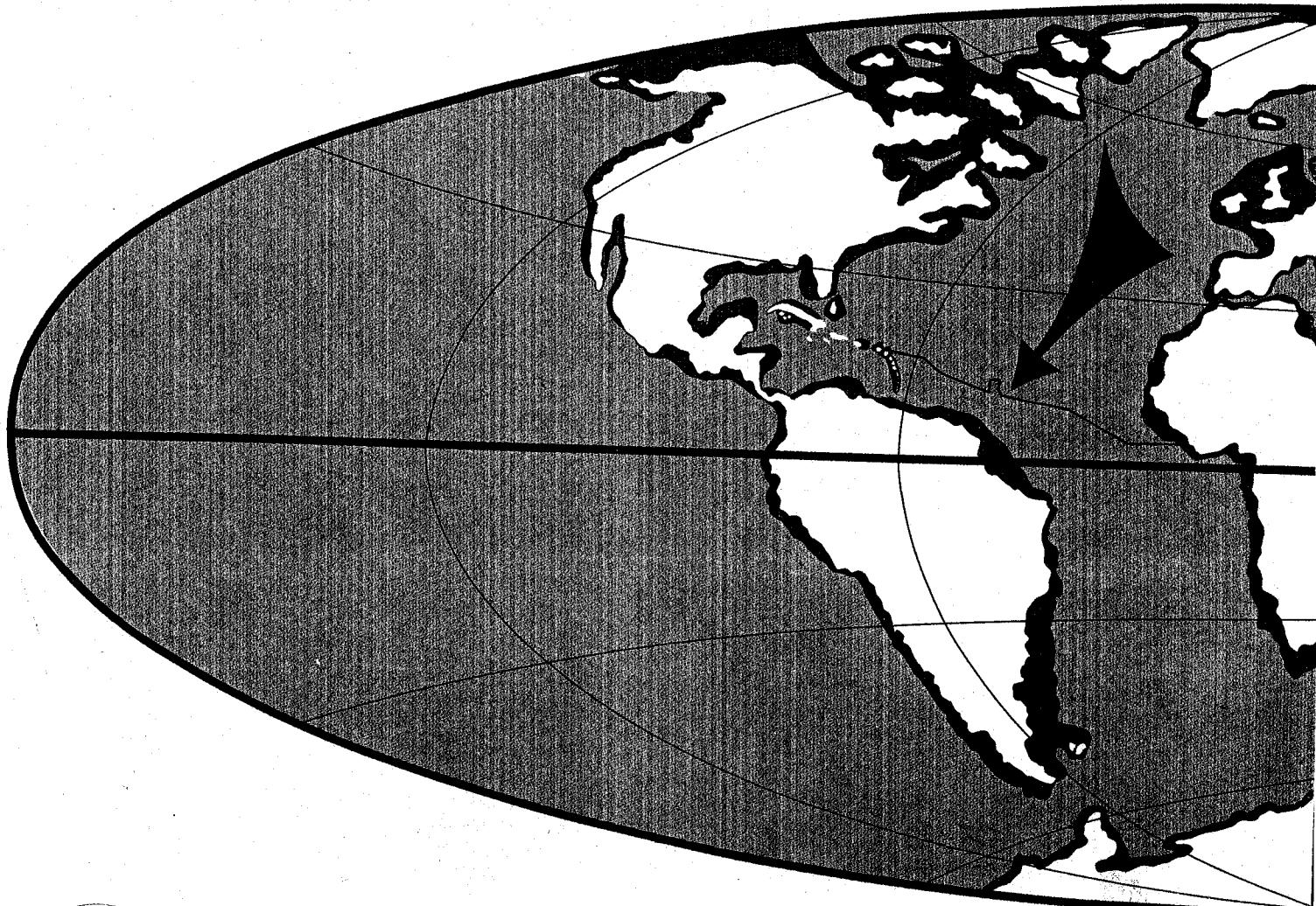


**USGS Woods Hole MA  
Acoustic Reflection Profiles**

*#710060fr*  
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**TRANSATLANTIC CROSSING WEST**



