

O/F 224

GRAVITY AND MAGNETIC DATA IN THE LABRADOR SEA

HUDSON 72-025

DIGITIZED DATA

RELEASED THROUGH OPEN FILE

PREPARED BY

K. G. SHIH
ATLANTIC GEOSCIENCE CENTRE
BEDFORD INSTITUTE OF OCEANOGRAPHY

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OPEN FILE
224
GEOLOGICAL SURVEY
OTTAWA

Map to be
taken from
Hudson G-70

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CRUISE: C.S.S. HUDSON 72-025

1. INTRODUCTION

THE CRUISE WAS UNDERTAKEN BY THE CANADIAN HYDROGRAPHIC SERVICE AND ATLANTIC GEOSCIENCE CENTRE, BEDFORD INSTITUTE OF OCEANOGRAPHY.

THE PURPOSE OF THE CRUISE WAS TO CARRY OUT A HYDROGRAPHIC-GEOPHYSICAL SURVEY OF AN AREA OFF THE COAST OF LABRADOR.

2. SCIENTIST-IN-CHARGE

R.F. MACNAB

3. INSTRUMENTATION

3.1 MAGNETICS

TOTAL MAGNETIC FIELD WAS MEASURED USING A BARRINGER PROTON PRE-
CESSION MAGNETOMETER. DATA WERE RECORDED IN ANALOGUE FORM ON A MOSELEY 680
STRIP CHART RECORDER AND IN DIGITAL FORM ON PAPER TAPE AT SIX SECOND INTERVALS.

3.2 GRAVITY

GRAVITY VALUES WERE RECORDED WITH A GRAF-ASKANIA GSS-2 GRAVIMETER
MOUNTED ON AN ANSCHUTZ GYRO STABILIZED PLATFORM AND A LACOSTE AND ROMBERG GRAVI-
METER MODEL S-39 EQUIPPED WITH AN INERTIAL PLATFORM.

3.3 BATHYMETRY

BATHYMETRY VALUES WERE RECORDED USING A KELVIN-HUGHES 26B SOUNDER.

3.4 NAVIGATION

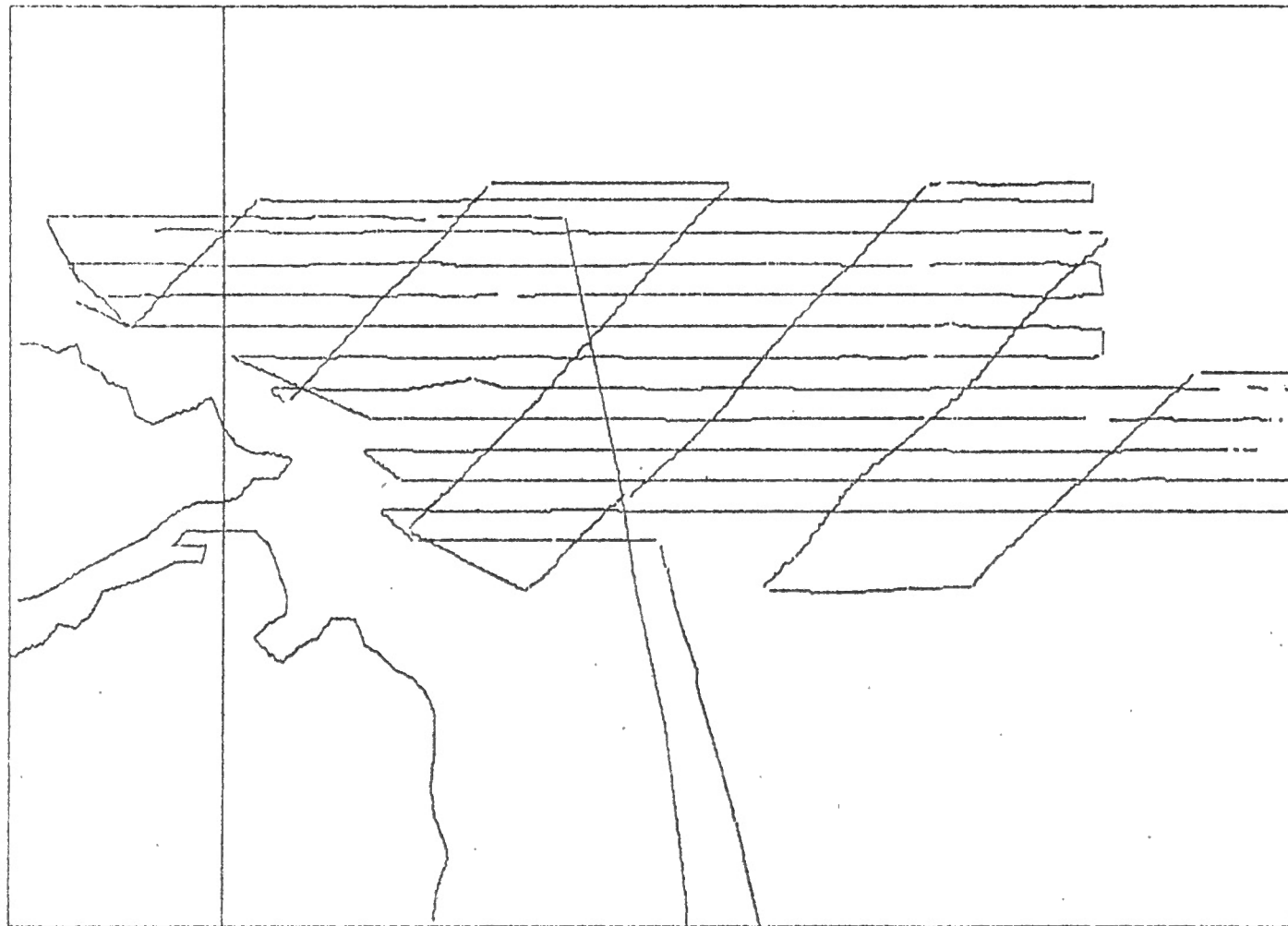
SHIP'S POSITIONING THROUGHOUT THE CRUISE WAS OBTAINED BY A MAGNAVOX
SATELLITE NAVIGATION RECEIVER AND RHO-RHO LORAN-C, FOR THE LATTER USING CAPE RACE,
NEWFOUNDLAND; ANGISSOG, GREENLAND; AND SANDUR, ICELAND FOR TRANSMITTING STATIONS.

