PRELIMINARY REPORT AND INDEX

OF

NAVIGATION, DEPTH, MAGNETIC AND SUBBOTTOM PROFILER DATA

SOUTHTOW EXPEDITION

LEG 7

R/V WASHINGTON

Balboa, Canal Zone (18 July, 1972)

To

Callao, Peru (7 August, 1972)

Chief Scientist, Leg 7 - J. Sclater

Cruise Coordinator - J. Mudie

Airgun Tech. - B. Byrne

Computer Tech. - W. Hilton

Resident Marine Tech. - F. Dixon

Data Processed by - K. Klitgord, U. Albright, O. McConnell, I. Bustillos

Geological Data Center

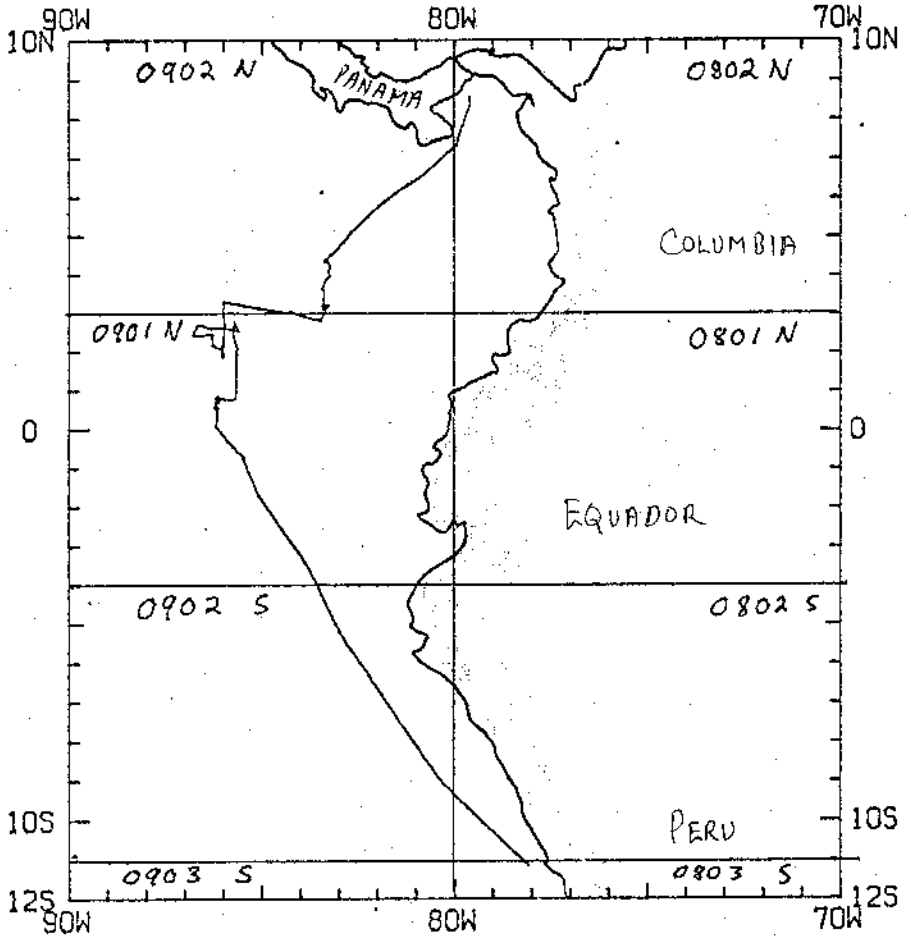
T. E. Chase - Curator

S. M. Smith - Data Processing Coordinator

Scripps Institution of Oceanography

La Jolla, California

August 22, 1972



SOUTH-TOW LEG 7 BALBOA, CANAL ZONE (18 JULY 1972) TO CALLAO, PERU (7 AUGUST 1972)

SHIP: R/V WASHINGTON CHIEF SCIENTIST: JOHN SCLATER

5 August 1972

R/V THOMAS WASHINGTON --SOUTH TOW EXPEDITION LEG VII, FINAL REPORT

One hundred and forty successful gradient measurements, twelve cores, four dredges, and two bottom-water temperature tows were completed on Leg VII.

The cores range from 5 to 10 m in length. All the cores are recent calcareous silicous ooze with diatoms. The dredges yielded fresh basalt on the Costa Rica rift and Galapagos spreading center. Altered gabbro was encountered on the fracture zone at 84°W, and a coarse foraminiferal sand on the Carnegie Ridge. A detailed heat-flow survey, at 2°N, 86°W, confirmed existence of low heat flow north of the spreading center.

The second survey showed mean values low at the axis, grading to very high 20 km to the south. Values range from 0 to 30 heat-flow units. There was considerable scatter within the gradation of wavelength 2 to 4 km. On one station, eleven successful thermal gradients were obtained with the Woods Hole Oceanographic Institution's probe. Bottom-water tows at the ridge axis showed discrete temperature variations of 0.02° not associated with topography.

The second survey would have been impossible without the deep-tow bathymetry. Transponder navigation of instruments on 17 stations and ship on 31 stations was most useful.

John G. Sclater and Richard P. Von Herzen

Preliminary Report and Index of Navigation, Depth, Magnetic and Subbottom Profiler Data

Contents:

Index Chart - gives track of cruise leg and boundaries of depth compilation plots (see below).

Track Charts - annotated with dates (day/month) and hour ticks. The scale (.3"/deg. long) is the same as the index charts of previous SIO cruises published as Report IMR TR-25.

Profiles - Depth and magnetic anomaly vs. distance. Dates (day/month) and positions of major course changes (greater than 30 degrees) are annotated. Sections of track having subbottom profiler (airgun) records have a solid black line along the bottom of the profile.

For information on the availability and reproduction costs of data in the following forms, contact T.E. Chase, Curator, Geological Data Center, Scripps Institution of Oceanography, La Jolla, California 92037. (714-453-2000, ext. 1534):

1. Navigation listing of times and positions of course and speed changes, fixes and drift velocity.

2. Depth compilation plots - in fathoms (assumed sound velocity of 800 fm./sec.) at approximately 1 mile spacing, plotted at 4"/degree with standard U.S. Navy Oceanographic Office EC series boundaries (see index chart).

3. Plots of magnetic anomaly profiles along track-map scale = 1.2"/degree; anomaly scale between 15°N and 15°S latitude = 500 gamma/inch; anomaly scale north of 15°N and south of 15°S = 1000 gamma/inch) from values retrieved at approximately 1 mile spacing and regional field removed using the 1965 IGRF.

4. Card Decks of navigation, depth and magnetics (for specific formats, contact S.M. Smith, Geological Data Center).

5. S.I.O. Sample Index - list of beginning and end times and positions of all underway records as well as all other samples (geology, biology, physical oceanography, etc.) collected on the cruise leg.

