

PART II: SEYCHELLES BANK TO PORT LOUIS, MAURITIUS, 5-26 JUNE 1972

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INTRODUCTION

From Seychelles Bank to Mauritius, along a track nominally 2560 nautical miles (nmi) or 4745 km in length, only two sites were occupied by *Glomar Challenger*. In the 22-day period, the vessel traversed several hundred km of the aseismic Mascarene Plateau and crossed, at a large angle, the seismically active and spreading Central Indian Ridge. She made a 3 day deviation to disembark a very seriously ill drilling foreman at Diego Garcia, an atoll on the Chagos-Laccadive Ridge, just before occupying the ultimate site of Leg 24 near the southern end of that aseismic feature. The concluding run, from Site 238 directly to Mauritius, afforded a nearly unique opportunity for *Glomar Challenger* to collect magnetic, seismic reflection, and bathymetric data within or very close to the axis of a major cross-fracture or transform fault, here Argo Fracture Zone, for a distance of more than 1000 km. Such records, most particularly the total magnetic field and the seismic reflection profiles displaying amounts of sediment fill and stratification or contortion of that fill along the cross-fracture, can be compared with those obtained on more routine crossings of the crests and flanks of an actively spreading mid-oceanic ridge. Figure 1 (in pocket at back of volume), updated extensively from Fig. 1 of Fisher et al., 1971, in the areas affected by *Glomar Challenger*'s findings, bears the annotated track. Data to establish more exact positions are listed in Appendix I, the abstracted computer print-out of Leg 24's maneuvering and navigational notes for the entire Djibouti to Port Louis traverse.

Figures 2 to 12 comprise the underway profiles. Presentation of annotated magnetic, bathymetric, and seismic reflection data for the Seychelles to Mauritius portion of Leg 24 has been keyed to preserve constancy of scale of each of these measurements throughout the traverse and, by reproducing them on facing pages, to facilitate comparison and elucidate relationships. This has resulted in shorter profile segments than one prefers when making regional syntheses, but it has permitted generous overlap on bathymetric and magnetic plots. On every profile, time advances from left to right. Vertical exaggeration on the topographic profile presented below the magnetic trace is about 63.5:1, and the depth scale is in "uncorrected fathoms" at 4800 ft/sec nominal sounding velocity. On the airgun profiles, all recorded with a 10-sec sweep, vertical exaggeration ranges from about 20:1 at ship speed of 7 knots to 29:1 at 10⁺ knots. Over most of the track, with the customary speeds between sites of 8.8, 9.1, or 9.4 knots, vertical exaggeration is 25:1 to 27:1. Reflection time in seconds, two-way travel time, is noted. The corresponding "depths" to the sea floor, in meters corrected for sounding velocity, are indicated by the scale.

NARRATIVE

On departing Port Victoria, Mahe', *Glomar Challenger* headed southeast across the block of Precambrian granitics extensively investigated by Cambridge and SIO geophysicists in 1962, 1963, and 1964 (summarized in Matthews and Davies, 1966). Because of the very shallow water on much of the bank, magnetometer and airgun were not streamed until the vessel had cleared the shoal (21 m) eastern rampart or lip of Le Constant Bank, a south-trending spur pointing toward Coetivy. The bight or reentrant between Le Constant Bank and the northwest-trending Mascarene Plateau proper is floored with slumped talus, presumably coralline debris, but layering appears near nmi 2290 at the foot of the slope. Exploration of this flank of Mascarene Plateau by Woods Hole (Bunce et al., 1966) and SIO vessels has revealed a number of slumped blocks or faulted slivers, some with thickly encrusted and well-cemented coralline sediment or reef debris, as well as some elongated shoals (such as one 20 km west of the small nonmagnetic rise at nmi 2320) that reach depths as shoal as 28 to 30 meters and sometimes accompany marked changes in the magnetic field. Several have been interpreted as links in a volcanic rampart or as peaks protruding through calcareous cover, similar to the early Tertiary basaltic dikes that create strong anomalies on Seychelles Bank (Matthews and Davies, 1966).

Well up on the smooth-surfaced and magnetically quiet saddle between nmi 2340 and Site 237, and beyond, several reflectors appear, down to a poorly defined "acoustic basement" (?) at about 0.7 sec. A major reflector at 0.25 to 0.3 sec underlies rather transparent sediments, probably nanno chalks and foram oozes; the upper layer does thicken abruptly, to 0.5 to 0.6 sec, in northwest-trending graben or elongated basins where the lower horizons are similarly depressed. Various reflecting layers below the extensive more transparent material probably contain lenses or stringers of chert. As *Glomar Challenger* approached and then passed obliquely down the plateau's eastern flank northwest of Saya de Malha, deep almost-horizontal reflectors in the sediments disappeared and a stronger "acoustic basement" return, of moderate relief, predominates beneath the upper flank's lensed layering. Further downslope, the topography of the "basement (?) reflector" is irregular and diffuse, and the sedimented slope shows slumps or gulley. (Similar rills or gulleying occurs on the lower reaches of the west flank.)

By nmi 2530 *Glomar Challenger* was off the east flank of Mascarene Plateau and over the apron north-northwest of Saya de Malha where practically transparent deposits with little seawater-sediment acoustic contrast (at airgun operating frequencies) overlay a magnetically uniform

basement. Wide gulleys or canyons appear to have been cut in these acoustically ill-defined sediments, but the sounding records are poor and it is difficult to establish layer truncation from the noisy airgun records. By nmi 2630 just northeast of Saya de Malha, however, equally nondescript sediment cover appears underlain or intruded by flat, strongly reflecting, and obviously magnetic igneous "basement." The major anomalies at the foot of the plateau complex apparently die out west of the ponds of sediment, intervening highs, and rough basement marking the outermost extent of the Central Indian Ridge. They have not been correlated with any very early pattern but perhaps reflect igneous activity that dates from the rupture of Saya de Malha's volcanic(?) foundation from the environs of the present southern Maldivian atolls prior to formation of the Central Indian Ridge.

From near nmi 2780 to nmi 3060 where *Glomar Challenger* headed northeast to Diego Garcia, magnetic records show anomaly reversals associated with the seismically active and spreading Central Indian Ridge but—since the traverse is at a high angle to the orthogonal ridge crest—cross-fracture pattern—this profile lacks the younger and well-defined anomalies. Furthermore, for 1000 km north of 10°–11°S, the Central Indian Ridge is characterized by numerous transform faults or slivered topography, the intervening ridge crests are so short as to be undetected, and magnetic anomaly correlation is not yet possible. North of the equator, however, the Carlsberg Ridge trends northwest as a discrete spreading feature where subparallel lineated topography and well-identified magnetic trains (Vine and Matthews, 1963; Fisher et al., 1968) again appear. The track crosses the central portion of the ridge in the vicinity of locally very deep Vema Trench (see Figure 1; also nmi 2935 on Figure 4b) and its swarm of subparallel fractures. Just south of Vema Trench's fracture zone, the ridge's "magnetic crest" lies 100 km west of *Glomar Challenger*'s track while immediately north of that depression the crest, on magnetic grounds, is about 200 km east of this crossing. Commencing at nmi 2950 shortly after the vessel passed the crestal region, an improved airgun streamer yielded excellent records that reveal the extremely rough volcanic basement, the paucity of sediment remaining on volcanic highs and the extremely flat-lying layered sediments in the local intermontane basins and, in greater quantity, within cross-fractures marking transform faults. Very commonly the fill in the cross-fractures displays a flat or gently aproned upper surface, a nearly horizontal first subbottom reflector, and a slightly to moderately deformed deep reflector close to the rough basement. It is tempting to presume that this idealized sequence commemorates stages, from differential movement of the flanks and dumping of turbidites or volcanic fragments into the cleft in earliest times to subsequent passive concerted displacement well outward from the ridge crest and its seismic activity, with an increase in the proportion of biogenous components in the sediment.

With the change in course (≈nmi 3055) to head for Diego Garcia, *Glomar Challenger* crossed numerous small hills with no marked magnetic pattern and then climbed the faulted and sediment-ponded southwest flank of the supposedly volcanic Chagos-Laccadive Ridge. The rough

upper flank displays dissected stratified sediments similar to those on the upper eastern flank of Mascarene Plateau near Site 237, and the upper flat area again has a very strong intermediate reflector, nearly horizontal, above sediments that fill depressions and "basement" (?) irregularities. Again as in the vicinity of Site 237, peaks or bounding slivers protrude through all the sediments. Two extensive highs, the first an unnamed northwest-trending broad peak near nmi 3260, the second obviously two branches of less-magnetic Wight Bank, give clear evidence of coralline reef or at least calcareous capping. Both peaks are now drowned and reef-building animals are dead, but the western deeper one subsided at a rate such that some pinnacles could survive for a time. Wight Bank was extensively developed as a major atoll (Figure 1), and its southeast branches crossed by *Glomar Challenger* are markedly flat and nearly accordant. The lack of relief on Wight Bank, except for minor ramparts, suggests the end came swiftly, geologically speaking. In neither instance is the strong reflector basement. Thick (>0.65 sec, two-way time) sediments, again acoustically like those at Site 237 (Figure 2b; also Helms et al., this volume, fig. 6), mantle the slope west of Diego Garcia; from their acoustic aspect alone, one might suggest the presence of cherts, such as those found in the Paleocene horizons at Site 237, in the lower part of the section. The western part of the plateau so far traversed is not markedly magnetic.

Diego Garcia, an atoll close beside the steep eastern flank of Chagos-Laccadive Ridge, does have a marked magnetic character, and so do several small peaks within 100 km south of it; furthermore, there little or no sediment overlies the strongly reflecting "basement." For the remainder of the run down the gentle south slope of Chagos-Laccadive Ridge there are thick-layered and dissected sediments over a discrete, strong, and smooth basement reflector, probably flow basalt. Once more the western flank is ponded behind slivers or fault blocks; acoustically transparent sediments, overlying strongly reflecting basin fill or somewhat irregular "basement," show some surface relief suggesting faulting or slumps; similar structure continues to the southeast (Figure 8b, nmi 3770–3850). Near nmi 3650 *Glomar Challenger* crossed the northeasternmost extension of one of Argo Fracture Zone's transform faults; the section shows nearly horizontal turbidite beds overlying contorted deeper sediments.

Completing about 1 day of post-drilling surveys to complement the site survey (Helms et al., this volume) in defining the setting of Site 238, *Glomar Challenger* approached the well-developed northeast sector of Argo Fracture Zone. After an initial traverse of the rough and somewhat magnetic interdeep south flank, she entered the main transform fault or cross-fracture near nmi 3990 and for the next 100 nmi the records indicate subdued nonidentifiable magnetics and ponded sediments, overlying mostly turbidites of volcanic debris, between spurs or constrictions in the cleft. The ridge crest ("Anomaly 0") of the segment of the Central Indian Ridge just north of Argo Fracture Zone would intersect *Glomar Challenger*'s track near nmi 4130 (0100Z 23 June); that of the ridge segment just to the south would intersect her traverse near nmi 4210 (0900Z 23 June). During most of this 80 nmi "inter-crest"

run, *Glomar Challenger* traversed the deep, unsedimented, "new" part of Argo Fracture Zone. Total magnetic relief recorded was more than 800 gammas, but the anomaly pattern is not plain. In this vicinity, on the deep south flank near nmi 4160, Scripps Institution workers dredged fresh very high titanium ferrogabbros in 1971; such exposed plutonic masses might account for marked magnetic departures unrelated to the several time scales based on basaltic striping. Preliminary ^{40}Ar - ^{39}Ar dating of these plutonics by E. C. Alexander (Fisher et al., 1973) does indicate ages about one order of magnitude greater than expectable from projecting adjacent ridge strips to intersect the fracture zone. For the next day (nmi 4210-4440) *Glomar Challenger* ran near or along the increasingly sedimented axis of Argo Fracture Zone; again perched and ponded sediments and not-yet-identified magnetics were apparent from her records. Commencing near nmi 4450 the small-scale topographic irregularities disappear; rather the basement or acoustic basement is smoother, with occasional large protrusions through moderately stratified to slumped pelagic sediments. Concurrent with this topographic smoothing, however, larger-amplitude spreading-type magnetic anomalies appear. *Glomar Challenger's* magnetic records here (nmi 4450-4600) need comparison with profiles recently logged by SIO's *Melville* and other research ships; one might expect these to be middle Tertiary anomalies.

A proposed drill site ("24-11") near the base of the east flank of the Mascarene Plateau and about 100 km northeast of *Glomar Challenger's* crossing of that scarp (\approx nmi 4650) was not drilled because of shortage of time. The expectation had been that such a hole to basement would yield data very like that from Site 238 as to age, setting, basement composition, and geologic history. Such results would support the sea floor-spreading plate tectonics reasoning that links the south part of the Chagos-Laccadive Ridge to the north-south part of the Mascarene Plateau, and specifically Chagos Bank to the Saya de Malha-Nazareth Bank filament, prior to Oligocene time.

From the large magnitude and sharpness of magnetic excursions, the southern, coralline-capped portion of the Mascarene Plateau lies on faulted basaltic or at least basic-diked foundations. Such, in the case of Saya de Malha, was concluded from seismic refraction evidence (Shor and Pollard, 1963). *Glomar Challenger* passed obliquely up the plateau flank, crossing what appears to be a fault sliver, over the southeast tip of Soudan Bank which lies on the western extension of the well-established Rodriguez Ridge trend, and across the southern of two 2700-meter-deep passes that separate the Mauritius Island block from the Mascarene Plateau proper. During all this traverse, the magnetometer pen was extremely active and

the airgun records reveal bedded calcareous cappings at least 0.3 sec (two-way time) thick. Just beyond nmi 4800, the vessel crossed the step made by a northeast-trending fault that, west of the island proper, marks its steep western slope. Running down the reef-fringed northwest coast of wholly (but long dormant) volcanic Mauritius, *Glomar Challenger* entered Port Louis fairway early on 26 June.

ACKNOWLEDGMENTS

These excellent and complete underway records would not have been obtained without the meticulous and tireless participation of the Deep Sea Drilling Project underway watch-standers: Victor Sotelo, James Pine, Trudy Wood, Richard Myers, Larry Lauve, Dennis Graham, Mark Sandstrom, and Bettye Cummins. Michael Lehmann, Laboratory Officer, and Alan Porter, Electronics Technician, modified and maintained the equipment.

Data processing ashore by computer was accomplished by Ms. Barbara Long, Stuart Smith, and colleagues. Robert J. Mann drafted the illustrations.

REFERENCES

- Bunce, E. T., Bowin, C. O., and Chase, R. L., 1966. Preliminary results of the 1964 cruise of R.V. *Chain* to the Indian Ocean: Phil. Trans. Roy. Soc. London, Series A, v. 259, p. 218-226.
- Fisher, R. L., Engel, C. G., and Alexander, E. C., 1973. Preliminary ^{40}Ar - ^{39}Ar studies of Central Indian Ridge gabbros and anorthosites (abstract): EOS, Am. Geophys. Union Trans., v. 54, p. 1220.
- Fisher, R. L., Engel, C. G., and Hilde, T. W. C., 1968. Basalts dredged from the Amirante Ridge, western Indian Ocean: Deep-Sea Res., v. 15, p. 521-534.
- Fisher, R. L., Sclater, J. G., and McKenzie, D. P., 1971. The evolution of the Central Indian Ridge, western Indian Ocean: Geol. Soc. Am. Bull., v. 82, p. 553-562.
- Matthews, D. J., 1939. Tables of the velocity of sound in pure water and sea water for use in echo-sounding and sound ranging (2nd ed.): Admiralty Hydrogr. Dept. Publ. 282, London, 52 p.
- Matthews, D. H. and Davies, D., 1966. Geophysical studies of the Seychelles Bank: Phil. Trans. Roy. Soc. London, Series A, v. 259, p. 227-239.
- Shor, G. G., Jr. and Pollard, D. D., 1963. Seismic investigations of Seychelles and Saya de Malha banks, northwest Indian Ocean: Science, v. 142, p. 48-49.
- Vine, F. F. and Matthews, D. H., 1963. Magnetic anomalies over oceanic ridges: Nature, v. 199, p. 947-949.

FIGURES

Figures 2a through 12a, magnetic and topographic (uncorrected) profiles; 2b through 12b, airgun profiles, 10-second sweep. See Introduction (this part) for usages and characteristics.

