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**Gravity Determinations in
1937 and 1938**

BY

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OTTAWA
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PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1940

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ABSTRACT.—Gravity anomalies corresponding to several methods of reduction are given for twenty-five stations recently established in Eastern Canada and Newfoundland. Of the larger anomalies the greater proportion for these stations is in Precambrian areas, where the more pronounced are in every case negative. A map showing results for some 150 gravity stations, so far established in Canada, accompanies the report.

INTRODUCTION

Of the twenty-five gravity stations established in 1937 and 1938 twenty-three were in Eastern Canada and two were in Newfoundland. Twenty were occupied during the latter season and most of them were arranged in the form of three traverses across the Appalachian and Acadian regions¹. The first traverse (stations 137 to 141) was 140 miles in length, the second (stations 142 to 145) was 90 miles, and the third (stations 146 to 154) 440 miles. On each traverse there were established certain stations in the adjoining region to the northwest. The first line included Hawkesbury and St. Jean in the St. Lawrence lowland, the second Stoneham in the Precambrian, and the third Chicoutimi and Tadoussac, also within the Precambrian shield.

The results of the two seasons' work are summarized in the accompanying tables. Hayford anomalies for a depth of compensation of 113.7 kilometres and the international gravity formula are shown on the accompanying map for all stations in Canada except those established in 1914. The latter have been omitted (except where redetermined) because the original results for certain stations of that series have been found by the writer to be considerably in error. During that season there were large and irregular changes in the pendulum periods, apparently mainly due to the fact that the pendulum stems were not then securely fastened to the bobs².

Some departures have been made from previous custom in the computations and also with regard to what is presented in the tables. The Bouguer anomalies (Table 1) have been obtained by applying the free air correction and the correction for topography from the station to zone O inclusive. Charts³ published by Heiskanen have been used to evaluate the Hayford corrections for zones 10 to 1. Corrections for the Airy method have been computed from the tables of Heiskanen in *Bulletin Géodésique* No. 30, but for zones 12 to 1 according to the manner indicated by Vening Meinesz⁴. The Vening Meinesz corrections have been computed from the factors given for his reduction on page 86 of his publication⁴. Computation of the indirect effect, due to the difference of position of the geoid and spheroid, was made with the aid of the tables of Lambert⁵ and Heiskanen⁵ for four of the stations. For these four it was found to vary from 2.3 to 2.6×10^{-3} cm./sec². It

¹ For description of these regions: *Geology and Economic Minerals of Canada* by G. A. Young. Publication No. 2065, Geological Survey of Canada 1926, or *The Canada Year Book*.

² Pub. D.O. Vol. 3, No. 9, pp. 363-364. 1918.

³ Publications of the Isostatic Institute of the International Association of Geodesy, No. 3, Helsinki 1938.

⁴ *Gravity Expeditions at Sea*, Vol. II, pp. 83-84.

⁵ Special Publication No. 199, U.S. Coast and Geodetic Survey.

appears to be a small and nearly constant correction over the area covered by the twenty-five stations. If applied it would have the effect generally of slightly decreasing the magnitude of the negative anomalies and increasing that of the positive anomalies.

DISCUSSION OF RESULTS

Comparison of the anomalies (Table 1) by the various methods shows that the Vening Meinesz method fits the observations best. This is not in itself, however, an indication that the fundamental postulates⁶ of the Meinesz method are nearer the truth. It may be an indication that the thickness of the crust in this area is in the neighbourhood of 25 kilometres. Computation of the anomalies for a depth of compensation of 42.6 kilometres on the Hayford hypothesis was made for Coaticook, where the topographical correction is largest, and for Halifax, where it is least. It was found that the Hayford anomalies at this depth were only $-.013$ and $-.019$. The corresponding values at 113.7 km. (Table 1) are $-.022$ and $-.033$.

For stations in the Appalachian and Acadian regions the anomalies are for the most part negative, showing that here gravity is low or less than normal. Along the first traverse there is a definite falling off in gravity between Magog and Coaticook. Their distance apart is only 20 miles. A similar effect, not so pronounced, is noticed between Beauceville and St. Gédéon-de-Beauce.

Proceeding from the Precambrian at Stoneham and Tadoussac there is a marked diminution on both the second and third traverses on entering the sedimentary formations at Quebec and Rivière du Loup. There are comparatively large negative anomalies at Caledonia, Liverpool, and Halifax in Nova Scotia, and at St. John's, Newfoundland. All four are situated on Precambrian formations. The Precambrian in the case of the three Nova Scotia stations is composed of slates and quartzites, and from the geological map of Canada it would be judged that the composition is similar at St. John's. Another fairly large negative anomaly occurs at Chicoutimi, which is situated within the boundaries of the Precambrian shield.

In the Appalachian and Acadian regions, the negative anomalies in other than Precambrian areas may be partially or perhaps entirely due to sediments of less than normal density near the surface. Rocks of abnormally low density near the surface are not likely to provide the explanation of the anomalies in the case of the Precambrian stations. They are probably due to conditions at some considerable depth, possibly at the lower boundary of the crust. They may represent a thickening of the crust itself in these areas. At any rate it is apparent, in the case of the three stations (Nos. 152-154) across the Nova Scotia Peninsula, that the anomalies could be accounted for, in the main, by an anomaly in density at mean effective depth of approximately 40 kilometres.

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⁶ (In this method topography is considered as a load that brings about an elastic deformation of the earth's crust. The horizontal distribution of the compensation is regional and is proportional to the sinking or bending of the crust. Displacement of the substratum by lighter crustal material accounts for 88 per cent of the compensation. The remainder is distributed throughout the crust itself.) Gravity Expeditions at Sea, Vol. II, p. 85.