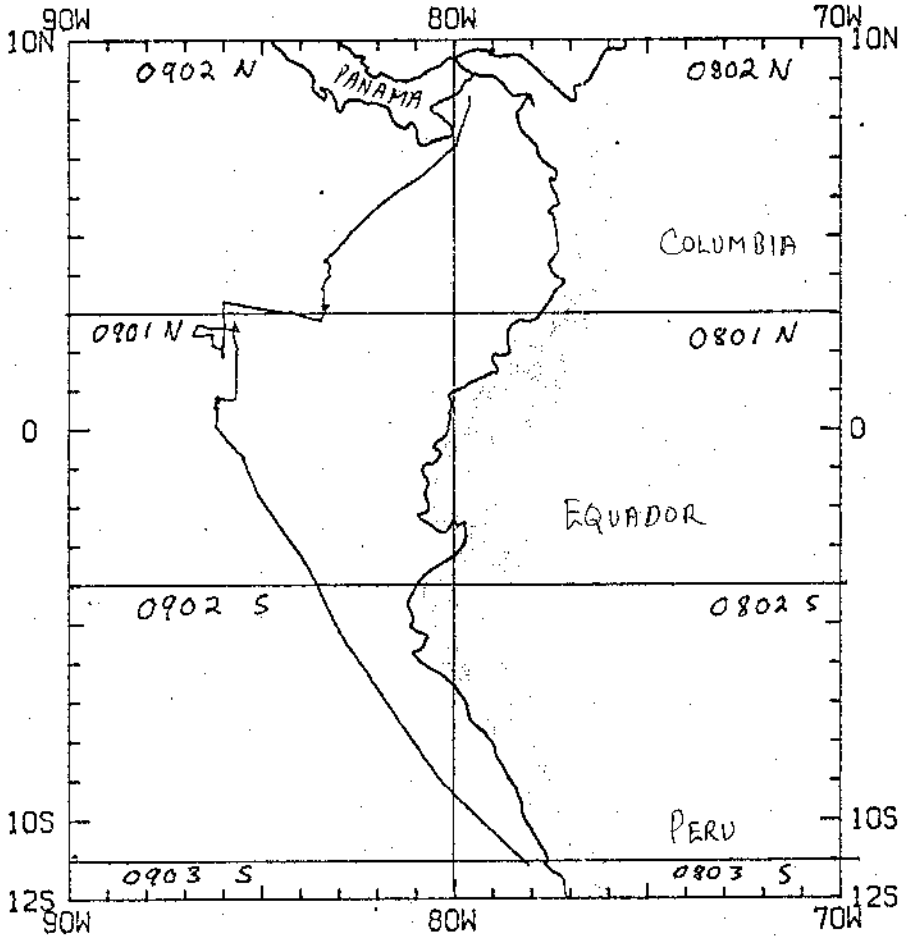
6. Microfilm or Xerox copies of:

   a. Echosounder records - 12 and 3.5 kHz frequency

   b. Subbottom profiler records (airgun)

