 2117: 16°51.61 83°56.50 EL 40 11 2 CT 30	CR
			2230:	300	306	8.0	1420	47241	6557	6553	035°	10		
			2300:	300	307	8.0	1775	47386	6543	6546	035°	10		
			2317:		309								ADJUST C.	
			2330:	300	311	7.9	1830	47409	6549	6550	030°	8		BML
12	AUG	89	0000:	300	309	7.8	1850	47478	6553	6553	030°	8		BML
(124)			0030:	299	309	7.8	1620	47572	6592	6597	040°	5		BML
			0000:	299	309	7.7	1800	47425	6583	6584	040°	6		BML
			0130:	300	310	7.8	3000	47484	6537	6531	040°	8		BML
			0200:	300	309	8.0	4230	47479	6483	6477	040°	8		BML
			0150:										SAT FIX: 17°08.69 84°30.48 (EL=5; IT=12; CT=12)	PM
			0230:	749	304	8.2	4225	47483	6469	6466	040°	8		

VESEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 89 09	2235	+4	0235	CAYMAN TROUGH - SWAN FAULT	17° 11' 47	84° 36' 87	MAHNA/ROSENCRANTZ

DATE			G-M-T			INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER				WIND	COMMENTS		OBSERVER
DAY	MONTH	YEAR									GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
12	AUG	89	0	2	16											SAT FIX : 17°09.88 84°32.32 (EL=14, LT 2, CT 24)		
		(224)	0	3	00	249	308	8.3	3670	47551	64966499		040°	6		AK 307° @02:59	Bm	
			0	3	25											A/C 305°	Bm	
			0	3	30	249	307	8.5	3550	47556	65246527		060°	4			Bm	
			0	4	00	249	305	8.3	4300	47554	65176516		060°	2			Bm	
			0	4	30	249	304.1	7.6	4930	47631	65136513		060°	7			EC	
			0	5	00	300	308.2	7.7	4930	47637	65176516		060°	5			EC	
			0	5	30	300	305	8.5	4870	47722	65266527		060°	5			EC	
			0	5	35											A/C 210 at 17°24.7 - 85°01.2 END of LINE # 38	EC	
			0	5	46											XNC at 17°24.5 - 85°02.2	EC	
			0	6	00	202	204	7.8	4870	47724	65036500		300°	3			EC	
			0	5	46											SAT FIX 17°24.55 - 85°02.27	EC	
			0	6	17											C/C 120 at 17°20.8 - 85°04.5	EC	
			0	6	23											XNC at 17°20.2 - 85°04.3 BEGIN LINE # 39	EC	
			0	6	30	113	116	8.1	4860	47676	64226414		335°	12			EC	
			0	7	00	113	117	7.8	4890	47668	64136412		350°	14			EC	
			0	7	30	119.9	118.2	7.7	4760	47579	64116411		355°	13			EC	
			0	8	00	119.9	115	8.1	4270	47541	64116412		350°	11			EC	
			0	8	04											SAT FIX @ 0653: 17°18.48 85°03.56 (EL=16, LT=3, CT=12)	EC	
			0	8	18											SAT FIX @ 0818: 17°14.08 84°51.90 (EL=53, LT=2, CT=32)	EC	
			0	8	30	120.1	115	8.1	3550		64166416		355°	11			EC	
			0	9	00	120.1	117	8.1	3340	47522	64156416		340°	10			EC	
			0	9	28											SAT FIX @ 0917 - 17 10.56 84 45.06 (EL37 - LT 2 - CT 32)	EC	
			0	9	30	120.2	118	8.3	3810	47508	63886386		340°	9			EC	
			1	0	00	120.2	119	8.3	4130	47459	63696368		355°	9			EC	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
2 R/V Moana Wave	MW 8909	600	+4	1000	Cayman Trough - Swan Fault	17°09' N	84° 42 W	Mann/Rosenblatt

DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS				OBSERVER
DAY	MONTH	YEAR								GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
12	Aug	89		10:05													
	(22)	(4)		10:30	1200	121	8.0	3920	47408	6384	6384	355	9				
				11:00	120	119	8.4	2555	47413	6433	6443	350	10				
				11:30	119.9	119	8.3	1585	47353	6482	6488	350	10				
				12:00	120.3	116.7	8.2	1260	47332	6496	6498	330	10				BML
				12:05													BML
			*	12:30	121.6	113.6	8.0	1340	47377	6485	6485	330	18				BML
				12:57													BML
				13:00	118.8	114.7	8.4	1865	47436	6455	6451	330	16				BML
			*	12:28													BML
				13:30	119.6	116.9	8.5	1920	47404	6434	6433	330	10				BML
				14:00	128.4	117.4	8.8	1803	47356	6435	6436	330	12				BML
				14:06													BML
				14:12													BML
			*	14:30	712.2	708.2	8.8	1660	47295	6535	6551	330	6				BML
				14:15													BML
				14:38													BML
				14:44													BML
				15:00	299.9	304.6	8.4	1830	47314	6538	6537	030	10				BML
				15:30	299.9	304.7	8.3	1965	47377	6533	6533	030	8				BML
				16:00	300	305	8.1	1550	47446	6559	6562	040	10				
				16:30	300	306	8.2	1330	47458	6582	6583	050	8				EC
				17:00	300	307.4	8.4	1020	47451	6606	6609	030	8				EC
				17:30	300	306.1	8.2	1920	47412	6572	6569	030	8				EC
				18:01	299.9	305.6	8.2	2620	47399	6571	6570	25	8				Gd

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V <i>Manna</i> LAR	MW 8909	14:04	+11	18:04	Cayman Trough - <i>S. L. FAIR</i>	1703 18	84142 33	Mann

DATE			G.M.T.	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> FMS	MAG	GRAVIMETER				WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
12	Aug	89	1830		299.9	305	8.1	4190	47427	6483	6476	010	8			A
			(224)		298.5	303.7	8.3	3500	46824	6482	6470	020	5			EC
			1930		299.5	302.4	8.2	3260	47505	6495	6496	005	5			EC
			2000		300	302	8.0	3375	47607	6493	6491	030	10			
			2004												PORT ENGINE DOWN - SPEED DROP -	
			2019			297									Adj/c 297°	
			2030		299.6	299	8.0	4700	47624	6499	6498	040	6			
			2037												(1945) SAT FIX 17° 10.701 84° 55.875 EL 28 11 2 CT 28	
			2051			301									Adj/c 301°	
			2100		299.9	301	7.9	4880	47601	6506	6505	025	8			
			2105												SAT FIX @ 2053.44 17 15.55 85° 04.35	
			2130		301.0	303	7.6	4890	47633	6515	6515	035	7			
			2138												C/C END LINE 40	
			2145												VNC	
			2150												SAT FIX @ 2132.14 17° 18.310 85° 09.844 EL 32 11 2 CT 30	
			2200		297.0	199	7.9	4895	47622	6492	6488	325	4			
			2214												C/C 120.	
			2220							6481	6409	325	10		X ON COURSE 120 - START LINE 41 @ SHOT. 111348 -	
			2230		119.8	119	8.1	4895	47553	6411	6409	325	10			
			2300		119.9	120	8.1	4880	47499	6402	6401	330	12			
			2305												SAT FIX @ 2243.35 17° 13.353 85° 10.691 EL 31 11 2 CT 30	
			2318			119									Adj/c 119°	
			2330		119.8	119	8.3	4550	47455	6396	6397	335	11			
			2348												Reduce speed to 6 knots to pull in reel / poor seismic	PM
			2359												1/5 → 8 knots. all OK but streamer on the deck	BWL

VESEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	2000	+4	0000	SWAN TRANSFORM FAULT	17 08 710	85 02 216	MANN/ROSENCRANZ

DATE			GMT	INTEND TRACK	GYRO COURSE	SPEED KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	TENSION			
13	AUG	89	0000									(Steamer on deck)	RmL
(225)			0030										RmL
Sat Fix			0018									SAT FIX: 17°08.00 85°00.81 (EL: 22, IT: 2, CT: 21)	pm
			0044									Steamer in water seismic OK	RmL
			0100										RmL
			0130										RmL
			0200										RmL
			0222									A/C → 116° 17°00' 211 84°47'453	RmL
			0230										RmL
			0300										RmL
			0330										RmL
			0308									SAT FIX: 16°57.06 84°41.66 (EL: 56, IT: 2, CT: 33)	pm
			0359									A/C → 114 16 54 46 84 36 85	dd
			0400										
			0430										
			0500										dd
			0530										
			0600										
			0630										
8.04.41			0645									C/C → 205 16°44' 61 84°18' 36 F.04.41	da
			0652									Steady on Course (turn)	
			0700										
			0724									C/C 300 16°39' 89 84 20 42	dd
			0730									XNC 16 39 67 84 21 35	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	3:31	+4	071	SWAN TRANSFORM FAULT	1639 67	842135	MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
13	Aug	89	0755											0	→ SAT FIX 0734: 16° 40.22 84° 21.33 EL 22 11 2 CT 23	CA
(225)			0800	300	305	8.4	1715	47129	6538	6536	045	05				
			0830	300	306	8.1	1968	47203	6521	6519	055	02				
			0900	300	306	8.1	2013	47329	6522	6522	042	02				
			0900	300	302										A/C.	
			0930	300	301	7.9	1775	47343	6544	6546	075	00				
			0950											0	→ SAT FIX 0853: 16° 46.26 84° 31.26 EL 26 11 2 CT 31	CA
			0952											0	→ SAT FIX 0920: 16° 42.21 84° 35.04 EL 32 11 2 CT 30	CA
			1000	300	302	8.0	1730	47344	6560	6564	040	01				
			1030	300	302	8.1	1345	47311	6583	6586	170	02				
			1036	300	307									0	→ A/C	
			1054	300	312									0	→ A/C TO 312°	
			1100	300	312	8.0	1693	47369	6566	6565	135	02			SAT FIX @ 1024: 16° 52.01 84° 43.44 EL 26 11 2 CT 30	CA
			1120											0	→ SAT FIX @ 1041: 16° 53.10 84° 45.95 EL 35 11 2 CT 33	CA
			1130	300	312	8.1	2170	47401	6547	6546	065	02				
			1159											0	→ A/C → 306°	BML
			1200	299.1	308.1	7.9	3010	47351	6505	6505	060	02				BML
			1224											0	→ A/C → 309°	BML
			1230	299.1	309.1	7.8	4310	47365	6468	6463	060	02				BML
SAT FIX X			1204											0	→ SAT FIX: 16° 59.87; 84° 56.23 (EL=40, IT=2, CT=33)	PM
			1256											0	→ A/C → 300°	BML
			1300	298.0	301.2	8.1	3610	47424	6476	6477	060	01				BML
			1325											0	→ A/C → 296°	BML
			1330	299.1	292.7	8.3	3460	47452	6498	6500	260	02				BML
			1400	297	246.6	7.8	4360	47487	6492	6492	060	02				BML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 89 09	2007	+4	1407	SWAN TRANSFORM FAULT	17°09'06	85°12'54	MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
13	AUG	89	1407								→	A/C → 294°	RmL
(225)			1430	298.8	294.6	8.2	4860	47493	6494	6494	50° 1		RmL
			1435								→	A/C → 300°	RmL
			1500	299.6	298.6	8.2	4860	47536	6504	6504	60° 2		RmL
			1504								→	C/C END OF LINE #42	RmL
			1510								°	steady on 210°	
			1513								°	Slow to 4 kts to change guns	PM
			1516								→	I/S → 6 knots	RmL
			1530	198.2	203.7	6.2	4860	47564	6471	6465	280° 14		RmL
			1531								→	I/S → 8 knots	RmL
			1532								→	A/C → 190°	RmL
			1548								→	C/C → 120°	RmL
			1553								→	XNC 120° BEGIN LINE #43	RmL
			1600	124.1	123.6	8.4	4850	47510	6386	6379	355° 17	1709.43 / 85° 22.93	EC
			1630	120.2	120.4	8.2	4600	47537	6383	6373	355° 17	1708.8 / 85° 22.6	EC
			1631								°	C/C → 120 at 17°06.2 - 85°18.4	EC
			1700	120.2	119.7	7.9	3800	47508	6386	6377	355° 18		EC
			1730	120.2	119.9	7.5	3400	47473	6388	6378	360° 18		EC
			1800	120.1	121.9	7.4	2320	47396	6383	6378	350° 18		EC
			1830	120.0	119.6	7.9	2600	47333	6386	6376	355° 18		EC
			1838								°	A/C course to 116°	PM
			1900	120.0	117.7	8.4	3350	47300	no data		355° 18	1658 85 / 8505-36	EC
			1930	120.1	117.7	8.2	2690	47317	6426	6417	355° 18		EC
			2000	120.2	116.4	8.3	2050	47368	6449	6453	355° 18		EC
			2030	120.2	119	8.0	1670	47322	6467	6469	350° 15		EC

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	1630	+4	2030	SWAN TRANSFORM FAULT	16°50'N	84°50'W	Mann/Rosenblatt