DESCRIPTIONS OF STATIONS

- No. 132, Gaspé, Que. (1937).—The apparatus was set up on the concrete floor in the northwest corner of the medical consultation room in the northwest wing of the hospital at Gaspé Harbour. This room is immediately to the east of the X-ray room in the west end of the building. The pier was 1 foot 6 inches from the partition wall (between the X-ray room and the consultation room) and 2 feet 7 inches from the north wall of the western part of the consultation room. Latitude and longitude were scaled from Hydrographic Service chart 217 (first edition 1926). Elevation of the station was obtained from bench marks MDCCLII in Gaspé post office, and MDCCLIV in the store of Robin, Jones & Whitman Limited, by measurement of vertical angles with a transit from the grounds of the hospital. The two results agreed within 8 inches.
- No. 133, Halifax, N.S. (1937).—The apparatus was set up on the concrete floor in the vacuum room of the Federal Building, approximately 68 feet northerly, and 10 feet 6 inches easterly from the corner of the building on Bedford Row and Prince Street. It was 22 feet from the inside of the door leading from the furnace room to the vacuum room, and 8 feet from the wall of the west bay in the vacuum room. It was 18 feet 3 inches below the level of G.S.C.B.M. No. 387-B in the custom-house. Latitude and longitude were scaled from Hydrographic Service chart No. 416 (first edition 1934).
- No. 134, St. John's, Newfoundland (1937).—The apparatus was set up on the concrete floor in the basement of Memorial College. It was 94 feet easterly (measured along the south wall), and 31 feet northerly from the southwest corner of the building on Parade Street. Scaled from the map of St. John's on a scale of 200 feet to 1 inch, by W. P. Ryan, 1932, it was 65 feet southerly (along Parade Street) and 105 feet easterly from the corner of Parade Street and Merrymeeting Road. From the same plan it was found to be 50 feet north and 800 feet west of the observation stone at Fort Townshend. It was 40 feet below the level of the cistern of the barometer of the Meteorological station in Memorial College.
- No. 135, Corner Brook, Newfoundland (1937).—The apparatus was set up on the concrete floor in the south end of No. 2 storeroom in the basement of Glynmill Inn. This room is immediately south of the compressor room in the east wing of the inn. The pier was 4 feet 2 inches from the south end and 6 feet 8 inches from the west wall of the storeroom. The pier was found by measurement to be 96 feet east and 22 feet south of the northwest corner of the inn, and 79 feet above high tide on November 2. From a triangulation that was made for distance, and from observation of the sun at apparent noon on November 2 for azimuth, it was found to be 5,741 feet east and 1,511 feet south of the geodetic station on Crow Hill.
- No. 136, Quebec, Que. (1937).—The apparatus was set up on the concrete floor in the detention room in the basement of Martello tower No. 2 on Taché Avenue at the corner of Laurier. It was 6.6 feet below the level of G.S.C.B.M. No. 3 in the Scott Street wall of St. Coeur de Marie church. Latitude and longitude were scaled from the Quebec sheet (revised 1934), National Topographic Series, scale 1 mile to 1 inch.

- No. 137, Hawkesbury, Ont. (1938).—The apparatus was set up on the concrete floor (4 feet from the south wall) in the south end of the room in the southwest corner of the basement of the Roman Catholic church. It was 3 feet 1 inch below G.S.C.B.M. CCCCLI in the west wall of the church. Latitude and longitude were scaled from the Hawkesbury sheet (1933), National Topographic Series, scale 1 mile to 1 inch.
- No. 138, St. Jean, Que. (1938).—The apparatus was set up on the concrete floor of the basement of the north block of St. Johns Barracks 2 feet west of the most easterly pier in the miniature range. The apparatus was approximately 50 feet west and 10 feet north of the southeast corner of the north block. It was 9.9 feet below the level of Bench well "C" on the grounds of the cavalry barracks. Latitude and longitude were scaled from the St. Johns sheet (issue subsequent to 1935), National Topographic Series, scale 1 mile to 1 inch.
- No. 139, Granby Que. (1938).—The apparatus was set up on the concrete floor in the basement beneath the nave of St. George's church. It was 2 feet 6 inches from the south basement wall and 20 feet from the west wall and approximately 60 feet southerly and 30 feet westerly from the church tower. It was 5 feet below the level of the rail at the C.N.R. station. Latitude and longitude were scaled from the Granby sheet (1935), National Topographic Series, scale 1 mile to 1 inch.
- No. 140, Magog, Que. (1938).—The apparatus was set up on the concrete floor in the east end of the storeroom in the northeast corner of the basement of the Roman Catholic church. It was approximately 20 feet north of the spire and was 6.6 feet below the level of G.S.C.B.M. No. 41-A-2 in the south wall of the church. Latitude and longitude were supplied by the Geodetic Service of Canada for the church spire, which is one of the astronomical stations of that service.
- No. 141, Coaticook, Que. (1938).—The apparatus was set up on the concrete floor in the east end of the gun room in the basement of the armouries. It was 9.6 feet below the level of G.S.C.B.M. No. 16 in the west wall of the post office. Latitude and longitude were scaled from the Coaticook sheet (1936), National Topographic Series, scale 1 mile to 1 inch.
- No. 142, St. Gédéon-de-Beauce, Que. (1938).—The apparatus was set up in the centre of the concrete floor of the parish hall of St. Gédéon church. It was approximately 190 feet east of the church spire. The latitude and longitude were scaled from the St. Évariste sheet (1933), National Topographic Series, scale 1 mile to 1 inch, contour interval 25 feet, and the elevation of the apparatus was estimated from this map.
- No. 143, Beauceville, Que. (1938).—The apparatus was set up on the concrete floor of the class room on the west side of the normal school on the main floor and immediately to the south of the side entrance in the northerly end of the building. It was 77 feet above the level of the rail at the Quebec Central Railway station. Latitude and longitude were scaled from the map of Beauceville, scale 4,000 feet to 1 inch, *Publication No. 1756 of the Geological Survey of Canada.*

No. 144, Scott Junction, Que. (1938).—The apparatus was set up on the concrete floor (approximately in the centre) of the basement of l'École Centrale, St. Maxime de Scott. It was 7.5 feet below the level of the top of the east abutment of the highway bridge. Latitude and longitude were scaled from the Chaudière sheet (1937), National Topographic Series, scale 1 mile to 1 inch.

No. 145, Stoneham, Que. (1938).—The apparatus was set up on the concrete floor in the basement of the residence of F. B. Kent. It was 50 feet east of the east boundary of the highway (route 54) and 1,250 feet in a northerly direction from the Presbyterian church. Latitude and longitude were scaled from the Quebec sheet (1934), National Topographic Series, scale 1 mile to 1 inch and contour interval 25 feet. The elevation of the apparatus was estimated from this map.

No. 146, Chicoutimi, Que. (1938).—The apparatus was set up on the concrete floor in the south end of the storeroom in the northeast corner of the basement of the post office. It was 3.1 feet below the level of G.S.C.B.M. No. 996-B in the west wall of that building. Latitude and longitude were scaled from Hydrographic Service chart No. 209 (1938), scale 1,500 feet to 1 inch.

No. 147, Tadoussac, Que. (1938).—The apparatus was set up on the concrete floor in the storeroom at the south end of the Fish Hatchery. It was 56½ feet above high tide at 12.50 P.M., E.S.T., on August 23. Scaled from Hydrographic Service chart 203, it was found to be 200 feet south and 2,130 feet west of the astronomical pier.

No. 148, Rivière du Loup, Que. (1938).—The apparatus was set up on the concrete floor of the building numbered 22 (Thomas Langlais) on the plan of the city of Rivière du Loup dated February 27-19 on a scale of 400 feet to an inch. It was in the corner of the building formed by the front wall on Lafontaine Street and the wall parallel and nearest to St. Elzéar Street, 18 feet (from that corner) in a direction parallel to Lafontaine Street, and 7 feet in a direction parallel to St. Elzéar Street. It was 20 feet below the level of the rail in front of the station of the Temiscouata railway. Latitude and longitude were scaled from Hydrographic Service chart No. 211 (1920 with corrections July 28, 1938).

No. 149, Notre Dame du Lac, Que. (1938).—The apparatus was set up on the concrete floor of the laundry in the southerly end of the basement of the convent. It was 65 feet above the level of the rail at Notre Dame du Lac station. Latitude and longitude were scaled from the Montmagny sheet (1937), Old Geographic Series, scale 7.89 miles to 1 inch.