INDEX TO REFLECTION PROFILES

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 Middle —
 Lower —

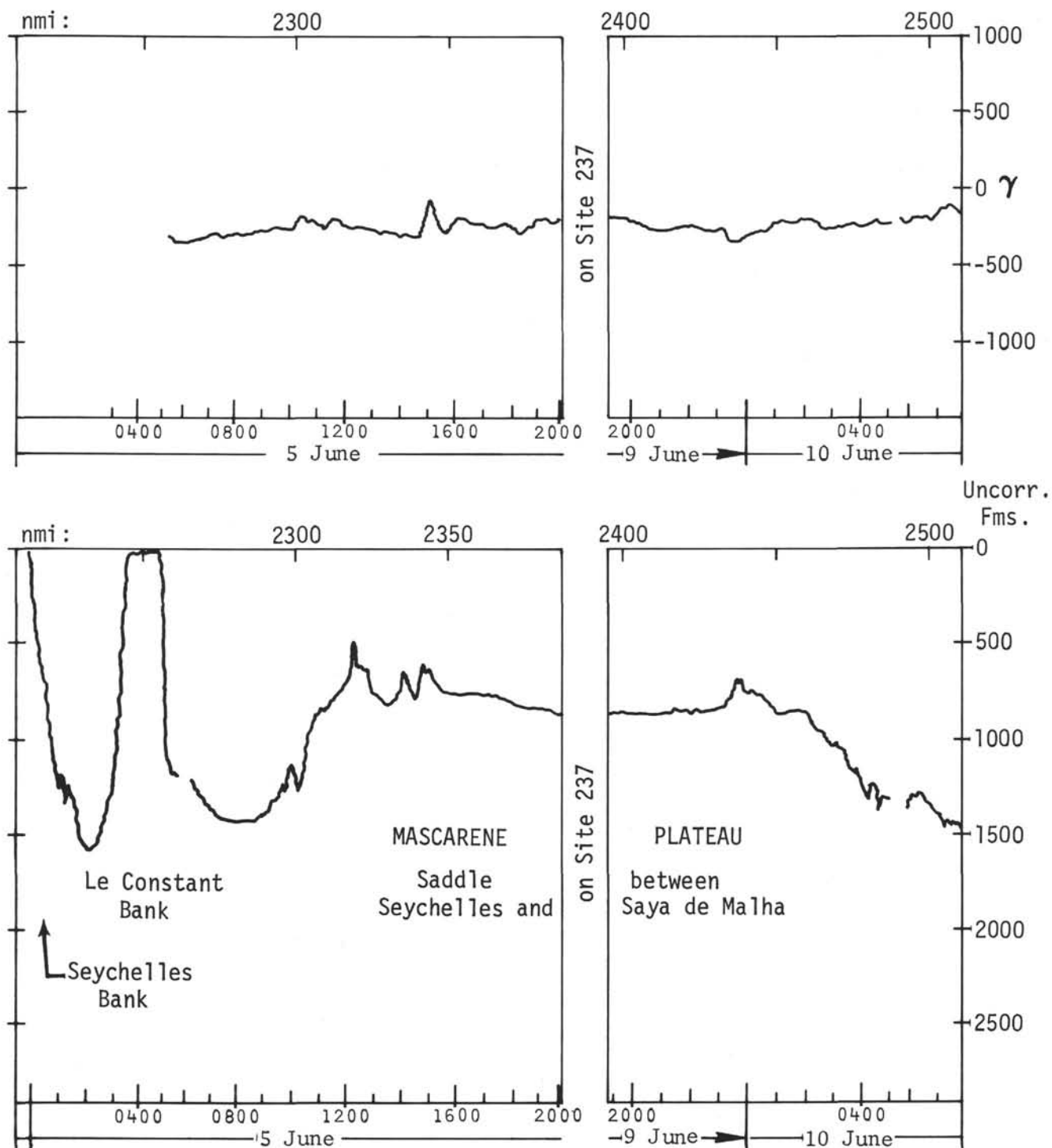


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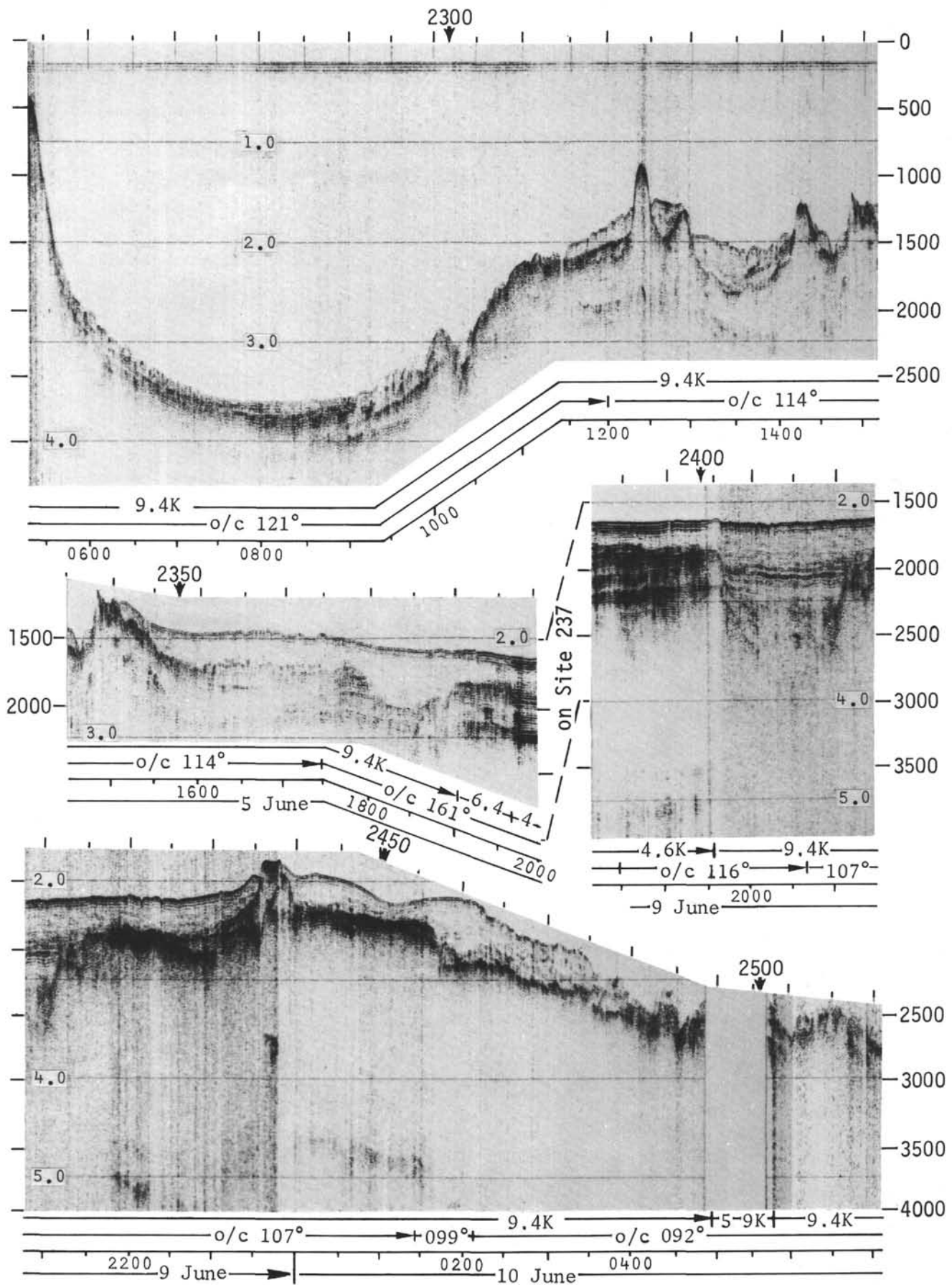


Figure 2b.

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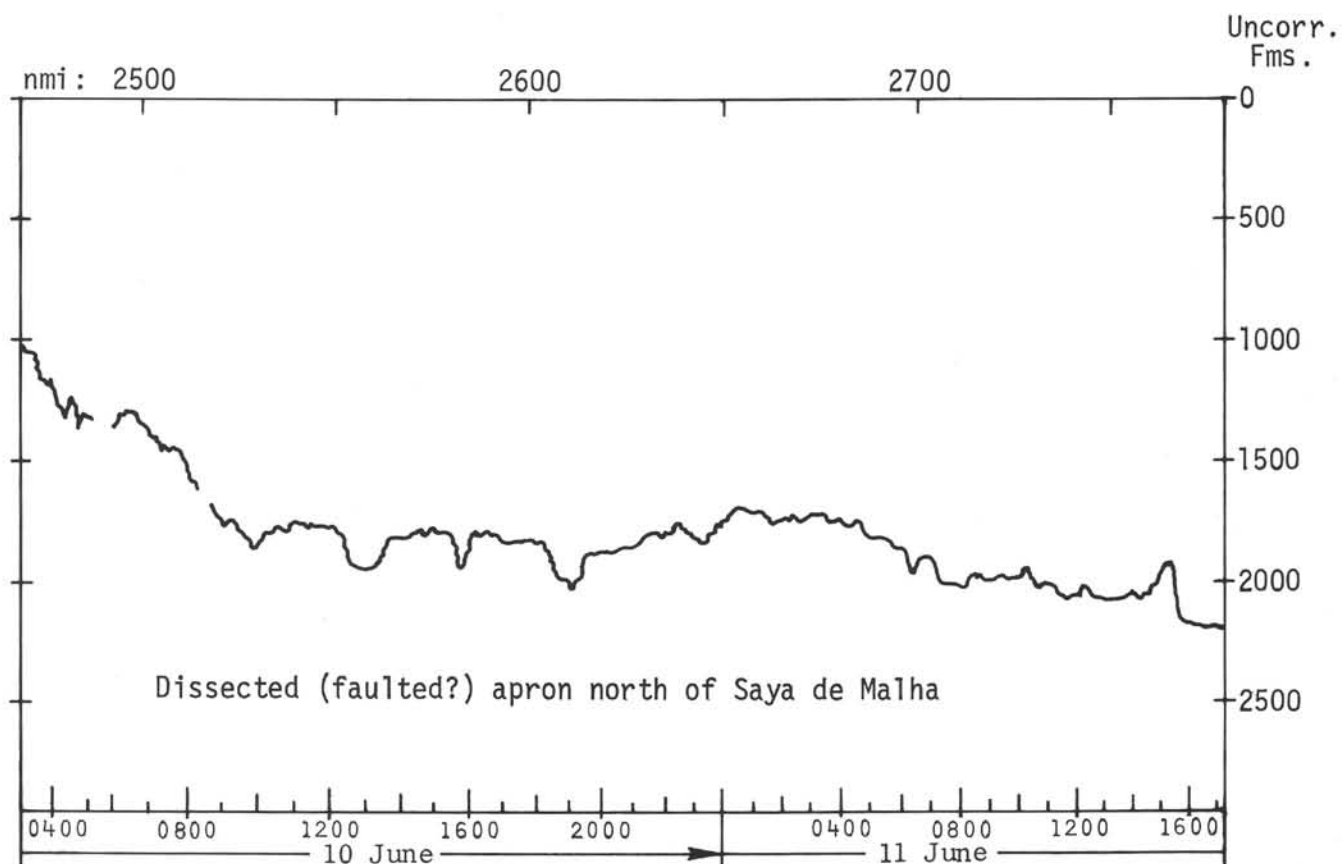
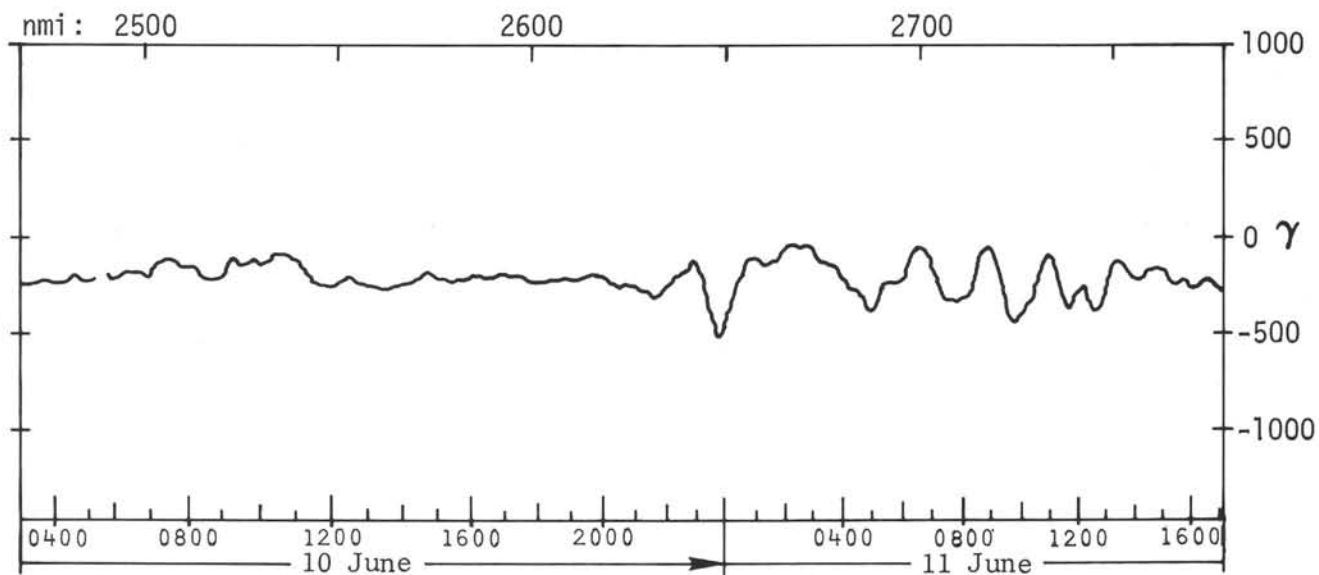


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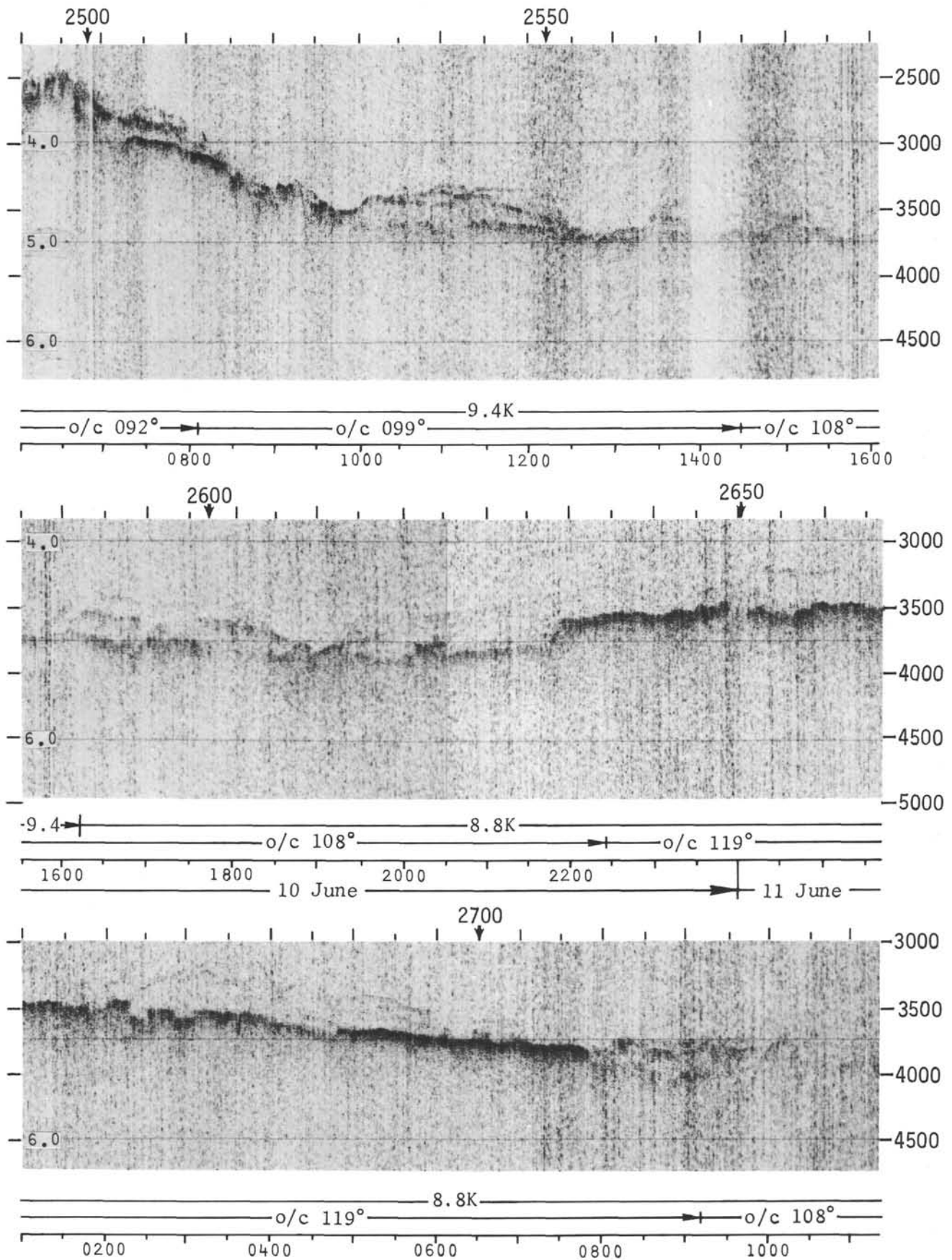


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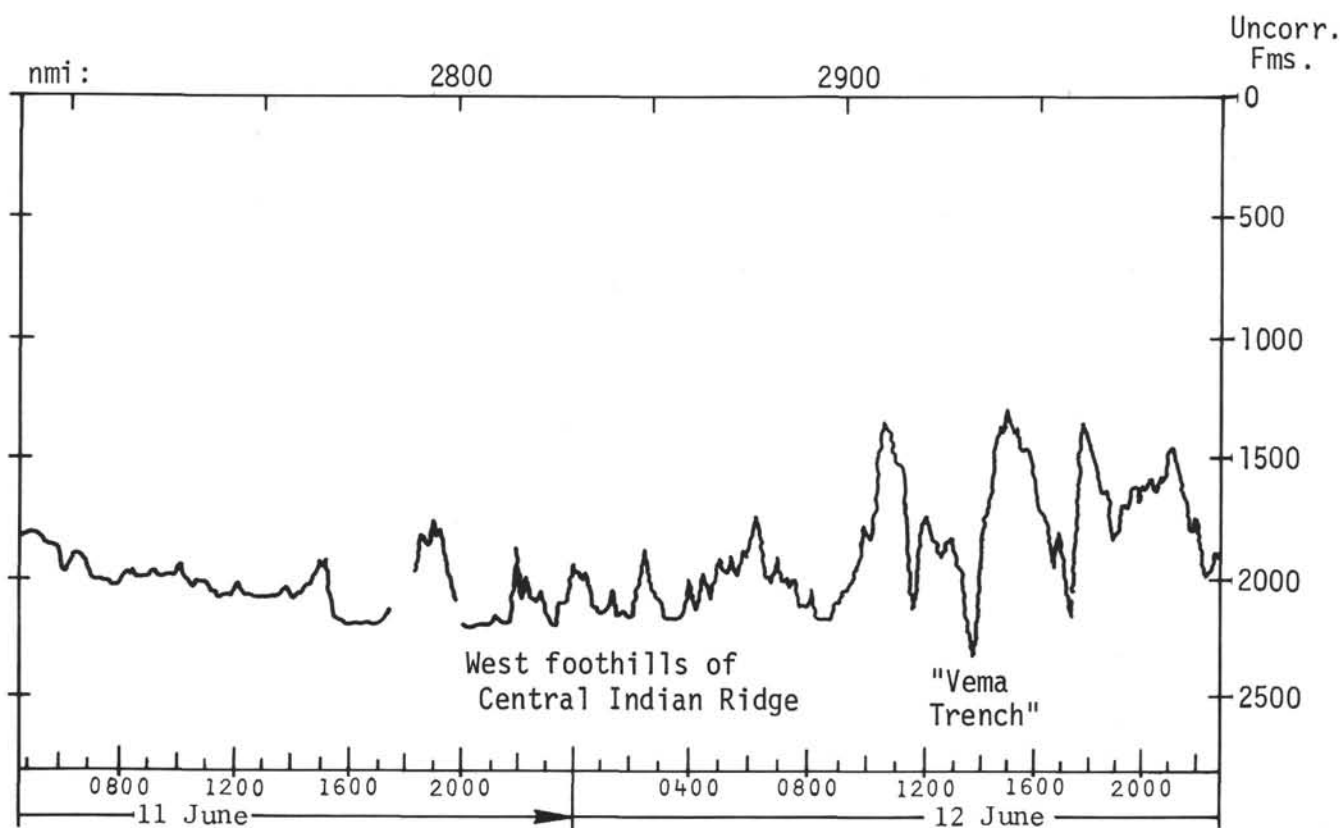
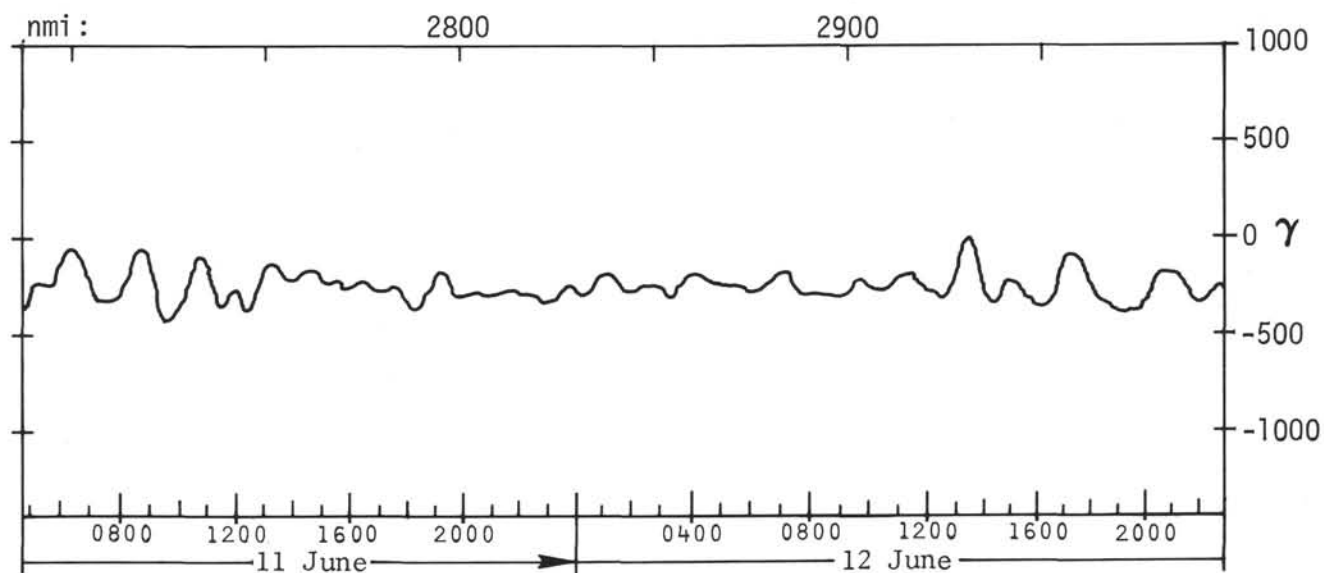


