

## IV. GRAVITY ANOMALY

*Masato Joshima*

Gravity measurement was carried out by LaCoste & Romberg air-sea gravity meter whose accuracy of measurement was 1 milligal. The gravity values were connected with the gravity value on land at Funabashi berth where the absolute gravity value is 979.802.7 milligal. Base reading value at the first time (12, January) was 10,695.6 and the last base reading value was 10,688.4.

Fig. IV-1 shows the free air gravity anomaly. Highest anomalies appear at sea mountains such as Magellan Rise and the values of free air gravity anomaly are approximately

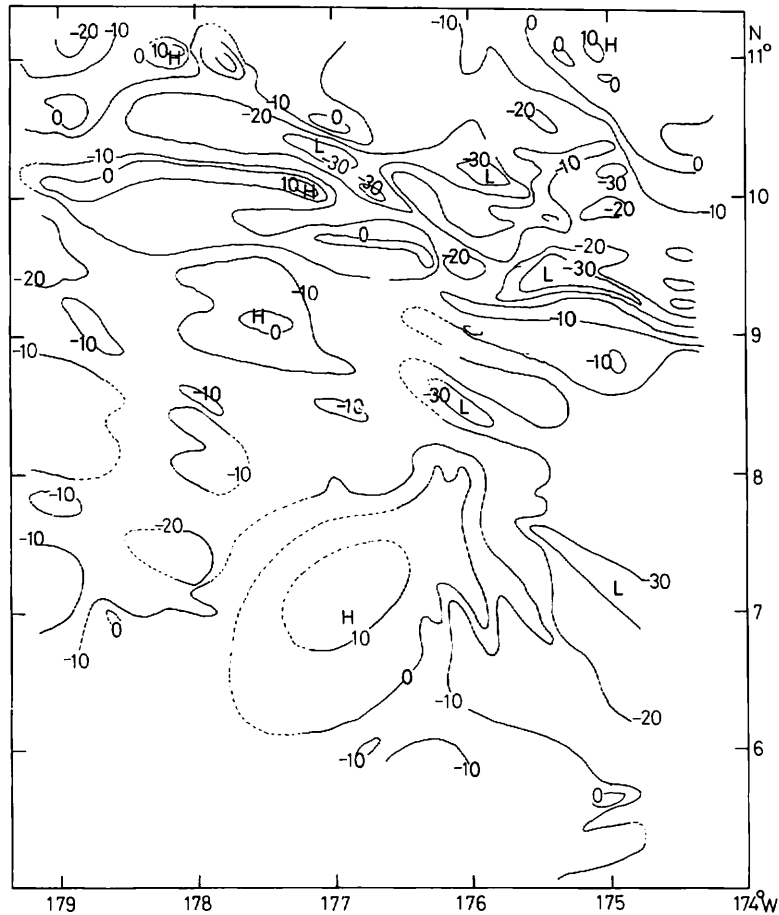


Fig. IV-1 Contour map of free air gravity anomaly. Interval of the contour is 10 milligal and the numerals in the figure show the value of anomaly.

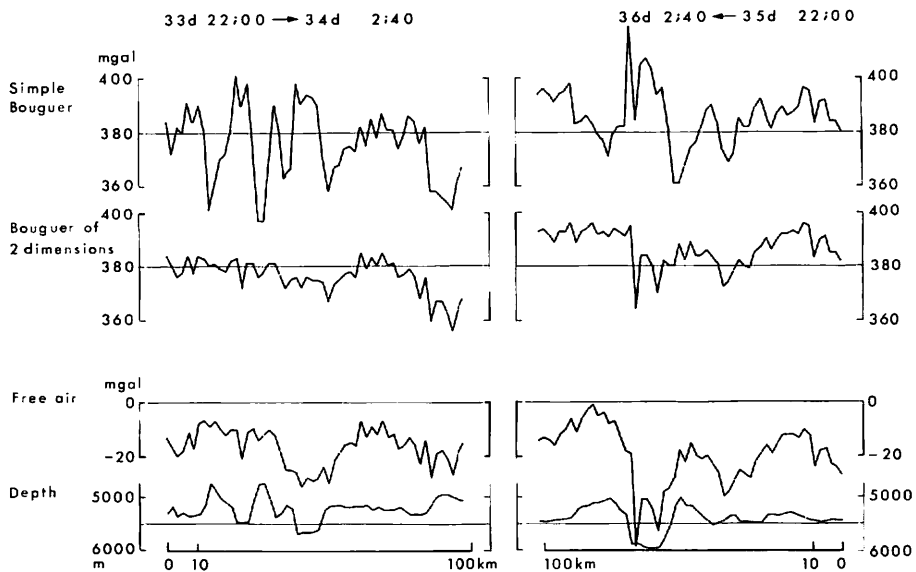
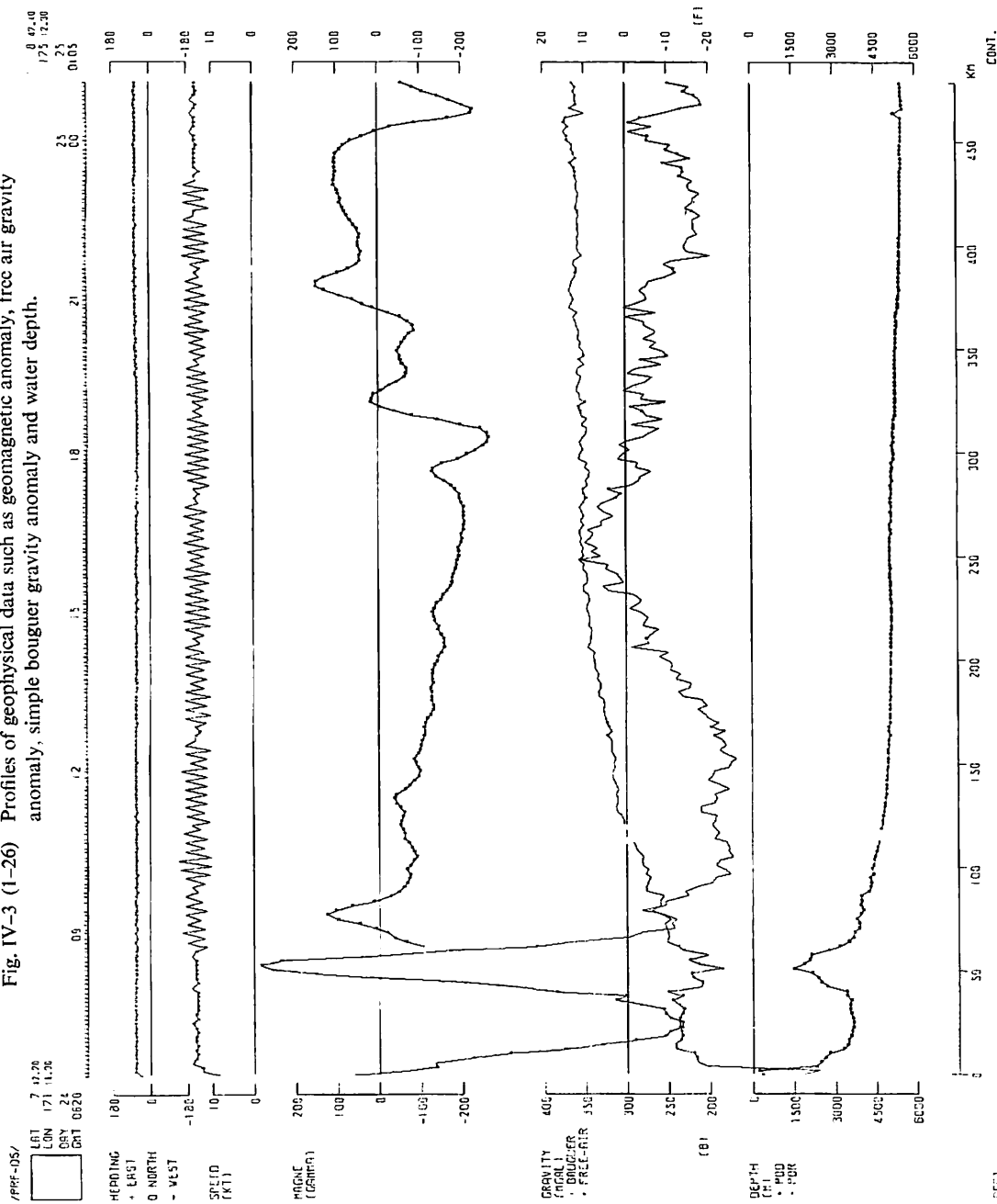


Fig. IV-2 Examples of profile of 2-dimensionally corrected bouguer gravity anomaly.

+ 15 milligal and lowest values are approximately - 35 milligal. Broad and low anomalies appear in the southeast part of this area and their values are approximately - 30 milligal. There is no geographical features such as trough which causes low gravity anomaly, so these low values may corresponds to thick sediment layers whose density is a little smaller than usual rocks.

Generally speaking the gravity anomaly of this area is small and has no indication relating to the present tectonic motions such ones along trench or ridge. Fig. IV-2 shows the 2-dimensionally corrected bouguer gravity anomalies along typical traverses. Variation in bouguer anomaly value is small at the trough. Fig. IV-3 shows the profiles of geophysical data such as geomagnetic anomaly, free air gravity anomaly, simple bouguer gravity anomaly and water depth of some typical traverses.

Fig. IV-3 (1-26) Profiles of geophysical data such as geomagnetic anomaly, free air gravity anomaly, simple bouguer gravity anomaly and water depth.

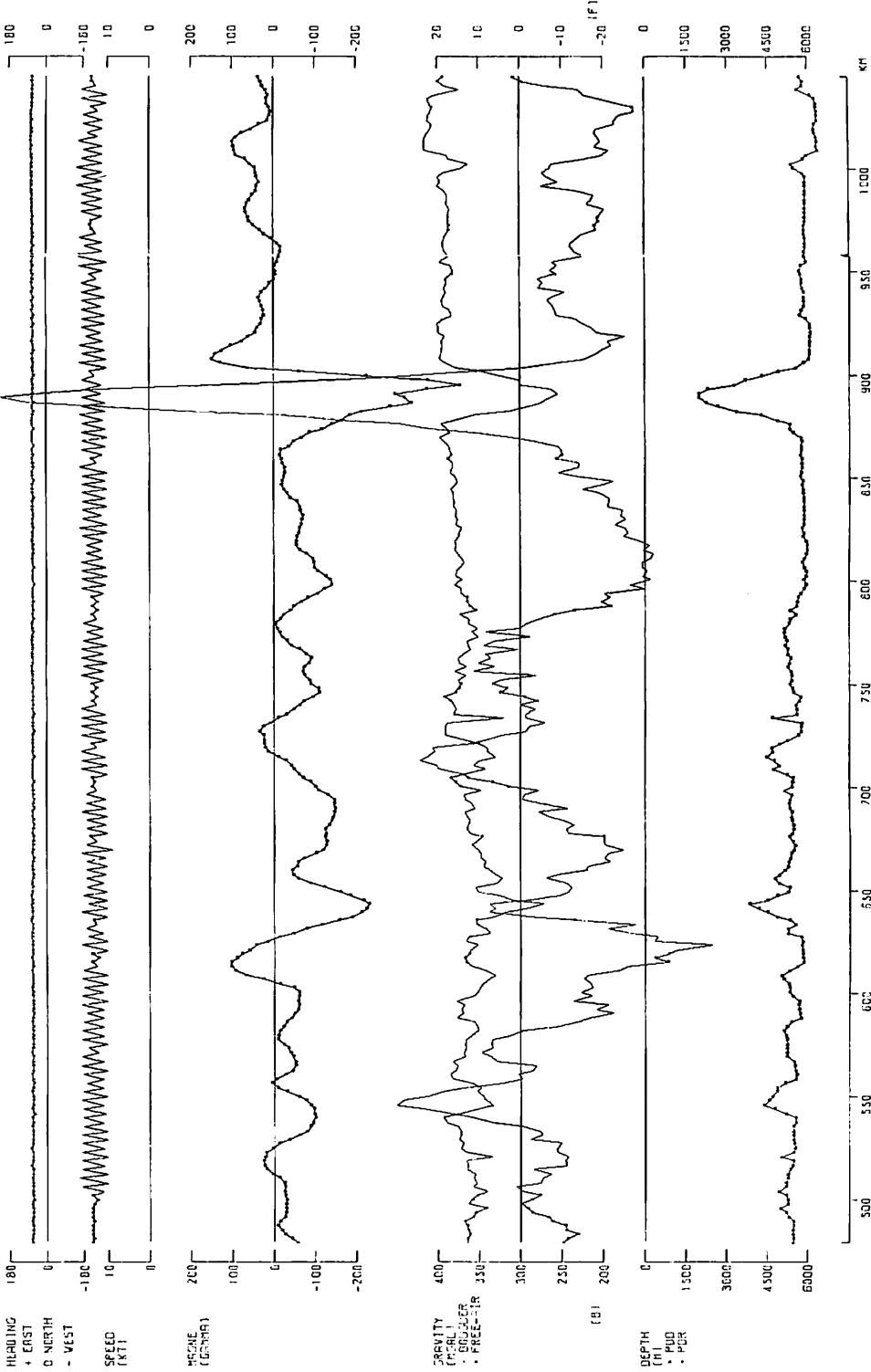


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PRY 25  
CST 0103

10 32 00  
179 15 00  
25  
2335

03 09 12 15 18 21



(2)