No. 150, Perth, N.B. (1938).—The apparatus was set up on the concrete floor in the basement of Perth post office. It was 2 feet from the north wall and half way between the east and west walls. It was 3 feet 10 inches below the level of G.S.C.B.M. No. 40-B in the south wall of Victoria County record office in Andover. Latitude and longitude were scaled from the Fredericton-Moncton sheet (1935), National Topographic Series, scale 8 miles to 1 inch.

- No. 151, Fredericton, N.B. (1938).—The apparatus was set up on the concrete floor in the photographic room of the Provincial Geologist in the Forestry and Geology building of the University of New Brunswick, $7\frac{1}{2}$ feet from the front window. Measured along the front wall of the building it was 45 feet from the northwest corner of the building and $17\frac{1}{2}$ feet in the perpendicular direction or along the westerly wall. The elevation of the gravity pier was supplied by E. W. Hagerman of the Department of Engineering of the University from levels which are referred to G.S.C.B.M. No. 423-G in the front wall of the station. Latitude and longitude were scaled from the Fredericton sheet (1928), National Topographic Series, scale 1 mile to 1 inch.
- No. 152, Annapolis Royal, N.S. (1938).—The apparatus was set up on the concrete floor in the storeroom beneath the examining warehouse in the basement of the post office building. It was 10 feet from the east wall, and equidistant from the north and south walls of this room. It was 0.8 foot below the level of high tide at 11 A.M., A.S.T., on September 23. Latitude and longitude were scaled from Hydrographic Service chart 434, dated October 1931.
- No. 153, Caledonia, N.S. (1938).—The apparatus was set up on the concrete floor in the south end of the vegetable cellar on the south side of the basement of the Alton House. It was 9 feet below the level of the rail at the C.N.R. station. Latitude and longitude were scaled from the Rossignol sheet (1932), National Topographic Series, scale 2 miles to 1 inch.
- No. 154, Liverpool, N.S. (1938).—The apparatus was set up on the concrete floor in the east end of the small basement room beneath the lighthouse. It was 10 feet below the level of G.S.C. Fundamental B.M. No. 2031 in Fort Point park. Latitude and longitude were scaled from the Bridgewater sheet (1938), National Topographic Series, scale 2 miles to 1 inch.
- No. 155, Halifax, N.S. (1938).—The apparatus was set up on the concrete floor in the north end of room 902 in the northeast corner of the tower on the ninth floor of the Federal building. It was 3 feet 7 inches from the north wall and 5 feet 3 inches from the east wall and was 124 feet above the level of the 1937 pier in the same building.
- No. 156, Amherst, N.S. (1938).—The apparatus was set up on the concrete floor in the east end of the storeroom of the Dominion Public Building. From the southeast corner of the building on Victoria Street (or the corner on Victoria Street nearest La Planche Street) measured from the front of the line of pillars it was $50\frac{1}{2}$ feet along the easterly wall and 7 feet from the outside of this wall or 5 feet 4 inches from the inside. It was 8.1 feet below the level of G.S.C.B.M. No. 546-B in the old post office. Latitude and longitude were scaled from the Fredericton-Moncton sheet (1935), National Topographic Series, scale 8 miles to 1 inch.

TABLE 1—PRINCIPAL FACTS FOR GRAVITY STATIONS ESTABLISHED DURING 1937 AND 1938

Number and Station		Longitude	Latitude	Altitude		Computed Gravity at Sea Level	Corrections for					Computed Gravity (Free Air)	Observed Gravity	Gravity Anomalies				
				Ft.	M.		Altitude	Topo- graphy Zones A to O	Topography and Isostatic Compensation					Free Air	Bouguer	Hayford- Bowie 113.7 km.	Airy- Heis- kanen 40 km.	Vening Meinesz 25 km.
									Hayford- Bowie 113.7 km.	Airy- Heis- kanen 40 km.	Vening Meinesz 25 km ¹							
132	Gaspé.....	64 28.7	48 49.5	71	22	980-974	-.007	+.002	-.002	-.005	-.004	980-987	980-990	+.023	+.021	+.025	+.028	+.027
133	Halifax.....	63 34.4	44 38.9	3	1	980-598	0	-.001	+.017	+.012	+.007	980-598	980-582	-.016	-.015	-.033	-.028	-.023
134	St. John's.....	52 43.0	47 33.9	251	77	980-861	-.024	+.008	+.029	+.024	+.020	980-837	980-831	-.006	-.014	-.035	-.030	-.026
135	Corner Brook.....	57 56.4	48 57.0	82	25	980-985	-.008	+.002	-.005	-.013	-.013	980-977	980-977	.000	-.002	+.005	+.013	+.013
136	Quebec.....	71 13.2	46 48.2	328	100	980-792	-.031	+.011	-.009	-.013	-.019	980-761	980-728	-.033	-.044	-.024	-.020	-.014
137	Hawkesbury.....	74 36.3	45 36.6	145	44	980-684	-.014	+.005	-.010	-.012	-.016	980-670	980-657	-.013	-.018	-.003	-.001	+.003
138	St. Jean.....	73 15.1	45 18.0	101	31	980-656	-.010	+.004	-.009	-.010	-.018	980-646	980-628	-.018	-.022	-.009	-.008	.000
139	Granby.....	72 43.5	45 23.9	382	116	980-665	-.036	+.013	-.002	-.005	-.010	980-629	980-624	-.005	-.018	-.003	.000	+.005
140	Magog.....	72 09.4	45 16.1	721	220	980-654	-.068	+.022	+.001	-.004	-.007	980-586	980-589	+.003	-.019	+.002	+.007	+.010
141	Coaticook.....	71 48.3	45 08.0	953	290	980-641	-.090	+.030	+.006	.000	-.001	980-551	980-535	-.016	-.046	-.022	-.016	-.015
142	St. Gédéon-de-Beauce.....	70 38.5	45 51.2	855	261	980-706	-.080	+.027	+.001	-.006	-.007	980-626	980-592	-.034	-.061	-.035	-.028	-.027
143	Beauceville.....	70 45.6	46 12.6	634	193	980-739	-.060	+.019	-.003	-.009	-.012	980-679	980-649	-.030	-.049	-.027	-.021	-.018
144	Scott Junction.....	71 04.4	46 30.3	473	144	980-765	-.044	+.016	-.004	-.008	-.013	980-721	980-696	-.025	-.041	-.021	-.017	-.012
145	Stoneham.....	71 22.0	46 59.6	550	168	980-809	-.052	+.018	-.005	-.009	-.013	980-757	980-752	-.005	-.023	.000	+.004	+.008
146	Chicoutimi.....	71 03.2	48 25.7	68	21	980-938	-.006	+.002	-.024	-.029	-.034	980-932	980-866	-.066	-.068	-.042	-.037	-.032
147	Tadoussac.....	69 43.4	48 08.4	64	20	980-912	-.006	+.001	-.018	-.021	-.027	980-906	980-880	-.026	-.027	-.008	-.005	+.001
148	Rivière du Loup.....	69 31.7	47 49.6	295	90	980-884	-.028	+.009	-.009	-.012	-.018	980-856	980-822	-.034	-.043	-.025	-.022	-.016
149	Notre Dame du Lac.....	68 47.4	47 36.5	595	181	980-865	-.056	+.019	-.002	-.006	-.008	980-809	980-787	-.022	-.041	-.020	-.016	-.014
150	Perth.....	67 42.1	46 44.1	258	79	980-786	-.024	+.008	-.005	-.009	-.014	980-762	980-747	-.015	-.023	-.010	-.006	-.001
151	Fredericton.....	66 38.6	45 56.9	123	37	980-715	-.012	+.004	+.003	-.002	-.007	980-703	980-690	-.013	-.017	-.016	-.011	-.006
152	Annapolis Royal.....	65 31.0	44 44.8	14	4	980-607	-.001	.000	+.009	+.004	+.001	980-606	980-606	.000	.000	-.009	-.004	-.001
153	Caledonia.....	65 01.9	44 22.5	298	91	980-573	-.028	+.010	+.023	+.016	+.014	980-545	980-526	-.019	-.029	-.042	-.035	-.033
154	Liverpool.....	64 42.5	44 02.7	11	3	980-543	-.001	.000	+.021	+.014	+.010	980-542	980-525	-.017	-.017	-.038	-.031	-.027
155	Halifax.....	63 34.4	44 38.9	128	39	980-598	-.012	+.001	+.019	+.013	+.008	980-586	980-572	-.014	-.015	-.033	-.027	-.022
156	Amherst.....	64 12.8	45 50.0	66	20	980-705	-.006	+.002	+.009	+.005	+.001	980-699	980-693	-.006	-.008	-.015	-.011	-.007
Mean anomaly with regard to sign.....													-.016	-.026	-.018	-.013	-.009	
Mean anomaly without regard to sign.....													.018	.027	.020	.017	.014	