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. MSEC	MAG	GRAVIMETER			WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
13	Aug	89	2038									0	SAT FIX @ 1900: 16°57.899 85°03.471 (EL 10 17 4 CT 19)	RM
	(225)		2042									0	SAT FIX @ 2030: 16°52.11 85°52.96 (EL 16 17 2 CT 27)	RM
			2100	120.4	114	8.1	1510	47241	64696470			350° 18	Change to course than (2030)	RM
			2130	120.2	119	3.0	1695	47395	64616461			350° 18	SAT FIX @ 2048: 16°50.91 84°50.18 (EL 74 11 2 CT 29)	RM
			2200	120.7	115	8.1	1700	47293	64466446			340° 15		
			2206									0	SAT FIX @ 2155: 16°46.81 84°43.30 (EL 24 11 2 CT 24)	RM
			2230	121.3	115	8.1	1980	47220	642864127			345° 19		
			2235									0	SAT FIX @ 2220: 16°45.55 84°42.03 (EL 53 11 2 CT 34)	RM
			2300	122.3	119	8.2	1975	47179	642064119			345° 18		
			2300									0	A/C 7.119	
			2335	122.5	120	8.0	1760	47157	64276428			330° 20		RM
14	Aug	89	0000	123.5	121.2	7.9	1610	47128	64276427			330° 18		
	(225)											0		
			2342									0	SAT FIX: 16°40.07 84°30.68 (EL 40, IT=2, CT=18)	RM
			0013									0	A/C → 127°	RM
			0023									0	C/C → 205 @ 16°37'329 - 84°26'434 END OF LINE #43	RM
			0028									0	Pulling out Streamer for checking (XNC)	RM
			0030	208.4	200.1	4.5	1350	47013	65076505			270° 10		
			0045									0	I/S 4 → 6 knots	
			0100	206.9	207.1	5.8	1610	47083	64956498			280° 12		RM
			0111									0	C/C 305° @ 16°33'361 - 84°28'237	RM
			0119									0	XNC @ 16°33'303 - 84°29'075 START OF LINE #44	RM
			0121									0	A/C 300°	RM
			0136	299.9	301.7	8.2	1710	47072	65096502			160° 2		RM
			0200	300.1	301.6	8.0		47129	65176518			180° 2		RM

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

VESEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	22 03	+4	0203	SWAN TRANSFORM FAULT	16°36'34.0	84°34'64.0	PLANW

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
14	AUG	89	0203									A/C 303	BML
(226)			0131									SAT FIX: 16°34.0 84°30'45 (EL 35, T1 2, CT 34)	PM
			0230	300	304.4	8.0	1725	47111	65226	522	150° 4		BML
			0232									A/C 305	BML
			0300	300	307	8.1	1580	47147	65306	532	150° 4		BML
			0330	300.1	306.2	7.9	1760	47183	65306	530	190° 2		BML
Sat Fix			0253									SAT Fix 0255 16°39'825 - 84°40'968 EL 37 T 2 CT 79	BML
			0357									RB (440 ft)	
			0400	299.7	306.2	5.5		47209			175° 6		
			0432	2998	3027	5.6	1550	47228	65486	549	155° 8		
			0439						65696	569		I/O 8 Kts 16°46'49, 84°52'31	
			0500	2998	301.2	7.9	1550	47261	65696	569	150° 3		
			0530	299.9	3019	7.8	1910	47265	65546	553	160° 6	← OSSY - SAT FIX - 16°51.91'	
			0600	300.2	303.8	7.8	2150	47349	65426	511	180° 6	EL 43 T 2 CT 31 35°02.32'	
			0630	299.4	302.6	7.7	2740	47332	65226	521	150° 6		
			0700	299.8	302.6	7.8	3380	47524	64914	409	150° 6		
			0730	299.3	304.2	8.2	4440	47575	64936	100	160° 6		ST
			0755									OKIDATA PRINTER FOR GRAVIMETER JAMMED AND CORRECTED	
			0800	2985	305	8.1	3950	47419	6465	-12	120° 10	SPRING TENSION READINGS ARE DIFFERENT RANGE	
			0816									DIGITAL-K COMPUTATION BY GRAVIMETER (END CALC ~ 0840)	
			0830	297.5	303	8.2	4330	47461			110° 10	RIBBON CHANGED OKIDATA PRINTER	
			0845	297.5	292							ADJ/C	
			0900	300.5	293	7.9	4820	47469	63686	519	140° 5		
			0921									C/C EOL #44	
			0926									XNC	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V <i>Mouaia Wave</i>	<i>MW 8909</i>	<i>0530</i>	<i>+4</i>	<i>0930</i>	<i>Swan Transform Fault</i>	<i>17°04' N</i>	<i>85°29' W</i>	<i>Mann/Rosenkrantz</i>

DATE			G M T	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
14	AUG	89	0930	230.1	205	7.5	4830	47467	6434	6467	270°	12	SAT FIX (0830) 17°03.60 85°21.65 (EL 16 IT 2 CT 19)	
(226)			0958	TURN									→ C/L	
			1000	TURN		7.6	4840	47495	6435	6441	TURN			
			1003	119.0	119								→ XNL SOL #45 1019 SAT FIX - 17°01.43' 85°29.39'	
			1030	112.2	121	8.3	4450	47472	6360	6354	350°	21		
			1100	114.1	119	8.6	4175	47420	6356	6356	355°	21	EL 56 - IT 2 - CT 29	
			1130	119.8	122	8.1	4550	47373	6367	6366	350°	22		
			1136										→ Turned off Gravimetry P.C.	
			1139										→ TURNED BACK ON " "	
			1136										→ SAT FIX: 16°56.44 85°20.40 (EL 43 IT 2 CT 26)	PM
			1155										→ change water column delay to 3 s	
			1200	119.6	170	8.3	3410	47298	6397	6391	000°	22		BML
			1216										→ A/C → 117°	BML
			1230	119.8	116.2	8.5	2925	47290	6416	6419	000°	24		BML
			1300	119.9	119.7	8.4	2340	47246	6442	6444	010°	22		BML
			1328										→ A/C → 120°	BML
			1330	120.0	119.6	8.3	1690	47206	6464	6466	010°	24		BML
Sat Fix			1329:59										→ SAT FIX 13:29:59 (13:30) 16°49'29 - 85°07'44 EL 35 IT 2 CT 33	BML
			1400	120.0	119.6	8.4	1465	47250	6467	6468	000°	18		BML
			1430	120.0	119.4	8.4	1300	47217	6469	6469	005°	18		BML
			1439										→ GPS came back.	BML
			1500	119.7	119.4	8.4	1240	47193	6464	6465	004°	18	A/C 118°	BML
			1530	119.7	119.2	8.0	1105	47160	6461	6462	002°	18		BML
			1600	119.8	119.7	8.0	1260	47127	6446	6445	15°	14		BML
			1630	119.8	120.4	7.9	1580	47135	6429	6427	10°	14		BML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	NW 8904	1259	+4	1654	Swan Transform Fault	163516	844245	Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
14	Aug	89	1700:	119.6	120.2	7.9	1840	47177	6411	6411	015°	12		
(226)			1730:	119.5	116.7	7.8	1850	47174	6404	6410	010°	16		
			1800:	119.8	118.1	7.7	1850	47006	6395	6395	355°	18		
			1830:	120.0	126.4	7.8	1800 m	47020	6394	6396	350°	18	a/c 122 16° 30' 49.8" 84° 33' 45.8"	
			1832:										a/c 125 16° 29' 25.8" 84° 31' 47"	
			1900:	119.9	122.1	8.0	1785	46955	6394	6396	250°			
			1930:	119.8	126.6	8.2	1550	46911	6395	6397	350°	14		
			2000:	120.3	125	8.0	1090	47045	6415	6417	340°	15	SAT FIX (1834): 16 29.147 84 31.306 LL 15 11 3 11 22	
			2012:										EOL #45	
			2018:										XNC	
			2020:										c/c AVOID POTENTIALLY SHALLOW AREAS - COVER 270 -	
			2026:										SAT FIX 16 23.147 84 20.456 151 11 2 11 27 (2003)	
			2030:	270	266.9	8.3	372	46992	6534	6553	180°	0		
			2100:	271.5	267	8.0	1540	46964	6502	6501	165°	4		
			2122:										c/c to 300 -	
			2124:	300	295	8.2							BEGIN LINE 96 - STADY ON 295 - SHOT# 10533	
			2130:	299.9	295	8.1	1555	46911	6483	6482	090°	5	SAT FIX (2119): 16 21.503 84 27.048 EL 11 11 11 19	
			2143:										Phase down	
			2145:										Phase up	
			2200:	300	295	8.1	1155	46928	6512	6517	100°	3		
			2225:										SAT FIX (2150) 16 23.323 84 30.633 117 11 7 11 14	
			2230:	300	295	7.9	1575	46983	6498	6495	100°	4		
			2255:	300.1	303								ADJ/L 303°	
			2300:	300.1	303	8.5	1840	46986	6424	6424	90°	9		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	1900	+4	2300	SWAN TRANSFORM FAULT	16°27' N	84°39' W	Martin/Rosenblatt

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M MSEC	MAG	GRAVIMETER				WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION					
14	AUG	89	2326	300	310									Adj C / 310°	CD
	(226)		2330	300	309	8.3	1840	47018	6494	6444		085°	10		
			2354	300	306									Adj C / 306°	CD
15	AUG	89	0000	244.9	304.4	8.6	1840	47114	6502	6502		092°	10		BML
	(1227)		0030	244.9	305.7	8.3	1840	47172	6501	6501		090°	12		BML
			0100	244.8	306.1	8.3	1840	47054	6509	6509		120°	16		BML
			0124											→ AIC 303°	BML
			0130	244.8	307.1	8.4	1785	47024	6526	6526		120°	18		BML
			0108											→ SAT FIX: 16°36.55 84°54.16 (EL-50, IT-2, CT-34)	PM
			0200	300.0	304.5	8.3	1170	47066	6559	6561		120°	10		BML
			0230	300.0	304.7	8.4	1100	47078	6578	6581		120°	10		BML
			0231											→ SAT FIX: 16°42.46 85°05.51 (EL-24, IT-2, CT-33)	PM
			0300	244.9	304.1	8.3	1010	47196	6589	6590		120°	10		BML
			0330	300.0	303.1	8.3		47213	6596	6597		150°	16		BML
			0400	244.9	303.1	8.4	1680	47141	6579	6577		130°	10		dd
			0430	300.0	304.7	8.4	2470	47185	6541	6537		120°	10		
			0500	244.9	303.1	8.3	2730	47223	6494	6489		140°	10	3480m	
			0530	300	303.1	8.5	4800	47320	6440	6448		120°	8		EL43- IT 2 - CT 28.
			0600	244.9	302.3	8.4	4560	47439	6439	6437		135°	10		dd
			0630	244.6	302.6	8.7	4430	47490	6447	6449		145°	10		
			0700	244.8	301.9	8.6	4810	47434	6474	6475		140°	8		
			0730	301.8	301.7	8.7	4800	47427	6492	6496		140°	6		
			0741											→ AIC → 205	1705'41 / 85°46'81 EOL46
			0747											→ XNC (turn)	
			0800	201.6	205	8.0		47435	6473	6478		280°	15	Watch change	CD

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0400	+4	0800	SWAN TRANSFORM FAULT	17°04' N	85°48' W	Mann/Rosenkrantz

DATE			GMT		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR	HR	MIN				M	SEC	GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
15	AUG	89	08	27											
(227)			08	27	120										
			08	30	120	113	7.9	4300	47347	6392	6414	350	24		
			09	00	120	117	8.4	4850	47426	6362	6359	345	22		
			09	30	120	119	8.3	4930	47524	6341	6340	350	23		
			09	50	120	125									
			10	00	120	125	8.3	4900	47476	6328	6328	350	20		
			10	30	120	122	8.4	5025	47365	6337	6337	350	20		
			10	59	120	170									
			11	00	120	113	8.4	3790	47277	6371	6375	355	20		
			11	30	120	113	8.3	4025	47239	6422	6424	350	21		
			11	33		117									
			12	00	120	117.6	8.6		47239	6474	6480	270	22		
			12	10				16° 46' 733	- 85° 22	870					
			12	21											
			12	30	270	271.1	7.8	850	47255	6602	6628	270	20		
			12	34											
			13	00	270	274.2	8.2	11400	47272	6573	6573	280	4		
			13	18											
			13	21											
			13	30	294.8	294.6	8.2	1490	47313	6551	6548	170	4		
			14	00	294.8	300.1	8.2	2790	47307	6511	6507	150	4		
			14	30	299.8	298.4	8.0	4320	47336	6450	6444	110	4		
			14	46											
			14	30	17										

ELECTRONICS LAB WATCH LOG "A"

