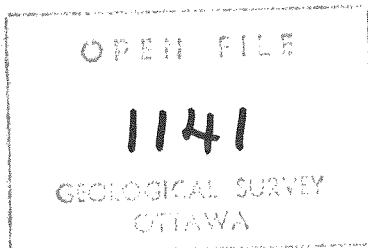


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EXPEDITION REPORT

No. 84-022?

Louis M. Lauzier

CENTRE CHAMPLAIN DES SCIENCES DE LA MER

SEPT 27-30, 1984

by

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Cruise Objectives: The primary objective of cruise 84-022 was to recover a current meter array from the Saguenay Fjord which was deployed earlier in the year during a cruise (84-044) aboard M.V. NAVIMAR UN. The second objective of the cruise was to systematically collect sediment cores along 12 selected cross sections located along the length of the fjord (see Fig. 1). These cores would provide an excellent data base to model events such as the known landslides of 1663, 1665 and 1971, confirm sedimentation rates in the fjord system, and allow ground truthing of reflection seismic profiles.

PERSONNEL

RESPONSIBILITY

Ken Asprey

Environmental Marine Geology Subdivisions,
Atlantic Geoscience Centre
Party Chief

Bob Murphy

Program Support Subdivision,
Atlantic Geoscience Centre
Responsible for the recovery of current meters
and coring operation.

Kathy Ellis

Chemical Oceanography Subdivision,
Atlantic Oceanography Laboratory,
Responsible for the identification, and
measurement of various events observed in the
cores.

METHODS

A. Current Meter Recovery

The recovery of the current meter array was carried out by dragging. A Norwegian grappling chain was dragged behind the ship perpendicular to the mooring ground line. The chain was attached to a 3/8" wire cable on the 50 HP winch which was mounted on the quarterdeck of the ship. The cable passed through a block on the "A" frame. Approximately 150 metres of cable was let out and then the dragging began. After a few passes over the position the cable became taught. The winch began bringing in the cable

until the first train wheel was brought aboard. Then the current meters and the ferry float were brought aboard. The grappling chain was detached from the winch cable, and the cable was attached to the ground line. The ground line was winched in and the second railroad car wheel was brought aboard. Finally the high flyer which sank during original deployment operation was brought aboard. The current meters and stainless steel hardware was washed off with freshwater and stored for shipment back to BIO.

B. Coring Operation

The coring operation was carried out on the quarterdeck of the ship. The corer was a Benthos pilot corer, equipped with a 1.5 metre barrel and a one-way valve. The device was handled from a davit on the starboard side of the ship, using a 25 H.P. winch and 5/32" stainless steel wire.

The corer was allowed to free fall to the bottom from a height of and then brought back onboard. The core barrel was measured for apparent penetration after which the coreliner was removed from the corer and the core length determined. The core was then extruded using a #13 one hole rubber stopper and a broom handle. The extruded core was measured again, photographed and sub-sampled. The remainder of the core was then discarded over the side.

Two cores were taken at the middle of every transit and at all coring stations in transit #8 and #12. Duplicate cores were measured and capped for future work. See TABLE for core sample data.

Acknowledgements: The authors would like to thank Dr. Stephen Peck D.F.O., Quebec for making the necessary arrangements for shiptime. As well we

would like to thank the captain, officers and crew of the N.S.C. Louis M. Lauzier for their constant support during all phases of the cruise.