TABLE 2—PENDULUM PERIODS AND DEDUCED VALUES OF GRAVITY

Number and Station	No. of Swings	Knife Edge I			Knife Edge II			Mean	
		Pendulum			Pendulum				
		1	2	3	1	2	3		
1 Ottawa (August-September 1937)	23	.4999744	.5000816	.5000608	.4999710	.5000788	.5000575	.50003727 980.622	
		.4999743	.5000820	.5000604	.4999709	.5000789	.5000572		
		.4999740	.5000819	.5000603	.4999707	.5000791	.5000571		
		.4999744	.5000817	.5000603	.....	.....	.5000572
.....		.....		.....		.5000572	
132 Gaspé.....	12	.4999743	.5000818	.5000605	.4999709	.5000789	.5000572		.4999436 980.990
		g .....	.....		.....		.....
		.4998797	.4999884	.4999669	.4998772	.4999854	.4999635		
		.4998804	.4999885	.4999666	.4998776	.4999856	.4999635		
133 Halifax (2).....	11	.4998801	.4999885	.4999668	.4998774	.4999855	.4999635		.5000478 980.582
		g 980.992	980.989	980.990	980.991	980.990	980.990		
		.4999848	.5000922	.5000709	.4999818	.5000898	.5000681		
		.....	.5000920	.5000703	.4999818	.5000893	.5000674
134 St. John's.....	12	.4999848	.5000921	.5000706	.4999818	.5000896	.5000678	.4999843 980.831	
		g 980.581	980.583	980.582	980.581	980.582	980.580		
		.4999207	.5000294	.5000075	.4999182	.5000261	.5000039		
		.4999207	.5000293	.5000077	.4999180	.5000260	.5000037		
135 Corner Brook	12	.4999207	.5000294	.5000076	.4999181	.5000261	.5000038	.4999469 980.977	
		g 980.833	980.829	980.830	980.831	980.831	980.832		
		.4998842	.4999907	.4999691	.4998810	.4999893	.4999663		
		.4998841	.4999920	.4999698	.4998804	.4999886	.4999673		
.....				
135 Corner Brook	12	.4998842	.4999914	.4999695	.4998807	.4999890	.4999668	.4999469 980.977	
		g 980.976	980.978	980.979	980.978	980.977	980.977		

136 Quebec.....	12	.4999468 .4999468	.5000553 .5000550	.5000333 .5000335	.4999444 .4999444	.5000527 .5000523	.5000301 .5000298	
		g 980.730	980.728	980.728	980.728	980.728	980.729	.5000104 980.728
1 Ottawa (December 1937)	24	.4999744 .4999741 .4999744 .4999748	.5000817 .5000823 .5000825 .5000827	.5000598 .5000609 .5000604 .5000608	.4999715 .4999720 .4999719 .4999719	.5000793 .5000800 .5000800 .5000800	.5000566 .5000575 .5000571 .5000575	
		g .4999744	.5000823	.5000605	.4999718	.5000798	.5000572	.50003767 980.622
1 Ottawa, Adopted periods for 1937. ....		.4999744	.5000821	.5000605	.4999714	.5000794	.5000572	.50003750
1 Ottawa, June 1938.....	24	.4999746 .4999744 .4999747 .4999745	.5000823 .5000817 .5000819 .5000817	.5000605 .5000605 .5000605 .5000603	.4999710 .4999709 .4999715 .4999715	.5000796 .5000794 .5000796 .5000795	.5000574 .5000574 .5000573 .5000573	
		g .4999746	.5000819	.5000605	.4999712	.5000795	.5000574	.50003751 980.622
137 Hawkesbury	7	.4999653.....	.5000737 .5000733	.....	.4999631 .4999628	.....	.5000491 .5000491	
		g .4999653	.5000735	.....	.4999630	.....	.5000491	980.657
		g 980.659	980.656	.....	980.656	.....	980.656	
138 St. Jean.....	7	.....	.5000790	.5000594 .5000590	.4999705 .4999709	.5000788 .5000782	.....
		g ..........	.5000790 980.634	.5000592 980.627	.4999707 980.626	.5000785 980.627	.....	980.628
139 Granby.....	7	.4999739 .4999737	.....	.5000599	.....	.5000800 .5000793	.5000573 .5000574	
		g .4999738	.....	.5000599	.....	.5000797	.5000574	980.624
		g 980.626	.....	980.624	.....	980.622	980.623	

TABLE 2—PENDULUM PERIODS AND DEDUCED VALUES OF GRAVITY—*Continued*

Number and Station	No. of Swings	Knife Edge I			Knife Edge II			Mean
		Pendulum			Pendulum			
		1	2	3	1	2	3	
140 Magog.....	7	·4999825	·5000910	·4999801	·5000661	980·589
		.....	·5000904	.....	·4999800	.....	·5000664
		·4999825 g 980·592	·5000907 980·588	.....	·4999801 980·589	.....	·5000663 980·588
141 Coaticook.....	7	·5001040	·5000823	·4999941	·5001021	980·535
		.....	.....	·5000833	·4999938	·5001020	.....
		..... g	·5001040 980·536	·5000828 980·534	·4999940 980·534	·5001021 980·535	.....
142 St. Gédéon-de-Beauce.....	7	·4999832	·5000682	·5000875	·5000655	980·592
		·4999820	.....	.....	.....	·5000870	·5000652
		·4999826 g 980·591	.....	·5000682 980·591	.....	·5000873 980·593	·5000654 980·592
143 Beauceville.....	5	·4999678	·5000754	·5000507	980·649
		.....	·5000751	.....	.....	.....	·5000513
		·4999678 g 980·650	·5000753 980·649	.....	.....	.....	·5000510 980·648
144 Scott Junction.....	5	·5000634	·5000422	·4999529	980·696
		.....	.....	·5000408	·4999528	.....	.....
		..... g	·5000634 980·695	·5000415 980·696	·4999529 980·695	.....	.....