**INTERNATIONAL DECADE OF OCEAN EXPLORATION  
U. S. GEOLOGICAL SURVEY**

**USGS - GD - 72 - 007**

**PB-209-872**

INTERNATIONAL DECADE OF OCEAN EXPLORATION

U.S. GEOLOGICAL SURVEY

LEG 6, 1971 CRUISE, UNITEDGEO I

M. F. KANE, CHIEF SCIENTIST

ACOUSTIC-REFLECTION PROFILES

TRANSATLANTIC CROSSING-WEST

USGS-GD-72-007

1972

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## INTRODUCTION

As part of a cooperative marine research program designated the International Decade of Ocean Exploration (IDOE), the United States Geological Survey is participating in an investigation of the geologic framework and resource potential of continental margins and small ocean basins in the Gulf of Mexico, Caribbean Sea, and west African continental shelf areas. These studies are funded through the National Science Foundation. Legs 1-5, completed June 22, July 8, August 4, October 1, and November 20, respectively, were concerned with subbottom features and tectonic history of the Bay of Campeche, the continental margin east of the Yucatan Peninsula, the Antilles region of the north-eastern Caribbean Sea, the continental borderland of Venezuela, and the continental margin of Liberia. Leg 6, described in this report, was run westward across the Atlantic Ocean between November 25 and December 10, 1971. Cruise leg 6 began at Monrovia, Liberia, and ended at the Lesser Antilles after having run a total distance of 6,300 km. However, subbottom acoustic-reflection profiles were run on only about 5,700 km of the total cruise (fig. 1). Other geophysical records collected during the cruise include seismic refraction profiles, total magnetic intensity and gravity, and bathymetry.

The objectives of the subbottom acoustic-reflection part of the survey were: (a) to investigate the acoustic-reflection characteristics of the Mid-Atlantic ridge and other oceanic structures such as the Vema fracture zone and the Sierra Leone rise; (b) to correlate data from JOIDES drill holes with subbottom acoustic-reflection profiles in oceanic areas; and (c) to extend our knowledge of sediment distribution and thickness in the deep ocean.

## SCIENTIFIC PARTY

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## SHIP SCHEDULE

A total of 16 days was spent at sea in Atlantic Ocean waters during Leg 6. The cruise was interrupted in the area of the mid-Atlantic Ridge in order to run track lines perpendicular to the Vema fracture zone. Sub-bottom acoustic-reflection profiles were obtained throughout the first 5700 km of track line, but this work had to be suspended on December 8

due to storm conditions. The profiles were run at an average ship's speed of 9.5 knots. Eighteen sonobuoy refraction profiles were made. The ship's schedule was as follows:

Day 328 (24 November 1971)

Departed Monrovia and headed west toward JOIDES drill hole 13. Began acoustic-reflection profiling about 8 km west of the entrance of Monrovia Freeport at 1732 hours.

Day 330 (26 November 1971)

Arrived JOIDES hole 13 on the Sierra Leone rise at 1800 hours, having crossed the African continental margin, the Sierra Leone basin, and the eastern part of the Sierra Leone rise.

Day 337 (3 December 1971)

Turned north to cross Vema fracture zone, then west across the Mid-Atlantic ridge and south through JOIDES hole 26 and across the Vema fracture zone again.

Day 341 (7 December 1971)

Crossed JOIDES hole 27 at 0835 hours.

Day 342 (8 December 1971)

Heavy weather with water washing over the afterdeck. Subbottom acoustic-reflection power generator shut down at 0800 hours and seismic profile recording terminated at that time.

Day 344 (10 December 1971)

Docked at Charlotte Amalie 1025 hours.  
End of Leg 6.

#### OPERATIONAL DATA

##### Navigation

A satellite-navigation system consisting of an ITT 4007 AB satellite-navigation receiver, a DEC PDP-8L computer, and an ITT teletypewriter was used for ship positioning. Precision of satellite fixes while underway was estimated at about 180 m (600 ft). A decca RM 329 radar system with 25 kw of power and a range up to about 65 km (40 mi) was also aboard ship for navigation use as necessary. A 9-foot wave-guide antenna giving a beam width of less than 1° at the half-power points provided high azimuth resolution. Accuracy of radar fixes was subject to many variables, but the average positioning error was estimated at about 925 m (3000 ft). Plotting was done on bottom-contour charts BC 402, 603, and 704 and position-plotting sheets of the 3000 series (900, 901) of the U.S. Navy's Hydrographic Office.