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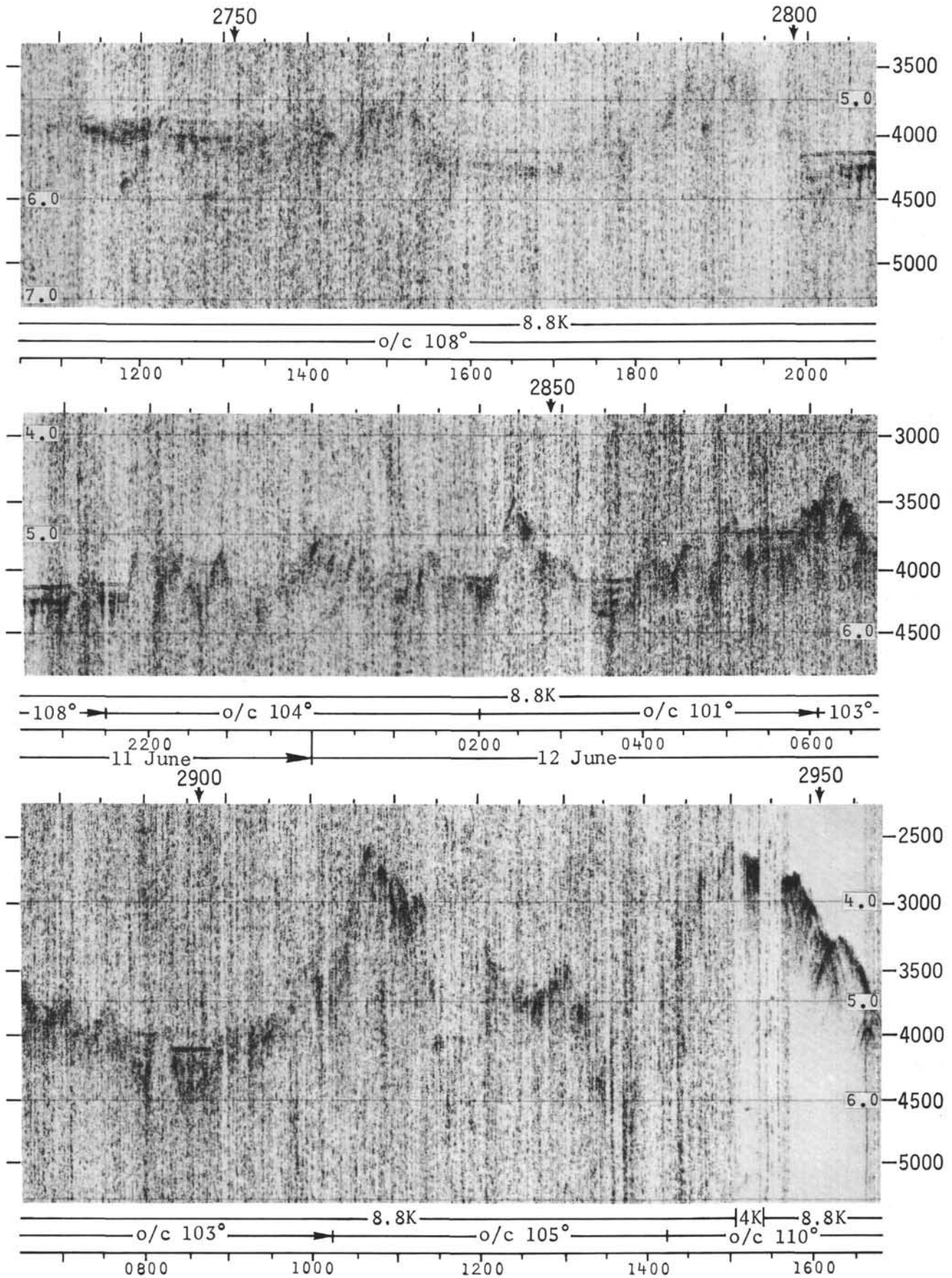


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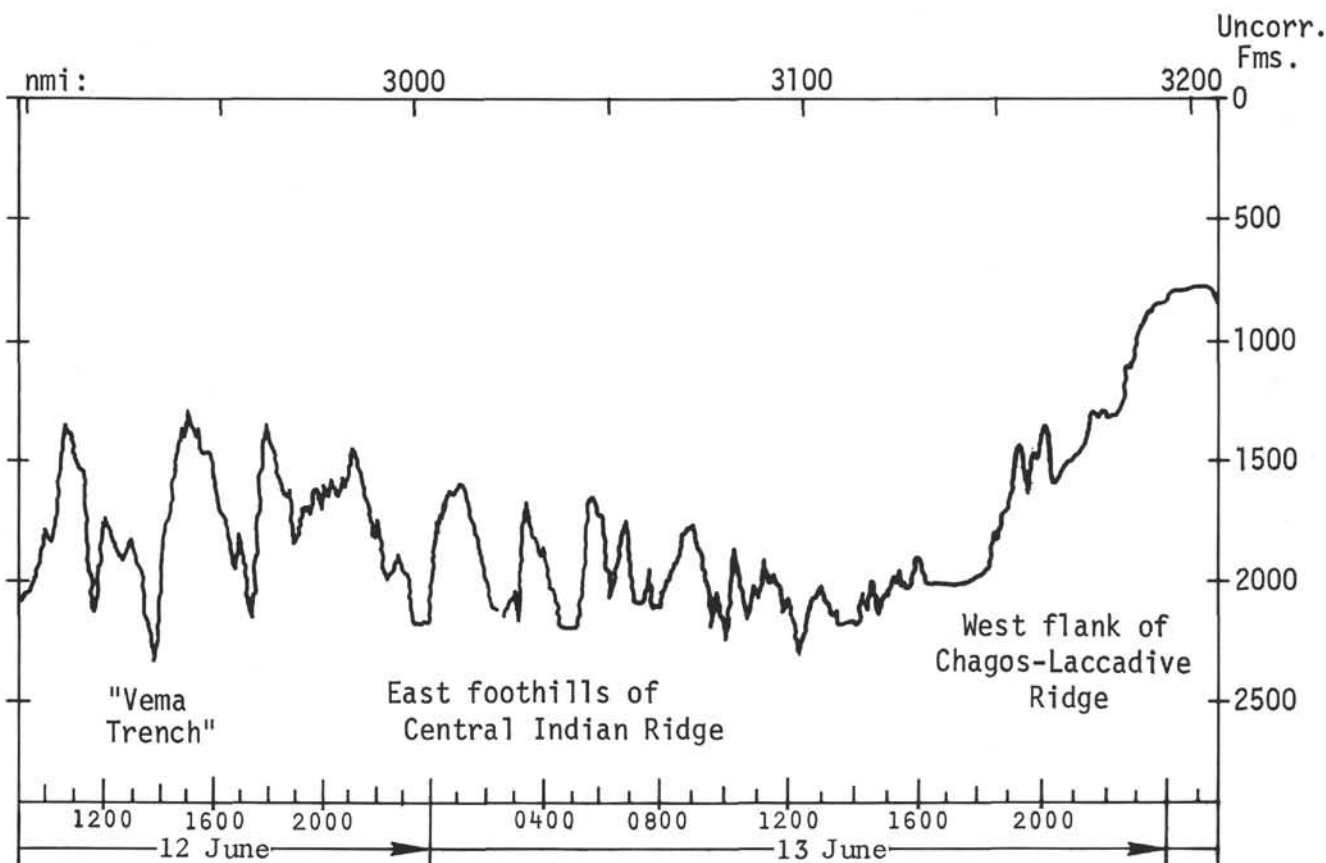
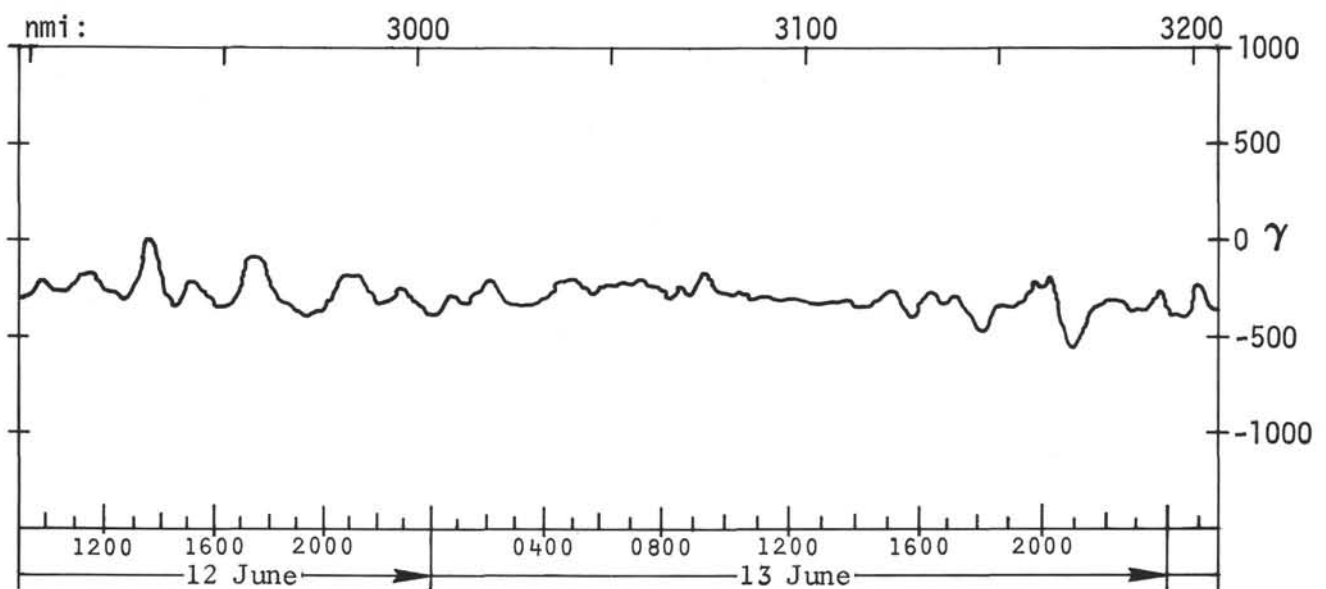


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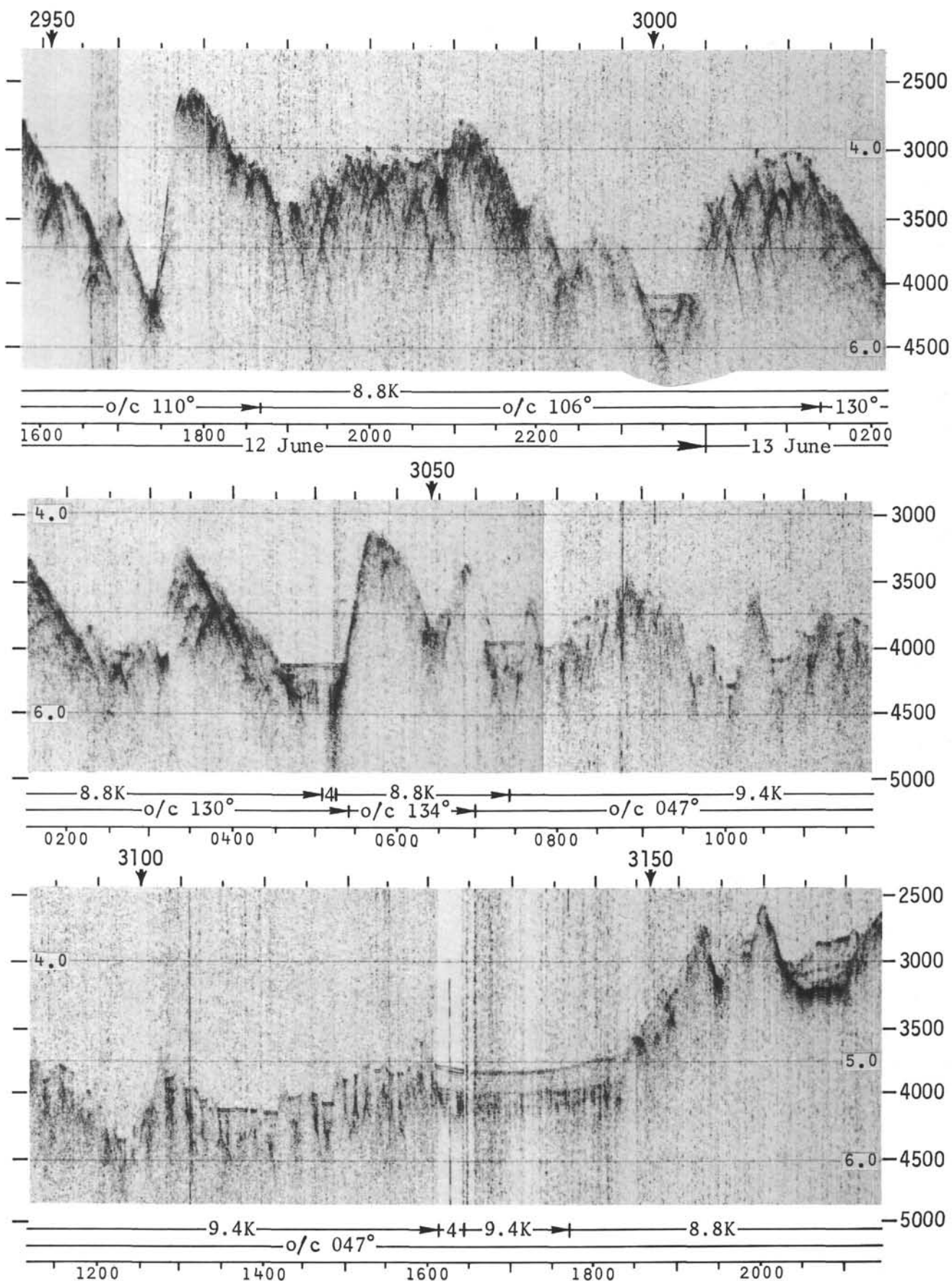


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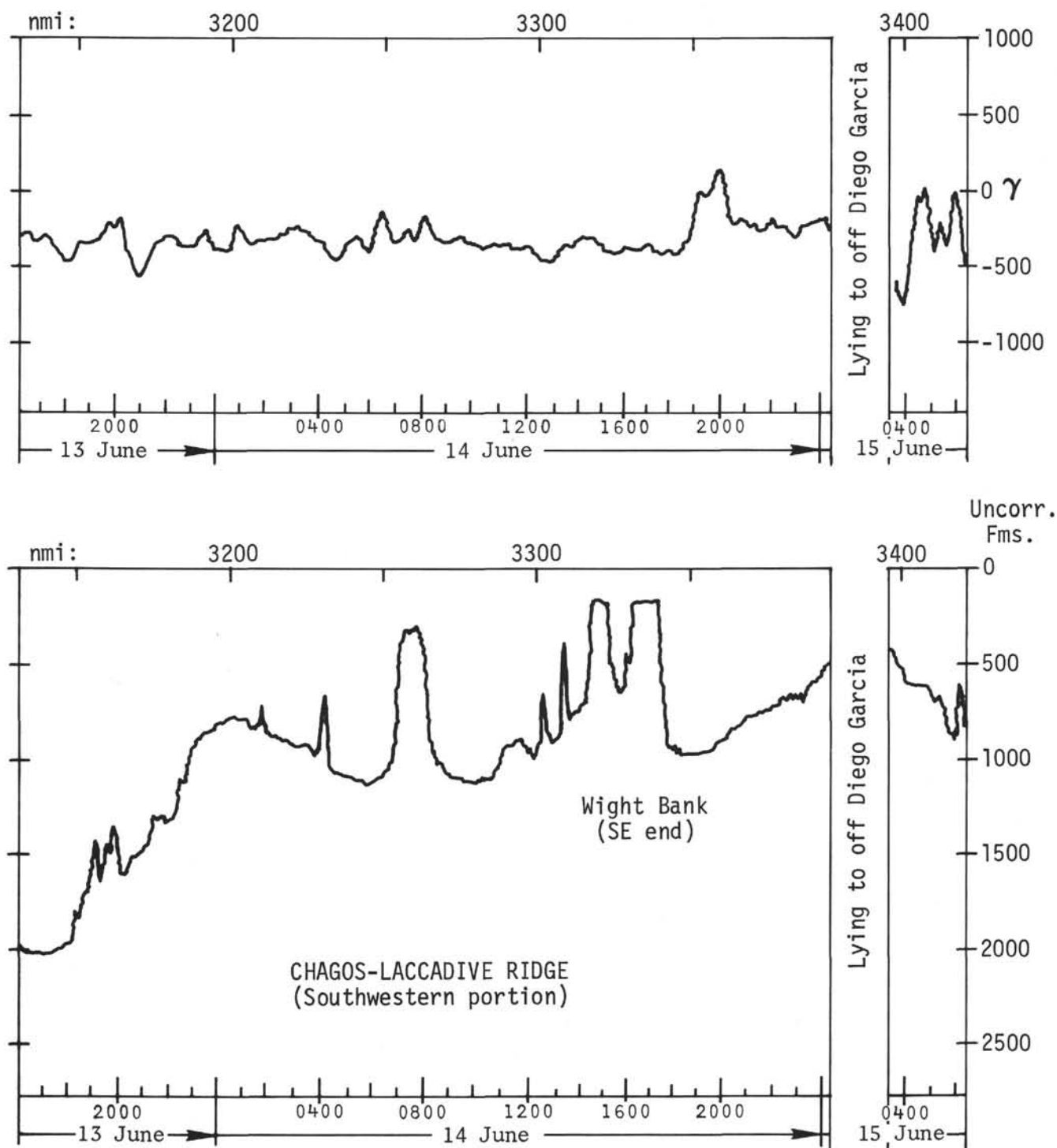