145 Stoneham.....	5	·4999406	.....	·5000276	.....	·5000464	.....	980·752
		·4999413	.....	.....	.....	·5000469	.....
		·4999410	.....	·5000276	.....	·5000467	.....
		g 980·755	.....	980·751	.....	980·752	.....
146 Chicoutimi.....	5	·4999121	·5000205	.....	.....	·4999957	.....
		.....	·5000195	.....	.....	·4999959	.....
		·4999121	·5000200	.....	.....	·4999958	.....	980·866
		g 980·868	980·866	.....	.....	980·865	.....
147 Tadoussac (2).....	5	.....	·5000162	·4999950	·4999063	.....	.....
		.....	.....	·4999948	·4999055	.....	.....
		.....	·5000162	·4999949	·4999059	.....	.....	980·880
		g	980·881	980·879	980·880	.....	.....
148 Rivière du Loup.....	5	·4999237	.....	·5000096	.....	·5000293	.....
		·4999224	.....	.....	.....	·5000287	.....
		·4999231	.....	·5000096	.....	·5000290	.....	980·822
		g 980·825	.....	980·821	.....	980·821	.....
149 Notre Dame du Lac.....	5	·4999325	·5000407	.....	.....	·5000162	.....
		.....	·5000398	.....	.....	·5000155	.....
		·4999325	·5000403	.....	.....	·5000159	.....	980·787
		g 980·788	980·786	.....	.....	980·786	.....
150 Perth.....	5	.....	·5000501	·5000285	·4999397	.....	.....
		.....	.....	·5000286	·4999397	.....	.....
		.....	·5000501	·5000286	·4999397	.....	.....	980·747
		g	980·748	980·747	980·747	.....	.....
151 Fredericton.....	5	·4999574	.....	·5000431	.....	·5000626	.....
		·4999573	.....	.....	.....	·5000630	.....
		·4999574	.....	·5000431	.....	·5000628	.....	980·690
		g 980·690	.....	980·690	.....	980·689	.....

TABLE 2—PENDULUM PERIODS AND DEDUCED VALUES OF GRAVITY—*Concluded*

Number and Station	No. of Swings	Knife Edge I			Knife Edge II			Mean
		Pendulum			Pendulum			
		1	2	3	1	2	3	
152 Annapolis Royal.....	5	·4999789	·5000870	.....	.....	.....	·5000620	980·606
.....		·5000859	.....	.....	.....	·5000613		
		·4999789	·5000865	.....	.....	.....	·5000617	
		g 980·606	980·605	.....	.....	.....	980·606	
153 Caledonia.....	5	.....	·5001065	·5000850	·4999960	.....	.....	980·526
.....		.....	·5000849	·4999961	.....	.....
		.....	·5001065	·5000850	·4999961	.....	.....
		g	980·526	980·526	980·526	.....	.....
154 Liverpool.....	5	·4999995	.....	·5000854	.....	·5001041	.....	980·525
.....		·4999993	.....	.....	.....	·5001043	.....
		·4999994	.....	·5000854	.....	·5001042	.....
		g 980·526	.....	980·524	.....	980·526	.....
155 Halifax (3).....	5	·4999868	·5000950	.....	.....	.....	·5000710	980·572
.....		.....	·5000948	.....	.....	.....	·5000706	
		·4999868	·5000949	.....	.....	.....	·5000708	
		g 980·575	980·572	.....	.....	.....	980·571	
156 Amherst.....	6	.....	·5000631	·5000425	·4999539	.....	.....	980·693
.....		.....	·5000640	·5000422	·4999541	.....	.....
		.....	·5000636	·5000424	·4999540	.....	.....
		g	980·695	980·693	980·691	.....	.....

1 Ottawa, November 1938.....	30	·4999748	·5000819	·5000599	·4999716	·5000799	·5000576	
		·4999751	·5000824	·5000606	·4999721	·5000801	·5000579	
		·4999752	·5000824	·5000607	·4999723	·5000800	·5000581	
		·4999749	·5000825	·5000606	·4999721	·5000802	·5000582	
		·4999743	·5000818	·5000599	.....	.....	.....
		·4999750	·5000824	·5000607	.....	.....	.....
		·4999749	·5000822	·5000604	·4999720	·5000801	·5000580	·50003793
		g .....	.....	.....	.....	.....	.....	980·622
		
		
1 Ottawa, Adopted periods for 1938..		·4999748	·5000821	·5000604	·4999716	·5000798	·5000577	·50003773

TABLE 3

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Mattawa, Ont., No. 129 ⁷				New Liskeard, Ont., No. 130			
A.....	540	+ 2	0	+ 2	613	+ 2	0	+ 2
B.....	540	+ 57	0	+ 57	613	+ 58	0	+ 58
C.....	540	+ 64	0	+ 64	615	+ 73	0	+ 73
D.....	540	+ 35	0	+ 35	615	+ 44	0	+ 44
E.....	540	+ 14	0	+ 14	615	+ 17	0	+ 17
F.....	540	+ 4	0	+ 4	750	+ 9	0	+ 9
G.....	675	0	0	0	750	0	0	0
H.....	675	0	0	0	750	0	0	0
I.....	675	0	0	0	750	0	0	0
J.....	675	0	- 11	- 11	750	0	- 12	- 12
K.....	883	0	- 16	- 16	755	0	- 15	- 15
L.....	856	0	- 21	- 21	793	0	- 19	- 19
M.....	1,018	0	- 57	- 57	884	0	- 50	- 50
N.....	1,011	0	- 51	- 51	1,003	0	- 51	- 51
O.....	988	0	- 55	- 55	1,031	0	- 58	- 58
18.....				- 10				- 11
17.....				- 9				- 11
16.....				- 9				- 11
15.....				- 9				- 10
14.....				- 9				- 10
13.....				- 16				- 14
12.....				- 10				- 9
11.....				- 6				- 8
10.....				- 4				- 4
9.....				+ 3				+ 3
8.....				+ 10				+ 10
7-1.....				+ 33*				+ 31*
Total.....				- 71	Total..... - 46			

*These values have been interpolated from those obtained for neighbouring stations.

⁷ Isostatic reductions for stations 129 to 131 were made before the publication of the Heiskanen charts. See reference 3.

