U.S. GEOLOGICAL SURVEY - BRANCH OF ATLANTIC MARINE GEOLOGY

CRUISE REPORT

ENTR #93029

1. Ship Name: F/V Markwell Enterprise

2. Cruise # and Leg: GC-1, 26 legs

3. Project # and Name: 30263, Gulf of Carpentaria

4. Funding Agency: USGS

5. Contract: N/A

6. Area of Operations: Gulf of Carpentaria, Australia

7. Dates and Ports of Call: 8 Dec 93 Karumba - 21 Dec 93 Weipa
21 Dec 93 Weipa - 3 Jan 94 Karumba

8. Chief Scientists: Terry Edgar (BAMG) and Blaine Cecil (BCG)

9. Scientific Party: Muriel Grim - watch and data management
Tommy O'Brien - data processing
David Nichols - Seismic system and deck equipment
Jim Neale - Australian National University, sampling

10. Ship's Captain: Phil McDonald - Ruby Marine

11. Purpose of Cruise: To identify locations best suited for drilling to fulfill objectives of climate change in low latitudes and analogues for ancient stratigraphy in tropical, epicontinental seas and of conditions favorable for the formation of energy resources

12. Navigation Techniques: GPS - autopilot

13. Scientific Equipment: 15 cu in water gun, 10 cu in air gun, Benthos and ITI streamer. Processing system.

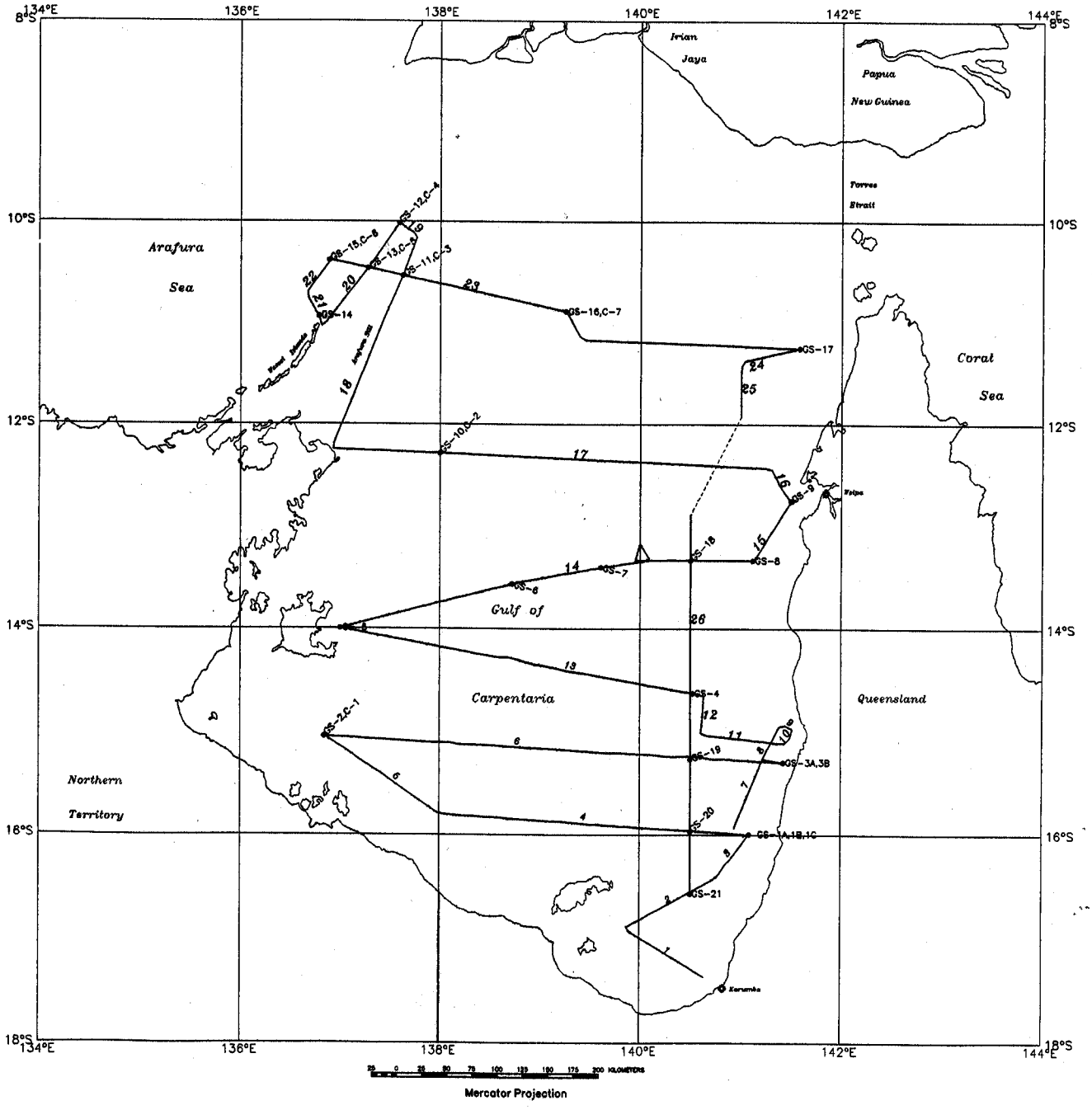
14. Tabulated Information:
Days at Sea: 26
Continuous Data: 4444 km
Stations Occupied: 21
Submersible Dives: None