TABLE 1

Station Number	Latitude (N)	Longitude (W)	Water Depth (m)	Day/Time EDT	Sample Number	Description	Length Core
1a	48 24 86	70 51 43	59	271/0840	84-02601	48.5-50 cm GREY LAYER	100
1b	48 25 00	70 51 43	72	271/0903	84-02602	44-46 cm GREY LAYER	108
1c	48 25 15	70 51 43	66	271/0916	84-02603	34-42 cm GREY LAYER	98
1d	48 25 33	70 51 43	65	271/0926	84-02604	TOTAL CORE SAVED	98
				271/0938	84-02605	21-22 cm	100
1e	48 25 50	70 51 43	47	271/0950	84-02606	CORE CATCHER (GREY)	
					84-02607	CUTTER GREY	
2a	48 24 36	70 50 22	70	291/1009	84-02610	12.8-13 cm GREY LAYER	105
2b	48 24 25	70 50 25	80	271/1022	84-02611	CORE CATCHER GREY	114
2c	48 24 71	70 50 28	92	271/1033	84-02612	NO SAMPLE TAKEN	115
				271/1038	84-02613	28.5-31 cm GREY LAYER	117
					84-02614	TOTAL CORE TAKEN	134
2d	48 24 86	70 50 32	84	271/1052	84-02615	20-21 cm GREY LAYER	
					84-02616	84-90 cm GREY LAYER	
2e	48 25 05	70 50 30	78	271/1108	84-02617	CUTTER SAMPLE GREY	122
3a	48 24 26	70 48 82	102	271/1125	84-02618	21-23 cm GREY LAYER	112
3b	48 24 47	70 48 80	103	271/1135	84-02619	79-81 cm GREY with BLACK	100
3c	48 24 69	70 48 79	96	271/1146	84-02620	10.5-13 cm GREY LAYER	96
				271/1154	84-02621	TOTAL CORE	112
3d	48 24 87	70 48 76	87	271/1257	84-02622	7-9 cm GREY LAYER	107
3e	48 25 06	70 48 75	74	271/1307	84-02623	58-60 cm OXGANIC FIBER	130
					84-02624	9-10 cm GREY LAYER	
4a	48 24 46	70 47 10	94	271/1325	84-02625	68-69 cm GREY LAYER	109
					84-02626	7-8 cm GREY LAYER	
					84-02627	81-85 cm GREY LAYER	
4b	48 24 70	70 46 98	113	271/1338	84-02628	100-130 cm GREY LAYER	116
					84-02629	8-10 cm GREY LAYER	
					84-02630	99-111 cm GREY with BLACK	
					84-02631	111-115 cm GREY LAYER	
					84-02632	CORE CUTTER GREY	
					84-02633	7.5-9 cm GREY LAYER	
					84-02634	85-105 cm GREY with BLACK	
						105-125 cm GREY LAYER	

TABLE 1 (Cont'd)

Station Number	Latitude (N)	Longitude (W)	Water Depth (m)	Day/Time EDT	Sample Number	Description	Length Core
4c	48 24 95	70 46 96	124	271/1401	84-02635	6-7 cm GREY LAYER	103
4d	48 25 18	70 46 94	123	271/1409	84-02636	104-110 GREY LAYER	119
				271/1419	84-02637	TOTAL CORE TAKEN	
4e	48 25 48	70 46 89	120	271/1430	84-02638	5.5-7 cm GREY LAYER	108
					84-02639	80-97 cm GREY LAYER	
5a	48 24 08	70 45 58	100	271/1502	84-02640	97-103 cm GREY with BLACK	94
					84-02641	103-113 cm GREY LAYER	
5b	48 24 14	70 45 20	134	271/1512	84-02642	5-6 cm GREY LAYER	106
					84-02643	86-90 cm GREY LAYER	
5c	48 24 20	70 44 85	145	271/1540	84-02645	31-53 cm GREY LAYER	96
					84-02644	7 cm GREY LAYER	
5d	48 24 23	70 44 47	144	271/1524	84-02645	31-53 cm GREY LAYER	93
					84-02646	4-4.5 cm GREY LAYER	
6a	48 22 64	70 44 79	160	271/1545	84-02647	33-40 cm GREY LAYER	197
					84-02648	TOTAL CORE	
6b	48 22 64	70 44 31	180	271/1618	84-02649	3-3.5 cm GREY LAYER	110
					84-02650	39-40 cm GREY LAYER	
6c	48 22 65	70 43 90	196	271/1630	84-02651	60-90 cm GREY LAYER	122
					84-02652	94-104 cm GREY LAYER	
6d	48 22 66	70 43 54	183	271/1646	84-02653	3-3.5 cm GREY LAYER	104
					84-02654	71-110 cm GREY LAYER	
6e	48 22 66	70 43 12	140	271/1656	84-02657	50-70 cm GREY LAYER	100
					84-02658	80-100 cm GREY LAYER	
7a	48 22 38	70 44 93	158	271/1670	84-02659	44-48 cm GREY LAYER	130
					84-02660	TOTAL CORE	
7b	48 22 13	70 44 83	172	271/1710	84-02661	24-30 cm GREY LAYER	106
					84-02662	60-70 cm GREY LAYER	
7c	48 21 93	70 44 77	180	271/1723	84-02663	66-74 GREY (SAND) LAYER	95
					84-02664	40-55 cm GREY LAYER	
7c	48 21 93	70 44 77	180	271/1826	84-02665	58 cm GREY (SAND) LAYER	78
					84-02666	50-60 cm GREY LAYER	
7c	48 21 93	70 44 77	180	271/1839	84-02667	70-77 cm GREY LAYER	99
					84-02668	80-83 cm GREY-dense LAYER	
				271/1856	84-02670	50-63 cm GREY LAYER	95
				271/1904	84-02671	TOTAL CORE	64