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Timiskaming, Que., No. 131				Gaspé, Que., No. 132			
A.....	830	+ 2	0	+ 2	71	+ 2	0	+ 2
B.....	830	+ 61	0	+ 61	74	+ 17	0	+ 17
C.....	825	+ 90	0	+ 90	47	+ 1	0	+ 1
D.....	763	+ 60	0	+ 60	14	+ 1	0	+ 1
E.....	763	+ 25	0	+ 25	65	+ 1	0	+ 1
F.....	763	+ 11	0	+ 11	124	0	0	0
G.....	763	0	0	0	273	0	0	0
H.....	763	0	0	0	384	0	0	0
I.....	763	0	0	0	508	0	0	0
J.....	763	0	- 12	- 12	400	0	- 6	- 6
K.....	819	0	- 16	- 16	600	0	- 12	- 12
L.....	873	0	- 21	- 21	629	0	- 15	- 15
M.....	916	0	- 51	- 51	437	0	- 26	- 26
N.....	966	0	- 49	- 49	200	0	- 8	- 8
O.....	996	0	- 56	- 56	105	0	- 7	- 7
18.....				- 10				- 1
17.....				- 10				- 3
16.....				- 10				- 5
15.....				- 9				- 5
14.....				- 9				- 6
13.....				- 15*				- 14
12.....				- 10*				- 7
11.....				- 7*				+ 3
10.....				- 4*				+ 18
9.....				+ 3*				+ 13
8.....				+ 10*				+ 14
7-1.....				+ 31*				+ 28
Total.....				+ 6	Total..... - 17			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—*Continued*

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compens- ation	Topo- graphy and Compens- ation	Elevation in Feet	Topo- graphy	Compens- ation	Topo- graphy and Compens- ation
	Halifax, N.S., No. 133, 1937 (elevation 3 feet)				St. John's, Newfoundland, No. 134			
A.....	3	+ 1	0	+ 1	251	+ 2	0	+ 2
B.....	19	- 3	0	- 3	254	+ 43	0	+ 43
C.....	30	- 1	0	- 1	249	+ 24	0	+ 24
D.....	30	- 2	0	- 2	203	+ 9	0	+ 9
E.....	32	- 2	0	- 2	126	+ 3	0	+ 3
F.....	46	0	0	0	225	0	0	0
G.....	84	0	0	0	300	0	0	0
H.....	106	0	0	0	312	0	0	0
I.....	160	0	0	0	300	0	0	0
J.....	162	0	- 3	- 3	163	0	- 3	- 3
K.....	180	0	- 4	- 4	59	0	- 2	- 2
L.....	115	0	- 3	- 3	- 81	0	+ 2	+ 2
M.....	40	0	- 3	- 3	- 25	0	0	0
N.....	0	0	- 1	- 1	-133	0	+ 7	+ 7
O.....	17	0	- 2	- 2	-111	0	+ 5	+ 5
18.....				0				+ 2
17.....				0				+ 1
16.....				+ 3				+ 2
15.....				+ 6				+ 2
14.....				+ 13				+ 5
13.....				+ 36				+ 23
12.....				+ 31				+ 35
11.....				+ 25				+ 45
10.....				+ 22				+ 25
9.....				+ 15				+ 18
8.....				+ 16				+ 18
7-1.....				+ 28				+ 27
	Total.....				Total.....			
	+172				+293			

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-6}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Corner Brook, Newfoundland, No. 135				Quebec, Que., No. 136			
A.....	82	+ 2	0	+ 2	328	+ 2	0	+ 2
B.....	65	+ 16	0	+ 16	327	+ 50	0	+ 50
C.....	73	+ 3	0	+ 3	323	+ 37	0	+ 37
D.....	116	+ 2	0	+ 2	293	+ 14	0	+ 14
E.....	177	0	0	0	140	+ 4	0	+ 4
F.....	532	- 5	0	- 5	33	0	0	0
G.....	522	0	0	0	73	0	0	0
H.....	736	0	0	0	116	0	0	0
I.....	1,000	0	0	0	155	0	0	0
J.....	1,475	- 1	- 16	- 17	268	0	- 4	- 4
K.....	1,400	0	- 20	- 20	360	0	- 7	- 7
L.....	1,135	0	- 27	- 27	460	0	- 11	- 11
M.....	805	0	- 45	- 45	804	0	- 45	- 45
N.....	710	0	- 37	- 37	1,119	0	- 58	- 58
O.....	448	0	- 26	- 26	1,092	0	- 61	- 61
18.....				- 1				- 10
17.....				+ 1				- 9
16.....				0				- 10
15.....				- 1				- 10*
14.....				- 1				- 10*
13.....				- 2				- 15*
12.....				+ 4				- 8*
11.....				+ 20				- 1*
10.....				+ 22				+ 14
9.....				+ 17				+ 11
8.....				+ 17				+ 11
7-1.....				+ 27				+ 28
Total.....				- 51	Total..... - 88			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Hawkesbury, Ont., No. 137				St. Jean, Que., No. 138			
A.....	145	+ 2	0	+ 2	101	+ 2	0	+ 2
B.....	147	+ 31	0	+ 31	104	+ 23	0	+ 23
C.....	150	+ 11	0	+ 11	103	+ 4	0	+ 4
D.....	148	+ 6	0	+ 6	98	+ 4	0	+ 4
E.....	149	+ 3	0	+ 3	106	+ 2	0	+ 2
F.....	160	0	0	0	112	0	0	0
G.....	185	0	0	0	118	0	0	0
H.....	212	0	0	0	129	0	0	0
I.....	319	0	0	0	136	0	0	0
J.....	392	0	- 6	- 6	144	0	- 2	- 2
K.....	452	0	- 9	- 9	132	0	- 3	- 3
L.....	469	0	- 11	- 11	146	0	- 4	- 4
M.....	532	0	- 30	- 30	248	0	- 14	- 14
N.....	604	0	- 32	- 32	650	0	- 36	- 36
O.....	735	0	- 41	- 41	989	0	- 55	- 55
18.....				- 10				- 11
17.....				- 10				- 12
16.....				- 10				- 11
15.....				- 11				- 9*
14.....				- 12				- 10*
13.....				- 15				- 13*
12.....				- 7				- 6*
11.....				- 5				+ 1*
10.....				+ 8				+ 13
9.....				+ 7				+ 10
8.....				+ 8				+ 10
7-1.....				+ 29				+ 29
Total.....				-104	Total..... - 88			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compens- ation	Topo- graphy and Compensation	Elevation in Feet	Topo- graphy	Compens- ation	Topo- graphy and Compensation
	Granby, Que., No. 139				Magog, Que., No. 140			
A.....	382	+ 2	0	+ 2	721	+ 2	0	+ 2
B.....	387	+ 54	0	+ 54	730	+ 56	0	+ 56
C.....	380	+ 45	0	+ 45	724	+ 81	0	+ 81
D.....	380	+ 18	0	+ 18	718	+ 49	0	+ 49
E.....	393	+ 8	0	+ 8	720	+ 21	0	+ 21
F.....	398	0	0	0	733	+ 9	0	+ 9
G.....	405	0	0	0	769	0	0	0
H.....	389	0	0	0	827	0	0	0
I.....	395	0	0	0	905	0	- 1	- 1
J.....	442	0	- 7	- 7	1,031	0	- 15	- 15
K.....	461	0	- 9	- 9	928	0	- 19	- 19
L.....	452	0	- 11	- 11	994	0	- 24	- 24
M.....	546	0	- 31	- 31	986	0	- 55	- 55
N.....	631	0	- 34	- 34	984	0	- 52	- 52
O.....	985	0	- 55	- 55	853	0	- 49	- 49
18.....				- 11				- 9
17.....				- 11				- 10
16.....				- 10				- 10
15.....				- 10				- 9*
14.....				- 9				- 8*
13.....				- 12				- 11*
12.....				- 7				- 6*
11.....				+ 4				+ 6*
10.....				+ 13				+ 15
9.....				+ 10				+ 11
8.....				+ 10				+ 11
7-1.....				+ 29				+ 29
Total.....				- 24	Total..... + 12			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—*Continued*