C002

/PRI-DS/

705

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LON -179 1.00  
DRY 28  
CRT 0100 03

704

26 20  
20 21.18  
15 12

703

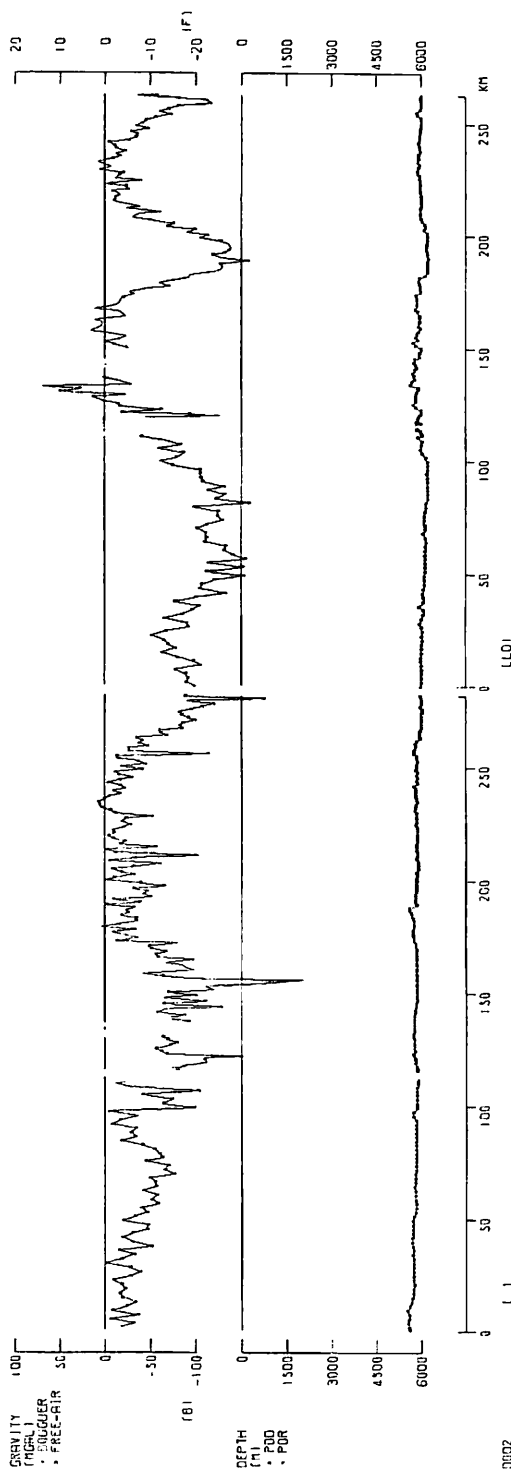
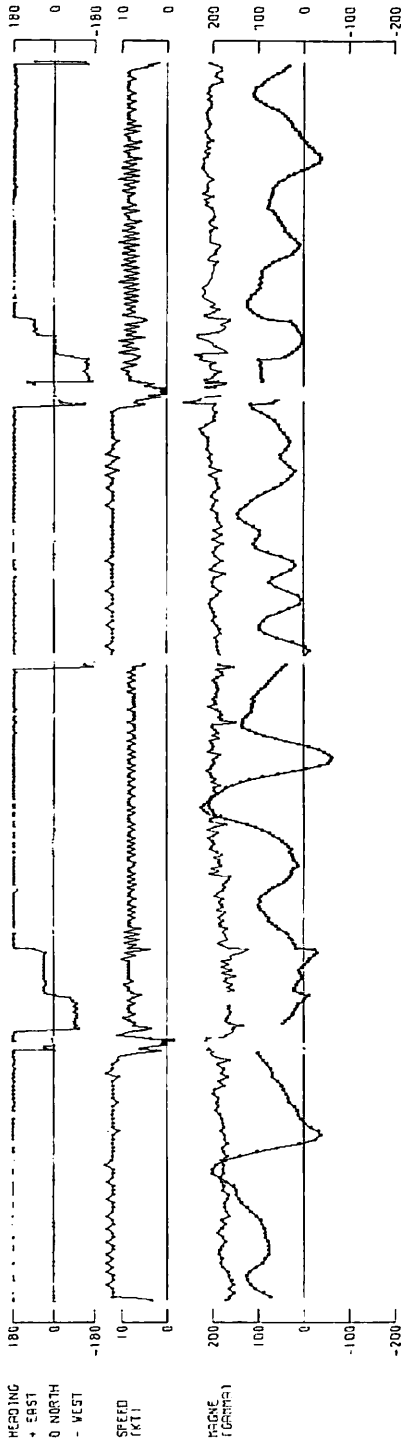
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20 09  
15 12

702

27 20  
20 21.18  
15 12

701

11 0.08  
-179 2.30  
26R  
0900R



0002

(3)

/PRF-05/

705  
LAT 6 31.20  
LON -173 1.10  
DRY 28  
DRT 0600 06

12 09 15

706

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LON -173 15.54  
DRY 28  
DRT 1733

29 00 29

706

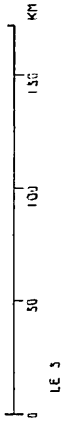
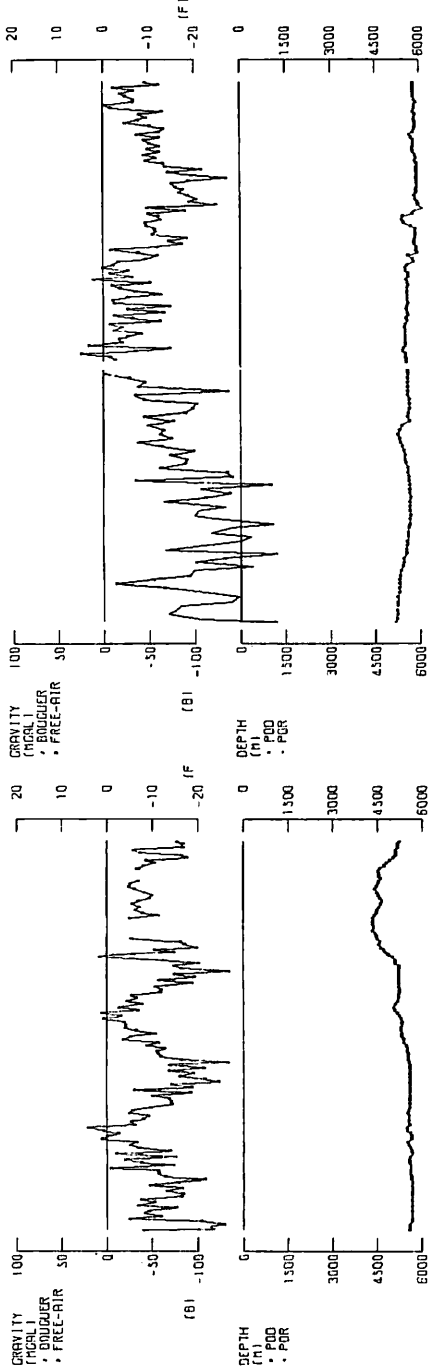
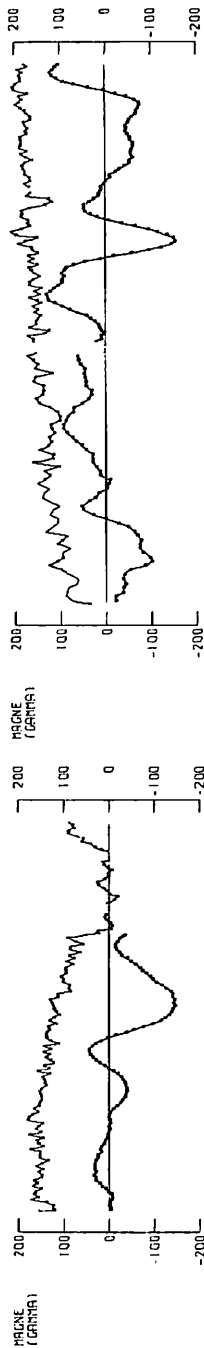
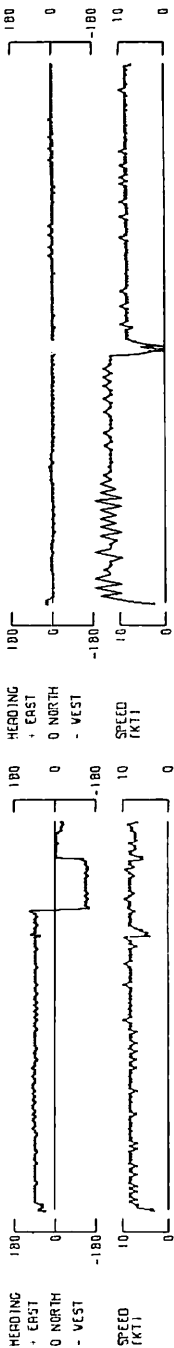
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DRY 28  
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005 09 12

707

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LON -173 55.10  
DRY 29  
DRT 1403

09 12 1403



0003



0004

(4)

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708

709

710

710

711

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 DRY 29  
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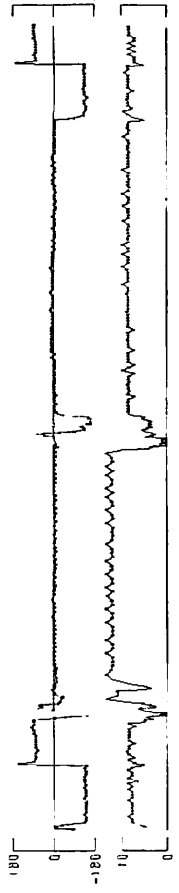
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 19 1800

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31 00  
 0320

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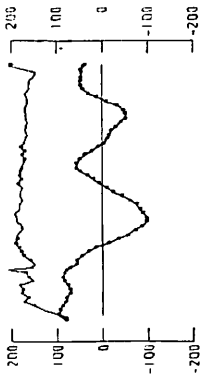
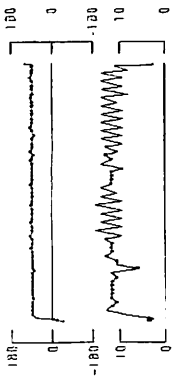
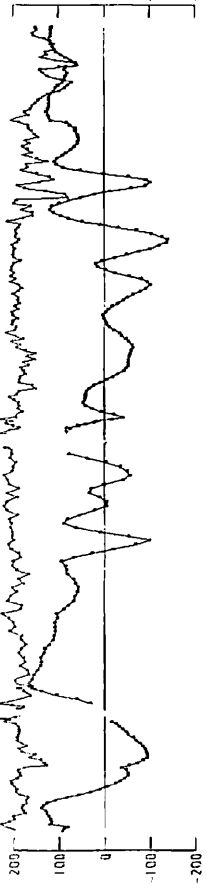
HEADING  
 • EAST  
 0 NORTH  
 - WEST