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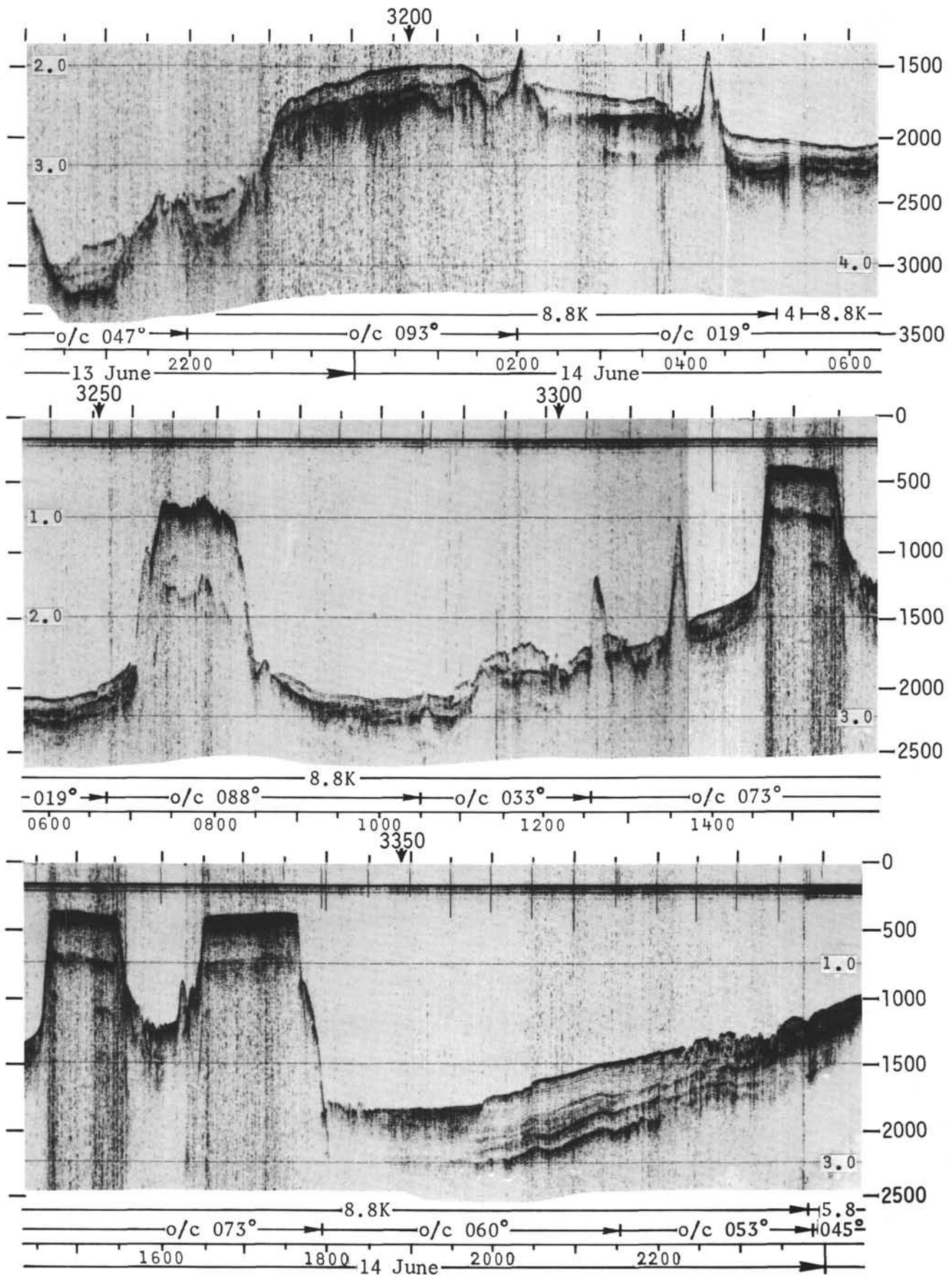


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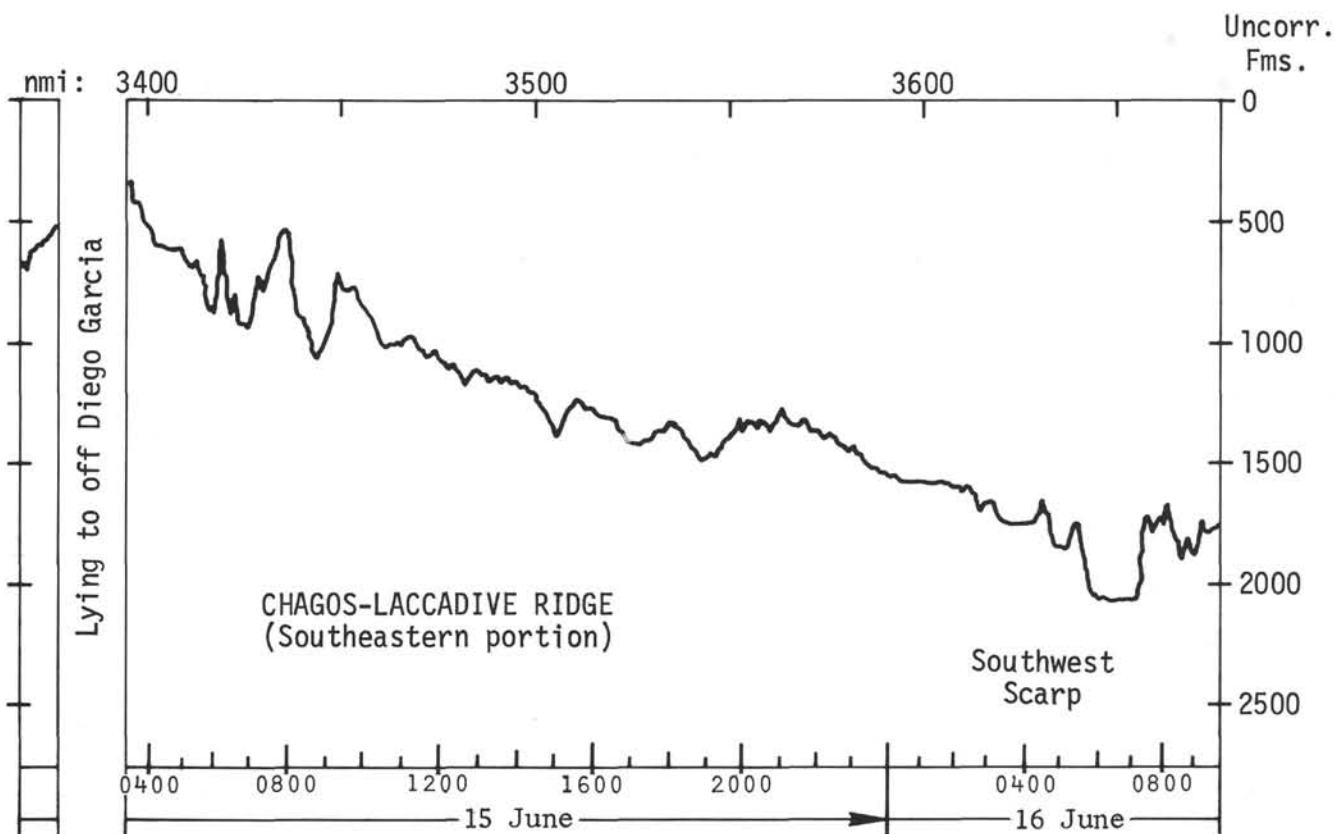
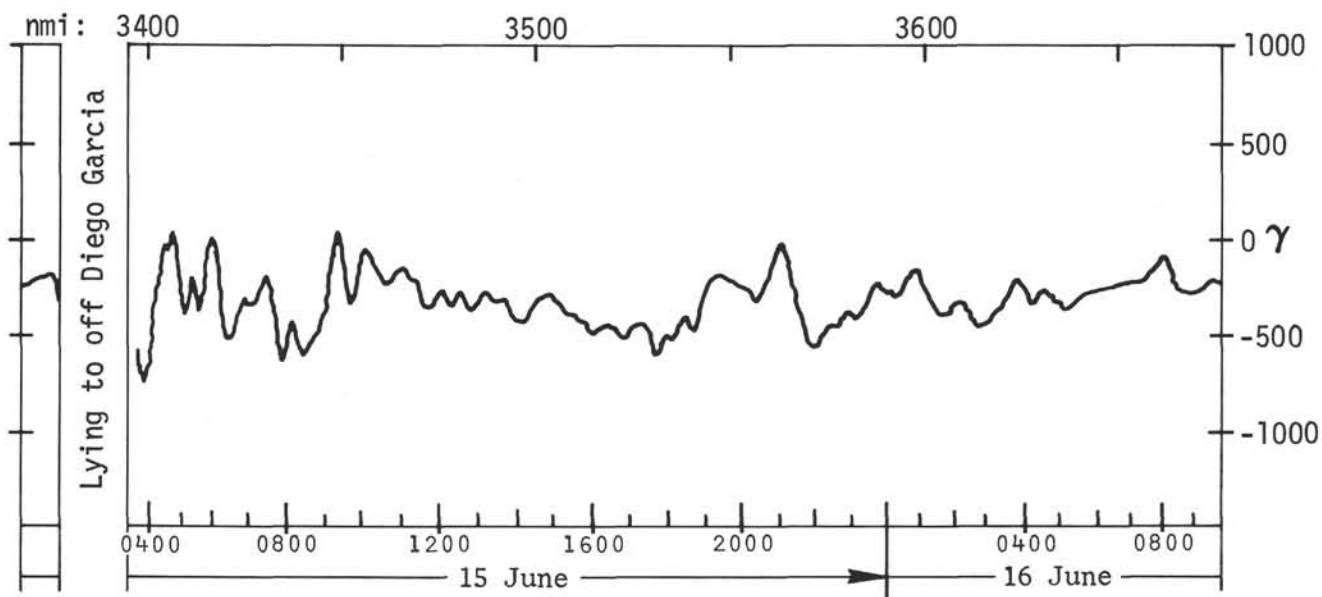
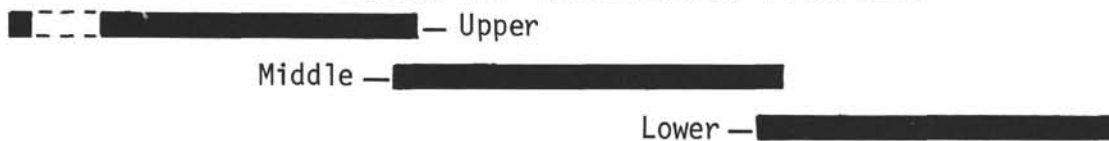


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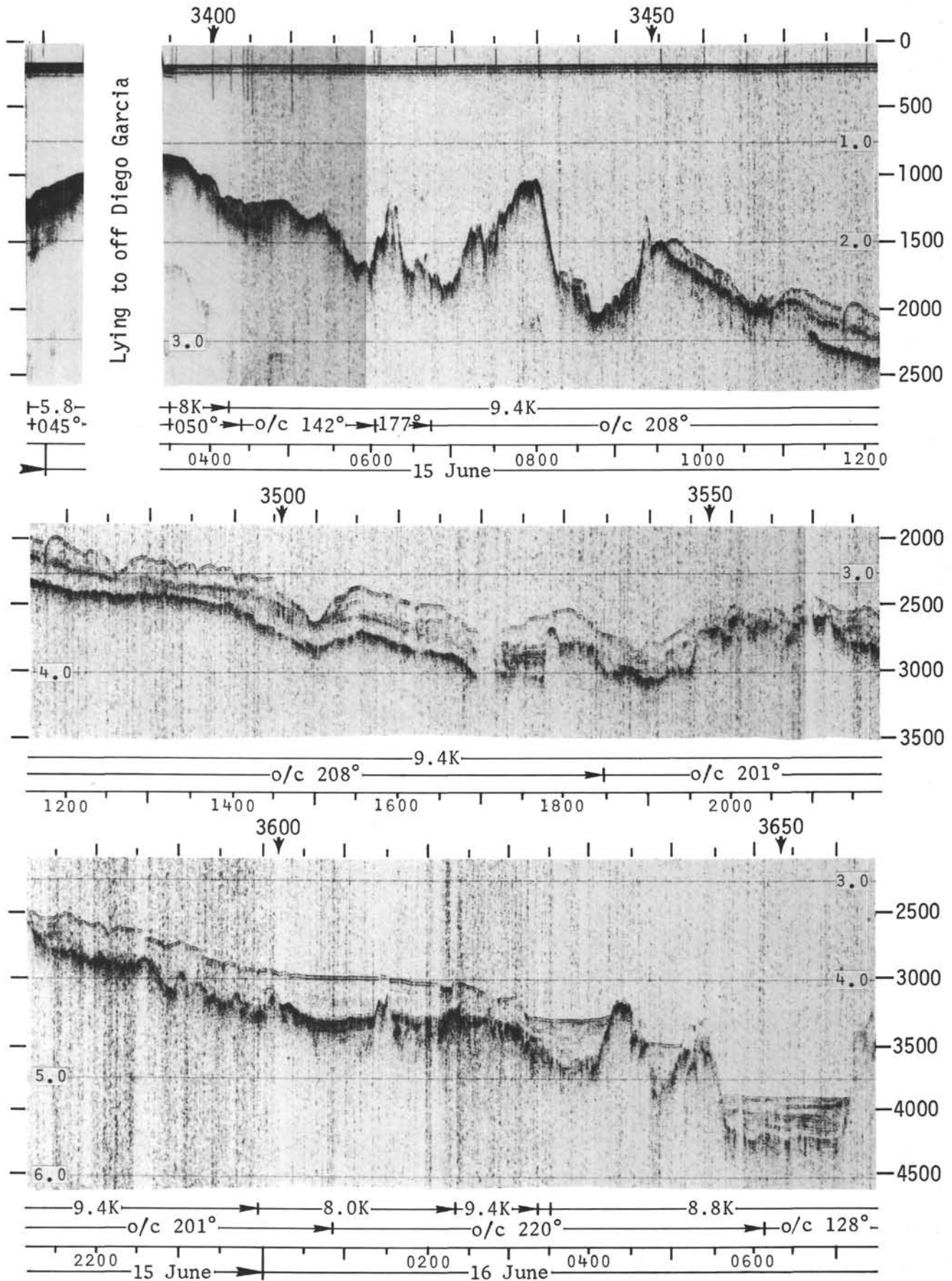


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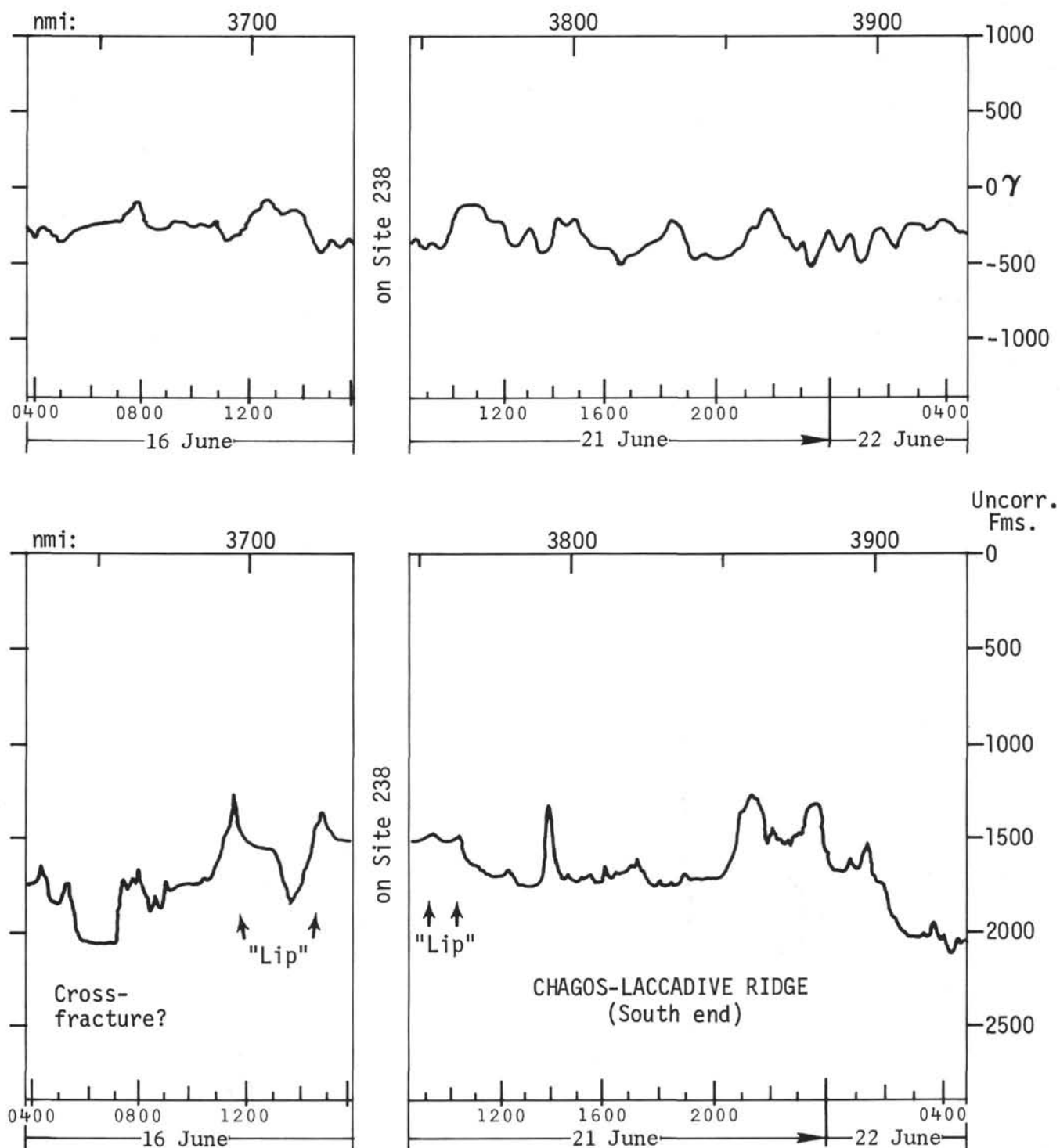


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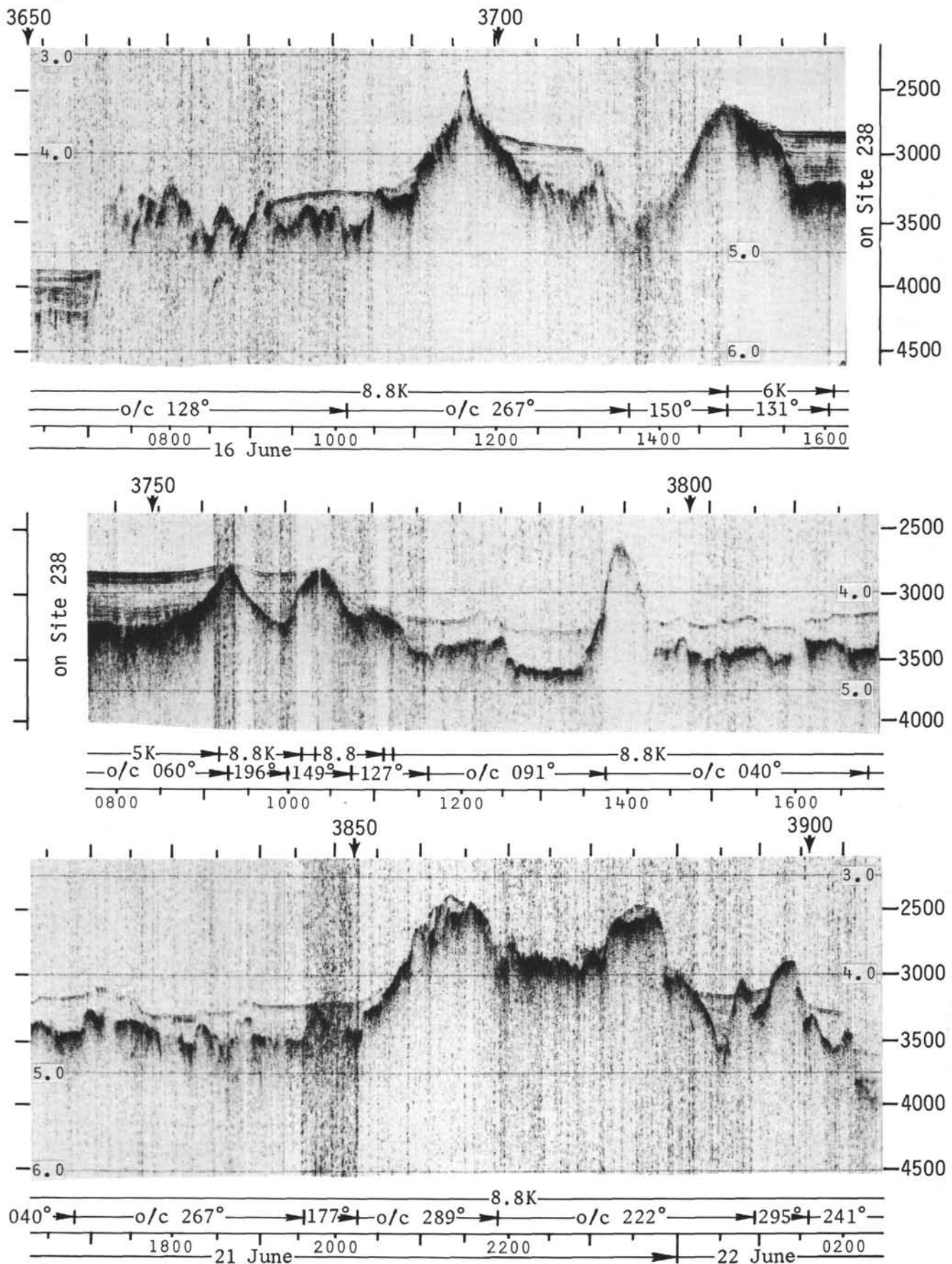