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Coaticook, Que., No. 141				St. Gédéon-de-Beauce, Que., No. 142			
A.....	953	+ 2	0	+ 2	855	+ 2	0	+ 2
B.....	957	+ 62	0	+ 62	858	+ 61	0	+ 61
C.....	956	+100	0	+100	855	+ 92	0	+ 92
D.....	964	+ 78	0	+ 78	862	+ 66	0	+ 66
E.....	1,013	+ 36	0	+ 36	925	+ 29	0	+ 29
F.....	1,065	+ 13	0	+ 13	1,006	+ 11	0	+ 11
G.....	1,156	+ 1	0	+ 1	1,070	0	0	0
H.....	1,216	+ 7	- 7	0	1,152	+ 5	- 5	0
I.....	1,289	+ 5	- 12	- 7	1,247	+ 2	- 10	- 8
J.....	1,328	0	- 16	- 16	1,288	0	- 16	- 16
K.....	1,280	0	- 19	- 19	1,391	0	- 20	- 20
L.....	1,233	0	- 30	- 30	1,485	0	- 36	- 36
M.....	1,307	0	- 73	- 73	1,421	0	- 80	- 80
N.....	1,209	0	- 63	- 63	1,353	0	- 70	- 70
O.....	773	0	- 43	- 43	822	0	- 46	- 46
18.....				- 8				- 8
17.....				- 8				- 8
16.....				- 8				- 7
15.....				- 8				- 7
14.....				- 8				- 6
13.....				- 10				- 11
12.....				- 6				- 6
11.....				+ 8				+ 7
10.....				+ 15				+ 15
9.....				+ 11				+ 12
8.....				+ 11				+ 12
7-1.....				+ 29				+ 28
	Total.....				Total.....			
				+ 59				+ 6

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Beauceville, Que., No. 143				Scott Junction, Que., No. 144			
A.....	634	+ 2	0	+ 2	473	+ 2	0	+ 2
B.....	633	+ 56	0	+ 56	475	+ 56	0	+ 56
C.....	645	+ 71	0	+ 71	475	+ 57	0	+ 57
D.....	650	+ 38	0	+ 38	486	+ 27	0	+ 27
E.....	663	+ 17	0	+ 17	510	+ 11	0	+ 11
F.....	765	+ 8	0	+ 8	541	+ 4	0	+ 4
G.....	883	0	0	0	585	0	0	0
H.....	897	0	0	0	599	0	0	0
I.....	895	0	0	0	639	0	0	0
J.....	838	0	- 13	- 13	656	0	- 11	- 11
K.....	988	0	- 18	- 18	759	0	- 14	- 14
L.....	1,104	0	- 27	- 27	602	0	- 14	- 14
M.....	1,229	0	- 69	- 69	764	0	- 43	- 43
N.....	1,031	0	- 55	- 55	1,034	0	- 55	- 55
O.....	985	0	- 55	- 55	1,097	0	- 61	- 61
18.....				- 9				- 11
17.....				- 8				- 10
16.....				- 7				- 8
15.....				- 8*				- 9*
14.....				- 7*				- 8*
13.....				- 12*				- 13*
12.....				- 7*				- 7*
11.....				+ 4*				+ 2*
10.....				+ 15				+ 15
9.....				+ 12				+ 12
8.....				+ 12				+ 12
7-1.....				+ 28				+ 28
Total.....				- 32	Total..... - 38			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—*Continued*

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Stoneham, Que., No. 145				Chicoutimi, Que., No. 146			
A.....	550	+ 2	0	+ 2	68	+ 2	0	+ 2
B.....	555	+ 55	0	+ 55	66	+ 15	0	+ 15
C.....	540	+ 66	0	+ 66	64	+ 1	0	+ 1
D.....	553	+ 36	0	+ 36	68	0	0	0
E.....	617	+ 14	0	+ 14	135	0	0	0
F.....	745	+ 5	0	+ 5	170	0	0	0
G.....	800	0	0	0	235	0	0	0
H.....	800	0	0	0	300	0	0	0
I.....	800	0	0	0	365	0	0	0
J.....	850	0	- 12	- 12	425	0	- 7	- 7
K.....	775	0	- 15	- 15	600	0	- 12	- 12
L.....	767	0	- 18	- 18	671	0	- 16	- 16
M.....	832	0	- 47	- 47	1,107	0	- 62	- 62
N.....	1,129	0	- 59	- 59	1,406	0	- 72	- 72
O.....	1,057	0	- 59	- 59	1,106	0	- 62	- 62
18.....				- 10				- 12
17.....				- 10				- 11
16.....				- 11				- 10
15.....				- 10				- 12
14.....				- 10				- 12
13.....				- 15				- 17
12.....				- 8				- 8
11.....				- 2				- 5
10.....				+ 14				+ 13
9.....				+ 11				+ 11
8.....				+ 10				+ 10
7-1.....				+ 28				+ 28
Total.....				- 45	Total..... -238			

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Tadoussac, Que., No. 147				Rivière du Loup, Que., No. 148			
A.....	64	+ 2	0	+ 2	295	+ 2	0	+ 2
B.....	68	+ 14	0	+ 14	306	+ 45	0	+ 45
C.....	123	+ 1	0	+ 1	308	+ 31	0	+ 31
D.....	140	- 2	0	- 2	338	+ 9	0	+ 9
E.....	50	- 3	0	- 3	338	+ 5	0	+ 5
F.....	233	- 2	0	- 2	315	0	0	0
G.....	550	0	0	0	281	0	0	0
H.....	600	0	0	0	237	0	0	0
I.....	450	0	0	0	225	0	0	0
J.....	300	0	- 5	- 5	221	0	- 4	- 4
K.....	350	0	- 7	- 7	295	0	- 6	- 6
L.....	450	0	- 11	- 11	376	0	- 9	- 9
M.....	676	0	- 38	- 38	750	0	- 42	- 42
N.....	939	0	- 49	- 49	933	0	- 48	- 48
O.....	1,102	0	- 62	- 62	1,084	0	- 61	- 61
18.....				- 10				- 10
17.....				- 11				- 10
16.....				- 11				- 11
15.....				- 11				- 10*
14.....				- 10				- 9*
13.....				- 14				- 12*
12.....				- 9				- 8*
11.....				- 4				- 1*
10.....				+ 13				+ 13
9.....				+ 11				+ 11
8.....				+ 11				+ 11
7-1.....				+ 28				+ 28
Total.....				-179	Total..... - 86			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—*Continued*