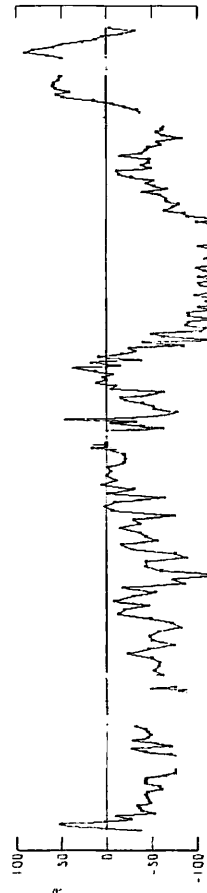
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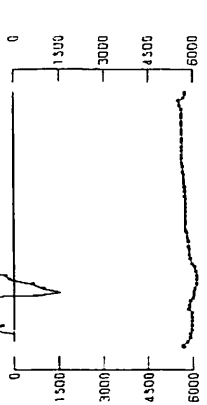
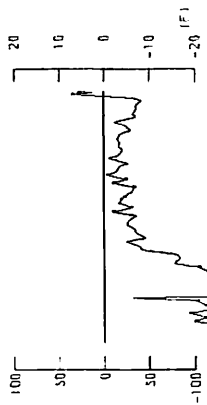
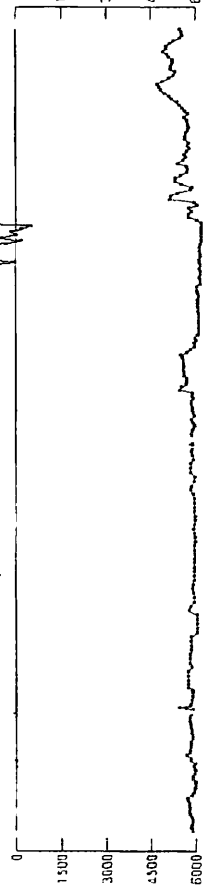
MAGNE (GAPPA)



GRAVITY (mgal)  
 • SURF  
 • FREE-AIR



DEPTH (ft)  
 • PDD  
 • PDR



0 30 100 KM

0 330 KM

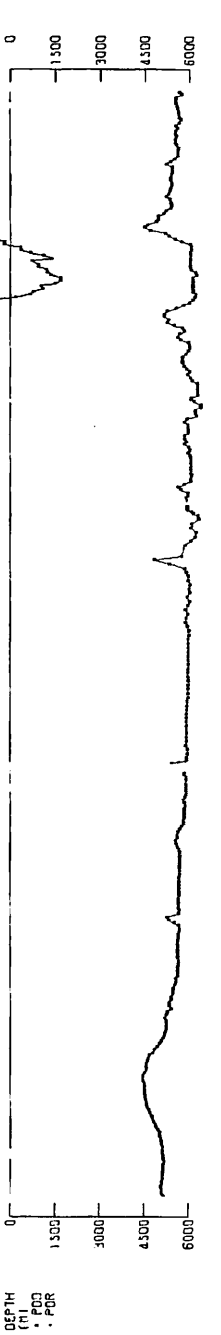
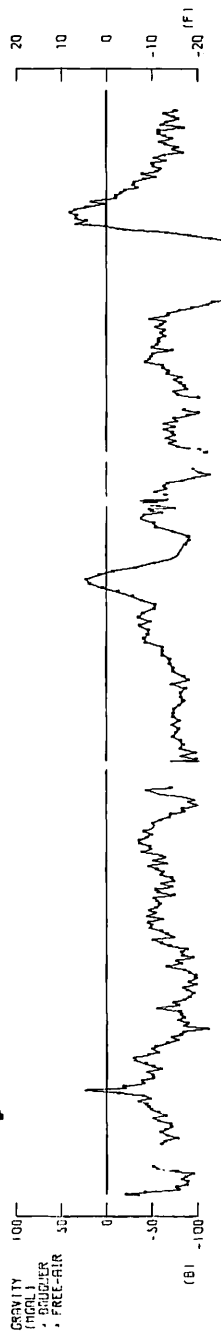
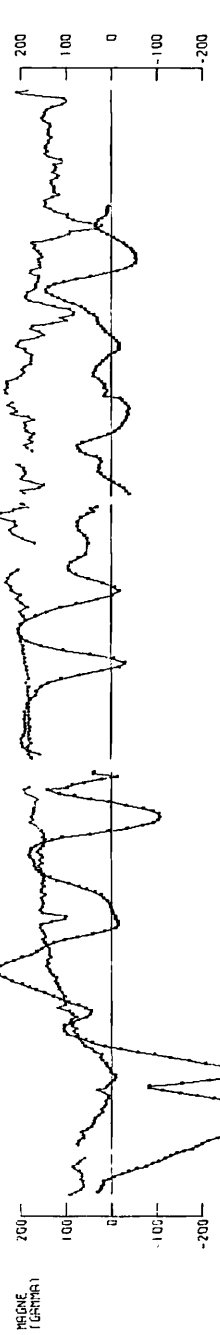
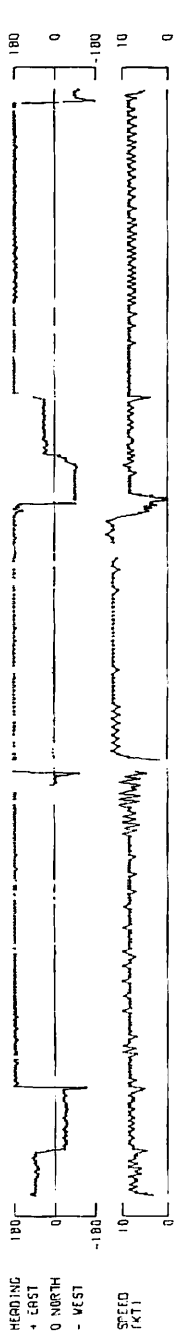
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0006

L 2

(5)

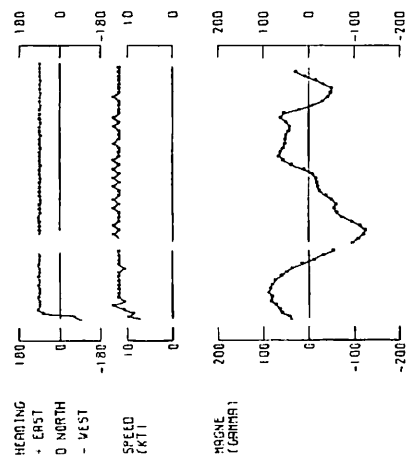
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 DRY 32  
 CRT 18 18  
 10 33.20  
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 31 R  
 06 0350



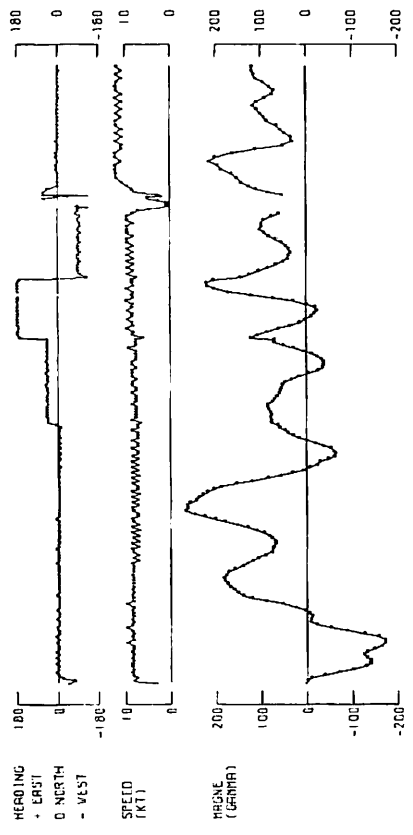
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 CRT 2033 31

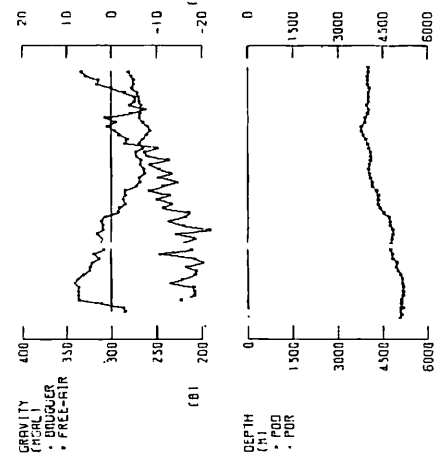


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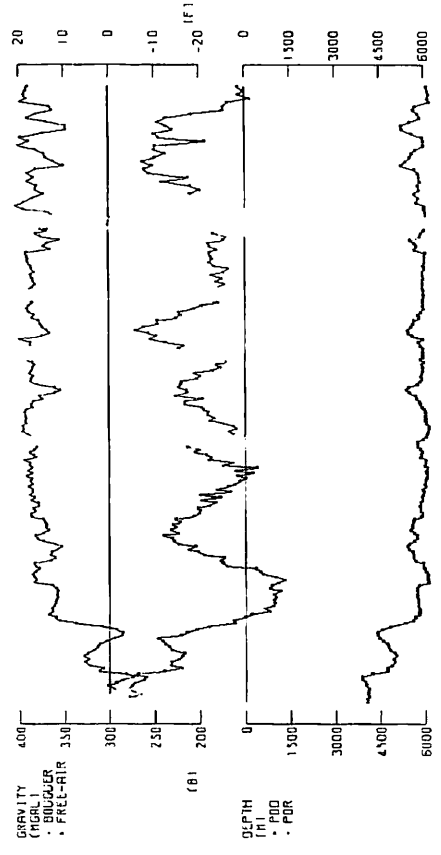
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 CRT 0020 34

714  
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 LON -176 31.0  
 DRG 32  
 CRT 2033 31



LE 4 LE 4 LE 4  
 0 0 0  
 30 30 30  
 KM

0005



LE 4 LE 4 LE 4  
 0 0 0  
 100 100 100  
 200 200 200  
 300 300 300  
 400 400 400  
 500 500 500  
 600 600 600  
 KM

0007

(7)

718 ← 719

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DAY 34  
CRT 0030

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720

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CRT 1805

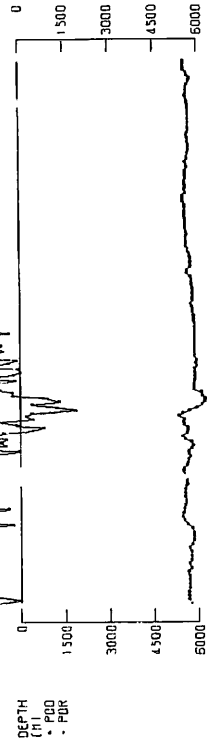
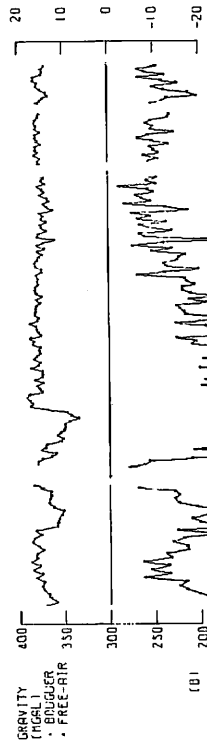
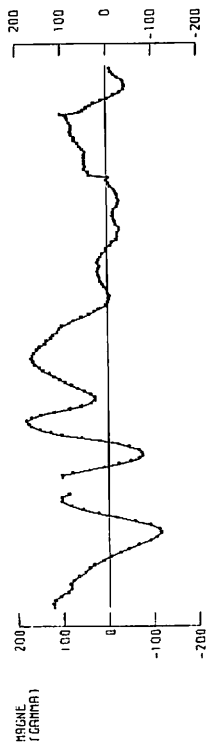
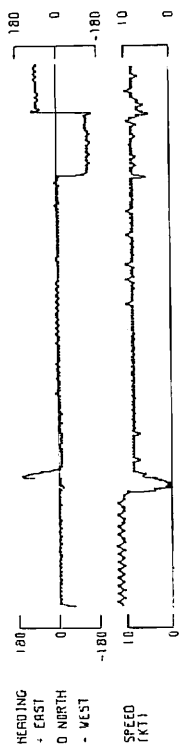
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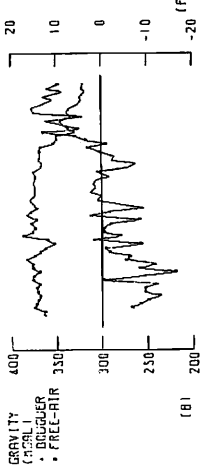
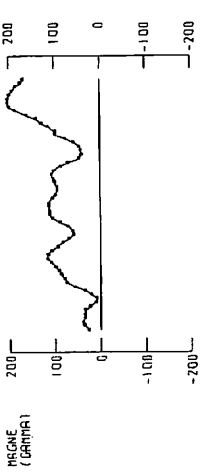
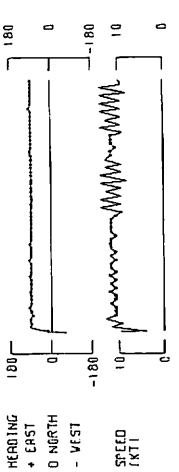
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(8)