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA				LATITUDE		LONGITUDE		CHIEF SCIENTIST
R/V MOANA WAVE				MW 8909		11 05	+4	1505	SWAN TRANSFORM FAULT				16°53' 64S		85°45' 16E		MANN/ROSENCRANTZ
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M / MSEC	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION		DIRECTION	KNOTS				
15	AUG	89	15 00		300	301.2	8.2	5260	47442	64	20	64	16	090°	8		Bml
(127)			15 29													A/C → 300°	—
			15 30		199.8	300.9	8.5	5100	47459	64	31	64	33	090°	6		Bml
			16 00		211.7	300.6	8.5		47458	64	62	64	105	090°	6		
			16 18													A/C → 297	16 59.150 / 85 54.92
			16 32		219.9	301.1	8.4		47416	64	93	64	105	090°	06		
			17 00		300.8	301.2	8.0	47430	47450	64	11	64	105	090°	08	1703 SAT FIX 17 02 63 86 01.29	
			17 11													CIC 205 17 02 77 86 01.63 EOL 48	
			17 17													KALC 17 02 83 86 02.36	
			17 30		201.0	120.2	8.6	47430	47477	64	15	64	112	285°	10		
			17 46													CIC 120° 16 59.3 86 04.12	
			17 53													XNC 16 58.59 86 03.9 BEGIN LINE 49	
			18 01		120.5	120.2	8.0	47460	47421	64	14	64	119	345°	12	Adj course d.g.	
			18 30		120.4	120.2	7.9	47430	47423	63	70	64	116	315°	20		
			19 00		120.6	121.9	8.0	47400	47416	63	49	64	117	340°	15		
			19 30		120.6	125.6	7.7		47429	63	25	64	123	300°			
			19 30 42														
			20 00		120	125	8.0	5190	47352	63	20	63	119	330°	13		
			20 05													SATFIX(1918) 16 53.029 85 54.115 19 16 20	CO
			20 30		120	123	7.9	3750	47313	63	59	63	162	330°	20		
			20 40			119										ADJ COURSE	
			21 00		120	121	8.0	2660	47249	64	14	64	120	330°	18		
			21 19													CHANGE COURSE END LINE 49 #18899	
			21 30		120	207	8.9	1035	47223	65	61	65	163	260°	6		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW8909	1700	+4	2100	SWAN TRANSFORM FAULT	16°43' W	85°41' N	Mann/Rosenkrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
15	AUG	89	2152									SAT FIX (2105) 16 46.051 85 41.867 146 ULC 29	CO
			2157	300								CC	CO
			2200	300	301	8.5	1040	47213	6581	6578	095° 8	XNC START LINE 50	CO
			2230	300	302	8.2	1520	47215	6561	6564	090° 5	SAT FIX 16° 45.01'	
			2300	300	300	8.3	1520 3450	47205	6477	6471	120° 10	2255 85° 50.19'	
			2330	300	301	7.7	5010	47265	6421	6415	100° 10	2255 85° 50.19'	
16	AUG	89	0000	300	301	7.8	5280	47379	6411	6409	100° 8		BML
			0030	300	301	7.9	4940	47323	6432	6435	120° 6		—
			0019	300								SatFix 00:19:30 @ 16°50'99 - 85°59'21 EL 17 CT 20	BML
			0100	300	302	8.1	4850	47343	6457	6460	120° 10		—
			0130	300	301	8.0	4780	47323	6477	6479	120° 12		—
			0145									A/C → 304°	—
			0200	302	306	8.2	4600	47406	6491	6494	120° 8		—
			0230	301	298	7.9	4540	47473	6507	6508	120° 10		—
			0231									END OF LINE #50. C/C - @ 16°59'760 - 85°16'600	BML
			0207									SAT FIX 16°58.40 86°14.20 (EL-14, IT=2, CT=29)	PM
			0300	210	206	7.8		47412	6481	6479	270° 18		—
			0308									C/C → 116°	BML
			0314									XNC @ 16°55'653 - 86°19'075. SOL#51	BML
			0325									A/C 118°	—
			0330	120	118.1	8.1	4640	47586	6392	6376	280° 27		BML
			0400	120.2	118.7	8.1	4810	46443	6375	6374	350° 26		—
			0430	120.0	117.1	7.8	4825	47288	6351	6350	345° 24		
			0500	120.2	117.7	8.0		4736	6320	6318	355° 20		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
MOANA WAVE	MW8909	0600	+4	1000	SWAN ISLANDS TRANSFORM FAULT	16°45'	36°00'	MAN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
16	Aug	89	1000	300	302	3.0	5520	47337	6390	6350	175°	17	SAT FIX @ 0433: 16°43.00 86°06.101	
(228)			1030	300	300	7.0		47395	6407	6407	132°	12	(EL 65/11 2 / CT 33)	
			1040		297								A/C	
			1100	300	297	8.0	4930	47314	6439	6442	170°	10	SAT FIX @ 1025: 16°44.44 86°12.11	
			1130	300	297	8.0	4630	47300	6464	6466	180°	12	(EL 65/11 2 / CT 30)	
			1133	300	303								SAT FIX @ 1055: 16°44.48 86°12.15	
			1144										(EL 65/11 2 / CT 24)	
			1200	300	304	8.0	4420	47378	6480	6481	150°	14	SAT FIX @ 1121: 16°44.70 86°19.16	BM
			1230	300	303	8.0	4510	47373	6496	6497	150°	4	(EL 13/11 2 / CT 24)	
			1235										EOL #52 @ 16°54'5 86°28'0	
			1241										XNC → 210 @ 16°54'677 - 86°28'386.	
			1242										A/C → 204°	
			1300	216	207	8.1	4320	47350	6477	6479	270°	16		
			1312										C/C → 117° @ 16°51'089 86°30'320	
			1317										XNC 117 @ 16°50'4 86°30'0 SOL #53	
			1330	120	117	8.0	4320	47331	6382	6365	280°	24		
			1406	120	117	8.0	6620	47278	6359	6357	355°	24		
			1406										A/C 121°	
			1430	120	120	8.1	5020	47250	6331	6330	350°	22		
			1407										SAT FIX: 16 47.58, 86 21.27 (EL: 15, CT: 27, IT: 2)	PM
			1500	120	121	8.1	5400	47281	6294	6297	350°	22		PM
			1503										Bridge worn fix: 16 43.5 86 17.3	PM
			1525										R/S → 6 knots to check seismic	PM
			1530	120	117	5.8	5695	47273	6295	6292	350°	20		
			1532										Back to 8 knots (1/5)	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1134	+4	1534	SWAN / BAY ISLANDS / FAULT	16°41'70	86°13'60	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED (KNOTS)	DEPTH (M) / (FATHOMS)	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
16	AUG	89	1600	120.9	127.6	7.7	4450	47179	63146	315	330	20		EC
(228)			1630	120.3	121.9	7.5	2620	47196	63836	388	330	20		EC
			1700	119.7	119.6	7.8	1110 m	47203	64446	452	340	22		EC
			1712										C/C to 205	EC
			1717										XNC	EC
			1730	121.2	208.1	8.1	1280	47188	65226	532	270	17		EC
			1748										C/C to 300	EC
			1754										XNC	EC
			1800	299.7	297.9	8.0	1240	47140	65556	567	95	8		EC
			1830	299.8	298.4	7.5	980	47206	65526	551	100	8		EC
			1641										SAT FIX	EC
			1801										SAT FIX	EC
			1900	300.0	300.4	7.4	2150	47175	65116	511	120	8		EC
Sat Fix			1819										SAT FIX	BWL
			1930	300.1	300.9	8.1	3980	47125	64346	428	120	8		EC
			2000	300	303	8.2	5340	47126	63966	392	110	8		EC
			2030	300	303	8.2	5030	47155	63966	396	045	9		EC
			2100	300	301	8.1	4450	47180	64226	424	105	10		EC
			2130	300	299	8.4	4600	47218	64486	450	105	11		EC
			2135										SAT FIX (2112)	CB
			2200	300	301	8.1	4260	47238	64736	475	105	10		EC
			2215										SAT FIX (2156)	CB
			2230	300	299	8.1	3940	47268	64966	497	110	11		EC
			2249										C/C EOL 54	EC
			2255										XINC	EC

VESEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	MW 8909	1900	+4	2300	Swan Fault / Bay Islands	16°50' N	86°39' W	Mann / Rosenkrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER			WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
16	AUG	89	2300	147	209	7.6	3830	47302	64846500		250°	11	Trans L on turn	
(228)			2310										SAT FIX (2300) 16°49.388 86°40.647 21 d 2 24	CB
			2315	120									c/c	
			2330	120	119	7.8	3900	47230	64636475		320°	22	16°45.824 86°42.100 SOL # 55	
			2332										XNC	
17	AUG	89	0000	120	119.1	8.0	4300	47199	63726368		350°	30		Am1
(229)														
			2344										SAT FIX: 16°45.01 86°40.48 (LL 37, IT 2, CT 30)	pm
			0030	120	119	7.7	4640	47173	63496348		350°	24		pm
			0100	120	117	7.7	4850	47154	63286327		350°	24		
			0130	120	120	8.0	4790	47101	63086308		350°	22		
			0200	120	119	8.0	(4510)	47096	63116312		350°	22		
			0230	120	119	8.0	3420	47104	63516357		350°	26		
			0210										SAT FIX: 16°35.25 86°22.81 (LL 12, IT 2, CT 26)	pm
			0253										205° ← C/C ENDOFLINE 55 @ 16°32' 509 86°17' 669	pm
			0259										XNC 205°	
			0300	211	205	8.9	1540	47150	64906496		270°	16		
			0303										A/C 26°	
			0329										P/C → 300°	
			0330	213	239	7.7	1120	47079	65356538		240°	16		
			0334										SOL # 56 @ 16°28' 348 86°20' 282	
			0400	209.7	298.9	8.2	2450	47112	64986496		140°	10		dd
			0430	209.9	300.4	8.0	3400	47007	645364151		130°	10		
			0500	209.7	303.4	8.4	4090	47028	64286425		120°	6		
SAT			0436										SAT FIX 16°32' 46 86°27' 85	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave	Mh 8909	0100	+4	0500	Swan Fault/Bay Islands	163456	863200	Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
17	Aug	89	0530	299.6	301.4	8.2	4250	47041	641564	116	180°	12		dd
(229)			0600	299.9	300.9	8.0	41510	47102	642764	28	150°	6		dd
			0630	300.4	300.9	7.6	4460	47199	6443.64	44	110°	6		dd
			0625					47252					SAT FIX 1639.50 / 86°40.80	
			0700	300.7	303.1	7.9	4250	47252	646064	61	105°	10		
			0730	299.7	300.9	7.9	39410	47358	647964	80	170°	12		
			0744										CIC → 210 E.O.L. #56 1644.82/86°50.15	dd
			0749										XNC (TURN)	dd
			0800	208.5	211	8.2	3860	47347	647464	77	275°	16	Watch change	
			0818										C/C SAT FIX @ 809 16°41.93 86°52.30 (EL 55 FT 2 CT 33)	
			0825	120									XNC S.O.L. #57 16°40.16 86°52.64	
			0830	120	115	8.1	3970	47330	637363	89	345°	24		
			0900	120	115	8.2	4220	47287	635263	52	350°	24	SAT FIX @ 910 16°37.527 86°47.162 (EL 41 FT 2 CT 33)	
			0930	120	119	8.3	4330	47207	633363	35	350°	22	SAT FIX @ 0950 16°34.97 86°42.32'	
			1000	120	119	8.4	4040	47156	631963	22	340°	18	10 sec SLIMIL DOWN EL 19, FT 2, CT 22	
			1030	120	119	8.5	4200	47045	631863	19	350°	22	SAT FIX @ 1058 16°30.31 86°33.71 (EL 21 FT 2 CT 33)	
			1100	120	119	8.5	3380	47038	634563	48	345°	20		
			1117										C/C E.O.L. #57 16°28.940 86°31.223	
			1130	210	209	7.7	2220	47017	647564	81	275°	12		
			1153										C/C to 300°	mm
			1259	300	301	8.1	1810	48973	652365	29	120°	4	XNC on 300° @ 16°24'719-86°33'998 SOL #58	mm
			1137										SAT FIX: 16°28.80, 86°31.17	mm
			1230	300	301	8.3	3150	46990	646164	54	120°	8		mm
			1221										SAT FIX: 16°26.29, 86°36.64 EL 07, FT 1, CT 33	mm
			1300	300	300	8.1	3965	47029	641864	12	130°	8		

ELECTRONICS LAB WATCH LOG "A"

COPY NO. 2

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VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	0904	+4	1304	SWAN FAULT / BAY ISLANDS	16°29' 291	86°41' 863	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
17	AVG	89	1330	300	300	8.2	4275	47116	64076	6465	120°	10		Bm1	
(229)			1353								°	→	A/C → 296°	Bm1	
			1400	300	297	8.5	4130	47234	64236	6423	130°	6		Bm1	
			* 1344								°	→	SAT. FIX 16°32.05 - 86°46.62 (EL8 IT2 CT23)	Bm1	
			1430	300	297	8.2	4150	47226	64396	6440	130°	10		Bm1	
			* 1410								°	→	SAT. FIX 16°33.43 - 86°50.29 (EL12 IT4 CT22)	Bm1	
			1453								°	→	A/C → 300°	Bm1	
			1500	300	302	7.9	3800	47200	64556	6456	120°	10		Bm1	
			* 1409								°	→	SAT FIX: 16°33.55, 86°50.22 (EL13, IT2, CT29)	PM	
			1530	300	301	8.1	3595	47203	64696	6470	120°	8		Bm1	
			1533								°	→	GPS available	-	
			1535								°	→	A/C → 304°	Bm1	
			1600	3015	304.6	7.6	3350	47256	64746	6475	10°	8		dd	
OK			1624								°		A/C → 300 1642.60 / 8706.22	dd	
			1630	2448	207.7	8.0	3300	47236	64866	6486	120°	8		da	
			1640								°	→	C/C 210 16 43 63, 87 08.2	da	
			1646								°		XNC (turn)	da	
			1700	2094	207.6	7.8	3150	47262	64636	6463	270°	12		da	
			1715	207.5	216.6	7.4		47222	64616	6461	280°	14		da	
			1724								°	→	C/C 16 39.74, 87 10.84	da	
			1730	119.6	124.6	7.6	3100	47186	63816	6381	325°	22		XNC @ 16 34.17, 87 10.55 S.O.L 59	da
SAT*			1652											SAT FIX 16°42.8 / 87°09'09 @ 16:52	da
			1800	119.7	124.7	7.7	3315	47173	63766	6376	330°	20			da
SAT*			1802											SAT FIX 16°38.7 / 87°06'26	da
			1830	119.5	123.2	7.6	3480	47158	63686	6367	330°	20			da

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA				LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA NAU			MW 8909		15:00	+4	1900	SWAN FAULT / Bay Is				1633.12	8659.34	MANN