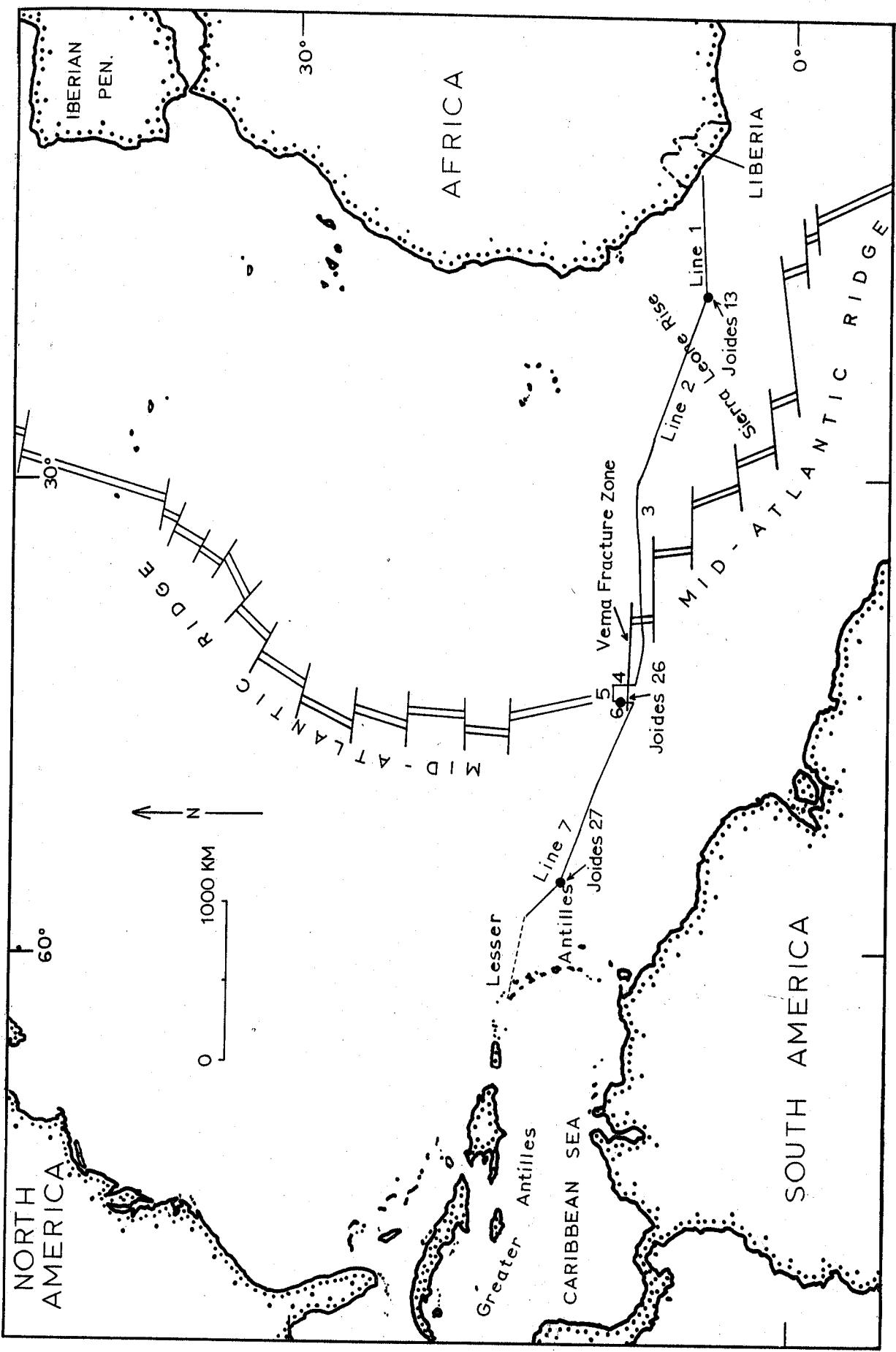


Figure 1.--Index map of track lines and selected structural features of the Transatlantic crossing - west.

Time for navigation and scientific records is referred to Greenwich Mean Time (Z), and days are numbered consecutively from the first day of the year. Scientific clocks were adjusted according to WWV radio.

#### Acoustic-reflection System

The acoustic-reflection profiles were obtained using a sparker system consisting of separate, van-mounted, self-contained 160- and 120-kilojoule units triggered from a single source. The triggered discharge of large capacitors through 6 twin-electrode "ladders" trailed behind the ship created sparks that produced the low-frequency acoustic pulse. These pulses were reflected from the sea bottom and from subbottom surfaces and were received and preamplified by a 100-hydrophone streamer. They were then selectively filtered and recorded graphically on a Raytheon recorder. The sparker ladders were trailed about 70 m behind the navigation antenna; the center of the hydrostreamer was at about 180 m.

