33. POST-LEG I SITE SURVEYS OF CAT GAP AREA ¹

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In April of 1969 the Research Vessel *Vema* Cruise 26 surveyed the Horizon A and β outcrop area where the *Glomar Challenger* had drilled Sites 4 and 5 during Leg 1 of the Deep Sea Drilling Project. During Leg 11 *Glomar Challenger* drilled Site 100 near Sites 4 and 5 and also drilled Sites 99 and 101 within 100 kilometers of Holes 4, 5, and 100. The radial survey was run to tie in with other tracks in the area. The profiler records of

Vema 26, along with some from *Vema* 21 and *Robert D. Conrad* 10 are shown for this area. The depths are given on the right side of the record in seconds of two-way travel time and all the records were made on a 10-second sweep.

Satellite navigation was used on *Vema* 26 and *Robert D. Conrad* 10; celestial navigation was used on *Vema* 21, which is included since it is the only cruise across Site 99; and it, along with *Robert D. Conrad* 10, are the only two cruises which pass close to Site 101.

¹ Profiler tracks near Sites 99, 100, and 101 Leg 11, and Sites 4 and 5 Leg 1.

VEMA 21

November, 1965; Time Zone +4

Day	Time	Latitude (north)	Longitude (west)	
26	0539	22°59.1'	74°28.0'	A/C 043
26	1218	23°38.8'	73°51.3'	
26	1538	23°40.1'	73°51.9'	
26	1900	24°00.2'	73°32.8'	A/C 050

December, 1965; Time Zone +4

2	0127	24°23.5'	72°59.2'	
2	0958	24°28.5'	73°00.9'	A/C 270
2	1633	24°26.3'	74°14.7'	A/C 291
2	1730	24°30.3'	74°25.4'	A/C 337
2	2046	24°56.8'	74°38.7'	A/C 024
3	0030	25°24.2'	74°27.7'	A/C 260

VEMA 26

April 1969; Time Zone +5

Day	Time	Latitude (north)	Longitude (west)	
17	0500	25°07.4'	73°36.6'	
17	0803	24°40.9'	73°28.2'	A/C 270
17	1339	24°45.1'	74°26.2'	A/C 090
17	1912	24°46.5'	74°16.3'	
17	1942	24°44.5'	74°13.8'	A/C 133
17	2056	24°36.8'	74°03.9'	A/C 135
18	0011	24°16.2'	73°39.6'	A/C 110
18	0259	24°05.8'	73°12.4'	A/C 348
18	1113	25°20.3'	73°28.8'	A/C 187
18	1342	24°57.1'	73°30.3'	

VEMA 26 (Cont)

April 1969; Time Zone +5

Day	Time	Latitude (north)	Longitude (west)	
18	1755	24° 54.5'	73° 29.9'	A/C 209
18	2001	24° 37.1'	73° 40.4'	A/C 220
18	2131	24° 26.8'	73° 49.8'	A/C 200
19	0015	24° 02.7'	73° 57.0'	A/C 320
19	0048	24° 07.3'	74° 00.9'	A/C 305
19	0423	24° 29.5'	74° 30.5'	A/C 077
19	1250	24° 48.3'	73° 06.5'	A/C 242
19	1939	24° 21.2'	74° 04.7'	
20	0053	24° 25.4'	73° 57.2'	A/C 128
20	0418	24° 06.9'	73° 29.4'	A/C 345
20	1048	25° 09.3'	73° 42.9'	A/C 240
20	1246	25° 00.4'	74° 00.1'	A/C 157
20	1501	24° 43.6'	73° 48.8'	A/C 170
20	1820	24° 22.6'	73° 42.8'	
20	2201	24° 23.4'	73° 41.9'	A/C 172
21	0007	24° 03.8'	73° 38.6'	A/C 068
21	0245	24° 13.7'	73° 13.9'	A/C 080
21	0418	24° 15.0'	72° 57.2'	A/C 300
21	0713	24° 27.4'	73° 22.8'	A/C 325
21	0822	24° 36.4'	73° 28.5'	A/C 304
21	1238	24° 59.2'	74° 00.5'	A/C 219
21	1712	24° 29.4'	74° 29.0'	A/C 092
21	2257	24° 29.6'	73° 30.6'	A/C 000
22	0016	24° 42.5'	73° 29.8'	A/C 036
22	0107	24° 49.0'	73° 23.9'	A/C 270
22	0219	24° 48.2'	73° 36.7'	A/C 175
22	0423	24° 27.9'	73° 34.5'	
22	0850	24° 31.3'	73° 32.1'	A/C 090
22	1130	24° 30.8'	73° 05.3'	