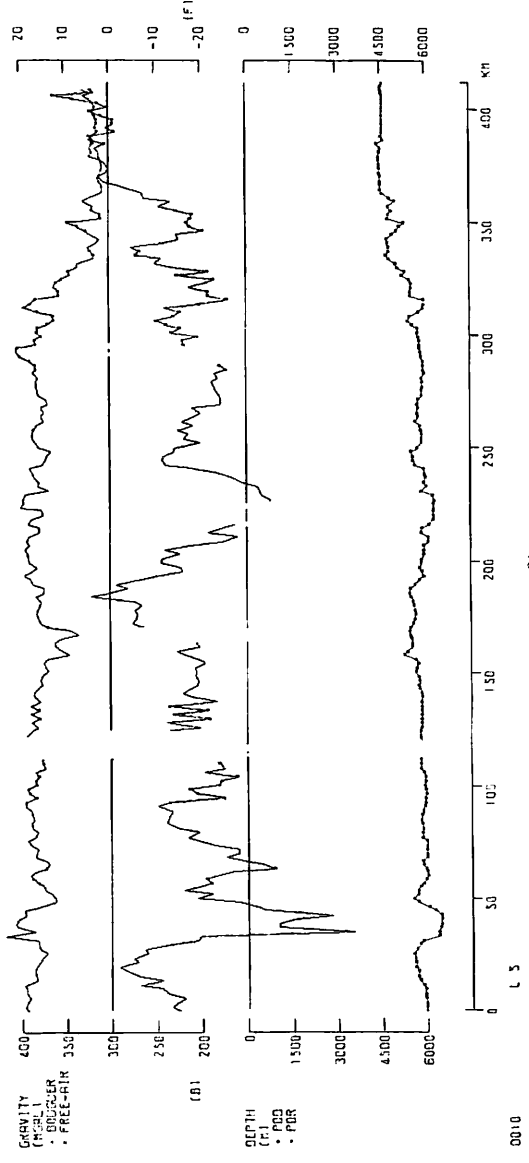
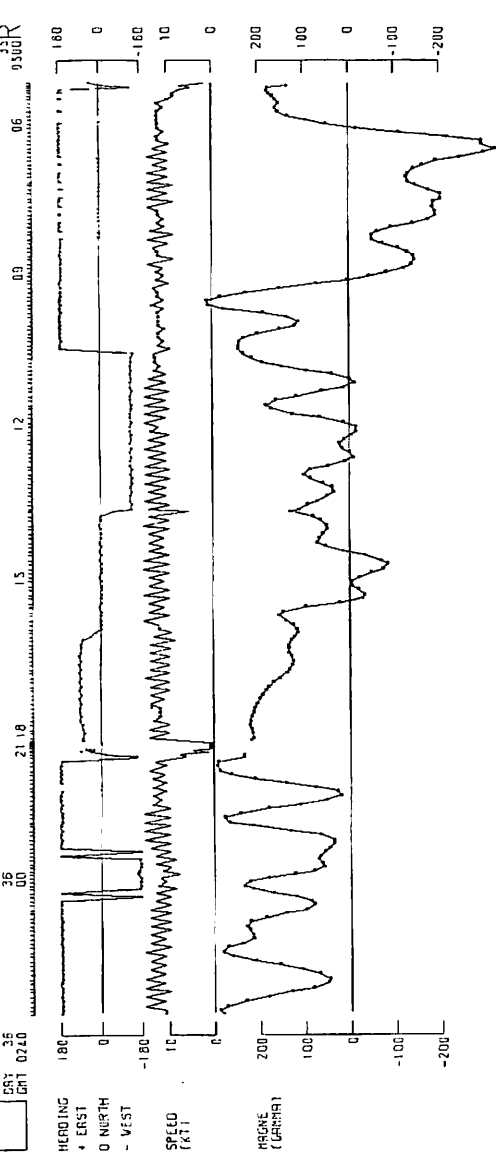


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 CRT 072.0

722

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 35R  
 0300R



(9)

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725

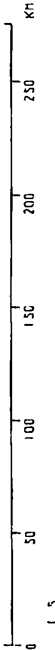
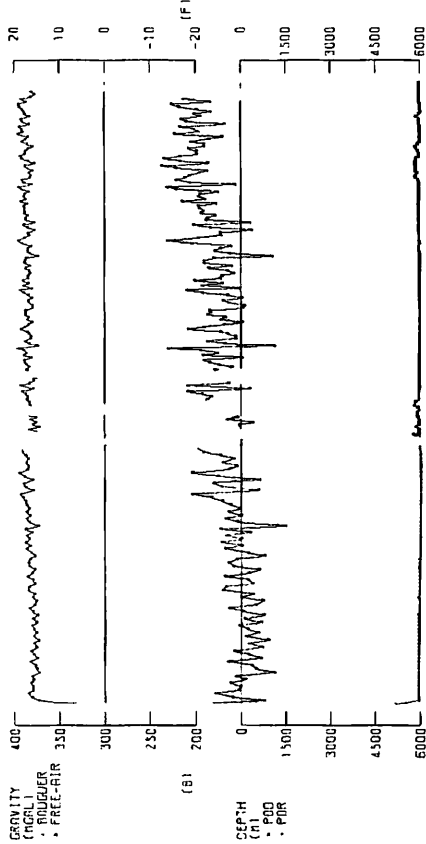
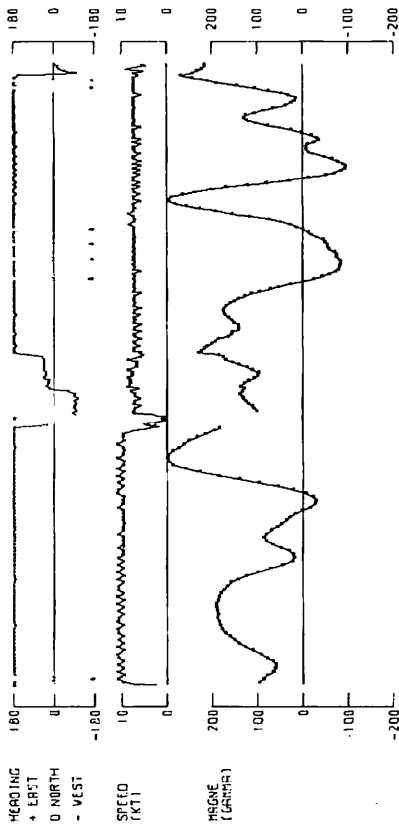
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 -172 33.10  
 36R  
 0610R

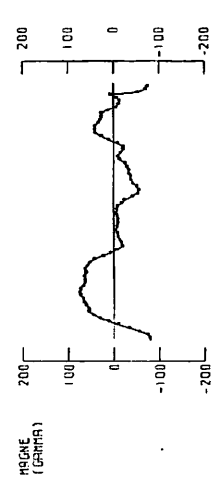
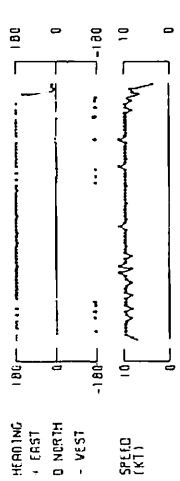
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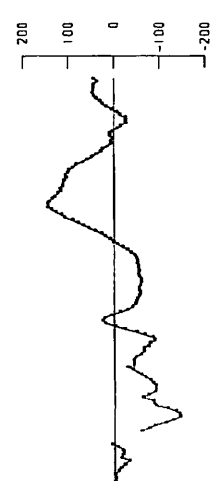
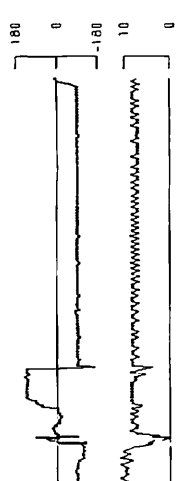
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(10)

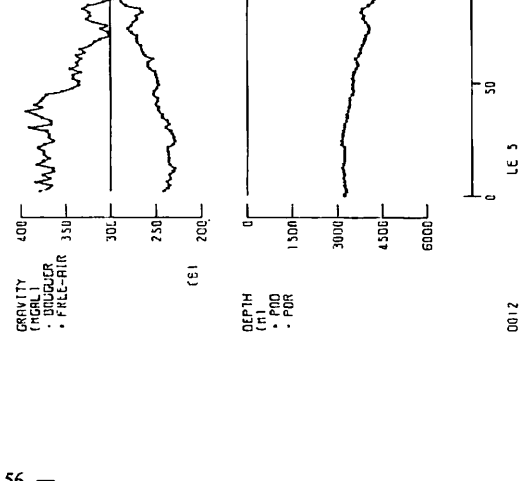
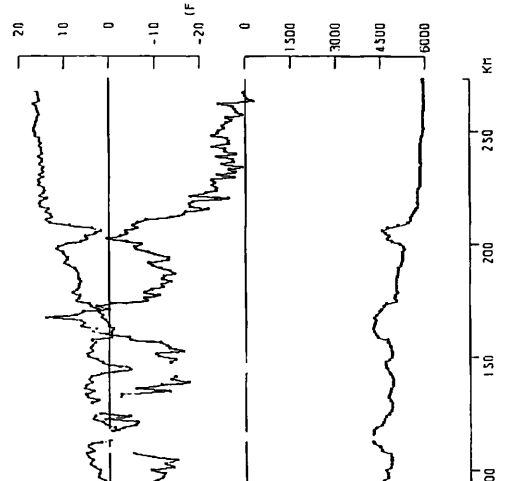
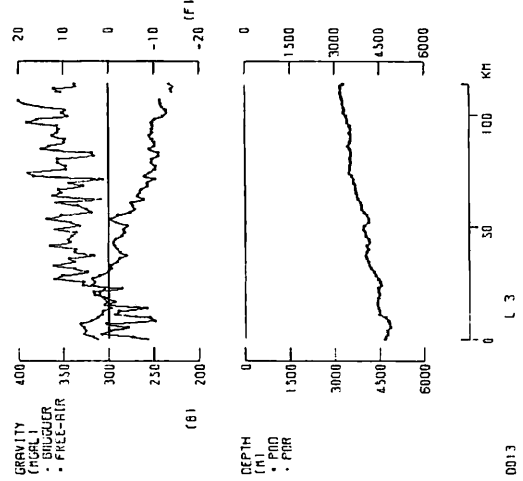
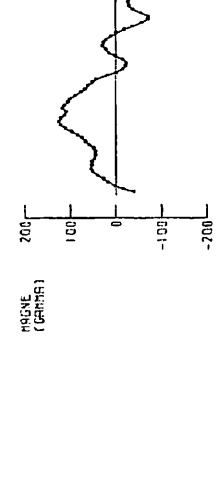
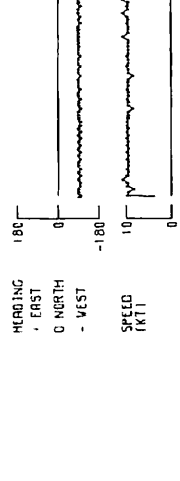
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 DBY 38 38  
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 DBY 38 38  
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727  
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 DBY 38 38  
 GRT 0130 03 09 06 0433R