Organization of profile records.--The subbottom acoustic profiles in this report are presented in numerical order at approximately 1/5th scale. They are shown in an east to west direction in order to facilitate the plotting of structural and sedimentary features from profile to track chart. The user views the profiles as though looking northward, and the start and end of each line are indicated. Day notations are listed consecutively from day one of the year 1971; time marks are every hour. The records in this report were made between days 328 and 342 (November 24 to December 8). Hour marks shown on the profiles are in GMT and correspond with those on the detailed track chart (Plate 1, in pocket) and to depth data given in Table 1.

The subbottom profiles were run at either 4 or 6 second firing rates and 4 or 6 second sweeps during the profiling. Line 1 was run at 4/4 settings from 1737 hours of day 328 to 2000 hours of day 329. Sweep/firing rates of 6/6 were used between 2000 hours of day 329 to 1755 hours of day 330 when 4/4 settings were used for a 15-minute period that included the start of line 2 (not identified on records because of short duration). A 6/6 setting was used from 1810 hours of line 2 until 1400 hours of day 334 on line 3 when 4/4 settings were again made. The 4/4 settings were continued through the remainder of line 3, all of lines 4, 5 and 6, and into line 7 at 1943 hours of day 338 when 6/6 settings were used. The 6-second sweep and 6-second firing rates were continued throughout the remainder of Leg 6. The vertical scale shown on the acoustic profiles is two-way travel time in seconds. The sparker energy source was varied according to geologic environment, water depth, and at times of equipment malfunction. The power supplied throughout Leg 6 was 120 kj. The filter band pass was 47/16 hz until 1400 hours of day 334 on line 3 when it was changed to 76/16 hz. It was kept at that setting for the remainder of Leg 6. The average vertical exaggeration of the sea floor profile on the acoustic reflection records is about 12.3:1.

### Depth Recorder

A 3.5 khz Edo acoustic-reflection system was used as an echosounder and shallow-penetration subbottom profiler. Twelve transducers mounted in a sea chest in the ship's hull emitted a pulse signal programmed by a Gifft graphic recorder that provided uncorrected water depths in seconds (two-way travel time). These water depths were transcribed at half-hour intervals and, in conjunction with navigation fixes, were computer processed using corrections from Matthew's tables. Computer output was printed at one-hour intervals and includes the position of each station, the observed depth in seconds, and the corrected depth in meters (Table 1).

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Table 1.--Positions and depths expressed in two-way travel time and corrected meters along lines of Leg 6, Transatlantic Crossing - west.

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
1	328	1800	6.3302	10.9529	0.070	52
1	328	1900	6.3240	11.1066	0.099	74
1	328	2000	6.3177	11.2603	0.740	554
1	328	2100	6.3113	11.4140	1.850	1376
1	328	2200	6.3018	11.5642	3.151	2348
1	328	2300	6.2917	11.7243	3.515	2622
1	329	0000	6.2815	11.8833	4.102	3064
1	329	0100	6.2710	12.0373	4.400	3289
1	329	0200	6.2623	12.1931	4.690	3511
1	329	0300	6.2555	12.3516	4.860	3639
1	329	0400	6.2483	12.5090	5.010	3752
1	329	0500	6.2415	12.6647	5.130	3844
1	329	0600	6.2348	12.8203	5.236	3925
1	329	0700	6.2291	12.9775	5.383	4036
1	329	0800	6.2255	13.1376	5.580	4185
1	329	0900	6.2235	13.2984	5.660	4247
1	329	1000	6.2230	13.4599	5.810	4362
1	329	1100	6.2225	13.6214	5.925	4451
1	329	1200	6.2238	13.7822	5.990	4502
1	329	1300	6.2277	13.9421	6.060	4554
1	329	1400	6.2307	14.1070	6.135	4611
1	329	1500	6.2297	14.2682	6.205	4663
1	329	1600	6.2226	14.4237	6.277	4718
1	329	1700	6.2151	14.5788	6.320	4751
1	329	1800	6.2076	14.7339	6.360	4782
1	329	1900	6.2001	14.8890	6.400	4813
1	329	2000	6.1926	15.0441	6.465	4864
1	329	2100	6.1830	15.1993	6.500	4891
1	329	2200	6.1724	15.3425	6.515	4903
1	329	2300	6.1623	15.4954	6.535	4918
1	330	0000	6.1554	15.6498	6.550	4930
1	330	0100	6.1487	15.8037	6.550	4930
1	330	0200	6.1399	15.9531	6.560	4938
1	330	0300	6.1270	16.1005	6.575	4949
1	330	0400	6.1165	16.2444	6.575	4949
1	330	0500	6.1067	16.3848	6.580	4953
1	330	0600	6.0960	16.5251	6.585	4957
1	330	0700	6.0853	16.6653	6.585	4957
1	330	0800	6.0727	16.8031	6.588	4959
1	330	0900	6.0663	16.9425	6.580	4953
1	330	1000	6.0614	17.0860	6.560	4938
1	330	1100	6.0600	17.2301	6.600	4969
1	330	1200	6.0586	17.3741	6.570	4945
1	330	1300	6.0582	17.5138	6.580	4953
1	330	1400	6.0531	17.6587	6.470	4868
1	330	1500	6.0466	17.8063	6.480	4876
1	330	1600	6.0400	17.9471	6.505	4895
1	330	1700	6.0371	18.0908	6.340	4767