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
17	AUG	89	1837:00										SAT FIX 163443/870221	dg
(224)			1900:00	1194	121.4	7.8	3670	47148	6351	6351	330°	20		do
			1930:00	1198	119.2	7.7	4070	47138	6330	6331	320°	20		
			2000:00	120	122	7.8	4040	47061	6313	6314	300°	20		
			2030:00	120	121	7.7					300°	20		
			2055:00		118								A/C	
			2100:00	120	118	8.1	3885	46924	6304	6306	305°	22	SAT FIX @ 2048: 16° 26.01 86° 47.03 (EL 28 n 2 ci 30)	
			2130:00	120	117	7.3	3740	46877	6343	6347	300°	23		
			2200:00	120	122	7.4	2210	46919	6396	6493	300°	22		
			2202:00										END LINE #59 TURN TO 210° -	
			2208:00										STEADY ON 210° -	
			2230:00	210	203	7.9	1400	47016	6506	6515	210°	16		
			2237:00		300								CHANGE COURSE	
			2243:00	300	302								ON COURSE - BEGIN LINE #60	
			2255:00										SAT FIX @ 2236: 16° 17.48 86° 39.51 (EL 32 n 2 ci 34)	di
			2300:00	300	300	8.1	1950	46904	6495	6492	090°	20		
			2308:00										SAT FIX @ 2308: 16° 19.00 86° 42.66 (EL 69 n 2 ci 29)	do
			2329:00		302								A/C	
			2330:00	300	301	8.2	2950	46923	6446	6433	090°	20		
18	AUG	89	0000:00	300	302	8.4	3600	46802	6413	6415	090°	20		BmL
(230)			0030:00	300	304	8.3	4060	46894	6409	6407	090°	20		BmL
			0100:00	300	303	8.3	(3770)	46955	6423	6423	100°	20		BmL
			0130:00	300	304	8.2	3690	47103	6435	6434	100°	20		BmL
			0200:00	300	304	8.0	3450	47146	6441	6440	090°	18		BmL
			0217:00										A/C → 305°	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	1229 2220	+4	0220	N/BAY ISLANDS	16°31'8	87°07'1	HANN/ROSENGRANT

DATE			G.M.T.	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> W. <input type="checkbox"/> MSEC	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION		DIRECTION	KNOTS			
18	AUG	89	0230		300	306	8.0	3220	47131	64	56	64	52	100° 16	[cleaning pins of Recorder/Sidescan processed]	BML
(230)	*		0147											→	SAT Fix 01.47 16°29'45 - 87°02'82 ^{EL IT CT} 20 2 31	BML
			0300		300	306	7.8	2920	47159	64	68	64	66	110° 16		BML
			0330		300	302	8.1	2910	47189	64	76	64	73	100° 18		BML
			0334											→	C/C → 210° EOL #60 at 16°36'298 - 87°15'520	BML
			0340											→	X/NC → 210°	BML
			* 0311											→	SAT FIX: 16°35.35, 87°13.08 (CL=60, IT=2, CT=32)	PM
			0400		211.3	206.6	8.1	2730	47185	64	57	66	58	240° 20		EC
			0410												C/C 120 at 16°33.1 - 87°18.4	EC
			0416												X/NC at 16°32.6 - 715.2	EC
			0430		119.9	116.2		2800	47159	63	65	63	53	330° 24		EC
			0520		120.0	119.6	8.3	3100	47111	63	51	63	57	330° 25		EC
			0530		119.7	118.5	7.8	3400	47151	63	45	63	53	330° 25		EC
			* 0453												SAT Fix at 16°29.9 - 87°13.3	EC
			0600		119.5	117.4	8.0	2910	47167	63	47	63	53	330° 25		EC
			0630		119.4	117.1	8.0	2530	47068	63	59	63	65	330° 25		EC
			0552												SAT Fix at 16°26.4 - 87°07.3	EC
			0700		119.5	115.9	8.0	2940	46900	63	48	63	53	330° 23		EC
			0730		119.2	115.6	7.7	21680	46812	63	61	63	67	330° 25	SAT FIX @ 0725: 16°20.32 86°56.22 (CL=22, IT=2 CT=27)	EC
			0800		119.7	116.7	8.1	2250	46853	63	75	63	85	330° 25		EC
			0814											→	END OF LINE #60.	
			0825											→	X/NC	
			0830		210	210	8.8	2040 2100	46919	64	68	64	71	255° 12		
			0850			300	7.8	BA							C/C	
			0855												ON COURSE 300 - ON LINE #62	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV INDIANA WAVE	MW8909	05	+4	09	SWAN ISLANDS TRANSFORM FAULT	16° 13'	86° 52'	MANU ROSENKRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. □ MSEC.	MAG	GRAVIMETER				WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION					
19	AUG	89	0900	300	304	8.3	1860	46910	64	34	64	91	110° 13		
			0906										°	SAT FIX (0947) 16° 13.252 86° 51.108 el 27, it 2, CT 28	CB
			0911										°	SAT FIX (0911) 16° 13.871 86° 53.925 el 33 it 2 CT 29	CB
			0930	300	302	8.0	1770	46939	64	93	64	89	120° 16		
			1000	300	300	8.4	2345	46918	64	77	64	76	120° 10		
			1030	300	303	8.2	2430	46932	64	60	64	55	120° 18		
			1100	300	302	8.5	1675	46986	64	87	64	87	120° 12		
			1108										°	SAT FIX (1136) 16° 19.348 87° 04.339 el 32 it 2 CT 30	CB
			1130	300	303	8.2	2320	47115	64	67	64	65	120° 18		
			1200	300	303	8.1	2970	47154	64	50	64	47	120° 16		Bmy
			1230	300	304	8.5	2810	47156	64	48	64	47	120° 10		Bmy
			1158										°	SAT FIX: 16° 24.83, 87° 14.51 (EL-44, IT-2, CT 34)	PM
			1300	300	304	8.0	2630	47166	64	64	64	63	120° 10		Bmy
			1317										°	CIC EDL #62 @ 16° 30' 21 - 87° 24' 38	Bmy
			1322										°	XNC on 210°	Bmy
			1330	260	108	8.1	2580	47113	64	47	64	50	260° 18		Bmy
			1350										°	CIC → 117°	Bmy
			1357										°	SOL #63 at 16° 26' 45 - 87° 26' 80	Bmy
			1400	120	121	7.7	2550	47090	63	61	63	73	330° 24	AIC → 120°	Bmy
			1430	120	120	7.8	2600	47114	63	51	63	54	330° 24		Bmy
			1436										°	AIC → 118°	Bmy
			1340										°	SAT FIX: 16° 27.75, 87° 26.66 (EL-21, IT-2, CT 34)	PM
			1500	120	118	8.1	2785	47038	64	42	64	45	330° 24		Bmy
			1530	120	119	8.0	2120	47011	63	64	63	72	330° 24		Bmy
			1510										°	SAT FIX: 16° 21.69, 87° 19.03 (EL 61, IT-2, CT 34)	PM

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA				LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MDANA WAVE				MW 8909		1150	+4	1550	BAY ISLAND				16°19'134	87°13'57	MIANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR					<input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC		GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
18	AUG	89	1550:										CIC EOL# 63 @ 16°19'134 - 87°13'57	PRML
(230)			1557										XNC 16 18.24, 87 13.30	
			1600:	210	205	8.1		44953	6475	101	240	12		
			1624:										CIC 300 16 11.93, 87 15.38	
			1630:	141	263	8.7		44863	6492	104	317	5	6	ST
			1634:										XNC 16 14-89, 87 16.34	ST
			1700:	300	300		1625	46917	6488	101	895	10		8
			1730:	300	300	8.4	2369	46955	6453	104	190	10		
			1740:										SAT FIX 16 16.41, 87 19.14	
			1800:	300	300		2550	4703	6446	104	90	10		
			1825:										SAT FIX 16 18.18, 87 22.9	
			1834:	300	292	8.2	2440	47607	6451	104	90	10		
			1846:										CIC 205 16 24.09, 87 32.75 EOL 64	
			1855:										XNC 16 23.89, 87 33.45 TURN	
			1900:	208	201	7.8		47056	6426	104	135	8		
SAT			1852:										SAT FIX @ 1852 1623.90 / 8733.38	de
			1924:										CIC 120 1620.25 8735.20	
			1927:										XNC - S.O.L. 65	
			1930:	1205	117.1	6.9	2375	47619	6358	6367	300	16		
			2000:	120	123	7.8	2400	46981	6346	6347	295	20		
			2010:										SAT FIX @ 1914 16°20.32 87°33.97 (EL-11 IT-2 (1-26))	(u)
			2018:	120	125								A/C	
			2030:	120	124	8.1	2260	46940	6346	6349	295	21		
			2100:	120	124	8.1	1800	46886	6363	6367	295	22		
			2108:	TURN									END LINE 65- C/C 210 -	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/N MOANA WAVE	MW8909	217	+4	21	SWAN ISLANDS TRANSFORM FT.	16° 13'	37° 23'	MANU/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
13	AUG	89	21 13	210	203	7.8	1555	46764	6449	6466	220°	10	ON CURVE 210 - TIE LINE.	
			21 43	300							→		CC 300°	
			21 48	300							→		XNC SOL #66	
			22 00	300	300	8.1	1545	46745	6467	6470	065°	18		
			22 30	300	298	7.9	1730	46798	6459	6457	065°	13	SAT FIX @ 2233Z - 16°12.43 87°31.87 (EL-62 IT-2 CT-12)	
			23 00	300	799	7.9	2100	46902	6443	6452	065°	12		
			23 02		294						°		ADJ. CURVE.	
			23 30	300	296	7.9	2150	46938	6442	6440	085°	18		
			23 33		300						°		A CURVE 300.	
			23 59	300	3						→		C/C 206° EOL #66 @ 16°17'887 - 87°41'747	BML
(231)			00 00	300	268	7.7	2160	47007	6440	6439	120°	14		BML
			00 05								→		XNC 208°	BML
			* 23 36								→		SAT FIX: 16°16'29.87 87°38'87 (EL-27, IT-2, CT-34)	PM
			00 30	212	215	7.5	2040	46998	6422	6421	190°	10		BML
			00 37								→		C/C → 120°	BML
			00 43								→		XNC 120° SOL #67 @ 16°13'38 - 87°43'80	BML
			01 00	120	118	8.2	1940	46846	6340	6330	300°	20		BML
			* 00 20								→		SAT FIX 16°15'02.87 87°42.60 ELIS IT2, CT-14	PM
			01 30	120	120	8.0	1640	46872	6355	6363	300°	22		BML
			02 00	120	120	7.9	1375	46780	6377	6383	300°	22		BML
			01 25								→		SAT FIX: 16°10.35 87°38.75 (EL 32, IT 2, CT 34)	PM
			02 17								→		A/C → 116°	BML
			02 26								→		C/C EOL #67 @ 16°06.45' - 87°31'30	BML
			02 30	260	181	8.9	870	46739	6407	6402	240°	10	[We have to turn to avoid two ships]	BML
			02 32								→		C/C 180°	BML

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW8909	22 ³⁰ 2235	+4	0235	NORTH OF HONDURAS	16°05'520	87°31'634	MAWAI/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER				WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
19	AUG	89	0235													Bmy
(231)			0300	263	270	7.4	910m 46752	46752	6444	6504		100°	10	C/L → 270°		Bmy
			0329												C/L → 300°	Bmy
			0330	360	245	7.5	1450	46701	6479	6477		090°	18			Bmy
			0331												XNC SOL #68 @ 16°05'50 87°38'95	Bmy
			0400	295.8	300.3	7.6	1440	46842	6453	6448		090°	18			EC
			0430	291	290	7.7	1700	46822	6435	6429		090°	10			EC
			0444												C/L 230 at 16°10.0 - 87°47.3 EOL #68	EC
			0449												XNC at 16°09.7 - 87°48.8 BEG #69A	EC
			0500	232	230	7.7	1770	46864	6424	6424		300°	20			EC
			0527												A/C 235 at 16°06.6 - 87°51.9	EC
			0530	232	235	8.1	1750	46808	6423	6422		280°	20			EC
			0600	230	230	8.2	1610	46752	6424	6424		210°	20			EC
			0601												A/C 120 at 16°03.9 - 87°55.6 END #69A	EC
			0603												XNC TURN to 69b	EC
			0630	121	115	7.2	1470	46709	6334	6330		355°	19			EC
			0640												C/L to 050 at 16°01.0 - 87°52.1	EC
			0645												XNC at 16°01.2 - 87°51.5 BEG #69B	EC
			0700	051	048	8.7	1540 1440	46693	6345	6345		030°	10			EC
			0727												SAT Fix at 16°01.9 - 87°53.7	EC
			0730	055	052	8.2	1450	46743	6343	6341		030°	15			
			0754												C/L 075 TRANSITING WAY POINT 139 EOL 69/SOL 70	
			0800	075	076	8.2	1625	46795	6342	6421		350°	10			
			0830	075	075	8.1	1425	46821	6354	6357		350°	22			
			0900	075	075	7.6	1450	46792	6336	6365		360°	20			
															SAT Fix @ 0823: 16°08.479 87°40.178 (EL 17 IT 2 CI 21)	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	NW0909	5:07	+1	9:07	NORTH OF HONDURAS	16°10	87°34	MANN/ROSPACRANT