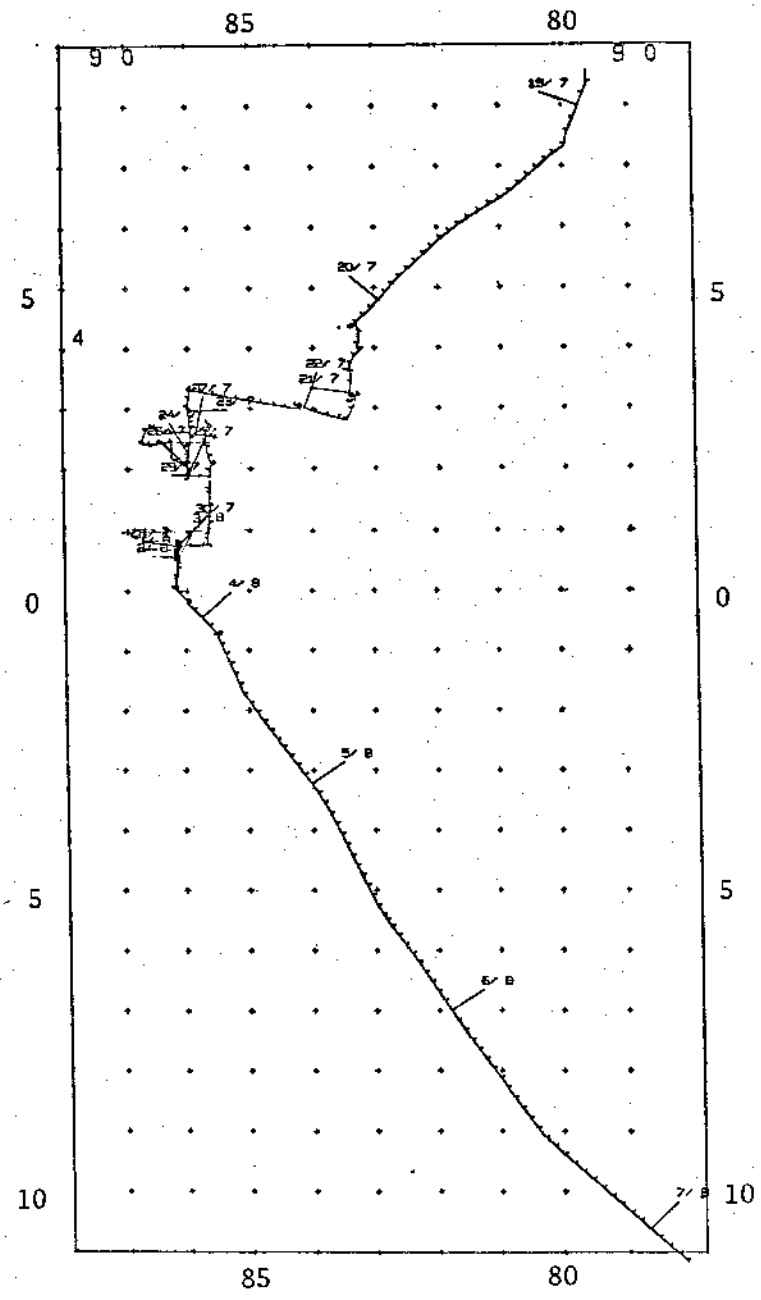
   c. Magnetometer records

   d. Underway Data Log

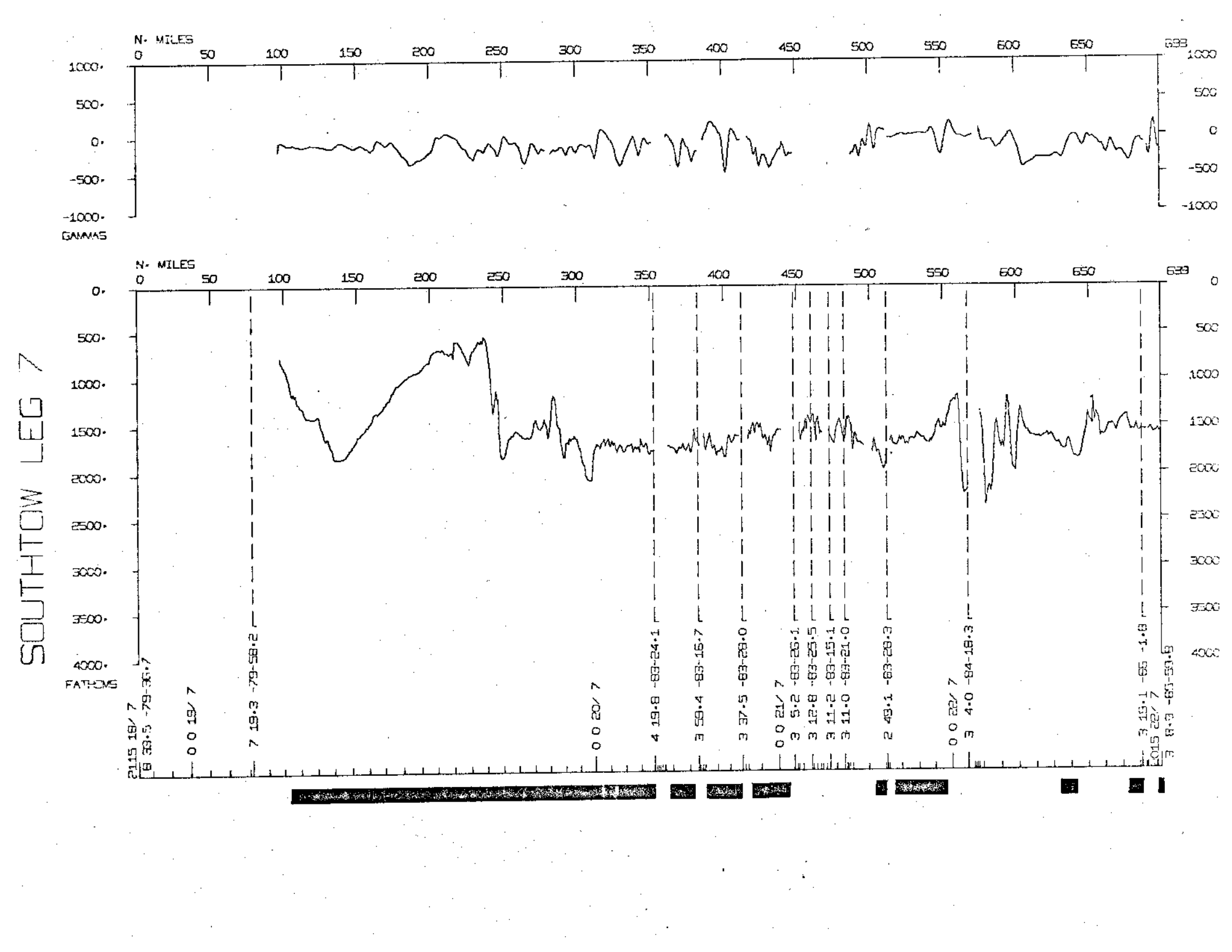


SOUTH-TOW LEG 7 BALBOA, CANAL ZONE (18 JULY 1972) TO CALLAO, PERU (7 AUGUST 1972)