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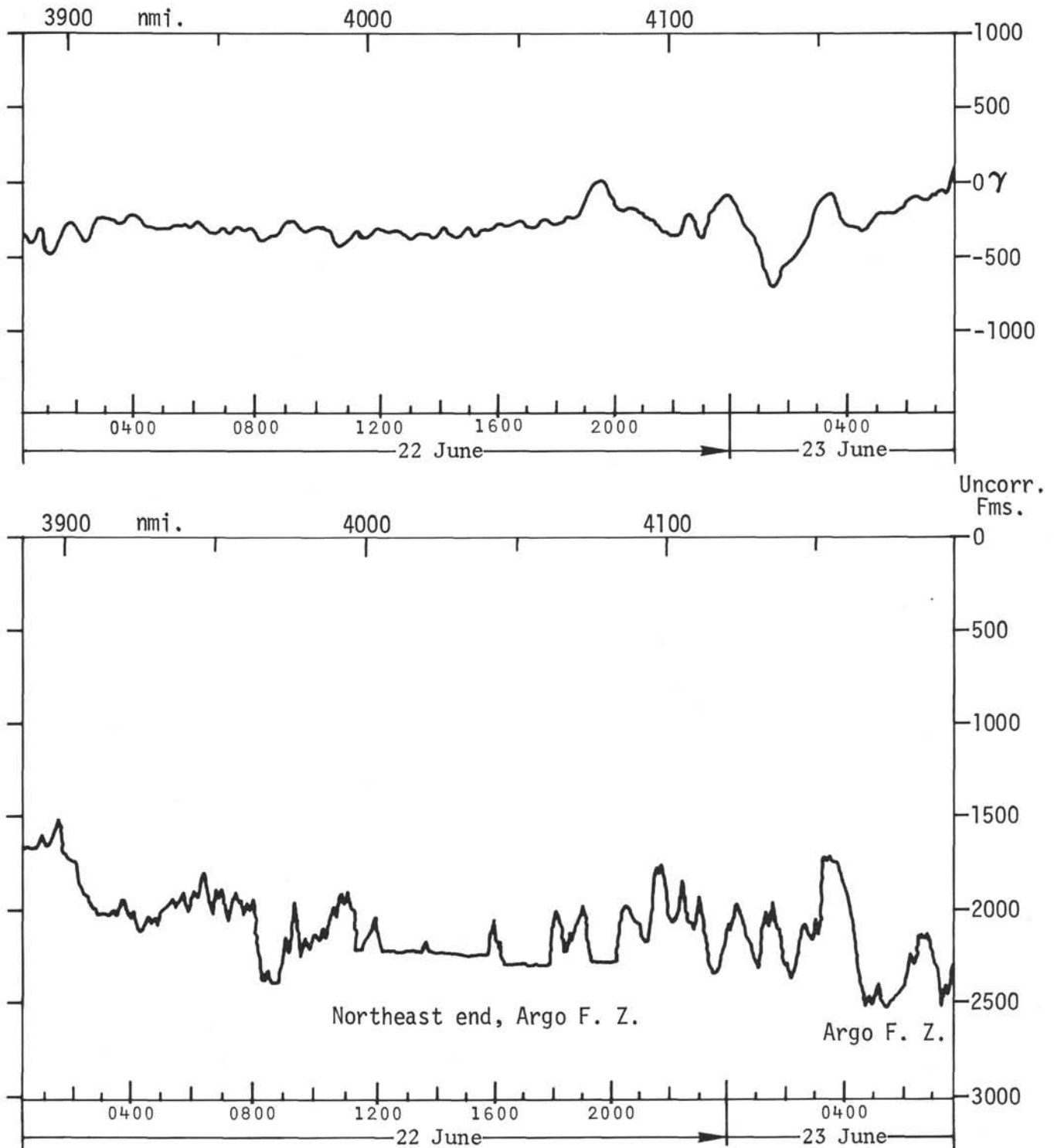


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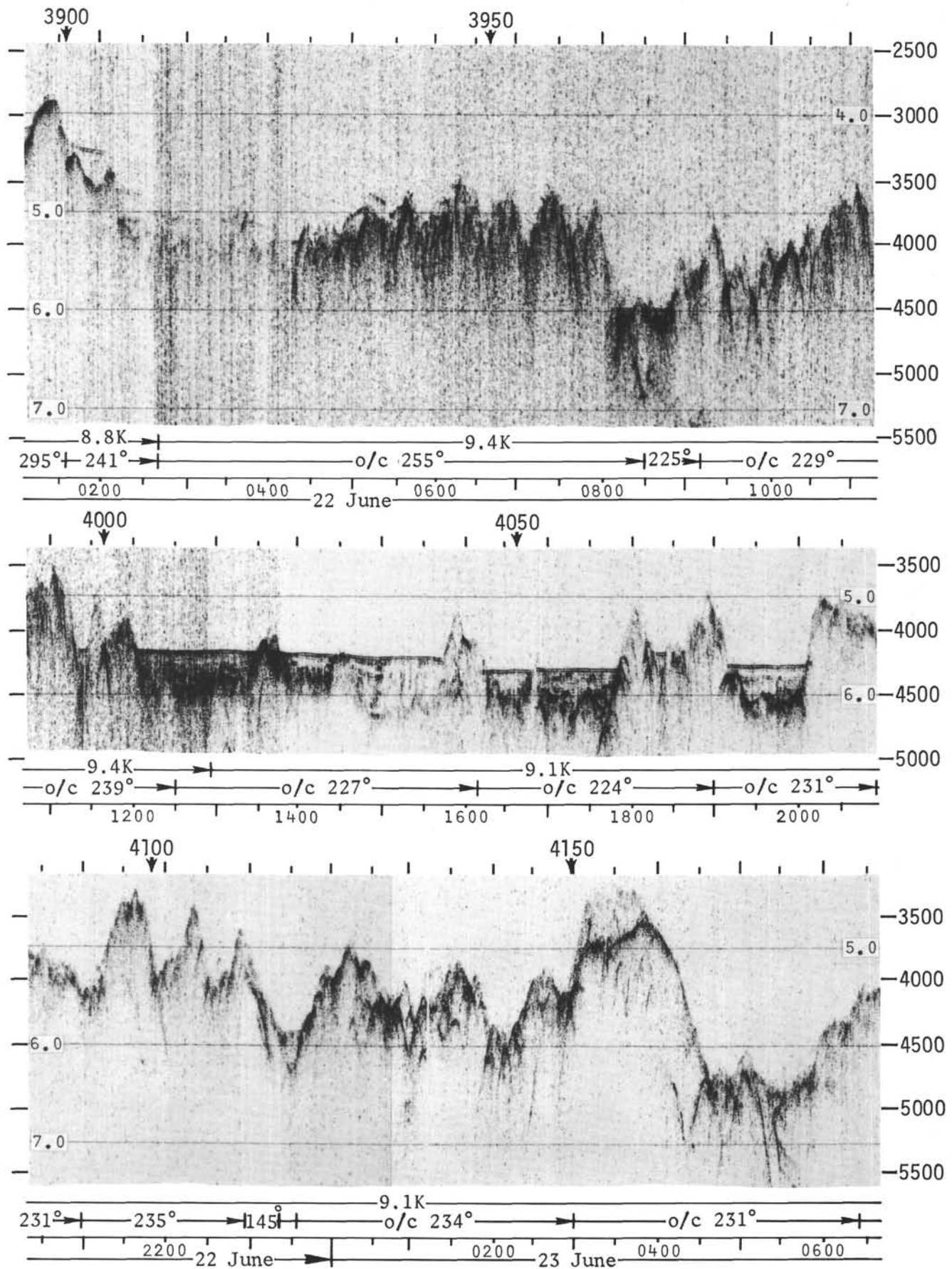


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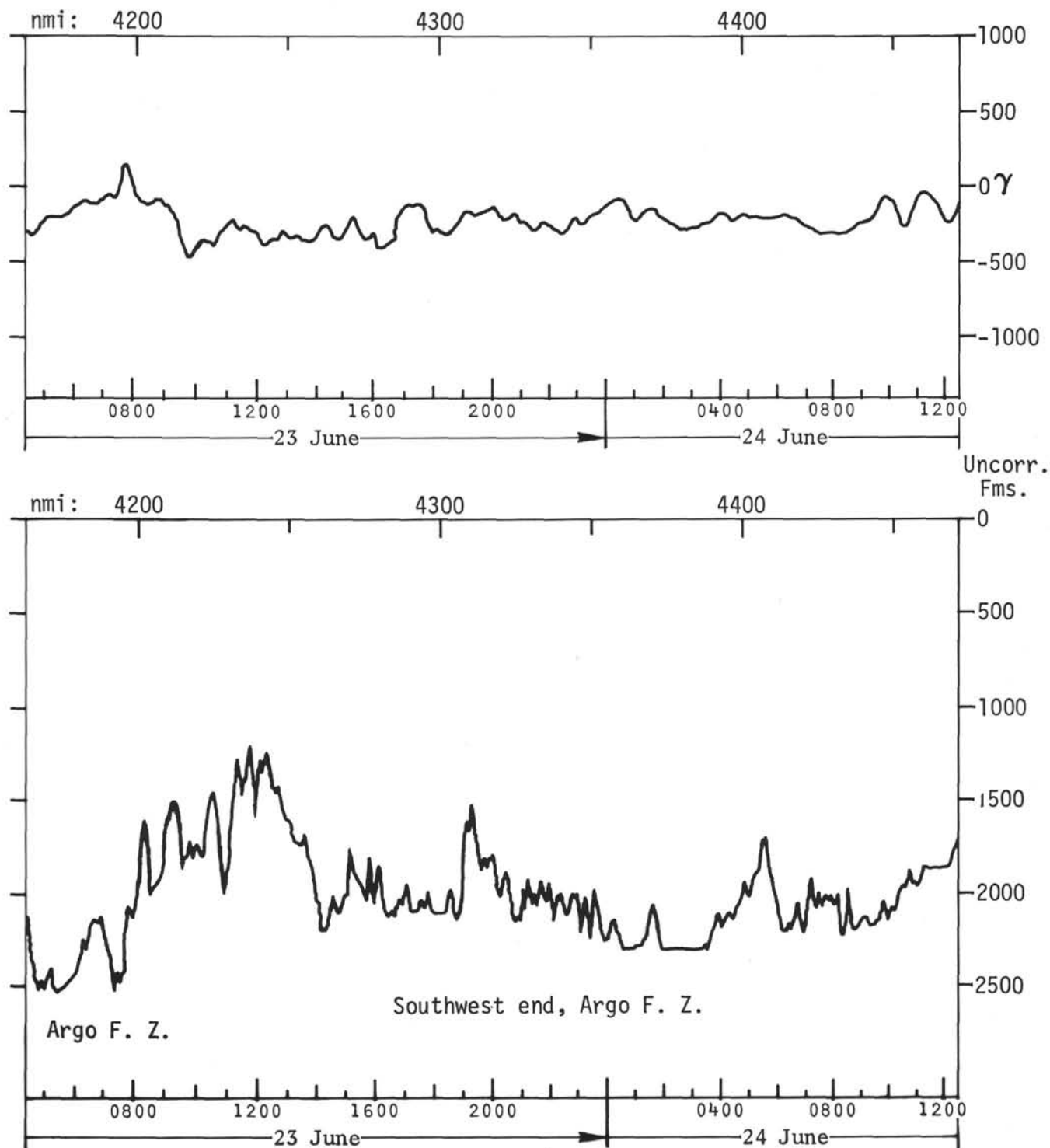


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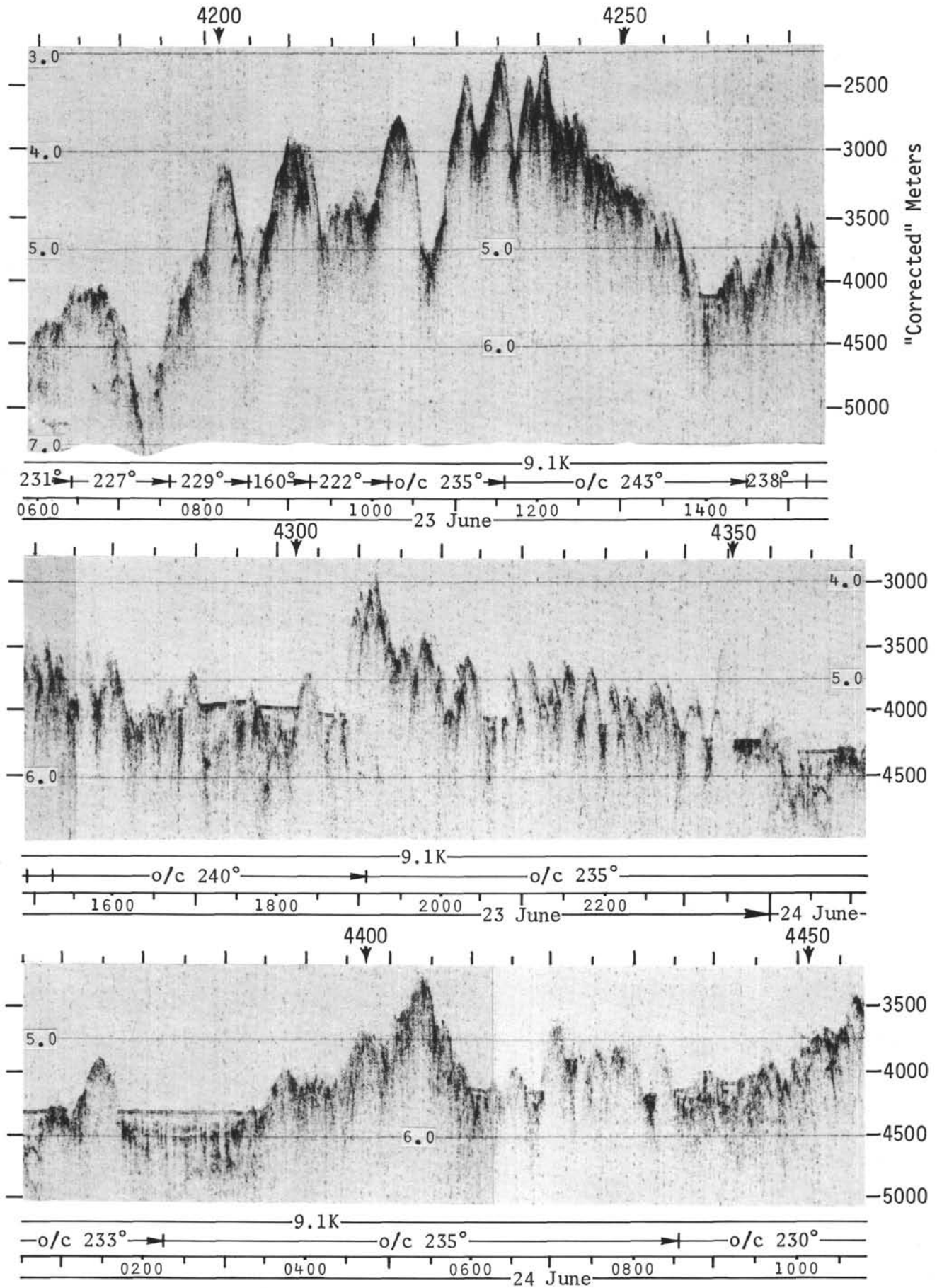