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> INSEC	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	TENSION				
12	AUG	89	0930	175	575	8.1	1590	4685	136	16363	225°	22		CG
			(231) 1000	76.9	075	7.8	1790	46873	63646	364	555°	18	SAT FIX @ 1013: 16° 12.619 87° 25.290 (EL-49 17:2 (T-28))	
			1030	80.0	77	8.1	1610	46790	63656	366	000°	20		
			1032											
			1100	478	81	8.0	1360	46848	63836	386	000°	20	c/c 082	
			1121										SAT FIX @ 1025: 16° 13.15 87° 23.60 (EL-50 17:2 (T-26))	
			1130	84.5	85	8.5	1660	46901	63796	380	000°	20	end line 70 c/c	CG
			1136										SAT FIX 16° 14.630 87° 13.854 (EL-29 17:2 (T-30))	
			1200	84.5	88	8.5	2030	46900	63636	363	000°	22		BmL
			1230	85.7	87	8.4	2410	46855	63646	342	000°	22		BmL
			1300	88	86	8.2	2280	46887	63546	356	000°	20		BmL
			1314										c/c EOL#71 @ 16° 16' 2 - 86° 58' 9 / R13 →	BmL
			1330	86	87	6.4	1710	46876	64106	420	000°	20	RECOVERY - Recovering Seal/MRCII	BmL
			1332										power down on mag	MK
			1346										Turned OFF the Recorders of Sea/MRCII	BmL
			1352										PIC (⇒ WP 142) SOL #72	BmL
			1400	102	102	4.4	1735	NO MAG	64096	408	350°	18	1/5 → 8 knots (no seismic, no mag, no SR II)	BmL
			1430	103	101	7.9	2130	NO MAG	63706	367	330°	20	c/c → 102°	BmL
			1441										I intend record position of EOL 71/SOL 72 at 1400	BmL
			1458										A/C → 106°	BmL
			1500	104	106	8.1	1640	—	63916	392	000°	18		BmL
			1530	105	106	7.7	780	—	64386	443	350°	20		—
			1600	107.3	108.9	7.7	500m		64666	466	355°	20		
			1611											
			1614											
													C/C → 075 1612.51 / 8638.04	
													XNC	

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA		LATITUDE	LONGITUDE	CHIEF SCIENTIST	
R/V Moana Waia			MW 8904		12:30	+4	16:30	North of Honduras		16 12 82	86 36 80	Mmm	
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS	
19	Aug	89	1630	075	080.6	3.3	740		6463	6416	000	12	dd
(231)			1631										
			1635										da
			1640										dd
			1641										dd
			1700	074	074.4	8.1	940	46916	6415	6411	355	15	dd
			1636										
			1659										
			1730	074.1	075.6	8.6	1360	46892	6400	6410	000	18	
			1800	0743	075.6	8.0	1365	46878	6396	6395	000	16	
			1817										
			1804										
			1830	074.2	077.4	8.3	1300	46854	6393	6392	350	18	
			1900	0744	077.9	8.4	1110.0	46852	6398	6398	330	18	
			1855										
			1930	074.1	077.1	8.2	1400	46998	6393	6397	335	16	dd
			2000	073.5	077	7.9	1240	46952	6414	6414	325	13	
			2016										
			2030	090	092	7.8	1400	46949	6405	6406	355	16	SAT FIX (1955) 16°19.992 86°09.988 155 12 25
			2100	090	094	7.7	1380	46973	6396	6395	355	13	cc 74 - and 073 -
			2130	090	093	8.0	1330	46992	6394	6394	330	14	
			2200	090	093	7.9	1200	47015	6394	6394	325	14	
			2215	TURN		7.9							c/c 180 - GO LINE 74 BEARS
			2221										XNC
			2300	180	183	7.9	1100	46933	6453	6460	270	8	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW8909	1900	+4	2300	TELA TO BARRA DE CARATASCA	16°19' N	85°50' W	Mann/Rosencrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED INT. KNOTS	DEPTH X/M. MSEC	MAG	GRAVIMETER				WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION						
14	AUG	89	2241												SAT FIX (2151) 16°20.454 85°54.118 el 17	
	(23 1)		2249		TURN										C/C TO 270°	
			2259		270 270										STAY ON COURSE 270 - START LINE 75	
			2300		270 270	8.1	970	46986	6509	6616	035°	5				
			2330		270 272	8.3	1160	46904	64936	493	095°	4				
			0000		270 272	8.4	1290	46884	64896	488	095°	4				
			0013												a/c to 274	
			0030		270 274	8.4	1375	46899	64846	483	090°	4				
			0052												C/C EOL 75 @ 16°16'0 - 86°07'12	RM
			0053												XNC 257° SOL 76	
			0100		254 256	8.5	1405	46896	64816	481	190°	2				
			0130		254 254	8.3	1405	46778	64796	479						
			0102												SAT FIX 10°15.55 86°08.33 (EL 12, IT 2, CT 34)	PM
			0200		254 254	8.2	1390	46781	64806	480	145°	4				
			0230		253 253	8.4	1300	46652	64856	485	220°	6				mk
			0300		255 253	8.3	1305	46616	64826	482	190°	2				
			0225												SAT FIX: 16°12.74 86°19.26 (EL 29, IT 2, CT 34)	PM
			0330		255 258	8.5		46664	64856	485	260°	8				
			0351												EOL H 76 at 16°09'5 - 86°31.1	RM
			0358												XNC 16 08.92, 86 31.31	
			0400		164 165	7.9	1190	46784	64186	426	250°	10				
			0415												C/C 070 at 16°05.5 - 86°30.3	EC
			0430		74 89	7.1	850	46902	64026	413	350°	10				EC
			0433												XNC at at at at at at 16°05.2 - 86°29.5	EC
			0443												SAT FIX at 16°07.0 - 84°30.5	EC

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW8909	0100	+4	0500	Tela Basin	16°13' N	86°00' W	Mann/Rosencrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input type="checkbox"/> FMS	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
20	AUG	89	0500	74	74	8.2	1070	47080	6377	6375	350	20		Ec
			(222) 0530	74	77	8.3	1100	46985	6382	6381	010	20	A/C to 74	Ec
			0519										SAT Fix at 16°07.17 - 86°25.04	Ec
			0600	74	74	8.4	900	46912	6385	6383	000	20		Ec
			0630	74	74	8.2	1030	46906	6385	6385	355	20		Ec
			0700	74	73	8.0	1230	46905	6379	6378	000	18		Ec
			0730	73	77	8.8	1290	46889	6379	6378	000	20	0743 SAT - 16°13.05' 86°02.80' [12-2-23]	Ec
			0800	74.5	074	8.0	1170	46874	6384	6384	010	14		Ec
			0830	74.9	075	8.1	1120	46906	6385	6385	010	14		Ec
			0900	74.9	075	8.0	970	46875	6390	6390	020	14		Ec
			0930	74.8	077	8.1	970	46896	6396	6396	025	13	0930 SAT - 16°17.07 85°47.62' [16-2-13]	Ec
			1000	75.0	079	8.4	1010	46916	6399	6400	030	14	0950 SAT 16°17.84 85°44.57' [16-2-34]	Ec
			1030	75.2	075	8.2	1015	46953	6402	6402	045	12	1112 SAT AX - 16°21.33 85°33.02' [23-2-33]	Ec
			1100	78.2	075	8.3	1000	46964	6405	6405	060	8		Ec
			1130	106.0	080	8.6	1010	46978	6405	6407	060	7	C/C to 102° EOL #77 SOL #78	Ec
			1200	103	105	8.4	1175	46955	6393	6391	040	10		BmL
			1230	103	105	8.6	1155	46936	6393	6393	030	8		BmL
			1300	105	105	8.4	1065	46928	6393	6394	000	6		BmL
			1314										A/C → 107°	-
			1330	105	105	8.4	1220	46977	6382	6382	000	12		BmL
			1342										C/C to 82° (EOL #78 @ 16°17' 989 - 85°10' 932	MK
			1343										XNC SOL #79 @ 16°18' 0 - 85°10.8	BmL
			1400	74	82	8.4	1220	46905	6380	6379	025	16		BmL
			1437										SAT FIX: 16°21.9 85°29.2	
			1500										SAT FIX: 16°19.51, 85°17.14 (EL 40, 172, CT 30)	pan

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RIV MOANA WAVE	MW 8904	1005	+4	1405	NORTHERN COAST OF HONDURAS	16°18'	87°07'	HANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
20	AUG	89	1430		79	80	8.6	1150	46930	63896391	20	12		BML
(1232)			1500		76	80	8.4		46966	63806379	20	14		BML
			1504										AIC 076°	BML
			1523										CIC → 300° → EOL 79 @ 16°20'6" - 84°56'54"	BML
			1530	300	320	8.5		47026	64346412				(TURNING)	
			1532										XNC → SOL 80 @ 16°21'52" - 84°56'02"	BML
			1600	299	302	8.3	1260	46917	649564198		305	2		
			1630	300	294.4	8.1	920	47082	65216522		35	4		
			1632										AIC 302. 1625 05/850379	
			1700	299.8	299.2	7.7	1020	47182	65206820		36	2	E.O.L # 80 CIC - 029.	
			1727											
			1730	237.8	257.6	7.8	1300	47189	65126511		30	0		
			1732										XNC	
			1800	030	032.4	8.0	1010	47358	64636463		25	5	AIC 120	
			1803										AIC 120	
			1804										XNC	S.O.L 81
			1834	119.8	118.2	8.0	1300	47352	6425421		30	12		
			1900	119.5	119.2	8.2	1250	47293	64126414		35	10		
			1828										SAT FIX 1631.61/8509'36	
			1930	119.4	118.2	8.0	1000M	47142	64266426		35	10		
			2000	120	119	8.0	1440	47090	64056404		335	13	SAT FIX @ 1937. 16°26'26" 84°56'48" (EL 7 17 4 6 T 11)	BAD FIX
			2009	120	116	8.0							Adj/c 116°	
			2030	120	115	8.0	1670	47089	63896388		335	13		
			2100	120	117	7.9	1300	47065	63966397		345	16		
			2130	120	119	7.8	1110	46913	64036404		345	20	SAT FIX @ 2122 16°19.905 84°43.911 (EL 21 17 3 CT 18)	

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW8909	1700	+4	2100	Camaron Basin	16°22' N	84°48' W	Mann/Rosencrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input type="checkbox"/> F <input type="checkbox"/> SEC	MAG	GRAVIMETER				WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION					
20	AUG	89	2200	110	119	7.6	1020	46875	6409	6410		340° 16			(1)
(232)			2207	210	210							°	→ CC to 210° EOL #81		(1)
			2213									°	→ XNC		(1)
			2215	000								°	→ CC to 000° Avoid shallow area 500m		(1)
			2225									°	→ New way point #155 MV #6 given to bridge & MW		(1)
			2230	000	001	7.4	980	46886	6465	6479		65° 12	→ 16° 21.6 84° 37.5		(1)
			2249	300	300							°	→ CC to 300°		(1)
			2300	300	301	8.5	1150	46949	6511	6502		165° 5	→ SOL #82		(1)
			2249									°	→ PT NEW error MESSAGE ON MASSCOMP (STEVE P Fixed)		(1)
			2254									°	→ SOL #2		(1)
			2310									°	→ change paper in recorder #4 (3.5 + PROX SIDESCAN)		(1)
			2309									°	→ SAT FIX @ 2309 16° 22.874 84° 39.577 (LL 45.11 2 CT 28)		(1)
			2330	300	303	8.8	1420	46993	6504	6505		165° 6			(1)
			2337	300	305°							°	→ Adj/c 305°		(1)
21	AUG	89	0000	300	304	8.0	1790	47109	6493	6451		170° 4			Bmy
(233)			0030	300	307	7.9	1650	46976	6498	6499		170° 8			
			0100	300	306	8.2	1515	46182	6508	6509		°			
			0039									°	→ SAT FIX: 16° 28.67, 84° 50.00 (LL 50.17 2 CT 31)		PM
			0130	300	304	8.3	1580	47224	6512	6512		180° 6			
			0200	300	305	8.2	1540	47226	6518	6518		150° 4			
			0218	300-3								°	→ EOL 82	END OF SURVEY	Bmy
			0224:44									°	→ MAGY OFF		
			0224:58									°	→ EEL OFF		
			0226			6.0						°	→ XNC	0720	A/S → 4 knots 50ft/min
			0230	72	72		1410	—				°			

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
RV HOHONA WAVE				MW8909		2230	+4	0230	CAYMAN TROUGH			THANN/ROSENCRANTZ			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
21	11	68	9	0235									1/5 → 6 Air GUN - MAGN. Retrieving		
(233)				0235									1/5 → 6		
				0237									Steady on 6 kts.		
				0243									Ed secured		
				0300	72	79	5.7	1700		6437	6433				
				0321									Seamane in board - full stop to retrieve dredge		
				0330	79	79	0.9	1790		6474	6481				
				0331									Everything in board - return to 10 kts		
				0343									MAGY - PORT DEPLOYED PORT		
				0406									MAGY RECORDING		
				0435	72.2	75.7	10.5	1430	47142	6411	6413	020°	20	SAT FIX 16°38'46 84°55'29	dcu
				0500										SAT FIX 16°39'47 84°52'08	dcu
				0530	72.2	75.9	10.7	1240	47153	6431	6431	015°	20	SAT FIX 16°40'67 84°47'77	dcu
				0600	72.1	74.9	10.6	1780	47167	6408	6407	015°	20		dcu
				0630	72.2	73.1	10.5	1990	47225	6400	6399	020°	20		dcu
				0700	72.2	73.4	10.7	2010	47214	6395	6394	005°	21		dcu
				0730	72.2	72.9	10.6	2000	47300	6395	6395	005°	20		dcu
				0800	72.2	73.4	10.3	1990	47312	6396	6394	000°	21	SAT FIX @ 0658: 16° 42.197 84° 23.486 (LL=1911 = 2.41 = 20)	dcu
				0830	72.1	71.6	10.4	1860	47324	6405	6406	010°	20		dcu
				0900	72	74	10.4	1730	47325	6418	6419	010°	20		dcu
				0930	72	73	10.4	1420	47324	6432	6434	010°	22	SAT FIX @ 0845 16° 53.869 84° 05.121 (LL=36 11.2 CT=28)	dcu
				0930	72	73	10.5	1460	47341	6434	6433	020°	19		dcu
				0930	72	73	10.4	1350	47321	6441	6441	015°	19	SAT FIX @ 0914 16° 55.61 84° 00.06 (LL=16 11.2 CT=12)	dcu