SHIP: R/V WASHINGTON CHIEF SCIENTIST: JOHN SCLATER



SOUTH-TOW LEG-7, track chart


SOUTHTOW LEG 7
N. MILES
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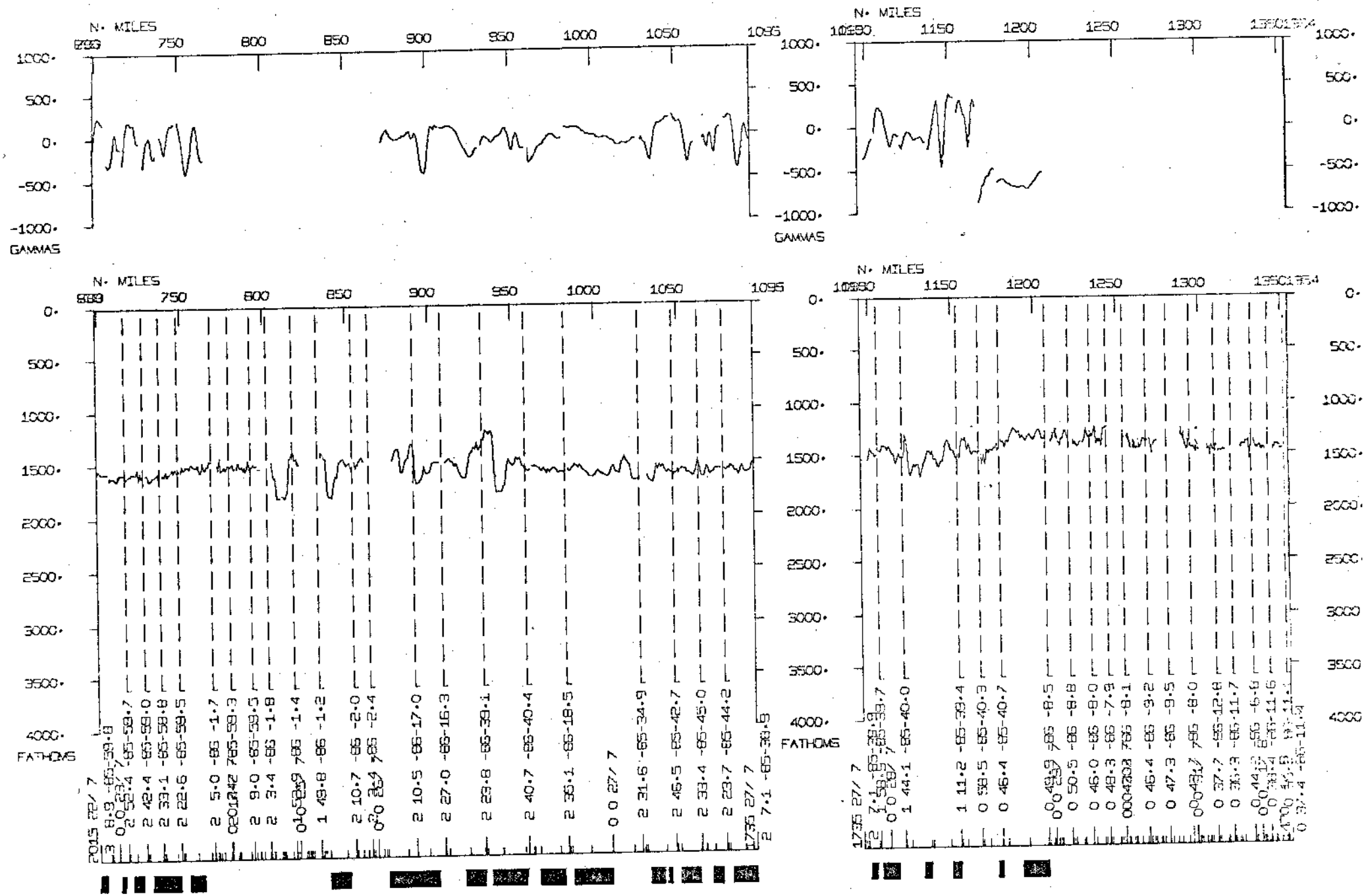
1000
500
0
-500
-1000
GAMMAS
N. MILES
0 50 100 150 200 250 300 350 400 450 500 550 600 650 688
0
500
1000
1500
2000
2500
3000
3500
4000
FATHOMS
2115 18/ 7
8 33.5 -79-36.7
0 0 19/ 7
7 19.3 -79-58.2
0 0 20/ 7
4 19.8 -83-24.1
3 59.4 -83-15.7
3 37.5 -83-28.0
0 0 21/ 7
3 5.2 -83-26.1
3 12.8 -83-25.5
3 11.2 -83-15.1
3 11.0 -83-21.0
2 43.1 -83-28.3
0 0 22/ 7
3 4.0 -84-18.3
3 15.1 -85 -1.8
2015 22/ 7
3 8.9 -83-59.8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750
800
850
900
950
1000
1050
1095
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
1100
1150
1200
1250
1300
1350
1354
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
700
750
800
850
900
950
1000
1050
1095
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
N. MILES
1100
1150
1200
1250
1300
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500.
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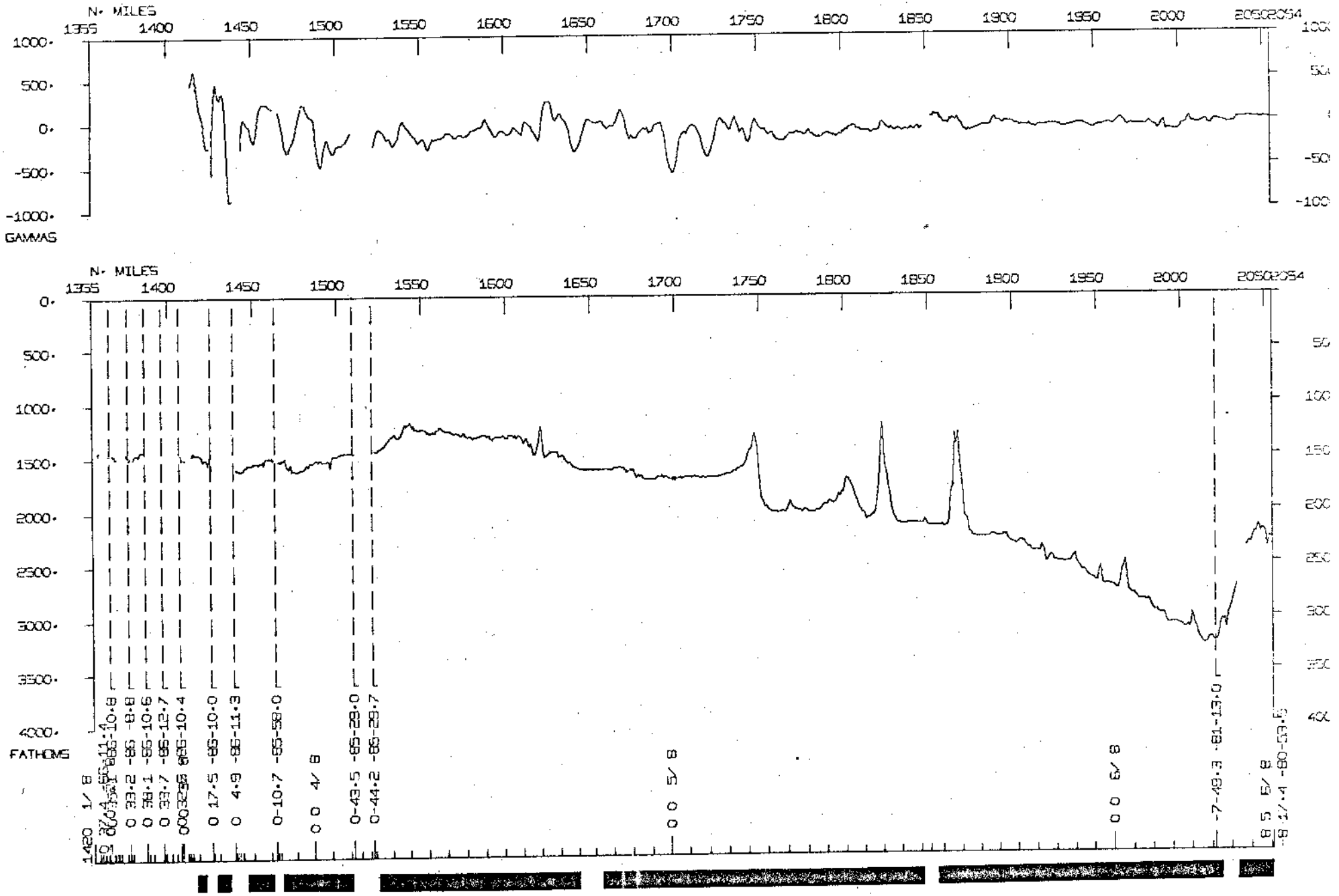
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS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1800
1850
1900
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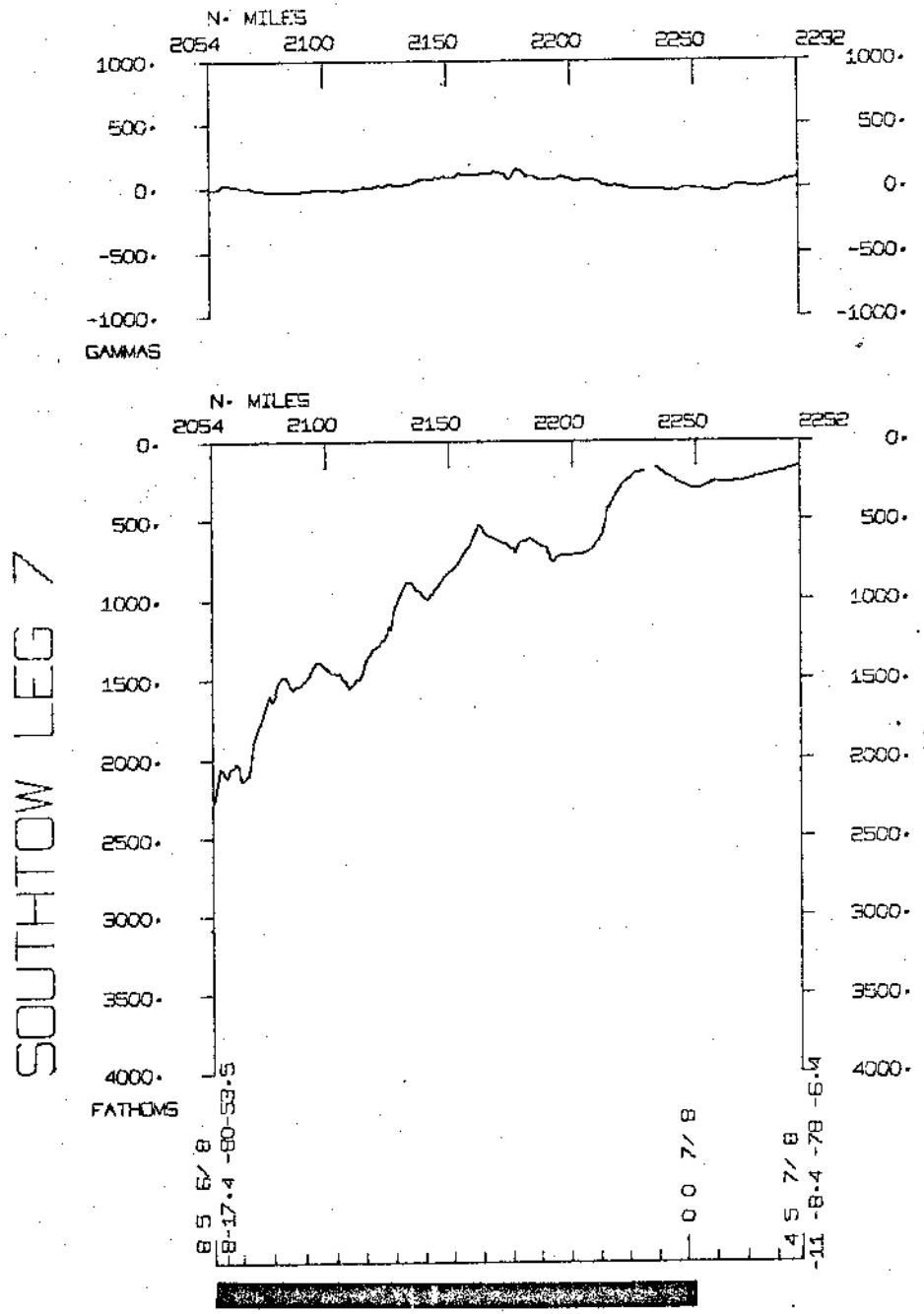
1000
500
0
-500
-1000
GAMMAS
FATHOMS
SOUTHTOW LEG 7


N. MILES
2054
2100
2150
2200
2250
2292
1000.
500.
0.
-500.
-1000.
GAMMAS
N. MILES
2054
2100
2150
2200
2250
2292
0.
500.
1000.
1500.
2000.
2500.
3000.
3500.
4000.
FATHOMS
SOUTHTOW LEG 7
8 5 6/8
8-17.4 -80-53.5
0 0 7/8
4 5 7/8
-11 -8.4 -78 -6.4