Station Information

Station #	Date	Lat/Long	Depth (m)	Device	#/type
1	10 Dec	15°59.47'S 141°05.39'E	17.5	clam GS-1A	1/sand
			18	clam GS-1B	1/sand
			21	clam GS-1C	1/sand
2	13 Dec	15°02.80'S 136°50.50'E	33	clam GS-2	1/mud
				core C-1	30 cm
3	15 Dec	15°17.91'S 141°25.63'E	11	clam GS-3A	1/sand
		15°15.90'S 141°13.04'E	21	clam GS-3B	1/sand mud
4	17 Dec	14°37.66'S 140°31.10'E	53	clam GS-4	1/mud
5	19 Dec	13°59.93'S 136°59.91'E	40	clam GS-5	1/mud
6	19 Dec	13°33.90'S 138°43.40'E	59	pipe GS-6	2/mud
7	20 Dec	13°23.96'S 139°36.61'E	65	pipe GS-7	1/sand
8	21 Dec	13°19.94'S 141°07.14'E	33	pipe GS-8	1/sand
9	23 Dec	12°45.00'S 141°30.00'E	30	pipe GS-9	1/mud
10	24 Dec	12°17.03'S 137°59.94'E	54	pipe GS-10	1/mud
				core C-2	83 cm
11	26 Dec	10°32.00'S 137°37.30'E	53	pipe GS-11	1/mud
				core C-3	75 cm
12	27 Dec	10°00.87'S 137°16.30'E	47	pipe GS-12	1/mud
				core C-4	45 cm
13	27 Dec	10°27.50'S 136°16.30'E	53	pipe GS-13	1/mud
				core C-5	105cm
14	28 Dec	10°56.06'S 136°46.96'E	77	pipe GS-14	1/grav
15	28 Dec	10°23.00'S 136°53.00'E	58	pipe GS-15	1/mud
				core C-6	105cm

16	29 Dec	10°53.09'S 139°15.27'E	53	pipe GS-16 core C-7	1/mud cc
17	30 Dec	11°14.78'S 141°34.94'E	22	pipe GS-17	1/sand
18	1 Jan 1994	13°20.03'S 140°29.84'E	65	pipe GS-18	1/sand
19	2 Jan	15°16.06'S 140°29.99'E	46	pipe GS-19	1/sand
20	3 Jan	15°58.09'S 140°30.00'E	33	pipe GS-20	1/sand
21	3 Jan	16°33.86'S 140°29.89'E	24	pipe GS-21	1/sand

93029
ENTR GC-1



MARXWELL ENTERPRISE
ENTR 93-1
Gulf of Carpenteria, Australia
December 8, 1993-January 3, 1994
Chief Scientists Edgar/Cecil

Line	Tape	File	Date	Start JD:Time Z	End
1	1	1	Dec 7	342:21:1:33	343:0:49:46
		2	Dec 8	343:0:49:53	343:4:37:58
		3		343:4:38:5	343:8:26:3
1,2		4		343:8:26:10	343:12:14:22
2		5		343:12:14:29	343:16:2:41
		6		343:16:2:48	343:19:51:0
		7		343:19:51:7	343:23:39:19
2,3		8		343:23:39:26	344:3:27:31
3		9	Dec 9	344:3:27:38	344:5:33:38
3	2	2	Dec 9	344:7:45:14	344:11:33:26
4		3		344:11:33:33	344:15:21:45
		4		344:15:21:52	344:19:10:4
		5		344:19:10:11	344:22:58:23
4		6		344:22:58:30	345:2:46:42
		7	Dec 10	345:2:46:49	345:6:35:1
		8		345:6:35:8	345:10:23:20
		9		345:10:23:27	345:14:11:39
		10		345:14:11:46	345:17:59:58
		11		345:18:0:5	345:20:40:51
5	3	3	Dec 10	345:20:51:0	346:0:39:12
		4	Dec 11	346:0:39:19	346:4:27:31
		5		346:4:27:38	346:8:15:50
		6		346:8:15:57	346:8:43:8
5	4	4	Dec 11	346:9:36:40	346:11:1:43
5	5	5	Dec 11	346:11:11:59	346:14:32:32
6		5		346:15:29:51	346:19:18:3
		6		346:19:18:10	346:23:7:3
		7		346:23:7:10	347:0:6:26
6	6	6	Dec 12	347:0:12:44	347:1:24:29
		6		347:1:25:42	347:4:8:42
		7		347:4:8:47	347:6:51:47
		8		347:6:51:52	347:9:34:52
		9		347:9:34:57	347:12:17:57
		10		347:12:18:2	347:15:1:2
		11		347:15:1:7	347:17:44:7
		12		347:17:44:12	347:20:27:12
		13		347:20:27:17	347:23:10:17
		14		347:23:10:22	348:1:53:22