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
RY Moana Wave				MW 8909		0600	+4	1000	Transit over Cayman Trough	16°58'	83°50'	Mann/Rosenkrantz			
DATE				GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR	GRAVITY							SPRING TENSION	DIRECTION	KNOTS			
21	AUG	89	1000		72°	74°	10.4	1670	47361	64326432	010°	20			(BP)
	(233)		1030		72°	73°	10.6	1940	47382	64176416	010°	21	SAT FIX @ 10:49Z 17°02.508 83°43.621 (EL 17 IT 2 CT 25)		(BP)
			1100		72°	74°	10.2	1900	47384	64196420	010°	22	SAT FIX @ 11:02Z 17°01.23 83°44.40 (EL 17 IT 2 CT 25)		(BP)
			1130		72°	73°	10.4	1620	47382	64396440	020°	20	SAT - 98 L.A. 04542 21.10.89 (234)		(BP)
			1200		72°	73°	10.6	1390	47421	64616460	010°	20			mk
			1230		72°	73°	10.3	1750	47475	64516454	008°	22	SAT FIX @ 12:38Z 17°06.611 83°24.535 (EL 50 IT 2 CT 34)		mk
			1300		72°	72°	10.4	1605	47507	64566458	006°	20			mk
			1330		72°	73°	10.7	1630	47507	64616463	006°	22			mk
			1400		72°	73°	10.9	1660	47512	64656462	004°	22	SAT FIX @ 14:02Z 17°14.310 - 83°16.193 (EL 26 IT 3 CT 26)		BmL
			1430		72°	73°	10.7	1715	47502	64726471	004°	20			BmL
			1500		74°	73°	10.7	1930	47475	64696467	006°	21			BmL
			1530		75	75	10.6	1870	47448	64736471	004°	21			BmL
			1600		72.7	78.4	10.7	2060	47511	64676461	010°	27			(dd)
			1630		72.7	78.6	10.6	2180	47503	64566456	020°	18			(dd)
			1612										SAT FIX 17°19.51 82°46.52		(dd)
			1700		72.7	78.7	10.2	2020	47516	64666466	010°	20			(dd)
			1730		72.8	78.6	10.4	2150	47538	64736473	010°	20	SAT Fix 17°23.67 82°32.99. @ 17:31		(dd)
			1800		72.7	83.4	10.2	2360	47478	64616461	010°	20			(dd)
			1830		72.6	83.1	10.6	2550	4697	64596457	000°	21			cc
			1815										SAT Fix at 17°28.20 - 82°23.74		cc
			1900		72.5	81.4	10.5	2130	47552	64706470	000°	20			cc
			1930		72.4	81.1	10.5	2350	47549	64716470	000°	20			cc
			2000		72.2	75	10.7		47631	64656464	010°	18			cc
			1950										Change paper in 3.5K recorder #1		cc
			2012										SAT FIX (2012) 17°30.875 82°05.1065 18°05.12.4 28		cc

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
R/V MOANA WAVE			MW8909		1630 0630	+4	2030	TRANSIT OVER CAYMAN TROUGH	17° 32	82° 00	MAUN/ROSENKRANTZ			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
21	AUG	89	2032		72.1	77	10.4	47755	47703	64476	444	10° 20		
(233)			2100										SAT FIX (2046) 17° 32.547 82° 00.142 2113.1221	
			2100		72.1	77	10.4	2750	47665	64426	4410	10° 22		CG
			2130		72.0	77	10.5	2710	47684	64414	4413	15° 20		CG
			2130										SAT FIX (2021) 17° 34.225 81° 54.337 2129.120424	CG
			2200		71.8	77	10.7	2700	47656	64416	4439	01° 20		CG
			2230		71.8	75	10.5	2710	47693	64316	4428	15° 20		CG
			2300		71.8	75	10.4	2740	47707	64316	4428	15° 18		CG
			2251										SAT FIX (2251) 17° 38.648 81° 39.816 2129.120417	CG
			2309										SAT FIX (2309) 17° 39.507 81° 36.888 2131.120428	CG
			2330		71.8	75	10.6	2725	47726	64396	4437	04° 18		CG
22	AUG	89	0000		71.8	774	10.8	3100	47756	64416	4439	0° 18	SAT FIX @ 0016 22AUG89 17° 42.9' 81° 25.8' EL63 IT2 CT29	MK
(234)			0030		71.8	75.6	10.7	3745	47791	64316	4438	0° 18		MK
			0100		71.8	749	10.7	3950	47771	64046	4408	355° 22		MK
			0130		71.8	744	11.1	3960	47861	64046	4406	358° 21	SAT Fix @ 01:38 17° 47' 33 - 81° 12' 09 EL20 IT2 CT30	BmL
			0200		71.8	76.1	10.8	3800	47785	64196	4418	358° 22		BmL
			0230		72	75	11.1	3970	47699	64196	4417	355° 22		BmL
			0300		71.6	72.6	10.6	4420	47704	64116	4408	358° 22	SAT Fix @ 0	BmL
			0322										Reduce speed 4 kts to deploy drogue (Mag. off)	BmL
			0330		73.5	75.8	4.3	4035	4	64726	4465	358° 18		BmL
			0337										Seamarc in water	
			0357										1/S → 6 knots	BmL
			0400		75.1	74.2	6.1	4370		64726	4471	358° 14	SAT Fix @ 03:27 17° 53.021 - 80° 54.304 EL17 IT1 12/17	EC
			0410										1/S 10 knots 17 54 21, 80 51 58	
			0429										a/c 080 17 55 022 80 48 64	

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA		LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V Moana Wave			MN 8909		0030	+4	0430	2 nd Survey (Ay Trough)		17°55'	80°48'	Mann

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
22	Aug	80	0430	080	82	9.2	3640	47697	6445	6439	355°	16	17 55 04 80 48 58	ST
	(23)	4	0443										CIC 120 17 55 47 80 46 56	
			0445										Sat Fix 17 55 39 80 46 13	
			0500	114.9	121.7	10.0	4080	47675	6451	6453	320°	16		
			0530	114.3	120.7	10.0	4150	47224	6460	6461	320°	16		
			0600	119.0	115.0	10.0	2056	48148	6488	6481	330°	18		
			0626										E.O.L 83 CIC 025	
			0630	025	054	9.9	2000	47961	6489	6489	330°	20		
			0635											
			0656											
			0700	299	327	9.8	3800	47830	6515	6447	030°	19		
			0702										XNC S.O.L 84.	
			0730	299.1	303.4	9.7	21750	47562	6552	6552	46°	12		
			0715										17 53.37 / 80 31.39 SAT	LL-8 IT-2 CT-16
			0800	300	300	9.7	4770	47135	6561	6560	040°	15		
			0830										SAT FIX 0800: 17° 57.07 80° 38.91 (EL-68° IT-2 CT-34)	
			0835										END LINE #34. CHANGE COURSE 030-	
			0841	030									XNC	
			0900	030	025	9.4	4675	47926	6506	6492	000°	20		LG
			0905										CIC 120	CG
			0912										SOL #85	CA
			0930	120	119	10.2	4240	47960	6474	6470	300°	15	SAT FIX 0915: 18° 04.121 80° 41.668 (EL-23° IT-2 CT-22)	
			1000	120	119	10.2	3990	47917	6480	6479	310°	18		
			1030	120	119	10.2	4800	47667	6457	6457	300°	16		
			1100	120	120	10.1	4770	47532	6421	6417	305°	13		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW8909	0700	+4	1100	2 nd Survey - Cayman Trough	17°55' N	80°25' W	Mann/Rosenkrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG.	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
22	AUG	89	1130	120	119	10.2	3600	47864	6427	6427	320° 14	Sat Fix @ 1102: 17°55.473 80°25.661 (EL 38° 17-2 CT-24)	LT
	(234)		1200	120	120	10.1	3315	48052	6430	6430	350° 14		Bml
			1227									A/C → 120°	Bml
			1230	120	120	10.1	3255	47922	6422	6420	350° 18	Sat Fix @ 12:15 17°49'89 - 80°14'39 (EL=57, IT=2, CT=39)	Bml
			1244									EDL #85 @ 17°47'525 - 80°10'175	Bml
			1249									XNC (TURN) (85→80) XNC 30°	Bml
			1300	30	297	9.9	3200	47901	6457	6462	000° 18		Bml
			1245									SAT FIX: 17°49.89, 80°14.39 (EL 57, IT 2, CT 39)	Bml
			1310									C/C → 298°	Bml
			1315									XNC 298 @ 17°51'61 - 80°08'32" SOL #86	Bml
			1330	300	299	10.2	3610	48024	6535	6554	032° 4		Bml
			1350									A/C 302°	Bml
			1400	300	302	10.0	4350	47778	6521	6519	035° 14		Bml
			1338									SAT FIX: 17°53.29, 80°11.60 (LL 23, IT 2, CT 32)	Bml
			1430	300	301.6	9.7	4810	47505	6526	6526	030° 18		Bml
			1500	302	302	10.0	4810	47683	6566	6567	030° 16		Bml
			1530	307	303	9.8	3080	47871	6637	6644	036° 18		Bml
			1538									A/C → 309° (LPS Back 1543)	Bml
			1547									C/C 030° EOL 86 @ 18°04'329-81°31'872	Bml
			1552									XNC (turn) 180514 803198	Bml
			1600	342	339	9.8	35410	48046	6535	6530	030° 20		Bml
			1615									C/C 120° 18°04'162, 80°30'0	Bml
			1621									XNC 180833 / 802914	Bml
			1636	119.4	118.7	9.9	3820	47103	6521	6522	325° 18		Bml
			1700	119.2	120.4	9.8	3160	47942	6542	6540	328° 18		Bml

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	=	GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST		
R/V Moana Wave			MW8909		1300	+4		1700	Far Cayman Trough SURV 2	18°05.1	80°23.4	MANN/ROBERTS		
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
22	AUG	89	1730			9.7	4700	47829	64466	1157	300°	16		de
23	AUG	89	1800			9.6	4820	47882	63976	317	350°	16		
			1830			9.8	4780	47896	63846	382	330°	15		de
			1733										SAT FIX 180266/801863	
			1900			9.8	4250	47796	63896	389	325°	14		de
			1930			9.8	3700	47745	64076	469	370°	16		
			1928										SAT FIX 175378/8601.90	de
			2000			9.8	3000	47808	64296	431	325°	15		
			2030			9.7	3150	47723	64486	450	325°	14		de
			2032										EOC 87	
			2037										XNC	de
			2053										SAT FIX (2042) 17°49.467 79°51.022 el 64.1 20730	
			2100	030	032	10.1	2720m	47878	64686	469	010°	18		de
			2101										CC 300°	
			2107	300									INC SOL 88	de
			2130	300	303	10.3	4000m	47969	65426	553	060°	10		
			2137										SAT FIX (2114) 17°53.421 79°51.022 el 12.2 20721	de
			2200	300	303	9.9	4640	47840	65106	506	050°	10	SAT FIX (2158) 17°57.197 79°57.864 el 76.1 20725	
			2230	300	301	10.1	4810	47682	64916	487	060°	12		de
			2300	300	301	9.9	4830	47702	65026	499	060°	10		
			2327	300	298								Adj C 298	de
			2330	300	299	10.0	4750	46582	65406	540	060°	10		
			2353										CC 030°	de
			2358										XNC 028° 1/5 → 10	
23	AUG	89	0000	32	29	9.5		47954	65706	598	005°	22		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 89 09	²³³ 2004	+4	²³⁰ 0004	CAYMAN TROUGH - Survey 2	18°08'2	80°15'2	HANN/ROSENKRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER				WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS				
23	AUG	89	0021												CIC 118°	BML
(234)			0027												XNC SOL 89 @ 18°10'8 - 80°12'5	BML
			0030	120	119	9.5		48051	65796	589	330°	22				BML
			0031												A/C → 120°	BML
			0100	120	121	9.9	4620	47947	65776	572	330°	21				BML
			0130	120	118	9.7		47863	64206	419	330°	18				BML
			0114												SAT FIX: 18°07.03, 80°06.33 (EL=14, 17, 2, CT 24)	PM
			0200	120	116	9.7	4820	47803	63846	383	330°	20				BML
			0230	120	117	9.7	4630	47838	63846	385	330°	18				BML
			0300	120	117	9.9	4000	47888	64056	414	330°	16				BML
			0330	120	116	10.0	2920	47939	64386	442	330°	18				BML
			0335												SAT Fix: 17°56.011 - 79°45.346 (EL=28, 11-2, 17-23)	BML
			0400	120	117	9.8	2520	47854	64596	463	328°	18				BML
			0409												CIC 030 at 17°53.4 - 79°40.4 END of Line # 89	CC
			0415												XNC at 17°53.8 - 79°39.6	CC
			0430	30	29	10.3	2530	47956	64916	492	000	20				CC
			0437												CIC to 500 at 17°56.9 - 79°37.7	EC
			0443												XNC at 17°57.8 - 79°38.1 BEGIN LINE # 90	EC
			0500	299	305	09.7	2780	47961	65816	601	030	18				EC
			0530	299	302	10.0	4670	47995	65366	531	030	17				EC
			0600	299	304	09.8	4650	47888	65156	512	045	16				EC
			0520												SAT FIX at 18°00.9 - 79°43.9	EC
			0630	299	303	10.0	4810	47802	65126	510	040	17				EC
			0700	299	302	09.9		47836	65476	546	040	17				EC
			0708												CIC to 030 at 18°10.6 - 80°00.7	EC