LISTED 03 OCTOBER 1972

1900	18	772	LG07 B BALBOA CANAL ZONE	0		ON	0		OE	SOTWO7WT
100	7	872	LG07 E CALLAO PERU	10	44	8S	78	31	8W S	SOTWO7WT

PERSONNEL

0	0	0	0	PECS	J.SCLATER	MPL	0		ON 0	OE SOTWO7WT
0	0	0	0	PERT	F.DIXON	GSX	0		ON 0	OE SOTWO7WT
0	0	0	0	PECT	W.HILTON	SCG	0		ON 0	OE SOTWO7WT
0	0	0	0	PEAT	R.BYRNE	SRG	0		ON 0	OE SOTWO7WT
0	0	0	0	PES	R.ANDERSON	MPL	0		ON 0	OE SOTWO7WT
0	0	0	0	PES	R.DETRICK	SIO	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	M.HOBART	WHO	0		ON 0	OE SOTWO7WT
0	0	0	0	PES	K.KLITGORD	SIO	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	V.PAVLICEK	SIO	0		ON 0	OE SOTWO7WT
0	0	0	0	PES	C.ROGERS	MPL	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	J.ROGERS	MPL	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	R.VON HERZEN	WHO	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	T.WALSH	SIO	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	R.WHITEMAN	MPL	0		ON 0	OE SOTWO7WT
0	0	0	0	PE	D.WILLIAMS	WHO	0		ON 0	OE SOTWO7WT

***FATHOGRAMS ***

TIME GMT	DATE D.M.Y.	TIME ZONE LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.		CRUISE LEG-SHIP
1005	20 772			DPIL	B PDRMK5 HF ROLL 1		GDC	4 208N	83 177W	S	SOTWO7WT
820	1 872			DPIL	E PDRMK5 HF ROLL 1		GDC	0 405N	86 101W	S	SOTWO7WT
820	1 872			DPIL	B PDRMK5 HF ROLL 2		GDC	0 405N	86 101W	S	SOTWO7WT
2130	3 872			DPIL	E PDRMK5 HF ROLL 2		GDC	0 112S	85 593W	S	SOTWO7WT
500	19 772			DPRT	B GDR 12KHZ-ROLL 1		GDC	7 56N	80 150W	S	SOTWO7WT
1810	21 772			DPRT	E GDR 12KHZ-ROLL 1		GDC	2 493N	83 283W	S	SOTWO7WT
2015	21 772			DPRT	B GDR 12KHZ-ROLL 2		GDC	2 477N	83 277W	S	SOTWO7WT
1600	23 772			DPRT	E GDR 12KHZ-ROLL 2		GDC	2 53N	86 16W	S	SOTWO7WT
2005	23 772			DPRT	B GDR 12KHZ-ROLL 3		GDC	2 77N	85 597W	S	SOTWO7WT
1227	25 772			DPRT	E GDR 12KHZ-ROLL 3		GDC	1 517N	86 10W	S	SOTWO7WT
1233	25 772			DPRT	B GDR 12KHZ-ROLL 4		GDC	1 517N	86 10W	S	SOTWO7WT
1225	27 772			DPRT	E GDR 12KHZ-ROLL 4		GDC	2 256N	85 441W	S	SOTWO7WT
915	29 772			DPRT	B GDR 12KHZ-ROLL 5		GDC	0 500N	86 83W	S	SOTWO7WT
1230	29 772			DPRT	E GDR 12KHZ-ROLL 5		GDC	0 465N	86 79W	S	SOTWO7WT
934	29 772			DPRT	B GDR 12KHZ-ROLL 6		GDC	0 529N	86 81W	S	SOTWO7WT
2215	30 772			DPRT	E GDR 12KHZ-ROLL 6		GDC	0 486N	86 90W	S	SOTWO7WT
2230	30 772			DPRT	B GDR 12KHZ-ROLL 7		GDC	0 480N	86 88W	S	SOTWO7WT
845	1 872			DPRT	E GDR 12KHZ-ROLL 7		GDC	0 406N	86 99W	S	SOTWO7WT
850	1 872			DPRT	B GDR 12KHZ-ROLL 8		GDC	0 406N	86 99W	S	SOTWO7WT
1100	2 872			DPRT	E GDR 12KHZ-ROLL 8		GDC	0 332N	86 88W	S	SOTWO7WT
1106	2 872			DPRT	B GDR 12KHZ-ROLL 9		GDC	0 332N	86 89W	S	SOTWO7WT
725	5 872			DPRT	E GDR 12KHZ-ROLL 9		GDC	4 292S	83 213W	S	SOTWO7WT
744	5 872			DPRT	B GDR 12KHZ-ROLL10		GDC	4 323S	83 197W	S	SOTWO7WT
430	6 872			DPRT	E GDR 12KHZ-ROLL10		GDC	7 428S	81 175W	S	SOTWO7WT
530	19 772			DPR3	B GDR3.5KHZ-ROLL 1		GDC	7 19N	80 193W	S	SOTWO7WT
1810	21 772			DPR3	E GDR3.5KHZ-ROLL 1		GDC	2 493N	83 283W	S	SOTWO7WT
2015	21 772			DPR3	B GDR3.5KHZ-ROLL 2		GDC	2 477N	83 277W	S	SOTWO7WT
1405	24 772			DPR3	E GDR3.5KHZ-ROLL 2		GDC	2 26N	86 19W	S	SOTWO7WT
1410	24 772			DPR3	B GDR3.5KHZ-ROLL 3		GDC	2 22N	86 19W	S	SOTWO7WT
1718	27 772			DPR3	E GDR3.5KHZ-ROLL 3		GDC	2 100N	85 404W	S	SOTWO7WT
1725	27 772			DRR3	B GDR3.5KHZ-ROLL 4		GDC	2 88N	85 396W	S	SOTWO7WT
1745	30 772			DPR3	E GDR3.5KHZ-ROLL 4		GDC	0 448N	86 91W	S	SOTWO7WT
1745	30 772			DPR3	B GDR3.5KHZ-ROLL 5		GDC	0 448N	86 91W	S	SOTWO7WT
1900	2 872			DPR3	E GDR3.5KHZ-ROLL 5		GDC	0 342N	86 131W	S	SOTWO7WT

2115	[redacted]	772		DPR3	E	GDR3.5KHZ-ROLL	6		GDC	6	335S	[redacted]2	50W	S	SOTW07WT
2115	5	872		DPR3	B	GDR3.5KHZ-ROLL	7		GDC	6	335S	82	50W	S	SOTW07WT
430	6	872		DPR3	E	GDR3.5KHZ-ROLL	7		GDC	7	428S	81	175W	S	SOTW07WT

*** SEISMIC REFLECTION PROFILES ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE		SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.		LONG.			CRUISE LEG-SHIP
500	19	772		SPRT	B	AIRGUN-RS-ROLL	1	GDC	7	58N	80	150W	S	SOTW07WT
2345	21	772		SPRT	E	AIRGUN-RS-ROLL	1	GDC	2	593N	84	58W	S	SOTW07WT
2345	21	772		SPRT	B	AIRGUN-RS-ROLL	2	GDC	2	593N	84	58W	S	SOTW07WT
10	22	772		SPRT	E	AIRGUN-RS-ROLL	2	GDC	3	9N	84	102W	S	SOTW07WT
10	22	772		SPRT	B	AIRGUN-RS-ROLL	3	GDC	3	9N	84	102W	S	SOTW07WT
430	6	872		SPRT	E	AIRGUN-RS-ROLL	3	GDC	7	428S	81	175W	S	SOTW07WT