TABLE 1 (Cont'd)

Station Number	Latitude (N)	Longitude (W)	Water Depth (m)	Day/Time EDT	Sample Number	Description	Length Core
7d	48 21 72	70 44 68	180	271/1918	84-02672	35-42 cm GREY LAYER	90
					84-02673	98-104 cm GREY LAYER	
7e	48 21 49	70 44 58	177	271/1936	84-02674	38-58 cm GREY LAYER	105
					84-02675	58-61 cm BLACK SAND LAYER	
8a	48 21 20	70 42 51	198	272/0813	84-02676	61-71 cm GREY SAND LAYER	124
					84-02678	52-62 cm GREY LAYER	
8b	48 21 52	70 42 51	225	272/0825	84-02679	TOTAL CORE	157
					84-02680	NO SAMPLE TAKEN	
8c	45 21 78	70 42 51	225	272/0838	84-02681	TOTAL CORE	39
					84-02682	67-80 cm BLACK LAYER	
8d	48 22 02	70 42 51	198	272/0912	84-02683	48-50 cm GREY LAYER	48
					84-02684	51-57 cm GREY (SAND) LAYER	
8e	48 22 30	70 42 51	150	272/0924	84-02685	TOTAL CORE	59
					84-02686	43-50 cm GREY LAYER	
9a	48 21 43	70 36 94	195	272/0932	84-02688	TOTAL CORE	96
					84-02687	47-55 cm GREY LAYER	
9b	48 21 65	70 36 92	225	272/0945	84-02689	TOTAL CORE	89
					84-02690	103-105 cm GREY LAYER	
9c	48 21 85	70 36 90	244	272/1025	84-02691	39-42 cm GREY LAYER	100
					84-02692	60-70 cm GREY LAYER	
9d	48 22 15	70 36 88	252	272/1036	84-02693	35-55 cm GREY SAND WITH BLACK	93
					84-02694	55-62 cm GREY LAYER	
9e	48 21 85	70 36 90	244	272/1051	84-02695	70.5-72.5 cm GREY LAYER	125
					84-02697	76-79 cm GREY LAYER	
9f	48 21 85	70 36 90	244	272/1051	84-02698	42-60 cm GREY SAND WITH BLACK	125
					84-02699	70-100 cm GREY LAYER	
9g	48 22 15	70 36 88	252	272/1102	84-02700	104-111 cm BLACK LAYER	110
					84-02701	112-125 cm GREY LAYER	
9h	48 22 15	70 36 88	252	272/1117	84-02702	TOTAL CORE	109
					84-02703	38-40 cm GREY LAYER	
9i	48 22 15	70 36 88	252	272/1117	84-02704	55-60 cm GREY (SAND) LAYER	110
					84-02705	76-78 cm GREY LAYER	
9j	48 22 15	70 36 88	252	272/1117	84-02706	78-80 cm GREY (SAND) LAYER	109
					84-02707	81-85 cm GREY LAYER	
9k	48 22 15	70 36 88	252	272/1117	84-02708	85-93 cm GREY (SAND) LAYER	109
					84-02709		