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST			
R/V HOANA WAVE				MW8909		0310	+ 4	0710	CAYMAN TROUGH. (WAY BACK HOME...)	18°10.4	80°00.9	MANN/ROSENCRANTZ			
DATE				GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR	GRAVITY							SPRING TENSION	DIRECTION	KNOTS			
23	4	89	0714										°	XNC	EC
(235)			0716										°	SAT FIX at 18°11.1 - 80°00.2	EC
			0730	027	073	10.1	4620	47951	6518	6500	000	20	°	SAT FIX (0730) 18°11.1 - 80°00.2	EC
			0734										°	C/C to 118 at 18°13.8 - 79°58.7	EC
			0741										°	XNC at 18°13.9 - 79°57.7 BEG. LINE # 91	EC
			0800	119.8	115	9.6	4680	47233	6474	6449	40	16	°		
			0830	120	119	9.6	4575	47800	6474	6441	340	20	°		
			0900	120	120	9.6	4700	47952	6399	6399	370	78	°		
			0925										°	SAT FIX (0925) 18°12.0 - 79°58.0	
			0929										°	replace belt on 10000 - 10000	
			0930										°	SAT FIX (0930) 18°12.0 - 79°58.0	
			0930	120	121		3750	48002	6475	6476	350	16	°		
			1000	120	121	9.7	2875	47982	6466	6472	355	16	°		
			1011										°	SAT FIX (0951) : 18°03.671 79°38.781 (EL=68° IT-4 CT-29)	EC
			1020										°	SAT FIX (1003) : 18°02.57 79°37.14 (LL-10° IT-3 CT-20)	EC
			1030	120	119	10.0	1870	48025	6494	6493	340	15	°	SAT FIX (1026) : 18°00.844 79°33.630 (EL=55° IT-2 CT-29)	EC
			1100	120	120	10.0	1960	48130	6488	6488	345	16	°		
			1129										°	EOL 91	
			1130	020	070	10.1	1910	47882	6474	6475	355	15	°	INTURN	
			1135										°	XNC	
			1150										°	a/c to 039°	
			1157										°	c/c to 302°	RML
			1200	120	350	11.0	2110	47987	6510	6502	000	18	°	(We are turning, so speed is probably wrong)	RML
			1204										°	XNC 302° @ 18°00'7 - 79°22'0 SOL 92	RML
			1208										°	A/C = 298°	RML

XNC

SAT FIX at 18°11.1 - 80°00.2

~~SAT FIX (0730) 18°13.8 - 79°58.7~~

CIC to 118 at 18°13.8 - 79°58.7

XNC at 18°13.9 - 79°57.7 BEG. LINE # 91

SAT FIX (0941) 18°22.568 79°44.215

replace Walton compass - old compass broken

SAT FIX (0903) 18°22.568 79°44.215

SAT FIX (0951): 18°03.671 79°38.181 (EL=68° IT=4 CT=29)

SAT FIX (1003): 18°02.57 79°37.14 (LL=10° IT=3 CT=20)

SAT FIX (1026): 18°00.844 79°33.630 (EL=55° IT=2 CT=29)

EOL 91

INTURN

XLC

a/c to 039°

c/c to 302°

(we are turning, so speed is probably wrong)

XNC 302° @ 18°00.7 - 79°22.0

A/C → 248°

SOL 92

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE	MW 8909	0811	+4	1211	PAYMAN TROUGH (2 nd Survey)	18° 01' N	79° 23' W	MANN/ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. □ MSEC.	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
23	AUG	89	1230	300	299	10.1	2230	48111	6604	6612	006°	8		BmL
(235)			1300	300	297	10.4	3170	47373	6582	6579	002°	4		BmL
			1330	300	298	10.0	3865	48136	6565	6564	002°	6		BmL
			1315										SAT FIX: 18°06'59" 79°32'48" (EL: 16, IT: 2, CT: 30)	BmL
			1400	300	298	10.2	4420	48018	6537	6533	002°	8		BmL
			1430	300	300	9.9	4260	46616	6540	6540	005°	6		BmL
			1500	300	296	10.0	4655	47907	6568	6567	030°	4		BmL
			1509										CIC → 032° [EDL 92] @ 18°15'693 79°50'308	BmL
			1516										XNC → 032° (TURN)	BmL
			1530	033	033	10.1	(3000)	48089	6543	6529	030°	12		BmL
			1538										CIC → 120° (End of Turn)	BmL
			1542										XNC → 120° [SOL 93] @ 18°19'8 79°47'9	BmL
			1600	119.3	122.9	9.8	4400	48003	6481	6480	000°	18		BmL
			1630											
			1630	119.2	119.4	9.7	4620	47885	6430	6430	355°	20		BmL
			1700	119.4	117.6	9.8	3970	47818	6423	6422	000°	16		BmL
			1730	119.6	121.1	10.0	4270	48037	6430	6430	005°	18		BmL
			1800	114.5	120.6	9.9	3560	48075	6456	6456	000°	18		BmL
			1830	114.2	121.1	10.0	2840	48058	6475	6475	000°	18		BmL
			1813										SAT FIX 181394 793673	BmL
			1900	114.2	121.9	10.0	2560	47258	6473	6477	005°	18		BmL
			1930	114.4	122.1	10.0	2650	47080	6460	6461	000°	20		BmL
			1947										Change paper in recorder = 1	BmL
			2000	120	123	9.9	1550	47787	6488	6491	005°	18	SAT FIX @ 1843: 18° 05.509 79° 21.226 (EL: 30 IT: 2 CT: 27)	BmL
			2019	120	115								AOT/c	BmL

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
RV Moana Wave	MW 8909	1600	+4	2000	Cayman Trough (2 nd Survey)	17°58'N	79°08'W	Mann/Rosenkrantz

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
23	Aug	89	2030	120	117	10.1	1850	47702	6482	6480	000° 17	SAT FIX @ 2019 17°57.721 79°06.832 (EL-46° 11-2 CT-22)	EL
(235)			2057	030							→	CC 030 EOL 93	EL
			2100	030	turn	10.0	1170	47672	6500	6503	turn° -		EL
			2102	030							→	XNC	EL
			2123	turn							→	C/C 300° -	
			2129	300							→	XNC SOL 94	EL
			2130	300	297	10.2	1450	47726	6557	6544	320° 6	SAT FIX @ 2122 17°58.33 78°59.10 (EL-45° 17-2 CT-24)	EL
			2200	300	299	10.1	1620	47777	6627	6634	325° 5		EL
			2230	300	294	10.1	3230	47924	6576	6570	320° 6	SAT FIX @ 2206 18°02.23 79°04.73 (EL-44° 17-2 CT-28)	EL
			2300	300	294	10.2	2840	48050	6575	6513	320° 5		EL
			2330	300	294	10.3	2780	48091	6594	6594	315° 5		EL
			2335								→	SAT FIX (2309) 18°07.468 79°14.542 @ 23.1 2 CT 27	
24	AUG	89	0000	300	302	10.2	3425	48281	6594	6595	330° 4		BML
(236)			0030	294	302	10.4	4215	48106	6568	6566	330° 2		BML
			0100	300	302	10.4	4350	47912	6557	6554	330° 1		BML
			0051								→	SAT FIX 18°16.33, 79°31.25 (EL=8, 17=2, CT 23)	BML
			0130	302	301	10.2	4620	47891	6575	6574	330° 2		BML
			0134								→	A/C 304°	BML
			0153								→	C/C → 032° EOL #94 @ 18°21'231 - 79°40'745	BML
			0159								→	XNC 032° (TURN)	BML
			0220								→	C/C → 118°	BML
			0227								→	XNC 118° SOL #95 @ 18°25'177 - 79°38'112	BML
			0230	119	119	10.0	3700	47798	6524	6526	350° 18		BML
			0300	120	119	10.2	3675	47972	6504	6503	350° 18		BML
			0330	120	118	10.3		47956	6472	6470	000° 18		BML

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOANA WAVE				MW 8909		(235) 2336	+4	0336	Payman Trough (2 nd Survey)	18°19'	79°27'	HANN/ROSENCRANTZ
DATE	TIME	GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M	MAG	GRAVIMETER GRAVITY	WIND DIRECTION	WIND KNOTS	COMMENTS	OBSERVER
24 AUG 89	0400		120	118	10.1	3650	48035	64686468	358°	20		RM
(236)	0430		119	119	9.8	3450	47845	64766477	340°	22		ST
	0500		119	118	10.0	3650	48119	64746475	358°	22		
	0530		119.4	118.7	9.8		48177	64556455	355°	70		
	0502										SAT FIX at 18°17.7 - 79°16.7	RM
	0600		119	118	9.9	3410	48048	64486448	358°	16		
	0630		119	118	9.8	2850	47896	64496450	358°	20		
	0700		118	119	9.5	3550	47833	64686468	358°	20		
	0631										SAT FIX at 18°05.6 - 79°01.3	RM
	0710										3.5 kHz Printer is down - scrolling is the problem. Turned off, then on, seems O.K. Steve agrees.	ST
	0730		118	119	9.9	1570	47751	64836485	340°	24		
	0756										EX 95	CG
	0800		036	036	9.6	1900	47715	64436449	25°	24		
	0821										Y/L	
	0826										C/C 300°	
	0832					1560	47776	65456524	035°	3		
	0900		300	299	10.3	1100	47834	66136619	-°	0	SOL 96 SAT FIX @ 0818: 18°02.09 78°46.70 (EL-44° 11-2 CT-24)	CG
	0928										ADJIC 296	
	0930		300	295	10.4	1980	47930	66596659	195°	3	SAT FIX @ 0916: 18°07.71 78°52.99 (EL-35° 11-2 CT-23)	
	1000		300	297	10.2	2400	48119	65286529	195°	3	SAT FIX @ 1006: 18°10.09 79°02.44 (EL-19° 11-2 CT-28)	
	1020										ADJIC 300 SAT FIX @ 1007: 18°11.475 79°01.065 (EL-18° 11-2 CT-26)	
	1030		300	299	10.0	3130	48247	65836582	230°	2		
	1100		300	299	9.9	3140	48289	65966596	270°	3		

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MOUNDWAVE	MW8909	7:05	14	1105	CAYMAN T ROUGH (2 nd time)	15°16	77°10	WANN RUSCHKE

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS		
24	AUG	89	1130		300	300	9.9	3700	48222	65966597	4	0		CG
(236)			1200		300	301	9.9	3870	48001	65936593	240	2		Bmy
			1230		300	300	9.8	4060	47870	66006600	240	2		Bmy
			1250										C/C → 032° EOL#96 @ 18°24'6 - 79°25'4	Bmy
			1255										XNC 032° R/S → 4 knots (Deploy Seismics)	Bmy
			1300										Deploying cel + gun.	Bmy
			1309										I/S → 8 knots	Bmy
			1317										Seismics ON	Bmy
			1322										set seismic delay to 4.0 sec	mk
			1326										C/C → 20°	Bmy
			1330			87	7.8	48055	65226518		002	20	(Turning)	Bmy
			1332										XNC SOL#97 @ 18°28'36 - 79°23'45	Bmy
			1400		119	119	8.2	4485	47827	64946493	000	18		Bmy
			1317										SAT FIX : 18 27.35 79 24 87 EL11, IT2, CT25	Bmy
			1430		114	114	8.1	4070	47754	64936492	000	18		Bmy
			1500		119	120	8.1	3250	48003	65036502	000	18		Bmy
			1530		119	122	8.1	3070	48491	65066507	350	18		Bmy
			1600		119.5	121.7	7.9	3170	47857	64896489	350	20		cd
			1630		119.5	121.7	8.0	3250	48342	64766475	345	18		cd
			1549										SAT FIX 18°19'26 76°06'32	cd
			1700		114.6	121.4	7.7	2610	48177	64816481	0	16		
			1730		119.7	122.4	7.6	2210	48052	64866487	350	16		
			1734										BAT FIX 18°12'49 78°53'42	
			1800		119.8	122.2	7.6	430	47935	64976497	0	18		dd
			1810										No seismic signal.	