4. DATA COVERAGE:

FIGURE 1 SHOWS THE SHIP'S TRACKS ALONG WHICH MAGNETIC DATA WERE COLLECTED AND FIGURE 2 SHOWS THE SHIP'S TRACKS ALONG WHICH THE GRAVITY DATA WERE COLLECTED. THE NUMBER OF 2-MINUTE INTERVAL STATIONS, $1^{\circ} \times 1^{\circ}$ GRID MEAN FREE AIR, AND $1^{\circ} \times 1^{\circ}$ MEAN MAGNETIC ANOMALY CENTERED AT THE GIVEN LATITUDE AND LONGITUDE ARE ALSO GIVEN. THE DIGITIZED DATA ON MAGNETIC TAPE INCLUDE TIME, LATITUDE, LONGITUDE, BATHYMETRY, MAGNETIC ANOMALY, TOTAL MAGNETIC FIELD, FREE AIR GRAVITY AND SIMPLE BOUGUER ANOMALY.

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177500000 AT 00 N



60W

FIGURE 1 - TRACKS ALONG WHICH MAGNETIC DATA COLLECTED

48W

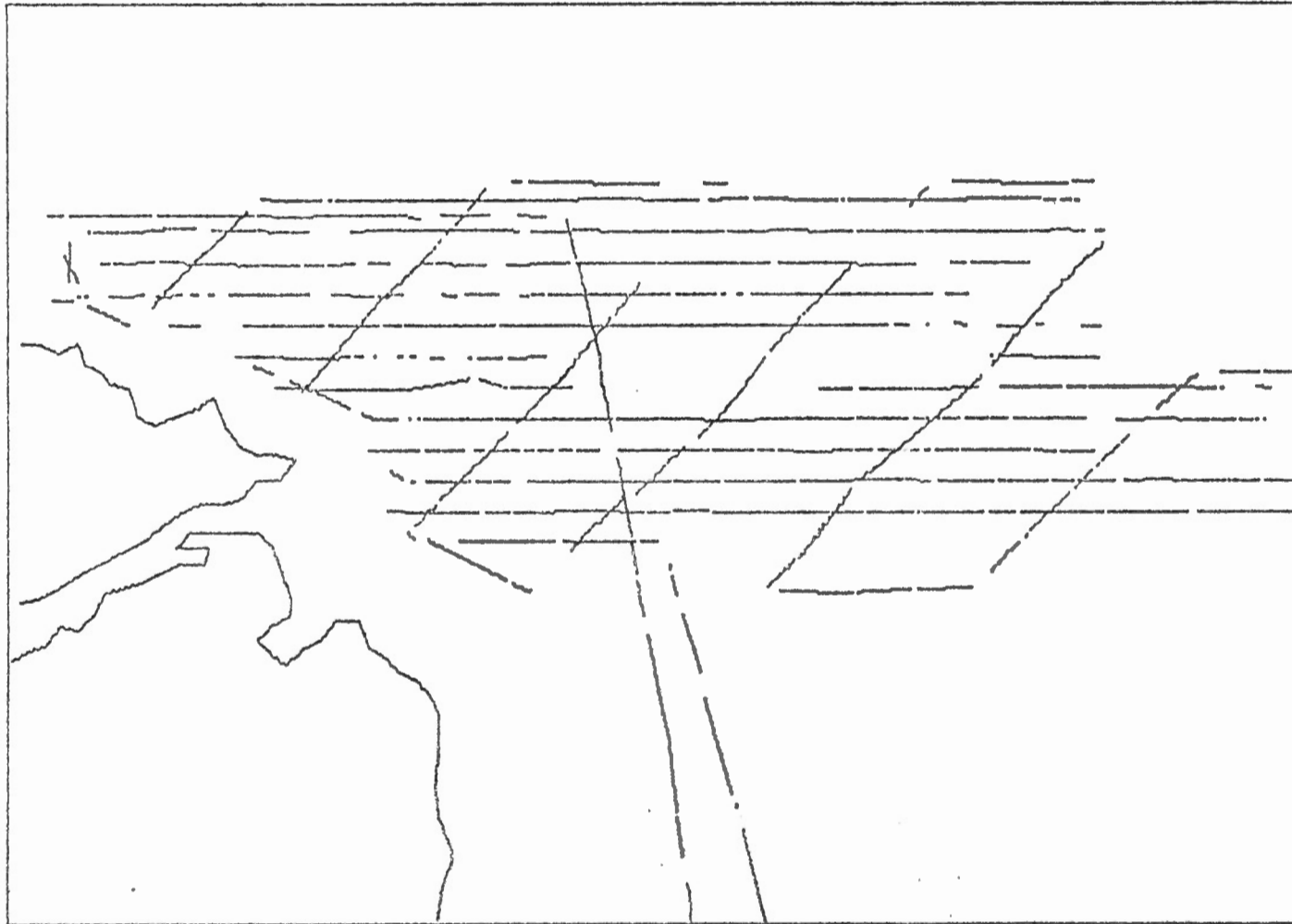
52N

57N

CSS HUDSON 72-025

177500000 AT 00 N

57N



- 4 -

52N

60W

FIGURE 2 - TRACKS ALONG WHICH GRAVITY DATA COLLECTED

48W

172

GRAVITY STATIONS

	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
81	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
82	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
86	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
87	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
98	0	0	0	13	284	469	377	479	511	517	447	538	405	269	0	0	0	0
99	0	0	0	4	142	125	465	4602	614	492	526	548	626	522	330	78	0	0
00	0	0	0	0	0	0	0	212	325	456	295	306	212	190	206	263	273	6
01	0	0	0	0	0	0	0	0	0	156	89	0	0	0	0	0	0	0
02	0	0	0	0	0	0	0	0	0	96	142	0	0	0	0	0	0	0
03	0	0	0	0	0	0	0	0	0	0	134	0	0	0	0	0	0	0
04	0	0	0	0	0	0	0	0	0	0	190	0	0	0	0	0	0	0
05	0	0	0	0	0	0	0	0	0	0	256	18	0	0	0	0	0	0
06	0	0	0	0	0	0	0	0	0	0	109	110	0	0	0	0	0	0
07	0	0	0	0	0	0	0	0	0	0	154	95	0	0	0	0	0	0