0013

0012

(11)

715 ←

/PRF-DS/

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LON -172 4.00  
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727

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DRY 39  
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726

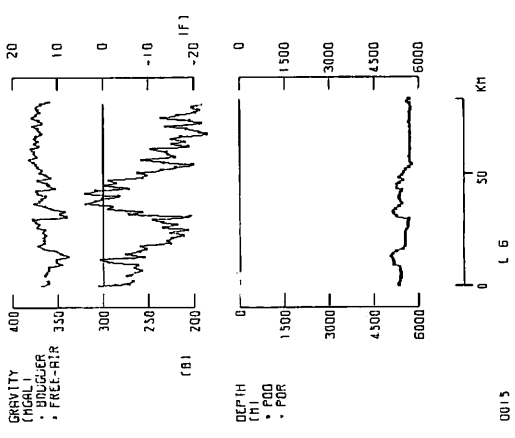
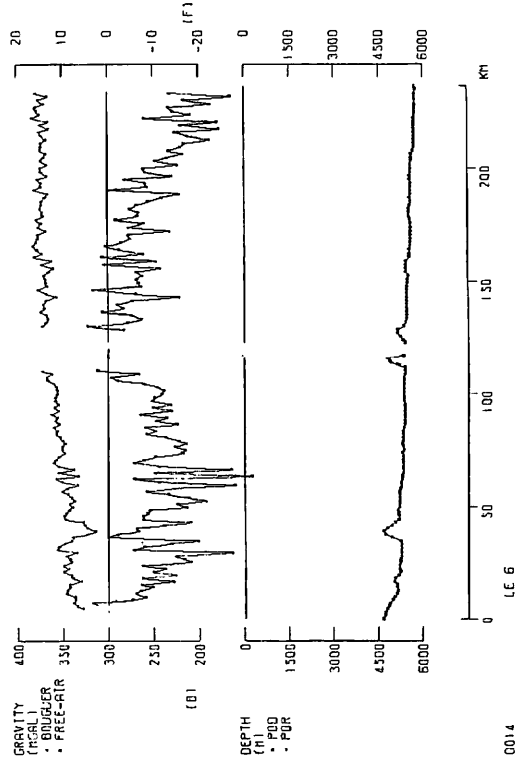
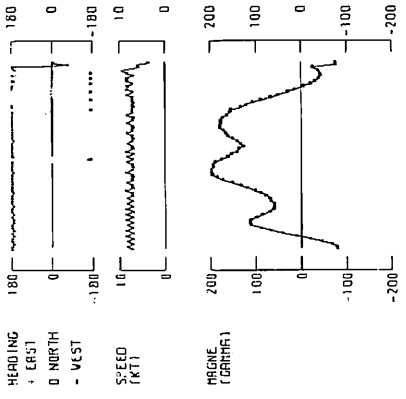
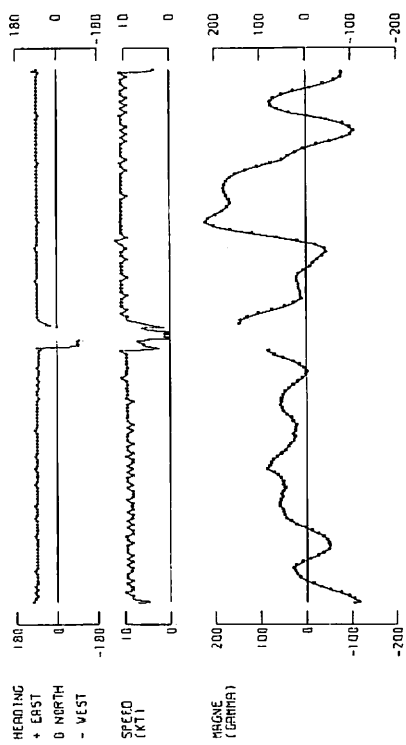
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726

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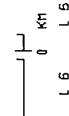
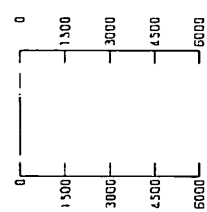
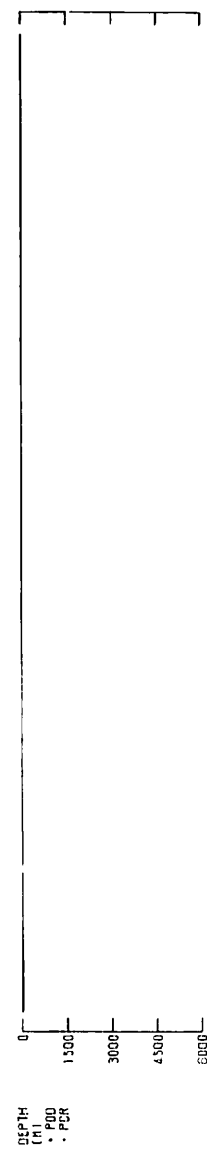
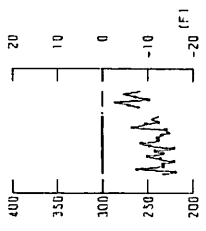
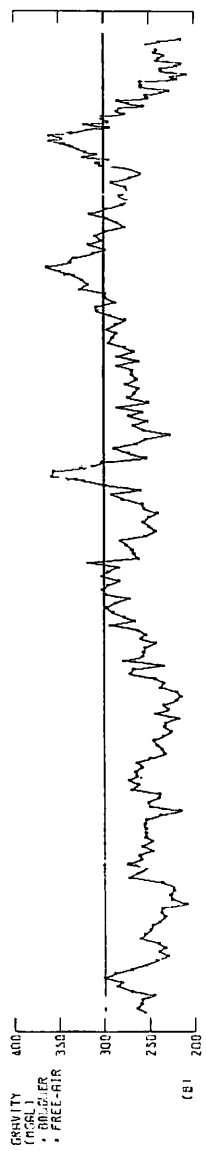
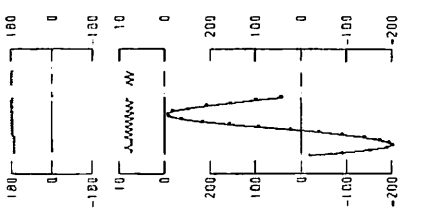
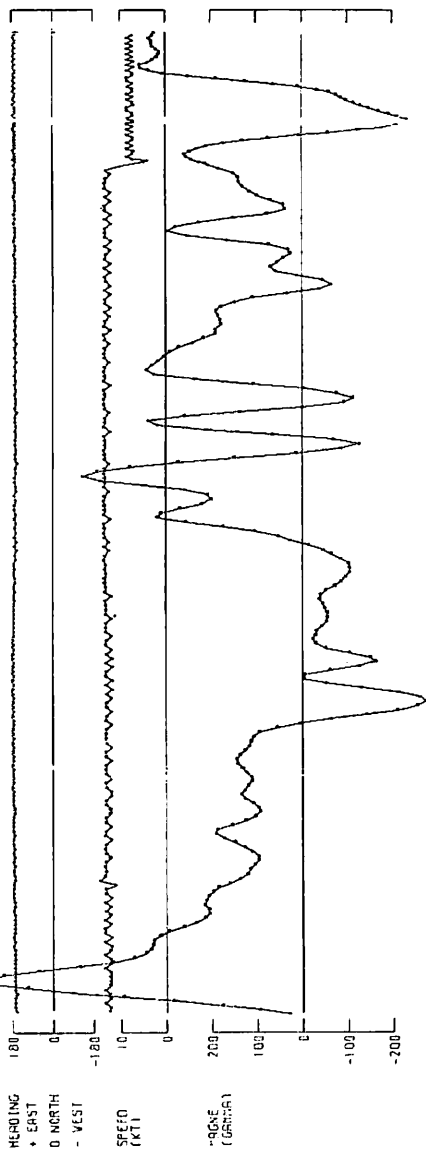
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LON -174 38.00  
DRY 39R  
GRT 1240 12 09 0645R



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LEN	-174	21.36
DRY	10	
DRY	1200	2

4	31.98	5	11.35
-174	31.98	-174	18.78
38		38	
1320	15	1230	R



0013

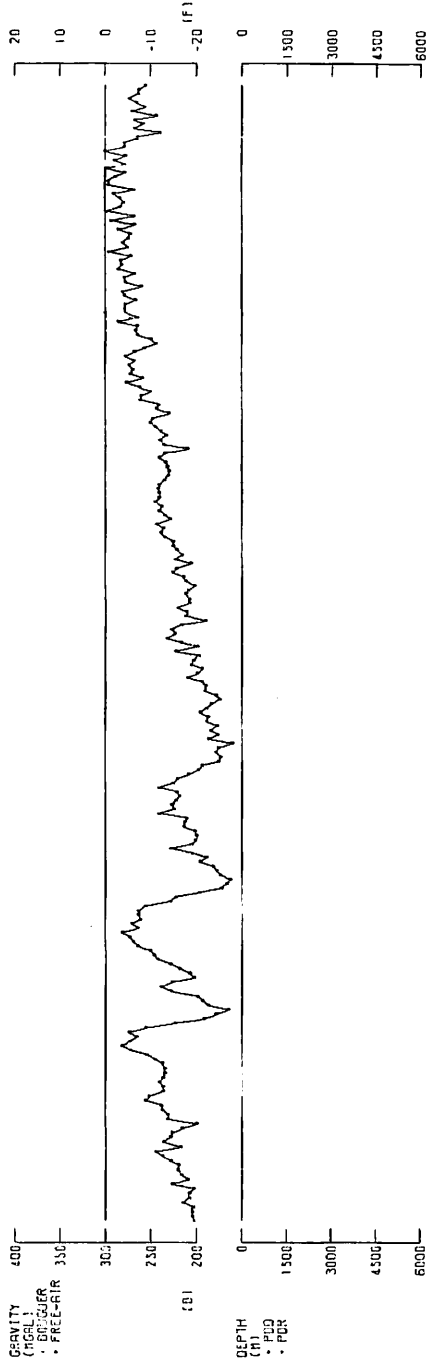
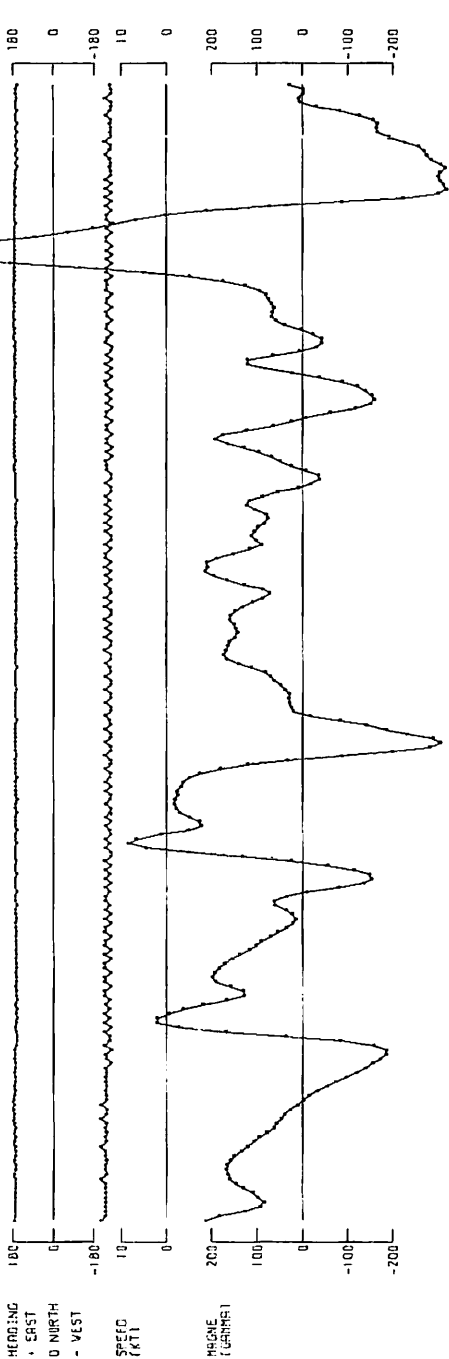
(13)