Line	Tape	File	Date	Start JD:Time Z	End
6	6	15	Dec 13	348:1:53:27	348:4:36:27
		16		348:4:36:32	348:7:19:32
		17		348:7:19:37	348:10:2:37
		18		348:10:2:42	348:12:45:42
		19		348:12:45:47	348:15:28:47
		20		348:15:28:52	348:18:11:52
		21		348:18:11:57	348:20:54:57
		22		348:20:55:2	348:23:38:2
		23		348:23:38:7	349:1:16:2
7		6	Dec 14	349:3:37:52	349:6:20:53
		7		349:6:20:58	349:9:3:58
		8		349:9:4:3	349:11:47:3
		9		349:11:47:8	349:12:42:43
8	7	7	Dec 14	349:18:0:3	349:20:43:3
8,9		8		349:20:43:8	349:23:26:8
9,10		9		349:23:26:13	350:2:9:3
11		10	Dec 15	350:2:9:8	350:4:52:8
		11		350:4:52:13	350:7:35:13
		12		350:7:35:18	350:10:18:18
11,12		13		350:10:18:23	350:13:1:23
		14		350:13:1:28	350:15:44:29
12,13		15		350:15:.44:34	350:18:27:34
		16		350:18:27:39	350:18::39:49
		7		350:19:28:37	350:22:11:37
		8		350:22:11:42	351:0:54:42
		9	Dec 16	351:0:54:47	351:3:37:47
		10		351:3:37:52	351:6:20:52
		11		351:6:20:57	351:9:3:57
		12		351:9:4:2	351:11:47:2
		13		351:11:47:7	351:14:30:7
		14		351:14:30:12	351:17:13:13
		15		351:17:13:18	351:19:56:1
		16		351:19:56:23	351:22:39:23
		17		351:22:39:28	352:1:22:28
		18	Dec 17	352:1:22:33	352:4:5:33
		19		352:4:5:38	352:6:48:38
		20		352:6:48:43	352:9:31:43
		21		352:9:31:48	352:12:14:48
		22		352:12:14:53	352:12:54:3
14	8	8	Dec 17	352:13:27:52	352:16:10:52
		9		352:16:10:57	352:18:53:57
		10		352:18:54:2	352:21:36:12
		8		352:22:19:43	353:1:2:43
		9	Dec 18	353:1:2:48	353:3:45:48
		10		353:3:45:53	353:6:28:53
		11		353:6:28:58	353:9:11:58
		12		353:9:12:3	353:11:55:3
		13		353:11:55:8	353:12:50:38
		8		353:13:23:58	353:16:6:58

Line	Tape	File	Date	Start JD:Time Z	End
14	8	9		353:16:7:3	353:18:50:3
		10		353:18:50:8	353:21:33:8
		11		353:21:33:13	354:0:16:13
		12	Dec 19	354:0:16:18	354:1:35:33
		8		354:2:15:15	354:4:38:15
14	9	9	Dec 19	354:4:50:40	354:7:33:40
14,14A		10		354:7:33:45	354:10:16:45
14A,14B		11		354:10:16:50	354:12:59:50
14		12		354:12:59:55	354:15:42:55
		13		354:15:43:0	354:18:26:0
		14		354:18:26:5	354:21:9:5
		15		354:21:9:10	354:23:52:10
		16		354:23:52:15	355:2:35:15
		17	Dec 20	355:2:35:20	355:2:44:25
15		9		355:3:20:42	355:6:3:42
		10		355:6:3:47	355:8:46:47
		11		355:8:46:52	355:11:29:52
		12		355:11:29:57	355:12:4:52
16	10	10	Dec 21	356:16:33:50	356:17:54:35
		10		356:19:27:27	356:22:10:27
17		11		356:22:10:32	357:0:53:32
		12	Dec 22	357:0:53:37	357:3:36:37
		13		357:3:36:42	357:6:19:42
		14		357:6:19:47	357:9:2:47
		15		357:9:2:52	357:11:45:52
		16		357:11:45:57	357:14:28:57
		17		357:14:29:2	357:17:12:2
		18		357:17:12:7	357:19:55:7
		19		357:19:55:12	357:22:38:12
		20		357:22:38:17	358:1:21:17
		21	Dec 23	358:1:21:22	358:4:4:22
		22		358:4:4:27	358:6:47:28
		23		358:6:47:33	355:9:30:33
		24		358:9:30:38	358:12:13:38
		25		358:12:13:43	358:13:53:23
		10		358:14:29:41	358:17:12:41
		11		358:17:12:46	358:19:55:46
		12		358:19:55:51	358:22:38:51
		13		358:22:38:56	359:1:21:56
		14	Dec 24	359:1:22:1	359:3:11:6
18	11	11	Dec 24	359:7:14:24	359:9:57:24
		12		359:9:57:29	359:12:40:29
		13		359:12:40:34	359:15:23:34
		14		359:15:23:39	359:18:6:39
		15		359:18:6:44	359:20:49:44
		16		359:20:49:49	359:23:32:49
		17		359:23:32:54	360:2:15:54
		18	Dec 25	360:2:15:59	360:4:32:19
		19		360:5:12:57	360:7:55:52