TABLE 1 (Cont'd)

Station Number	Latitude (N)	Longitude (W)	Water Depth (m)	Day/Time EDT	Sample Number	Description	Length Core
9c	48 22 46	70 36 87	225	272/1134	84-02707	34-38 cm GREY LAYER	90
10a	48 21 26	70 30 07	255	272/1227	84-02708 84-02709	40-49 cm GREY LAYER 60-70 cm GREY WITH BLACK	125
10b	48 21 50	20 30 07	267	272/1241	84-027010 84-027011	115-125 BLACK WITH GREY LAYER 34-44 cm GREY LAYER	122
10c	48 21 70	70 30 07	265	272/1252	84-027012 84-027013 84-027014 84-027015	60-63 cm BLACK LAYER 86-96 GREY LAYER 36-41 cm GREY LAYER 69-78 cm GREY LAYER	123
10d	48 21 92	70 30 07	255	272/1302 272/1313	84-027016 84-027017 84-027018 84-027019	104-114 cm DARK GREY LAYER TOTAL CORE 34-41 cm GREY LAYER 60-71 cm GREY LAYER	122 112
10e	48 22 20	70 30 07	240	272/1341	84-027020 84-027021 84-027022	77-91 cm DARK GREY LAYER 36-48 cm GREY (SAND) LAYER 51-67 cm GREY LAYER	102
11a	48 20 86	70 22 40	255	272/1411	84-027023 84-027024	100-105 cm BLACK LAYER 46-54 cm GREY LAYER	101
11b	48 21 13	70 22 48	260	272/1425	84-027025 84-027026	57-67 cm DARK GREY LAYER 50-55 cm GREY LAYER	106
11c	48 21 33	70 22 55	270	272/1437	84-027027 84-027028 84-027029	60-70 cm DARK GREY LAYER 56-64 cm GREY LAYER 71-81 DARK GREY LAYER	103
11d	48 21 60	70 22 64	260	272/1446 272/1458	84-027030 84-027031 84-027032 84-027033	TOTAL CORE 64-73 cm GREY LAYER 76-86 cm DARK GREY LAYER 42-48 cm GREY LAYER	108 120
11e	48 21 89	70 22 73	250	272/1510	84-027034 84-027035 84-027036 84-027038	60-70 cm DARK GREY LAYER 92-95 cm BLACK WITH GREY SAND 108-118 cm GREY SOUND LAYER 60-65 cm GREY LAYER	114
12a	48 18 21	70 16 51	260	272/1556	84-027039 84-027040 84-027041 84-027042 84-027043	70-80 cm DARK GREY LAYER TOTAL CORE 70-76 cm GREY LAYER 84-90 cm DARK GREY LAYER TOTAL CORE	94 106 93
12b	48 18 42	70 16 40	270	272/1608 272/1618 272/1627			103