PPH-DS/

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WT 0920 09

0 16.70  
-174 21.00  
40  
12 17.00

06 09 18 21 40 00



0 50 100 150 200 250 300 350 400 450 500 KM

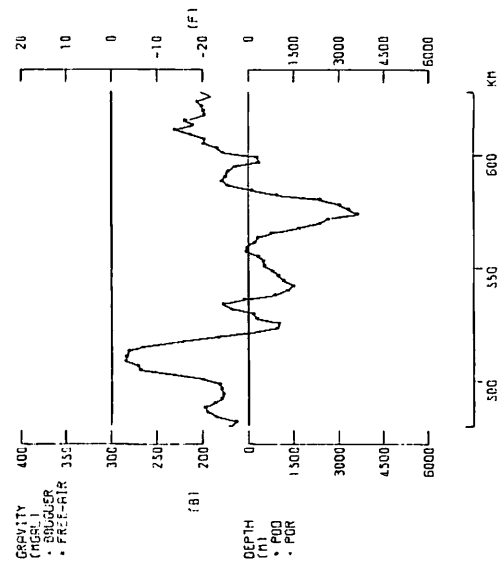
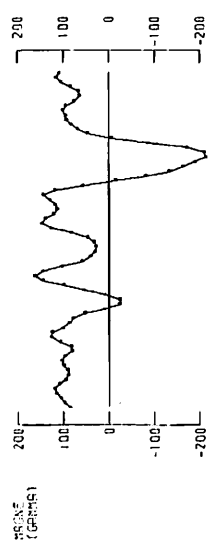
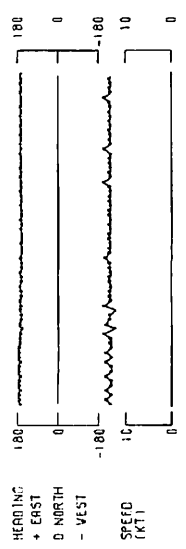
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(14)



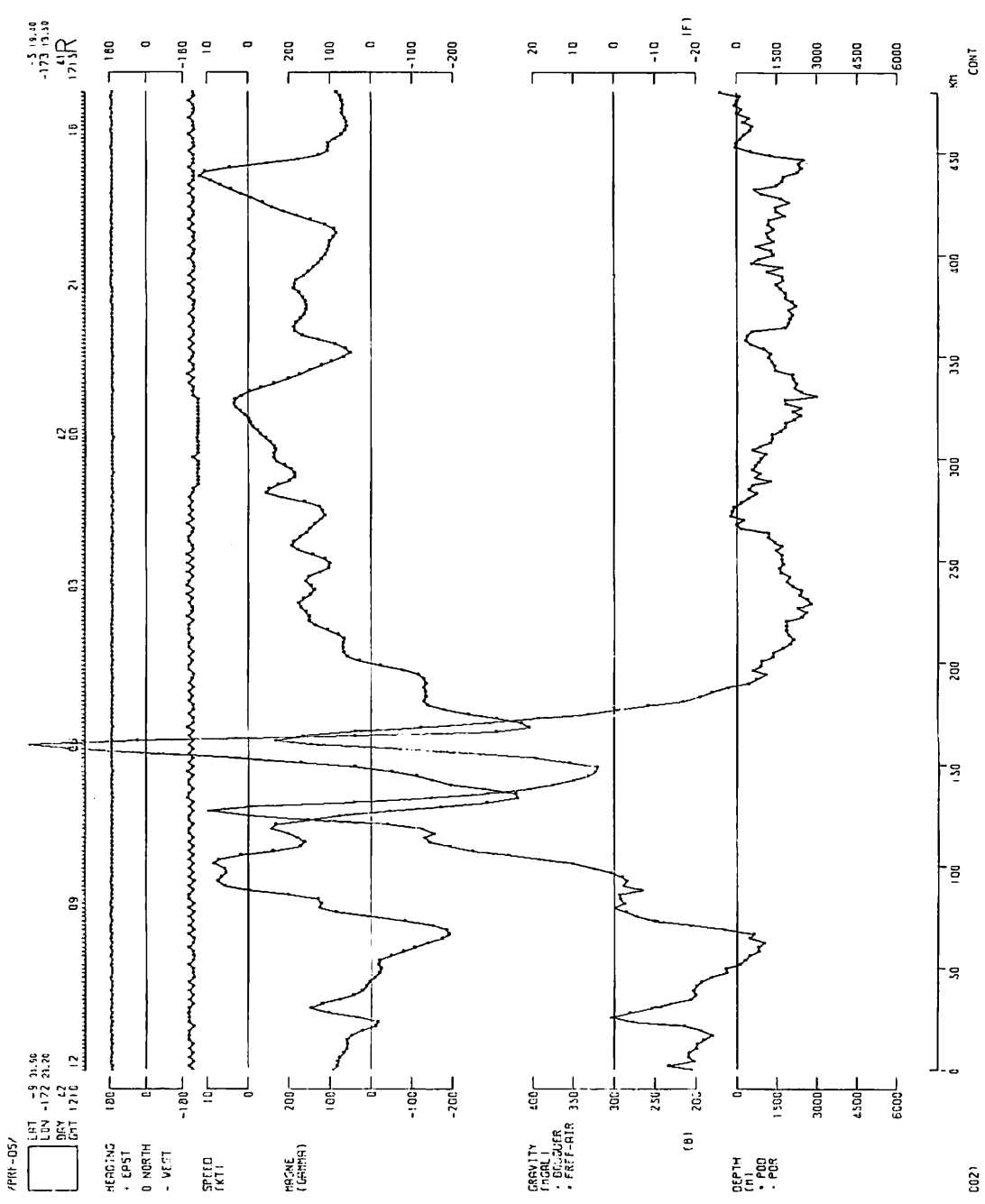
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CR1	1715		12	11.20R



0022

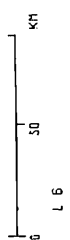
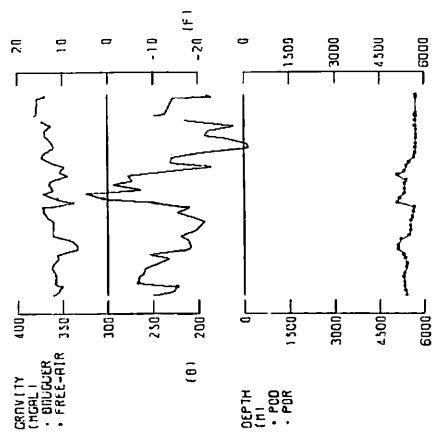
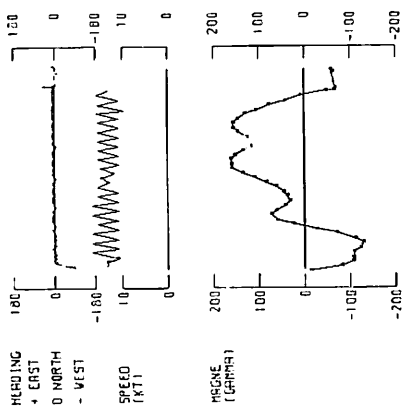
(15)



(16)

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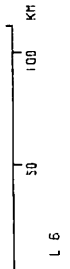
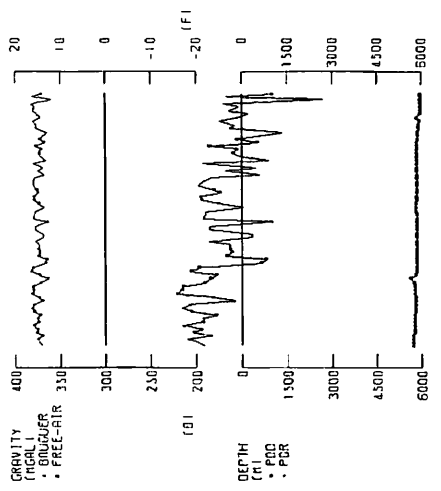
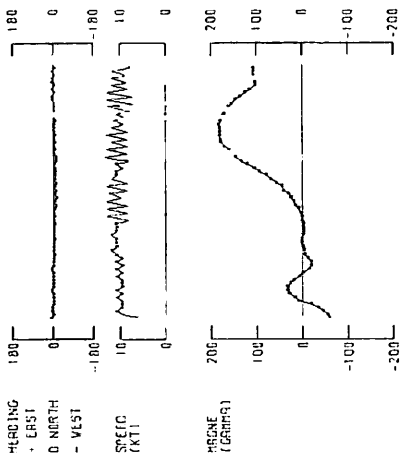
726  
 5 54.20  
 -174 56.00  
 52  
 1610



0001

/PRF-DG/  
 LAT 5 13.40  
 LON -174 56.00  
 DAY 52  
 CRT 1410 13

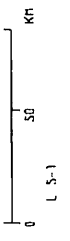
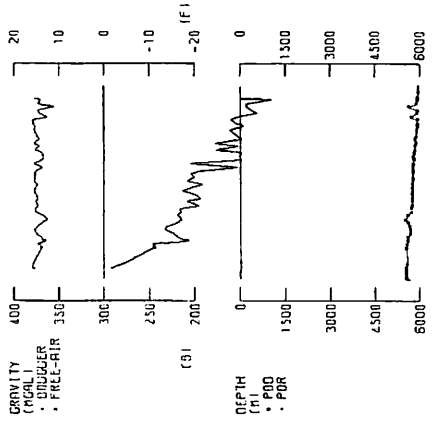
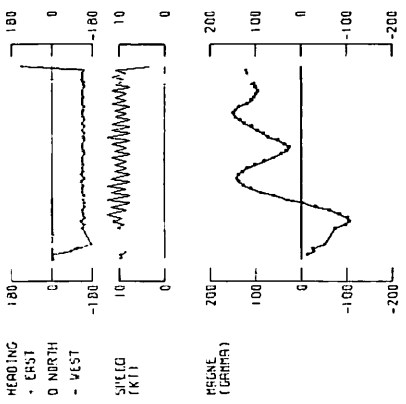
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 5 54.20  
 -174 56.00  
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/PRF-DG/  
 LAT 6 21.30  
 LON -175 24.20  
 DAY 53  
 CRT 0435 03

728  
 6 21.30  
 -175 24.20  
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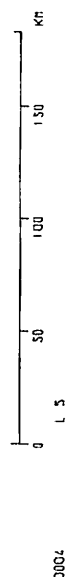
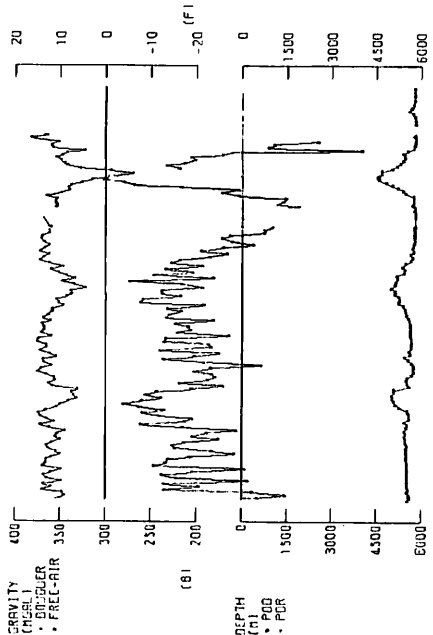
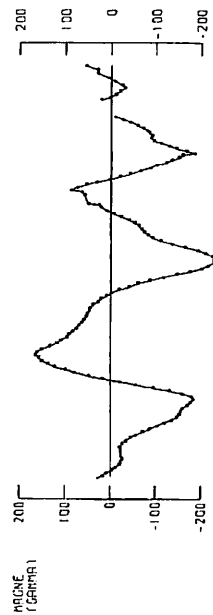
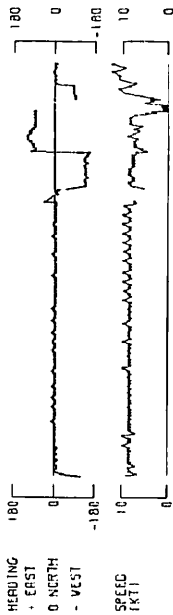
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/PRF-DS/