Line	Tape	File	Date	Start JD:Time Z	End	
		20		360:7:55:57	360:8:28:22	360:13:33 switched to 10" airgun
18,19		21		360:17:15:18	360:19:58:18	
		22		360:19:58:23	360:22:41:23	
		23		360:22:41:28	360:22:46:3	
20		24		360:23:18:59	361:2:1:59	
		25	Dec 26	361:2:2:4	361:4:45:4	
		26		361:4:45:9	361:5:31:4	
		24		361:5:52:47	361:8:35:47	
		25		361:8:35:52	361:11:18:52	
		26		361:11:18:57	361:14:1:57	
20,21		27		361:14:2:2	361:15:54:2	
21,22		28		361:16:22:15	361:19:5:15	
		29		361:19:5:20	361:21:48:20	
		30		361:21:48:25	362:0:28:50	
23	12	31	Dec 27	362:0:56:57	362:3:39:57	
		32		362:3:40:2	362:6:23:2	
		33		362:6:23:7	362:8:42:2	
		34		362:11:6:6	362:13:49:6	
		35		362:13:49:11	362:16:32:11	
		36		362:16:32:16	362:19:15:16	
		37		362:19:15:21	362:21:58:21	
		38		362:21:58:26	363:0:41:26	
		39	Dec 28	363:0:41:31	363:3:24:31	
		40		363:3:24:36	363:6:7:36	
		41		363:6:7:41	363:8:32:27	
		41		363:9:1:21	363:11:44:11	
		42		363:11:44:16	363:12:21:26	
		43		363:12:33:31	363:12:36:16	
		44		363:12:43:46	363:15:44:31	

OK

Line	Tape	File	Date	Start JD:Time Z	End
23	12	45	Dec 28	363:15:44:36	363:18:56:36
		46		363:18:56:41	363:22:9:16
		47		363:22:9:21	363:23:37:56
		48	Dec 29	364:1:42:15	364:4:25:15
		49		364:4:25:20	364:7:9:20
		50		364:7:9:25	364:9:52:25
		51		364:9:52:30	364:12:35:30
		52		364:12:35:35	364:15:18:35
		53		364:15:18:40	364:16:21:25
24		54		364:16:45:57	364:19:28:57
		55		364:19:29:2	364:22:12:2
		56		364:22:12:7	365:0:55:7
		57	Dec 30	365:0:55:12	365:1:29:12
25	13	58	Dec 30	365:1:33:27	365:4:16:27
		59		365:4: 16:32	365: 6:59:32
		60		365:6:59:37	365:8:49:2
26		58		365:22:58:30	366:1:41:30
		59		366:1:41:35	366:4:24:35
		60		366:4:24:40	366:6:24:55
		61		366:6:58:49	366:9:41:49
		62		366:9:41:54	366:12:24:54
		63		366:12:24:59	366:15:7:59
		64		366:15:8:4	366:17:51:4
		65		366:17:51:9	366:20:34:9
		66		366:20:34:14	366:23:17:14
		67		366:23:17:19	1:2:0:19
		68	Jan 1	1:2:0:24	1:4:43:24
		69		1:4:43:29	1:6:52:54
		70	Jan 2	2:7:26:0	2:10:9:0
		71		2:10:9:5	2:12:52:5
		72		2:12:52:10	2:15:35:10
		73		2:15:35:15	2:15:46:30
		74		2:16:9:7	2:18:52:7
		75		2:18:52:12	2:21:35:12
		76		2:21:35:17	2:23:15:37