08	0	0	0	0	0	0	39	93	78	111	22	109	0	0	0	0	0	0
09	0	0	0	0	36	110	53	0	0	0	0	78	0	0	0	0	0	0
10	53	102	98	30	0	0	0	0	0	0	140	33	0	0	0	0	0	0
11	0	0	0	40	98	57	0	0	0	176	100	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	134	59	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

M. A. MEAN

	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
79	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
78	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
77	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
76	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
74	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
73	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
69	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
66	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
56	0	0	0	394	392	132	-15	71	63	33	14	106	119	184	0	0	0	0
55	0	0	0	0	370	298	489	101	106	-24	-65	64	94	126	4	144	0	0
54	0	0	0	0	0	0	-222	-33	436	-4	391	63	48	148	66	65	120	324
53	0	0	0	0	0	0	0	0	0	102	419	0	0	0	0	0	0	0
52	0	0	0	0	0	0	0	0	0	194	279	0	0	0	0	0	0	0
51	0	0	0	0	0	0	0	0	0	0	215	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	183	0	0	0	0	0	0	0
49	0	0	0	0	0	0	0	0	0	0	-4	22	0	0	0	0	0	0
48	0	0	0	0	0	0	0	0	0	0	122	114	0	0	0	0	0	0
47	0	0	0	0	0	0	0	0	0	0	11	125	0	0	0	0	0	0
46	0	0	0	0	0	0	62	106	100	-102	-263	3	0	0	0	0	0	0
45	0	0	0	0	-129	-32	115	0	0	0	0	-90	0	0	0	0	0	0
44	-28	-103	-163	-177	0	0	0	0	0	0	-162	-214	0	0	0	0	0	0
43	0	0	0	-105	-160	-183	-156	0	0	-210	-197	0	0	0	0	0	0	0
42	0	0	0	0	0	0	-149	-174	-175	-206	0	0	0	0	0	0	0	0
41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0