ROBERT D. CONRAD 10

October, 1966; Time Zone +5

Day	Time	Latitude (north)	Longitude (west)	
1	1430	24° 47.7'	74° 38.3'	A/C 166
1	1621	24° 39.4'	74° 34.8'	
1	2000	24° 39.2'	74° 32.7'	A/C 159
1	2147	24° 23.9'	74° 25.8'	A/C 011
1	2352	24° 46.6'	74° 21.1'	
2	0344	24° 53.3'	74° 20.0'	
2	0516	25° 07.7'	74° 17.0'	A/C 090
2	0631	25° 08.2'	74° 04.6'	A/C 192
2	0833	24° 50.0'	74° 09.0'	
2	1446	24° 53.6'	74° 08.9'	A/C 195
2	1616	24° 40.8'	74° 13.6'	A/C 180
2	1746	24° 27.4'	74° 13.6'	A/C 195
2	1755	24° 25.9'	74° 14.0'	A/C 090
2	1830	24° 26.1'	74° 08.6'	

ROBERT D. CONRAD 10 (Cont)

October, 1966; Time Zone +5

Day	Time	Latitude (north)	Longitude (west)	
2	2238	24°27.5'	74°15.2'	A/C 221
2	2335	24°20.6'	74°22.1'	A/C 195
3	0001	24°17.1'	74°23.2'	A/C 110
3	0200	24°13.9'	74°14.4'	A/C 023
3	0442	24°41.2'	74°02.2'	A/C 135
3	1200	24°02.4'	73°16.1'	
3	1600	23°39.3'	72°48.9'	
5	1800	24°04.7'	73°00.7'	A/C 289
5	2330	24°23.8'	73°57.3'	A/C 287
6	0300	24°24.0'	73°55.2'	A/C 297
6	0600	24°38.4'	74°24.7'	
6	0630	24°33.6'	74°25.3'	
6	1237	24°31.6'	74°24.8'	A/C 069
6	1553	24°45.5'	73°49.7'	A/C 116
6	1804	24°36.7'	73°28.2'	A/C 296
6	1952	24°43.1'	73°41.6'	A/C 116
6	2020	24°41.9'	73°38.6'	
7	0100	24°42.4'	73°38.3'	A/C 119
7	0430	24°25.4'	73°03.8'	A/C 023
7	0515	24°32.8'	73°00.6'	A/C 296
7	0801	24°46.3'	73°30.3'	A/C 289
7	1013	24°54.4'	73°55.2'	
7	2234	24°54.7'	73°52.0'	A/C 098
7	2342	24°53.4'	73°40.8'	A/C 101
8	0201	24°49.9'	73°19.0'	A/C 296
8	0313	24°55.0'	73°30.7'	A/C 306
8	0500	25°05.2'	73°46.6'	A/C 235
8	0615	24°58.6'	73°58.1'	A/C 100
8	0638	24°58.1'	73°54.5'	A/C 045
8	0652	24°59.7'	73°53.0'	A/C 135
8	0745	24°53.7'	73°46.7'	
8	1636	24°56.2'	73°50.0'	A/C 111
8	2019	24°47.2'	73°25.8'	A/C 305
8	2143	24°50.5'	73°31.2'	A/C 272
8	2312	24°51.2'	73°47.4'	A/C 275
9	0301	24°55.0'	74°30.7'	A/C 019

Figure 1. Map showing all the tracks for which profiler records are shown along with drill hole numbers and Glomar Challenger track between holes.

Figure 3. Map showing Robert D. Conrad - 10 and Vema - 21 tracks with times and dates to correlate profiler data, along with drill hole numbers.

Figure 4. Shows Vema-26 survey of Sites 4 and 5.

Figure 5. Shows continuation of Vema-26 survey of Sites 4 and 5 and the bottom shows continuous track to east of site to show relation to the Nares Abyssal Plain.

Figure 6. Top shows Vema-21 section thru Hole 99. Bottom shows Vema-21 section near Hole 101.

Figure 7. Shows Robert D. Conrad - 10 profiler records thru site area.

Figure 8. Shows Robert D. Conrad - 10 profiler records thru site area, and end of right side of bottom shows track near Hole 101.

Figure 9. *Blow up of Vema-26 profiler record between Holes 100 and 4.*

Figure 10. *Blow up of Vema-26 profiler record between Holes 100 and 5.*

Figure 11. *Blow up of Vema-26 profiler record 5 to 4.*

Figure 12. *Blow up of Vema-26 thru Hole 4.*

Figure 13. *Blow up of Vema-21 profiler record at Hole 99.*

Figure 14. *Blow up of Vema-21 profiler record near Hole 101.*

Figure 15. *Blow up of Robert D. Conrad - 10 profiler record near Hole 101.*

Figure 16. Contours around Holes 4, 5 and 100 by Michael Schneck using only Vema-26 track which is shown by the dotted lines. Contour interval 10 fathoms of uncorrected depth.