## I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)	LI
2	330	1800	6.0360	18.2360	6.100	4584	
2	330	1900	6.0861	18.3723	6.408	4820	
2	330	2000	6.1387	18.5155	6.335	4763	
2	330	2100	6.1864	18.6452	6.220	4675	
2	330	2200	6.2345	18.7758	6.180	4645	
2	330	2300	6.2883	18.9164	6.115	4596	
2	331	0000	6.3426	19.0583	6.070	4562	
2	331	0400	6.5398	19.6447	5.200	3898	
2	331	0500	6.5828	19.7964	5.200	3898	
2	331	0600	6.6259	19.9481	4.970	3725	
2	331	0700	6.6690	20.0998	4.940	3702	
2	331	0800	6.7120	20.2515	4.878	3655	
2	331	0900	6.7551	20.4032	4.770	3572	
2	331	1000	6.7982	20.5550	4.870	3649	
2	331	1100	6.8412	20.7068	5.060	3794	
2	331	1200	6.8846	20.8585	5.150	3861	
2	331	1300	6.9295	21.0100	5.165	3872	
2	331	1400	6.9767	21.1651	5.165	3872	
2	331	1500	7.0267	21.3243	4.700	3519	
2	331	1600	7.0757	21.4848	4.695	3516	
2	331	1700	7.1242	21.6458	4.600	3444	
2	331	1800	7.1770	21.7997	4.575	3426	
2	331	1900	7.2297	21.9535	4.599	3444	
2	331	2000	7.2822	22.1074	4.510	3377	
2	331	2100	7.3378	22.2571	3.100	2313	
2	331	2200	7.3955	22.4029	4.000	2988	
2	331	2300	7.4437	22.5187	5.590	4198	
2	332	0000	7.4983	22.6711	5.700	4283	2
2	332	0100	7.5529	22.8235	5.820	4374	2
2	332	0200	7.6073	22.9746	5.883	4421	2
2	332	0300	7.6611	23.1203	5.675	4263	3
2	332	0400	7.7149	23.2646	6.095	4583	3
2	332	0500	7.7686	23.4069	6.172	4642	3
2	332	0600	7.8224	23.5493	6.237	4693	3
2	332	0700	7.8761	23.6916	5.950	4472	3
2	332	0800	7.9272	23.8357	6.160	4633	3
2	332	0900	7.9753	23.9809	6.381	4805	3
2	332	1000	8.0200	24.1230	6.490	4889	3
2	332	1100	8.0678	24.2664	6.500	4897	3
2	332	1200	8.1157	24.4098	6.585	4963	3
2	332	1300	8.1635	24.5532	6.430	4843	3
2	332	1400	8.2104	24.6970	6.650	5014	3
2	332	1500	8.2571	24.8409	6.680	5037	3
2	332	1600	8.3032	24.9855	6.475	4878	3
2	332	1700	8.3520	25.1286	6.460	4866	
2	332	1800	8.4015	25.2713	6.355	4784	
2	332	1900	8.4509	25.4140	6.490	4889	
2	332	2000	8.5012	25.5547	6.740	5084	
2	332	2100	8.5514	25.6945	6.772	5109	
2	332	2200	8.5985	25.8277	6.660	5021	