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST				
R/V Monna Wave			8909 MW		14:15	14	1815	AYINAN Trench (2nd time)	1809.86	7848.51	MANN/Rosemont				
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M. <input checked="" type="checkbox"/> MSEC	MAG.	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
24	AUG	89	1830	14.8	123.4	7.4		47850	65	1565	17	005°	16	AIC 124 18°08' 26 / 784518	dd
(236)			1842									°			
			1900	119.8	124.6	8.1	1250	47830	65	1665	14	000°	18		
			1930	119.7	125.2	8.0	1665	47784	65	1665	14	000°	19		da
			2000	120	125	8.1	1700	47732	64	7764	76	000°	17		
			2030	120	123	8.2	1840	47757	64	5364	51	000°	16	SAT FIX(2047) 1759.605 78°29.789 el 24 et 2 of 29	
			2100	120	120	7.9	2080	47657	64	4064	39	000°	15		
			2130	120	124	7.7	1650	47564	64	4364	42	355°	18		
			2132	030								°	→	CC EOL 97	
			2138									°	→	XNL	
			2200	030	029	8.2	1370	47602	64	6864	66	025°	12	SAT FIX(2143) 17°57.51 78°23.02 el 28 of 2 of 33	
			2208	300								°	→	CC 300°	
			2210									°	→	EEL FAILURE (A 2155) - PREAMP FAILURE SIGNALS OUT	
			2214									°	→	SOL 98 (NO EVENT MARKER FROM BRIDGE)	
			2216									°	→	R/S 4 KNOTS TO BRING IN BOTH EUN & EEL	
			2225									°	→	1/3 10 KNOTS	
			2230	300	300	8.7	1160	47661	65	4165	61	035°	6	SAT FIX(2234) 18°02.148 78°23.887 el 40 of 2 of 33	
			2300	300	299	10.1	1830	47821	65	7165	74	040°	6	SAT FIX @ 2307 18° 04.831 78° 28.778 (EL 51° 11.3 CT 31)	
			2330	300	299	10.3	2090	47758	65	6265	60	040°	7		
25	AUG	89	0000	300	299	10.0	1840	47827	65	8065	82	040°	14		BML
(237)			0030	300	299	10.3	2075	47882	65	8265	80	045°	8		BML
			0100	300	299	10.1	2090	47994	65	9165	91	045°	4		BML
			0130	300	299	10.1		48220	65	8565	84	045°	4		BML
			0054									°	→	SAT FIX: 1813.74, 7844.76 (EL 17, LT 2, CT 32)	BML
			0200	300	299	10.0	2870	48359	65	9865	99	045°	2		BML

VESSEL NAME				CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST		
R/V MOANA WAVE				MW 8909		2000	+4	0200	CAYMAN-TROUGH / WEST JAMAICA	18°19'	78°56'	MANN/ROSENCRANTZ		
DATE			G M T		INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAVIMETER		WIND	COMMENTS	OBSERVER
DAY	MONTH	YEAR						X M <input type="checkbox"/> MSEC		GRAVITY	SPRING TENSION	DIRECTION		
25	AUG	89	02	30	300	301	10.0	2775	48421	66126614		040°	2	BML
(237)			03	00	300	299	10.0	3550	47960	66026601		040°	2	BML
			03	30	300	300	10.0	4100	47634	66046605		045°	2	BML
			02	47										
			03	02										
			04	00	300	302	10.1	4450	47812	66036602		045°	1	BML
			04	30	300	301	10.0	4500	48116	66126613		065°	1	EC
			04	51										
			05	00	032	031	10.0	4580	48234	62276545		045°	10	EC
			05	18										
			05	24										
			05	30	119	120	10.0	4620	46609	65006493		000°	18	EC
			06	00	119	120	10.0	4550	48218	64936493		000°	20	EC
			06	30	119	120	10.0	4550	48053	64816481		355°	19	EC
			07	00	119	121	10.0	4600	47911	64686467		350°	18	EC
			07	30	119	120	09.9	4350	47808	64666465		350°	18	EC
			08	00	119	120	09.9	3370	47773	64826484		350°	18	EC
			08	30	119	121	09.8	2850	47379	64856486		330°	18	EC
0900			09	00	120	122	9.8	2610	46630	64796474		330°	13	EC
			09	30	120	119	10.1	2950	48032	64996448		310°	15	EC
			10	00	120	121	9.8	2800	47883	64366433		315°	16	EC
			10	30	120	121	10.1	2410	47886	64636443		315°	11	EC
			10	41										
			11	00	120	124	10.3	2210	47798	64426449		320°	12	EC
			11	30	120	125	10.1	1500	47765	64586457		330°	13	EC

SAT FIX 18°20.75, 78°56.68

SAT FIX 18°24.00 79°04.6 (CL=16, IT=3, CT=16)

C/C to 030 at 18°32.7 - 79°21.1 EOL # 98

XNC

C/C to 120 at 18°36.6 - 79°19.3

XNC at 18°36.8 - 79°15.4 SOL # 99

0756

SAT FIX at 18°25.4 - 78°55.7 (CL=33° IT=2 CT=31)

SAT FIX @ 0943 18°16.07 78°39.23 (EL=27° IT=2 CT=33)

ADJ/C to 123

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V MONA WAVE	MW8909	10:30	+5	1130	CAYMAN TROUGH - West JAMAICA	18°07	78°21	MANN ROSENCRANTZ

DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH <input checked="" type="checkbox"/> M <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION			
25	AUG	89	1135								0°	EOL 99	G
			1146								0°	XNC START LINE 100	
			1200	320	323	10.0	1820	47781	65606	591	25° 10		
			1230	320	322	9.8	1360	47919	65936	594	15° 10		
			1242								0°	Adj/c 300	
			1300	300	301	9.8	1270	47954	66236	631	030° 8		BML
			1330	300	299	10.0	2150	48015	65966	594	030° 6		BML
Sat	Ex	*	1254	46							0°	SAT Fix: 12:54 18°16'10 - 78°29'07 (LLIT, CT 21)	BML
			1344								0°	Captain reported that ship passed over a fishing net	BML
			1400	300	299	9.9	2850	48042	65876	585	030° 4	(1550 → GPS OFF)	BML
			1430	300	299	10.0	3070	47998	65976	599	032° 4		BML
			1500	300	302	10.0	4300	47970	65866	585	030° 4		BML
			1440								0°	SMT Fix: 18:24.76, 78:45.67 (CL 10, IT 2, CT 15)	BML
			1530	300	302	9.9	4580	47815	65786	577	032° 6		BML
			1558								0°	C/C 040° <u>EOL#100</u> at 18°31'34 - 78°57'65	BML
			1600	288		9.7	4630	47840	65886	588	030° 10	Turning	BML
			1604								0°	XNC (Turn)	BML
			1625								0°	L/C → 120°	BML
			1630	320	116	9.3	4720	48669	64756	479	355° 18		
			1631	120							0°	XNC 120° <u>SOL 101</u> 18°35'15 - 78°55'00	BML
			1625								0°	SAT Fix: 18:35.00 78:55.41 (CL 67, IT 2, CT 33)	BML
			1700	120	123	9.8	4720	47994	64616	469	350° 18		BML
			1730	1142	1147	9.9	4740	47997	64506	450	340° 16		BML
			1800	1146	1127	10.0	3830	48612	64616	462	350° 16		BML
			1830	120.0	120.2	10.0	2430	48688	64976	498	010° 10		BML

VESSEL NAME			CRUISE & LEG NO.		LOCAL TIME	TIME ZONE	= GMT	AREA		LATITUDE	LONGITUDE	CHIEF SCIENTIST			
R/V MGA, AWA			MN 8909		13:33	TD	1833	Cayman Trough - W. Jamaica		182533	783688	Mann			
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH M <input checked="" type="checkbox"/> FMS	MAG	GRAVIMETER		WIND		COMMENTS	OBSERVER	
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION	DIRECTION	KNOTS			
25	Aug	89	1900	120.6	119.9	10.4	2360	47592	6490	6490	000°	10		dd	
			(237) 1930	120.1	121.2	10.0	1780	47794	6496	6498	000°	10		da	
			1934												
			1940												
			2000	299	32.9	10.2	1575	418037	6542	6549	020°	12	C/C 030 E.O.L. 101		
			2003												
			2009												
			2030	299.2	299.2	9.9	2170m	418214	6628	6627	350°	8	XNC (turn)		
			2100	300	299	9.7	2780	48418	6622	6623	345°	8	C/C 300 1823 95/782487	dd	
			2106											da	
			2130	300	299	9.9	1300	48320	6587	6585	350°	10	SAT FX (2047) 18°27.828 78°31.065 2/16/24 24	co	
			2200	300	301	10.1	4750	48010	6571	6569	345°	7	SAT (2121) 18°30.510 78°36.194 2/17/24 29	co	
			2211	TURN											
			2216		030								END LINE 102 - C/C 030°		
			2230	030	033	10.1	4900	48079	6484	6465	025°	10	ON COURSE 030°		
			2241												
			2247										C/C 120°		
			2300	120	121	9.7	1860	48059	6459	6453	345°	13	XNC SOL # 103		
			2330	120	121	9.8	4760	48020	6451	6451	330°	14			
26	AUG	89	0000	120	121	9.7	3700	48266	6463	6464	330°	15			
			(238) 0030	120	120	9.8	2860	48426	6489	6491	315°	17			
			0040	120	117										
			0100	117	116	9.8	1510	48220	6529	6530	315°	20	Adj C 117°		
			0111												
			0116												
										C/C 030		E.O.L. 103		@ 1827325 - 78°19'671	8m
										XNC 030°		(TURN)			8m

VESSEL NAME	CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA	LATITUDE	LONGITUDE	CHIEF SCIENTIST
R/V HOANA WAVE	MW 8909	2016	+5	0116	W-JAMAICA	18°27'7	78°18'8	HANN/ROSENCRANTZ

DATE			G.M.T.	INTENDED TRACK	GYRO COURSE	SPEED INT. KNOTS	DEPTH M. <input checked="" type="checkbox"/> M. <input type="checkbox"/> MSEC	MAG	GRAVIMETER		WIND DIRECTION	KNOTS	COMMENTS	OBSERVER
DAY	MONTH	YEAR							GRAVITY	SPRING TENSION				
26	AUG	89	0031										SAT FIX : 18 30.17, 78 25 53 (EL 25, 17 2, 07 33)	Rm
(238)			0130	30	33	9.6	1900	48207	6560	6571	090°	19		Rm
			0139										C/C 300°	Rm
			0146										XNC 300° SOL 104 @ 18°31'80 78°17'30	Rm
			0200	798	300	9.8	3525	48378	6597	6613	025°	10		Rm
			0230	798	300	9.7	4200	48176	6577	6578	025°	10		MK
			0300	798	300	9.7		48224	6575	6576	032°	4		Rm
			0305										C/C → 030° EOL 104 @ 18°38'10/78°29'55	Rm
			0314										XNC → 030°	Rm
			0330	35	38	9.6	4860	48182	6480	6462	020°	20		Rm
			0339										C/C → 120°	Rm
			0343										XNC 120° SOL 105 @ 18°42'19 - 78°27'02	Rm
			0348										A/C → 117° (No Event Mark)	Rm
			0400	119	116	9.6	4750	48206	6457	6453	330°	21		Rm
			0430	119	121	9.8	4530	48223	6451	6450	350°	20		Rm
			0435										A/C → 120°	MK
			0500	119	121	9.9	4300	48226	6453	6453	000°	20		Rm
			0530	118	118	10.1	3000	48218	6480	6481	355°	20		EC
			0523										SAT FIX at 18°34.4 - 78°12.4	EC
			0602	120	119	10.2	1750	48162	6527	6530	000°	18		EC
			0609										C/C 030 at 18°30.7 - 78°05.3 EOL # 105	EC
			0615										XNC at 18°31.2 - 78°04.4	EC
			0634	79.4	37.6	10.0	2020	48251	6542	6546	30°	10		EC
			0635										C/C at 18°33.8 - 78°02.4	EC
			0641										XNC at 18°34.7 - 78°02.8 SOL # 106	EC

VESSEL NAME			CRUISE & LEG NO.	LOCAL TIME	TIME ZONE	= GMT	AREA			LATITUDE	LONGITUDE	CHIEF SCIENTIST		
HOAMA WAVE			MW8909	0750	+5	0650	N-W EST JAMAICA			18°35.8	78°04.9	MANN/Reser...		
DATE			GMT	INTENDED TRACK	GYRO COURSE	SPEED IN KNOTS	DEPTH	MAG	GRAYMETER		WIND	COMMENTS	OBSERVER	
DAY	MONTH	YEAR					✓M. <input type="checkbox"/> MSEC		GRAVITY	SPRING TENSION	DIRECTION			KNOTS
26	AUG	89	0700	299	298	10.2	2950	46724	660	466	17	315° 05		EC
(238)			0730	284	301	10.3	4590	48197	657	065	67	330° 05		EC
			0800	2094	302	10.3	4580	4708	657	065	70	330° 10	SAT FIX @ 0837 18°44.44 78°20.46 (EL -17° 1.2 CT 10)	
			0830	2088	301	10.0		48288	657	065	70	330° 08		
			0843											
			0900	030	031	9.8	5020	48204	648	664	87	015° 10	YN C 18°45'49, 78°20.90	
			0904	TURN									C/C 120°	
			0910	120	120								ON COURSE START LINE 107.	
			0930	120	121	10.1	4940	48411	645	645	60	005° 15	SAT FIX @ 0920 18°48.13 78°17.11 (EL -39° 11.2 CT -32)	
			1000	120	121	10.1	4800	43362	645	645	53	355° 15		
			1030	120	121	10.1	4760	43251	644	644	55	355° 10		
			1100	120	120	10.2	4710	48195	644	644	60	355° 11	SAT FIX @ 1044 18°41.423 78°05.360 (EL -32° 17.2 CT -30)	
			1130	120	120	9.9	3330	43123	646	646	65	005° 10		
			1200	120	120	9.9	1980	47461	651	651	13	350° 10	ALA	
			1201	270									C/C 270° EDL 107	
			1206	000									C/C 000° END SURVEY	EC
			1207										END SCIENCE LOGGING MW8909 -	R.
			1219										MAGY ON BOARD - SECURE	