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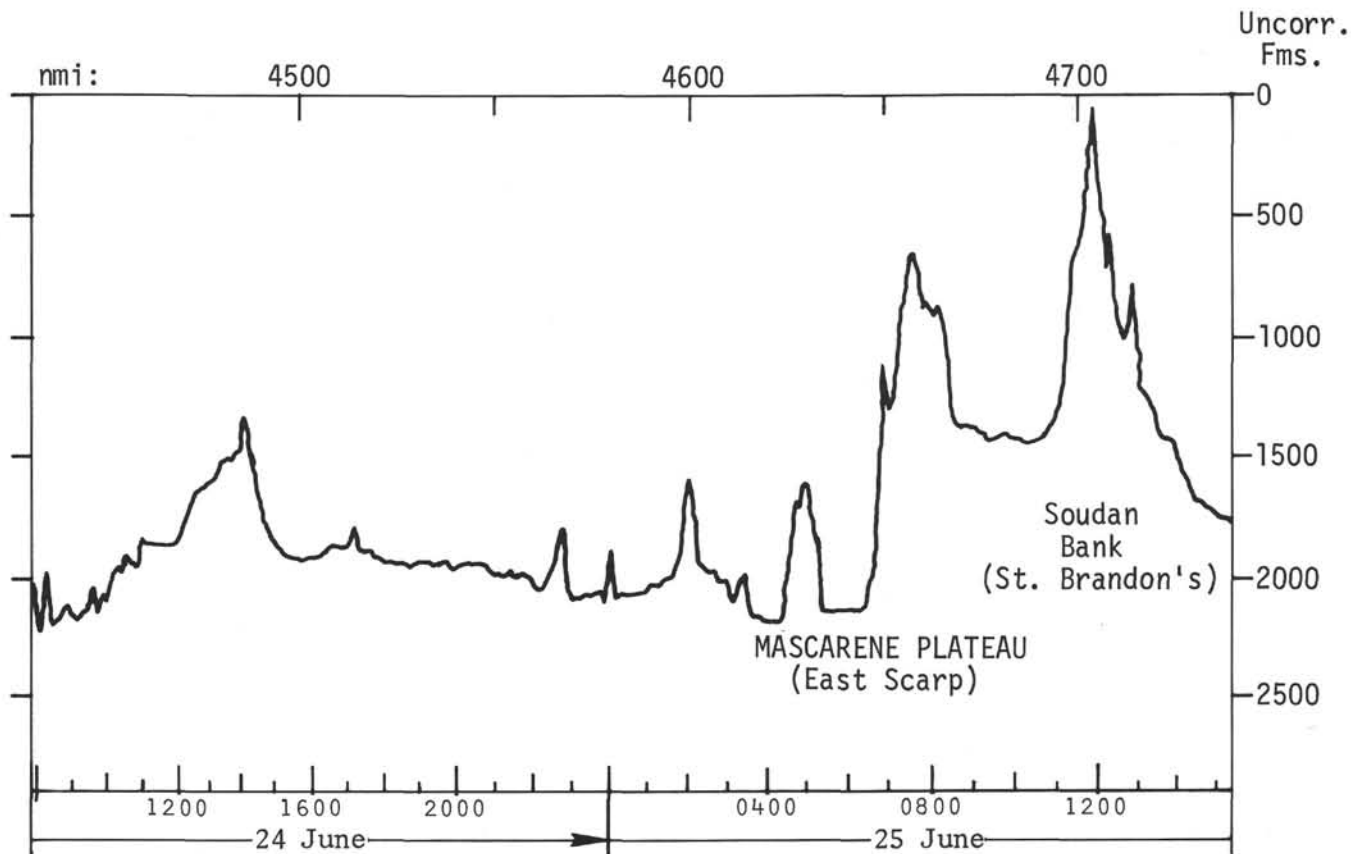
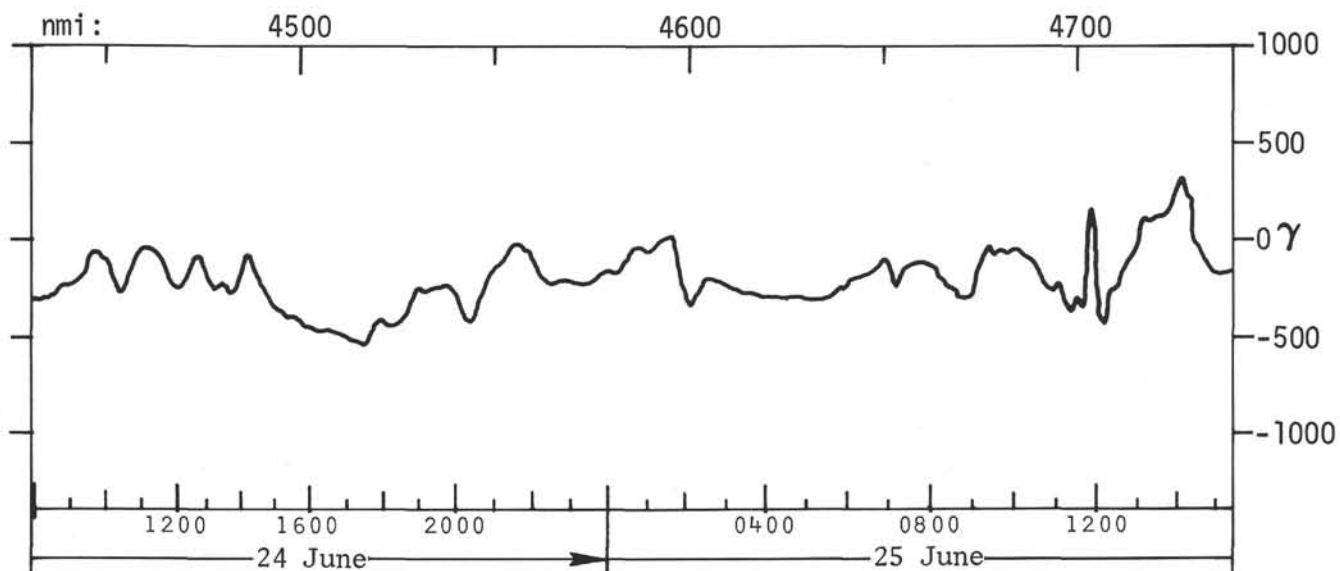
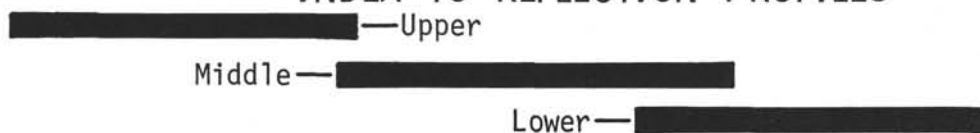


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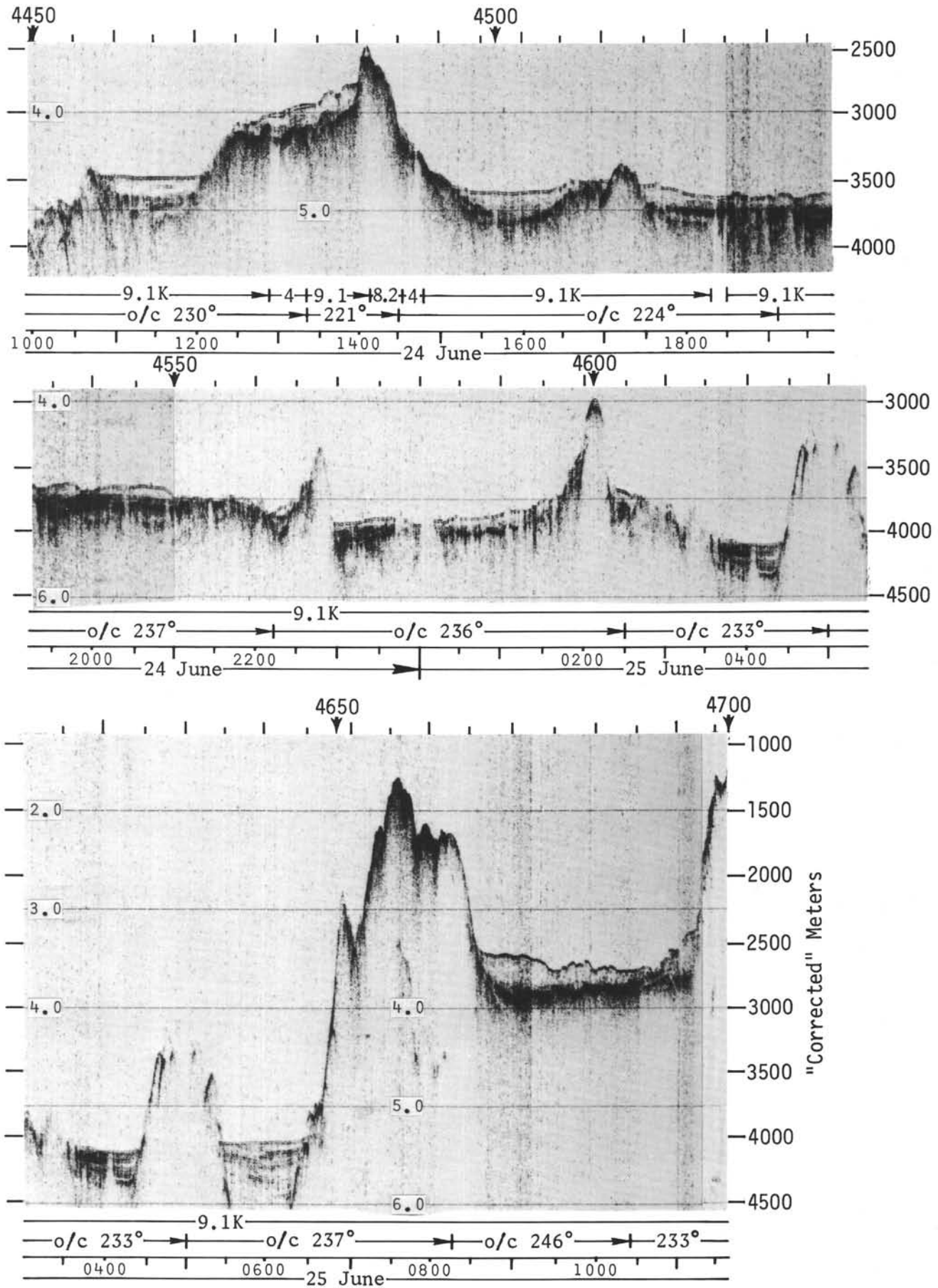


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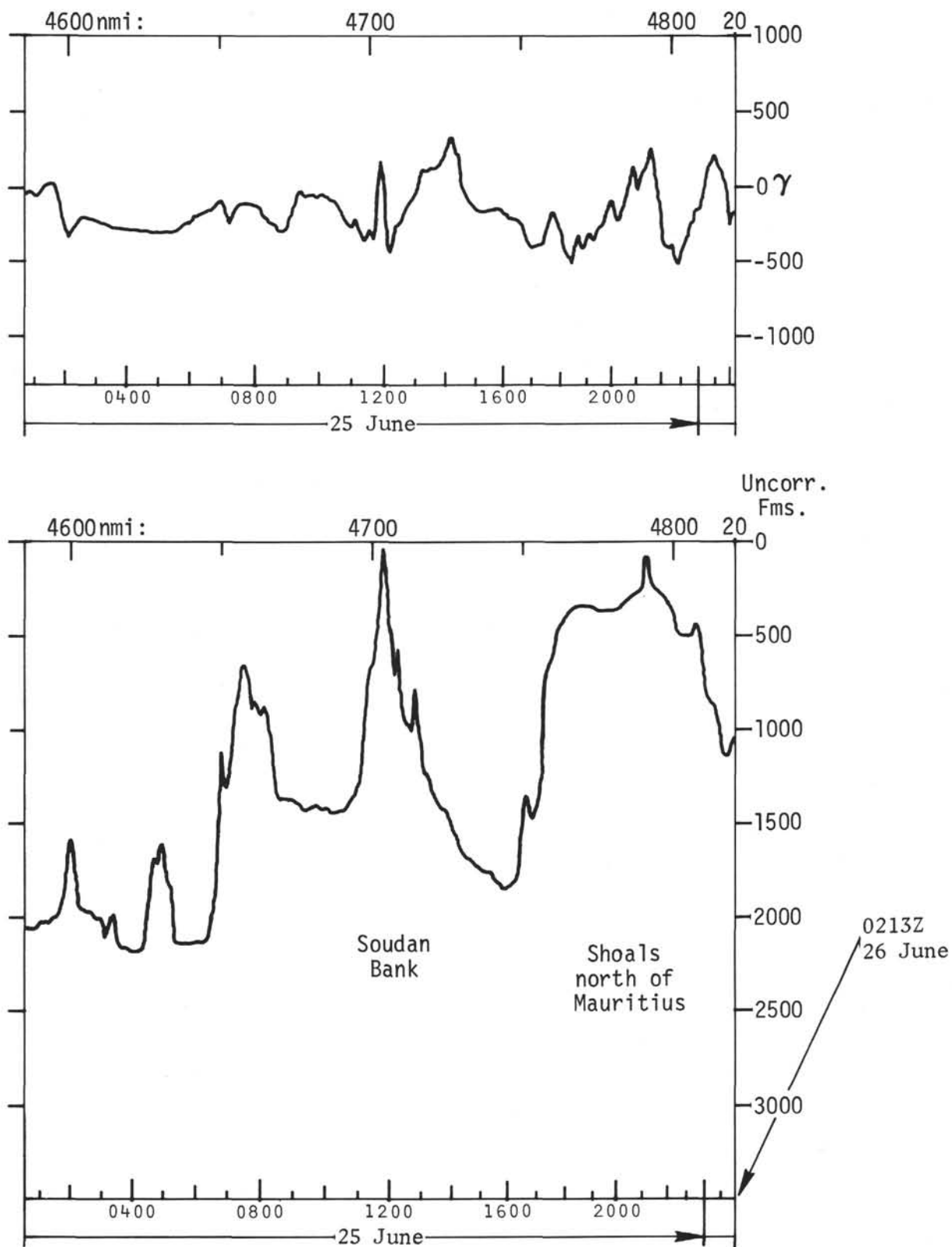


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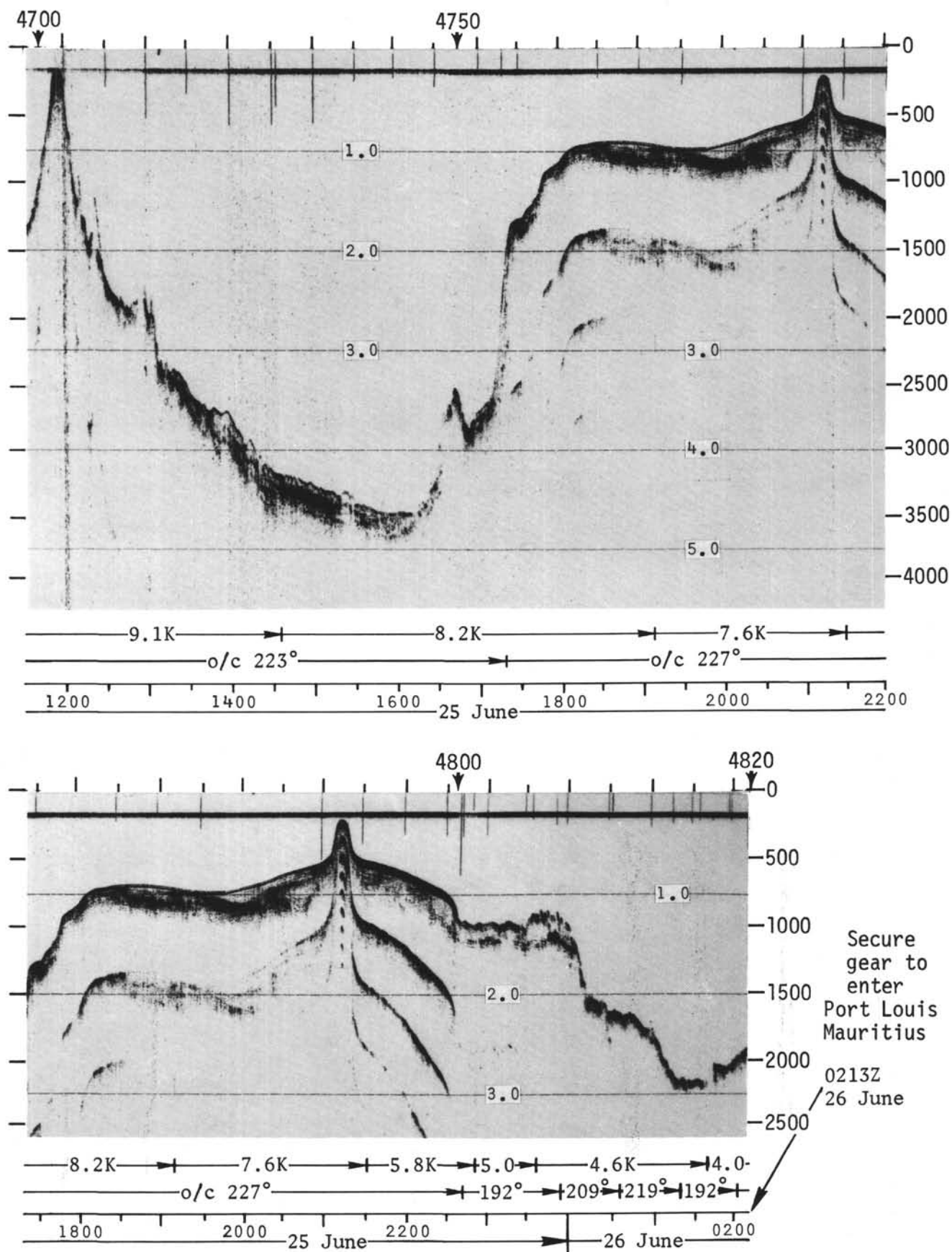


Figure 12b.