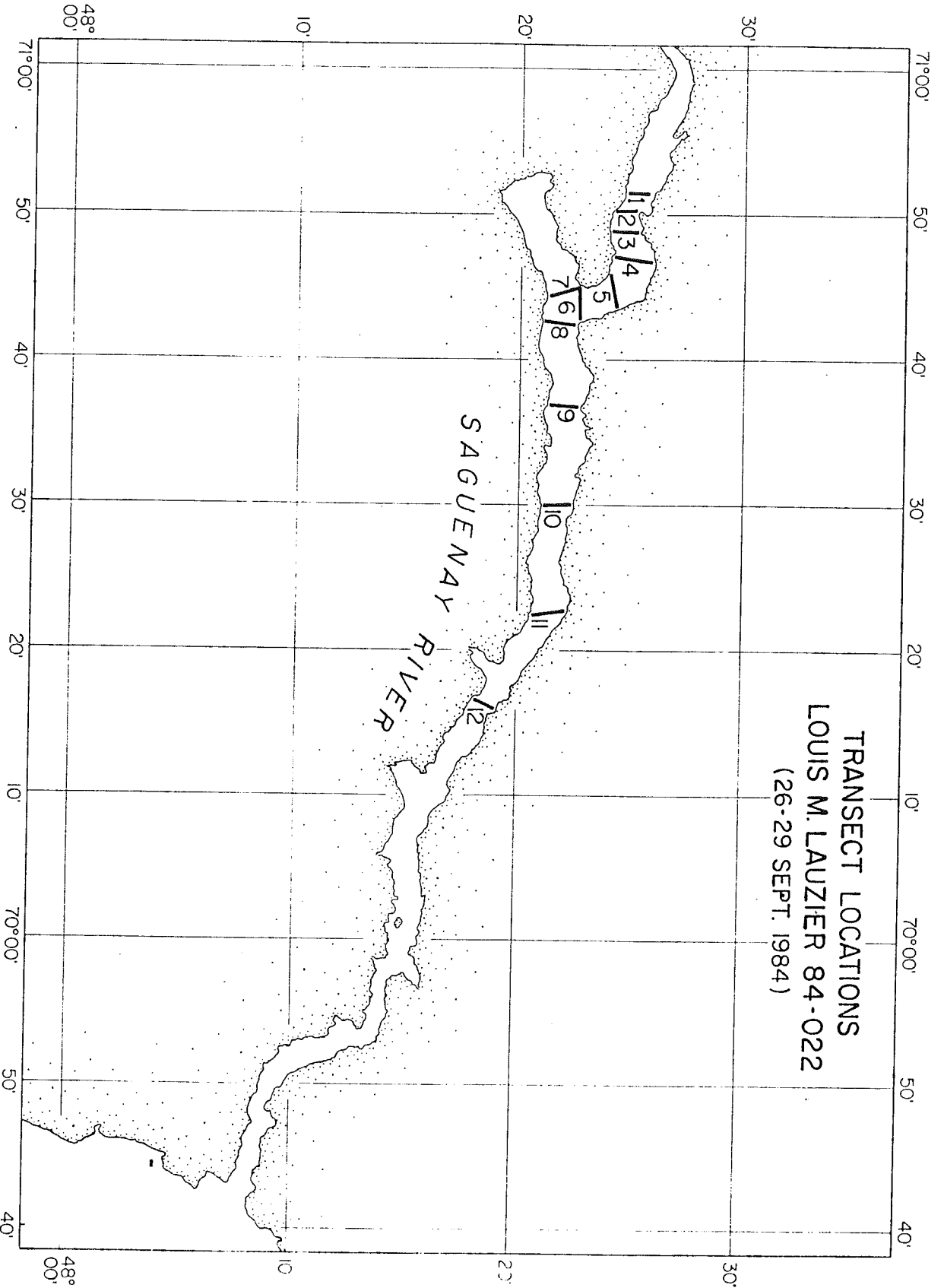


TABLE 1 (Cont'd)

Station Number	Latitude (N)	Longitude (W)	Water Depth (m)	Day/Time EDT	Sample Number	Description	Length Core
12c	48 18 56	70 16 32	270	272/1639	84-027044	58-61 cm GREY LAYER	104
					84-027045	63-70 cm DARK GREY LAYER	
					84-027046	TOTAL CORE	103
12d	48 18 70	70 16 22	265	272/1648	84-027047	54-5 cm GREY LAYER	92
					84-027048	60-70 cm DARK GREY LAYER	
					84-027049	TOTAL CORE	90
12e	48 18 89	70 16 12	255	272/1709	84-027050	21-22 cm BLACK WITH GREY	93
					84-027051	95-98 cm BLACK WITH GREY	93
					84-027053	TOTAL CORE	93
				272-1727			