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## I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
2	332	2300	8.6452	25.9595	6.550	4936
2	333	0000	8.6933	26.0955	6.850	5170
2	333	0100	8.7380	26.2346	6.920	5224
2	333	0200	8.7809	26.3753	6.970	5263
2	333	0300	8.8200	26.5180	6.890	5201
2	333	0400	8.8588	26.6603	6.665	5025
2	333	0500	8.8926	26.8035	6.485	4885
2	333	0600	8.9284	26.9516	6.775	5111
2	333	0700	8.9661	27.1046	7.100	5356
2	333	0800	9.0039	27.2577	7.150	5393
2	333	0900	9.0406	27.4105	7.051	5319
2	333	1000	9.0750	27.5688	6.940	5240
2	333	1100	9.1154	27.7281	6.700	5053
2	333	1200	9.1596	27.8897	6.700	5053
2	333	1300	9.2092	28.0491	6.650	5014
2	333	1400	9.2757	28.2030	6.710	5060
2	333	1500	9.3415	28.3602	6.900	5209
2	333	1600	9.4067	28.5221	6.767	5105
2	333	1700	9.4717	28.6862	7.033	5305
2	333	1800	9.5392	28.8503	6.808	5137
2	333	1900	9.6071	29.0143	6.908	5215
2	333	2000	9.6753	29.1780	6.820	5146
2	333	2100	9.7486	29.3318	7.420	5597
2	333	2200	9.8215	29.4842	6.950	5248
2	333	2300	9.8914	29.6240	7.150	5393
2	334	0000	9.9651	29.7713	7.130	5378
2	334	0100	10.0388	29.9186	7.040	5310
3	334	0200	10.0739	30.0750	7.090	5348
3	334	0300	10.0816	30.2380	6.900	5209
3	334	0400	10.0913	30.4041	6.900	5209
3	334	0500	10.1053	30.5710	6.870	5185
3	334	0600	10.1213	30.7298	6.911	5217
3	334	0700	10.1373	30.8885	6.825	5150
3	334	0800	10.1531	31.0505	6.500	4897
3	334	0900	10.1688	31.2144	6.820	5146
3	334	1000	10.1845	31.3783	7.250	5469
3	334	1100	10.1860	31.5200	6.550	4936
3	334	1200	10.1884	31.6732	6.840	5162
3	334	1300	10.1909	31.8277	6.650	5014
3	334	1400	10.1935	31.9821	6.820	5146
3	334	1500	10.1961	32.1365	6.400	4819
3	334	1600	10.1879	32.2925	7.200	5431
3	334	1700	10.1811	32.4458	7.275	5488

## I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
3	334	1800	10.1760	32.5974	7.520	5672
3	334	1900	10.1707	32.7440	7.460	5627
3	334	2000	10.1567	32.8642	7.550	5695
3	334	2100	10.1448	32.9681	7.526	5677
3	334	2200	10.1268	33.1267	7.550	5695
3	334	2300	10.1118	33.2779	7.550	5695
3	335	0000	10.0968	33.4291	7.550	5695
3	335	0100	10.0838	33.5786	7.540	5688
3	335	0200	10.0719	33.7272	0.0	0
3	335	0300	10.0629	33.8749	7.305	5510
3	335	0400	10.0551	34.0230	7.300	5506
3	335	0500	10.0507	34.1716	7.223	5448
3	335	0600	10.0424	34.3190	7.178	5414
3	335	0700	10.0308	34.4687	7.213	5441
3	335	0800	10.0192	34.6183	7.031	5304
3	335	0900	10.0067	34.7710	6.714	5064
3	335	1000	9.9980	34.9252	6.510	4905
3	335	1100	9.9877	35.0747	6.275	4722
3	335	1200	9.9742	35.2283	6.260	4711
3	335	1300	9.9664	35.3819	5.720	4298
3	335	1400	9.9592	35.5354	5.615	4217
3	335	1500	9.9496	35.6934	6.055	4552
3	335	1600	9.9357	35.8540	6.225	4684
3	335	1700	9.9223	36.0261	6.000	4509
3	335	1800	9.9115	36.1957	5.975	4491
3	335	1900	9.9019	36.3636	6.200	4664
3	335	2000	9.8922	36.5316	5.650	4244
3	335	2100	9.8823	36.6995	6.580	4959
3	335	2200	9.8679	36.8674	6.570	4951
3	335	2300	9.8542	37.0334	6.530	4920
3	336	0000	9.8466	37.1938	6.000	4509
3	336	0100	9.8389	37.3542	5.960	4479
3	336	0200	9.8332	37.5184	5.700	4283
3	336	0300	9.8306	37.6810	5.483	4115
3	336	0400	9.8288	37.8506	5.500	4128
3	336	0500	9.8320	38.0244	5.460	4098
3	336	0600	9.8354	38.1930	5.320	3990
3	336	0700	9.8388	38.3615	5.651	4245
3	336	0800	9.8422	38.5301	5.373	4031
3	336	0900	9.8494	38.7000	5.365	4024
3	336	1000	9.8558	38.8700	5.240	3928
3	336	1300	9.7953	39.2615	5.320	3990
3	336	1400	9.7676	39.4145	4.440	3324
3	336	1500	9.7408	39.5739	4.650	3482