*** MAGNETOMETER ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE		SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.		LONG.			CRUISE LEG-SHIP
500	19	772		MGR	B	MAGNET-ROLL	1	GDC	7	58N	80	150W	S	SOTW07WT
430	6	872		MGR	E	MAGNET-ROLL	1	GDC	7	428S	81	175W	S	SOTW07WT

GEOLOGICAL SAMPLES - CURATOR W.R.RIEDEL (EXT.1579)

*** CORES ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.		LONG.			CRUISE LEG-SHIP
624	20	772		C G	SOTW 6P		GCR	4	204N	83	213W	S	SOTW07WT
624	20	772		C P	SOTW 6PG		GCR	4	204N	83	213W	S	SOTW07WT
2215	22	772.		CPV	SOTW 10PV		GCR	3	24N	86	5W	S	SOTW07WT
1149	23	772		CPV	SOTW 11PV		GCR	2	232N	85	597W	S	SOTW07WT
1241	24	772		CPV	SOTW 12PV		GCR	2	35N	86	18W	S	SOTW07WT
1800	25	772		CPV	SOTW 13PV		GCR	2	105N	86	20W	S	SOTW07WT
1200	26	772		CPV	SOTW 14PV		GCR	2	237N	86	392W	S	SOTW07WT
241	27	772		CPV	SOTW 15PV		GCR	2	309N	85	359W	S	SOTW07WT
1854	27	772		CPV	SOTW 16PV		GCR	2	50N	85	382W	S	SOTW07WT
1254	1	872		CPV	SOTW 18PV		GCR	0	353N	86	110W	S	SOTW07WT
1924	2	872		CPV	SOTW 19PV		GCR	0	342N	86	133W	S	SOTW07WT
1150	3	872		CPV	NO SAMP RECOVD			0	48N	86	116W	S	
2025	3	872		CPV	SOTW 21 PV		GCR	0	109S	85	584W	S	SOTW07WT

*** DREDGE ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
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845	21 772			D R E	DREDGE SOTW 07		GCR	3 120N	83 183W S	SOTW07WT
1330	21 772			D R B	DREDGE SOTW 08		GCR	3 122N	83 203W S	SOTW07WT
1402	21 772			D R E	DREDGE SOTW 08		GCR	3 125N	83 205W S	SOTW07WT
223	22 772			D R B	DREDGE SOTW 09		GCR	3 16N	84 139W S	SOTW07WT
425	22 772			D R E	DREDGE SOTW 09		GCR	3 1N	84 127W S	SOTW07WT
1430	29 772			D R B	SOTW 17D 2473		GCR	0 490N	86 80W S	SOTW07WT
1635	29 772			D R E	SOTW 17D 2313		GCR	0 483N	86 79W S	SOTW07WT
532	4 872			D R B	SOTW 22D		GCR	0 441S	85 298W S	SOTW07WT
658	4 872			D R E	SOTW 22D		GCR	0 437S	85 303W S	SOTW07WT

HEAT FLOW STATIONS - CURATOR JOHN SCLATER (EXT.1086)

*** HEAT FLOW ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
1817	22 772			HF	HEAT FLOW 7-06A		MPL	3 182N	85 592W S	SOTW07WT
909	24 772			HF	HEAT FLOW 7-15-1		WHO	2 85N	86 10W S	SOTW07WT
948	24 772			HF	HEAT FLOW 7-15-2		WHO	2 86N	86 10W S	SOTW07WT
1241	24 772			HF	HEAT FLOW 7-16		WHO	2 35N	86 18W S	SOTW07WT
1510	24 772			HF	HEAT FLOW 7-17-1		MPL	2 23N	86 19W S	SOTW07WT
1520	24 772			HF	HEAT FLOW 7-17-2		MPL	2 24N	86 19W S	SOTW07WT
1812	24 772			HF	HEAT FLOW 7-18-1		MPL	1 586N	86 14W S	SOTW07WT
1820	24 772			HF	HEAT FLOW 7-18-2		MPL	1 586N	86 14W S	SOTW07WT
1907	24 772			HF	HEAT FLOW 7-18-3		MPL	1 589N	86 13W S	SOTW07WT
2210	24 772			HF	HEAT FLOW 7-19-1		MPL	1 532N	86 10W S	SOTW07WT
2255	24 772			HF	HEAT FLOW 7-19-2		MPL	1 537N	86 8W S	SOTW07WT
1647	26 772			HF	HEAT FLOW 7-26-3		WHO	2 413N	86 379W S	SOTW07WT
2017	26 772			HF	HEAT FLOW 7-27-1		MPP	2 354N	86 183W S	SOTW07WT
135	30 772			HF	HEAT FLOW 7-44		MPL	0 473N	86 80W S	SOTW07WT
1200	26 772			HF	HF WHOI 7-25		WHO	2 237N	86 392W S	SOTW07WT
1612	26 772			HF	HF WHOI 7-26-1		WHO	2 409N	86 381W S	SOTW07WT
1632	26 772			HF	HF WHOI 7-26-2		WHO	2 411N	86 380W S	SOTW07WT
1325	27 772			HF	HF WHOI 7-31-1		WHO	2 238N	85 440W S	SOTW07WT
1350	27 772			HF	HF WHOI 7-31-2		WHO	2 238N	85 439W S	SOTW07WT
1414	27 772			HF	HF WHOI 7-31-3		WHO	2 239N	85 438W S	SOTW07WT
1439	27 772			HF	HF WHOI 7-31-4		WHO	2 239N	85 437W S	SOTW07WT
1502	27 772			HF	HF WHOI 7-31-5		WHO	2 238N	85 436W S	SOTW07WT
520	30 772			HF	HF 45 PEN NO.1		MPL	0 446N	86 76W S	SOTW07WT