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Notre Dame du Lac, Que., No. 149				Perth, N.B., No. 150			
A.....	595	+ 2	0	+ 2	258	+ 2	0	+ 2
B.....	595	+ 56	0	+ 56	250	+ 42	0	+ 42
C.....	585	+ 69	0	+ 69	240	+ 26	0	+ 26
D.....	600	+ 38	0	+ 38	290	+ 9	0	+ 9
E.....	648	+ 15	0	+ 15	325	+ 4	0	+ 4
F.....	710	+ 6	0	+ 6	400	0	0	0
G.....	797	0	0	0	500	0	0	0
H.....	884	0	- 1	- 1	559	0	0	0
I.....	953	0	- 2	- 2	555	0	0	0
J.....	1,040	0	- 15	- 15	591	0	- 9	- 9
K.....	800	0	- 16	- 16	648	0	- 13	- 13
L.....	944	0	- 23	- 23	738	0	- 18	- 18
M.....	1,039	0	- 58	- 58	739	0	- 41	- 41
N.....	729	0	- 38	- 38	900	0	- 47	- 47
O.....	890	0	- 50	- 50	702	0	- 39	- 39
18.....				- 11				- 7
17.....				- 10				- 5
16.....				- 10				- 6
15.....				- 9*				- 6
14.....				- 8*				- 6
13.....				- 11*				- 7
12.....				- 7*				- 4
11.....				+ 1*				+ 8
10.....				+ 14				+ 16
9.....				+ 12				+ 13
8.....				+ 12				+ 13
7-1.....				+ 28				+ 28
Total.....				- 16	Total..... - 47			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Fredericton, N.B., No. 151				Annapolis Royal, N.S., No. 152			
A.....	123	+ 2	0	+ 2	14	+ 2	0	+ 2
B.....	125	+ 26	0	+ 26	20	0	0	0
C.....	125	+ 7	0	+ 7	2	0	0	0
D.....	129	+ 2	0	+ 2	13	0	0	0
E.....	139	0	0	0	9	0	0	0
F.....	145	0	0	0	23	0	0	0
G.....	150	0	0	0	60	0	0	0
H.....	192	0	0	0	120	0	0	0
I.....	218	0	0	0	200	0	0	0
J.....	248	0	- 4	- 4	330	0	- 6	- 6
K.....	320	0	- 6	- 6	365	0	- 8	- 8
L.....	335	0	- 8	- 8	313	0	- 8	- 8
M.....	450	0	- 25	- 25	227	0	- 13	- 13
N.....	506	0	- 30	- 30	152	0	- 10	- 10
O.....	404	0	- 23	- 23	113	0	- 7	- 7
18.....				- 5				0
17.....				- 4				0
16.....				- 4				0
15.....				- 3*				0
14.....				- 1*				+ 5
13.....				+ 4*				+ 15
12.....				+ 9*				+ 22
11.....				+ 14*				+ 20
10.....				+ 20				+ 21
9.....				+ 14				+ 15
8.....				+ 13				+ 14
7-1.....				+ 28				+ 28
	Total.....				Total.....			
	+ 26				+ 90			

*These values have been interpolated from those obtained for neighbouring stations

TABLE 3—Continued

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Caledonia, N.S., No. 153				Liverpool, N.S., No. 154			
A.....	298	+ 2	0	+ 2	11	+ 2	0	+ 2
B.....	304	+ 47	0	+ 47	0	0	0	0
C.....	314	+ 32	0	+ 32	0	0	0	0
D.....	329	+ 11	0	+ 11	0	0	0	0
E.....	334	+ 5	0	+ 5	10	0	0	0
F.....	318	0	0	0	25	0	0	0
G.....	340	0	0	0	90	0	0	0
H.....	340	0	0	0	90	0	0	0
I.....	350	0	0	0	150	0	0	0
J.....	350	0	- 6	- 6	110	0	- 2	- 2
K.....	375	0	- 8	- 8	80	0	- 2	- 2
L.....	446	0	- 11	- 11	96	0	- 2	- 2
M.....	414	0	- 23	- 23	32	0	- 2	- 2
N.....	54	0	- 4	- 4	110	0	- 7	- 7
O.....	- 59	0	+ 2	+ 2	-105	0	+ 5	+ 5
18.....				0				+ 2
17.....				0				+ 4
16.....				+ 3				+ 7
15.....				+ 6*				+ 11
14.....				+ 11*				+ 15
13.....				+ 28*				+ 37
12.....				+ 27*				+ 30
11.....				+ 25*				+ 28
10.....				+ 22				+ 22
9.....				+ 16				+ 16
8.....				+ 15				+ 15
7-1.....				+ 28				+ 28
	Total.....				Total.....			
	+228				+207			

*These values have been interpolated from those obtained for neighbouring stations.

TABLE 3—*Concluded*

AVERAGE ELEVATIONS AND CORRECTIONS FOR TOPOGRAPHY AND COMPENSATION
FOR SEPARATE ZONES IN UNITS OF 10^{-4}cm/sec^2

Zone	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation	Elevation in Feet	Topo- graphy	Compen- sation	Topo- graphy and Compen- sation
	Halifax, N.S., No. 155, 1938 (elevation 128 feet)				Amherst, N.S., No. 156			
A.....	3	0	0	0	66	+ 2	0	+ 2
B.....	19	+ 3	0	+ 3	74	+ 14	0	+ 14
C.....	30	+ 1	0	+ 1	73	+ 3	0	+ 3
D.....	30	+ 1	0	+ 1	63	+ 2	0	+ 2
E.....	32	0	0	0	70	+ 1	0	+ 1
F.....	46	0	0	0	80	0	0	0
G.....	84	0	0	0	150	0	0	0
H.....	106	0	0	0	225	0	0	0
I.....	160	0	0	0	200	0	0	0
J.....	162	0	- 3	- 3	194	0	- 3	- 3
K.....	180	0	- 4	- 4	220	0	- 4	- 4
L.....	115	0	- 3	- 3	195	0	- 5	- 5
M.....	40	0	- 3	- 3	240	0	- 14	- 14
N.....	0	0	- 1	- 1	237	0	- 14	- 14
O.....	17	0	- 2	- 2	175	0	- 10	- 10
18.....				0				- 1
17.....				0				0
16.....				+ 3				- 1
15.....				+ 6				- 1
14.....				+ 13				- 2
13.....				+ 36				+ 9
12.....				+ 31				+ 16
11.....				+ 25				+ 18
10.....				+ 22				+ 22
9.....				+ 16				+ 15
8.....				+ 16				+ 15
7-1.....				+ 28				+ 28
Total.....				+185	Total..... + 90			