I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
3	336	1600	9.7074	39.7296	4.365	3266
3	336	1700	9.6712	39.8767	4.300	3217
3	336	1800	9.6350	40.0237	3.800	2838
3	336	1900	9.6429	40.1834	3.500	2611
3	336	2000	9.6508	40.3431	3.335	2488
3	336	2100	9.6588	40.5028	2.900	2162
3	336	2200	9.6666	40.6616	4.731	3543
3	336	2300	9.6730	40.8181	3.536	2638
3	337	0000	9.6791	40.9689	3.400	2536
3	337	0100	9.6871	41.1231	3.800	2838
3	337	0200	9.6936	41.2804	4.120	3079
3	337	0300	9.6954	41.4390	4.630	3467
3	337	0400	9.7204	41.5967	4.895	3668
3	337	0500	9.7466	41.7581	5.100	3824
3	337	0600	9.7722	41.9166	4.900	3672
3	337	0700	9.8022	42.0797	5.414	4062
3	337	0800	9.8321	42.2428	5.131	3847
3	337	0900	9.8607	42.4057	5.340	4005
3	337	1000	9.8925	42.5709	5.208	3904
4	337	1100	9.9197	42.7327	5.000	3749
4	337	1200	10.0707	42.7479	5.210	3906
4	337	1300	10.2218	42.7630	5.850	4397
4	337	1400	10.3729	42.7782	5.950	4472
4	337	1500	10.5216	42.7927	6.250	4703
4	337	1600	10.6629	42.8070	5.000	3749
4	337	1700	10.8074	42.8183	6.860	5177
4	337	1800	10.9486	42.8321	4.800	3595
4	337	1900	11.0871	42.8487	4.720	3534
4	337	2000	11.2256	42.8652	5.135	3850
4	337	2100	11.3903	42.8776	4.800	3595
5	337	2200	11.4581	42.9844	5.015	3760
5	337	2300	11.4618	43.1577	4.530	3392
5	338	0000	11.4654	43.3221	4.440	3324
5	338	0100	11.4692	43.4956	3.690	2755
5	338	0200	11.4635	43.6601	5.400	4051
5	338	0300	11.4578	43.8334	3.900	2913
6	338	0400	11.3802	43.9259	4.600	3444
6	338	0500	11.2238	43.9285	3.970	2965
6	338	0600	11.0826	43.9516	4.600	3444
6	338	0700	10.9523	44.0157	5.130	3846
6	338	0800	10.8178	44.0505	6.540	4928

## I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
6	338	0900	10.6790	44.0565	4.281	3202
6	338	1000	10.5403	44.0623	6.020	4525
6	338	1100	10.3949	44.0654	6.580	4959
6	338	1200	10.2425	44.0793	6.000	4509
7	338	1300	10.2207	44.1755	5.420	4067
7	338	1400	10.2859	44.3208	6.580	4959
7	338	1500	10.3510	44.4660	6.000	4509
7	338	1600	10.4162	44.6113	6.556	4941
7	338	1700	10.4814	44.7566	6.555	4940
7	338	1800	10.5466	44.9018	6.560	4944
7	338	1900	10.6117	45.0471	6.551	4937
7	338	2000	10.6769	45.1925	6.151	4626
7	338	2100	10.7414	45.3393	6.400	4819
7	338	2200	10.8042	45.4888	5.600	4206
7	338	2300	10.8703	45.6326	6.600	4975
7	339	0000	10.9356	45.7740	6.580	4959
7	339	0100	11.0014	45.9261	6.590	4967
7	339	0200	11.0671	46.0781	6.610	4983
7	339	0300	11.1303	46.2305	6.650	5014
7	339	0400	11.1919	46.3835	6.595	4971
7	339	0500	11.2557	46.5370	6.605	4979
7	339	0600	11.3205	46.6913	6.605	4979
7	339	0700	11.3842	46.8480	6.615	4986
7	339	0800	11.4479	47.0047	6.500	4897
7	339	0900	11.5112	47.1517	6.592	4969
7	339	1000	11.5744	47.2957	6.598	4973
7	339	1100	11.6360	47.4448	6.525	4916
7	339	1200	11.6981	47.5974	5.300	3974
7	339	1300	11.7604	47.7516	6.625	4994
7	339	1400	11.8227	47.9059	6.600	4975
7	339	1500	11.8850	48.0602	6.470	4874
7	339	1600	11.9477	48.2145	6.420	4835
7	339	1700	12.0147	48.3660	5.900	4434
7	339	1800	12.0816	48.5152	6.200	4664
7	339	1900	12.1476	48.6616	6.345	4777
7	339	2000	12.2135	48.8080	6.105	4591
7	339	2100	12.2794	48.9544	6.275	4722
7	339	2200	12.3438	49.1011	6.042	4542
7	339	2300	12.4076	49.2478	6.550	4936
7	340	0000	12.4711	49.4015	6.500	4897
7	340	0100	12.5345	49.5558	6.670	5029
7	340	0200	12.6005	49.7120	6.670	5029
7	340	0300	12.6675	49.8623	6.650	5014