728

729

LAT	6 32.00	7 21.13
LCN	-175 21.00	-175 21.00
DAY	53	53
GRT	0743	09 12 13 1821 7220



(18)

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 7 31.58  
 LON -175 21.48  
 DAY 53  
 CRT 2730

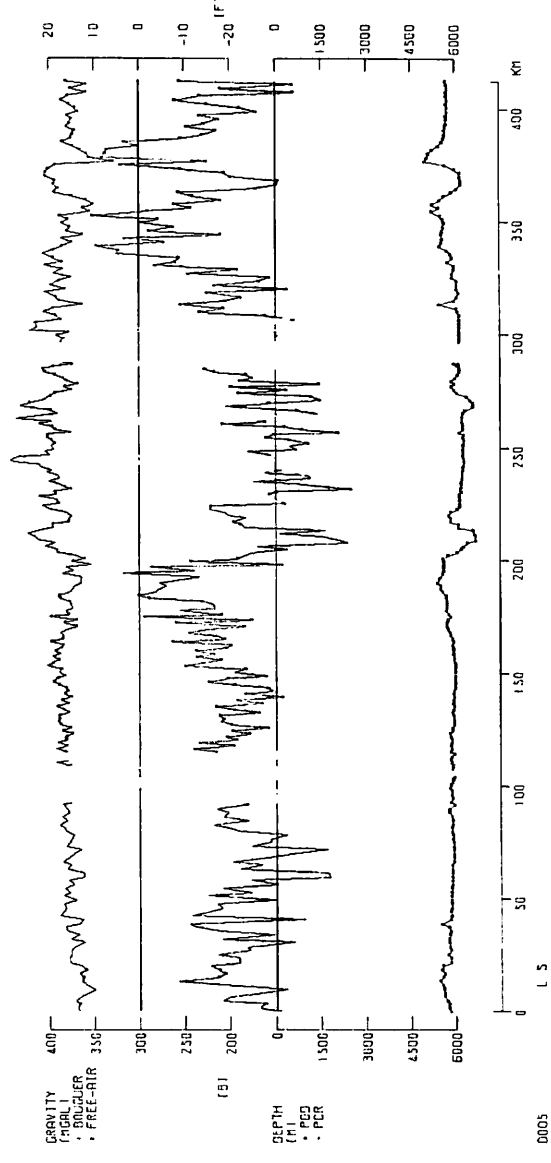
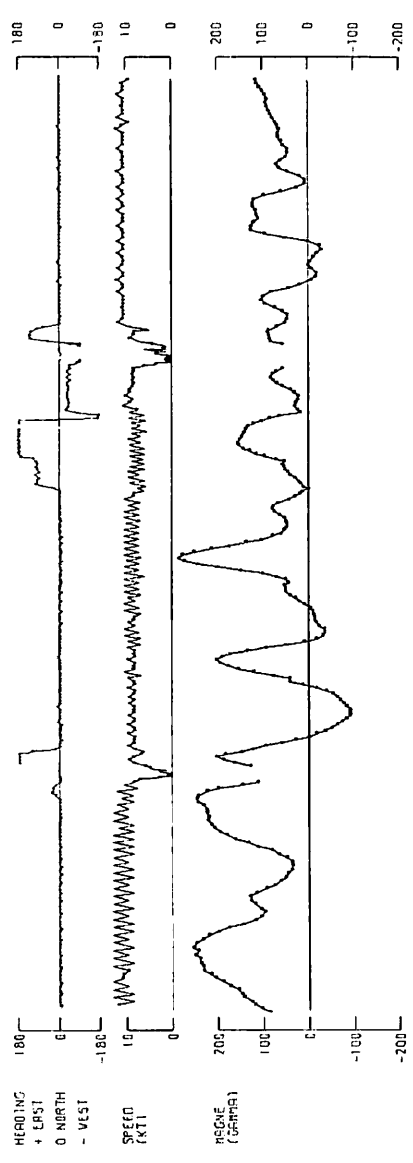
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0.95,00  
 -175 30.10  
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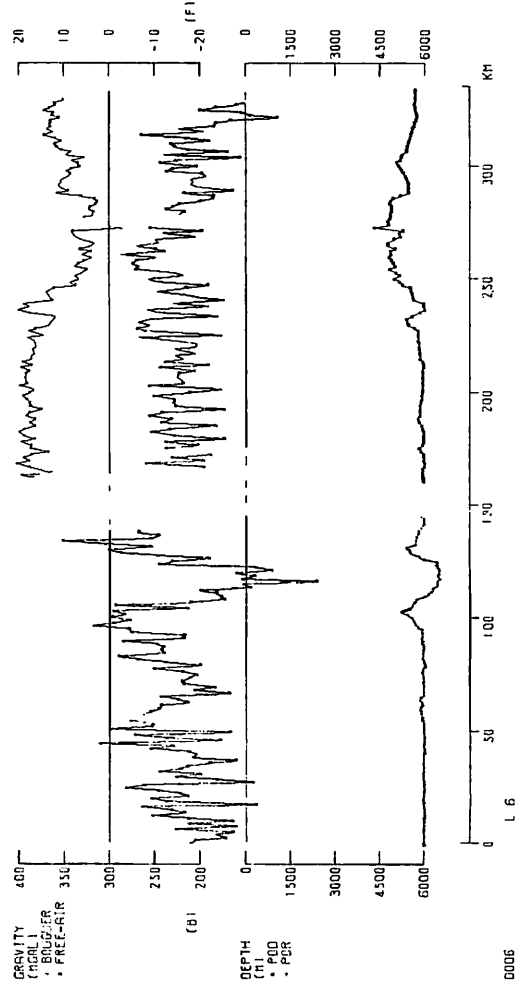
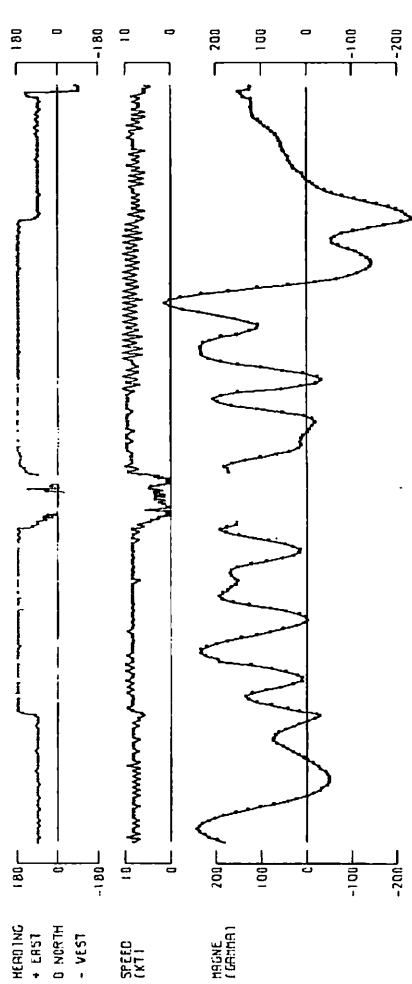
07 06 89 12 15 18PI 55 00 03



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/PRF-DS/ **734** ← **733** **732**  
 LRT 0 41.20 10 31.10  
 LON -174 34.50 -175 30.50  
 DRY 36 36  
 CRT 1215 17 03 00 21 10 09 12 09  
 55R  
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(20)

733 ←

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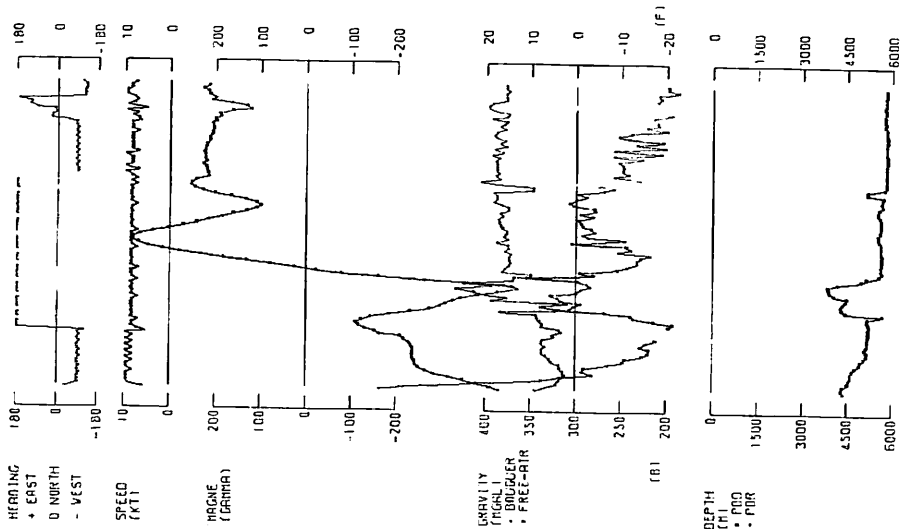
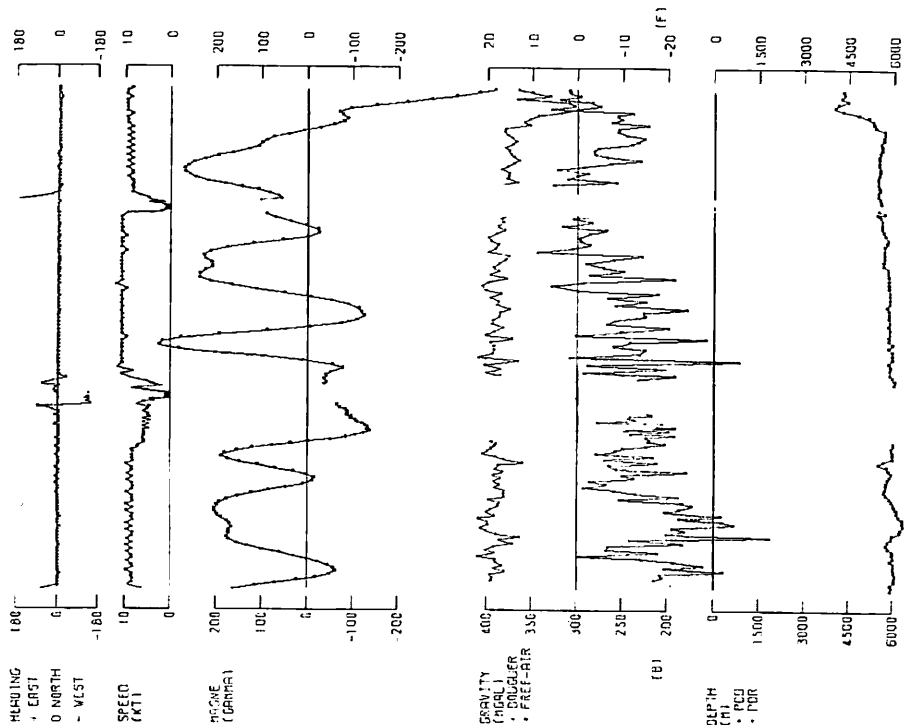
735 ←

722

/PRF-QS/

LAT 0 51.56  
 LON -172 31.30  
 DAY 56  
 CRT 1720

LAT 9 55.76  
 LON -172 31.48  
 DAY 57  
 CRT 0920



L 7

L 6-1

(21)