TIME (GMT)	DAY	TIME IN LOC	SAMP LOC CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.		LONG.		CRUISE LEG-SHIP
557	30	772	HF	HF 45 PEN NO.2		MPL	0 443N	86	74W	S	SOTW07WT
756	30	772	HF	HF 46 PEN NO.1		MPL	0 430N	86	68W	S	SOTW07WT
839	30	772	HF	HF 46 PEN NO.2		MPL	0 432N	86	67W	S	SOTW07WT
1702	30	772	HF	HF 48 PEN NO.1		MPL	0 454N	86	91W	S	SOTW07WT
1850	30	772	HF	HF 48 PEN NO.2		MPL	0 442N	86	89W	S	SOTW07WT
36	31	772	HF	HF 49 PEN NO.1		WHO	0 450N	86	77W	S	SOTW07WT
106	31	772	HF	HF 49 PEN NO.2		WHO	0 445N	86	77W	S	SOTW07WT
135	31	772	HF	HF 49 PEN NO.3		WHO	0 442N	86	78W	S	SOTW07WT
215	31	772	HF	HF 49 PEN NO.4		WHO	0 439N	86	79W	S	SOTW07WT
239	31	772	HF	HF 49 PEN NO.5		WHO	0 436N	86	79W	S	SOTW07WT
329	31	772	HF	HF 49 PEN NO.6		WHO	0 430N	86	81W	S	SOTW07WT
357	31	772	HF	HF 49 PEN NO.7		WHO	0 427N	86	81W	S	SOTW07WT
436	31	772	HF	HF 49 PEN NO.8		WHO	0 423N	86	82W	S	SOTW07WT
658	31	772	HF	HF 50 PEN NO.1		MPL	0 425N	86	114W	S	SOTW07WT
730	31	772	HF	HF 50 PEN NO.2		MPL	0 422N	86	115W	S	SOTW07WT
800	31	772	HF	HF 50 PEN NO.3		MPL	0 419N	86	116W	S	SOTW07WT
951	31	772	HF	HF 51 PEN NO.1		MPL	0 406N	86	115W	S	SOTW07WT
1028	31	772	HF	HF 51 PEN NO.2		MPL	0 404N	86	115W	S	SOTW07WT
1614	31	772	HF	HF 52 PEN NO.1		MPL	0 364N	86	117W	S	SOTW07WT
1648	31	772	HF	HF 52 PEN NO.2		MPL	0 367N	86	119W	S	SOTW07WT
2135	31	772	HF	HF 53 PEN NO.1		WHO	0 445N	86	71W	S	SOTW07WT
2211	31	772	HF	HF 53 PEN NO.2		WHO	0 440N	86	72W	S	SOTW07WT
12	1	872	HF	HF 54 PEN NO.1		WHO	0 417N	86	83W	S	SOTW07WT
49	1	872	HF	HF 54 PEN NO.2		WHO	0 413N	86	84W	S	SOTW07WT
134	1	872	HF	HF 54 PEN NO.3		WHO	0 406N	86	87W	S	SOTW07WT
210	1	872	HF	HF 54 PEN NO.4		WHO	0 405N	86	89W	S	SOTW07WT
248	1	872	HF	HF 54 PEN NO.5		WHO	0 403N	86	92W	S	SOTW07WT
329	1	872	HF	HF 54 PEN NO.6		WHO	0 401N	86	95W	S	SOTW07WT
550	1	872	HF	HF 55 PEN NO.1		MPL	0 383N	86	111W	S	SOTW07WT
806	1	872	HF	HF 56 PEN NO.1		MPL	0 404N	86	102W	S	SOTW07WT
835	1	872	HF	HF 56 PEN NO.2		MPL	0 405N	86	100W	S	SOTW07WT
902	1	872	HF	HF 56 PEN NO.3		MPL	0 407N	86	98W	S	SOTW07WT
1254	1	872	HF	HF 57 PEN NO.1		WHO	0 353N	86	110W	S	SOTW07WT
1513	1	872	HF	HF 58 PEN NO.1		WHO	0 391N	86	117W	S	SOTW07WT
1552	1	872	HF	HF 58 PEN NO.2		WHO	0 386N	86	118W	S	SOTW07WT
1629	1	872	HF	HF 58 PEN NO.3		WHO	0 380N	86	118W	S	SOTW07WT
1721	1	872	HF	HF 58 PEN NO.4		WHO	0 376N	86	116W	S	SOTW07WT
1800	1	872	HF	HF 58 PEN NO.5		WHO	0 371N	86	114W	S	SOTW07WT
1837	1	872	HF	HF 58 PEN NO.6		WHO	0 366N	86	112W	S	SOTW07WT
1908	1	872	HF	HF 58 PEN NO.7		WHO	0 362N	86	111W	S	SOTW07WT
1939	1	872	HF	HF 58 PEN NO. 8		WHO	0 359N	86	109W	S	SOTW07WT
1956	1	872	HF	HF 58 PEN NO.9		WHO	0 356N	86	109W	S	SOTW07WT
2030	1	872	HF	HF 58 PEN NO.10		WHO	0 354N	86	107W	S	SOTW07WT
2051	1	872	HF	HF 58 PEN NO.11		WHO	0 352N	86	107W	S	SOTW07WT
2229	1	872	HF	HF 59 PEN NO.1		HFP	0 357N	86	108W	S	SOTW07WT
2310	1	872	HF	HF 59 PEN NO.2		HFP	0 355N	86	108W	S	SOTW07WT
2355	1	872	HF	HF 59 PEN NO.3		HFP	0 351N	86	108W	S	SOTW07WT
147	2	872	HF	HF 60 PEN NO.1		MPL	0 345N	86	111W	S	SOTW07WT
233	2	872	HF	HF 60 PEN NO.2		MPL	0 341N	86	107W	S	SOTW07WT
314	2	872	HF	HF 60 PEN NO.3		MPL	0 336N	86	108W	S	SOTW07WT
545	2	872	HF	HF 61 PEN NO.1		MPL	0 329N	86	110W	S	SOTW07WT
608	2	872	HF	HF 61 PEN NO.2		MPL	0 325N	86	108W	S	SOTW07WT
653	2	872	HF	HF 61 PEN NO.3		MPL	0 323N	86	107W	S	SOTW07WT
946	2	872	HF	HF 62 PEN NO.1		WHO	0 342N	86	87W	S	SOTW07WT

GMT	DAY	YR	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
1019	2	872			HF	HF 62 PEN NO.2		WHO	0 337N	86 87W S	SOTWO7WT
1049	2	872			HF	HF 62 PEN NO.3		WHO	0 332N	86 88W S	SOTWO7WT
1129	2	872			HF	HF 62 PEN NO.4		WHO	0 330N	86 89W S	SOTWO7WT
1204	2	872			HF	HF 62 PEN NO.5		WHO	0 325N	86 90W S	SOTWO7WT
1241	2	872			HF	HF 62 PEN NO.6		WHO	0 321N	86 90W S	SOTWO7WT
1312	2	872			HF	HF 62 PEN NO.7		WHO	0 318N	86 90W S	SOTWO7WT
1924	2	872			HF	HF 63		WHO	0 342N	86 133W S	SOTWO7WT
53	3	872			HF	HF 64 PEN NO.1		WHO	0 321N	86 107W S	SOTWO7WT
125	3	872			HF	HF 64 PEN NO.2		WHO	0 314N	86 106W S	SOTWO7WT
149	3	872			HF	HF 64 PEN NO.3		WHO	0 310N	86 107W S	SOTWO7WT
237	3	872			HF	HF 64 PEN NO.4		WHO	0 305N	86 105W S	SOTWO7WT
316	3	872			HF	HF 64 PEN NO.5		WHO	0 301N	86 104W S	SOTWO7WT
356	3	872			HF	HF 64 PEN NO.6		WHO	0 300N	86 103W S	SOTWO7WT
404	3	872			HF	HF 64 PEN NO.7		WHO	0 297N	86 102W S	SOTWO7WT
436	3	872			HF	HF 64 PEN NO.8		WHO	0 293N	86 101W S	SOTWO7WT
745	3	872			HF	HF 65 PEN NO.1		MPL	0 174N	86 99W S	SOTWO7WT
820	3	872			HF	HF 65 PEN NO.2		MPL	0 172N	86 97W S	SOTWO7WT
1334	3	872			HF	HF 66		WHO	0 43N	86 121W S	SOTWO7WT
2200	26	772			HF	B WT-1 7-40		WHO	0 496N	86 85W S	SOTWO7WT
511	29	772			HF	E WT-1 7-40		WHO	0 460N	86 94W S	SOTWO7WT
1847	29	772			HF	B WT-2 7-43		MPL	0 495N	86 112W S	SOTWO7WT
2358	29	772			HF	E WT-2 7-43		MPL	0 473N	86 81W S	SOTWO7WT
1005	20	772			HFCB	HEAT FLOW 7-01		MPL	4 208N	83 177W S	SOTWO7WT
1551	20	772			HF2M	HEAT FLOW 7-02		MPL	3 586N	83 148W S	SOTWO7WT
217	21	772			HF2M	HEAT FLOW 7-04		MPL	3 60N	83 253W S	SOTWO7WT
1902	21	772			HF2M	HEAT FLOW 7-05A		WHO	2 485N	83 278W S	SOTWO7WT
1924	21	772			HF2M	HEAT FLOW 7-05B		WHO	2 482N	83 276W S	SOTWO7WT
122	23	772			HF2M	HEAT FLOW 7-08		MPL	2 524N	85 595W S	SOTWO7WT
449	23	772			HF2M	HEAT FLOW 7-09		MPL	2 420N	85 584W S	SOTWO7WT
757	23	772			HF2M	HEAT FLOW 7-10		MPL	2 326N	85 584W S	SOTWO7WT
2036	26	772			HF2M	HEAT FLOW 7-39		MPL	0 499N	86 81W S	SOTWO7WT
725	29	772			HF2M	HEAT FLOW 7-41		MPL	0 504N	86 85W S	SOTWO7WT
812	29	772			HF2M	HEAT FLOW 7-41A		MPL	0 500N	86 84W S	SOTWO7WT
1058	29	772			HF2M	HEAT FLOW 7-42		MPL	0 512N	86 79W S	SOTWO7WT
1413	30	772			HF2M	HEAT FLOW 7-47		MPL	0 442N	86 86W S	SOTWO7WT