LEG 24 (DJIBOUTI TO PORT LOUIS): NAVIGATION NOTES

DIST. ALONG TRACK (NMI)											DIST. ALONG TRACK (NMI)														
DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QLTY	DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QLTY						
AT DJIBOUTI, T. F. A. 1.																									
3	5	1972	10 5	11 44.4	43 36.8	0.0	10.8	90	9.4	90	DR	0.00	10	5	1972	645	14 27.7	51 45.2	639.3	8.1	121	7.6	126	C/C	
3	5	1972	1128	11 44.5	43 52.1	15.0	10.1	92	9.4	90	SATL	0.50	10	5	1972	94	14 17.9	52 1.7	658.1	8.6	126	7.6	126	SATL	1.00
3	5	1972	1320	11 44.0	44 11.4	33.9	9.4	95	9.4	90	SATL	1.50	10	5	1972	930	14 15.7	52 4.8	661.8	8.0	122	7.6	126	SATL	1.00
3	5	1972	1610	11 41.6	44 38.6	60.7	9.4	89	9.4	84	C/C		10	5	1972	945	14 14.6	52 6.6	663.8	8.3	61	7.6	60	C/C	
3	5	1972	1754	11 41.9	44 55.2	76.9	9.6	88	9.4	84	SATL	1.50	10	5	1972	1039	14 18.3	52 13.3	671.3	7.2	303	7.6	299	C/C	
3	5	1972	18 0	11 41.9	44 56.2	77.8	9.3	88	9.1	84	C/S		10	5	1972	11 8	14 20.2	52 10.3	674.8	7.8	303	7.6	299	SATL	1.50
3	5	1972	1942	11 42.4	45 12.4	93.7	10.0	88	9.1	84	SATL	1.00	10	5	1972	13 0	14 28.1	51 57.6	689.4	8.0	308	7.6	299	SATL	0.25
3	5	1972	2254	11 43.7	45 44.9	125.6	10.2	85	9.1	84	SATL	1.00	10	5	1972	1339	14 31.3	51 53.4	694.6	6.3	191	7.6	192	C/C	
4	5	1972	0 0	11 44.7	45 56.3	136.8	10.2	82	9.1	81	U/C		10	5	1972	14 7	14 28.5	51 52.8	697.5	7.8	95	7.6	105	C/C	
4	5	1972	1 0	11 46.1	46 6.6	147.0	9.1	82	8.0	81	C/S		10	5	1972	1437	14 28.1	51 56.8	701.4	7.7	295	7.6	285	C/C	
4	5	1972	1 4	11 46.2	46 7.2	147.6	9.1	79	8.0	81	SATL	1.00	10	5	1972	1453	14 29.0	51 54.9	703.4	7.6	285	7.6	285	SATL	2.00
4	5	1972	118	11 46.6	46 9.3	149.7	10.5	80	9.4	81	C/S		10	5	1972	1453	14 29.0	51 54.9	703.4	0.0	88	0.0	285	STOP	
4	5	1972	136	11 47.2	46 12.5	152.8	7.1	79	6.0	81	C/S		AT SITE 232-232A												
4	5	1972	3 2	11 49.1	46 22.7	163.0	10.5	80	9.4	81	C/S		13	5	1972	1732	14 29.0	51 55.4	703.9	8.8	123	8.8	123	U/W	
4	5	1972	538	11 54.0	46 50.1	190.3	10.0	82	9.4	81	SATL	1.50	13	5	1972	1746	14 27.9	51 57.2	706.0	8.9	128	8.8	123	SATL	0.50
4	5	1972	615	11 54.9	46 56.4	196.5	10.1	83	9.4	83	C/C		13	5	1972	1917	14 19.6	52 8.1	719.4	8.8	123	8.8	123	SATL	2.00
4	5	1972	852	11 57.9	47 23.1	222.8	10.1	95	9.4	95	C/C		13	5	1972	1917	14 19.6	52 8.1	719.4	0.0	242	0.0	123	STOP	
4	5	1972	9 8	11 57.7	47 25.8	225.4	9.8	97	9.4	95	SATL	1.00	AT SITE 233-233A												
4	5	1972	1050	11 55.8	47 42.7	242.1	9.6	97	9.4	95	SATL	1.50	16	5	1972	7 0	14 18.6	52 6.1	721.6	9.7	194	9.7	194	U/W	
4	5	1972	1150	11 54.7	47 52.5	251.7	9.5	81	9.4	79	C/C		16	5	1972	711	14 16.9	52 5.7	723.3	9.1	194	9.1	194	C/S	
4	5	1972	1545	12 0.4	48 30.1	289.0	9.5	223	9.4	225	C/C		16	5	1972	816	14 7.3	52 3.2	733.2	9.9	200	9.1	194	SATL	1.50
4	5	1972	1636	11 54.5	48 24.5	297.1	9.2	268	9.4	270	C/C		16	5	1972	10 2	13 50.9	51 57.1	750.7	9.9	198	9.1	194	SATL	1.00
4	5	1972	17 6	11 54.3	48 19.8	301.7	10.2	267	9.4	270	SATL	1.00	16	5	1972	1045	13 44.1	51 54.8	757.8	9.8	189	9.1	184	C/C	
4	5	1972	1759	11 53.8	48 10.6	310.7	8.4	55	9.4	55	C/C		16	5	1972	1134	13 36.2	51 53.6	765.8	9.3	186	9.1	184	SATL	0.50
4	5	1972	1830	11 56.3	48 14.2	315.1	9.7	169	9.4	164	C/C		16	5	1972	1616	12 52.8	51 49.2	809.4	7.0	182	9.1	184	SATL	0.25
4	5	1972	1837	11 55.2	48 14.5	316.2	6.2	173	5.8	164	C/S		16	5	1972	20 0	12 26.6	51 48.4	835.6	7.7	194	9.1	184	SATL	1.50
4	5	1972	1855	11 53.4	48 14.7	318.1	5.8	164	5.8	164	SATL	2.00	16	5	1972	2040	12 21.6	51 47.1	840.8	7.4	190	9.1	184	SATL	1.50
4	5	1972	1855	11 53.4	48 14.7	318.1	0.0	355	0.0	164	STOP		16	5	1972	2150	12 13.1	51 45.6	849.4	6.9	181	9.1	184	SATL	0.25
AT SITE 231																									
8	5	1972	2044	11 54.0	48 14.7	318.6	9.4	346	9.4	346	U/W		17	5	1972	0 0	11 58.1	51 45.2	864.4	6.9	181	9.1	184	C/C	
8	5	1972	21 6	11 57.3	48 13.8	322.1	9.3	347	9.4	346	SATL	1.50	17	5	1972	358	11 30.7	51 44.5	891.8	7.1	184	9.1	184	SATL	1.00
8	5	1972	2214	12 7.5	48 11.3	332.6	10.6	338	9.4	346	SATL	1.00	17	5	1972	5 1	11 23.2	51 43.9	899.3	7.2	169	9.1	172	C/C	
8	5	1972	2225	12 9.3	48 10.5	334.5	7.6	98	9.4	101	C/C		17	5	1972	914	10 53.5	51 49.7	929.6	7.5	170	9.1	172	SATL	1.50
8	5	1972	2252	12 8.8	48 14.0	337.9	10.0	105	9.4	101	SATL	0.50	17	5	1972	1012	10 46.4	51 51.0	936.8	7.6	173	9.1	172	SATL	1.00
9	5	1972	0 0	12 5.9	48 25.2	349.2	10.0	105	9.4	101	U/C		17	5	1972	1048	10 41.9	51 51.6	941.3	8.7	171	9.1	172	SATL	1.00
9	5	1972	028	12 4.7	48 29.8	353.9	10.4	103	9.4	101	SATL	0.50	17	5	1972	1528	10 1.7	51 58.4	982.1	10.0	171	9.1	172	SATL	0.25
9	5	1972	043	12 4.1	48 32.4	356.5	10.1	70	9.4	65	C/C		17	5	1972	1554	9 57.4	51 59.1	986.4	9.9	171	9.1	172	SATL	1.00
9	5	1972	2 0	12 8.6	48 44.8	369.4	10.4	64	9.4	65	*	0.00	17	5	1972	1839	9 30.4	52 3.3	1013.7	10.2	171	9.4	172	C/S	
9	5	1972	230	12 10.9	48 49.6	374.6	10.4	62	9.4	63	C/C		17	5	1972	1954	9 17.8	52 5.2	1026.5	10.7	168	9.4	172	SATL	1.00
9	5	1972	440	12 21.6	49 10.0	397.3	10.5	60	9.4	63	SATL	1.50	17	5	1972	2049	9 8.2	52 7.2	1036.3	7.5	167	6.2	172	C/S	
9	5	1972	5 6	12 23.9	49 14.0	401.8	10.3	60	9.4	63	SATL	1.50	17	5	1972	21 7	9 6.0	52 7.7	1038.5	10.7	168	9.4	172	C/S	
9	5	1972	654	12 33.2	49 30.5	420.4	9.6	62	9.4	63	SATL	1.50	17	5	1972	2140	9 0.3	52 8.9	1044.4	10.4	170	9.4	172	SATL	0.25
9	5	1972	736	12 36.4	49 36.6	427.1	9.6	69	9.4	70	C/C		17	5	1972	2228	8 52.1	52 10.3	1052.7	10.6	171	9.4	172	SATL	1.50
9	5	1972	10 5	12 45.1	49 59.4	451.0	9.7	56	9.4	57	C/C		17	5	1972	2250	8 48.3	52 10.9	1056.6	10.5	191	9.4	195	C/C	
9	5	1972	1020	12 46.5	50 1.4	453.4	8.9	49	9.4	57	SATL	1.50	18	5	1972	0 0	8 36.3	52 8.5	1068.8	10.5	191	9.4	195	U/C	
9	5	1972	1545	13 18.4	50 38.6	501.7	8.8	54	9.4	62	C/C		18	5	1972	018	8 33.2	52 7.9	1071.9	9.2	194	9.4	195	SATL	1.00
9	5	1972	16 8	13 20.4	50 41.4	505.1	9.3	51	9.4	62	SATL	0.50	18	5	1972	215	8 15.8	52 3.4	1089.8	9.2	196	9.4	197	C/C	
9	5	1972	1752	13 30.5	50 54.2	521.1	10.1	57	9.4	62	SATL	0.50	18	5	1972	314	8 7.2	52 0.9	1098.9	8.9	196	9.1	197	C/S	
9	5	1972	1845	13 35.4	51 1.8	530.0	9.9																		

LEG 24 (DJIBOUTI TO PORT LOUIS): NAVIGATION NOTES (CONT.)

DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	DIST. ALONG TRACK (NMI)	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QLTY
19	5	1972	822	4 29.6	51 17.5	1354.9	7.2 97	6.2 93	SATL	0.50
19	5	1972	9 7	4 28.9	51 22.9	1360.3	5.3 263	6.2 270	C/C	
19	5	1972	915	4 28.8	51 22.2	1361.0	7.0 265	7.9 270	C/S	
19	5	1972	926	4 28.7	51 20.9	1362.3	9.1 271	7.9 270	SATL	0.50
19	5	1972	10 2	4 28.8	51 15.4	1367.7	7.4 271	6.2 270	C/S	
19	5	1972	10 9	4 28.8	51 14.6	1368.6	5.2 272	4.0 270	C/S	
19	5	1972	1010	4 28.8	51 14.5	1368.6	3.4 278	4.0 270	SATL	0.50
19	5	1972	1022	4 28.9	51 13.8	1369.3	3.5 287	4.0 278	C/C	
19	5	1972	1028	4 29.0	51 13.5	1369.7	3.9 278	4.0 278	SATL	2.00
19	5	1972	1028	4 29.0	51 13.5	1369.7	0.1 118	0.0 278	STOP	
AT SITE 234-234A										
21	5	1972	19 6	4 27.6	51 16.2	1372.7	4.1 126	4.0 126	U/W	
21	5	1972	2025	4 24.5	51 20.6	1378.1	9.5 131	9.4 131	C/CS	
21	5	1972	2114	4 19.4	51 26.4	1385.8	9.9 130	9.4 131	SATL	1.00
21	5	1972	2148	4 15.8	51 30.7	1391.4	9.0 129	9.4 131	SATL	0.50
21	5	1972	2244	4 10.5	51 37.2	1399.7	10.1 128	9.4 131	SATL	0.50
21	5	1972	23 9	4 7.9	51 40.5	1403.9	5.6 125	4.9 131	C/S	
21	5	1972	2320	4 7.3	51 41.4	1409.0	10.1 128	9.4 131	C/S	
21	5	1972	2345	4 4.7	51 44.7	1409.2	10.0 137	9.4 141	C/C	
22	5	1972	0 0	4 2.9	51 46.4	1411.7	10.0 137	9.4 141	U/C	
22	5	1972	011	4 1.6	51 47.6	1413.5	10.1 128	9.4 131	C/C	
22	5	1972	032	3 59.4	51 50.4	1417.0	8.8 125	9.4 131	SATL	1.00
22	5	1972	2 0	3 51.9	52 1.0	1430.0	10.5 133	9.4 131	*	0.00
22	5	1972	220	3 49.5	52 3.6	1433.5	10.5 138	9.4 137	C/C	
22	5	1972	328	3 40.6	52 11.5	1445.4	9.5 136	9.4 137	SATL	0.50
22	5	1972	430	3 33.5	52 18.3	1455.2	4.1 135	4.0 137	C/S	
22	5	1972	440	3 33.0	52 18.8	1455.9	9.5 136	9.4 137	C/S	
22	5	1972	641	3 19.2	52 32.2	1475.1	9.6 123	9.4 124	C/C	
22	5	1972	736	3 14.4	52 39.5	1483.9	9.8 121	9.4 124	SATL	1.00
22	5	1972	820	3 10.7	52 45.7	1491.1	9.4 124	9.4 124	C/C	
22	5	1972	841	3 13.9	52 44.8	1494.4	8.7 239	9.4 240	C/C	
22	5	1972	850	3 13.2	52 43.7	1495.7	9.5 240	9.4 240	SATL	0.50
22	5	1972	920	3 10.8	52 39.6	1500.4	8.9 241	9.4 240	SATL	1.50
22	5	1972	933	3 9.9	52 37.9	1502.4	5.5 241	6.0 240	C/S	
22	5	1972	10 1	3 8.6	52 35.7	1504.9	6.5 47	6.0 47	C/C	
22	5	1972	11 0	3 13.0	52 40.4	1511.3	4.5 47	4.0 47	C/S	
22	5	1972	1122	3 14.1	52 41.6	1513.0	4.0 47	4.0 47	SATL	2.00
22	5	1972	1122	3 14.1	52 41.6	1513.0	0.0 73	0.0 47	STOP	
AT SITE 235										
26	5	1972	1226	3 14.5	52 42.8	1514.2	4.0 149	4.0 149	U/W	
26	5	1972	1345	3 9.9	52 45.5	1519.5	9.4 139	9.4 139	C/CS	
26	5	1972	1448	3 2.5	52 52.0	1529.4	9.6 135	9.4 139	SATL	1.00
26	5	1972	1518	2 59.1	52 55.4	1534.2	9.5 133	9.4 139	SATL	1.00
26	5	1972	1636	2 50.7	53 4.5	1546.5	10.0 133	9.4 139	SATL	0.50
26	5	1972	17 0	2 47.9	53 7.4	1550.6	10.2 120	9.4 125	C/C	
26	5	1972	17 4	2 47.6	53 8.0	1551.2	9.8 124	9.4 125	SATL	1.50
26	5	1972	1918	2 35.5	53 26.3	1573.2	9.5 126	9.4 125	SATL	1.00
26	5	1972	2046	2 27.3	53 37.6	1587.1	10.4 123	9.4 125	SATL	1.50
26	5	1972	21 6	2 25.4	53 40.5	1590.6	10.1 125	9.4 125	SATL	0.50
26	5	1972	2214	2 18.8	53 49.9	1602.1	9.9 125	9.4 125	SATL	1.00
27	5	1972	0 0	2 8.8	54 4.1	1619.5	9.9 125	9.4 125	O/C	
27	5	1972	055	2 3.5	54 11.5	1628.5	9.8 92	9.4 90	C/C	
27	5	1972	226	2 3.1	54 26.3	1643.3	10.4 94	9.4 90	SATL	1.00
27	5	1972	235	2 3.0	54 27.9	1644.8	10.6 129	9.4 130	C/C	
27	5	1972	4 8	1 52.6	54 40.5	1661.2	10.4 131	9.4 130	SATL	1.00
27	5	1972	440	1 49.0	54 44.7	1666.7	10.1 132	9.4 130	SATL	0.50
27	5	1972	6 0	1 40.0	54 54.8	1680.2	9.8 132	9.1 130	C/S	
27	5	1972	820	1 24.7	55 11.9	1703.2	9.7 131	9.1 130	SATL	1.00
27	5	1972	930	1 17.3	55 20.4	1714.5	9.7 129	9.1 128	C/C	
27	5	1972	1213	1 0.6	55 40.8	1740.8	9.7 142	9.1 142	C/C	
27	5	1972	1430	0 43.5	55 54.3	1765.0	9.3 137	9.1 142	*	0.00
27	5	1972	1620	0 30.5	56 5.9	1780.1	9.6 140	9.1 142	SATL	0.50
27	5	1972	1814	0 16.6	56 17.7	1798.3	10.0 139	9.1 142	SATL	1.00
27	5	1972	1844	0 12.8	56 20.9	1803.3	9.9 145	9.1 148	C/C	
27	5	1972	1956	0 3.1	56 27.8	1815.2	9.9 145	9.1 148	SATL	1.50
27	5	1972	2122	0 -8.4	56 36.0	1829.3	10.0 146	9.1 148	SATL	1.50
AT SITE 236										
1	6	1972	649	-1 41.0	57 42.3	1947.4	5.2 115	5.2 115	U/W	
1	6	1972	8 8	-1 43.9	57 48.6	1954.3	5.2 242	5.2 242	C/C	
1	6	1972	815	-1 44.2	57 48.0	1954.9	9.1 242	9.1 242	C/S	
1	6	1972	835	-1 45.6	57 45.4	1957.9	9.1 229	9.1 229	C/C	
1	6	1972	916	-1 49.7	57 40.7	1964.1	8.8 225	9.1 229	SATL	1.00
1	6	1972	11 0	-2 0.4	57 29.8	1979.4	9.0 206	9.1 210	C/C	
1	6	1972	1438	-2 29.9	57 15.3	2012.2	9.1 205	9.1 210	SATL	1.50
1	6	1972	1516	-2 35.1	57 12.8	2018.0	9.1 210	9.1 215	C/C	
1	6	1972	1548	-2 39.3	57 10.4	2022.8	9.4 213	9.1 215	SATL	1.50
1	6	1972	1626	-2 44.3	57 7.2	2028.8	9.0 210	9.1 215	SATL	1.00
1	6	1972	2050	-3 18.4	56 47.2	2068.3	9.4 210	9.1 215	SATL	1.00
1	6	1972	2131	-3 23.9	56 44.0	2074.7	9.3 212	9.1 217	C/C	
1	6	1972	2236	-3 32.5	56 38.6	2084.8	9.1 213	9.1 217	SATL	1.50
1	6	1972	2330	-3 39.4	56 34.1	2093.0	9.1 218	9.1 222	C/C	
2	6	1972	0 0	-3 42.9	56 31.2	2097.5	9.1 218	9.1 222	O/C	
2	6	1972	210	-3 58.3	56 19.0	2117.2	9.9 221	9.1 222	SATL	1.00
2	6	1972	327	-4 7.8	56 10.6	2129.9	0.8 211	0.0 222	STOP	
AT PORT VICTORIA, MAHE, SEYCHELLES										
4	6	1972	2030	-4 51.2	55 44.0	2180.7	0.4 38	0.0 222	SATL	1.50
4	6	1972	2030	-4 51.2	55 44.0	2180.7	9.2 147	9.4 150	U/W	
4	6	1972	2130	-4 59.0	55 49.0	2190.0	9.2 152	9.4 154	C/C	
4	6	1972	2145	-5 1.0	55 50.1	2192.3	9.2 157	9.4 159	C/C	
5	6	1972	0 0	-5 20.0	55 58.3	2212.9	9.2 157	9.4 159	O/C	
5	6	1972	227	-5 40.6	56 7.3	2235.4	9.5 118	9.4 121	C/C	
5	6	1972	240	-5 41.6	56 9.1	2237.5	8.2 119	9.4 121	SATL	1.50
5	6	1972	428	-5 48.8	56 22.1	2252.3	8.3 120	9.4 121	SATL	1.00
5	6	1972	5 5	-5 51.3	56 26.6	2257.4	2.9 117	4.0 121	C/S	
5	6	1972	518	-5 51.6	56 27.1	2258.0	8.3 120	9.4 121	C/S	
5	6	1972	630	-5 56.5	56 35.8	2267.9	8.7 122	9.4 121	SATL	0.50
5	6	1972	758	-6 3.2	56 46.7	2280.7	9.0 123	9.4 121	SATL	1.00
5	6	1972	12 0	-6 23.1	57 17.2	2316.9	8.9 116	9.4 114	C/C	
5	6	1972	1422	-6 32.3	57 36.3	2338.0	9.1 115	9.4 114	SATL	1.50
5	6	1972	16 8	-6 39.2	57 51.0	2354.2	9.2 118	9.4 114	SATL	1.50
5	6	1972	1728	-6 44.9	58 2.0	2366.5	9.7 164	9.4 161	C/C	
5	6	1972	18 0	-6 49.9	58					

LEG 24 (DJIBOUTI TO PORT LOUIS): NAVIGATION NOTES (CONT.)

DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	DIST. ALONG TRACK (NMI)	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QTY	DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	DIST. ALONG TRACK (NMI)	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QTY
10	6	1972	1854	-7 51.9	61 33.4	2610.9	8.1 107	8.8 108	SATL	1.50	15	6	1972	413	-7 9.2	72 24.5	3404.8	9.3 48	9.4 50	C/S	
10	6	1972	2032	-7 55.8	61 46.2	2624.1	8.2 104	8.8 108	SATL	1.00	15	6	1972	423	-7 8.2	72 25.7	3406.4	9.1 143	9.4 142	C/C	
10	6	1972	2220	-7 59.5	62 0.7	2639.0	7.6 105	8.8 108	SATL	0.50	15	6	1972	444	-7 11.0	72 27.8	3409.9	8.2 144	9.4 142	SATL	1.50
10	6	1972	2227	-7 59.7	62 1.6	2639.9	7.6 118	8.8 119	C/C		15	6	1972	6 2	-7 19.4	72 33.6	3420.2	8.6 184	9.4 177	C/C	
11	6	1972	0 0	-8 5.2	62 12.1	2651.6	7.6 118	8.8 119	C/C		15	6	1972	634	-7 24.0	72 33.6	3424.8	9.6 180	9.4 177	SATL	1.00
11	6	1972	1 4	-8 9.0	62 19.3	2659.7	7.6 125	8.8 119	SATL	1.00	15	6	1972	644	-7 25.6	72 33.6	3426.4	9.8 210	9.4 208	C/C	
11	6	1972	122	-8 10.3	62 21.2	2662.0	7.4 120	8.8 119	SATL	1.00	15	6	1972	830	-7 40.6	72 24.9	3443.7	9.9 213	9.4 208	SATL	1.50
11	6	1972	244	-8 15.4	62 30.1	2672.2	7.2 121	8.8 119	SATL	1.50	15	6	1972	1322	-8 20.7	71 58.1	3491.8	9.9 215	9.4 208	SATL	1.00
11	6	1972	3 8	-8 16.9	62 32.6	2675.1	7.8 120	8.8 119	SATL	1.00	15	6	1972	1416	-8 28.0	71 52.9	3500.7	9.8 214	9.4 208	SATL	1.00
11	6	1972	7 0	-8 32.1	62 58.8	2705.1	7.6 120	8.8 119	SATL	1.00	15	6	1972	17 2	-8 50.6	71 37.7	3527.9	9.7 214	9.4 208	SATL	1.50
11	6	1972	912	-8 40.4	63 13.4	2721.8	7.6 107	8.8 108	C/C		15	6	1972	18 3	-8 58.8	71 32.2	3537.8	9.6 207	9.4 201	C/C	
11	6	1972	10 4	-8 42.3	63 19.8	2728.4	7.4 110	8.8 108	SATL	1.00	15	6	1972	1812	-9 0.1	71 31.5	3539.2	9.7 209	9.4 201	SATL	1.50
11	6	1972	1424	-8 53.2	63 50.4	2760.5	7.7 108	8.8 108	SATL	0.50	15	6	1972	1850	-9 5.5	71 28.5	3545.4	9.4 205	9.4 201	SATL	1.00
11	6	1972	1450	-8 54.2	63 53.6	2763.8	7.4 110	8.8 108	SATL	0.50	15	6	1972	2356	-9 48.9	71 7.7	3593.4	7.0 207	7.0 201	C/S	
11	6	1972	18 4	-9 2.5	64 16.2	2787.6	7.2 110	8.8 108	SATL	1.50	15	6	1972	2358	-9 49.1	71 7.6	3593.6	8.4 201	7.0 201	SATL	1.00
11	6	1972	2130	-9 10.9	64 39.9	2812.5	7.2 111	8.8 108	SATL	1.00	16	6	1972	0 0	-9 49.4	71 7.5	3593.9	8.4 201	7.0 201	U/C	
11	6	1972	2131	-9 10.9	64 40.0	2812.6	7.2 107	8.8 104	C/C		16	6	1972	050	-9 55.9	71 4.9	3600.9	8.3 211	7.0 201	SATL	1.50
12	6	1972	0 0	-9 16.0	64 57.4	2830.5	7.2 107	8.8 104	U/C		16	6	1972	052	-9 56.1	71 4.8	3601.2	8.6 226	7.0 220	C/C	
12	6	1972	130	-9 19.1	65 7.9	2841.3	7.6 104	8.8 104	*	0.00	16	6	1972	142	-10 1.1	70 59.5	3608.3	7.2 230	7.0 220	SATL	1.00
12	6	1972	2 0	-9 20.0	65 11.6	2845.1	7.6 101	8.8 101	C/C		16	6	1972	221	-10 4.1	70 55.8	3613.0	9.6 228	9.4 220	C/S	
12	6	1972	535	-9 25.1	65 38.7	2872.3	7.8 100	8.8 101	SATL	1.00	16	6	1972	238	-10 5.9	70 53.8	3615.7	10.6 220	9.4 220	SATL	1.50
12	6	1972	6 5	-9 25.8	65 42.6	2876.2	7.8 102	8.8 103	C/C		16	6	1972	325	-10 12.2	70 48.4	3624.0	9.2 220	8.0 220	C/S	
12	6	1972	718	-9 27.7	65 52.0	2885.7	7.7 101	8.8 103	SATL	1.50	16	6	1972	444	-10 21.4	70 40.4	3636.1	9.0 224	8.0 220	SATL	1.50
12	6	1972	914	-9 30.5	66 6.8	2900.6	7.4 100	8.8 103	SATL	1.00	16	6	1972	5 0	-10 23.1	70 38.7	3638.5	9.8 224	8.8 220	C/S	
12	6	1972	1014	-9 31.8	66 14.2	2907.9	7.4 102	8.8 105	C/C		16	6	1972	6 8	-10 31.2	70 31.0	3649.5	8.2 135	8.8 128	C/C	
12	6	1972	1328	-9 36.9	66 37.8	2931.8	7.0 104	8.8 105	SATL	1.00	16	6	1972	740	-10 40.0	70 40.1	3662.2	8.2 131	8.8 128	SATL	1.00
12	6	1972	1415	-9 38.2	66 43.2	2937.3	7.0 110	8.8 110	C/C		16	6	1972	1010	-10 53.6	70 55.7	3682.6	9.6 267	8.8 267	C/C	
12	6	1972	1740	-9 46.5	67 6.1	2961.3	7.0 110	8.8 110	SATL	1.50	16	6	1972	1238	-10 54.7	70 31.7	3706.3	8.6 264	8.8 267	SATL	1.00
12	6	1972	1840	-9 48.9	67 12.8	2968.4	7.0 105	8.8 106	C/C		16	6	1972	1320	-10 55.3	70 25.6	3712.3	10.6 268	8.8 267	SATL	1.50
12	6	1972	1858	-9 49.4	67 14.9	2970.5	6.9 103	8.8 106	SATL	1.00	16	6	1972	1338	-10 55.4	70 22.4	3715.5	8.0 161	8.8 150	C/C	
12	6	1972	1928	-9 50.2	67 18.3	2973.9	7.0 102	8.8 106	SATL	1.00	16	6	1972	1420	-11 0.7	70 24.2	3721.1	9.0 154	8.8 150	SATL	1.50
13	6	1972	0 0	-9 56.7	67 49.8	3005.7	7.0 102	8.8 106	U/C		16	6	1972	1450	-11 4.7	70 26.2	3725.6	6.0 137	6.0 131	CC/S	
13	6	1972	054	-9 58.0	67 56.1	3012.0	7.2 100	8.8 106	SATL	1.00	16	6	1972	16 4	-11 10.1	70 31.4	3732.9	5.6 356	6.0 0	C/C	
13	6	1972	123	-9 58.6	67 59.6	3015.4	6.9 130	8.8 130	C/C		16	6	1972	16 7	-11 9.8	70 31.4	3733.2	3.6 353	4.0 0	C/S	
13	6	1972	130	-9 59.1	68 0.2	3016.2	7.1 130	8.8 130	SATL	1.00	16	6	1972	1617	-11 9.2	70 31.3	3733.8	3.9 359	4.0 0	SATL	2.00
13	6	1972	318	-10 7.3	68 10.1	3029.0	7.5 132	8.8 130	SATL	1.00	16	6	1972	1617	-11 9.2	70 31.3	3733.8	0.1 235	0.0 0	STOP	
13	6	1972	510	-10 16.7	68 20.7	3043.0	2.7 136	4.0 130	C/S		AT SITE 238										
13	6	1972	520	-10 17.0	68 21.0	3043.5	7.5 132	8.8 130	C/S												
13	6	1972	522	-10 17.2	68 21.2	3043.7	7.7 139	8.8 130	SATL	1.00	21	6	1972	711	-11 16.4	70 20.8	3746.4	4.1 240	4.0 240	U/W	
13	6	1972	7 0	-10 26.7	68 29.6	3056.3	8.1 40	9.4 47	CC/S		21	6	1972	729	-11 17.0	70 19.7	3747.6	3.9 60	4.0 60	C/C/S	
13	6	1972	710	-10 25.7	68 30.5	3057.7	8.3 42	9.4 47	SATL	1.00	21	6	1972	735	-11 16.8	70 20.1	3748.0	4.9 60	5.0 60	C/S	
13	6	1972	1312	-9 48.4	69 4.7	3107.9	8.5 44	9.4 47	SATL	0.50	21	6	1972	910	-11 12.9	70 26.9	3755.7	8.7 60	8.8 60	C/S	
13	6	1972	16 9	-9 30.3	69 22.4	3133.1	3.7 40	4.6 47	C/S		21	6	1972	959	-11 9.4	70 33.2	3762.8	8.8 144	8.8 143	C/C	
13	6	1972	1626	-9 29.5	69 23.1	3134.1	8.5 44	9.4 47	C/S		21	6	1972	1010	-11 10.7	70 34.1	3764.4	5.8 144	5.8 143	C/S	
13	6	1972	1743	-9 21.6	69 30.8	3145.1	7.9 44	8.8 47	C/S		21	6	1972	1025	-11 11.9	70 35.0	3765.9	8.8 144	8.8 143	C/S	
13	6	1972	1838	-9 16.4	69 35.9	3152.3	8.2 44	8.8 47	SATL	1.50	21	6	1972	1045	-11 14.2	70 36.8	3768.8	8.8 128	8.8 127	C/C	
13	6	1972	22 2	-8 56.5	69 55.6	3180.2	8.1 94	8.8 93	C/C		21	6	1972	1136	-11 18.8	70 42.8	3776.3	8.7 91	8.8 91	C/C	
14	6	1972	0 0	-8 57.6	70 11.7	3196.1	8.1 94	8.8 93	U/C		21	6	1972	12 6	-11 18.9	70 47.2	3780.6	7.7 90	8.8 91	SATL	1.00
14	6	1972	146	-8 58.7	70 26.1	3210.4	7.9 91	8.8 93	SATL	1.50	21	6	1972	1222	-11 18.9	70 49.3	3782.7	8.1 89	8.8 91	SATL	1.00
14	6	1972	2 0	-8 58.7	70 28.0	3212.2	8.9 13	8.8 19	C/C		21	6	1972	1347	-11 18.7	71 1.0	3794.1	8.6 35	8.8 40	C/C	
14	6	1972	5 7	-8 31.7	70 34.1	3240.0	4.7 7	4.6 19	C/S		21	6	1972	1636	-10 58.9	71 15.2	3818.4	8.4 34	8.8 40	SATL	1.00
14	6	1972	527	-8 30.1	70 34.3	3241.5	9.9 13	8.8 19	C/S		21	6	1972	1652	-10 57.7	71 16.5	3820.6	9.8 269	8.8 267	C/C	
14	6	1972	536	-8 28.8	70 34.6	3242.9	9.1 14	8.8 19	SATL	1.00	21	6	1972	1732	-10 57.2	71 9.8	3827.1	9.4 268	8.8 267	SATL	1.50
14	6	1972	643	-8 19.0	70 37.1	3253.0	8.2 85	8.8 88	SATL		21	6	1972	1940	-10 57.8	70 49.5	3847.1	8.6 181	8.8 177	C/C	
14	6	1972	924	-8 16.9	70 59.2	3275.0	8.2 85	8.8 88	SATL		21	6	1972	2019	-11 3.4	70 49.4	3852.7	9.4 289	8.8 289	C/C	
14	6	1972	1030	-8 16.1	71 8.3	3284.0	9.5 331	8.8 333	C/C		21	6	1972	2153	-10 58.6	70 35.2	3867.4	9.1 285	8.8 282	C/C	
14	6	1972	1226	-8 0.0	70 59.2	3302.4	9.7 326	8.8 333	SATL	0.50	21	6	1972	2348	-11 10.8	70 22.6	3884.8	9.9 230	8.8 222	SATL	1.00
14	6	1972	1235	-7 58.8	70 58.4	3303.8	7.5 68	8.8 73	C/C		22	6	1972	0 0	-11 12.1						

LEG 24 (DJIBOUTI TO PORT LOUIS): NAVIGATION NOTES (CONT.)

DAY	MO	YEAR	GMT TIME	LATITUDE DEG MIN	LONGITUDE DEG MIN	DIST. ALONG TRACK (NMI)	ACTUAL (MADE GOOD) SPEED CSE	INTENDED (DR) SPEED CSE	OPRN OR CMNT	FIX QLTY
22	6	1972	1834	-12 40.0	67 44.2	4070.6	9.7 229	9.1 224	SATL	1.00
22	6	1972	19 0	-12 42.8	67 40.9	4074.8	9.8 235	9.1 231	C/C	
22	6	1972	2058	-12 53.7	67 24.7	4094.0	9.9 239	9.1 235	C/C	
22	6	1972	23 2	-13 4.2	67 6.8	4114.4	8.4 150	9.1 145	C/C	
22	6	1972	2321	-13 6.5	67 8.1	4117.1	9.7 225	9.1 220	C/C	
22	6	1972	2333	-13 7.9	67 6.7	4119.0	9.8 238	9.1 234	C/C	
23	6	1972	0 0	-13 10.2	67 2.9	4123.4	9.8 238	9.1 234	U/C	
23	6	1972	216	-13 22.0	66 43.4	4145.8	9.9 239	9.1 234	SATL	1.50
23	6	1972	3 0	-13 25.8	66 37.0	4153.0	9.8 236	9.1 231	C/C	
23	6	1972	428	-13 33.8	66 24.7	4167.4	10.1 234	9.1 231	SATL	1.00
23	6	1972	458	-13 36.8	66 20.5	4172.5	9.9 234	9.1 231	SATL	1.00
23	6	1972	6 0	-13 42.8	66 11.9	4182.8	10.0 237	9.1 234	C/C	
23	6	1972	618	-13 44.4	66 9.3	4185.8	10.5 238	9.1 234	SATL	1.00
23	6	1972	625	-13 45.0	66 8.2	4187.0	10.4 232	9.1 227	C/C	
23	6	1972	646	-13 47.3	66 5.3	4190.6	9.8 231	9.1 227	SATL	1.00
23	6	1972	735	-13 52.4	65 58.9	4198.6	9.8 233	9.1 229	C/C	
23	6	1972	830	-13 57.8	65 51.5	4207.6	8.8 166	9.1 160	C/C	
23	6	1972	915	-14 4.3	65 53.2	4214.3	9.8 226	9.1 222	C/C	
23	6	1972	1013	-14 10.8	65 46.2	4223.7	9.9 238	9.1 235	C/C	
23	6	1972	1135	-14 17.9	65 34.4	4237.2	9.9 245	9.1 243	C/C	
23	6	1972	1218	-14 20.9	65 27.7	4244.3	9.6 244	9.1 243	SATL	1.50
23	6	1972	1430	-14 30.2	65 8.1	4265.4	9.6 239	9.1 238	C/C	
23	6	1972	1455	-14 32.3	65 4.6	4269.4	9.5 222	9.1 220	C/C	
23	6	1972	1515	-14 34.6	55 2.4	4272.6	9.6 241	9.1 240	C/C	
23	6	1972	1556	-14 37.8	54 56.5	4279.1	10.0 238	9.1 240	SATL	1.00
23	6	1972	1642	-14 41.9	64 49.8	4286.8	9.6 245	9.1 240	SATL	1.00
23	6	1972	1742	-14 45.9	64 40.8	4296.4	9.9 242	9.1 240	SATL	1.00
23	6	1972	1828	-14 49.5	64 33.9	4304.0	9.6 243	9.1 240	SATL	1.50
23	6	1972	19 6	-14 52.3	64 28.3	4310.1	9.5 236	9.1 233	C/C	
23	6	1972	2034	-15 0.0	64 18.2	4324.1	9.5 236	9.1 233	SATL	1.00
24	6	1972	0 0	-15 18.2	63 48.3	4356.5	9.5 236	9.1 233	O/C	
24	6	1972	220	-15 30.6	63 29.4	4378.6	9.5 238	9.1 235	C/C	
24	6	1972	556	-15 48.7	62 59.4	4412.7	9.4 237	9.1 235	SATL	0.25
24	6	1972	818	-16 0.7	62 40.0	4434.9	9.2 233	9.1 235	SATL	1.50
24	6	1972	832	-16 2.0	62 38.2	4437.0	9.2 228	9.1 230	C/C	
24	6	1972	13 0	-16 29.4	62 6.3	4478.1	4.1 224	4.0 230	C/S	
24	6	1972	1321	-16 30.4	62 5.2	4479.6	9.2 220	9.1 222	C/S	
24	6	1972	1410	-16 36.2	62 0.1	4487.1	8.3 220	8.2 222	C/S	
24	6	1972	1430	-16 38.3	61 58.3	4489.9	8.3 222	8.2 224	C/C	
24	6	1972	1446	-16 39.9	61 56.7	4492.1	9.2 222	9.1 224	C/S	
24	6	1972	1652	-16 54.3	61 43.1	4511.5	9.5 226	9.1 224	SATL	1.50
24	6	1972	1819	-17 3.9	61 32.8	4525.3	5.4 227	5.0 224	C/S	
24	6	1972	1830	-17 4.6	61 32.0	4526.3	9.5 226	9.1 224	C/S	
24	6	1972	1838	-17 5.5	61 31.1	4527.5	9.7 228	9.1 224	SATL	1.50
24	6	1972	19 7	-17 8.7	61 27.5	4532.2	9.8 240	9.1 237	C/C	
24	6	1972	1944	-17 11.7	61 22.0	4538.3	9.8 239	9.1 237	SATL	1.50
24	6	1972	2215	-17 24.2	60 59.8	4562.9	9.8 239	9.1 236	C/C	
25	6	1972	0 0	-17 33.2	60 44.5	4580.0	9.8 239	9.1 236	U/W	
25	6	1972	032	-17 35.9	60 39.8	4585.3	10.0 241	9.1 236	SATL	1.50
25	6	1972	218	-17 44.6	60 23.6	4603.0	10.4 239	9.1 236	SATL	1.50
25	6	1972	230	-17 45.7	60 21.7	4605.1	10.4 236	9.1 233	C/C	
25	6	1972	440	-17 58.2	60 2.1	4627.6	10.1 233	9.1 233	SATL	1.00
25	6	1972	5 0	-18 0.2	59 59.3	4630.9	10.1 236	9.1 237	C/C	
25	6	1972	5 4	-18 0.6	59 58.7	4631.6	10.4 239	9.1 237	SATL	1.00
25	6	1972	624	-18 7.8	59 46.2	4645.5	11.0 237	9.1 237	SATL	1.50
25	6	1972	734	-18 14.8	59 34.9	4658.3	10.8 237	9.1 237	SATL	1.00
25	6	1972	8 0	-18 17.4	59 30.8	4663.0	10.8 244	9.1 246	C/C	
25	6	1972	1025	-18 28.6	59 6.0	4689.1	10.8 225	9.1 223	C/C	
25	6	1972	1218	-18 42.9	58 50.8	4709.3	10.2 225	9.1 223	SATL	1.00
25	6	1972	1433	-18 59.0	58 33.6	4732.2	9.3 226	8.2 223	C/S	
25	6	1972	1717	-19 16.8	58 14.5	4757.6	9.3 229	8.2 227	C/C	
25	6	1972	1834	-19 24.6	58 4.9	4769.5	8.8 233	8.2 227	SATL	1.50
25	6	1972	19 8	-19 27.6	58 0.6	4774.5	8.2 234	7.6 227	C/S	
25	6	1972	2042	-19 35.2	57 49.6	4787.4	8.8 230	7.6 227	SATL	1.50
25	6	1972	2130	-19 39.8	57 43.9	4794.5	7.0 230	5.8 227	C/S	
25	6	1972	2241	-19 45.0	57 37.1	4802.7	6.6 201	5.8 192	C/C	
25	6	1972	2250	-19 46.0	57 36.8	4803.7	6.0 202	5.2 192	C/S	
25	6	1972	2335	-19 50.2	57 35.0	4808.3	5.4 203	4.6 192	C/S	
25	6	1972	2353	-19 51.7	57 34.3	4809.9	5.7 217	4.6 209	C/C	
26	6	1972	033	-19 54.7	57 31.9	4813.7	5.7 225	4.6 219	C/C	
26	6	1972	116	-19 57.6	57 28.8	4817.8	5.4 203	4.6 192	C/C	
26	6	1972	136	-19 59.3	57 28.1	4819.6	4.5 197	4.6 192	SATL	1.50
26	6	1972	136	-19 59.3	57 28.1	4819.6	3.9 197	4.0 192	C/S	
26	6	1972	2 0	-20 0.8	57 27.6	4821.2	4.4 175	4.0 192	DR	0.00
26	6	1972	215	-20 1.9	57 27.7	4822.3	4.4 175	4.0 192	DR	0.00