/PRF-DG/

737 ←

736

722

/PRF-DG/

737

→ 736

/PRF-DG/

737 → 738

LAT 9 11.6  
LON -176 24.4  
DRY 53  
GRT 1240 12

LAT 9 11.6  
LON -176 24.4  
DRY 53  
GRT 1240 12

LAT 10 4.22  
LON -175 1.44  
DRY 57  
GRT 7243R 60

LAT 9 35.10  
LON -176 24.48  
DRY 58  
GRT 2230 2343

LAT 9 35.10  
LON -176 24.48  
DRY 58  
GRT 2230 2343

LAT 9 31.20  
LON -176 24.10  
DRY 53  
GRT 1070 10

LAT 9 31.20  
LON -176 24.10  
DRY 53  
GRT 1070 10

LAT 9 31.20  
LON -176 24.10  
DRY 53  
GRT 1070 10

LAT 9 31.20  
LON -176 24.10  
DRY 53  
GRT 1070 10

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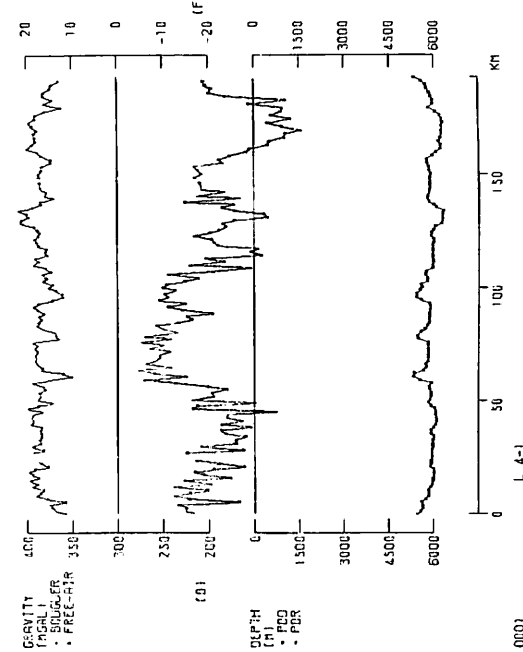
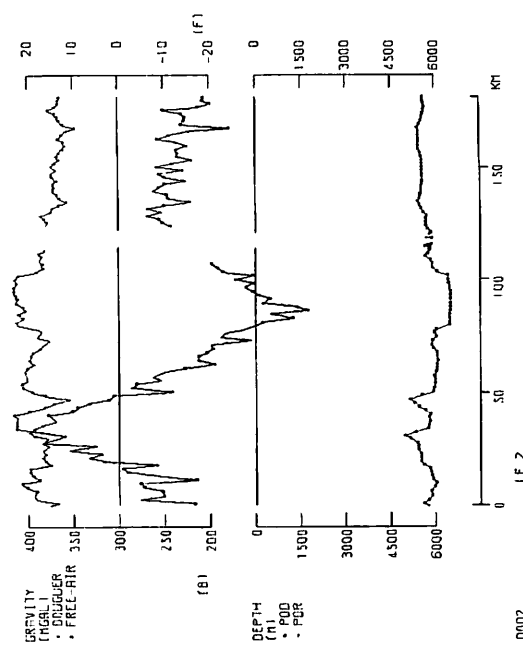
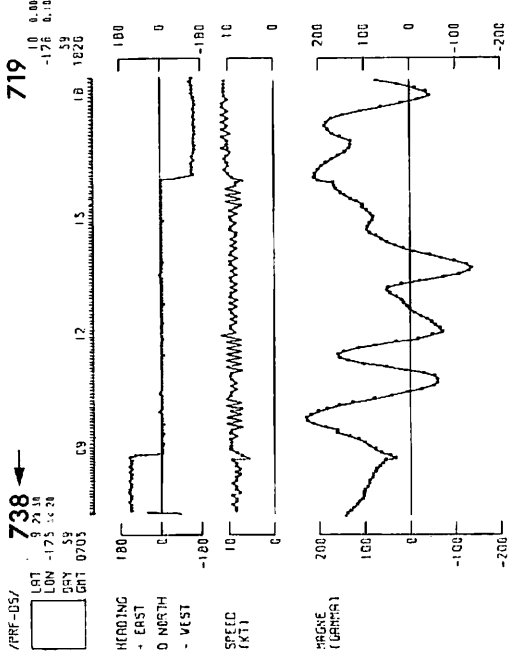
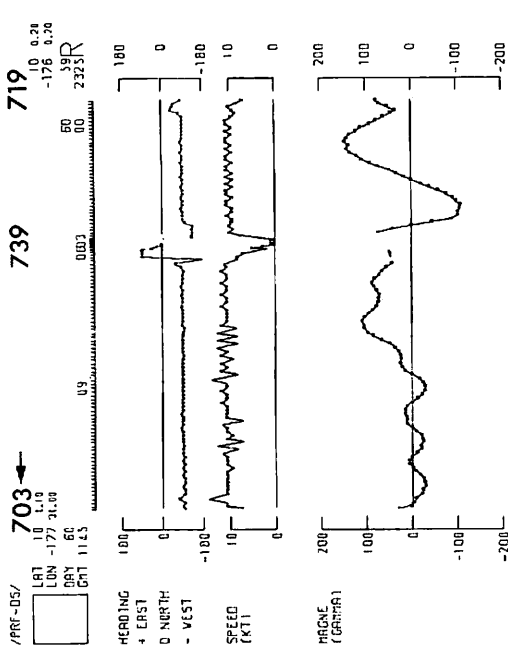
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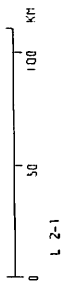
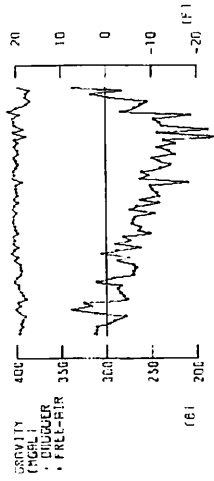
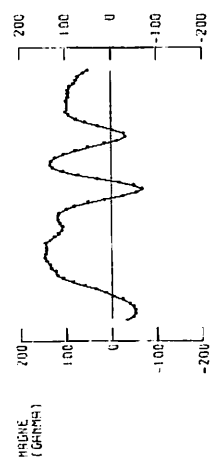
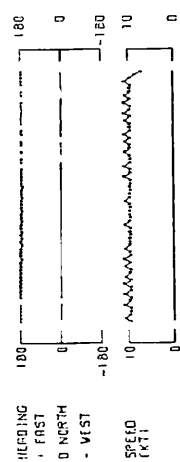




/PRF-05/  
 LAT 9 4.00  
 LON -177 31.50  
 DRG 60  
 CRT 1730

**703** ←

9 15.50  
 LON -177 31.00  
 DRG 60  
 CRT 1130



0003

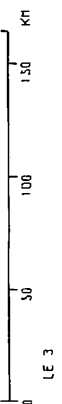
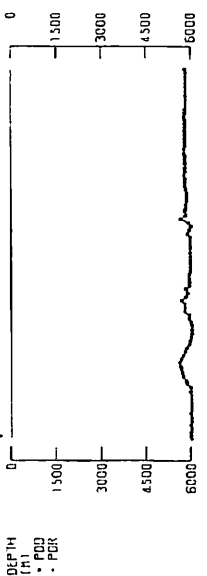
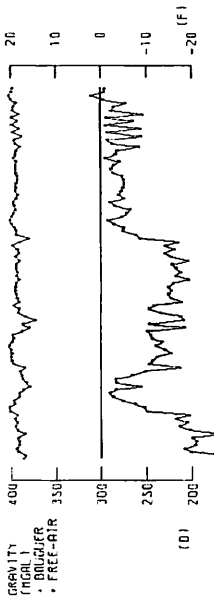
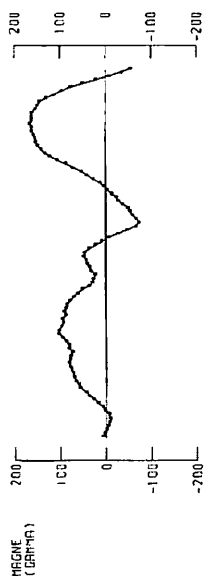
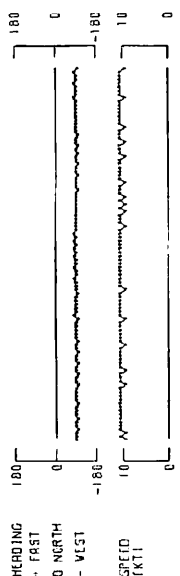
L 2-1

/PRF-05/  
 LAT 8 11.00  
 LON -178 1.00  
 DRG 61  
 CRT 0720

**703**

→ **739**

8 15.50  
 LON -177 30.20  
 DRG 61  
 CRT 1735



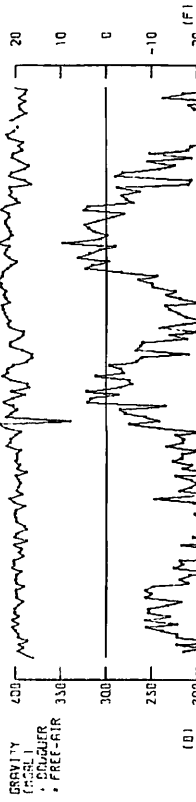
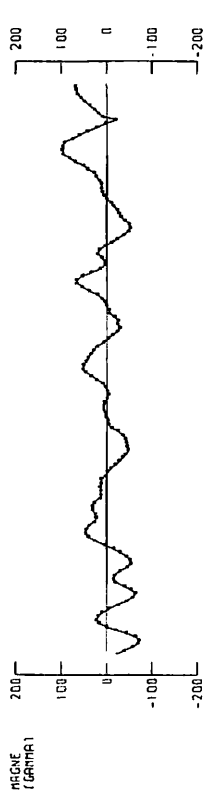
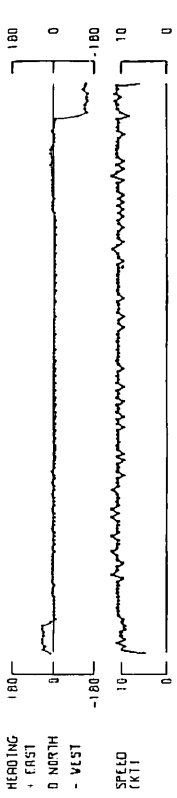
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/PRF-05/ 703

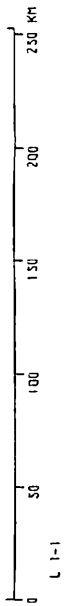
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SRT 51  
CRT 0320 06

10 35.00  
-173 1.80  
51  
18 18.10



0005

L 1-1

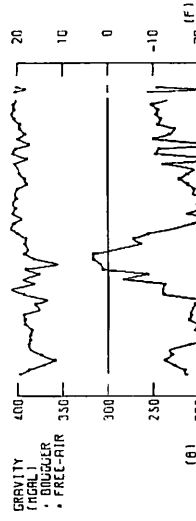
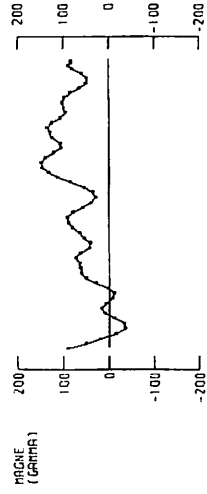
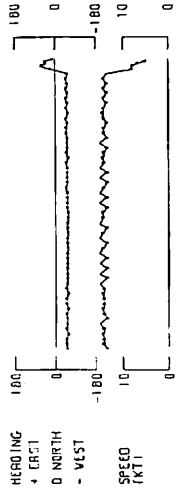


(26)

/PRF-05/ 701

LRT 11 37.10  
LGN -175 3.80  
SRT 67  
CRT 0730 62

10 35.40  
-175 3.80  
67  
2130R



0006

L 0-1