I.D.O.E. '71 LEG 6 TRANS-ATLANTIC WEST BATHYMETRY (HOURLY)

LINE	DAY	TIME (Z)	LATITUDE (NORTH)	LONGITUDE (WEST)	DEPTH (SEC)	DEPTH (M)
7	340	0400	12.7338	50.0111	6.668	5028
7	340	0500	12.7968	50.1576	6.645	5010
7	340	0600	12.8593	50.3107	6.640	5006
7	340	0700	12.9211	50.4631	6.513	4907
7	340	0800	12.9834	50.6167	6.212	4673
7	340	0900	13.0462	50.7707	6.372	4798
7	340	1000	13.1152	50.9295	6.415	4831
7	340	1100	13.1846	51.0866	6.650	5014
7	340	1200	13.2544	51.2419	6.750	5092
7	340	1300	13.3241	51.3945	6.760	5099
7	340	1400	13.3937	51.5462	6.470	4874
7	340	1500	13.4358	51.7129	6.770	5107
7	340	1600	13.4838	51.8775	6.785	5119
7	340	1700	13.5326	52.0418	6.808	5137
7	340	1800	13.5844	52.2038	6.835	5158
7	340	1900	13.6366	52.3656	6.810	5138
7	340	2000	13.6888	52.5274	6.790	5123
7	340	2100	13.7123	52.6028	6.769	5106
7	340	2200	13.7423	52.7116	6.600	4975
7	340	2300	13.7980	52.8766	6.717	5066
7	341	0000	13.8536	53.0416	6.740	5084
7	341	0100	13.9065	53.2089	6.940	5246
7	341	0200	13.9591	53.3764	6.860	5184
7	341	0300	14.0117	53.5440	6.560	4950
7	341	0400	14.0639	53.7093	6.500	4903
7	341	0500	14.1198	53.8719	6.950	5254
7	341	0600	14.1807	54.0392	7.072	5349
7	341	0700	14.2366	54.2055	6.940	5246
7	341	0800	14.2925	54.3718	7.058	5338
7	341	0900	14.3616	54.5314	7.055	5336
7	341	1000	14.4495	54.6815	7.120	5387
7	341	1100	14.5374	54.8318	7.191	5442
7	341	1200	14.6252	54.9814	7.230	5473
7	341	1300	14.7128	55.1304	7.240	5481
7	341	1400	14.8004	55.2795	7.235	5477
7	341	1500	14.8880	55.4286	7.235	5477
7	341	1600	14.9757	55.5777	7.270	5504
7	341	1700	15.0570	55.7302	7.283	5514
7	341	1800	15.1380	55.8817	7.290	5519
7	341	1900	15.2183	56.0302	7.260	5496
7	341	2000	15.3081	56.1719	7.225	5469
7	341	2100	15.4073	56.3067	7.250	5489
7	341	2200	15.5066	56.4416	7.180	5434
7	341	2300	15.6057	56.5765	7.200	5449
7	342	0000	15.7049	56.7114	7.090	5363
7	342	0100	15.8062	56.8366	6.900	5215
7	342	0200	15.8623	56.9037	6.920	5230
7	342	0300	15.9403	56.9850	6.570	4957
7	342	0400	16.0234	57.0696	6.700	5059