GMT	D.Y.	LOC	LOC	SAMPLE CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.		LONG.		CRUISE LEG-SHIP
2054	20	772		HF2M	B E WHOI 7-03		WHO	3 36.9N		83 26.3W	S	SOTW07WT
1204	23	772		HF2M	B HF WHOI 7-12-1		WHO	2 23.2N		85 59.8W	S	SOTW07WT
1420	23	772		HF2M	E HF WHOI 7-12-2		WHO	2 10.6N		86 1.6W	S	SOTW07WT
138	25	772		HF2M	B HF WHOI 7-20		WHO	1 57.1N		86 1.2W	S	SOTW07WT
815	25	772		HF2M	E HF WHOI 7-20		WHO	1 55.2N		86 1.1W	S	SOTW07WT
1619	22	772		HF4M	HEAT FLOW 7-06		MPL	3 19.0N		85 59.6W	S	SOTW07WT
2216	23	772		HF4M	B HEAT FLOW 7-13-1		MPL	2 13.3N		85 59.7W	S	SOTW07WT
2300	23	772		HF4M	E HEAT FLOW 7-13-2		MPL	2 13.5N		85 59.6W	S	SOTW07WT
138	24	772		HF4M	B HEAT FLOW 7-14-1		MPL	2 17.2N		85 59.8W	S	SOTW07WT
243	24	772		HF4M	E HEAT FLOW 7-14-2		MPL	2 17.0N		85 59.7W	S	SOTW07WT
1021	25	772		HF4M	HEAT FLOW 7-21		MPL	1 49.8N		86 1.0W	S	SOTW07WT
1248	25	772		HF4M	HEAT FLOW 7-22		MPL	1 51.8N		86 1.1W	S	SOTW07WT
1320	25	772		HF4M	HEAT FLOW 7-22A		MPL	1 52.0N		86 1.2W	S	SOTW07WT
1800	25	772		HF	HEAT FLOW 7-23		WHO	2 10.5N		86 2.0W	S	SOTW07WT
635	26	772		HF4M	HEAT FLOW 7-24		MPL	2 27.3N		86 16.1W	S	SOTW07WT
2052	26	772		HF4M	HEAT FLOW 7-27-2		HFP	2 35.7N		86 18.1W	S	SOTW07WT
626	27	772		HF4M	HEAT FLOW 7-29		MPL	2 46.5N		85 42.2W	S	SOTW07WT
1014	27	772		HF4M	HEAT FLOW 7-30		MPL	2 35.6N		85 43.7W	S	SOTW07WT
2143	27	772		HF4M	HEAT FLOW 7-33		MPL	1 59.3N		85 40.4W	S	SOTW07WT
2218	27	772		HF4M	HEAT FLOW 7-33		MPL	1 59.3N		85 40.1W	S	SOTW07WT
136	28	772		HF4M	HEAT FLOW 7-34		MPL	1 44.2N		85 40.1W	S	SOTW07WT
445	28	772		HF4M	HEAT FLOW 7-35		MPL	1 27.9N		85 39.7W	S	SOTW07WT
816	28	772		HF4M	HEAT FLOW 7-36-1		MPL	1 10.9N		85 39.0W	S	SOTW07WT
828	28	772		HF4M	HEAT FLOW 7-36-2		MPL	1 10.8N		85 39.0W	S	SOTW07WT
1140	28	772		HF4M	HEAT FLOW 7-37		MPL	0 58.0N		85 40.1W	S	SOTW07WT
1421	28	772		HF4M	HEAT FLOW 7-38		MPL	0 44.4N		85 40.7W	S	SOTW07WT
241	27	772		HFPC	HEAT FLOW 7-28		WHO	2 30.9N		85 35.9W	S	SOTW07WT
2215	22	772		HFPV	HF WHOI 7-07		WHO	3 2.4N		86 0.5W	S	SOTW07WT
1149	23	772		HFPV	HF WHOI 7-11		WHO	2 23.2N		85 59.7W	S	SOTW07WT
1854	27	772		HFPV	HF WHOI 7-32		WHO	2 5.0N		85 38.2W	S	SOTW07WT
2029	3	872		HFPV	HF 67		WHO	0 11.0S		85 58.3W	S	SOTW07WT

*** BATHYTHERMOGRAPH ***

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
527	22 772			BTX	XBT 7-01		BTS	2 592N	84 122W S	SOTWO7WT
2212	23 772			BTX	XBT 7-02		BTS	2 133N	85 597W S	SOTWO7WT
757	24 772			BTX	XBT 7-03		BTS	2 83N	86 12W S	SOTWO7WT
2215	26 772			BTX	XBT 7-04		BTS	2 365N	86 151W S	SOTWO7WT

DATA COLLECTION AND PROCESSING GROUP-F.WILKES (EXT.1140)

SPECIAL WATER CHEMISTRY PROGRAM

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
0300070872				BTX	ELNINO60TT 21.4C		BTS	10-434S	078-333W S	SOTWO7WT
0300070872				SSSA	ELNINO60TT 35.059		DCP	10-434S	078-333W S	SOTWO7WT
0430070872				BTX	ELNINONN44 21.1C		BTS	11-105S	078-033W S	SOTWO7WT
0430070872				SSSA	ELNINONN44 35.059		DCP	11-105S	078-033W S	SOTWO7WT
1300060872				BTX	ELNINOEES 22.0C		BTS	09-081S	080-148W S	SOTWO7WT
1300060872				SSSA	ELNINOEES 35.298		DCP	09-081S	080-148W S	SOTWO7WT
1700060872				BTX	ELNINO1717 22.6C		BTS	09-102S	080-136W S	SOTWO7WT
1700060872				SSSA	ELNINO1717 35.049		DCP	09-102S	080-136W S	SOTWO7WT
2100060872				BTX	ELNINO0075 22.1C		BTS	10-133S	079-072W S	SOTWO7WT
2100060872				SSSA	ELNINO0075 35.005		DCP	10-133S	079-072W S	SOTWO7WT

NON-SIO PROGRAMS-PROCESSOR J.L.COATSWORTH EXT. 2646

AEROSOLS--A.W.HOGAN S.U.N.Y.

TIME GMT	DATE D.M.Y.	TIME LOC	TZ LOC	SAMP CODE	SAMPLE IDENT.	SEQ. NUM.	DISP CODE	LAT.	LONG.	CRUISE LEG-SHIP
2210	23 772			ASNO	AEROSOL 7-01		AWH	2 133N	85 598W S	SOTWO7WT
1230	26 772			ASNO	AEROSOL 7-02		AWH	2 239N	86 391W S	SOTWO7WT
0	27 772			ASNO	AEROSOL 7-03		AWH	2 350N	85 527W S	SOTWO7WT

END SAMPLE INDEX